2011-149 cc Des Plaines MAS

Indiana Recycling & Renewable Fuels, LLC

D.B.A: Illinois Recycling & Renewable Fuels, LLC.

July 15, 2011

Mr. Steve Nightingdale, P. E.
Illinois Environmental Protection Agency
Bureau of Land – Permit Section
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506 03104555284

Re: Illinois Recycling: Site ID# 031045AOG
Application # 111040025: Time Extension

Dear Mr. Nightingale:

As noted in our letter of July 8, 2011, we have granted the IEPA Air Permit Section a time extension until Monday, August 1, 2011, to complete the review of the subject construction permit application.

This extension was provided with the understanding that it would allow time for the IEPA to receive and review IRRF's further clarification of specific minor points in the application (raised in a meeting with IEPA the past week) and complete preparation of the draft construction permit.

By this letter we hear by grant an additional extension of time to both the IEPA Bureau of Air Permit Section and Bureau of Land to October 7, 2011 for the review and approval process.

Per our conversation with your office, we trust that the public listening session can be held by August 9, 2011 or earlier and that the public comment period can be completed by September 9, 2011 or earlier since this is a listening review. As you are aware we have done our best to provide information in a timely manner to the agency through the review process and look forward to completing the permit application process.

Sincerely,

Indiana Recycling and Renewable Fuels, LLC
***dba* Illinois Recycling and Renewable Fuels, LLC.**

M L Smith

M. L. Smith, P. E., MS Eng.
Vice President and Manager of Engineering

RECEIVED
JUL 18 2011
IEPA-BOL
PERMIT SECTION

Cc: Don Sutton
Conestoga-Rovers & Associates

Mr. Jim Ventura
President and General Manager - IRRF

• 21686 East Lincoln Highway, Suite E , Lynwood, Illinois 60411 • 708-758-0877 (phone) • 708-758-0881 (fax)

Indiana Recycling & Renewable Fuels, LLC

D.B.A: Illinois Recycling & Renewable Fuels, LLC.

July 15, 2011

Entered 7-18-11 B.J.

RECEIVED
STATE OF ILLINOIS
JUL 15 2011
Environmental Protection Agency
BUREAU OF AIR

Mr. Edwin Bakowski, P. E.
Illinois Environmental Protection Agency
Bureau of Air – Permit Section
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

Re: Illinois Recycling: Site ID# 031045AOG
Application # 111040025: Time Extension

Dear Mr. Bakowski:

As noted in our letter of July 8, 2011, we have granted the IEPA Air Permit Section a time extension until Monday, August 1, 2011, to complete the review of the subject construction permit application.

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Sincerely,

Indiana Recycling and Renewable Fuels, LLC
***dba* Illinois Recycling and Renewable Fuels, LLC.**

M L Smith

M. L. Smith, P. E., MS Eng.
Vice President and Manager of Engineering

Cc: Don Sutton
Conestoga-Rovers & Associates

Mr. Jim Ventura
President and General Manager - IRRF

21686 East Lincoln Highway, Suite E , Lynwood, Illinois 60411 • 708-758-0877 (phone) • 708-758-0881 (fax)

2011-149 MAS

Indiana Recycling & Renewable Fuels, LLC

D.B.A: Illinois Recycling & Renewable Fuels, LLC.

June 10, 2011

Reference No. 073932

Mr. Steve Nightingale
Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

Dear Mr. Nightingale:

Re: **Addendum to** Permit Application for Construction of a Recycling Facility at 1301 South State Street Chicago Heights, Illinois

---

Dear Mr. Nightingale:

Please find enclosed three (3) enlarged copies (with P. E. stamp) each of Figure 2 and 3 of the subject application which were forwarded to you previously.

Sincerely,

Indiana Recycling & Renewable Fuels, LLC.
Dba: Illinois Recycling & Renewable Fuels, LLC.

ML Smith

M. L. Smith, P. E., MS Eng.
Vice President and Manager of Engineering

Cc: Don Sutton
Jim Ventura

RECEIVED
JUN 13 2011
IEPA-BOL
PERMIT SECTION

21686 East Lincoln Highway, Suite E , Lynwood, Illinois 60411 • 708-758-0877 (phone) • 708-758-0881 (fax)

RELEASABLE
JUL 14 2011
REVIEWER MD

MAS

Indiana Recycling & Renewable Fuels, LLC

D.B.A: Illinois Recycling & Renewable Fuels, LLC.

June 3, 2011

Reference No. 073932

Mr. Steve Nightingale
Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

Dear Mr. Nightingale:

Re: **Addendum to** Permit Application for Construction of a Recycling Facility at 1301 South State Street Chicago Heights, Illinois

---

Dear Mr. Nightingale:

This is to inform the IEPA Bureau of Land that municipal solid waste received by the IRRF Chicago Heights, 1301 South State Street Recycling facility will be cleared from tipping areas and these areas will be swept within a twenty-four (24) hour period after delivery to comply with IEPA permit requirements.

A copy of this letter is sent by fax and original copy by mail.

Sincerely,

Indiana Recycling & Renewable Fuels, LLC.
Dba: Illinois Recycling & Renewable Fuels, LLC.

M L Smith

M. L. Smith, P. E., MS Eng.
Vice President and Manager of Engineering

Cc: Don Sutton
Jim Ventura

RECEIVED
JUN 06 2011
IEPA-BOL
PERMIT SECTION

21686 East Lincoln Highway, Suite E , Lynwood, Illinois 60411 • 708-758-0877 (phone) • 708-758-0881 (fax)

2011 - 149 cc: Des Plaines MAS

RECEIVED
MAY 27 2011 2:03
SECURITY DESK

Indiana Recycling & Renewable Fuels, LLC

D.B.A: Illinois Recycling & Renewable Fuels, LLC.

May 27, 2011

Reference No. 073932

Mr. Steve Nightingale
Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

Dear Mr. Nightingale:

Re: **Addendum to** Permit Application for Construction of a Recycling Facility at 1301 South State Street Chicago Heights, Illinois

---

Please replace pages and figures in the IRRF application with the following attachments.

1. Table of Contents - List of Figures.
2. Narrative Pages: 1-41, errata changes were made on pages 11, 15, and 28, which changes page numbers.
3. Appendix E with changes in Table of Contents, page number and inclusion of discussion on Emergency Response to Spills.
4. Addition of Information in Appendix F.
5. Drawings No. 7715-001 Rev F (Figure 2) and 7715-002 Rev F (Figure 3) (11 x 17). Large copies with PE stamp to follow next week.

Thank you
M.L. Smith

Cc: Don Sutton
Jim Ventura

RECEIVED
MAY 27 2011
IEPA-BOL
PERMIT SECTION

21686 East Lincoln Highway, Suite A , Lynwood, Illinois 60411 • 708-758-0877 (phone) • 708-758-0881 (fax)

2011-149

cc: Des Plaines

MAS

Indiana Recycling & Renewable Fuels, LLC

D.B.A: Illinois Recycling & Renewable Fuels, LLC.

May 18, 2011

Reference No. 073932

Mr. Steve Nightingale
Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

Dear Mr. Nightingale:

0310455284

Re: **Addendum Three to** Permit Application for Construction of a Recycling Facility at 1301 South State Street Chicago Heights, Illinois

---

Please replace the previously submitted drawings with these drawings

Three (3) copies each of the following revised drawings are enclosed.

Drawing No. 7715-001 Rev. E (Figure 2 in the IRRF application)

Drawing No. 7715-002 Rev E (Figure 3 in the IRRF application)

M L Smith

Thank you
M.L. Smith

Cc: Don Sutton
Jim Ventura

RECEIVED
MAY 19 2011
IEPA-BOL
PERMIT SECTION

21686 East Lincoln Highway, Suite E , Lynwood, Illinois 60411 • 708-758-0877 (phone) • 708-758-0881 (fax)

2011-149 cc: Des Plaines MAS

CONESTOGA-ROVERS & ASSOCIATES
1234 Centre West Drive
Springfield, Illinois 62704-2173
Telephone: (217) 717-9000 Fax: (217) 717-9001
www.CRAworld.com

RECEIVED
MAY 18 2011 7:44
SECURITY DESK

TRANSMITTAL

DATE: May 18, 2011

REFERENCE NO.: 073932

PROJECT NAME: Indiana Recycling and Renewable Fuels, LLC dba: Illinois Recycling and Renewable Fuels, LLC

03104555284

TO: Mark Schollenberger
Bureau of Land, Permit Section
Illinois Environmental Protection Agency
1021 North Grand Avenue
Springfield, Illinois

Please find enclosed:
- ☐ Draft
- ☒ Originals
- ☐ Prints
- ☐ Final
- ☐ Other

Sent via:
- ☐ Mail
- ☐ Overnight Courier
- ☐ Same Day Courier
- ☒ Other Hand delivered

QUANTITY	DESCRIPTION
3	First 41 pages, Appendices D, E, and F of Land Application Permit

- ☐ As Requested
- ☐ For Your Use
- ☒ For Review and Comment
- ☐
- ☐

COMMENTS:
Mr. Schollenberger,
Please replace previously submitted information with the attached.

Copy to: M. L. Smith

Completed by: Donald Sutton 9009 [Please Print]

Signed: Donald E Sutton

RECEIVED
MAY 18 2011
IEPA-BOL
PERMIT SECTION

Filing: Correspondence File

Xtra copy

Indiana Recycling & Renewable Fuels, LLC

D.B.A: Illinois Recycling & Renewable Fuels, LLC.

April 25, 2011

Reference No. 073932

Mr. Steve Nightingale
Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

Dear Mr. Nightingale:

Re: **Addendum Two** to Permit Application for Construction of a Recycling Facility at 1301 South State Street Chicago Heights, Illinois

---

Please find attached a revised copy of the application Table of Contents and pages 1-32, now Pages 1 to 39

We wish to replace the Table of Contents and pages numbered 1-3 and 5-32 in the April 18th, 2011 application with the pages, numbered 1-5 and 7-39.

The IEPA Permit forms are not replaced.

Three pages of each are enclosed.

Thank you
M.L. Smith

ML Smith

Indiana Recycling & Renewable Fuels, LLC

D.B.A: Illinois Recycling & Renewable Fuels, LLC.

April 18, 2011 Reference No. 073932

Mr. Steve Nightingale
Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

Dear Mr. Nightingale:

Re: Permit Application for Construction of a
Recycling Facility at 1301 South State Street
Chicago Heights, Illinois

The enclosed construction permit application for a minor source is being submitted on behalf of Indiana Recycling and Renewable Fuels, LLC dba Illinois Recycling and Renewable Fuels, LLC (IRRF). An original and two (2) copies of the permit application are enclosed. IRRF proposes to construct a new facility to be located at 1301 South State Street, Chicago Heights, Illinois, to increase recycling of the general constituents of municipal solid waste (MSW) and provide beneficial reuse of recycled secondary raw materials from organics and other non-recoverable paper, corrugated, cardboard, and other biomass remaining in MSW after recycling within the region. The facility will provide an alternative to continued long distance haul of MSW to regional landfills.

The new IRRF facility will be a modern efficient manufacturing plant on 27 acres of the M3 Zoned Thorn Creek Conservancy Industrial Park.

The facility will not serve as the final destination for any solid waste products delivered to the site.

The recycling activities require a construction permit for a FESOP source and submission of hazardous emission information and air pollution control equipment data and information. For this reason, IRRF is also submitting an application for permit with the Illinois EPA Bureau of Air for the recycling activities planned for this facility under separate cover.

Please note that the City of Chicago Heights has approved the siting and zoning of this facility at the proposed location. Verification of the City of Chicago Heights approval for this facility is in the enclosed permit application.

21686 East Lincoln Highway, Suite A , Lynwood, Illinois 60411 • 708-758-0877 (phone) • 708-758-0881 (fax)

Thank you in advance for your attention to this important permitting initiative. If you or other Illinois EPA review engineers have any questions or need additional information during the review of this application, please do not hesitate to contact the undersigned at (708) 745-1185, or Don Sutton at Conestoga-Rovers & Associates at (217) 717-9009.

Sincerely,

Indiana Recycling and Renewable Fuels, LLC
***dba* Illinois Recycling and Renewable Fuels, LLC.**

M. L. Smith, P. E., MS Eng.
Vice President and Manager of Engineering

MLS/DES/sem/01
Encl.

cc: Don Sutton
Conestoga-Rovers & Associates

Mr. James Ventura
President and General Manager
IRRF

2011-149 cc: Des Plaines MAS

Indiana Recycling & Renewable Fuels, LLC

D.B.A: Illinois Recycling & Renewable Fuels, LLC.

April 25, 2011 Reference No. 073932

Mr. Steve Nightingale
Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

Dear Mr. Nightingale:

Re: **Addendum One to** Permit Application for Construction of a Recycling Facility at 1301 South State Street Chicago Heights, Illinois

---

Please find attached pages 14, 15 and 32 of the referenced permit application.

These pages have been revised. We wish to replace the pages numbered 14, 15 and 32 in the April 18th, 2011 application with these pages.

Three pages of each are enclosed.

Thank you
M.L. Smith

RECEIVED
APR 28 2011
IEPA-BOL
PERMIT SECTION

21686 East Lincoln Highway, Suite A , Lynwood, Illinois 60411 • 708-758-0877 (phone) • 708-758-0881 (fax)

Indiana Recycling & Renewable Fuels, LLC

D.B.A: Illinois Recycling & Renewable Fuels, LLC.

April 18, 2011

Reference No. 073932

Mr. Steve Nightingale
Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

Dear Mr. Nightingale:

Re: Permit Application for Construction of a
Recycling Facility at 1301 South State Street
Chicago Heights, Illinois

The enclosed construction permit application for a minor source is being submitted on behalf of Indiana Recycling and Renewable Fuels, LLC dba Illinois Recycling and Renewable Fuels, LLC (IRRF). An original and two (2) copies of the permit application are enclosed. IRRF proposes to construct a new facility to be located at 1301 South State Street, Chicago Heights, Illinois, to increase recycling of the general constituents of municipal solid waste (MSW) and provide beneficial reuse of recycled secondary raw materials from organics and other non-recoverable paper, corrugated, cardboard, and other biomass remaining in MSW after recycling within the region. The facility will provide an alternative to continued long distance haul of MSW to regional landfills.

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Sincerely,

Indiana Recycling and Renewable Fuels, LLC
***dba* Illinois Recycling and Renewable Fuels, LLC.**

M L Smith

M. L. Smith, P. E., MS Eng.
Vice President and Manager of Engineering

MLS/DES/sem/01
Encl.

cc: Don Sutton
Conestoga-Rovers & Associates

Mr. James Ventura
President and General Manager
IRRF

Indiana Recycling & Renewable Fuels, LLC.

The Future of Recycling ... Today

APPLICATION FOR PERMIT TO CONSTRUCT A RECYCLING FACILITY

Submitted to:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF LAND
1021 N. Grand Avenue East
Springfield, Illinois 62794

Submitted by:

INDIANA RECYCLING AND RENEWABLE FUELS, LLC.
dba ILLINOIS RECYCLING AND RENEWABLE FUELS, LLC.

21686 East Lincoln Highway
Lynwood, Illinois 60411
708-758-0877
708-745-1185 (M. L. Smith, P. E.)

April 15, 2011

TABLE OF CONTENTS

TABLE OF CONTENT

4.5 **Compliance with Section 22.14 of the Illinois Environmental Protection Act.**

4.6 Information required by 35 Ill. Admin. Code 807.205 (a), (b) and (c).

a. Distance from the nearest property zoned residential to the facility property boundary.

b. Written legal description of the property in accordance with Section 111 of LPC-PA-3.

c. Drawing which shows the property boundary delineated by the written text with the site depicted. See Section 4.5 and Exhibit 4.5 c-1

d. Process flow diagram and a drawing which clearly shows the equipment layout, the storage areas for unprocessed, unacceptable residuals and processing materials and the loading/unloading areas for the above materials. See Table 2-1 and Figure 2, Figure 3, Figure 4 and Figure 5.

e. Contingency Plan. See Appendix E

f. Method of handling excess water from the municipal waste or floor washings on the tipping floor.

g. Maintenance of plant records including records of:
   1. Daily scale house records of MSW deliveries.
   2. Daily scale house and production records/recyclables (including RDF) and process residue.
   3. Daily control room and shift supervision logs.
   4. Spot checks and rejection of waste loads.
   5. Facility inspections.
   6. Implementation of contingency plans.
   7. Resolution of deficiencies/emergencies.

h. Posted signs at site entrance listing prohibited items.
   Signed document by the waste haulers stating that the load does not knowingly contain prohibited items.

i. The number and duties of employees.

j. The location where signs will be installed with the facility name, hours of operation, site number and phone number.

k. Spill Containment Plan for the diesel fuel tank.

l. A drawing showing traffic patterns.

m. A drawing showing direction and degree of the floor slope to demonstrate the area is designed to drain and collect excess water in the building.

n. Random spot inspection program (frequency and procedures)

5.0 GENERAL FACILITY INFORMATION

5.1 Process Description.

5.2 Coordination with State of Illinois and City of Chicago Heights, Cook County Solid Waste Plan.

5.3 Traffic Flow, Impact on Local Streets, Access Control.

5.4 Acceptable Municipal Solid Waste/Prevention and Control of Illegal hazardous Waste Delivered to the Facility.

5.5 Municipal Solid Waste Supply and Service Area.

5.6 Storage Capacity/Daily Stockpile of Materials, On-Site Storage of Recyclables, Hauling of Recyclables, Hauling and Disposal of Process Residue.

5.7 Safety and Emergency Contingency Plans, Alternate Plan of Disposal, Fire Protection, Explosion Control.

5.8 Handling, Treatment and/or Disposal of Liquids Resulting from Plant Operations and Storm Water.

5.9 Site Plan/Facilities Layout/Flow Pattern.

5.10 Municipal Solid Waste Storage Facility Processing and Recycling Operations.

5.11 Daily Cleanup – Control of Fugitive Dusts, Odor and Process Particulate Emissions.

5.12 Noise and Vibration Control.

5.13 Facility Start-up and Operation

LIST OF FIGURES
(Following Text)

FIGURE 1 SITE LOCATION MAP

FIGURE 2 SITE PLAN (DWG# 7715-001 REV.C)

FIGURE 3 MSW RECYCLING EQUIPMENT GENERAL ARRANGEMENT (DWG# 7715-002 Rev. C)

FIGURE 4 PROCESS FLOW AND MSW MASS BALANCE (DWG# 7715-009-01 REV D)

LIST OF FIGURES
(Following Text)

LIST OF APPENDICES

LIST OF EXHIBITS

3.0 IEPA PERMIT FORMS

Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • Box 19276 • Springfield • Illinois • 62794-9276

General Application for Permit
(LPC - PA1)

This form must be used for any application for permit, except for landscape waste composting or hazardous waste management facilities regulated in accordance with RCRA, Subtitle C from the Bureau of Land. One original, and two copies, or three if applicable, of all permit application forms must be submitted. Attach the original and appropriate number of copies of any necessary plans, specifications, reports, etc. to fully support and describe the activities and modifications being proposed. Attach sufficient information to demonstrate the compliance with all regulatory requirements. Incomplete applications will be rejected.

Niote: Permit applications which are hand-deliverd to the Bureau of Land, Permit Section must be delivered to the above address between 8:30 am and 5:00 pm, Monday through Friday (excluding State holidays).

NOTE: Please complete this form online, save a copy locally, print and submit it to the Permit Section at the above address.

RECEIVED
APR 19 2011
IEPA-BOL
PERMIT SECTION

I. Site Identification:

Site Name: Illinois Recycling and Renewable Fuels IEPA ID Number: _____

Street Address: 1301 South State Street P.O. Box: _____

City: Chicago Heights State: IL Zip Code: 60411 County: Cook

Existing DE/OP Permit Numbers (if applicable): New Site Not Applicable _____

2. Owner/Operator Identification:

	Owner		Operator
Name:	Illinois Recycling and Renewable Fuels	Name:	Illinois Recycling and Renewable Fuels
Street Address:	21686 East Lincoln Highway	Street Address:	21686 East Lincoln Highway
PO Box:		PO Box:	
City:	Lynwood State: IL	City:	Lynwood State: IL
Zip Code:	60411 Phone: 708-745-1185	Zip Code:	60411 Phone: 708-745-1185
Contact:	M. L. Smith	Contact:	M. L. Smith
Email Address:	Lwit100295@aol.com	Email Address:	Lwit100295@aol.com

TYPE OF SUBMISSION/REVIEW PERIOD:		TYPE OF FACILITY:		TYPE OF WASTE:	
New Landfill/180 days (35 IAC Part 813)	☐	Landfill	☐	General Municipal Refuse	☑
Landfill Expansion/180 days (35 IAC Part 813)	☐	Land Treatment	☐	Hazardous	☐
Sig. Mod. to Operate/90 days (35 IAC Part 813)	☐	Transfer Station	☑	Special (Non-Hazardous)	☐
Other Sig. Mod./90 days (35 IAC Part 813)	☐	Treatment Facility	☑	Chemical Only (exec. putrescible)	☐
Renewal of Landfill/90 days (35 IAC Part 813)	☐	Storage	☐	Inert Only (exec. chem. & putrescible)	☐
Developmental/90 days (35 IAC Part 807)	☑	Incinerator	☐	Used Oil	☐
Operating/45 days (35 IAC Part 807)	☑	Composting	☐	Potentially Infectious Medical Waste	☐
Supplemental/90 days (35 IAC Part 807)	☐	Recycling/Reclamation	☑	Landscape/Yard Waste	☐
Permit Transfer/90 days (35 IAC Part 807)	☑	Other (Specify)	☐	Other (Specify)	☐
Renewal of Experimental Permit (35 IAC Part 807)	☐				

RELEASABLE
JUL 14 2011
REVIEWER MD

3. Description of this Permit Request:

The proposed project involves the design, construction and operation of a municipal solid waste recycling reclamation facility

4. Completeness Requirements

The following items must be checked Yes, No or N/A. Each item will be reviewed for completeness by the log clerk. Blank items will result in rejection of the application. Please refer to the instructions for further guidance.

1. Have all required public notice letters been mailed in accordance with the LPC-PA16 instructions? ☐ Yes ☐ No ☐ N/A

   (If so, provide a list of those recipients of the required public notice letters for Illinois EPA retention. Such retention shall not imply any Illinois EPA review and/or confirmation of the list.)

Public Notice Recipients

Name: see LPC-PA16 Title: _____

Street Address: _____ P.O. Box: _____

City: _____ State: _____ Zip Code: _____ Phone: _____

2. a. Is the Siting Certification Form (LPC-PA8) completed and enclosed? ☑ Yes ☐ No ☐ N/A

   b. Is siting approval currently under litigation? ☐ Yes ☑ No ☐ N/A

3. a. Is a closure, and if necessary a post-closure plan covering these activities being submitted, or ☑ Yes ☑ No ☐ N/A

   b. has one already been approved? If yes, provide the permit number: _____

   See Amended

4. a. For waste disposal sites, only: Has any employee, owner, operator, officer or director of the owner or operator had a prior conduct certification denied, canceled or revoked? ☐ Yes ☐ No ☑ N/A

   b. Have you included a demonstration of how you comply or intend to comply with 35 Ill. Adm. Code 745? ☐ Yes ☐ No ☑ N/A

5. a. Is land ownership held in beneficial trust? ☐ Yes ☑ No ☐ N/A

   b. If yes, is a beneficial trust certification form (LPC-PA9) completed and enclosed? ☐ Yes ☐ No ☑ N/A

6. a. Does the application contain information or proposals regarding the hydrogeology; groundwater monitoring, modeling or classification; a groundwater impact assessment; or vadose zone monitoring for which you are requesting approval? ☐ Yes ☐ No ☑ N/A

   b. If yes, have you submitted a third copy of the application (4 total) and supporting documents? ☐ Yes ☐ No ☑ N/A

5. Signatures:

Original signatures are required. Signature stamps or applications transmitted electronically or by FAX are not acceptable.

All applications shall be signed by the person designated below as a duly authorized representative of the owner and/or operator.

Corporation - By a principal executive officer of the level of vice-president or above.
Partnership or Sole Proprietorship - By a general partner or the proprietor, respectively.
Government - By either a principal executive officer or a ranking elected official.

A person is a duly authorized representative of the owner and operator only if:

1. They meet the criteria above or the authorization has been granted in writing by a person described above; and
2. Is submitted with this application (a copy of a previously submitted authorization can be used).

PROFESSIONAL ENGINEER — KEVIN J. COUGHLIN — 062-044198 — STATE OF ILLINOIS — REGISTERED PROFESSIONAL — expires 11-30-2011

Kevin J. Coughlin PE
signature

14 April 11
date

I hereby affirm that all information contained in this application is true and accurate to the best of my knowledge and belief. I do herein swear that I am a duly authorized representative of the owner/operator and I am authorized to sign this permit application form.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

M L Smith
Owner Signature:

4/14/11
Date:

M. L. Smith
Printed Name:

VP Manager of Engineering
Title:

"OFFICIAL SEAL"
P L SHEFFIELD
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires 05/05/2014

Notary: Subscribed and Sworn before me this 14 day of April 20 11.

My commission expires on: 5/5/2014

P L Sheffield
Signature & Stamp/Seal of Notary Public

M L Smith
Operator Signature:

4/14/11
Date:

M. L.Smith
Printed Name:

VP Manager of Engineering
Title:

"OFFICIAL SEAL"
P L SHEFFIELD
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires 05/05/2014

Notary: Subscribed and Sworn before me this 14 day of April 20 11.

My commission expires on: 5/5/2014

P L Sheffield
Signature & Stamp/Seal of Notary Public

Engineer's Name: Kevin J. Coughlin, P. E.
Engineer's Title: Sr. Mechanical Engineer

Company: CAE Associates
Registration Number: 062-044198

Street Address: 2106 East St. James Street
PO Box:

City: Arlington Heights State: IL
Zip Code: 60004 Phone: 847-398-8050

Email Address: caeassociates@gmail.com
License Expiration Date: 11-30-2011

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Signature: Kevin J. Coughlin PE
Date: 14 April 11
Professional Engineer's Seal
(see above, kjc)

Illinois
Environmental
Protection Agency

Bureau of Land
1021 North Grand Avenue East
Box 19276
Springfield, IL 62794-9276

APPLICATION FOR A SOLID WASTE MANAGEMENT PERMIT TO DEVELOP TREATMENT AND/OR STORAGE FACILITIES (LPC-PA3)

I. Site Name: Illinois Recycling and Renewable Fuels, LLC County: Cook

Site Number: _____

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II. Applicant Information:

1.

	Owner	Operator (if different)
Name:	Illinois Recycling and Renewable Fuels, LLC	Same
Phone:	(708) 745-1185	( )

2. Ownership and Operator Status:

	Owner	Operator
Corporation	X	X
Partnership	☐	☐
Sole Proprietor	☐	☐
Governmental Body	☐	☐
Other: ☐		
_____	☐	☐

3. Land is:

Owned by Applicant (Operator)	X
Leased by Applicant	☐
Beginning Date on Lease	_____
Expiration Date of Lease	_____
Held in Trust	☐
	_____

III. Location Information:

Attach a copy of the United States Geologic Survey (U.S.G.S.) quadrangle map (7.5 minute quadrangle, if published) and a topographic map of the area which contains the site. Also provide a legal description of the site.

Quadrangle map provided: Existing Topgraphic survey provided _____
Name Date

27.57 Acres in NW Quarter, _____ Quarter, _____ Quarter, of Section 22, Township 35, Range 14 P.M.

Local Description: Lot 3, Block _____

Present Zoning Classification and Restrictions (if any): _____

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IV. Facility Background:

☐ This is an existing facility. Operation began _____ (mo.) _____ (yr.)
☒ This is a proposed development.
☐ This is a proposed extension to an existing facility: Illinois EPA Permit No. _____
☐ Other existing environmental facility permits:

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center

Consult instructions for the contents of Sections V, VI, VII, and VIII.

Facility information

The following documents **must** accompany the application. Please indicate the location in the application for the documents being submitted with this application.

Location in Application

[XX]	1.	A plan sheet of the site. Figure 2 - Dwg. 7715-001 Rev. C
[ ]	2.	A process flow diagram of the treatment or storage operation. Fig. 3 & 4 Dwg.7715-009-01
[ ]	3.	a narrative description of the site's operation. Sec 2, Sec 5 Dwg 7715-009-02
[ ]	4.	Waste characterization plan (Identify wastes to be accepted and how they are to be managed).
[ ]	5.	Waste analysis plan (A description of analysis methods used to screen and test waste types).
[ ]	6.	Residuals – A description of methods used to treat, transfer or dispose of residual wastes generated from the operation of the site. Section 5
[ ]	7.	Contingency plan. Appendix E
[ ]	8.	Containment system.
[ ]	9.	Run-on/Run-off. Figure 6
[ ]	10.	A description of inspection procedures.
[ ]	11.	Operating record.
[ ]	12.	Closure plan. Appendix D
[ ]	13.	Post closure use of site. Appendix D
[ ]	14.	Site suitability.

V. Treatment and/or Storage:

1. This application is for treatment [ ] and/or storage [ ] in the following:

(check the appropriate box(es)).

Tanks	[ ]	Surface Impoundments	[ ]
Drums	[ ]	Waste Piles	[ ]
Barrels	[ ]	Landfarms	[ ]
Roll-off Boxes	[ ]	Other: MSW (type)	[XX]

2. General Information: For each box(es) checked above, provide where applicable, the following information:

A. Location drawings Section 1
B. Material of construction
C. Number of units
D. Duration of storage
E. Age of units
F. Type of waste(s) contained in each area
G. Tank design
H. Container design
I. Surface impoundment and waste pile design
J. Treatment processes

VI. Incineration/Thermal Treatment:
Is an incinerator or thermal treatment unit included in this application? [ ] Yes [X] No
(Refer to the instructions).

VII. Hydrogeology:
Is a site hydrogeology plan required for this application? [ ] Yes [ ] No
(Refer to the instructions).

Illinois
Environmental
Protection Agency

Bureau of Land
1021 North Grand Avenue East
Box 19276
Springfield, IL 62794-9276

CERTIFICATION OF SITING APPROVAL (LPC-PA8)

Name of Applicant for Siting: Indiana Recycling and Renewable Fuels, LLC

Address of Siting Applicant: Same

Name of Site: 1301 South State Street Site Number (if assigned): NA

Site Information: Nearest Municipality: City of Chicago Heights County: Cook

Unit of local government from which siting approval was obtained: City of Chicago Heights

1. On May 18 (Date), 2009, the City Council (Governing body of county or municipality) of the City of Chicago Heights (County or municipality) approved the site location suitability of 1301 South State Street (Name of site) as a new pollution control facility in accordance with Section 39.2 of the Illinois Environmental Protection Act, Ill. Rev. Stat., ch 111 ½ , Section 1039.2.

2. The Illinois EPA may need to verify the information on this form, please indicate a person from the unit of local government ("siting authority") whom a representative from the Illinois EPA may contact regarding this approval:

   Ethel Taylor, City Clerk
   (Name, title, and telephone number)

3. Identify the type of activity(ies) for which local siting approval was obtained: waste storage (☐), sanitary landfill (☐), waste disposal (☐), waste transfer (☒), waste treatment (☒) , waste incinerator (☐).

4. Did the local siting authority approve the acceptance of special waste? ☐ Yes ☒ No
   Did the local siting authority approve the acceptance of hazardous waste? ☐ Yes ☒ No

5. Attached to this certification is a true and correct statement of the legal descriptions of the site as it was approved by the aforementioned local siting authority. ☒ Yes ☐ No
   (Note: A legal description must be attached to this document, by the local siting authority, to make the application complete)

6. Did the local siting authority impose any specific condition(s)? ☐ Yes ☒ No
If yes, is a copy of the conditions attached to this form? ☐ Yes ☐ No
(Note: These conditions are provided for information only to the Illinois EPA. The Illinois EPA is not obligated to monitor nor enforce local conditions.)

7. **This item is applicable only to landfills or disposal sites.**
Was a legal description of horizontal and vertical waste? ☐ Yes ☐ No ☒ N/A
boundaries approved? (i.e., the waste envelop).

If no, is there a maximum disposal capacity approved?
(i.e., the waste envelop). ☐ Yes ☐ No ☒ N/A

If either of the questions under #7 above was answered yes, the legal description or maximum capacity must be attached to this form by the local siting authority to make the application complete.

8. The undersigned has been authorized by the Mayor, Alex Lopez of
(siting authority of county or municipality)
the City of Chicago Heights to execute this certification on their behalf.
(county or municipality)

Name: Ethel Taylor

Signature: Ethel Taylor

Title: City Clerk

SUBSCRIBED AND SWORN TO BEFORE ME

this 18th day of May, 2009

Maria R Kelly
Notary Public

SEAL:

"OFFICIAL SEAL"
MARIA R. KELLY
Notary Public, State of Illinois
My Commission Expires 12-27-09

bjh\002892i.doc

Illinois
Environmental
Protection Agency

Bureau of Land
1021 North Grand Avenue East
Box 19276
Springfield, IL 62794-9276

NOTICE OF APPLICATION FOR PERMIT TO MANAGE WASTE (LPC-PA16)

Date: 4/15/11

To Elected Officials and Concerned Citizens:

The purpose of this notice is to inform you that a permit application has been submitted to the IEPA, Bureau of Land, for a solid waste project described below. You are not obligated to respond to this notice, however, if you have any comments, please submit them in writing to the address below, or call the Permit Section at 217/524-3300, within twenty-one (21) days.

Illinois Environmental Protection Agency
Bureau of Land, Permit Section (#33)
1021 North Grand Avenue East, Post Office Box 19276
Springfield, Illinois 62794-9276

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The permit application, which is identified below, is for a project described at the bottom of this page.

SITE IDENTIFICATION

Site Name: Illinois Recycling and Renewable Fuels, LLC Site # (IEPA): _____

Address: 1301 State Street

City: Chicago Heights, IL 60411 County: Cook

TYPE PERMIT SUBMISSIONS:

- [ ] New Landfill
- [ ] Landfill Expansion
- [ ] First Significant Modification
- [ ] Significant Modification to Operate
- [ ] Other Significant Modification
- [ ] Renewal of Landfill
- [ ] Development
- [x] Operating
- [ ] Supplemental
- [x] Transfer
- [ ] Name Change
- [ ] Generic

TYPE FACILITY:

- [ ] Landfill
- [ ] Land Treatment
- [x] Transfer Station
- [x] Treatment Facility
- [ ] Storage
- [ ] Incinerator
- [ ] Composting
- [x] Recycling/Reclamation
- [ ] Other

TYPE WASTE:

- [x] General Municipal Refuse
- [ ] Hazardous
- [ ] Special (Non-Hazardous)
- [ ] Chemical Only (exec. putrescible)
- [ ] Inert Only (exec. chem. & putrescible)
- [ ] Used Oil
- [ ] Solvents
- [ ] Landscape/Yard Waste
- [ ] Other (Specify _____)

DESCRIPTION OF PROJECT:

The proposed project involves the design, construction and operation of a municipal solid waste recycling reclamation facility

Please retain a copy for your own use.

jab\002711i.doc
IL 532 0334
LPC 040 Rev. Feb. 03

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • Box 19276 • Springfield • Illinois • 62794-9276

Instructions for Public Notice for Permit Applications Submitted to the Illinois EPA, Division of Land Pollution Control, for Waste Disposal, Storage or Treatment

1. The form "**Notice of Application for Permit to Manage Waste (LPC-PA16)**" must be completed by the applicant and forwarded to the appropriate officials identified below. **FAILURE TO DO THIS WILL RESULT IN THE REJECTION OF THE APPLICATION.**

   The following persons must be sent notices:

   a. State's Attorney;

   b. Chairman of the County Board in which the subject facility is located;

   c. All members of the General Assembly form the legislative district in which the site is located; and

   d. Clerk of the municipality, any portion of which is within 3 miles of the boundary of the facility

   All blanks must be filled out. The description shall be in sufficient detail to identify the activities being proposed.

   The forms shall be mailed on or before (within three days) the date the application is filed with the Illinois EPA. As part of the application include a copy of the form which was sent and a list of those persons to whom it was sent, or copies of the completed forms.

2. Under "**Site Identification**", use the site name shown on existing permits. For new sites, use the proposed site name. The site number is the ten digit number which is on the operating permit. Call Illinois EPA if you don't know it. For new sites, omit the number.

3. When identifying the submission, the facility and the waste, check as many spaces in each column as is appropriate. Check at least one item in each column.

4. Please note that waste stream permits are covered by this form. For a single application for a waste stream permit, include a waste stream description or the generic waste name under "**Description of Project**". **For multiple applications, put the** identification on the reverse side of the form.

5. **The project description should be clear and concise so the general public can understand. Avoid overly general statements (such as "landfill modification") as well as overly technical ones.**

Compliance with 35 III. Admin Code 807-205 (k). List of people notified. Notifications sent to the City Clerk of each municipality, and portion of which is Within three (3) miles of the project site boundary and each member of the General Assembly from the Legislature District in which the site is located.

ILLINOIS EPA PA-16 FORM ATTACHED

The following is a list of the required recipients of the attached Illinois EPA PA-16 Form for the proposed Illinois Recycling and Renewable Fuels project. Verifications of shipment receipts for each recipient are also attached.

LIST OF GOVERNMENT RECIPIENTS OF THE ILLINOIS EPA PA-16 NOTIFICATION FORM FOR THE INDIANA RECYCLING AND RENEWABLE FUELS, LLC dba; ILLINOIS RECYCLING AND RENEWABLE FUELS, LLC CHICAGO HEIGHTS PLANT

GOVERNMENT OFFICE	RECIPIENT	MAILING ADDRESS	PHONE
Cook county State's Attorney	Anita Alvarez	69 W. Washington, Suite 3200, Chicago, IL 60602	312-603-1880
Chairman of the Cook County Board	Toni Preckwinle	118 N. Clark Street, Room 537, Chicago, IL 60602	312-603-6400
Members of the Illinois general Assembly for Project Legislative District:	State Representative Anthony DeLuca State Senator Toi W. Hutchinson	722 West Exchange, Suite 4 Crete, Illinois 60417 241 West Joe Orr Road Chicago Heights, Illinois 60411	708-672-0200 708-756-0882
Clerk of each Municipality, any portion of which is within three (3) miles of the Project boundary			
Chicago Heights	Ethel M. Taylor	1601 Chicago Road Chicago Heights, Illinois 60411	708-756-5317
South Chicago Heights	Catherine Linan	3317 Chicago Road South Chicago Heights, Illinois 60411-5422	708-755-1880
Steger	Carmen Recupito	35 West 34th Street Steger, Illinois 60475-1105	708-754-3395
Sauk Village	Debbie Williams	21701 Torrance Avenue Sauk Village, Illinois 60411-4561	708-758-3330
Glenwood	Carmen Hopkins	One Asselborn Way Glenwood, Illinois 60425	708-753-2400
Olympia Fields	Judi Rangel	20040 Governors Highway Olympia Fields, Illinois 60461	708-503-8000
Lynwood	Roy Valle	21460 East Lincoln Highway Lynwood, Illinois 60411-8742	708-758-6101
Homewood	Gayle Campbell	2020 Chestnut Road Homewood, Illinois 60430-1702	708-798-3000
Ford Heights	Gloria Bryant	1343 Ellis Avenue Ford Heights, Illinois 60411-3012	708-758-3131
Park Forest	Vanessa Mortz	350 Victory Drive Park Forest, Illinois 60466-2003	708-748-1112
Crete	Deborah S. Bachert	524 West Exchange Street Crete, Illinois 60417-2139	708-672-5431

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ethel M. Taylor

1601 Chicago Road

Chicago Heights IL 60411

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☒ Addressee

B. Received by (Printed Name) Sumantha Taylor | C. Date of Delivery 4-26-11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 5056

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Gloria Bryant

1343 Ellis Avenue

Ford Heights IL 60411

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) G. Bryant | C. Date of Delivery 4/25/11

D. Is delivery address different from item 1? ☒ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 9443

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

State Senator Anthony DeLuca

722 West Exchange - Suite 4

Crete IL 60417

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☒ Addressee

B. Received by (Printed Name) Donna J. Fanning | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7004 1350 0002 1690 0648

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

State Senator Toi W. Hutchinson

241 West Joe Orr Road

Chicago Heights IL 60411

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☒ Agent ☐ Addressee

B. Received by (Printed Name) Desiree Dunn | C. Date of Delivery 4/20/11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 9474

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Toni Preckwinle

118 N. Clark Street - Room 537

Chicago IL 60602

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Kevin M. Tirella | C. Date of Delivery 4/19/11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 5018

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Catherine Linan

3317 Chicago Road

Chicago Heights IL 60411

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☒ Agent ☐ Addressee

B. Received by (Printed Name) C HEREZ | C. Date of Delivery 4/19/11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 5001

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Anita Alvarez

69 W. Washington, Suite 3200

Chicago IL 60602

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☑ Addressee

B. Received by (Printed Name) [illegible] C. Date of Delivery 4/15/11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 5063

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Deborah S. Bachert

524 West Exchange Street

Crete IL 60417

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) NANCY SEEHAUSEN C. Date of Delivery 4/15/11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 4981

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Vanessa Mortz

350 Victory Drive

Park Forest IL 60466

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) [illegible] C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 5025

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Judi Rangel

20040 Governors Highway

Olympia Fields IL 60461

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☒ Agent ☐ Addressee

B. Received by (Printed Name) [illegible] C. Date of Delivery 4-18-11

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 9450

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Carmen Recupito

35 West 34th Street

Steger IL 60475

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) CARMEN C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 9467

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Gayle Campbell

2020 Chestnut Road

Homewood IL 60430

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) L M NOLAN C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 4974

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Carmen Hopkins

One Asselborn

Glenwood IL 60425

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X S. Reed ☐ Agent ☐ Addressee

B. Received by (Printed Name) Samantha Reed

C. Date of Delivery 4/18/11

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☐ Certified Mail ☐ Express Mail

☐ Registered ☐ Return Receipt for Merchandise

☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 4998

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Roy Valle

21460 East Lincoln Highway

Lynwood IL 6041

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X L. Stark ☒ Agent ☐ Addressee

B. Received by (Printed Name) L. Stark

C. Date of Delivery 4-18-11

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☐ Certified Mail ☐ Express Mail

☐ Registered ☐ Return Receipt for Merchandise

☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 5032

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Debbie Williams

21701 Torrance Avenue

Sauk Village IL 60411

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 4-18-11

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☐ Certified Mail ☐ Express Mail

☐ Registered ☐ Return Receipt for Merchandise

☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7010 3090 0000 4125 5049

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Certification of Authenticity of Official Forms

You may complete this form online, save a copy locally, print and sign it before submitting it to the Illinois EPA.

This form must accompany any application submitted to the Illinois EPA Bureau of Land, Division of Land Pollution Control, Permit Section on forms other than the official copy printed and provided by the Illinois EPA. The only allowed changes to the form are in spacing, fonts, and the addition of the information provided. Any additions must be underlined. The forms would not be considered identical if there is any change to, addition or deletion of words on the form or to the language of the form.

The same individuals that sign the application form it accompanies must sign the following certification.

I hereby certify under penalty of law that I have personally examined, and am familiar with the application form or forms and all included supplemental information submitted to the Illinois EPA herewith, and that the official Illinois Environmental Protection Agency application form or forms used herein is or are identical in all respects to the official form or forms provided by the Illinois EPA Bureau of Land Permit Section, and has not or have not been altered, amended, or otherwise modified in any way. I further certify under penalty of law that any attached or included electronic data version of the application form or forms complies with the official Illinois EPA's Electronic version thereof, and is or are identical in all respects to the official electronically downloadable form or forms provided by the Illinois EPA Bureau of Land Permit Section, and has not or have not been altered, amended or otherwise modified in any way.

M. L. Smith — Owner Signature — 4/14/11 — Date

M. L. Smith — Printed Name — VP Manager of Engineering — Title

M. L. Smith — Operator Signature — 4/14/11 — Date

M. L. Smith — Printed Name — VP Manager of Engineering — Title

Kevin J. Coughlin PE — Engineer Signature (if necessary) — 14 April — Date

Kevin Coughlin, P. E. — Printed Name

Subscribed and Sworn to Before Me, a Notary Public in and for the above-mentioned County and State.

P. L. Sheffield — Signature — 4/14/11 — Date

Paula L. Sheffield — Printed Name

My commission expires on: 5/5/2014

"OFFICIAL SEAL"
P L SHEFFIELD
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires 05/05/2014

Seal of Notary Public

1.0 INTRODUCTION

Indiana Recycling and Renewable Fuels, LLC dba: Illinois Recycling and Renewable Fuels, LLC (IRRF) submits this application to the Illinois Environmental Protection Agency for a permit to construct and operate a recycling plant in Chicago Heights, Illinois. The proposed project will be located in an area zoned M3 for heavy industrial manufacturing at 1301 South State Street in Chicago Heights (See Figure 1). The proposed IRRF facility has received local siting approval from the City of Chicago Heights (See Appendix B)

The site will be served by a long dedicated access road (entrance of 1301 State Street) and is part of a new industrial park near the center of a large, industrial area on the eastern limits of Chicago Heights.

More than half of the industrial zoned land in the approximately, 1,000 acre area including land east and west of the project site is currently unutilized and as either been set aside as improved land ready or manufacturing use or was formerly farm land (i.e. land east of the plant beyond the Commonwealth Edison transmission right of way) which is now being marketed for improvement and industrial use.

The project site is a parcel of land in the Thorncreek Conservancy industrial Park developed to support the concept of green product manufacturing in harmony with wetland and improved regional drainage. The industrial park has been developed under scrutiny of the U.S. Army corps of Engineers and with the support of hydrological engineers of the Land Resource management Group (LRMG) to include a dedicated wetlands area to coexist with heavy industrial manufacturing. Approximately half of the industrial park has been set aside for wetlands, wildlife, and nature trails with the balance including the new service road and project site and several other land tracts filled and compacted with construction fill to bring all usable manufacturing land to well above the 100-year flood plain.

The proposed project site comprises approximately 27 acres, located approximately 0.3 mile north of Lincoln Highway (Rt. 30), 0.6 mile south of Joe Orr Road, one quarter of a mile east of State Street, and 0.4 mile west of Cottage Grove. See Vicinity Map and Land Developer Subdivision drawing in Exhibit 4.5 c-1. The site is bounded on the east by the Commonwealth Edison transmission right of way. The approximate center of the plant is located at 41°30'41.64"N/87°36'.46"W (See Figure 1). The area surrounding the proposed site is composed of predominantly industrial facilities. For example, land south of the proposed project site is used for junk auto storage and salvage. Land north of the site is largely used for trucking operation. Property to the north and south of the site on the west side of State Street is comprised of an approximately mile-long row of heavy manufacturing plants. A large Ford plant is located southeast of the plant near the intersection of Cottage Grove and Route 30.

The proposed IRRF facility will mechanically sort and separate iron and steel ferrous metals, and aluminum, copper, brass, stainless, and zinc, non-ferrous metals, and bulky paper, bulky plastics, bulky textiles and bulky metals for recycling. A high bio-mass content mixed material including non-recycled waste paper, corrugated, cardboard, food scraps and yard waste, and plastics still remaining in the MSW after community recycling will be mechanically separated from sand, dirt, glass, ceramics, metals and other non-organic material and used to produce refuse derived fuel (RDF). See General Flow diagram.

The composition of Municipal Solid Waste (MSW) received by the plant has been assumed to be consistent with the average composition of municipal waste in the United States, as published by the Environmental Protection Agency for year 2005. This waste has the following composition:

	2005 Data	
	000 typ	Wt.%
Organic		
Newspaper	12,050	4.95%
Cardboard	30,930	12.59%
Misc. Paper	40,970	16.68%
Plastic	28,910	11.77%
Rubber	6,700	2.73%
Textile	11,140	4.53%
Food Waste	29,230	11.90%
Yard Waste	32,070	13.05%
Wood	18,500	7.53%
Subtotal	210,500	85.69%
Inorganic		
Iron	13,770	5.61%
Aluminum	3,210	1.31%
Metals	1,740	0.71%
Glass	12,750	5.19%
Others	3,690	1.50%
Subtotal	35,160	14.31%
Total	245,660	100.00%
% Ash		19.72%
% Moisture		24.71%
HHV,Btu/lb.		5,555

"The Executive Summary of 2005 Facts and Figures Municipal Solid Waste in the United States" is included as Appendix A.

2.0 PROCESS DESCRIPTION

The proposed IRRF Chicago Heights RDF plant is designed to receive and further recycle most of the municipal solid waste left over after community recycling programs within the project service area. Many community recycling programs in the United States have been in operation for 15-20 years or more and many are currently operated in locations with renewable fuel projects.

Community recycling programs in the Chicago Region are comparable to most regions of the nation but still leave about 20,000 tons per day (tons/day) of MSW in the Greater Chicago Region requiring disposal. Most of this waste is hauled to landfills approximately 70 miles away in the adjoining states of Indiana and Michigan, and to facilities in Southern Illinois.

The new IRRF facility will reduce the quantity of MSW requiring transfer and long distance truck haul from the region to remote landfills while helping to maximize recycling within the region. It is a facility that can be built quickly (about 12 month's construction schedule) and more than 80% of the incoming MSW will be recycled in primary and secondary raw materials markets.

It will have a significant economic impact on the area economy by building a plant that will create 70 to 100 permanent basic industrial jobs and an estimated 300 additional jobs for local equipment suppliers, contactors, and service industry and over 150 construction jobs during the construction period.

It is located near the middle of an industrial area, Zoned M3

The planned IRRF facility will be a 200,000 square foot manufacturing plant with six main rooms: 1) an enclosed MSW truck receiving and turning room, 2) an enclosed MSW storage and out feed room, 3) an enclosed bag open flail and magnetic separator room with a common wall separating the two (2) MSW process infeed lines, Line 100 and Line 200, 4) an enclosed municipal solid waste mechanical process room, 5) an enclosed storage room for temporary stockpile of prepared high biomass content raw material for use as a high quality refuse derived fuel 6) an enclosed room for major maintenance, repair and rebuilding and storage of equipment. The site will have additional buildings for warehousing and parts storage. The facility and equipment general arrangement is shown in Figures 2 and 3. A list of principal recycling equipment is shown in Table 2-1.

As shown in Figures 2 and 3, the facility has and includes a 2,500-gallon above ground diesel fuel storage tank for on-site mobile equipment. A spill containment plan is provided in Appendix F. Diesel tanks are exempt for purpose of air regulations in accordance with 35 IAC Subtitle B, Section 201.146 (n)(3).

The tank is provided to refuel onsite operating **mobile** equipment and will be refilled approximately once a week. The expected annual diesel fuel use is approximately 170,000 gallons per year.

The volatile organic material (VOM) emissions from the diesel storage tank are estimated to be less than 0.44 tons per year (tons/yr.).

TABLE 2-1

List of Principal Material Handling Equipment by Room Location

Room 2	Number of Units
Wheel loader	2
Crawler Tractors (bulldozer)	1
Excavators	2
Picking Grapples	2
Bag Filters	2
Room 3	
Flail (bag openers)	2
Drum Type Primary Electro Magnets	2
Drum Type Permanent Magnets	2
Bag Filters	2
Room 4	
Suspended Belt Type Secondary Electro Magnets	3
Suspended Belt Type Tertiary Permanent Magnets	3
Drum Type Permanent Magnets	3
Conveyor Head Pulley Magnets	5
Primary Trommels	3
Shredders	3
Air Classifiers	4
Cyclone Separators	7
Bag Filters	5
Secondary Trommels	2
Disc Screens	2

Room 5

Wheel Loaders	1
Crawler Tractor (bulldozer)	1
Stationary Packers	
Storage Room	2
Loadout	4
Bag Filters	2

3.0 IEPA PERMIT APPLICATION

4.0 COMPLIANCE WITH ADMINSTRATIVE CODES

4.1 Closure plan including costs for closing the proposed unit in accordance with 35 ILL. Admin. Code 807-206. See Appendix D.

4.2 Site approval, compliance with Section 39© of the Environmental Act and 35 ILL Admin. Code 807-207 from LPS-AP8 signed by the governing body and notarized (See Appendix B).

4.3 Compliance with 35 ILL. Admin. Code 807205(k) List of People Notified. Notification sent to the City Clerk of each municipality, any portion of which is within three miles of the project site boundary and each member of the General Assembly from the Legislative District in which the site is located. (See Table 4.3.1).

4.4 Form "39(i) Certification for Operating a Waste Management Facility for Individuals" to demonstrate compliance with Section 39(i) of the Illinois Environmental Protection Act and 35 ILL Admin. Code 807-207 for the Legal Entity, the Operator and the Property Owner of Record. See Section 3.

4.5 Compliance with section 22.14 of the Illinois Environmental Protection Act.

Set Back

Section 22.14 of the Illinois Environmental Protection Act requires MSW transfer facilities to be a minimum of 1,000 feet from residential areas.

As noted in Section 4.62, the nearest property zoned residential is 1,800 feet from the project site entrance at 1301 South State Street. The access drive east to the IRRF MSW Recycling Facility is approximately one third of a mile long, to the IRRF MSW Recycling Facility.

4.6 INFORMATION REQUIRED BY 35 ILL ADMIN. CODE 807.205 (a), (b), and (c)

a. Distance from the nearest property zoned residential to the facility property boundary, See Exhibit 4.5c-1.

The nearest property zoned residential to the facility property boundary is west of Arnold Street, 1, 800 feet southwest of the IRRF property entrance at State Street and 3,250 feet southwest of the IRRF plant MSW storage and recycling facility. See attached vicinity map.

The property is zoned M3, heavy industrial, and is surrounded on the west, north and south by manufacturing, much of it heavy industrial. A large auto scrap yard is located immediately south of the plant. Land located east of the plant is largely farm land and undeveloped industrial property with a small amount of trucking northeast of the plant.

b. **Written legal description of the property in accordance with Section 111 of LPC-PA3.**

LEGAL DESCRIPTION

THAT PART OF THE NORTHWEST QUARTER OF SECTION 22, TOWNSHIP 35 NORTH, RANGE 14 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF THE SAID NORTHWEST QUARTER; THENCE NORTH 00 DEGREES 04 MINUTES 40 SECONDS WEST ALONG THE WEST LINE OF THE SAID NORTHWESST QUARTER 330.00 FEET; THENCE SOUTH 89 DEGREES 56 MINUTES 05 SECONDS EAST 77.00 FEET; THENCE NORTH 00 DEGREES 04 MINUTES 40 SECONDS WEST 501.00 FEET; THENCE SOUTH 89 DEGREES 56 MINUTES 05 SECONDS EAST 1211.89 FEET; THENCE NORTH 00 DEGREES 05 MINUTES 05 SECONDS WEST 495.12 FEET TO THE SOUTH LINE OF THE NORTH HALF OF THE SAID NORTHWEST QUARTER; THENCE SOUTH 89 DEGREES 56 MINUTES 13 SECONDS EAST ALONG SAID SOUTH LINE 220.50 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 89 DEGREES 56 MINUTES 13 SECONDS EAST 383.06 FEET; THENCE NORTH 01 DEGREES 17 MINUTES 40 SECONDS EAST 306.82 FEET; THENCE NORTH 89 DEGREES 56 MINUTES 01 SECONDS 743.48 FEET TO THE EAST LINE OF THE SAID NORTHWEST QUARTER; THENCE NORTH 00 DEGREES 06 MINUTES 43 SECONDS WEST ALONG THE SAID EAST LINE 842.06 FEET TO A POINT OF CURVE ON THE SOUTHERLY RIGHT OF WAY LINE OF THE CHICAGO HEIGHTS TERMINAL TRANSFER RAILROAD COMPANY, SAID POINTOF CURVE BEING 177.20 FEET SOUTH OF THE NORTHEAST CORNER OF THE SAID NORTHWEST QUARTER; THENCE NORTHWESTERLY ALONG SAID CURVE , CONVEX TO THE NORTHEAST, HAVING A RADIUS OF 1178.11 FEET; A CHORD OF 231.89, AND A CORD BEARING OF NORTH 40 DEGREES 11 MINUTES 01 SECONDS WEST, 232.27 FEET TO THE NORTH LINE OF THE SAID NORTHWEST QUARTER; THENCE NORTH 89 DEGREES 56 MINUTES 13 SECONDS WEST ALONG SAID NORTH LINE 485.60 FEET; THENCE SOUTH 00 DEGREES 22 MINUTES 48 SECONDS EAST 350.11 FEET; THENCE SOUTH 89 DEGREES 58 MINUTES 13 SECONDS WEST 1939.58 FEET TO THE EAST LINE OF STATE STREET; THENCE SOUTH 00 DEGREES 04 MINUTES 40 SECONDS EAST ALONG SAID EAST LINE 80.00 FEET; THENCE NORTH 89 DEGREES 58 MINUTES 13 SECONDS EAST 1444.51 FEET; THENCE SOUTH 00 DEGREES 03 MINUTES 43 SECONDS WEST 894.85 FEET TO THE POINT OF BEGINNING, TO BE KNOWN AS LOT 3 IN THORN CREEK CONSERVANCY INDUSTRIAL PARK SUBDIVISION, CONTAINING 27.56 ACRES, MORE OR LESS.

c. Drawing which shows the property boundary delineated by the written text with the site depicted. The proposed plant will be located off road approximately ½ mile east of State Street on an isolated 27 acre tract of land zoned M3 for heavy industrial manufacturing.

Exhibit 4.5 c-1 and Figure 1 (location map) and Figure 2 site plan show;

- The site vicinity
- Location of IRRF Recycling Plant.
- Location of public roadways.
- Topographic map
- Site drainage
- Nearby industrial properties.
- Distance to nearest residence.

- Site facility set back.

The site will be served by a dedicated access road (entrance of 1301 State Street) and is near the center of a large, approximately 1,000 acre industrial area on the eastern limits of Chicago Heights, bounded on the west by State Street, on the east by Cottage Grove, on the south by Route 30 and on the north by Joe Orr Road.

More than half of the industrial zoned land in the approximately 1,000 acre area including land east and west of the project site is currently unutilized and has either been set aside as improved land ready for manufacturing use or was formerly farm land (i.e. land east of the plant) which is not being marketed for improvement and industrial use.

Land south of the proposed project site is used for junk auto storage and salvage. Land north of the site is largely used for trucking operations.

Property north and south on the west side of State Street towards Chicago Heights has approximately a mile long row of heavy manufacturing plants. The large Ford plant is located east of State Street near the intersection of Cottage Grove and Route 30.

The project site is a parcel of land in the Thorn Creek Conservancy Industrial Park developed to support the concept of green product manufacturing in harmony with wetlands and improved regional drainage. The industrial park has been developed under scrutiny of the U. S. Army Corps of Engineers and with the support of hydrological engineers of the Land Resource management Group (LRMG) into dedicated wetlands area to coexist with heavy industrial manufacturing. Approximately half of the industrial park has been set aside for wetlands and wildlife and nature trails with the balance including the new service road and project site and several other land tracts filled and compacted with construction fill to bring all usable manufacturing land to well above the 100 year flood plain.

There are no places of public use on the property other than for the purpose described.

The proposed facility will not change the hydrological conditions on the site. The site, originally farm/undeveloped land, has received substantial site improvement by the industrial park developers under permit from the U. S. Army Corps of Engineers and other appropriate permitting agencies to maintain proper drainage of the Thorn Creek drainage basin, provide appropriate easements, provide good access to the property, and fill low areas with compacted engineering fill.

Site elevations will be essentially maintained near the developer's final grade allowing for proper compacted 6 (existing topographic map), Figure 7 (storm water filtration prevention plan) and the site developer's tract subdivision plan shown in Exhibit 4.5 c-1.

All site drainage during construction and operations will be collected and contained in the facility's on-site drainage pond.

d. Process Flow diagram for the Recycling Facility and a drawing which clearly shows; the equipment layout, the storage area for un-processibles, unacceptable residuals, and processing materials and the loading and unloading areas for the above materials. See Table 2-1 and Figures 2, 3, 4 and 5.

e. **Contingency Plan** – See Appendix E of this Permit Application.

f. **Method of handling Excess Water from the Municipal Waste or Floor Washing on the Tippling Floor.**

The roadway areas outside the facility are designed and sloped to prevent water draining into the plant.

The facility tipping floor is sloped and designed to collect any excess water for release to the sanitary sewer.

Experience in many facilities has shown the accumulation of excess water is small due to the naturally dry nature of municipal solid waste (which contains a lot of paper and water absorbing material) and the low amount of moisture in the material brought on the tipping floor by delivery vehicles (i.e. moisture and ice and snow on delivery trucks) and the overall water absorbing capability of the large pile of municipal solid waste which accumulates on the tipping floor.

Collected excess water from the tipping floor will be filtered and applied as a mist back onto the MSW during processing to assist in dust control, if needed, or discharged to the sanitary sewer.

Tipping floors of MSW processing facilities typically receive much higher waste deliveries during the first three days of the week and light loads by the end of the week and the tip floors are cleared by the end of the week to start afresh by the start of the next week.

Wheel loaders which stockpile MSW and feed process lines clean and clear the tip floor after all of the waste is fed to the process lines. MSW acts both as a sponge and as a wiping agent as it is pushed and moved across the floor. Sweepers are also used periodically to sweep the floor and these steps prevent material build-up on the floor.

Floor washings are applied infrequently. Water collected from these washings is filtered and discharged to the sanitary sewer.

g. **Maintenance of Plant Records Include:**

a. Scale house records of MSW delivery
b. Scale house records of recyclables and residue.
c. Daily production summaries.
d. Control room and shift supervisor logs.
e. Log of random spot checks of rejected loads including name of hauler, truck number, observations of material and the rejected load.
f. Facility Inspections

g. Implementation of Contingency Plans
h. Resolution of Deficiencies/Emergencies

All plant records will be kept for the life of the project for the life of the plant, 20-30 years' or more.

Good record keeping is critical to successful plant operation.

Records provide a log of plant and equipment performance, a histogram of equipment maintenance and maintenance cost, identify the principle causes of the forced process line outages and equipment downtime, and help point out deficiencies, the cause of higher operating costs and the need for improvement.

All of this is in addition to actions taken to implement contingency plans and comply with permit requirements.

Log books will be kept by control room operators, shift supervisors, maintenance mangers, the plant engineers and the plant safety engineer.

The plant will have programmable logic controls which will closely monitor equipment and system performance, scale house receiving and shipping records, logs of purchased spare parts and services, and will collect and record continuously a wide variety of information that will monitor equipment and systems performance.

1. The plant will maintain scale house records of all plant waste deliveries noting time of delivery, hauler identification, gross weight, net weight and type of delivery vehicle and type of load.
2. Daily scale house records will be keep of all product shipments including recyclables (including RDF), and process residue.
3. Daily waste deliveries and product production spread sheet summaries will record all weightings of incoming waste and shipment of materials. RDF tonnage will normally be determined as the difference between total waste deliveries and deductions for process residue, bulky processed (bulky recycling) and ferrous and non-ferrous metals recovery and estimated moisture loss during processing. Estimates will be mode of daily MSW and RDF materials remaining in storage as the end of operation if floors are not cleared of waste deliveries are heavier earlier in the week and lighter throughout the end of the week.

4. Control room operators will log shift start time, stop time and the start and stop time and restart for all events having impact on the operations causing equipment stoppage, cause of problems, planned outages for specific maintenance and other reasons, and note the need for continued correction of deficiencies beyond the operating shift.

   Shift supervisors will review control room logs and data logs of equipment performance records, equipment power usage (amperage), motor windings, temperature of shredders, equipment operating status and equipment process line performance during the shift in question and prepare reports for engineering, maintenance and plant

management of needs for correcting deficiencies and a summary of plant overall performance during their operating shift.

The plant engineers and safety engineers and maintenance manager will also review daily plant and supervisor records and logs and observe plant and equipment performance and make recommendations to plant management and will collectively plan and implement and oversee corrective actions to correct deficiencies.

5. Random spot checks of potential problem loads will be made weekly (recording time, waste hauler, truck number, and results) by spot dumping and checking waste loads in the north east corner of the MSW storage room and separating the waste with a wheel loader bucket for floor attendant inspection. Rejected loads will be reloaded at owner's expense.

6. Facility Inspections

Facility inspections and tests are conducted to review operating deficiencies, confirm resolutions of deficiencies, show compliance with city, county and state regulatory requirements, show compliance with OSHA guidelines, and confirm that the plant is safe and ready for operation.

Thorough daily inspections by shift supervisors are routine to look for equipment breakage and pending problems and help prepare a list for maintenance.

7. Implementation of Contingency Plans

The plant engineer and safety engineer and operations managers will oversee implementation of contingency actions and necessary record keeping for contingencies.

A detailed discussion of contingencies and record keeping of contingency actions and resolution is described in Appendix B.

8. Resolution of Deficiencies/Emergencies

The contingency plan in Appendix E will be followed for emergencies.

Facility damages and/or operating deficiencies resulting from the emergencies will be assessed by plant management and the engineering and maintenance staff and shift supervisors and plans will be prepared to correct deficiencies and restore the plant to full operation.

Records of these plans and corrective action taken will be maintained in the logs of plant management, plant engineers and maintenance mangers and sift supervisors and keep on site for future reference and use.

As noted in Appendix E, reports and records will be forwarded to appropriate offsite authorities and regulatory agencies as required by law.

h. Posted Signs at the IRRF – 1301 State Street Entrance Listing Prohibited Items

Posted signs at the property entrance will show in **large bold letters** acceptable waste types and prohibited waste. See below.

Scale house receipt will list these types. All waste haulers will receive written direction of the acceptable and unacceptable/prohibited waste types.

All waste haulers will be required to sign statements that they do not knowingly pick up and deliver hazardous waste to the site and will be advised that the plant will report any such violation to the legal authorities immediately.

All haulers will be advised that the plant also has strict rules on continued delivery of non-hazardous but unacceptable/non-processable waste as indicated in the list of items and screen the haulers waste deliveries to identify frequent violations and will discontinue hauling listed waste items which cause severe loss of plant operating time and equipment damage.

ACCEPTABLE WASTE TYPES

Municipal (household, commercial and institutional): Waste originating in the cities, towns and communities consisting of household waste from private residences, commercial such as waste originating in office buildings, in wholesale, retail or service establishments, such as restaurants, (excluding greases), stores, markets, theaters, hotels, and warehouses, and institutional waste material such as waste originating in schools, hospitals, research institutions and public buildings.

Bulky Waste: Material in limited quantities may be accepted, except those identified in the Prohibitive sub-categories listed below.

PROHIBITIVE WASTE

1. Known hazardous waste materials as defined in Federal guidelines.
2. Construction and demolition debris (debris box waste), except by special arrangement based on waste stream inspections.
3. Any waste that because of the quality, concentration or physical, chemical or infections characteristics can be determined to cause or significantly contribute to serious, irreversible or incapacitating illness and/or pose a substantial or potentially substantial hazard to human health or the environment.
4. Industrial waste, including the waste material resulting from industrial operations but not including either domestic waste or commercial waste generated in conjunction with the industrial activity.
5. Hunan body waste.
6. Liquid waste.
7. Sewage.
8. Tree branches or tree trunks in excess of four (4') feet long or larger than six (6") inches in diameter.
9. Explosive or ammunitions.
10. Combustible liquid or gas containers, bottles, cylinders or cans.

11. Caustic acids, corrosive, asbestos, chemicals or other hazardous waste, radioactive or other contamination or pollutants prohibitive by mandatory and binding laws or regulations of the United States Government and the State of Illinois.
12. Liquid wastes or slurry waste with free liquids.
13. Unopened containers, except empty household spray cans.
14. Slag, rock, sand, brick or concrete.
15. Thick walled or solid metallic objects such as castings, forging, gas cylinders or large motors.
16. Steel or nylon rope cables or slings.
17. Case hardened or alloy steel chains over 3/8 inches in diameter or four feet (4') in length.
18. Rolls of carpet, plastic, canvas or fencing over six (6") inches in diameter or four (4') feet in length.
19. Animal waste or part of animals.
20. Solid blocks of rubber or plastic in excess of two cubic feet.
21. Any material classified Infectious or Hazardous Waste, (e.g., contaminated broker glass and syringes, hypodermic needles, scalpel blades, isolation waste, human blood products, cultures and stocks from hospitals and laboratories,)
22. Batteries of any type including dry cell, wet cell, motor vehicle or marine.
23. Automobile or other vehicle parts including discarded filters from commercial or industrial establishments.
24. Railroad ties.
25. Waste regulated by the Toxic Substance Control Act.

Obligation Not to Deliver

No hazardous or infectious waste shall be delivered to the Facility. Any Hauler who knowingly delivers such waste will be denied future access to the Facility. Haulers must sign a statement that, to the best of their knowledge, the waste haulers loads do not contain hazardous waste.

Inadvertent Delivery

All haulers will be notified that they will be advised the vehicle loads will be periodically spot dumped and checked for non-acceptable waste and that continued delivery of this type of waste (which can cause significant plant time loss and equipment damage) will result in banning the hauler from using the site.

It is the haulers obligation to know the type of waste transported. The waste in the responsibility of the hauler regardless of whether the hauler knew the waste was hazardous. Any delivery of hazardous waste whether intentional or inadvertent will be reported to the State of Illinois EPA within 48 hours, and the hauler may be subject to civil and criminal penalties.

i. The Number and Duties of Employees

See Section 5.13.

j. The location where signs will be installed with the facility name, hours or operation, site number and phone number, traffic from State Street will enter the site heading east and turn briefly south then east.

The new sixty (60') foot wide service road will be paved and will be built above, the existing road which handled a large volume of trucks for many years hauling and stockpiling fill dirt and aggregate.

A large twenty (20') foot long x eight (8') feet deep sign with the required information will be posted for good visibility from State Street inside the fenced area near the site 1301 South State Street site entrance. See Figure 2, (Drawing No. 7715-001 Rev. F in the Attachments).

An example is illustrated below

ILLINOIS RECYCLING AND RENEWABLE FUELS

CHICAGO HEIGHTS, ILLINOIS
MUNICIPAL SOLID WASTE RECYCLING FACILITY

SERVING CONTRACT WASTE HAULERS

HOURS: 5 A.M. – 9 P.M.
PHONE NO. SITE I. D.

NO INDUSTRIAL OR HAZARDOUS WASTE ACCEPTED

Two (2) additional signs will be located on the south side of the incoming service road about 50 feet west of the security station. See Figure 2, (Drawing No. 7715-001 Rev. F in the Attachments).

Providing:

Sign 1 – the information shown above.

Sign 2 – list of unacceptable waste.

An optional additional sign on the south side of the road listing unacceptable waste is considered for the second point of turn from south to east.

k. Spill containment plan – See Appendix F.

l. A drawing showing traffic patterns – See Figures 2 and 3. (Drawing No. 7715-001 Rev F and Drawing No. 7715-002 Rev. F in the Attachments).

m. A drawing showing direction and degree of flow slope to demonstrate the area is designed to drain and collect excess water in the building.

Floor slopes of ½ - 1% will provide satisfactory drainage for the recycling plant. The IRRF design slope will be 1%. See Figure 3. (Drawing No. 7715-002 Rev F in the Attachments)

n. Random Spot check Program

The IRRF MSW receiving area will have two (2) heavy equipment operators (2 loader operators) with caterpillar 980 size wheel loaders, observing unloading of MSW and pushing waste into stockpile and pushing to MSW feed excavators and will have a continuing opportunity to which vehicles are delivering non-processable waste observe which haulers by vehicle type and company.

This information is conveyed to the plant shift supervisors with radios who will inspect and look at the questionable load. The scale house operator and scale house records also make it easy to cross check hauler container and truck identifications or problem waste haulers.

Typically packer trucks and transfer trailers which serve regional and commercial accounts do not deliver a significant amount of non-processable waste.

Problem material usually comes from debris box waste and waste haulers which pick up both commercial and industrial waste.

In a reasonable short time the plant operators will have a good determination of which delivery vehicles to look out for.

The plant will notify all haulers that a spot inspection program is used at the plant to minimize receiving non-processable waste. All waste haulers are subject to the spot check.

For normal plant operation, random spot checks will be made weekly of waste loads delivered by haulers which appear to contain significant amounts of non-processable material. During the early months of plant operation and any time when an excessive amount on non-processable waste is delivered the frequency will be increased to daily close inspection spot checks.

When a random spot check is planned the waste hauler to be checked will be identified ahead of time and a driver from this company will be notified at the scale house to proceed to the spot check area.

The MSW storage room will have five (5) doors open for delivery trucks to back through and unload at number bays 1, 2, 3, 4 and 5 from east to west. Vehicles entering the truck

turning room will proceed into the room one at a time and back to a designated unloading area. Trucks required to participate in spot checks will proceed to Bay No. 1.

An area on the northeast side of the MSW storage room near Bay No. 1 is used for this purpose.

Haulers with waste loads containing significant amounts of non-processable materials will be reminded of their waste delivery agreement and asked to work to minimize the amount of this material. Haulers repeatedly delivering waste with significant amounts of visible non-processable will be warned about repeated violations and rejections of future loads.

All loads with more than 50% non-processable will be reloaded during off hours and hauled from the site at hauler expense.

A hauler found delivering hazardous waste to the site will pay all costs of hazardous waste disposal, be advised that the incident will be reports to State and Local regulatory agencies and put on notice of rejection of future loads if the practice continues.

Logs of all spot checks will be kept in plant records, reported to the IRRF plant manager and IRRF corporate management for discussions and review with waste haulers and regulation agencies as appropriate/required.

SECTION 5.1 – PROCESS DESCRIPTION – SEE SECION 2.0 AND SECTION 5.10

SECTION 5.2 – COORDINATION WITH STATE OF ILLINOIS, COOK COUNTY, AND CHICAGO HEIGHTS SOLID WASTE PLAN

The facility will comply with all aspects of the State solid waste plan and Cook County and Chicago Heights siting criteria.

WASTE NEED OF THE AREA

The facility will provide an environmentally superior method of solid waste management in the service area by recycling 85% or more of the collected waste and reducing reliance on transfer and long distance haul to landfills.

PROVIDE HEALTH AND SAFETY

The facility design builds on advanced recycling and renewable fuels technology practiced in many parts of the world with excellent track record in protecting public health, safety and welfare.

COMPATABILITY WITH SURROUNDING AREA

The facility will be set in an isolated part of a new industrial park zoned M3 located near current heavy industrial manufacturing with all-weather service roads currently serving heavy manufacturing industry in the area.

FLOOD PLAIN

The facility site is not in a flood plain and has been well engineered by the land developer to comply with drainage permit specifications established by the U. S. Army Corps of Engineers.

PROTECTION FROM FIRE AND OPERATIONAL ACCIDENTS

The facility will be designed, constructed and operated as discussed elsewhere in this document following procedures in place and which have been shown to be proven and environmentally reliable at many large MSW processing facilities including those listed below and practiced in many other locations.

- Hartford, CT.	800,000 TPY plan near downtown Hartford Across from the regional market.
- Honolulu, HI.	650,000 TPY plant in Campbell Industrial Park Near high income resort property.
- Detroit, MI.	800,000 TPY plant near the city center and near the regional market center.

SECTION 5.3 – TRAFFIC FLOW, IMPACT ON LOCAL STREETS, ACCESS CONTROL

The plant is expected to receive approximately 150 vehicle loads per day, average of municipal solid waste delivered between 5 a.m. and 9 p.m. Delivery vehicles will typically include type front and rear loader packer trucks with 12 ton loads and, transfer trailers with 23 – 25 ton loads. It is expected that about 75% of vehicle deliveries will be packer trucks with the balance transfer trailers.

It is expected that deliveries outside the Chicago Heights area will utilize State Street, Cottage Grove, Joe Orr Road and Route 30 for the bulk of the deliveries and will not have a significant impact on other Chicago Heights streets. Peak delivery periods are expected to be 9 – 11 a.m. and 1 – 3 p.m.

Based on experience at much larger plants that the proposed facility, no back up traffic will occur on State Street and all truck queuing ahead of the plant will easily be handled by the long three (3) lane dedicated ¼ mile off road access road leading to the isolated plant site.

At the fenced site, a manned security station will allow passage into the site. After the security check point, visitors will be directed south along a confined driveway to the administration building parking area.

Waste delivery vehicles will proceed eastward across a double lane truck scale which can be used to weight two lanes of incoming ruck traffic during peak delivery times and outbound truck hauls of recycled products, process residues, etc. See site plan in Figure 2.

As noted earlier this site has been used for many years to receive a large number of trucks hauling construction fill dirt and aggregate and stockpile the material for use by the local construction industry and to further develop the site.

SECTION 5.4 – ACCEPTABLE MUNICIPAL SOLID WASTE/PREVENTION AND CONTROL OF HAZARDOUS WASTE DELIVERED TO THE FACILITY.

SEE APPENDIX C

SECTION 5.5 – MUNICIPAL SOLID WASTE SUPPLY AND SERVICE AREA

Private Waste haulers serving Chicago Heights and nearby south suburb area towns currently serve over 1 million people. As noted in Table 1, some of the towns nearest the plant had a 2008 population of approximately 750,000.

The Chicago and Northwest Indiana metropolitan area currently produces and transfer hauls approximately 20,000 tons per day of municipal solid waste to landfills in Indiana, Michigan and Central Illinois.

The Chicago Heights site will provide a substantial point of cost savings for local waste haulers. The haulers have expressed strong interest in the project and a major portion of the 2,700 ton per day waste delivery has already been committed. The plant is not expected to have difficulty developing the waste supply for the proposed plant capacity.

TABLE 1

Towns within 3 & 10 miles of IRRF Chicago Heights Recycling and Renewable Fuels Plant

	Town (Illinois)	Within 10 Miles 2008 Population	Within 3 Miles of Project Site
1.	Southern Limits of Chicago	Not Included Here	
2.	Frankfort	17,000	
3.	Tinley Park	48,000	
4.	Crestwood	11,000	
5.	Oak Forest	28,000	
6.	Country Club Hills	16,000	
7.	Matteson	13,000	
8	Robbins	7,000	
9.	Dixmoor	5,000	
10.	Midlothian	14,000	
11.	Hazel Crest	15,000	
12	Homewood	20,000	X
13.	Flossmoor	9,000	
14.	Olympia Fields - on the border of 3 miles from project site	5,000	X
15.	Park Forest	24,000	
16.	Riverdale	15,000	X
17.	Dolton	26,000	
18.	Harvey	30,000	
19.	Markham	13,000	
20.	Chicago Heights - largest town within 3 miles of project site	33,000	X
21.	South Chicago Heights	4,000	X
22.	South Holland	22,000	
23.	Thornton	3,000	
24.	Glenwood	9,000	X

25.	Steger	10,000	X
26.	Ford Heights	4,000	X
27.	Crete	8,000	X
28.	Calumet City	39,000	
29.	Lansing	28,000	
30.	Lynwood	2,000	X
31.	Sauk Village	10,000	X
32.	Richton Park	13,000	

	Town (Indiana)	2008 Population
33.	East Chicago	37,000
34.	Hammond	78,000
35.	Munster	22,000
36.	Highland	24,000
37.	Dyer	14,000
38.	Schererville	25,000
39.	St. John	10,000
40.	Griffith	17,000
41.	Small Towns & Unincorporated	30,000
	Total 2008 Population within 10 miles:	758,000

SECTION 5.6 – STORAGE CAPACITY/DAILY STOCKPILE OF MATERIAL, ON-SITE STORAGE OF RECYCLABLES, HAULING OF RECYCLABLES, HAULING AND DISPOSAL OF PROCESS RESIDUES.

MSW Storage

The facility has the capacity to receive and store 3,600 tons of municipal solid waste (MSW) pushed into 16 – 18' deep piles of about 18 lb/ft^3 density using a wheel loader. A crawler tractor will be used to spread and further compact the MSW in storage. This further increases the MSW storage capacity to about 5,400 tons, or approximately two (2) days of average MSW delivery.

During normal operation, essentially all of the MSW delivered during a normal operating day will be processed. The typical amount of MSW in stockpile will average about 1.400 tons during work days with occasional increase to 2,700 tons based on daily variations n waste flow, minor equipment outages and partial short hours around holidays. MSW deliveries are usually higher on Monday, Tuesday and Wednesday and after holidays and light on Thursday, Friday and Saturday.

RDF Storage

The refuse derived fuel (RDF) storage facilities have the capacity to stockpile 2,500 tons of RDF at a depth of 16-18 feet with about 16lb/ft^3 density.

At full plant capacity, the RDF storage room will typically receive about 2,000 tons per day of MSW processed into RDF for temporary storage and haul to off-site markets.

RDF handling for High Quality RDF Secondary Markets

RDF is removed from the RDF Storage Room 5, passed through high density stationary compactors and loaded under cover into enclosed site utility walking floor shuttle trailers which move the compacted RDF to a rail loadout area on the northeast side of the property.

The rail loadout area is a sheet metal building 180' long x 75' wide x 30' high which allows two rail cars to move through the building and be top loaded with pre-compacted RDF and tamped (position 1). See Figure1. The RDF loaded rail car is then covered with an all-weather cover and the rail car exits the load area, and transports the RDF to product users.

Shuttle trailers which move the pre-compacted RDF to the rail siding, unload the pre-compacted RDF onto a concrete floor.

A wheel loader reloads the pre-compacted RDF onto the rail car.

Process Residue Storage/Haul

Process residue production from MSW processing will average about 115,000 tons per year or about 1,800 tons per week, 315 tons per day, and will normally be hauled continuously as trucks are filled in heavy duty top loading walking floor trailers with 25 tons per load. An average of about 12-15 truckloads daily will be hauled off site five (5) days a week and additional 4 – 5 on Saturday. Trucks filled late on the evening shift may be stored overnight and hauled early the following morning.

All process residue will be disposed of in State approved sanitary landfill and transported under contract with licensed waste haulers.

Recyclable Iron and Steel (Ferrous Metal) Storage and Haul

The plant is expected to recover approximately 37,000 tons per year of recyclable iron and steel ferrous metal and 7.000 tons per year of aluminum and other non-ferrous metal. An average of 9-10 loads of recycle metals will be collected daily and hauled from the site daily to scrap metal processors.

Non-Processable/Recyclable Material

Experience has shown that this fraction which is expected to average about 30,000 tons per year contains a wide variety of recyclable material and can be processed by diversified recyclers. It will average 90 tons per day and will be removed from the site daily in transfer trailers and hauled to a scrap processor.

SECTION 5.7 – SAFETY AND EMERGENCY PLANS, CONTROL OF FIRE AND EXPLOSIONS, CONTINGENCY PLAN

1. OSHA Requirements – when Applicable On-site, Traffic, Ingress and Egress, Operational, Lighting of Site and Equipment.

   All OSHA regulations applicable to this Facility will be followed. A qualified safety engineer will work with our design engineers and those of our consultants to ensure that every practical safety measure is built into the Facility.

   Safety measures will be included in plant design, process design and operation and personnel training.

The Waste Processing Facility design will include fire walls, water spray nozzles and lines, as appropriate. Combined smoke and/or fire detection and alarm systems will be provided in areas not required to be protected by automatic sprinklers. All designs and operations will comply with the latest National Fire Protection Association (NFPA) codes and local codes.

A rapid means of exit for personnel in the event of fire, or other emergencies will be provided in all areas of the Processing Facilities. Plant personnel will receive comprehensive training on the causes and methods of controlling fire and/or explosions.

All employees and contractors working on site will be required to follow reasonable operational safety procedures. The Federal Occupational Safety and Health Act (OSHA) ordinances and regulations will be complied with in the design of the Facility. First Aid equipment will be available on-site for use by personnel in the event of injury.

All visitors to the Waste Processing Facility will be accompanied by an employee of the Facility familiar with its operation. Visitor access will be restricted in those areas of the Waste Processing Facility where equipment is operating. Protected walkways with viewing ports will be provided for the safety and convenience of the visitors.

All entrances to the Facility not open to the public are posted. During periods of shutdown (nights, holidays, etc.), gates or other roadblocks are closed and locked.

2. Fire Protection

a.) Equipment and Method

All process building structures will be equipped with an overhead sprinkler system for fire protection. The system will be ordinary hazard occupancy type with fusible line to start automatically.

Deluge-type sprinklers will also be located so as to control fire inside operating equipment such as shredders and within covered areas. All of the major conveyors will also be protected with an overhead deluge sprinkler line. These sprinklers are operated by a solenoid valve and can be turned on automatically by the control room operator or manually by the plant operating personnel.

The contingency plan for interruption of plant operation provides for continuous, uninterrupted disposal of the service area's municipal solid waste. The plant has several back up options as outlined below.

Acceptable Waste Storage

During normal operations, the waste will be received, processed and disposed of on the same day. During an emergency, more than two(2) days collection of municipal solid waste can be held in storage.

Process Redundancy

After the MSW infeed, inspection and primary flail shredding, the MSW processing facility is equipped with three totally independent process lines and, therefore, has the

flexibility to operate any combination of processing lines required. During normal operating conditions, each line will be operated an average of two per day to process 2,700 tons per day average, plus or minus 15%, of waste received in accordance with the weekly MSW delivery schedule. System redundancy consists of the reserve processed line, capacity and capability to operate three shifts per day and to operate on weekends, as required, meeting emergency conditions.

RDF Storage – Waste Processing Facility

The RDF storage capacity of the Facility will also reduce the impact of any process interruptions on day-to-day operation of the plant. The RDF storage area is designed to store 2,500 tons of RDF. This is equivalent to approximately 3,300 tons of Acceptable Waste.

b. Planned Provisions for Shutdown/Maintenance

Waste Processing System

Four to six hours on the third shift – The plant is designed to operate 24-hours a day, 7 days a week. Process lines will be shut down for maintenance an average of 4 – 6 hours per day depending on weekly operating schedules. Major maintenance will typically be done on weekends. The plant operating and maintenance schedule is flexible to accommodate both activities. The availability of spares and measures which can be taken to restart a process line are discussed below.

Equipment Spares – Availability

An inventory monitoring system will be established to determine if supplies are adequate to meet projected needs and to provide necessary lead time for new orders. Supplier delivery times will also be checked periodically. A comprehensive inventory of spare parts and maintenance items will be maintained. The program will provide attention to the scheduled inspections, preventative maintenance and scheduled downtime.

c. Equipment Downtime and Contingency Provisions

All major processing components are redundant permitting continual operation at reduced capacity. Any breakage or outage due to conveyor failure can be quickly repaired with available spare parts.

In case of equipment breakdown on any process line component, the following alternatives are available.

- Stop the upstream equipment. Continue to run the downstream equipment until the line is clear. Concentrate plant manpower on quickly repairing the defective component or replacing with a new unit from the spare parts inventory. Most equipment breakdowns such as motor starters and drive failure, conveyor off-track torn, belts, damaged support idlers, electrical fuses, faulty limit switches, broken hydraulic lines,, etc., can be repaired within one to four hours. In this case, it may be possible to make up production during the third shift or the next day using the reserve storage capacity.

The surge storage capabilities discussed earlier and experience in working with the project haulers will be important factors in the developing day-to-day Facility operating practice and contingency plans.

Prolonged Outage

In case of a prolonged outage from unpredictable events, the system will be bypassed and waste delivery trucks will be routed to a landfill.

SECTION 5.8 – DETAILS OF THE METHOD OF HANDLING AND/OR DISPOSITION OF LIQUID WASTE RSULTING FROM OPERATION OF THE PROCESSING FACILITIES.

The recycling facility will not accept any liquid waste for processing. This material is prohibited by the definition of solid waste in the waste supply agreements.

There will be three types of wastewater: (1) sanitary, (2) misc. plant uses, and (3) rainfall.

Sanitary Wastewater: will be generated by personal water use:

a. Miscellaneous Plant Water Discharge includes: This wastewater is mainly generated from performing wash down an estimated 2 gpm will be generated from periodic wash down in the processing and receiving facility.

Rainfall Run-Off: Run-off from precipitation would be collected by roof and yard drains and then discharged to the IRRF on-site storm water drainage lagoon.

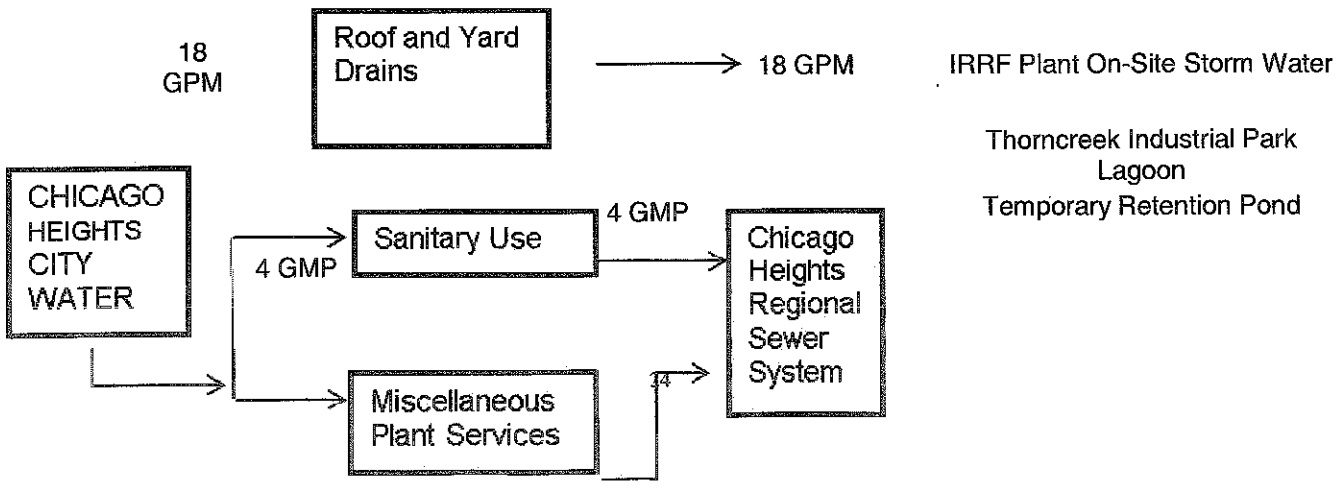
Roof Drainage: Roof drainage will be contained by gutters and downspouts and discharged to an on-site storm water pond.

Site and Roadway Drainage: The area around the site is relatively flat. The site will have substantial landscaped grass area to absorb rainfall. Site and roadway drainage water will be essentially rainfall water falling on the plant site. The site drainage pattern will permit this water to be collected and discharged into the on-site storm water pond.

Estimated Wastewater Quantities and Characteristics

A water mass balance for the IRRF facility is shown below.

IRRF Facility Water Mass Balance



2 GMP

6 GPM

2GMP

and drainage (normally none or under 1 GMP)

Run-off from roof and yard drains will be collected and discharged to the IRRF on-site storm.

Notes: 1.) Average weekly tons of MSW – 14,850 ton +/- 10%
2.) Values shown are in gallons per minute (gpm)
3.) Expected annual variations in average city water usage: +/- 10% summer & fall +10% - 25% winter and spring

IRRF RECYCLING PLANT EASTMATED WASTEWATER DISCHARGE CHARACTERISTICS
(Based on annual average MSW receiving & processing)

	City Water	Processing/ Receiving Washdown (1)	Sanitary Services (2)
Avg. Flow gpm		2	4
As, mg/1	0.01		
Cd, mg/1	0.005	0.013	
Cu, mg/1	0.06	0.06	
CN, mg/1	0.01		
Pb, mg/1	0.015	0.113	
Hg,mg/1		0.0019	
Ni, mg/1			
Ag, mg/1	0.05		
Total Cr (VI), mg/1	0.05	0.20	
Zn, mg/1	0.09	12	
Phenol, mg/1			
Oil & Grease (Hexane			0-40
Soluble), mg/1			
pH	7.4-8.0	5.08	
BOS,mg/1			100-300
TSS, mg/1			100-500
P, mg/1			10
Ca, mg/1	28		
Mg, mg/1	7.6	170	
Na. mg/1	5		
K, mg/1	1.1		
$S10_2$, mg/1	2		

Fe, mg/1	0.01	100	
SO_4, mg/1	27	67.7	
Cl, mg/1	7	800	15-200
NO_3, mg/1	0.3	9.1	0.1-0.4
TDS, mg/1		12.500 (3)	100-500
TVDS, mg/1		7,226	50-300
CODS, mg/1		13,000	

(1) Shaker-flask leaching test with refuse based on 24 hour contact time (Madison, Wisconsin, June 1979) in normal operation, wash down areas will first be swept and the TDS, TVDS, and OD levels are expected to be very low compared to the values shown.

(2) Chemical characteristics typical of domestic sewage.

(3) Conductivity test indicated only 550 MHO, therefore, the major portion of constituents passing the total dissolved.

SECTION 5.9 – SITE PLAN, FACILITIES LAYOUT, FLOW PATTERN

See Figure 2

SECTION 5.10 – MSW STORAGE, FACILITY PROCESSING & RECYCLING OPERATIONS

IRRF Plant Operation

The IRRF plant, operation is predicated on the delivery of 772,000 tons/year of MSW; with two MSW infeed lines and three main MSW process lines.

A separation system has been developed for the purpose of recovering bulky plastic, paper, textiles and metal a ferrous and non-ferrous metals, and removing other inorganic matter from the MSW stream utilizing mechanical sorting with minimum power usage and minimum work on this waste prior to the final shredder sizing operation. The process will utilize two (2) MSW infeed process lines and begin with the separation of bulky recycle material with an excavator as MSW is loaded onto the infeed conveyor (1%). This is followed by an Inline Mechanical Grapple (3%) prior to delivery to the main MSW processing section, to further recover bulky recycle material and remove any other non processable materials. Processing will begin with two (2) Flail Type bag openers designed to break open bags to expose material for downstream separation. Double-drum Magnetic Separators will then be used to remove a large percentage of the ferrous metals from the waste stream, delivering the metal directly to Loadout Trailers for recycling. The remaining waste will conveyed to the main processing building where it will be then be split into three parallel processing streams. A second stage of ferrous metal recovery will be achieved using Overhead Cross-Belt magnetic Separators ahead of Trommel Screens and this additional metal will also be conveyed to the ferrous metal Loadout Trailers.

Waste leaving the magnetic Separators will be conveyed along the parallel processing lines to rotating primary Trommel Screens. The primary Trommel Screens will have multiple stages to achieve the planned material separation. The Trommel Screens and other processing equipment, including ferrous and non-ferrous separation, will allow the removal of most of the inert materials from the MSW. With most of the inert materials removed, the resulting combustible material will be further size-reduced in a shredder to approximately 1½" – 2" particle size followed by Air Classifiers and product sizing screens to produce the marketable secondary raw material. The overall yield of secondary raw material (RDF) is estimated to be

approximately 75 percent of the initial waste stream, prior to an adjustment for moisture losses that occur during waste processing. RDF will be conveyed to temporary bulk storage followed by direct load out with compactors into enclosed trailers and loaded into rail cars for transport to offsite markets.

A process flow sheet for the recycling plant is shown on Figure 3 and 4, which provides a detailed mass balance and lists and shows the location and uses of equipment.

MSW Weight-In

MSW will be delivered to the facility by transfer trailers and packer trucks vehicles. MSW will be weighted into the facility on either of the two 60 ton capacity, 70 foot long receiving scales located adjacent to the central scale house along the incoming route to the MSW receiving and storage area. A third scale of equal capacity will be located along the facility exit lane for determining vehicle tare weights as required and for weighing recovered ferrous materials and residue leaving the site.

Trucks using the facility frequently will have assigned identification numbers and data cards containing specific information required for billing purposes. The cards, maintained by the weigh-master, will input this data long with gross weight, thus facilitating automatic billing. The driver will be given a printed receipt with copies retained for billing purposes.

The receiving scale house computer tapes and printed output data sheets will provide duplicate records of waste delivered to the facility together with records of products and residue shipped from the facility.

MSW Receiving/Truck Turning

From the central scale house, incoming trucks will be directed to the truck receiving and turning area, a 285' long x 115' wide concrete pad which allows trucks to turn and back through six roll-up doors into the municipal solid waste storage building six unloading areas. The first two unloading areas entering the room are roll up doors which allow route packer trucks and walking floor transfer trailers to back though the interior building opening into a large 285' long x 185' wide MSW storage room.

Light weight, high capacity transfer trailers can also unload in the facility using the 53' long truck dumpers located after the initial four truck unloading doors.

Spotters will direct trucks to the appropriate locations for tipping.

It is anticipated that during peak periods the following equipment could be operating in the area:

Type of Vehicle	Maximum No.	Horsepower	Fuel

Packer Truck & Transfer Vehicle Walking Floors	2-4	240-300	Diesel
Transfer Trailer (Tipper Type)	2	300	Diesel
Front End Loader	2 - 4	170	Diesel

MSW Tipping and Storage

The solid waste will be stockpiled in the MSW storage area as it is received and fed out of storage as required for processing.

After unloading, MSW will be moved into stockpile by wheel loaders. During delivery periods one wheel loader will be used to stockpile and a second wheel loader will move MSW from stockpile to the MSW feed conveyor location along the back wall of the room. A crawler tractor (bulldozer) will work in tandem with wheel loaders and further compact the MSW in stockpile.

The MSW storage room is designed to hold 2 to 2.5 days deliver of MSW, approximately 5,400 tons In an emergency. The tipping floors and MSW storage floors will be cleaned and swept daily.

As noted in Figure 3 (Drawing No. 7715-002 Rev F) MSW delivery trucks will back into Room 2, the MSW Receiving and Storage Room.

This Room is 275' long x 185' wide.

Trucks will back into the room about 75 – 80' and tip their waste. Truck tipping platforms may also be included at the location of the 5th door from the entry into Room 1.

The tipping area is approximately 125' long x 50' wide.

Tipped material is pushed by wheel loaders into MSW Stockpile Areas 1 & 2.

Area 1 is a day pile or ready pile and is fed to the process lines during the day shift. The MSW Stockpile Area 2 is compacted by a crawler tractor (bulldozer) as it is received and is the last pile to be removed from the room. It is typically removed by the evening shift.

At the end of each day, the MSW Tipping Area and the Pile Area No. 1 are cleared and swept. On most days, Compacted Pile 2 is also removed.

MSW delivery is highest on Monday, Tuesday and Wednesday and lightest on Thursday, Friday and Saturday. For this reason normal industry practice is to feed the process lines at an average feed rate rate and store compacted MSW in Pile 2 overnight if necessary to handle swings in daily delivery.

MSW Processing Line Arrangement and Operation

The main processing system includes three parallel processing lines with common equipment in some locations

The process steps and governing design parameters for the major process system components are described in the following paragraphs.

Process Line Load and Feed

Solid waste will be delivered by wheel loader form the MSW storage area to the SMW load area, and assist in loading the solid waste onto high impact steel apron feed conveyors.

The MSW infeed conveyor is designed to allow feed onto the conveyor by a wheel loader and/or an excavator.

The primary feed will be by excavators which will also feed the lines directly with waste which does not have bulky non-processable material.

These technologies have worked well in large MSW processing facilities.

The variable speed process line feed conveyor will control the rate of feed to the process lines.

Methods to Handle Bulky Waste and Non-Processable Waste

Non-processable waste will include but not limited to such items as large, thick carpet, bundled and large sheets of plastic, cable, large automobile parts, white goods, i.e. stoves, refrigerators, and other appliances if present, large oversize corrugated shipping cartons, boulders, stumps, tree trucks and limbs over 6" in diameter and 6' long, car tires, propane tanks and other non-processable material.

This waste streams typically average about 3% - 5% of the delivered MSW and can be further sorted to recycle most of the contents. Diversified recyclers are often available to remove this waste from the site for salvage rights.

Bulky items mixed with incoming MSW will be pushed aside by loader operators and when time permit, pushed to the bulky waste loadout area for handling as described above.

The MSW feed to the flail bag openers will be conveyed in depths of about one foot past an inspection station. Bulky items remaining in the waste stream at this point will be removed by the operator at the inspection station and dropped into a non-processable material loadout conveyor. When full, these hoppers will be moved to the bulky waste staging area described above.

Significant quantities of wood pallets, yard waste and brush will require pretreatment and size reduction by chippers or wood hogs prior to acceptance by the Facility. Miscellaneous quantities picked up with residential and commercial waste will be processed along with other waste.

Used tires in waste delivered to the facility will normally be pulled from the waste stream ahead of the primary shredder and handled as bulky waste.

Flail Bag Opener

The flails perform coarse shredding as the first step in the processing line. It breaks open closed bags and boxes, exposes ferrous and non-ferrous metal for subsequent recovery and breaks larger glass containers.

The flails will be designed for operation at a normal MSW infeed rate of 85-100 tons per hour.

The flail will consist of a horizontal rotor driven by 500 hp, V-belt drive electric motors. Swinging widely spaced hammers will be arranged in four axial rows around the circumference of the rotor. The spacing of the hammers will be arranged to equalize the impact across the width of the incoming waste stream.

The flail motor current is monitored during operation and an interlock is provided to interrupt power to the feed conveyor if the motor current approaches an overload value. The feed conveyors can be restarted manually when the flail motor current has returned to a nominal operating value. Normal overload protection provided for all electric motors in the processing system.

Rotor bearing temperature will be monitored in the flails and final sizing shredded indicating any abnormal rise in temperature. A pre-trip annunciator is provided in the control room to beware of an abnormal high temperature condition. Continued temperature rise will first interrupt power to the feed conveyors and, after an adequate delay to clear the shredder of in-process material, interrupt power to the shredder drive motor.

Process Conveyors

In addition to the Process Line Feed Conveyors described above, conveyors are used to transport the in-process material through the various steps in the process. Each Process Conveyor will be designed to handle at least 150% of the anticipated load appropriated to its particular function in the MSW process. In this way, an adequate reserve capacity for variations in overall processing rate and in MSW composition will be provided.

All conveyors downstream of the flail will be of the rubber belt type. Both deep and shallow troughing designs will be used depending on the type of material which the conveyor will transport. Cleated belt conveyors will be used on steep inclines. All belt conveyors will have appropriate size skirts.

Ferrous Material Recovery

Following the flail bag opening operation, the flailed solid waste will be carried by an inclined belt conveyor to the double drum primary magnetic separator. The equipment selected for the primary magnetic separation system will consist of two large electromagnetic drums removing and transferring ferrous metals to a conveyor with a magnetic tail pulley to take the separated ferrous material away from the magnetic separator to the ferrous collection conveyor.

The primary magnetic separator will be capable of continuously processing and separating in excess of 85 percent of the magnetic ferrous scrap in the solid waste.

Ferrous Loadout

Ferrous metal removed by magnetic separation will be loaded continuously into a scrap trailer. Two trailer loading stations will provide adequate capacity to allow material to continually flow from the primary and secondary magnetic separation conveyors without affecting processing plant production.

Primary Trommel Separation Units

With most of the ferrous material removed, the main solid waste process stream will be split and fed into two side by side primary separation units. These units accomplish three stages of separation and are used to remove glass, sand, dirt, rock, bone, dense particles and other small non-ferrous material. Four discharge streams as follows, are conveyed from the units.

1. A residue stream, consisting of fine sand, glass, dirt, etc. This material is conveyed directly to the residue loadout area with no further processing.
2. A sized fraction consisting primarily of smaller combustible products together with some heavy particles of rock, bone, ceramic, glass etc. This stream is directed to the inlet of the secondary air classifier for further processing, combustible material is conveyed to join the third product stream.
3. A third fraction consisting of combustible material and most of the aluminum cans and other non-ferrous metal and residual non-ferrous metal.

   This stream is conveyed to magnetic separation and eddy current separation for metals recovery and with the remaining material (combustibles) is conveyed to rejoin the fraction in Item 4.

4. An oversized fraction consisting primarily of paper and plastic, which is conveyed to the secondary shredder for size reduction.

Final Sizing Shredders and Air Sweep Systems

The oversized fraction discharged from the primary trommel separation units and the combustibles from Fraction 3 above including Fraction 2 will be conveyed directly to the shredders. The secondary shredder will have rotating hammers arranged and sized to achieve the desired particle size. The feed rate to the secondary shredder is anticipated to average approximately 40 tons per hour for each shredder.

The shredders will be under slight negative draft from a point near the discharge area. The negative draft will be induced by an air sweep system which will assist in the movement of the low density materials through the shredders. This air sweep system will be a recirculating design with venting to the inlet of the primary air classifiers.

Process Line Control

The primary control location for the MSW process lines will be the central control console in the Process Plant Control Room. Secondary start, stop control stations slowing control of individual equipment will be located near the drive motor of all equipment. The central control console will contain start, stop, speed controls and instrumentation as appropriate for all equipment in the process liens. In addition, status indication lights and annunciation for upset and faulted conditions will be provided. Closed circuit video monitors will be displayed in the control room. Local control buttons for start and stop will also be located within the plant such that a process operator can observe the operation of the device being controlled.

The control system will be interlocked such that in the event that any component (conveyor or processing device) stops either from manual or automatic initiation, the upstream components is that line will be automatically stopped to avoid feeding an inoperative component. Downstream components will continue to operate until manually tripped, thus allowing the downstream sections to clear themselves of partly processed waste. Interlocks will be provided so the restart from the preceding "hold" condition can only be accomplished sequentially in an upstream sequence. This also insures that the restart operation will not feed the waste stream into a non-operating component or device.

In addition to the individual local and remote controls described in the preceding, there will be stop controls for certain blocks of equipment and a master stop control to allow emergency stop of all three processing lines.

RDF Storage Retrieval and Transport Systems

The RDF Storage and Transport system performs the function of receiving the RDF produced during process line operation, storing it and transporting controlled quantities from the storage area to the rail load out. The RDF Storage and Transport System are comprised of two parallel, redundant trains of components.

Recycled Product Markets

Regional recycled product users/brokers will purchase and use the recycled materials and refuse derived fuel.

SECTION 5.11 – DAILY CLEAN UP CONTROL OF FACILITY PARTICULATE EMISSION ODOR AND FURITIVE DUST.

Overview of Fugitive Emission Sources

IRRF is proposing substantial measures for this facility to capture and control the emissions of particulate and fugitive dust at each potential source throughout the MSW recycling and processing facility. Details of these measures are discussed in subsections of this appendix below, including an outline of the fugitive emissions operational plans for the facility.

Fugitive dust from MSW recycling and operations and fugitive dusts from mobile equipment operating inside and outside the facility will be effectively controlled following established particulate control measures and good housekeeping and litter control procedures practiced at large plants in the city of Detroit, Michigan, Honolulu, Hawaii and Hartford, Connecticut. These facilities which currently handle approximately 2.5 million tons per year of municipal solid waste, were designed by and under the leadership and direction of Indiana Recycling and Renewable Fuels engineers. IRRF engineers have more than 70 years of design, performance enhancement, and operating experience at ten major MSW recycling processing plants including the three plants noted and others in the USA and Europe. The four key IRRF facility plant and operations managers who will operate and maintain the Chicago Heights plant and who will also participate in the final facility design, have more than 60 years of plant management and operating experience including five major MSW recycling/processing plants.

In overview, solid waste will be delivered in enclosed trucks and discharged onto the tipping floor inside the MSW receiving building. The production process is a "closed" system whereby dust and odors are contained by a system of aspirated enclosures in each processing area and connected to each piece of processing equipment. Air drawn from these enclosures will be ducted through filter systems for dust removal; approximately half of the plant process air from air classifier air flows will be re-circulated. The balance will be ducted to the secondary raw material storage building.

Fugitive dust may also be produced by the on-site roadways, and trucking operations. These fugitive dust emissions will be minimized as follows:

Waste collection vehicles entering the site and contract recycled product haulers will be required to properly enclose their vehicles and keep the exterior of their vehicles free of litter.

All site trucks and mobile equipment access areas will be policed daily to sweep and/or pick up any fugitive litter. All site roadways and mobile access areas will be paved. Roadways will be swept frequently (daily, if necessary) to maintain a clean outside environment.

All MSW unloaded MSW stockpile, refuse derived fuel storage and handling will be indoors. All recycled product and residues loading will be carried out under roof. Stock pilled material will not be stored near the door areas and areas around the doors and will be swept daily.

All door areas and wall vents of the plat will be under negative draft with properly designed roof filtered ventilators for normal fugitive dust control,

The general facility site arrangement diagram (Figure 2) shows the normal traffic patterns within the facility. Note that all roadway and parking surfaces within the facility will be paved.

Components of Fugitive Emissions Control Plan

In an effort to reduce the generation and emissions of fugitive emissions at the IRRI facility, the following management initiatives will be implemented:

- All roadways, service drives and truck storage areas will be paved with concrete and swept by road sweeper.

- A well-managed, daily housekeeping program is important to the successful operation of the Facility and is essential for vector control. The working surroundings and orderliness of the plant will have a large impact on personnel morale and discipline.

- The process equipment, mobile equipment, floors, walls and ledges in the process area will be cleaned daily.

- Floor areas in the process building and all the equipment aisles and maintenance areas will be swept daily by mobile equipment or by hand (in tight areas).

- Aisles or quarters used frequently by personnel will be swept daily and will be washed, as needed, to maintain a clean working environment.

- Waste will be delivered and removed from the site in enclosed vehicles. All unloading of Acceptable Waste and out loading of residues will be conducted indoors.

- Equipment will be emptied when not in operation. All process residues will be out loaded as they are produced onto enclosed vehicles for transport to an offsite sanitary landfill.

- Residues will be hauled to disposal points as they are produced and will normally be stored only for a short period, as needed, to facilitate load out and haul to disposal points. Recycled

materials such as metals and recyclable paper, plastic and textiles will also normally be kept on-site only for short periods of time while scrap trailers are being loaded. Solid waste stored at the end of the working day will be stored indoors with suitable controls to guard against safety and environmental hazards.

- RDF will be loaded into rail cars and shipped off-site daily

- If spills of diesel fuel or other material occur that need to be quickly cleaned up the procedures described in Appendix E will be followed.

- The Facility will employ technical and management procedures to ensure continued compliance with all applicable operating conditions and housekeeping. This will be important to ensure acceptable litter and odor control conditions. The intent of this program is to ensure the proper implementation, completion and accountability of all programs as they relate to the facility. The main emphasis is on employee awareness to prevent rather than control pollution (fugitive dust, odor, litter, etc.) through training and participation.

- A task force comprised of management and hourly personnel will work to find ways to continually improve employee education and participation in emissions control programs. The facility recognizes the importance of training its employees in all aspects of the facility's requirements to meet its regulations.

To facilitate the necessary cleaning procedures to ensure an effective litter and dust control program, the Facility will schedule a street sweeper to clean the roadway surfaces three (3) days a week. This is in addition to the cleaning crew(s) who sweep and contain litter on a daily basis. This Plan coupled with the Storm Water Pollution Prevention Plan (SWPPP) which addresses good housekeeping practices, together with concise work practice descriptions, ensures effective litter control. In addition, the following activities are defined as standard operating procedures.

- Effectively managing a "closed door policy" to ensure dust containment.

- Making sure delivery trucks are enclosed and do not remove any covers until they have reached the MSW tipping floor.

- Inspection and maintenance of all equipment in accordance with manufacturer recommendations.

- Daily sweeping and cleaning of the tipping floor, RDF residue loading area, and bottom and bag house catch loading areas.

- Daily janitorial cleaning of the administrative office, sanitary and employee facilities (i.e. washrooms, locker rooms, etc.), and control room.

- Daily sweeping, both mechanical and manual, of the RDF production area and boiler including bottom ash and bag house catch loading areas.

- Daily inspection and cleanup of plant grounds from spillage, litter, and other foreign material.
- Weekly inspection and cleaning of drainage basins, oil-water separators, sumps, etc.
- Seasonal plant cleaning of walls and other areas in MSW storage, processing and RDF storage areas.
- Weekly fire and safety inspections.

The facility will employ a contractor whose sole function will be to provide housekeeping support. Each day the facility area managers will meet with the contractor to identify those areas requiring special attention for that given day. In addition, the contractor will have standing orders to target specific areas each day. The contractor will be personally administered by the Plant Manager who has overall responsibility for the status and presentation of the facility. In an effort to audit the work being performed, the Shift Supervisor and/or Environmental Coordinator will conduct a daily walk-down of the plant site to ensure that all critical areas will be properly maintained.

Components of Odor Emissions Control Plan

Odors from the Process Facility will be controlled by equipment design, good housekeeping practices and proper material management. Acceptable Waste and RDF will be stored under roof, out of direct sunlight, compacted in storage and loaded as soon as possible on a "first-in", "first-out" basis. Process residues and recycled materials will be loaded into transfer vehicles with covers and hauled from the site as they are filled.

Equipment design factors for odor control include:

- Proper conveyor design to assure material containment thereby minimizing spillage.
- Use of solid structure support members, where practical, with emphasis on minimizing ledges that may collect material or dust.
- Walkways constructed of solid plating rather an open grating.
- Grouting around equipment footings and supports to facilitate cleaning.
- Providing facility design features for easy access to areas for cleaning and maintenance, and,
- Use of atomized deodorizing sprays in key areas as practiced in large transfer station operations on the west coast and in many areas of the country and most large MSW recycling and processing facilities.
- Areas will include:
    - Atomize deodorant into air stream at inlets of bag filters MSWBF-1, MSWBF-2.
    - Other locations as needed; TSBF-6, TSBF-7, and into the shredder bag filter operation SRBF-9, SRBF-10, SRBF-11.

SECTION 5.12– DESCRIPTION OF METHODS FOR MAINTAINING NOISE AND VIBRATION AT LEVELS WHICH DO NOT CREATE A PUBLIC NUISNACE OR A HEATH HAZARD.

The principal source of noise in a RDF process plant will be:

- Refuse collection trucks
- Mobile plant equipment
- Shredders
- Large fans

Plant personnel will not be required to work continuously near high noise areas. Ear protection devices "earmuff type" will be available for personnel working in noisy areas.

Plant noise will be controlled to acceptable levels at the property line by:

1. Isolation of equipment such as the primary and secondary shredders in sound dampening rooms.
2. Air attenuation of plant noises and the sound dampening effect of the large open rooms and waste material in the receiving and RDF storage area.
3. Taking steps to reduce noise at the point of generation by:
    a. Assuring that equipment is in proper balance;
    b. Air intake silencers on large fans as required.
4. Sound dampening effect of building walls, i.e. concrete and steel barrier walls in the MSW and RDF storage rooms, insulated sheet metal walls in the process room other enclosures.
5. Truck delivery via State Street and adjoining main access roads which pass through heavy industrial areas (M3 zoning) followed by off road movement of refuse collection trucks on a long service access road to the facility.

SECTION 5.13 – FACILITY START UP AND OPERATION

Six months prior to schedule start up, the plant manager will be hired for full time work and will work with the project engineers in the final construction, and start up and with such tasks as establishing operator job descriptions, setting up plans for hiring and training personnel, scheduling operation and maintenance, establishing liaison with waste haulers, product markets, the hose community and interviewing and hiring new personnel.

Two months prior to expected/scheduled start up, the following personnel will be hired full time and brought on board for orientation, training and work with the plant manager in his activities.

- Operations and Maintenance Manager
- Plant Engineer
- Senior Mechanics
- Shift Supervisors sufficient for MSW Processing Shifts

Part of the training for these personnel will include videos prepared for study of other MSW processing operations. It is expected that the Plant Manager and the Operations and Maintenance Manger will be experienced personnel from similar operations.

Select personnel will be provided a tour of the one or more of the existing MSW processing facilities.

One month prior to scheduled start up, plant operators sufficient to operate two MSW processing shifts will be brought on board for orientation, training, etc. a and to work with the shift supervisors.

Select members of the plant operating personnel, i.e. shift supervisor, control room personnel and floor personnel will be part of the observer teams to observe the work of engineers and construction personnel in conducting final comprehensive inspections and readiness of equipment prior to start up to certify electrical and mechanical completion. Such activities will include static checks, meggering of electrical circuits, and check for proper rotation and no load powered run in tests prior to handling municipal solid waste.

It is expected that the MSW processing plant will require about two months after the start up to achieve a full level of production throughout. Plant operation at about half capacity should be assumed during this time.

Remaining plant operators will be hired and trained during this time, with all will be on board within one month after start up.

It is expected the plant will be ready for full scale performance guarantees testing within two to three months after start up.

EMPLOYEES

The full recycling facility staff will have 71 on-site employees including, 45 in general processing, 18 in maintenance and 8 in general management and administration. IRRF will utilize brokers and will maintain an internal sales organization. The project will utilize the following personnel to operate the MSW recycling plant and manage the IRRF facility

	LABOR SUMMARY	Number of Employees
	Position	
MSW Processing	General Plant Manager	1
	Operations manager for Municipal Solid Waste Processing	1
	Maintenance Manager	1
	Plant Engineer	1
	General Clerk/Word Processing	1
MSW Processing (cont)	Payroll Specialist (Contract)	1
	General Accounting Specialist (Contract)	1
	Human Resource Specialist (Contract)	1
	SUBTOTAL MANAGEMENT	**8**

	Shift Supervisor MSW Processing	3
	Operators/MSW Receiving, Waste Stockpile and Push Up to Feed Equipment	3
	Operator/MSW Feed to Process Lines	3
	Operator/MSW Inspection/Mechanical Grapple Station	3
	Operator/MSW Processing Control Room	3
	Operator/Scale House	2
	Warehouse Specialists Parts Purchasing	1
	Plant Spillage Clean Up & Cleaning Wrappings, Ribbon & Other Material Out or Equipment (Contract)	8
	Site Sweeping (Contract)	1
	Operator/Floor Rovers	2
	Operator/Refuse Derived Fuel Stockpile and Feed to Loadout Conveyor	3
	Operator Product & Residue Material Loadout	8
	Operator Relief All Functions - MSW Processing - Loadout (Shifts 1, 2 and 3)	5
	SUBTOTAL MSW PROCESSING OPERATION	**45**

Recycling Plant

Facility Maintenance	Senior (Lead) Mechanics	2
	Mechanics	3
	Mechanic Helpers	3
	Lube Specialist	1

Lube Helper	1
Senior Electrical & Instrumentation Technician	1
Electrical & Instrumentation Technician	3
Site Mobile Equipment	
- Mechanics	2
- Mechanic Helpers	2
SUBTOTAL MAINTENANCE	**18**
TOTAL PLANT LABOR	**71**

MUNICIPAL SOLID WASTE (MSW) PROCESSING FACILITY

The MSW processing facility is designed to receive and process 2,700 tons per day of municipal solid waste with normal operation 5.5 days per week.

The facility will receive mixed municipal solid waste, residential, and commercial solid waste. Industrial/manufacturing waste will not be accepted.

Products

The MSW processing facility will produce a well prepared minus 2" are classified biomass rich refuse derived fuel (RDF) with most of the glass, ceramics, metals, dirt and other inerts removed. The RDF will amount to 75-80% of the MSW processed.

The RDF concentrates the renewable combustible material in MSW, largely paper, cardboard, wood, plastic and other organics, into a relatively homogenous mixture of very low sulfur biomass rich raw material with the general appearance of finely shredded paper and plastic.

The plant will also recover and recycle ferrous and non-ferrous metals and other recyclables removed during the MSW processing.

Residue from MSW processing will average 10-15% by weight of MSW feed to process lines and will contain a high percentage of glass, ceramics, yard waste, food scraps, sand and dirt and other inorganic and inorganic fines.

Various projects have found that easily spreadable process residue by product stream useful as intermediate daily landfill cover.

Typical Operating and Maintenance Schedule – MSW Processing Facility

Operation	Monday - Friday	Saturday	Sunday
Shift 1	8 hrs. x 5 = 40 hrs.	8 hrs.	

Shift 2 8 hrs. x 5 = 40 hrs.
Shift 3 Swing Shift - Fill-in and Weekends as needed due to emergency and outages.

Maintenance

Typical 1 shift per day and weekends as needed: including equipment inspections, daily lube, preventative maintenance, shredder hammer changes and other work as needed.

Emergency Operation & Maintenance & Annual Outage

Saturday and Sunday and Extended Week Day Operation if Necessary.

IRRF FACILITY STAFFING/PERSONNEL EXPERENCE

The Illinois Recycling and Renewable Fuels Chicago Heights Plant will be staffed with some of the most experienced supervisory and plant management personnel in the municipal solid waste processing/resource recovery industry.

The planned plant management staff is shown in Figure 1.

The individuals who will fill these positions have confirmed their desire to work for IRRF and see the Chicago Heights Recycling project as an opportunity to be part of a new and exciting growth industry with jobs they are will qualified to fill.

The background and experience of each is described below:

1. Vice President of IRRF Plant Operations
   Duties: Oversee all of IRRF plant operations. Work with financial control to approval and release funds to the plant. Work with plant management to insure efficient operation.

   Duties: Oversee all IRRF plant operations. Work with financial control to approve and release funds to the plant. Work with plant management to insure efficient operation. Approve plant staffing. Interface with the public sector, private solid waste collection and disposal industry, waste, state, county and federal EPA's, environmental action groups.

   Individual Available: (Name Withheld)

   Currently working in the renewable fuels industry as manager of a large facility designed for solid biomass fuel preparation and use in steam/electric power generation. More than 20 years' experience in the management of major municipal solid waste collection and disposal companies. Extensive experience in work with State EPA, county and local governments and environmental groups. Age: 52.

2. Plant Manager

Duties: Manage all plant operations including MSW processing.

Individual Available: (Name Withheld)

Is currently plant manager of one of the world's largest (800,000 tons/ear) municipal solid waste processing facilities with 15 years' experience at this plant progressing from concurrent duties of Plant Engineer, and Manager of Maintenance and Spare Parts Purchasing.

The plant interfaces with and provides RDF for a large stream/electric generating power plant.

Supervises a staff of 70. Age: 48.

M. L. Smith has known and worked with this individual for 15 years and has been involved in the design, development, operation and continued improvement of this plant since the planning stage.

3. Operations Manager – Municipal Solid Waste Processing Facilities

Duties: Manage and direct the IRRF plant operations receiving, MSW processing, preparation of refuse derived fuel, recovering and recycling metals and other materials. Interface and work with plant maintenance, waste haulers, product haulers, labor unions, IRRF technical support personnel as needed to insure efficient, cost effective, environmentally acceptable plant operation with compliance to all OSHA requirements and meeting high standards of plant operator safety.

Individual Available: Daniel A. Dorlon, Jr.

Has known and worked on projects with M. L. Smith for 15 years. Has 30 years' experience in the design, construction, start up and long term operation of municipal solid waste processing facilities including such projects as the Albany, NY Energy Answers Plant, the Rochester, MA Semass Plant and the Robbins, IL Resource Recovery Plant. Has very strong experience in the management and operations of MSW processing plants and a very strong mechanical and equipment background and work in all of the areas listed under duties. Age: 60.

4. Maintenance Manager

Duties: Oversee and direct maintenance for the municipal solid waste processing plant operations.

Individual Available: (Name Withheld)

Five years' experience is supervising maintenance in a large MSW processing plant. Ten years' experience in plant maintenance in a large Midwest coal fired electric utility plant, his current job. M L. Smith worked with this individual at the referenced MSW processing plant. The individual supervised maintenance while working under the direction of Dan Dorlon. A very competent and hardworking individual. Age: 45.

5. Plant Engineer

Duties: Provide day to day engineering support for the plant as needed in electrical, mechanical, and environmental systems.

Individual Available: (Name Withheld)

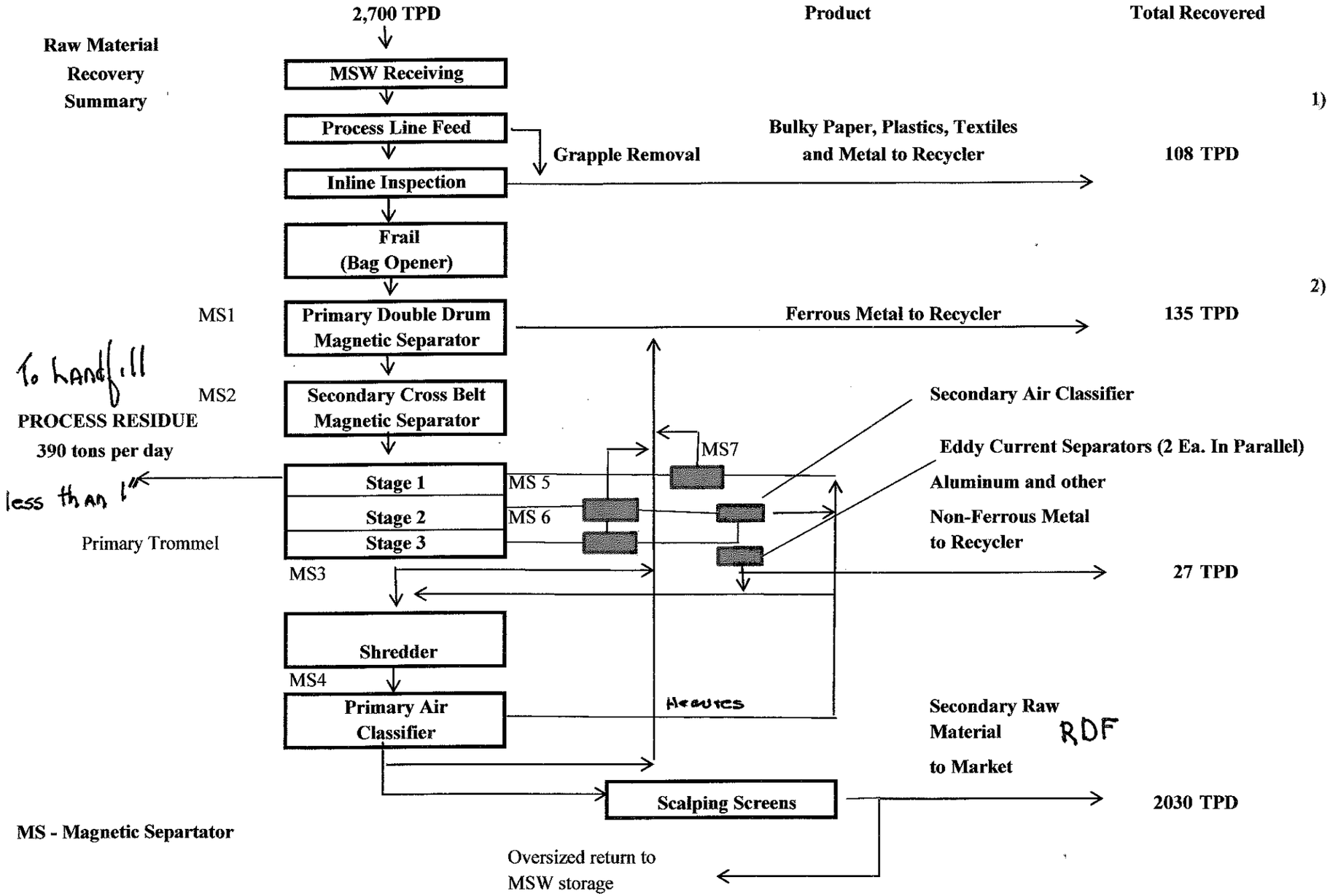
Twenty years' experience in renewable energy power plant operations in the U. S.A. and Europe. M. L. Smith is familiar with the work of this engineer. Much of his experience is in trouble shooting and field engineering support. Age: 44.

ILLINOIS RECYCLING AND RENEWABLE FUELS

CHICAGO HEIGHTS RECYCLING PLANT

General Flow Diagram

MLS 2/22/11



MS - Magnetic Separtator

NOTES

1) 5.5 days/wk 286 day/yr
772,000 TPY 16-20 hr/day
Scheduled MSW Processing

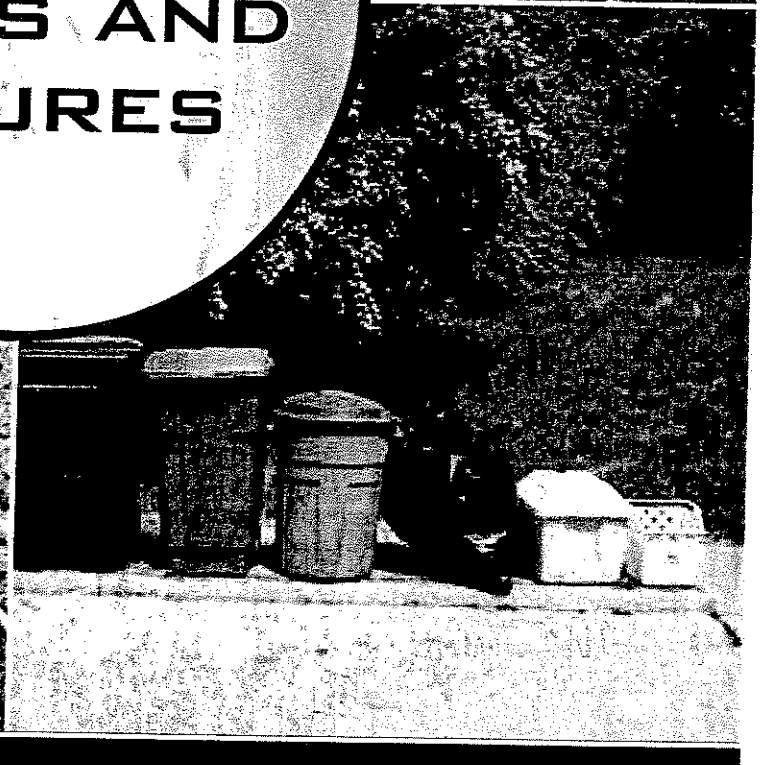
2) The process residue contains broken glass, ceramics, household battiers, rocks, sand, dirt, and inorganic and organic fines for landfill disposal.

APPENDIX A

MUNICIPAL SOLID WASTE IN THE UNITED STATES: 2005 FACTS AND FIGURES

Municipal Solid Waste in the United States

2005 Facts and Figures



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

United States Environmental Protection Agency
Office of Solid Waste (5306P)
EPA530-R-06-011
October 2006
www.epa.gov

MUNICIPAL SOLID WASTE IN THE UNITED STATES: 2005 FACTS AND FIGURES

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MUNICIPAL SOLID WASTE IN THE UNITED STATES: 2005 FACTS AND FIGURES

EXECUTIVE SUMMARY

OVERVIEW

This report describes the national municipal solid waste (MSW) stream based on data collected for 1960 through 2005. The historical perspective is useful for establishing trends in types of MSW generated and in the ways it is managed. In this Executive Summary, we briefly describe the methodology used to characterize MSW in the United States and provide the latest facts and figures on MSW generation, recycling, and disposal.

In the United States, we generated approximately 245.7 million tons of MSW in 2005—a decrease of 1.6 million tons from 2004. Excluding composting, the amount of MSW recycled increased to 58.4 million tons, an increase of 1.2 million tons from 2004. This is a 2 percent increase in the tons recycled. The tons recovered for composting rose slightly to 20.6 million tons in 2005, up from 20.5 million tons in 2004. The recovery rate for recycling (including composting) was 32.1 percent in 2005, up from 31.4 percent in 2004.[1] (See Tables ES-1 and ES-2 and Figures ES-1 and ES-2.)

MSW generation in 2005 declined to 4.54 pounds per person per day. This is a decrease of 1.5 percent from 2004 to 2005. The recycling rate in 2005 was 1.46 pounds per person per day. Discards sent to a landfill after recycling declined to 2.46 pounds per person per day in 2005 (Table ES-3).

[1] Data shown for 2000 through 2004 have been adjusted to reflect the latest revisions and, therefore, may differ from the same measure reported previously.

Table ES-1
GENERATION, MATERIALS RECOVERY, COMPOSTING, COMBUSTION WITH ENERGY RECOVERY, AND DISCARDS OF MUNICIPAL SOLID WASTE, 1960 - 2005
(in millions of tons)

Activity	1960	1970	1980	1990	2000	2003	2004	2005
Generation	88.1	121.1	151.6	205.2	237.6	240.4	247.3	245.7
Recovery for recycling	5.6	8.0	14.5	29.0	52.7	55.8	57.2	58.4
Recovery for composting*	Neg.	Neg.	Neg.	4.2	16.5	19.1	20.5	20.6
Total materials recovery	5.6	8.0	14.5	33.2	69.1	74.9	77.7	79.0
Combustion with energy recovery†	0.0	0.4	2.7	29.7	33.7	33.7	34.1	33.4
Discards to landfill, other disposal‡	82.5	112.7	134.4	142.3	134.8	131.9	135.5	133.3

* Composting of yard trimmings, food scraps and other MSW organic material.
Does not include backyard composting.

† Includes combustion of MSW in mass burn or refuse-derived fuel form, and combustion with energy recovery of source separated materials in MSW (e.g., wood pallets and tire-derived fuel).

‡ Discards after recovery minus combustion with energy recovery. Discards include combustion without energy recovery.
Details may not add to totals due to rounding.

Table ES-2
GENERATION, MATERIALS RECOVERY, COMPOSTING, COMBUSTION WITH ENERGY RECOVERY, AND DISCARDS OF MUNICIPAL SOLID WASTE, 1960 - 2005
(in percent of total generation)

Activity	1960	1970	1980	1990	2000	2003	2004	2005
Generation	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Recovery for recycling	6.4%	6.6%	9.6%	14.2%	22.2%	23.2%	23.1%	23.8%
Recovery for composting*	Neg.	Neg.	Neg.	2.0%	6.9%	7.9%	8.3%	8.4%
Total materials recovery	6.4%	6.6%	9.6%	16.2%	29.1%	31.1%	31.4%	32.1%
Combustion with energy recovery†	0.0%	0.3%	1.8%	14.5%	14.2%	14.0%	13.8%	13.6%
Discards to landfill, other disposal‡	93.6%	93.1%	88.6%	69.3%	56.7%	54.9%	54.8%	54.3%

* Composting of yard trimmings, food scraps and other MSW organic material.
Does not include backyard composting.

† Includes combustion of MSW in mass burn or refuse-derived fuel form, and combustion with energy recovery of source separated materials in MSW (e.g., wood pallets and tire-derived fuel).

‡ Discards after recovery minus combustion with energy recovery. Discards include combustion without energy recovery.
Details may not add to totals due to rounding.

Table ES-3
GENERATION, MATERIALS RECOVERY, COMPOSTING
COMBUSTION WITH ENERGY RECOVERY, AND DISCARDS OF MUNICIPAL SOLID WASTE,
1960 - 2005
(in pounds per person per day)

Activity	1960	1970	1980	1990	2000	2003	2004	2005
Generation	2.68	3.25	3.66	4.50	4.63	4.53	4.61	4.54
Recovery for recycling	0.17	0.22	0.35	0.64	1.03	1.05	1.07	1.08
Recovery for composting*	Neg.	Neg.	Neg.	0.09	0.32	0.36	0.38	0.38
Total materials recovery	0.17	0.22	0.35	0.73	1.35	1.41	1.45	1.46
Combustion with energy recovery†	0.00	0.01	0.07	0.65	0.66	0.63	0.64	0.62
Discards to landfill, other disposal‡	2.51	3.02	3.24	3.12	2.62	2.49	2.52	2.46
Population (millions)	179.979	203.984	227.255	249.907	281.422	290.850	293.660	296.410

* Composting of yard trimmings, food scraps and other MSW organic material.
Does not include backyard composting.

† Includes combustion of MSW in mass burn or refuse-derived fuel form, and combustion with energy recovery of source separated materials in MSW (e.g., wood pallets and tire-derived fuel).

‡ Discards after recovery minus combustion with energy recovery. Discards include combustion without energy recovery.
Details may not add to totals due to rounding.

Figure ES-1: MSW Generation Rates, 1960 to 2005

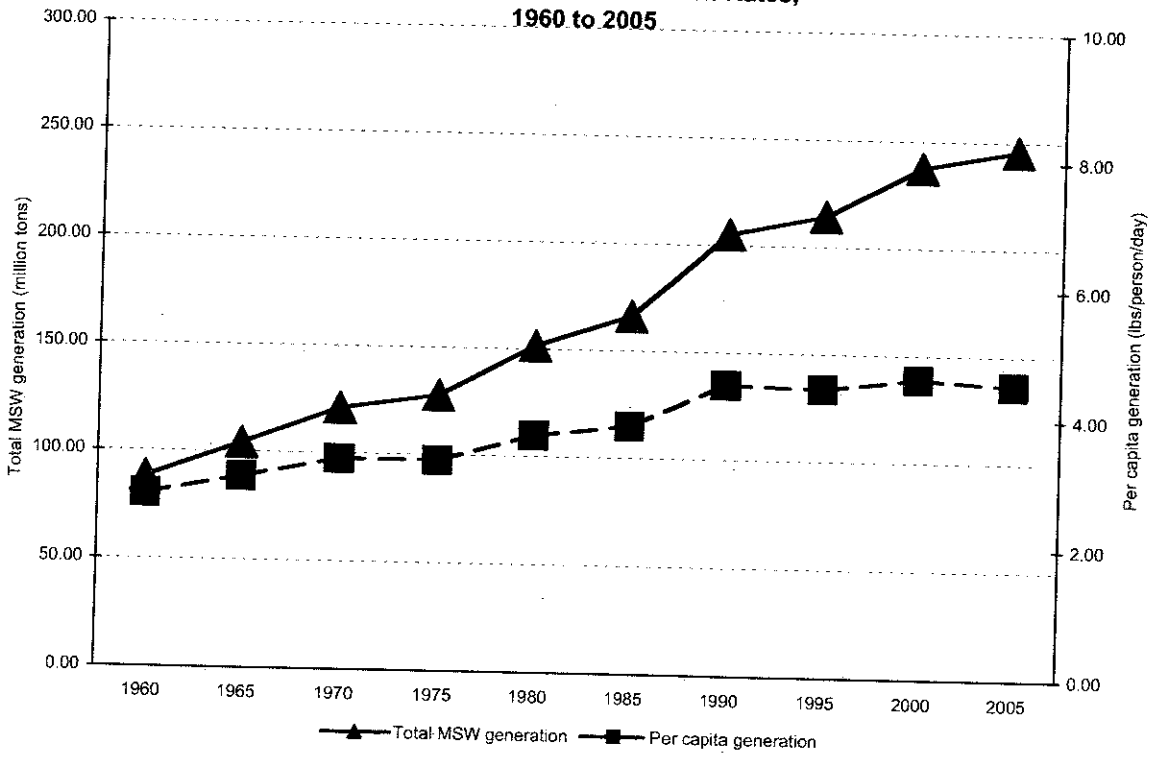
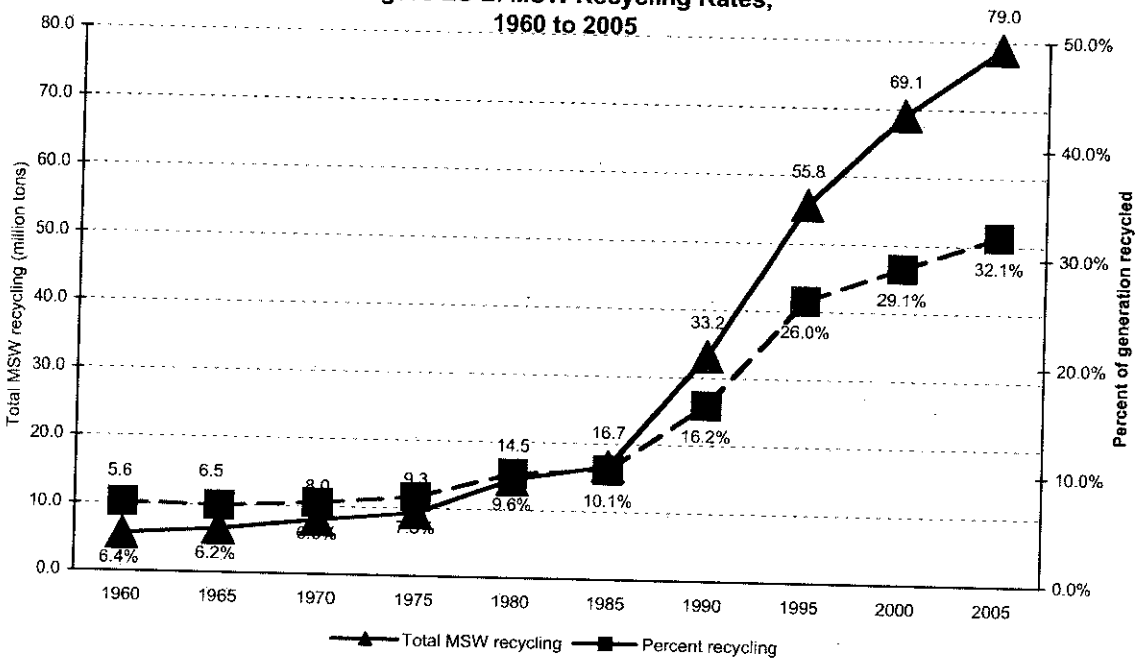


Figure ES-2: MSW Recycling Rates, 1960 to 2005



The state of the economy has a strong impact on consumption and waste generation. Waste generation continued to increase through the 1990s as economic growth continued to be strong. Between 2000 and 2005, total growth in waste generation slowed. On a per capita basis, 2005 waste generation at 4.54 pounds per person per day is only slightly higher than the 1990 rate of 4.50 pounds per person per day.

WHAT IS INCLUDED IN MUNICIPAL SOLID WASTE?

MSW—otherwise known as trash or garbage—consists of everyday items such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, and batteries. Not included are materials that also may be disposed in landfills but are not generally considered MSW, such as construction and demolition debris, municipal wastewater treatment sludges, and non-hazardous industrial wastes.

MUNICIPAL SOLID WASTE IN PERSPECTIVE

Trends Over Time

Over the last few decades, the generation, recycling, and disposal of MSW have changed substantially (see Tables ES-1, ES-2, and ES-3 and Figures ES-1 and ES-2). MSW generation has continued to increase from 1960, when it was 88 million tons. The generation rate in 1960 was just 2.7 pounds per person per day; it grew to 3.7 pounds per person per day in 1980; reached 4.5 pounds per person per day in 1990; increased to 4.6 pounds per person per day in 2000; and returned to about 4.5 pounds per person per day in 2005.

Over time, recycling rates have increased from 10 percent of MSW generated in 1980 to 16 percent in 1990, to 29 percent in 2000, and to 32 percent in 2005. Disposal of waste to a landfill has decreased from 89 percent of the amount generated in 1980 to 54 percent of MSW in 2005.

MUNICIPAL SOLID WASTE IN 2005

The U.S. Environmental Protection Agency (EPA) uses two methods to analyze the 245.7 million tons of MSW generated in 2005. The first is by **material** (paper and paperboard, yard trimmings, food scraps, plastics, metals, glass, wood, rubber, leather and textiles, and other); the second is by several major **product** categories. The product-based categories are containers and packaging; nondurable goods (e.g., newspapers); durable goods (e.g., appliances); food scraps; and other materials.

Materials in MSW

A breakdown, by weight, of the MSW **materials** generated in 2005 is provided in Figure ES-3. Paper and paperboard made up the largest component of MSW generated (34 percent), and yard trimmings were the second-largest component (13 percent). Glass, metals, plastics, wood, and food scraps each constituted between 5 and 12 percent of the total MSW generated. Rubber,

leather, and textiles combined made up about 7 percent of MSW, while other miscellaneous wastes made up approximately 3 percent of the MSW generated in 2005.

A portion of each material category in MSW was recycled or composted in 2005. The highest rates of recovery were achieved with yard trimmings, paper and paperboard products, and metal products. About 62 percent (19.9 million tons) of yard trimmings was recovered for composting in 2005. This represents nearly a five-fold increase since 1990. Fifty percent (42.0 million tons) of paper and paperboard was recovered for recycling in 2005. Recycling these organic materials alone diverted more than 25 percent of municipal solid waste from landfills and combustion facilities. In addition, about 6.9 million tons, or about 37 percent, of metals were recovered for recycling. Recycling rates for all materials categories in 2005 are listed in Table ES-4.

Figure ES-3: 2005 Total MSW Generation - 246 Million Tons (Before Recycling)

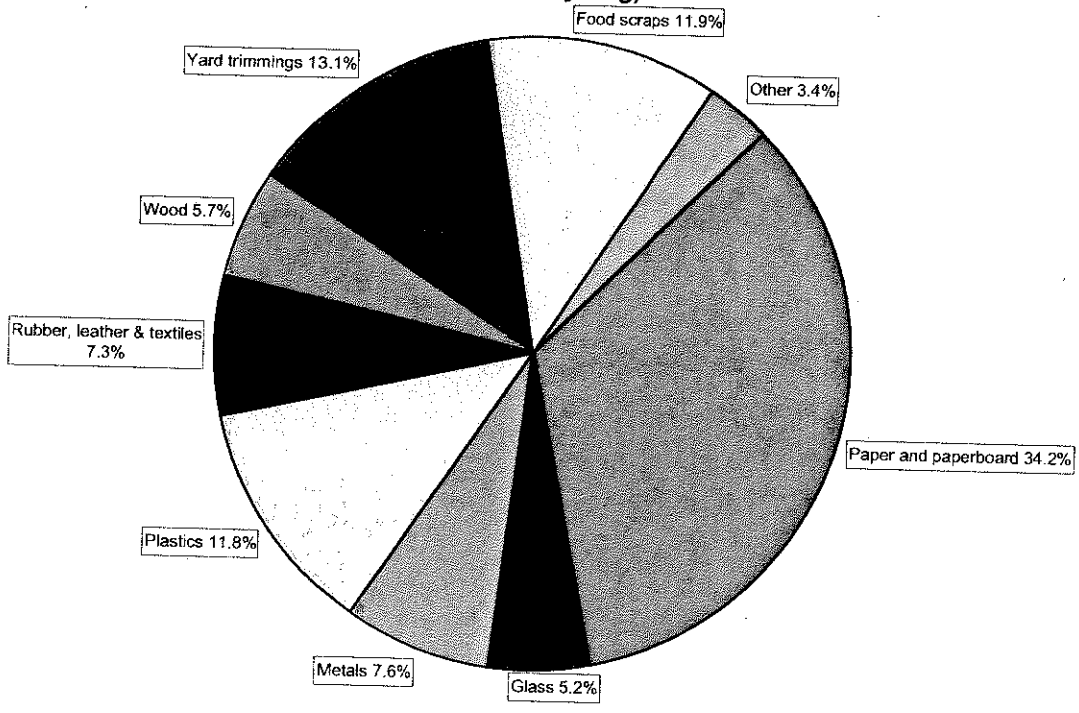


Table ES-4
GENERATION AND RECOVERY OF MATERIALS IN MSW, 2005
(in millons of tons and percent of generation of each material)

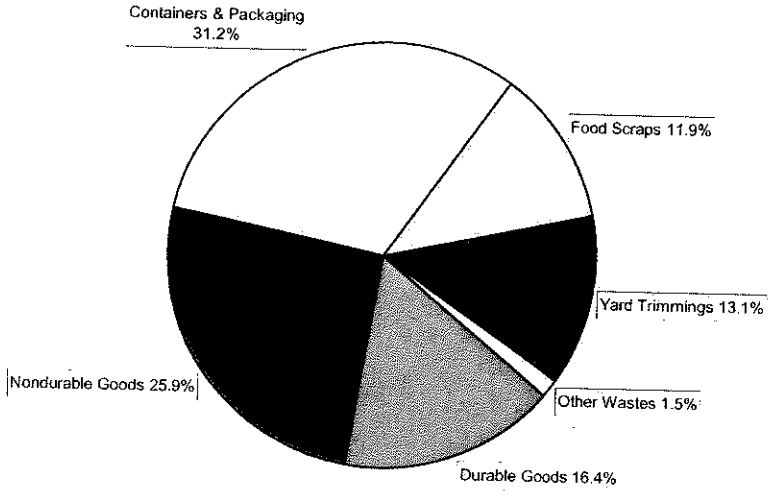
Material	Weight Generated	Weight Recovered	Recovery As a Percent of Generation
Paper and paperboard	84.0	42.0	50.0%
Glass	12.8	2.76	21.6%
Metals			
Steel	13.8	4.93	35.8%
Aluminum	3.21	0.69	21.5%
Other nonferrous metals*	1.74	1.26	72.4%
Total metals	18.7	6.88	36.8%
Plastics	28.9	1.65	5.7%
Rubber and leather	6.70	0.96	14.3%
Textiles	11.1	1.70	15.3%
Wood	13.9	1.31	9.4%
Other materials	4.57	1.17	25.6%
Total Materials in Products	180.7	58.4	32.3%
Other wastes			
Food, other**	29.2	0.69	2.4%
Yard trimmings	32.1	19.9	61.9%
Miscellaneous inorganic wastes	3.69	Neg.	Neg.
Total Other Wastes	65.0	20.6	31.6%
TOTAL MUNICIPAL SOLID WASTE	245.7	79.0	32.1%

Includes waste from residential, commercial, and institutional sources.
* Includes lead from lead-acid batteries.
** Includes recovery of other MSW organics for composting.
Details may not add to totals due to rounding.
Neg. = Less than 5,000 tons or 0.05 percent.

Products in MSW

The breakdown, by weight, of **product categories** generated in 2005 is shown in Figure ES-4. Containers and packaging comprised the largest portion of products generated, at 31 percent (76.7 million tons) of total MSW generation. Nondurable goods were the second-largest fraction, at 26 percent (63.7 million tons). The third-largest category of products is durable goods, which made up 16 percent (40.3 million tons) of total MSW generation.

Figure ES-4: Products Generated in MSW, 2005
(Total Weight = 246 million tons)



The generation and recovery of the product categories in MSW in 2005 are shown in Table ES-5. This table shows that recovery of containers and packaging was the highest of the three product categories—39.8 percent of containers and packaging generated in 2005 were recovered for recycling. About 45 percent of all aluminum cans was recovered (36.3 percent of all aluminum packaging, including foil), while 63.3 percent of steel packaging (mostly cans) was recovered. Paper and paperboard containers and packaging were recovered at a rate of 58.8 percent; corrugated containers accounted for most of that amount.

Approximately 25 percent of glass containers was recovered, while about 15 percent of wood packaging (mostly wood pallets removed from service) was recovered for recycling. More than 9 percent of plastic containers and packaging were recovered—mostly soft drink, milk, and water bottles.

Table ES-5
GENERATION AND RECOVERY OF PRODUCTS IN MSW
BY MATERIAL, 2005
(in millons of tons and percent of generation of each product)

Products	Weight Generated	Weight Recovered	Recovery as a Percent of Generation
Durable Goods			
Steel	11.4	3.43	30.1%
Aluminum	1.08	Neg.	Neg.
Other non-ferrous metals*	1.74	1.26	72.4%
Total metals	14.2	4.69	33.0%
Glass	1.83	Neg.	Neg.
Plastics	8.71	0.37	4.2%
Rubber and leather	5.68	0.96	16.9%
Wood	5.37	Neg.	Neg.
Textiles	3.02	0.28	9.3%
Other materials	1.45	1.17	80.7%
Total durable goods	40.3	7.47	18.5%
Nondurable Goods			
Paper and paperboard	44.9	19.0	42.4%
Plastics	6.55	Neg.	Neg.
Rubber and leather	0.99	Neg.	Neg.
Textiles	7.91	1.42	18.0%
Other materials	3.36	Neg.	Neg.
Total nondurable goods	63.7	20.5	32.1%
Containers and Packaging			
Steel	2.37	1.50	63.3%
Aluminum	1.90	0.69	36.3%
Total metals	4.27	2.19	51.3%
Glass	10.9	2.76	25.3%
Paper and paperboard	39.0	22.9	58.8%
Plastics	13.7	1.28	9.4%
Wood	8.56	1.31	15.3%
Other materials	0.24	Neg.	Neg.
Total containers and packaging	76.7	30.5	39.8%
Other Wastes			
Food, other**	29.2	0.69	2.4%
Yard trimmings	32.1	19.9	61.9%
Miscellaneous inorganic wastes	3.69	Neg.	Neg.
Total other wastes	65.0	20.6	31.6%
TOTAL MUNICIPAL SOLID WASTE	245.7	79.0	32.1%

Includes waste from residential, commercial, and institutional sources.
* Includes lead from lead-acid batteries.
** Includes recovery of other MSW organics for composting.
Details may not add to totals due to rounding.
Neg. = Less than 5,000 tons or 0.05 percent.

Overall recovery of *nondurable goods* was at 32.1 percent in 2005. Most of this recovery comes from paper products such as newspapers and high-grade office papers (e.g., white papers). Newspapers constituted the largest portion of this recovery, with 88.9 percent of newspapers generated being recovered for recycling. An estimated 62.6 percent of high-grade office papers and 38.5 percent of magazines was recovered in 2005. Newspaper, high-grade office paper, and magazine recovery increased in percentage between 2004 and 2005.

Recovery percentage of "Other Commercial Printing" stayed about the same at 10.4 percent. The other paper products in the nondurable goods category increased slightly between 2004 and 2005, with Standard mail* recovered at an estimated 35.8 percent, and directories at an estimated 18.2 percent.

The nondurable goods category also includes clothing and other textile products—18 percent of these products were recovered for recycling or export in 2005.

Overall, *durable goods* were recovered at a rate of 18.5 percent in 2005. Nonferrous metals other than aluminum had one of the highest recovery rates, at 72.4 percent, due to the high rate of lead recovery from lead-acid batteries. Recovery of steel in all durable goods was 30.1 percent, with high rates of recovery from appliances and other miscellaneous durable goods.

One of the products with a very high recovery rate was lead-acid batteries, recovered at a rate of 98.8 percent in 2005. Other products with particularly high recovery rates were newspapers (88.9 percent), corrugated boxes (71.5 percent), major appliances (67.0 percent), steel packaging (63.3 percent), and aluminum cans (44.8 percent). About 35 percent of rubber tires were recovered for recycling. (Other tires were retreaded, and shredded rubber tires were made into tire-derived fuel.)

* Standard mail was formerly called Third Class mail by the U.S. Postal Service.

RESIDENTIAL AND COMERCIAL SOURCES OF MSW

Sources of MSW, as characterized in this report, include both residential and commercial locations. We estimated residential waste (including waste from multi-family dwellings) to be 55 to 65 percent of total MSW generation. Commercial waste (including waste from schools, some industrial sites where packaging is generated, and businesses) constitutes between 35 and 45 percent of MSW. Local and regional factors, such as climate and level of commercial activity, contribute to these variations.

MANAGEMENT OF MSW

Overview

EPA's integrated waste management hierarchy includes the following four components, listed in order of preference:

- Source reduction (or waste prevention), including reuse of products and on-site (or backyard) composting of yard trimmings
- Recycling, including off-site (or community) composting
- Combustion with energy recovery
- Disposal through landfilling or combustion without energy recovery.

Although we encourage the use of strategies that emphasize the top of the hierarchy whenever possible, all four components remain important within an integrated waste management system.

Source Reduction

When we first established our waste management hierarchy, we emphasized the importance of *reducing* the amount of waste created, reusing whenever possible, and then recycling whatever is left. When municipal solid waste is reduced and reused, this is called "source reduction"—meaning the material never enters the waste stream.

Source reduction, also called waste prevention, includes the design, manufacture, purchase, or use of materials, such as products and packaging, to reduce their amount or toxicity before they enter the MSW management system. Examples of source reduction activities are:

- Designing products or packaging to reduce the quantity or the toxicity of the materials used or make them easy to reuse.

- Reusing existing products or packaging, such as refillable bottles, reusable pallets, and reconditioned barrels and drums.

- Lengthening the lives of products such as tires so fewer need to be produced and therefore fewer need to be disposed of.

- Using packaging that reduces the amount of damage or spoilage to the product.

- Managing nonproduct organic wastes (e.g., food scraps, yard trimmings) through onsite composting or other alternatives to disposal (e.g., leaving grass clippings on the lawn).

As the nation has begun to realize the value of its resources, both financial and material, efforts to reduce waste generation have increased.

Recycling

- Recycling (including community composting) recovered 32.1 percent (79 million tons) of MSW in 2005.
- There were about 8,550 curbside recycling programs in the United States in 2005.
- About 3,470 yard trimmings composting programs were reported in 2005.

Combustion with Energy Recovery

An estimated 33.4 million tons (13.6 percent) of MSW was combusted with energy recovery in 2005 (see Tables ES-1 and ES-2), slightly less than the 34.1 million tons estimated in 2004. Combustion with energy recovery increased from 2.7 million tons in 1980 to 29.7 million tons in 1990. Since 1990, the quantity of MSW combusted with energy recovery has increased slightly.

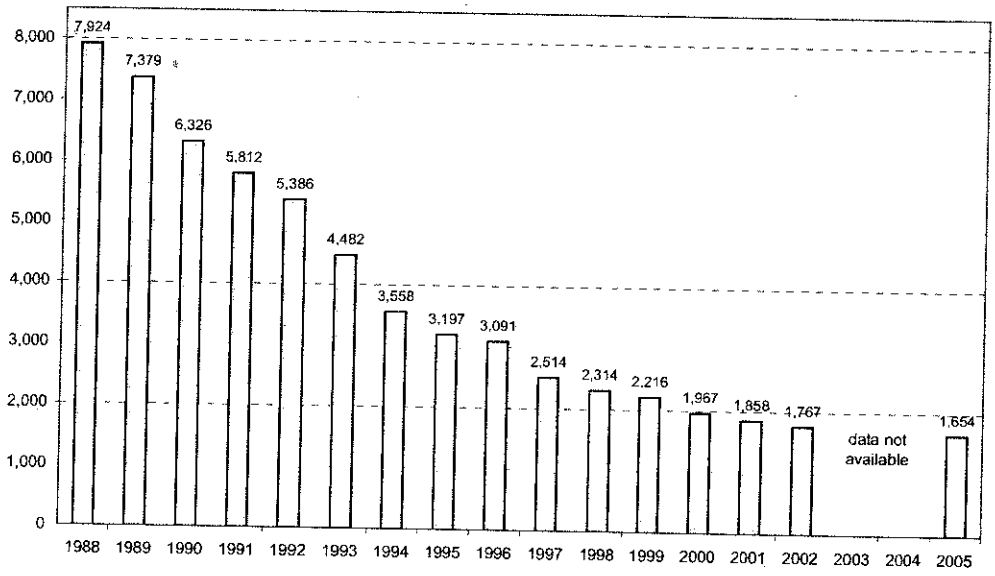
Disposal

During 2005, about 54.3 percent of MSW was landfilled, down somewhat from 54.8 percent in 2004. As shown in Figure ES-5, the number of MSW landfills decreased substantially over the past 18 years, from nearly 8,000 in 1988 to 1,654 in 2005—while average landfill size increased. At the national level, capacity does not appear to be a problem, although regional dislocations sometimes occur.

- The percentage of MSW landfilled decreased slightly from 2004 to 2005. Over the long term, the tonnage of MSW landfilled in 1990 was 142.3 million tons (see Table ES-1), but decreased to 134.8 million tons in 2000. The tonnage increased to 135.5 million tons in 2004, then declined to 133.3 in 2005. The tonnage landfilled results from an interaction among generation, recycling, and combustion with energy recovery, which do not necessarily rise and fall at the same time.

- The net per capita discard rate (after materials recovery and combustion with energy recovery) was 2.46 pounds per person per day, down from 3.12 pounds per person per day in 1990, down from the 2.62 pounds per person per day in 2000 (Table ES-3).

Figure ES-5: Number of Landfills in the United States, 1988-2005

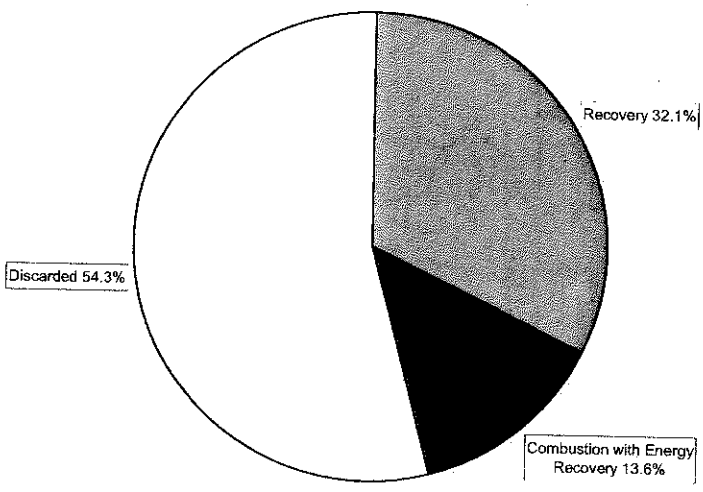


MSW recovered for recycling (including composting), combusted with energy recovery, and discarded in 2005 is shown in Figure ES-6. In 2005, 79.0 millions tons (32.1 percent) of MSW were recycled, 33.4 million tons (13.6 percent) were combusted with energy recovery, and 133.3 million tons (54.3 percent) were landfilled or otherwise disposed. (Relatively small amounts of this total undoubtedly were incinerated without energy recovery, littered, or illegally dumped rather than landfilled.)

FOR FURTHER INFORMATION

This report and related additional data are available on the Internet at www.epa.gov/osw.

Figure ES-6: Management of MSW in the United States, 2005



APPENDIX B

CITY OF CHICAGO HEIGHTS SITING APPROVAL

STATE OF ILLINOIS)
COUNTY OF COOK) SS
CITY OF CHICAGO HEIGHTS)

RESOLUTION NO. 2009-15

A RESOLUTION OF THE CITY OF CHICAGO HEIGHTS, COOK COUNTY ILLINOIS ADOPTING THE FINDINGS AND RECOMMENDED CONDITIONS OF THE APPLICANT, AND GRANTING INDIANA RECYCLING AND RENEWABLE FUELS'S REQUEST FOR SITING APPROVAL FOR A SOLID WASTE TRANSFER STATION AND TREATMENT FACILITY AT 1301 SOUTH STATE STREET, CHICAGO HEIGHTS, ILLINOIS

WHEREAS, on or about January 26, 2009, Indiana Recyclable and Renewable Fuels, LLC (hereinafter the "Applicant") filed an application for local siting approval for a pollution control facility with the City of Chicago Heights, for a solid waste transfer station and treatment facility proposed to be located on an approximate 25 acre parcel located at 1301 South State Street, Chicago Heights, Illinois (hereinafter the "Application"); and

WHEREAS, following proper notice of the filing of the Application and of the public hearing, the public hearing on the Application was conducted on April 28, 2009, by Applicant's attorney, Thomas Planera II; and

WHEREAS, at the public hearing on the Application, the Applicant's attorney, Thomas Planera II, testified on all nine of the statutory substantive siting criteria; and

WHEREAS, the City of Chicago Heights's independent expert, Robinson Engineering, reviewed the Application and found that the Application meets all of the criteria necessary for siting under Section 39.2 of the Illinois Environmental Protection Act; and

WHEREAS, members of the general public were present and registered to participate during the public hearing; and

WHEREAS, all of the public comment provided at the hearing was in favor of and supported the granting of local siting approval by the City of Chicago Heights; and

WHEREAS, the City Council of the City of Chicago Heights has reviewed the Application and determined that it is complete; and

WHEREAS, the City Council of the City of Chicago Heights has reviewed the record of proceedings and determined that all of the statutory criteria for siting a pollution control facility have been met.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHICAGO HEIGHTS, as follows:

1. That the foregoing recitals are found to be true and correct and are hereby incorporated as part of this Resolution:

2. That the City Council of the City of Chicago Heights concurs with the opinion of the City of Chicago Heights's independent expert, Robinson Engineering:

3. That the City Council of Chicago Heights hereby adopts the Applicant's finding of Fact, Conclusions of Law and Recommendations filed in this matter and hereby grants local siting approval to the Applicant.

Alex Lopez, Mayor

Presented: _____
Passed: _____

Yeas: 6
Nays: 0
Recorded: _____
Published: _____
Absent: 0
Attest:

Ethel Taylor, City Clerk

Illinois
Environmental
Protection Agency

Bureau of Land
1021 North Grand Avenue East
Box 19276
Springfield, IL 62794-9276

CERTIFICATION OF SITING APPROVAL (LPC-PA8)

Name of Applicant for Siting: Indiana Recycling and Renewable Fuels, LLC

Address of Siting Applicant: Same

Name of Site: 1301 South State Street Site Number (if assigned): NA

Site Information: Nearest Municipality: City of Chicago Heights County: Cook

Unit of local government from which siting approval was obtained: City of Chicago Heights

1. On May 18 (Date), 2009, the City Council (Governing body of county or municipality) of the City of Chicago Heights (County or municipality) approved the site location suitability of 1301 South State Street (Name of site) as a new pollution control facility in accordance with Section 39.2 of the Illinois Environmental Protection Act, Ill. Rev. Stat., ch 111 ½ , Section 1039.2.

2. The Illinois EPA may need to verify the information on this form, please indicate a person from the unit of local government ("siting authority") whom a representative from the Illinois EPA may contact regarding this approval:

   Ethel Taylor, City Clerk
   (Name, title, and telephone number)

3. Identify the type of activity(ies) for which local siting approval was obtained: waste storage (☐), sanitary landfill (☐), waste disposal (☐), waste transfer (☒), waste treatment (☒) , waste incinerator (☐).

4. Did the local siting authority approve the acceptance of special waste? ☐ Yes ☒ No
   Did the local siting authority approve the acceptance of hazardous waste? ☐ Yes ☒ No

5. Attached to this certification is a true and correct statement of the legal descriptions of the site as it was approved by the aforementioned local siting authority. ☒ Yes ☐ No
   (Note: A legal description must be attached to this document, by the local siting authority, to make the application complete)

IL 532 1429
LPC 218 Rev. March 2003

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

6. Did the local siting authority impose any specific condition(s)? ☐ Yes ☒ No
If yes, is a copy of the conditions attached to this form? ☐ Yes ☐ No
(Note: These conditions are provided for information only to the Illinois EPA. The Illinois EPA is not obligated to monitor nor enforce local conditions.)

7. **This item is applicable only to landfills or disposal sites.**
Was a legal description of horizontal and vertical waste boundaries approved? (i.e., the waste envelop). ☐ Yes ☐ No ☒ N/A

If no, is there a maximum disposal capacity approved? (i.e., the waste envelop). ☐ Yes ☐ No ☒ N/A

If either of the questions under #7 above was answered yes, the legal description or maximum capacity must be attached to this form by the local siting authority to make the application complete.

8. The undersigned has been authorized by the Mayor, Alex Lopez (siting authority of county or municipality) of the City of Chicago Heights (county or municipality) to execute this certification on their behalf.

Name: Ethel Taylor

Signature: [signature]

Title: City Clerk

SUBSCRIBED AND SWORN TO BEFORE ME

this 8th day of May, 2009

SEAL

"OFFICIAL SEAL"
MARIA R. KELLY
Notary Public, State of Illinois
My Commission Expires 12-27-09

[signature]
Notary Public

bjh\002892i.doc

STATE OF ILLINOIS)
COUNTY OF COOK) ss
CITY OF CHICAGO HEIGHTS)

I, Ethel M. Taylor, duly appointed and acting City Clerk of the City of Chicago Heights, Illinois and as such the keeper of the records of the City Council of the City of Chicago Heights, Illinois do hereby certify that the attached copy of

RESOLUTION NO. 2009-15

A RESOLUTION OF THE CITY OF CHICAGO HEIGHTS, COOK COUNTY, ILLINOIS ADOPTING THE FINDINGS AND RECOMMENDED CONDITIONS OF THE APPLICANT, AND GRANTING INDIANA RECYCLING AND RENEWABLE FUEL'S REQUEST FOR SITING APPROVAL FOR A SOLID WASTE TRANSFER STATION AND TREATMENT FACILITY AT 1301 SOUTH STREET, CHICAGO HEIGHTS, ILLINOIS

is a true and correct copy of the original now on file in the City Hall, Chicago Heights, Illinois.

***IN WITNESS WHEREOF*, I have signed my name and affixed the seal of the City of Chicago Heights, Illinois this 28th day of May, 2009.**

Ethel M. Taylor, City Clerk

(SEAL)

[NAME OF PROPERTY OWNER]
[STREET ADDRESS]
[CITY, STATE, ZIP]

PUBLIC NOTICE

Dear Property Owner:

This notice is being sent to you pursuant to the Illinois Environmental Protection Act, specifically, Section 415 ILCS 5/39.2(b). Indiana Recycling and Renewable Fuels, LLC, located at 13400 S. Kedzie Avenue, Robbins, Illinois, will be applying for a permit for a new facility located at 1001 State Street, Chicago Heights, Illinois. The proposed site is zoned M3 for heavy industrial use and has approximately twenty-three (23) acres available for the Project. The Project involves the design and construction of a Municipal Solid Waste to Biomass Derived Fuel production facility. The Facility will receive and process municipal solid wastes and produce renewable, low ash, low sulfur, high heat value, cellulose rich prepared primary fuel that the Company manufactures into a biomass derived fuel. The life of the proposed activity will continue indefinitely. Indiana Recycling and Renewable Fuels, LLC will submit for said site approval to the City of Chicago Heights on [DATE OF APPLICATION]. A copy of all documents delivered to the Illinois Environmental Protection Agency will be on file with the City Clerk of Chicago Heights. All persons interested may review said documents and submit any comments to the Clerk. Pursuant to the Illinois Environmental Protection Act, the City will collect all comments within thirty (30) days of the filing of the application.

08-171 Lot 3 Thorn Creek Conservancy Industrial Park
Adjacent properties within 250-ft

32-22-104-001 & 32-22-104-002
Frank Briggs
22901 Sherman Ave.
Steger, IL 60475-5938

32-22-104-003
Speedway Auto Parts
551 E. Lincoln Highway
Chicago Heights, IL 60411-2922

32-15-301-021
Casper Management LLC
470 Huehl Rd.
Northbrook, IL 60062-2312

32-22-200-008
Com Ed
P.O. Box 767
Chicago, IL 60690-0767

32-15-400-010
Com Ed
P.O. Box 767
Chicago, IL 60690-0767

32-15-400-014
Kinder Morgan Inc. NGPL
500 Dallas #1000
Houston, TX 77002-4718

32-22-200-006
Three Galleria Tower
13155 Noel Rd. # 100
Dallas, TX 75240-5050

32-22-101-002 & 32-22-100-019
Chicago Heights Land Management, LLC
P.O. Box 141
Thornton, IL 60476

EXECUTIVE SUMMARY

Indiana Recycling and Renewable Fuels, LLC (IRRF) has compiled this Application Summary for site location approval of the Recycling and Renewable Biomass Derived Fuel Plant for use at the April 28, 2009 public hearing. As prescribed by statute, IRRF has submitted an application to the City of Chicago Heights pursuant to Section 39.2 of the Illinois Environmental Protection Act for review prior to submission to the IEPA. IRRF has addressed each of the required siting criteria within its application all of which are summarized herein.

The proposed facility will provide an environmentally superior method of solid waste management services to the citizens of Chicago Heights and surrounding communities by recycling 85% or more of the collected municipal waste and reducing reliance on transfer and long distance haul to landfills. Additionally, it will provide employment opportunities, tax revenues, host community fees, and other economic opportunities for the City of Chicago Heights. Pursuant to Section 39.2 (a) of the Illinois Environmental Protection Act (Act) and, the siting applications for a proposed pollution control facility must demonstrate compliance with nine (9) siting criteria:

1. The facility is necessary to accommodate the waste needs of the area it is intended to serve;

2. The facility is so designed, located and proposed to be operated that the public health, safety and welfare will be protected;

3. The facility is located so as to minimize incompatibility with the character of the surrounding area and to minimize the effect on the value of the surrounding property;

4. (A) for a facility other than a sanitary landfill or waste disposal site, the facility is located outside the boundary of the 100 year flood plain or the site is flood proofed; (B) for a facility that is a sanitary landfill or waste disposal site, the facility is located outside the boundary of the 100-year flood plain, or if the facility is a facility described in subsection (b)(3) of Section 22.19a, the site is flood-proofed;

5. The plan of operations for the facility is designed to minimize the danger to the surrounding area from fire, spills, or other operational accidents;

6. The traffic patterns to or from the facility are so designed as to minimize the impact on existing traffic flows;

7. If the facility will be treating, storing or disposing of hazardous waste, an emergency response plan exists for the facility which includes notification, containment and evacuation procedures to be used in case of accidental release;

8. If the facility is located in a county where the county board has adopted a solid waste management plan consistent with the planning requirements of the Local Solid Waste Disposal Act or the Solid Waste Planning and Recycling Act, the facility is consistent with that plan; for purposes of this criterion (8), the "solid waste management plan" means the plan that is in effect as of the date the application for siting approval is filed; and

9. If the facility will be located within a regulated recharge area, and applicable requirements specified by the Board for such area have been met.

The nine (9) major sections of this Application Summary for Site Location Approval contain information demonstrating that the proposed facility satisfies each of the nine (9) criteria.

Pursuant to Section 39.2(b) of the Act, written notice of the Application for Site Location Approval has been provided to owners of the subject property not owned by the Applicant, all property owners within 250 feet of the property, members of the General Assembly from the Legislative District of the proposed site, and notice has been published in a newspaper of general circulation in the City of Chicago Heights.

Pursuant to Section 39.2(d) of the Act, written notice of the public hearing has been provided to members of the General Assembly from the Legislative District of the proposed site, the governing authority of every municipality contiguous to the City of Chicago Heights, to the County Board of Cook County, to the Illinois Environmental Protection Agency, and notice has been published in a newspaper of general circulation in the City of Chicago Heights.

There is no host agreement to be included with the Application pursuant to Section 39.2(e).

END

1.0 NEED FOR THE PROPOSED FACILITY

Criterion (i), found in Section 39.2 (a)(i) of the Act, provides:

> *the facility is necessary to accommodate the waste needs of the area it is intended to serve.*

The proposed recycling facility represents a major advance in Municipal Solid Waste (MSW) recycling technology. While earlier MSW recycling facilities have concentrated on the recovery of ferrous metals, aluminum and other non ferrous and to a limited extent certain paper and plastics, this facility focuses on the entire organic matter content of municipal waste.

This waste stream is transformed into and **ultra-clean** solid fuel product that is suitable for blending with natural coals, but burns more efficiently while producing a small fraction of air emissions of the natural coals.

THE FACILITY IS NOT AN INCINERATOR, IT DOES NOT BURN MUNICIPAL SOLID WASTE.

The recycling facility consists of two process parts and brings together two very simple and highly proven technologies. The result is the recovery of approximately 85% of the MSW stream as desirable end products. (ref. Section IV-1 of Application).

END

2.0 DESIGN, LOCATION AND OPERATIONS

Criterion (ii) found in Section 39.2(a) of the Act provides:

> *the facility is so designed, located and proposed to be operated that the public health, safety and welfare will be protected.*

The facility will comply with all aspects of the State of Illinois, County of Cook and City of Chicago Heights' solid waste plan and siting criteria.

The facility will be located in a remote area properly zoned for heavy manufacturing and consistent with the facility's operations. (ref. Section IV-2 of Application).

See following section on Compatibility and Surrounding Area.

END

3.0 COMPATIBILITY OF SURROUNDING AREA

Criterion (iii) found in Section 39.2(a) of the Act provides:

> *the facility is located so as to minimize incompatibility with the character of the surrounding area and to minimize the effect on the value of the surrounding property.*

The proposed plant will be located off road approximately ½ mile east of State Street on an isolated 25 acre tract of land zoned M3 for heavy industrial manufacturing.

The site will be served by a dedicated access road (entrance off 1301 State Street) and is near the center of a large, approximately 100 acre industrial area on the eastern limits of Chicago Heights, bounded on the west by State Street, on the east by Cottage Grove, on the south by Route 30 and on the north by Joe Orr Rd.

More than half of the industrial zoned land in the approximately 100 acre area including land east and west of the project site is currently unutilized and has either been set aside as improved land ready for manufacturing use or was formerly farm land, (i.e. land east of the plant) which is now being marked for improvement and industrial use.

Land south of the proposed project site is used for auto storage and salvage yard. Land north of the site is largely used for trucking operations.

Property north and south on the west side of State Street toward downtown Chicago Heights has approximately a mile long row of heavy manufacturing plants. The large Ford plant is located east of State Street near the intersection of Cottage Grove and Route 30.

The project site is a parcel of land in the newly subdivided Thorn Creek Conservancy Industrial Park developed to support the concept of *green product manufacturing in harmony with wetlands and improved regional drainage.* The industrial park has been developed under scrutiny of the U.S. Army Corps of Engineers and with the support of hydrological engineers of the Land Resource Management Group (LRMG) into dedicated wetlands area to coexist with heavy industrial manufacturing. Approximately half of the industrial park has been set aside for wetlands and wildlife and nature trails with the balance including the new service road and project site and several other land tracts filled and compacted with construction fill to being all usable manufacturing land to well above the 100 year flood plain.

The proposed facility will not change the hydrological conditions on the site. The site, originally farm/ undeveloped land, has received substantial site improvement by the industrial park developers under permit from the U.S. Army Corps of Engineers and other appropriate permitting agencies to maintain proper drainage of the Thorn Creek drainage basin, provide appropriate easements, provide good access to the property, and fill low areas with compacted engineering fill.

All site drainage during construction and operations will be collected and contained in the facility's on-site drainage pond. (ref. Section IV-2 of Application).

END

4.0 FLOOD PROTECTION

Criterion (iv) found in Section 39.2(a) of the Act provides:

> *for a facility other than a sanitary landfill or waste disposal site, the facility is located outside the boundary of the 100 year flood plain or the site is flood-proofed.*

The facility site is not in a flood plain and has been well engineered by the land developer to comply with drainage permit specifications established by the U.S. Army Corps of Engineers and withstand a 100-year flood. (ref. Section IV-4 of Application).

END

5.0 OPERATIONS PLAN

Criterion (v) found in Section 39.2(a) of the Act provides:

> *the plan of operations for the facility is designed to minimize danger to the surrounding area from fire, spills or other operational accidents.*

The facility will be designed, constructed and operated following procedures in place and which have been designed and put in place by IRRF engineers and have been shown to be proven and environmentally reliable at many large MSW processing facilities including those listed below and practiced in many other locations.

-	Hartford, CT	800,000 TPY plan near downtown Hartford across from the regional market.
-	Honolulu, HI	650,000 TPY plant in Campbell Industrial Park near high income resort property.
-	Detroit, MI	800,000 TPY plant near the city center and near the regional market center.

(ref. Section IV-8 of the Application).

END

6.0 IMPACT ON TRAFFIC

Criterion (vi) found in Section 39.2(a) of the Act provides:

> *the traffic patterns to or from the facility are so designed as to minimize the impact on existing traffic flows.*

The plant is expected to receive approximately 150 vehicle loads per day of MSW delivered between 5 a.m. and 9 p.m. Delivery vehicles will typically include 35 yd. Route type front and rear loader packer trucks with 9-12 ton loads, 105 yard walking floor transfer with 20 ton loads, trailers and potentially 115 yard tipper type transfer trailers with 25 ton loads. It is expected that about 75% of vehicle deliveries will be packer trucks with the balance transfer trailers.

It is expected that deliveries outside the Chicago Heights area will utilize State Street, Cottage Grove, Joe Orr Road and Route 30 for the bulk of the deliveries and will not have a significant impact on other Chicago Heights streets. Peak delivery periods are expected to be 9-11 a.m. and 1-3 p.m.

Based on experience at much larger plants than the proposed facility, no back up traffic will occur on State Street and all truck queuing ahead of the plant will easily be handled by the long 3 lane dedicated ½ mile off-road access leading to the isolated plant site.

Waste delivery vehicles will proceed eastward across a double lane truck scale which can be used to weigh two lanes of incoming truck traffic during peak delivery times and outbound truck hauls of recycled products, process residues, etc. See site layout and general arrangement drawings in Appendix C of the Application.

The number of trucks entering and leaving the site daily for all purposes is expected to total about 200. Approximately two thirds (2/3) of this traffic is expected to be spread out over an approximately 10-12 hour period with the balance occurring over about three (3) hours during peak morning deliveries and three (3) hours during peak afternoon delivers. The main service streets serving the site have good capacity to handle the increased traffic. (ref. Section IV-5 of Application).

END

7.0 ACCEPTABLE MUNICIPAL SOLID WASTE/PREVENTION AND CONTROL OF HAZARDOUS WASTE

Criterion (vii) found in Section 39.2(a) of the Act provides:

> *if the facility will be treating, storing or disposing of hazardous waste, an emergency response plan exists for the facility which includes notification, containment and evacuation procedures to be used in case of an accidental release.*

Acceptable municipal solid waste includes:

1. Residential Waste
2. Commercial Waste
3. Institutional Waste
4. Light Manufacturing Waste (provided the delivered waste includes only domestic commercial-type waste material).

Acceptable municipal solid waste excludes:

1. Known hazardous waste materials as defined in Federal guidelines.
2. Construction and demolition debris (debris box waste), except by special arrangement based on waste stream inspections.
3. Any waste that because of their quality, concentration or physical, chemical or infections characteristics can be determined to cause or significantly contribute to serious, irreversible or incapacitating illness and/or pose a substantial or potentially substantial hazard to human health or the environment.
4. Industrial waste, including the waste material resulting form industrial operations but not including either domestic waste or commercial waste generated in conjunction with the industrial activity.
5. Human body Waste.
6. Liquid Waste
7. Sewage.
8. Tree branches or tree trunks in excess of four (4) feet long or larger than six (6)

inches in diameter.

The proposed facility shall not treat, store or dispose of any hazardous waste at the Facility. To prevent hazardous waste from entering the facility, the facility shall implement a comprehensive prevention & control as described in Section IV-6 of the Application. In the event that hazardous waste is detected, such wastes will be isolated, removed and disposed in accordance with all applicable regulations.

Since the facility will not be treating, storing or disposing of hazardous waste, this Criterion is not applicable. (ref. Section IV-6 of Application).

END

8.0 CONSISTENCY WITH COUNTY SOLID WASTE PLAN

Criterion (viii) found in Section 39.2(a) of the Act provides:

> *if the facility is to be located in a county where the county board has adopted a solid waste management plan consistent with the planning requirements of the Local Solid Waste Disposal Act or the Solid Waste Planning and Recycling Act, the facility is consistent with that plan.*

The facility will comply with all aspects of the State of solid waste plan and Cook County and Chicago Heights siting criteria.

The development and generation of the facility are consistent with the Cook County Solid Waste Management Plan, as adopted by the City of Chicago Heights through its membership of the South Suburban Mayors and Managers Association.

The facility's primary objectives are to reduce the burden on solid waste landfills and create a renewable fuel.

All consistent with the Cook County Solid Waste Management Plan.

END

9.0 REGULATED RECHARGE AREA COMPLIANCE

Criterion (ix) found in Section 39.2(a) of the Act provides:

> *if the facility will be located within a regulated recharge area, any applicable requirements specified by the Board for such areas have been met.*

A regulated recharge area is a compact geographic area, as determined by the Illinois Pollution Control Board, the geology of which renders a potable resource groundwater particularly susceptible to contamination.

Pursuant to Section 17.3 of the Act, the Pleasant Valley Public Water District, in Peoria County, is the only regulated recharge area in the State. The Facility is not located in a regulated recharge area, and this criterion is not applicable.

END

Garbage recycling plant in the works

May 21, 2009

By Becky Schlikerman, staff writer

Chicago Heights' first green project is on its way to becoming a reality.

The Chicago Heights City Council on Monday approved the siting application for a $110 million garbage recycling plant at U.S. 30 and State Street that would turn household garbage into environmentally friendly fuel.

» Click to enlarge image

Jim Venutra, president of Indiana Recycling and Renewable Fuel, shows the clean burning coal-like pellets his facility plans to produce by recycling garbage.

Becky Schlikerman, SouthtownStar

The council's approval means Indiana Recycling and Renewable Fuels, the company that would build and operate the plant, will start seeking permits from the Illinois Environmental Protection Agency, company president Jim Ventura said.

"This is the first step, it makes the project real," said Fred Jones, technology manager for Indiana Recycling.

The proposed plant would create 160 tons a year of a coal-like substance from household garbage collected from local municipalities. That environmentally friendly substance would be used by coal-burning power plants as a substitute for coal, Jones said.

He said the material produced by the plant burns just like coal but is much cleaner.

"It burns half the emissions of a hospital burning heat oil," Jones said.

Plus, it means that there's less of a need for landfills.

"It takes care of one of our biggest problems - garbage," said Thomas Planera II, the company's attorney.

Jones said company officials expect the plant to open by late 2010 or early 2011.

Officials told the council the plant will create 125 jobs, in addition to the 300 construction jobs to build the plant.

The garbage recycling plant would be part of a tax increment financing district the city plans to create for the 120-acre site of the plant and an adjoining wetland that would be managed by the city.

In the TIF district, which the council gave preliminary approval in March, additional property tax revenue derived from increased property values is earmarked for improvements within the district. It's not paid to area taxing bodies, such as school and park districts, for the life of the district,which is up to 23 years.

The land to be part of the TIF has undergone an environmental redesign over the past two years. The U.S. Army Corps of Engineers has moved the creek and expanded the wetlands to make the land, which has been mostly agricultural, more useable, the city's director of projects Michael Sabo has said.

Mayor Alex Lopez said he supports the trash recycling plant because it will improve the city's environmental efforts.

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(http://www.southtownstar.com/neighborhoodstar/chicagoheights/1581258,052109chcouncil.article)

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Mayor Alex Lopez said he supports the trash recycling plant because it will improve the city's environmental efforts.

"We as a municipality need to improve in that area," said Lopez, a former alderman who became mayor earlier this month.

It also speaks to the city's long-term environmental plans, Sabo said.

"We're going green here," he said.

Becky Schlikerman can be reached at bschlikerman@southtownstar.com or (708) 802-8813.

APPENDIX C

ACCEPTABLE MUNICIPAL SOLID WASTE/PREVENTION AND CONTROL OF HAZARDOUS WASTE

Municipal solid waste is defined by the Illinois Environmental Protection Act as "garbage, general household, institutional and Commercial waste, landscape waste and construction or demolition debris." Municipal solid waste excludes special waste categories such as potentially infectious medical waste, liquid or semi-solid industry waste, and non-household hazardous wastes that are regulated as pollutants by the Illinois Environmental Protection Agency.

The IRRF recycling plant acceptable waste will be more restrictive and will not receive industrial waste or demolition waste. Residential construction waste will be received based on waste stream inspection and special arrangements.

This section describes IRRF plans and practice for receiving municipal solid waste at the 1301 South State Street Facility.

A list of acceptable municipal solid that will be received at the plant and waste that will not be received follows. This information is included in waste delivery agreement with waste haulers and is posted in signs at the facility entrance.

Posted Signs at the IRRF 1301 State Street Entrance Listing Prohibited Items.

Posted signs at the property entrance will show in **large bold letters** acceptable waste types and prohibited waste. See below.

Scale house receipt will list these types. All waste haulers will receive written direction of the acceptable and unacceptable/prohibited waste types.

All waste haulers will be required to sign statements that they do not knowingly pick up and deliver hazardous waste to the site and will be advised that the plant will report any such violation to the legal authorities immediately.

All haulers will be advised that the plant also has strict rules on continued delivery of non-hazardous but unacceptable/non-processable waste as indicated in the list of items and screen the haulers waste deliveries to identify frequent violations and will discontinue hauling listed waste items which cause severe loss of plant operating time and equipment damage.

ACCEPTABLE WASTE TYPES

Municipal (household, commercial and institutional): Waste originating in the cities, towns and communities consisting of household waste from private residences, commercial such as waste originating in office buildings, in wholesale, retail or service establishments, such as restaurants, (excluding greases), stores, markets, theaters, hotels, and warehouses, and institutional waste material such as waste originating in schools, hospitals, research institutions and public buildings.

Bulky Waste: Material in limited quantities may be accepted, except those identified in the Prohibitive sub-categories listed below.

PROHIBITIVE WASTE

1. Known hazardous waste materials as defined in Federal guidelines.
2. Construction and demolition debris (debris box waste), except by special arrangement based on waste stream inspections.
3. Any waste that because of the quality, concentration or physical, chemical or infections characteristics can be determined to cause or significantly contribute to serious, irreversible or incapacitating illness and/or pose a substantial or potentially substantial hazard to human health or the environment.
4. Industrial waste, including the waste material resulting from industrial operations but not including either domestic waste or commercial waste generated in conjunction with the industrial activity.

5. Hunan body waste.
6. Liquid waste.
7. Sewage.
8. Tree branches or tree trunks in excess of four (4') feet long or larger than six (6") inches in diameter.
9. Explosive or ammunitions.
10. Combustible liquid or gas containers, bottles, cylinders or cans.
11. Caustic acids, corrosive, asbestos, chemicals or other hazardous waste, radioactive or other contamination or pollutants prohibitive by mandatory and binding laws or regulations of the United States Government and the State of Illinois.
12. Liquid wastes or slurry waste with free liquids.
13. Unopened containers, except empty household spray cans.
14. Slag, rock, sand, brick or concrete.
15. Thick walled or solid metallic objects such as castings, forging, gas cylinders or large motors.
16. Steel or nylon rope cables or slings.
17. Case hardened or alloy steel chains over 3/8 inches in diameter or four feet (4') in length.
18. Rolls of carpet, plastic, canvas or fencing over six (6") inches in diameter or four (4') feet in length.
19. Animal waste or part of animals.
20. Solid blocks of rubber or plastic in excess of two cubic feet.
21. Any material classified Infectious or Hazardous Waste, (e.g., contaminated broker glass and syringes, hypodermic needles, scalpel blades, isolation waste, human blood products, cultures and stocks from hospitals and laboratories,)
22. Batteries of any type including dry cell, wet cell, motor vehicle or marine.
23. Automobile or other vehicle parts including discarded filters from commercial or industrial establishments.
24. Railroad ties.
25. Waste regulated by the Toxic Substance Control Act.

Obligation Not to Deliver

No hazardous or infectious waste shall be delivered to the Facility. Any Haler who knowingly delivers such waste will be denied future access to the Facility. Haulers must sign a statement that, to the best of their knowledge, the waste haulers loads do not contain hazardous waste.

Inadvertent Delivery

All haulers will be notified that they will be advised the vehicle loads will be periodically spot dumped and checked for non-acceptable waste and that continued delivery of this type of waste (which can cause significant plant time loss and equipment damage) will result in banning the hauler from using the site.

It is the haulers obligation to know the type of waste transported. The waste in the responsibility of the hauler regardless of whether the hauler knew the waste was hazardous. Any delivery of hazardous waste whether intentional or inadvertent will be reported to the State of Illinois EPA within 48 hours, and the hauler may be subject to civil and criminal penalties.

The IRRF policy and procedures for Prevention and Control of Hazardous Waste is attached.

THIS DOCUMENT HAS 29 PAGES AND THE FULL DOCUMENT IS AVAILABLE IF NEEDED

M. L. SMITH

APPENDIX C (cont.)

FACILITY OPERATIONS POLICY FOR HAZARDOUS WASTE DETECTION AND CONTROL

FACILITY OPERATIONS POLICY FOR HAZARDOUS WASTE DETECTION & CONTROL

Prepared by M. L. Smith, P.E.

Based on operating experience at three large currently operating municipal solid waste receiving and processing and refuse derived fuel preparation facilities

Locations

1)	Hartford, CT	Mid-Connecticut Resource Recovery Plant 800,000 ton/year plant
2)	Detroit, MI	Greater Detroit Resource Recovery Plant 800,000 ton/year plant
3)	Honolulu, HI	H-Power Resource Recovery Plant 650,000 ton/year plant

Purpose:

The primary purpose of this policy is to define the requirements for a Hazardous Waste Detection Program which will:

- ◊ Safeguard employees and facility equipment from hazardous chemicals.
- ◊ Ensure each facility complies with current Federal, State and Local laws as well as contractual obligations.
- ◊ Maintain hazardous waste exclusions and exemptions with respect to MSW ash as allowed by the applicable Federal regulations.
- ◊ The secondary purpose of this policy is to define acceptable waste and measures that will help protect facility operating equipment and minimize time loss and process interruptions due to non processable material in municipal solid waste.

APPENDIX D

SITE CLOSURE PLAN

The planned IRRF facility is a 200,000 square foot manufacturing plant with six main rooms: Room 1 – Truck Turning Room; Room 2 – Municipal Solid Waste (MSW) Receiving, Storage and Out Feed Room; Room 3 – Flail (bag opener) and Primary Magnetic Separation Room; Room 4 – Main (MSW) Mechanical Processing Room; Room 5 – RDF Storage Room; Room 6 – General Maintenance Room for Major Maintenance, Rebuilding and Storage of Equipment.

The solid waste facility uses conventional processing equipment to size reduce the MSW and remove ferrous and non-ferrous metals and bulky plastic, paper and textiles for recycling and sand, dirt and glass and other fines to offsite use/disposal leaving about 75% of the MSW as a feedstock for the plant production of high quality refuse derived fuel, a very low sulfur, low ash product comprised largely of non-recoverable paper, corrugated, cardboard, composite paper/plastic packaging and plastics shredded to 1½" – 2" particle size. The RDF has the appearance of shredded recycle paper and has use as a supplemental fuel in co-firing with coal and other fuels.

The RDF product is placed into surge bulk storage (RDF storage room) prior to use from where it is out loaded and shipped to offsite markets.

Experience has shown that the plant equipment, with proper care and maintenance, has a useful life of 30 years or more. Equipment wear parts are replaced as needed during the plant life.

If it should become necessary to discontinue recycling and refuse derived fuel manufacturing and close the plant, the MSW processing equipment will be cleaned as needed, dismantled and removed from the site, leaving a 200,000 square foot, well sited manufacturing building with an electrical substation of 10 MW, 6 large rooms with 11" reinforced concrete foundations, and excellent onsite truck storage, shop buildings, and employee showers for adapting to other manufacturing uses. The site has excellent access and potential for many industrial uses.

Part 1 described on the next page presents an assumed worst-case condition for site closure with permanent forced outage under the worst plant conditions. The procedures for accomplishing site closure are outlined in Part 2.

PART 1 – WORST CASE

Part I – Assumed Worst Case Conditions for IRRF Chicago Heights Plant Closure

1. Plant forced shut down while operating at full load without capability to restart will stop all equipment in MSW process area under peak conditions of MSW and RDF storage with material in the system.

2. A major power failure will take out the MSW processing area.

3. If the plant cannot operate and the plant operators leave the plant under worst-case conditions, a qualified contractor can be used to shut down the plant to meet local codes.

4. MSW storage is at maximum capacity – 5,400 tons.

5. RDF storage is at maximum capacity – 2,500 tons.

6. Process lines stop with material on conveyors and in equipment. Loss of power prevents running material off lines and out of equipment.

   Approximately 60 tons of material is on conveyors and in equipment.

7. Plant lubricants, diesel fuels and other materials in Table 1 are at near full capacity.

Part II – Plant Shut Down and Plant Closure Steps

Shutdown Steps Under Worst Case Conditions

1. Use janitorial crews to shovel material off conveyors, remove from equipment, platforms, catwalks, pits, etc. Use come-a-longs and winches to open and clean out equipment. Shovel to floor. Use Bobcat wheel loaders and roll of boxes to pick up and remove spillage and clean out material.

2. Sweep MSW and RDF floor with mobile street sweeper. Use emergency generator to operate plant air compressors. Have janitorial crew to completely blow down all equipment and floor surfaces in MSW processing plants. Sweep up dust and shovel up.

3. Clean MSW storage floor with wheel loaders. Load material with wheel loader onto transfer trailers and haul to landfill.

4. Clean RDF storage floor with wheel loaders. Load material with wheel loader onto transfer trailers and haul to RDF customer or landfill.

5. Wash all MSW processing equipment.

6. Remove all plant, lubricants, diesel fuel and other materials as noted in Table 1 from the job site. Give to industrial users or dispose as special waste.

7. Haul all temporary (2 hr. – 24 hr.) stored products from the site, i.e. 1) bulky recycle material, 2) RDF, 3) ferrous metal, 4) non-ferrous metal, 5) process residue, to industrial user or transfer to landfill.

Activity		Allow
Shovel up. Sweep down, blow down and pick up/haul away material in MSW process equipment, platforms, catwalks, pits, etc.		
a. General Labor		
60 Tons x 2 Man Hours/Ton x $30/Hour	$	3,600
b. Mobile equipment Operator		
16 Man Hours x ($48/Hr. Operator + $15/Hr. Bobcat Operation)	$	1,000
c. Supervision 16 Hours x $65/Hr.	$	1,090
d. Generator Rental for Air Compressor	$	10,000
Water-spray wash MSW processing equipment. Vacuum up water and dispose.		
a. Private Contractor		
160 Man Hours x $48/Hr. Operators	$	7,600
b. Equipment Rental - Water Truck & Vacuum Truck		
$3,000/day x 5	$	15,000
c. Liquids Disposal	$	5,000
Clear MSW Tipping Floor		
30 Man Hours (Loader Operator to Load Trailers) x ($48/Hr. Operator + $30/Hr. Wheel Loader Operating cost including fuel)	$	2,340
Equipment Rental: $1,200/Day x 2 Days	$	2,400

Contractor transfer and haul 139 loads to landfill:		
139 loads x 25 tons x $44/ton	$	148,500
Clear RDF Storage Floor:		
15 Man Hours ($48/Hr.) to load trailers	$	1,170
Transfer haul to landfill: 66 loads x 25 tons/load x $44/ton	$	72,600
Sweep MSW storage floor and RDF floor with mobile street sweeper	$	3,000
Remove all plant lubricants, diesel fuel from site. Give to industry or dispose as special waste	$	10,000
Haul all temporary stored products; assume give to industry of landfill.		
RDF Storage in Trailers: 12 Truck Loads x 25 tons x $44/ton	$	13,200
Ferrous Metal: 4 Truck Loads x 12 tons x $44/ton	$	2,112
Non-Ferrous Metal: 2 Truck Loads x 6 tons x $44/ton	$	528
Process Residues:		
6 Truck Loads x 25 tons x $44/ton	$	6,600
Non-Processable Materials: 6 Truck Loads x 15 tons x $44/ton	$	3,960
Disconnect all Plant Equipment from Switch Gear		
120 man Hours x $48/hr. (labor)	$	5,760
Supervision: 40 Man Hours x $65/hr.	$	2,600
Miscellaneous Plant costs to Mothball Equipment and Preserve for Salvage	$	50,000
Equipment Removal		
- Labor cost 17,000 man hours @ $80.00	$	1,360,000
- Estimated rental and material costs and miscellaneous	$	120,000

12.	Equipment transport to Chicago area used recycling equipment Firms, Allen Ross machinery, an Erin Equipment who will store the equipment and sell it on consignment. Approximate equipment weight 1,500 tons. Loads - 10 tons each x 150 loads x 4 hours x $120 per hour	$	72,000
13.	Final building cleaning and disinfecting estimated approximately equal to cost of equipment washing	$	27,600
	Total	**$**	**1,947,660**

PART 2 – ORDERLY FACILITY SHUTDOWN

The facility has excellent design capacity based on experience in locations worldwide to deal with problems of weather, equipment outage, and other factors causing plant down time and disruptions in plant operation.

However, should it become uneconomical to continue operations and permanent shutdown is planned, a shutdown procedure will be established including but not limited to the factors listed below:

1. Estimate date to discontinue receiving municipal solid waste.
2. Estimate date to completely remove all manufactured products from the plant site – usually within a day or less of the time the produce is produced, i.e. 1) ferrous metals, 2) non-ferrous metals, 3) sorted non-processable bulky metals and other items (most are recyclable and will be removed from the site by local scrap dealers), 4) RDF, 5) process residue. Process residue and other materials not hauled to product users will be hauled to landfill.

MSW PLANT

The plant will first be cleaned by site wheel loaders in the MSW storage building and the RDF storage building to remove all material from the storage floors. These floors will then be swept by mobile steel scrapers serving the site. MSW process conveyors will be run until all material in equipment is run out. The plant normal daily housekeeping procedure will then be implemented. The daily janitorial crew will completely sweep and remove material and equipment, followed by blow down (compressed air) all spillage material on equipment surfaces, surface catwalks, ledges, floors, pits and other room and building surfaces. Most of this type of work is normally done daily, following the MSW processing to remove spillage and other material, the MSW processing equipment will be thoroughly washed by an industrial contractor experienced in this. Plant equipment is normally washed several times a year.

In a worst-case condition, industry will remove all of this equipment at no cost for the salvage value. The MSW processing equipment to be removed and or sold includes:

1. Three (3) site wheel loaders, one (1) crawler tractor, one (1) Bobcat loader and two (2) forklifts.

2. Flail bag openers, 2 each.
3. Primary and secondary shredders, 3 each.
4. Rotary screen trommels, 5 each.
5. Ferrous magnets, 6 each.
6. Eddy current separators (non-ferrous magnets), 3 each.
7. Disc screens, 2 each.
8. Major conveyors, Lot.
9. Miscellaneous gear boxes and motors, Lot.
10. Spare parts.
11. Miscellaneous platforms, catwalks and equipment supports for scrap or use.

DISMANTLING PLAN

The IRRF construction crews and subcontractors will dismantle and remove the Chicago Heights plant equipment following established industry standards for heavy equipment erection and dismantling. A general plan to be developed may vary as work progresses to improve efficiency and employee safety.

In the event the recycling equipment must be removed from the site MRL Enterprises of Hammond, an experienced licensed heavy equipment erecting and dismantling company, with experienced millwrights and riggers of national Union 136 will be retained to remove the equipment.

The power to all equipment will be disconnected.

All equipment will be removed to floor level including the steel footing pads fastened to the floor anchor bolts, and removed from the project site. The building will be thoroughly swept and spray washed with disinfectant added to the spray was.

Prior to removal of equipment, all of the equipment will be spray washed as noted in Item 2, with disinfectant in the spray wash.

APPENDIX E

INDIANA RECYCLING AND RENEWABLE FUELS, LLC.

dba: ILLINOIS RECYCLING AND RENEWABLE FUELS, LLC.

CHICAGO HEIGHTS, ILLINOIS, STATE STREET

RECYCLING AND RENEWABLE BIOMASS DERIVED FUEL PLANT

CONTINGENCY PLAN

Issue Date: 2/16/11

TABLE OF CONTENTS

1.0 Introduction

This document is the Emergency Contingency Plan for the IRRF State Street Recycling Plant located in the City of Chicago Heights.

An IRRF (Illinois Recycling and Renewable Fuels Facility) Solid waste Permit to construct and operate the facility requires preparation and submission of this plan. The permit is conditioned upon compliance with all applicable statutes, rules, regulations and ordinances. In accordance with conditions of the Solid Waste Permit to operate, the IRRF contingency plan delineates the procedure for responding to fire, and other emergencies. Copies of the contingency plan shall be submitted to local police, fire department, the county health departments, and offices of emergency management.

This document is written with the intent of satisfying the applicable guidelines set forth in OSHA 1910, and the Illinois State Chemical Safety Act 45, Section 4.

1.1 Plan Purpose

The purpose of this Contingency Plan is to outline and communicate actions to minimize hazards to human health or the environment from any fire or other emergency.

Facility Description

A. Project Location

The IRRF plant is located at 1301 South State Street in the City of Chicago Heights, Illinois. The site will be served by a dedicated access road) entrance off 1301 State Street) and is near the center of a large, approximately 1,000 acre industrial area on the eastern limits of Chicago Heights, bounded on the west by State Street, on the east by Cottage Grove, on the South by Route 30 and on the north by Joe Orr Road.

B. Project Description

The Illinois Recycling and Renewable Fuels (IRRF) Facility is designed to process 2,700 tons per day of municipal solid waste (MSW). Approximately 85% of the MSW is recovered as useable raw materials.

The municipal solid waste processing operation uses conventional equipment including municipal solid waste shredders, rotary screen trommels, magnetic separators, non-ferrous metal separators (Eddy current separators), air classifiers, and dust control equipment to size reduce municipal solid waste, mechanically remove recyclable metals, glass and dirt and other inerts and produce a shredded approximately 1½" to 2" nominal size material secondary raw material (RDF) which is largely composed of paper, wood and plastic.

2.0 Emergency Action

The procedures for designing and operating the recycling plant as planned by IRRF are well established in many locations in the USA and Europe. This document indicates the normal quantities and locations of emergency equipment available on site. If a fire should occur in the facility buildings, the automatic sprinkler system will self-activate, sounding the alarm bells and horns in the applicable areas. In the event that a fire occurs in the MSW receiving area or the RDF storage room, locally mounted fire sprinklers will be used to extinguish the fire.

FIRES

a. If the fire cannot be controlled with on-site, internal fire protection systems, equipment and personnel, immediately call the City of Chicago Heights Fire Department:

City of Chicago Heights, Illinois 60411
(708) 756-5370 or 911

b. Evacuate all personnel via routes shown in the Site Evacuation Plant Drawing (if there is a risk that the fire cannot be easily controlled with fire extinguishers).

PEOPLE ALWAYS COME FIRST. IF ANY OF THE PROCEDURES BELOW CANNOT BE FOLLOWED SAFELY, EVACUATE AND CALL FOR HELP FORM A PAY PHONE, CELLULAR PHONE, ETC.

c. Use fire extinguishers only if:

* The most senior person present is sure the fire can be extinguished safely without risk to personnel.

* Personnel operating a fire extinguisher know how to use them.

When in doubt, evacuate and wait for the Fire Department.

Use fire extinguishers only on small fires that can safely be put out without risking ignition of any large amount of flammable or combustible material.

d. Knock down the power at the main electrical breakers for the facility that supply high voltage power.

e. Open gates to provide access for fire trucks.

f. Wait at gate to direct emergency response vehicles (fire trucks, ambulance, etc.) and begin an accountability procedure.

ACCIDENTAL DIESEL FUEL SPILL

The IRRF plant will have on hand several skid mounted catastrophic spill kits with approximately 500 pounds (in 25 pound bags) of suitable all-purpose absorbents, such as, Ensurb Super Absorbent (available from Grainger). The skids will be located in a corner of Truck Receiving and Turning Room No. 1. The spill kits will also contain absorbent pads of varying lengths and sizes, brooms, scoops and disposal bags.

Absorbents will be spread on spills and shoveled up and placed in bags for proper disposal.

EMERGENCY PROCEDURE

First Aid On-Site: Consult First Aid manual located in the First Aid Boxes. Shift Supervisors are trained in First Aid.

Personal Injury: In the event of a personal injury, the injured person or the first person on the scene should immediately call the on-site Plant Shift Supervisor of Extension 111 on a plant phone or call on a plant radio. The Plant Shift Supervisor (or delegate) will call St. James Hospital Emergency Room (708) 756-1000 x 6120, and arrange for ambulance to transport to St. James Hospital. Shift Supervisor will contact Area Manager immediately, day or night.

For emergency services, personnel should go to:

St. James Hospital
1423 Chicago Road
Chicago Heights, Illinois 60411

St. James/Olympia Fields Hospital
20201 S. Crawford Avenue
Olympia Fields, Illinois 60421

Emergency Department
708-756-1000 x 6120

A "TREATMENT AUTHORIZATION FORM" must be sent with the individual to St. James. Between the hours of 8:00 a.m. and 4:30 p.m., the form is to be obtained from the Safety & Health manager or his Assistant. If the Safety Offices are closed, the Shift Supervisor will fill out the form, sign for the Safety & Health Manager and initial, and call the appropriate facility. Retain yellow copy for Safety Office. An "Employee Accident, Injury or Illness Incident Report" is to be completed and submitted to the Safety & Health manager with the yellow TREATMENT AUTHORIZATION FORM copy.

The employee should not drive to the treatment facility. The Shift Supervisor will arrange for transportation by calling CoMed, 708-331-3310, request a Service Car, giving the following information:

Illinois Recycling and Renewable Fuels, 1301 South State Street, Chicago Heights, IL., Telephone ___Later___, number of people being transported, the St. James location to which the employee is being sent (see above,) Safety & Health manager providing authorization. On the TREATMENT AUTHORIZATION FORM, fill out information in the "Injury Treatment" box, forego the "Physical Examination" section, mark the box "Other" and write in "Service Car". Be sure to retain yellow copy of form for Illinois Recycling and Renewable Fuels and

send the white form with the employee. A Service Car will take no longer than 30 minutes to arrive and transport the employee. Once treatment is given, the Service Car will return the employee to the plant. If the employee needs to go home directly from the treatment facility, St. James staff will assist the employee in securing appropriate transportation. The Service Car will transport only between the St. James facility and IRRF plant.

ALWAYS ALERT THE FACILITY THAT AN EMPLOYEE IS BEING SENT FOR TREATMENT. Fill out an Employee Accident, Injury or Illness Incident report.

If the individual has minor chemical exposure, refer to the MSDS for treatment recommendations. Call the Emergency Phone Number on the MSDS as required.

- Must be authorized by the Safety & Health Manager, Area Manager, Shift Supervisor, General Manager or Administration Manager.
- Co-Med Service Car should be used only in non-emergency injuries. Personal automobiles are not to be used.
- Ambulance should be contacted under circumstances outlined above in "Personal Injury" or "Chemical Exposure".
- Always notify the emergency treatment facility.

AGENCY:	**PHONE**
AMBULANCE (Emergency Only)	911
St. James Hospital Emergency Department	708-756-1000
Co-Med Service Car (non-emergency only)	
Illinois Poison Center	
St. James/Olympia Fields Hospital Emergency Department	

Accident Report:

The shift supervisor or acting shift supervisor should complete the accident report and review it with the appropriate manager within 24 hours of an accident.

3.0 Arrangements with Local Police and Fire Departments, Hospitals, Contractors, and State and Local Emergency Response Teams

The following agencies will be provided with an explanation of the IRRF, Chicago Heights State Street Recycling Fuel Facility operations and a copy of this Contingency Plan and given the opportunity to comment on this document.

AGENCY	PHONE NUMBERS
City of Chicago Heights	(Later)
Chicago Heights Fire Department	708-756-5370
Illinois Emergency management Agency	(Later)
Cook County Emergency Planning Community	(Later)
Illinois Environmental Protection Agency	(Later)
Cook County Public Health Department	(Later)
Cook County Department of Environmental Control	(Later)

4.0 Emergency Coordinator and Emergency Contacts

The Illinois Recycling and Renewable Fuels Facility have developed the following ranked list of personnel designated to act as emergency coordinator: Unless otherwise noted, the emergency coordinator will be on-shift boiler house Shift Supervisor. In case of further support, please contact:

Name/Title	Phone Number	Cellular Number
Recycling Plant Shift Supervisor (Emergency Coordinator)	Ext. *	*
General Manager	Ext. *	*
Env. Compliance Manager	Ext. *	*
Facility Ops. Manager	Ext. *	*
Safety & Health Manager	Ext. *	*
Maintenance Manager	Ext. *	*

* To be Determined

- Each designated EC is trained in the activation and response of this Contingency Plan.
- Each EC received First Aid and CPR training.

5.0 Emergency Equipment Available on Site

See Tables 1, 2, 3, and 4

IRRF
FIRE EXTINGUSHERS
(Actual Number of Each location to be Determined)
Table 1

Location	Type	No.
MSW STORAGE ROOM 2	#100 lb. ABC Hose and Real Locations	
	# 20 lb. CO_2 Portable Fire Extinguishers	
	# 20 lb. ABC Portable Fire Extinguishers	
MSW PROCESS BUILIDNG 4	#100 lb. ABC Hose and Reel Locations	
	# 20 lb. CO2 Portable Fire Extinguishers	
	# 20 lb. ABC Portable Fire Extinguishers	
BUILDING 4 PROCESS CONTROL ROOM	# 20 lb. CO2 Portable Fire Extinguishers	
	# 20 lb. ABC Portable Fire Extinguishers	
MSW STORAGE ROOM 2	# 20 lb. ABC Portable Fire Extinguishers	
MSW MCC ROOM BUILDING 4	# 20 lb. CO2 Portable Fire Extinguishers	
	# 20 lb. ABC Portable Fire Extinguishers	
RDF STORAGE BUILDING 5	# 20 lb. ABC Portable Fire Extinguishers	
MAINT. BUILDING 6	# 20 lb. ABC Portable Fire Extinguishers	
SCALEHOUSE	# 20 lb. ABC Portable Fire Extinguishers	
GUARDHOUSE	# 20 lb. ABC Portable Fire Extinguishers	

Note: A director of all units will be posted in:

a.) The MSW Room 4 Control Room
b.) The Administration Building
c.) The Safety Office
d.) The Maintenance Shop

IRRF
FIRST AID KITS

Table 2

Location	Type
Safety Office in the Administration Building	Basic & Burn Kit
Control Room(s)	Basic
Maintenance Shop	Basic & Burn Kit
Instrumentation Shop	Basic

Each First Aid location will include PPE Kits which shall contain at a minimum the following:

1. Gloves, latex or vinyl, and a pair of industrial gloves for cleanup.
2. One-way valve micro-shield for CPR.
3. Splashguard visor or safety eye glasses.
4. Respiratory Protection, such as a surgical mask.
5. Tyvek protective clothing.
6. Red plastic bag for cleanup, labeled as Biohazard.

IRRF
BREATHING AIDS

Table 3

Location	Type
MSW Process Building 4 Control Room	MSA Ultralite II SCBA
MSW Storage Room 2	MSA Ultralite II SCBA
Picking Stations(s) Room 2	MSA Ultralite II SCBA
Safety Office	Full Face Respirator
	Half Face Respirator

IRRF
SPILL CONTAMINANT KITS

Table 4

MSW Receiving Area	1 Large Non-Aggressive Spill Kit (oil-coolants)
RDF Processing Area	1 Small Non-Aggressive Spill Kit
Picking Station	1 Small Non-Aggressive Spill Kit
Diesel Oil Skid	1 Large Aggressive Spill Kit
Sample Lab	1 Small Non-Aggressive Spill Kit
Warehouse Supplies	Brooms, Absorbent Pads, Rubber mat for Sealing Drains, Pillows, Squeegees, Scoops, Containers

6.0 Evacuation Plan for Facility Personnel

The IRRF plant employs approximately 85 employees at the site. The company operates 3 shifts per day, seven days a week, including continuous loadout and hauling work and periodic maintenance.

The IRRF site is equipped with an automatic sprinkler and alarm system which will also be used to notify plant personnel when appropriate. The telephone system can also function as a method to notify personnel of an emergency. Internal alarms will be activated to signal that evacuation is necessary. During evacuation of the plant, employees have been instructed to reassemble at the parking lot on the southwest corner of the property. The purpose of the re-assembly is to determine if all personnel known to have been on site at the time of the evacuation notice have been notified and accounted for. The exits form all buildings are marked.

The emergency escape routes for the IRRF buildings are found in Appendix B. After evacuation, the emergency coordinator will remain available to advise local authorities on any conditions which could directly threaten human health or the environment.

IEPA regulations require semi-annual evacuation drills as part of the Contingency Planning process. The Illinois Recycling and Renewable fuels Facility will hold these drills and the designated emergency coordinator should document the drills and evaluate results in order to improve evacuation techniques.

7.0 Resumption of Facility Operation

Once an emergency situation requiring interruption of facility operations is over, the emergency coordinator will evaluate the condition of all plant facilities and equipment prior to resumption of operations. All tanks, vessels, drums and pipes should be inspected for leaks, ruptures or pressure buildups. The emergency coordinator will work closely with cleanup crew, and local response teams to ensure that appropriate cleanup and disposal techniques are used. The date, time and details of the incident will be noted in operating records.

TABLE 5
EMERGENCY ESCAPE ROUTES

RDF Process

Note: Once outside buildings, proceed to the emergency muster area: The parking lot at the southwest corner of the property.

FROM	PRIMARY	SECONDARY
Central Control Room Building 4	Down Stairs through Visitors Entrance Door	Down West Stairs to Tipping Floor Exit West Corner
Tipping Floor MSW Storage Room 2	Exit Northwest or Northeast Corner	Exit Northwest or Northeast Corner
MCC	Exit through Visitor Entrance	Proceed to Process Building and Exit through Northeast Corner
Line 100 Picking Station/Grapple	Exit Southwest Corner of MSW Storage Building	Exit through MSW Process Building Northeast Corner
Line 200 Picking Station/Grapple	Exit Southwest Corner of MSW Storage Building	Exit through MSW Process Building Northeast Corner
Line 100 Flail Enclosure	Isolated in Bunker, Exit East Entry Door	Isolated in Bunker, Exit East Entry Door
Line 200 Flail Enclosure	Isolated in Bunker, Exit East Entry Door	Isolated in Bunker, Exit East Entry Door
Line 300 Shredder Enclosure	Isolated in Bunker, Exit North Entry Door	Isolated in Bunker, Exit East Entry Door
Line 400 Shredder Enclosure	isolated in Bunker, Exit North Entry Door	Isolated in Bunker, Exit East Entry Door
Line 500 Shredder Enclosure	Isolated in Bunker, Exit North Entry Door	Isolated in Bunker, Exit East Entry Door
Loadout Area	Processed to main Parking Lot on Southwest Corner of Property	Proceed to main Parking Lot on Southwest Corner of Property

TABLE 6

INTERNAL AND EXTERNAL COMMUNICATIONS

The Internal and External communications system and brief description by area are listed below.

1. Pagers – will be issued to all appropriate management personnel. Pagers are to be used for contact of key personnel in the event of an emergency for recall, or items of concern deemed necessary by management.

2. Cell Phones/Portable Radios – will be issued on a daily basis to the following personnel for communications within the facility. Prompt communications are a must in the same operation of IRRF facilities. In addition, they will be used along with local authorities in the event of an incident requiring their participation.
   a. Facility Operations Manager.
   b. Recycling Plant Supervisor.
   c. Maintenance Supervisor.
   d. Facility Shift Supervisors.
   e. Facility Control Room Operators (CRO).
   f. Facility Tipping Floor Attendants.
   g. Facility Equipment Operators.
   h. Facility Mobile Equipment Operators.
   i. Lead mechanics.
   j. Safety and Health Manager.

3. Closed Circuit Television System (CCTV) – Used to monitor various key operating locations throughout the facility. Also used to monitor site security. Monitored by the on-duty control room operators.

4. Public Address System (PA) – Used to communicate between CRO's and their respective operations personnel. Example: When all personnel need to be informed of an event, normal or emergency.

5. Local Area Network – System by which all on-site computers are connected. Enabling personnel to pass routine information relating to operations or maintenance between stations.

6. Telephones – Routine telephone service is installed on-site at all office locations, plus lunch rooms, first aid room, scale house and guard shack.

APPENDIX F

DIESEL FUEL SPILL CONTAINMENT PLAN

The double wall 2,500 gallon capacity OSFM permitted diesel fuel storage tank will be a cylindrical steel tank set above ground. The tank dimension will be approximately 10' long x 3½' in diameter.

It will have a UL2085 rated tank (fire guard), spill containment bucket on the fill pipe, necessary emergency and standard venting, mechanical leak and level gauges, necessary safety decals, overfill drop tube, and high capacity fuel pumps to meet local codes and permitting requirements.

A spill catchment berm with 3 feet high sidewalls will be built at ground level below and around the tank and will have approximately 700 cubic feet of reserve capacity. It will be a rectangular area about 20' long x 14' wide. The (base) below the tank will be reinforced 11" thick concrete (set above below ground concrete piers) and expanded around the tank to allow 5' clearance. A 3' high x 1' thick outside concrete wall will be built around the concrete base area designed for 110% containment of fuel plus 6" of rain water. Crash protection bollards will be constructed at five (5') foot on center spacing around the spill catchment berm.

The concrete pad will be overlaid with UV resistant 30 mil thick geo-membranes to cover the spill catchment area of the type provided by Interstate Products Company of Sarasota, Florida with 2 Altra self-baler drains to hydrocarbon filters.

If diesel fuel spillage is not contained and enters the surrounding soil, a notification of release may be required reporting the incident and corrective measures taken to the Illinois EPA and the Illinois Emergency Management agency.

See Figure 2 (Drawing No. 7715-001 Rev F) and 3 (Drawing No. 7715-002 Rev F).

Emergency quick response to spills will be implemented as discussed in Appendix E.

If a major diesel fuel tank failure occurs, causing spillage into the spill catchment berm, exceeding the capability of using on-site absorbents, a qualified waste handling service will be used to properly clean up and dispose of the spill material.

EXHIBIT 4.5, c-1

c. – Drawing which shows the property boundary delineated by the written text with the site depicted.

The site is shown in Figure 1 and in the attached vicinity map. Boundaries are illustrated in the MG2A topographic survey shown in enlarged size in Figure 6 and in IRRF drawing 7715-001 Rev. D in the Figure Section.

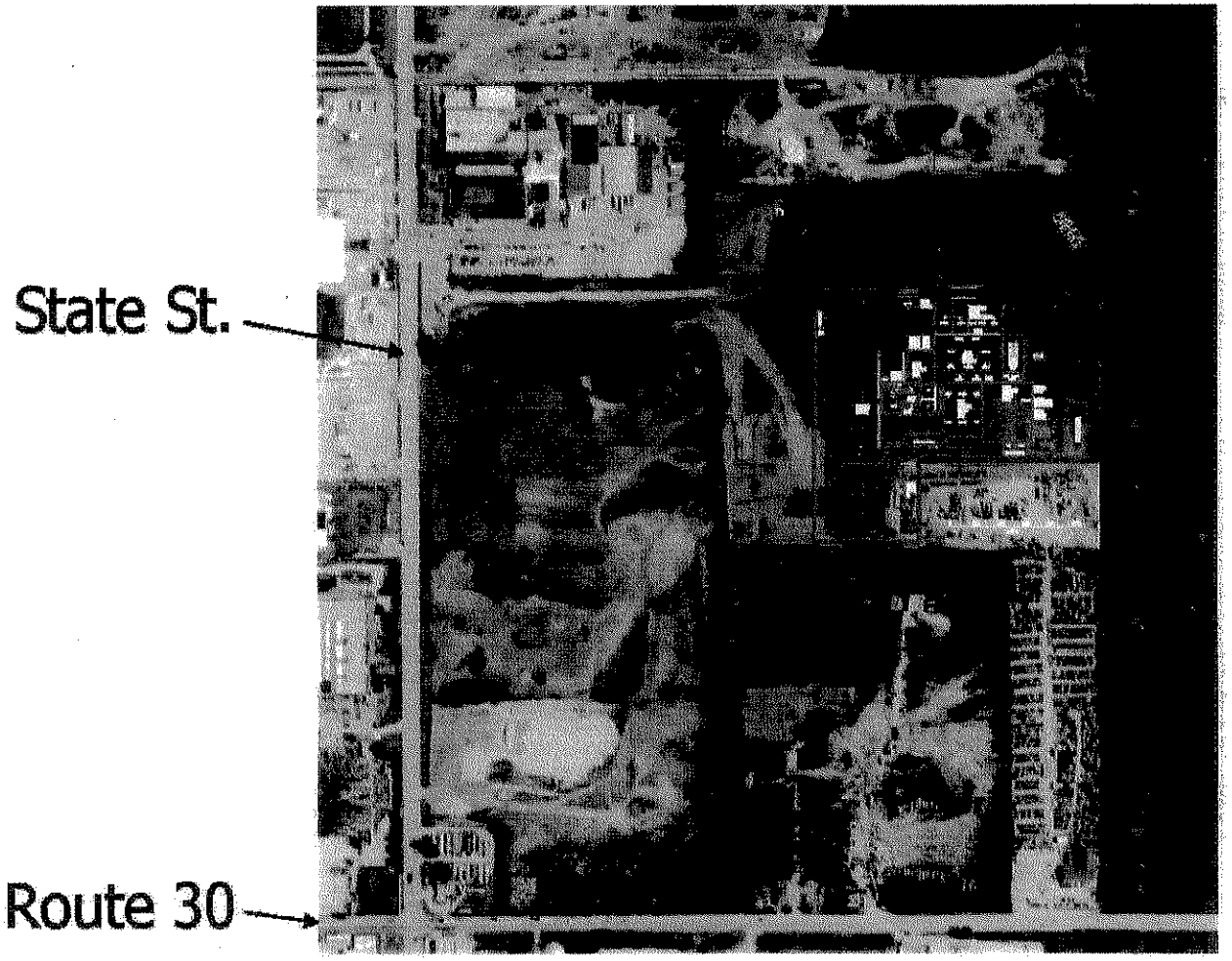
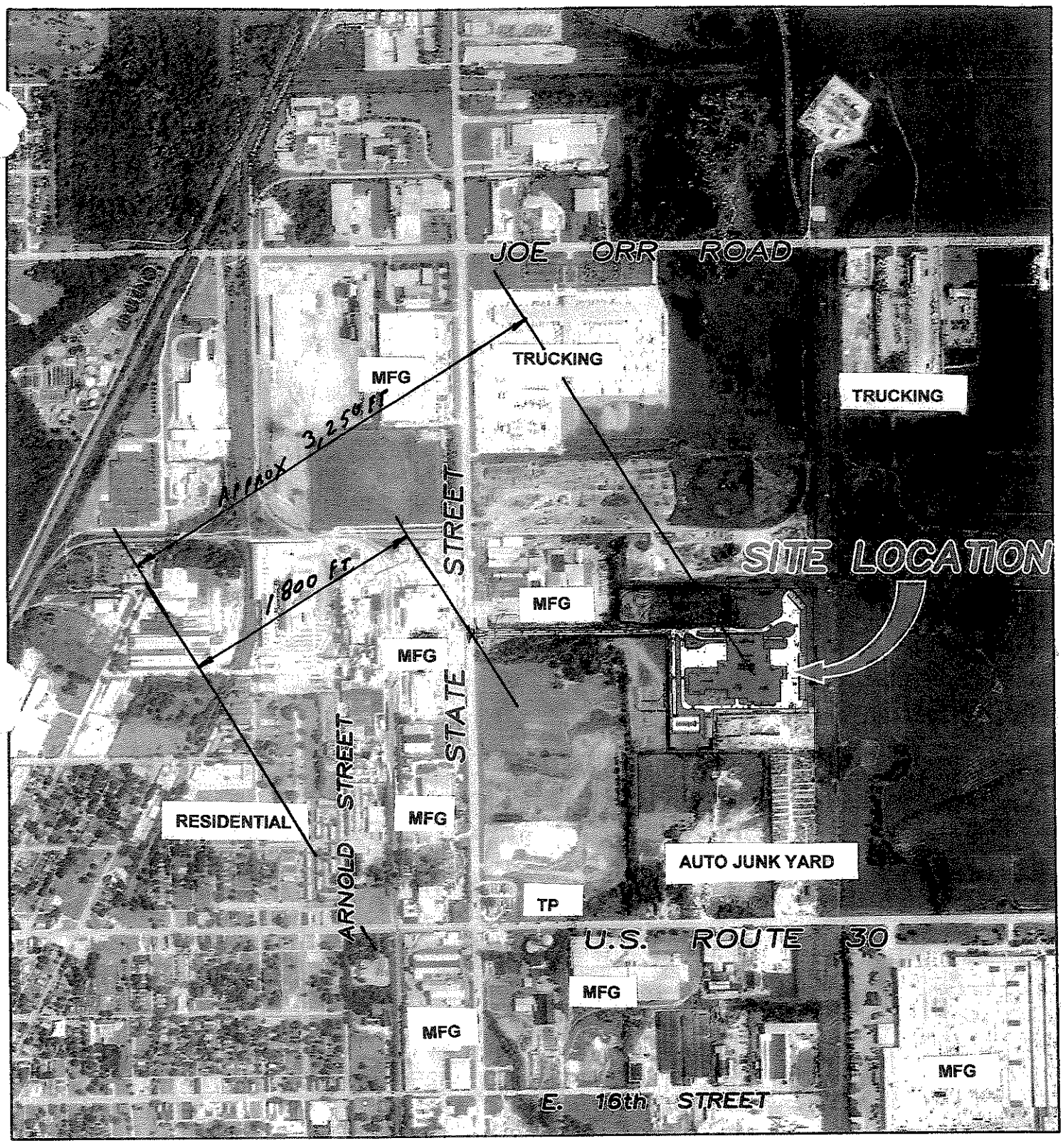


figure 1

SITE LOCATION MAP
CONSTRUCTION PERMIT APPLICATION
IRRF – Chicago Heights Facility



VICINITY MAP
SCALE: 1"=1000'

25620 S. Gougar Rd.
Manhattan, IL 60442
Ph.815-478-9680
Fax.815-478-9685
Design Firm No. 184-005003
M. GINGERICH, GEREAUX, & ASSOCIATES
ENGINEERING * PLANNING * SURVEYING

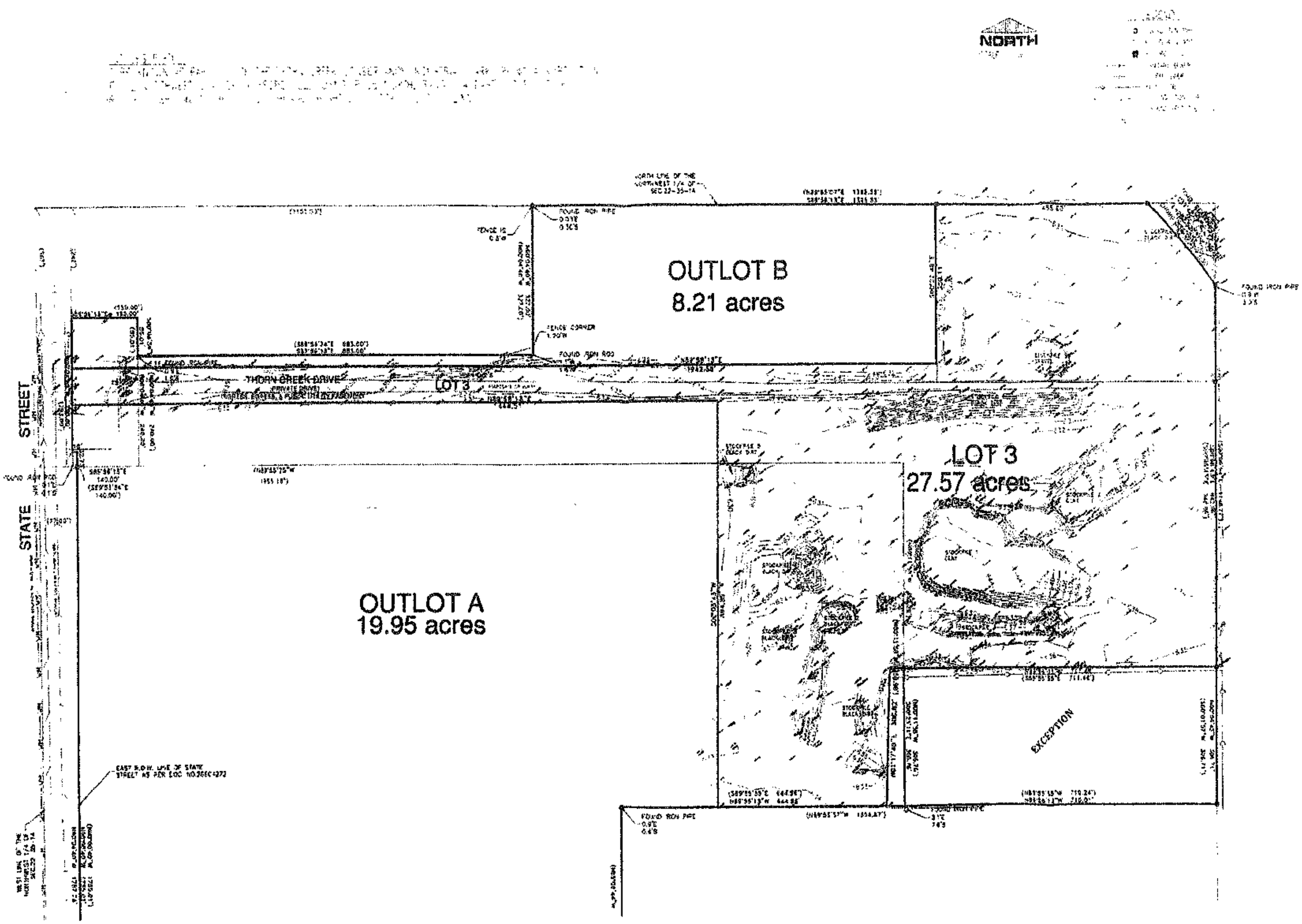
LEGEND

MFG Manufacturing
TP Trailer Park
(Not Zoned Residential)

EXISTING TOPOGRAPHIC SURVEY

LOT 3 THORN CREEK CONSERVANCY INDUSTRIAL PARK

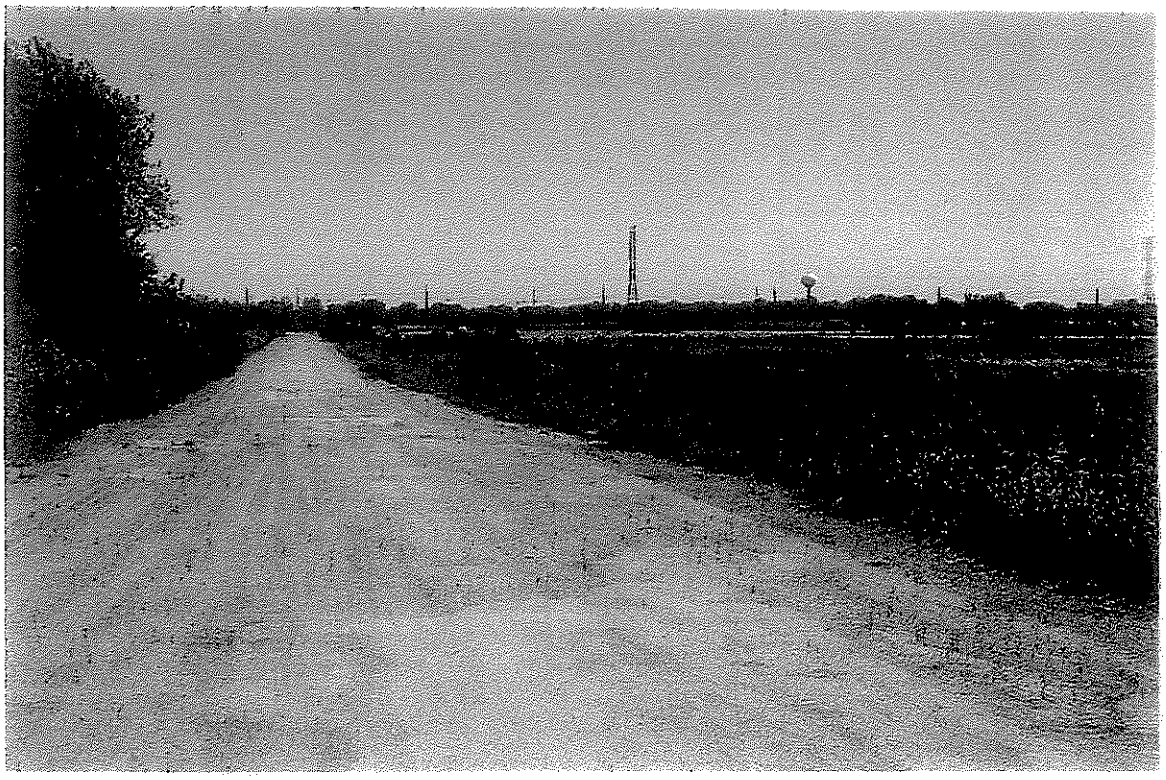
CHICAGO HEIGHTS, ILLINOIS



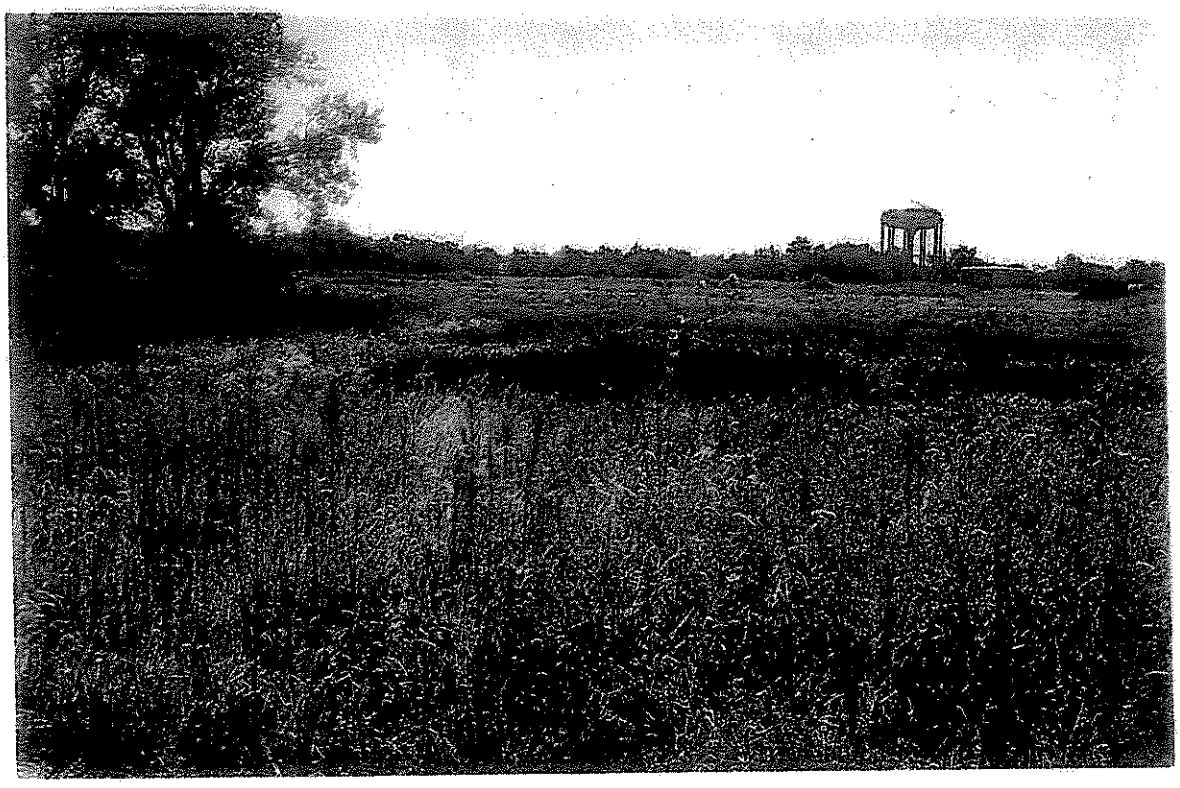
M. GINGERICH, GEREAUX & ASSOCIATES
ENGINEERING * PLANNING * SURVEYING
240 N. Industrial Drive
Bradley, Illinois 60915
815-939-4921
FAX : 815-939-9610

FIELD SURVEY WORK COMPLETED ON 03-18-09

1.1



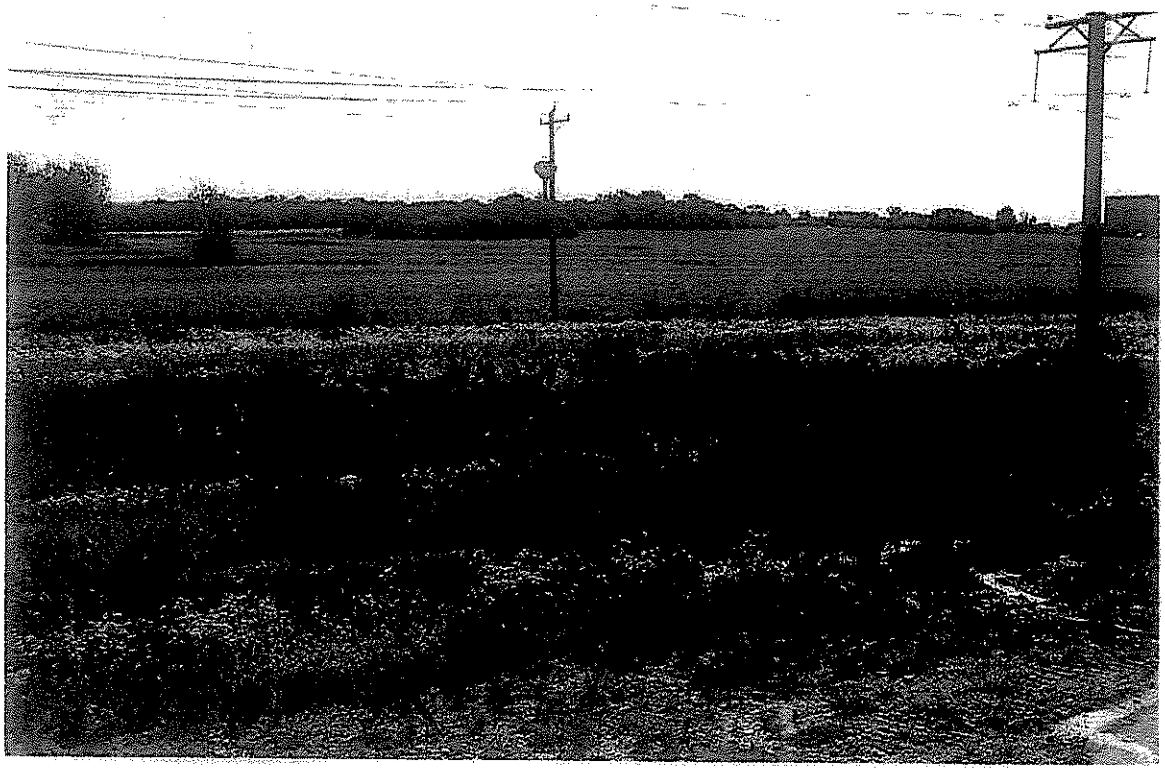
1.) View West to East along 1/4 mile line access road to the project site.



2.) View North to South of wet lands & native vegetation between State Street and Project site.

3.) View East to West across project site.

4.) View East to Northwest across project site.



5.) View East from property. The land is uncultivated pasture farmland to Cottage Grove1/2 mile away.

6.) View North to South along East side of project site with the large auto scrap yard at the property South border in site.