321-A-5 2008-0014

569 Riverside St.

Metal Recycling Facility

Prolerized New England

add to Spreadsheet

The following narrative and the attached resumes are provided to demonstrate that the Prolerized New England team has the technical capacity to construct and operate the facility in accordance with all applicable regulations.

1. Company Experience

Founded in 1906, Schnitzer Steel Industries, Inc. ("Schnitzer Steel" or "Schnitzer"), headquartered in Portland, Oregon, is currently one of the nation's largest recyclers of ferrous and nonferrous metals, a leading recycler of used and salvaged vehicles and a manufacturer of finished steel products.

Schnitzer provides an end of life cycle solution for a variety of products through its vertically integrated businesses, including processing auto bodies and other metal products, resale of used auto parts and manufacturing scrap metal into finished steel products.

2. Overview of the Metal Recycling Business of Schnitzer Steel

The Metal Recycling Business ("MRB") of Schnitzer Steel buys, collects, processes recycles, and sells, trades, and brokers recycled ferrous metals to both domestic and export markets. MRB processes large pieces of scrap metal into smaller pieces by sorting, shearing, shredding torching and baling resulting in metal processed into pieces the size, density and purity required by customers to meet their production needs. Smaller, more homogeneous pieces of processed metal have more value because they melt more easily than larger pieces and, in the case of ferrous metals, more completely fill a steel mill's furnace charge bucket, which results in lower energy usage and shorter cycle times, thus redacting costs.

One of the most efficient ways to process and sort recycled metals is to use shredding systems. Currently, each of Schnitzer's Everett, MA; Portland, OR; Oakland, CA; and Tacoma, WA facilities has a mega-shredder capable of processing over 2500 tons of metal per day. Mega-shredders are designed to provide a denser product, and, in conjunction with new separation equipment, a more refined and preferable form of ferrous which can be more efficiently used by steel mills. The larger shredders are also able to accept more types of material, resulting in more efficient processing. Shredders can reduce autobodies, home appliances, and other metal into fist size particles of shredder recycled metal in seconds. The shredded material is then carried by conveyor under magnetized drums that attract the recycled ferrous metal and separate it form the non ferrous metal and other residue found in the shredded material, resulting in a relatively pure and clean shredded ferrous product. The remaining nonferrous metal and residue then pass through a series of mechanical and manual sorting systems that are designed to separate the nonferrous metal from the residue. The remaining nonferrous metal is either hand sorted and/or graded before being sold.

3. Our Experience in Constructing and Operating Metal Processing Facilities

Schnitzer Steel has 100 years experience in the scrap recycling business and continues to expand and acquire facilities, including "feeder yards." Various feeder yards are located within a radius of a mega-shredder to purchase nonferrous and ferrous material to deliver to the mega-shredder for processing. These feeder yards buy material, condense it for shipping and ship to the mega-shredder in the area. The metal processing facility proposed for Riverside Street is one such "feeder yard."

Schnitzer has constructed and/or operated dozens of metal sorting facilities or feeder yards throughout the United States. Through its many years of operation, Schnitzer has developed an experienced and competent team to design, construct and operate the proposed facility.

John Ghiringhelli, principal of Ghiringhelli Consulting, is the Managing Project Engineer for the Riverside Street facility. John brings a vast array of engineering and construction experience to the job, performing as project engineer on many multi-million dollar energy and construction projects over the past twenty years. Most recently, he engineering and constructed the multi million dollar shredder facility in Everett, Massachusetts, and has an intimate understanding of the needs and operations of the scrap metal industry.

Jeanne Schmeichel is Schnitzer's Regional Manager of Environmental Programs. Jeanne has over 30 years experience in Environmental Engineering and Management in the New England area. She has worked in the metals recycling business for six years and brings a combination of engineering experience and compliance management. Jeanne will be responsible for the environmental aspects of permitting, constructing, and operating the new facility.

Patrick Murphy is the General Manager of Maine Metals in Auburn, Maine and is the current manager of the Finkelman yard of New England Metal Recycling LLC (also a subsidiary of Schnitzer Steel) in the Bayside neighborhood of Portland. Under his leadership, the Finkelman yard has significantly increased its efficiency and production in the past months. Pat has nearly twenty years of experience in all levels of metal recycling. Pat will be assuming the position of General Manager for the Riverside facility.

Carl Beal, Senior Project Engineer of Civil Consultants in South Berwick, Maine, is the Civil Engineer for the project, responsible for overall design and creation of the plans for the facility, and for coordinating the permit applications and supporting studies and documentation. Carl has over twenty-five years of experience in the civil and environmental disciplines, including in the design, permitting, and management of large construction projects.

Immediately following are the resumes of the key personnel involved in the development, construction and management of the Riverside Street new feeder facility.

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Project Team

Prolerized New England Company LLC
Dave Murphy
Jeanne Schmeichel
John Ghiringhelli

CIVIL CONSULTANTS
Carl V. Beal, P.E.

PERKINS/THOMPSON
Hope Creal Jacobsen

Project Subconsultants

R.W. Gillespie & Associates Inc.
Geotechnical Investigation, Environmental Baseline Monitoring, Phase 0 Archaeological Assessment

Gorrill-Palmer Consulting Engineers, Inc.
Traffic Impact Study

Woodburn & Company
Landscape Design

Epsilon Associates
Noise Impact Study

Woodlot Alternatives, Inc.
Wetlands Delineation

Albert Frick Associates, Inc.
High Intensity Soil Survey

Electrical Design Consultants
Site Electrical / Lighting Design

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MEMORANDUM

TO: **Maine Department of Environmental Protection (MeDEP)**

SUBJECT: **Solid Waste Processing Facility Permit Application, Section 409**

FROM: **CIVIL CONSULTANTS, Carl V. Beal, P.E.**

PROJECT: **Prolerized New England Company, LLC, Portland, Maine (06-769-00)**

DATE: **January 29, 2008**

Following is a listing of required permits.

• Maine Department of Environmental Protection (MeDEP) Solid Waste Processing Facility Permit
• City of Portland Site Plan Approval
• City of Portland Scrap Metal Recycling Permit
• City of Portland Building Permit

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WOODLOT ALTERNATIVES, INC.
ENVIRONMENTAL CONSULTANTS

March 19, 2007

Carl Beal
Civil Consultants
P.O. Box 100
293 Main Street
South Berwick, ME 03908

Subject: **Wetland Delineation of Proposed Scrap Metal Recycling Facility**
Riverside Street, Portland, Maine

Dear Carl:

As requested, on December 11, 2006, Woodlot Alternatives, Inc. (Woodlot) completed a wetland delineation at the 15-acre site of a proposed scrap metal recycling facility on Riverside Street in Portland, Maine. Because field work was completed between November 15, 2006, and April 15, 2007, wetland boundaries should be verified during the growing season. Wetland boundaries were determined using the technical criteria established by the U.S. Army Corps of Engineers (Corps) and the Maine Department of Environmental Protection (MDEP). Wetland boundaries were marked with numbered flagging and located with a Global Positioning System (GPS) Trimble® Pro-XR receiver. GPS data were then used to produce the attached wetlands map. Copies of the original field notes and site photographs are available upon request.

Site Description

The subject property is located in an industrial area west of Riverside Street in Portland, Maine. The property has been altered over time due to various uses of the land, including for farming and commercial and industrial uses. The northeastern portion of the property was previously a nursery and garden center and still contains the remnants of a small ornamental garden pond. This area has reverted to field with scattered trees. The central portion of the property consists of a large area used to store fill materials and wood chips. This area has recently been graded and now consists of level exposed soil. One large fill pile remains in the eastern portion of this area. The western portion of the property slopes steeply down to the floodplain of the Presumpscot River. This slope appears to be at least partially man-made. The steepest section of this slope is located in the northwestern portion of the property, and there has been some recent slope failure in this area. An erosion control berm has been constructed along the length of the base of the slope. The age of this berm appears to vary, with the portions of the berm to the south being more recently constructed. A former farm house is located in the south central portion of the property, and fields extend from near this house south and east towards Riverside Street and a small stream. Soils across the upland portions of the property consist of sandy fill materials.

30 Park Drive Topsham, Maine 04086 Phone 207-729-1199 Fax 207-729-2715

Wetland and Stream Descriptions

Woodlot identified six freshwater wetlands on the property (see attached figure). These are further described below.

Wetland 1

Wetland 1 consists of a small wetland swale and former garden pond that was associated with the nursery that was previously on-site. The wetland swale contains scattered willow (*Salix* sp.), jewelweed (*Impatiens capensis*), and purple loosestrife (*Lythrum salicaria*). Soils in this wetland swale consist of sandy loams (i.e., the former fill) that were saturated at the time of the site visit. Just east of this swale and connected by a plastic PVC pipe is a small former garden pond dominated by common cattail (*Typha latifolia*). The small pond is lined with gravel/cobble and has an old electrical conduit running to it that was likely used for a pump or fountain. Although this wetland meets the technical criteria established by the Corps and the MDEP, it was constructed in an area that appears to have been previously upland. A site walk with MDEP and the Corps is recommended to determine if they would consider this wetland jurisdictional.

Wetland 2

Wetland 2 is a constructed ditch adjacent to an access drive on the property and the large fill pile. Dominant vegetation in this wetland swale includes purple loosestrife, common cattail, willow, woolgrass (*Scripus* sp.), reed canarygrass (*Phalaris arundinacea*), and soft rush (*Juncus effusus*). Soils in this wetland swale consist of sandy loams (i.e., the former fill) that were saturated at the time of the site visit. This wetland was created to provide drainage around the fill pile and access road in an area that was likely upland. Similar to Wetland 1, while this wetland meets the technical criteria established by the Corps and the MDEP, a site walk with both agencies is recommended to determine if they would consider this wetland jurisdictional.

Wetland 3

Wetland 3 consists of a series of small wetlands created by construction of the erosion control berm at the base of the steep slope. These wetlands are dominated by herbaceous vegetation with scattered shrubs. Common wetland plants include purple loosestrife, common cattail, northern water-plantain (*Alisma triviale*), common reed (*Phragmites australis*), woolgrass, soft rush, willow, reed canarygrass, devil's beggar ticks (*Bidens frondosa*), and toad rush (*Juncus* cf. *bufonius*). Soils in this wetland swale consist of sandy loams (i.e., the former fill) that were saturated at the time of the site visit. Similar to Wetlands 1 and 2, while these wetlands meet the technical criteria established by the Corps and the MDEP, a site walk with both agencies is recommended to determine if they would consider these wetlands jurisdictional.

Wetland 4

Wetland 4 is a small area of wet meadow habitat south of the farmhouse. Dominant herbaceous species in this wetland include common cattail, soft rush, purple loosestrife, woolgrass and devil's beggar ticks. Soils in this wetland swale consist of sandy loams that were saturated at the time of the site visit.

Wetland 5

Wetland 5 is a stream-associated wetland that extends from Riverside Street northwest to the Presumpscot River. This wetland contains a mix of palustrine forested (PFO) and palustrine scrub-shrub (PSS) wetland. An MDEP-defined stream is located in the wetland. This stream has a well-defined channel with a silty substrate. Water quality appears poor as evidenced by iron staining and brown films.

Dominant trees in the associated wetland include red maple (*Acer rubrum*) and ash (*Fraxinus sp.*). Speckled alder (*Alnus incana*), willow, multifloral rose (*Rosa multiflora*), and meadowsweet (*Spiraea alba*) are common shrubs. Herbaceous vegetation includes sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), rough stemmed goldenrod (*Solidago rugosa*), and purple loosestrife. Soils in this wetland consist of silty loams that were saturated during the site visit.

Wetland 6

Wetland 6 is a large wet meadow located along the northwestern boundary of the property. Dominant vegetation in this wetland includes purple loosestrife, common cattail, willow, sensitive fern, soft rush, woolgrass, and narrow-leaved goldenrod (*Euthamia graminifolia*). Soils in this wetland consist of silty loams that were saturated during the site visit.

State and Federal Wetland Regulations

The MDEP and the Corps regulate the wetlands identified within the project area. Under the provisions of Section 404 of the Clean Water Act, the Corps regulates activities within waters of the United States, which include navigable waters and all their tributaries, adjacent wetlands, and other waters or wetlands where degradation or destruction could affect interstate or foreign commerce. The Corps has issued a Programmatic General Permit (PGP) for the State of Maine that merges the federal and state permit review process for many projects. In Maine, wetlands and waterbodies, as well as other protected natural resources, are regulated under M.R.S.A. 38 §§ 480A-480Z, the Natural Resources Protection Act (NRPA).

Projects that do not impact a wetland or projects that impact less than 4,300 square feet of wetland are usually exempt from the NRPA Tier permitting requirements. This exemption does not apply if the impact is: 1) in, on, or over a coastal wetland, great pond, river, stream, or brook; 2) within 25 feet of those resources, or is more than 25 feet and no erosion control is used; 3) in a shoreland zone or a wetland protected by the shoreland zone; 4) part of a wetland with more than 20,000 square feet of open water or emergent vegetation, except artificial impoundments; 5) in peatland; 6) part of a larger project; 7) in a Federal Emergency Management Agency (FEMA) 100-year flood zone; or 8) in Significant Wildlife Habitat. Typically, projects with cumulative impacts to freshwater wetlands between 4,300 and 15,000 square feet are eligible for review under the Tier 1 process. The Tier 2 review process applies to alterations that affect between 15,000 and 43,560 square feet (i.e., 1 acre) of freshwater wetlands. Cumulative freshwater wetlands impacts that exceed 1 acre typically require a Tier 3 review. Impacts to *Wetlands of Special Significance*, rivers, streams and brooks, great ponds, and Significant Wildlife Habitat typically require an Individual Permit. Based on Woodlot's field survey, *Wetlands of Special Significance* would include portions of Wetland 5 that are within 25 feet of the MDEP-defined stream. In addition, any wetlands mapped within the FEMA 100-year flood zone would be considered *Wetlands of Special Significance*. Because this property has been significantly altered in the past, a review of any NRPA permits issued to past landowners should be completed. Additional wetland impacts as part of this project could be considered cumulative with any past permitted wetland fill.

Full identification of *Wetlands of Special Significance* involves contacting natural resource agencies such as the Maine Natural Areas Program (MNAP), the Maine Department of Inland Fisheries and Wildlife (MDIFW), the Maine Department of Environmental Protection (MDEP), and the Maine Historic Preservation Commission (MHPC) to determine if there are any known rare species or features at the site. According to the MDIFW fishery biologist, there are no known threatened or endangered fish species or habitat in the vicinity of the project area. MNAP states that there are no rare botanical features documented specifically within the project area. According to the MDEP, there are no areas of significant

wildlife habitat regulated under the NRPA within the project area. The MHPC stated that the project area is sensitive for prehistoric archaeological sites and recommends a Phase I archaeological survey to determine whether such sites are present. The response from the MDIFW wildlife biologist is pending and will be forwarded upon receipt.

Local Wetland Regulations

The City of Portland (City) Scrap Metal Recycling Facilities Code of Ordinances Chapter 31 Sec. 31-1 Rev. 7-19-06 provides the following definition of a wetland.

> *Wetland:* is any land area of five or more acres characterized by wetland soils (Vassalboro, Togus, Rifle or Biddeford Fibrous or Mucky Peats; Ridgebury, Scantic or Limerick V.S.T.F. sandy loams or silts; or Saco soils); wetland vegetation (plum grass, cutgrass, carex, cattails, arrowheads, pickerel weeds, cranberries, wild rice, pond weeds, coontail, spatterdock, wild celery, water milfoil, water lilies, sphagnum moss, etc.); a high water table less than 6" from surface; or any land area mapped as wetlands by the Maine Department of Environmental Protection, the Maine Department of Conservation, or the Maine Department of Inland Fisheries and Wildlife.

Wetlands 5 and 6 appear to be over five contiguous acres and therefore meet the City's wetland definition. Woodlot recommends consultation with the City's Natural Resource Planner or Code Enforcement Officer to determine what restrictions would be placed on proposed activities within the project area.

Please contact our office if you have questions related to the information presented in this report or if we can be of further assistance.

Sincerely,
Woodlot Alternatives, Inc.

Michael Johnson

Michael Johnson
Wetland Scientist

Enclosure: Figure 1, Wetland Delineation Map
Agency correspondence

WAI PN 106253.01

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JOHN ELIAS BALDACCI
GOVERNOR

EARLE G. SHETTLEWORTH, JR.
DIRECTOR

January 10, 2007

Jessica Haider
Woodlot Alternatives, Inc.
30 Park Drive
Topsham, ME 04086

Project: MHPC #3070-06 - proposed scrap metal recycling facility; Riverside Street
Town: Portland, ME

Dear Ms. Haider:

In response to your recent request, I have reviewed the information received December 19, 2006 to initiate consultation on the above referenced parcel in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Based on the information provided, I have concluded that the entire project area is sensitive for prehistoric archaeological sites. A Phase I archaeological survey will be necessary to determine whether such sites are present.

A list of qualified archaeologists is enclosed along with material explaining the Phase I/II/III approach to archaeological survey. This office must approve any proposal for archaeological fieldwork. Please contact Dr. Art Spiess of my staff if we can be of further assistance in this matter.

Sincerely,

Earle G. Shettleworth, Jr.
State Historic Preservation Officer

enc:

PHONE: (207) 287-2132

FAX: (207) 287-2335

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE

JOHN ELIAS BALDACCI
GOVERNOR

EARLE G. SHETTLEWORTH, JR.
DIRECTOR

Prehistoric Archeologists Approved List: Review and Compliance Consulting/Contracting (Active)

July 12, 2006

LEVEL 1

Ms Edna Feighner (207-879-9496)
NH Division of Historical Resources
PO Box 2043
Concord NH 03302-2043
Efeighner@NHCHR.state.nh.us

Mr. Michael Brigham (207-778-7012)
Archaeology Research Center
University of Maine at Farmington
139 Quebec St
Farmington ME 04938
brigham@maine.edu

Mr Brian Valimont (207-251-9467)
New England Archaeology Co LLC
117 Cat Mousam Rd
Kennebunk ME 04043
newarch1@verizon.net

Richard Will (207-667-4055)
TRC/Northeast Cultural Resources
71 Oak St
Ellsworth ME 04605
FAX: 207-667-0485
willarc@acadia.net

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139 Quebec St
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Dr Bruce J Bourque (207-287-3909)
Maine State Museum
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Dr Nathan Hamilton (207-780-5324)
Dept of Geography & Anthropology
University of Southern Maine
Gorham ME 04038

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GeraldineBaldwin@aol.com

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LEVEL 2

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Dr Leslie Shaw (207-725-3815)
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Dr Stuart Eldridge (207-879-9496)
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seldridge@neamaine.com

Dr Victoria Bunker (603-776-4306)
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vbi@worldpath.net

David Putnam (207-762-5078)
47 Hilltop Rd
Chapman ME 04757
qaavik@ainop.com
putnamd@umpi.maine.edu

Dr Steven L Cox (207-342-7790)
57 Ghent Rd
Searsmont ME 04973
stevencox@fairpoint.net

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

ANGUS S. KING, JR.
GOVERNOR

EARLE G. SHETTLEWORTH, JR.
DIRECTOR

CONTRACT ARCHAEOLOGY GUIDELINES

June 10, 2002

This document is provided as background information to agencies, corporations, professional consultants or individuals needing contract archaeological services (also known as Cultural Resources Management archaeology) in Maine. These guidelines are based on state rules (94-089 Chapter 812).

Finding an Archaeologist

At the time that MHPC issues a letter requiring archaeological survey work, MHPC will also supply one (or more) lists of archaeologists (Levels 1 and/or 2, historic or prehistoric) appropriate to the type of work (Phase I, II, III, historic or prehistoric). **Archaeologists on the Level 2 Approved Lists can do projects of any level, including Phase I archaeological survey projects.** Level 1 archaeologists are restricted to doing Phase I surveys, and certain planning projects for municipal governments.

MHPC maintains lists of archaeologists interested in working in different geographic areas of Maine, and those who are qualified in different types of work. The archaeologists themselves indicate their availability (except for short-term absence) to MHPC on a periodic basis, so archaeologists on the list can be expected to respond to inquiries. The applicant should solicit proposals or bids for work from archaeologists whose names appear on the list supplied by MHPC.

These archaeologists' names are taken from lists of archaeologists approved for work in Maine by MHPC under a set of rules establishing minimal qualifications, such as previous supervisory experience in northern New England, and an appropriate graduate degree. *However, the inclusion of an archaeologist on one of these lists should not be interpreted as an endorsement by the MHPC beyond these limited qualification criteria. Moreover, the MHPC cannot recommend the services of an individual archaeologist.*

Project Types

The vast majority of contract archaeology survey work falls into one of three categories. **Phase I** surveys are designed to determine whether or not archaeological sites exist on a particular piece of land. Such work involves checking records of previous archaeology in the area, walking over the landscape to inspect land forms and look for surface exposures of soil and possible archaeological material, and the excavation of shovel test pits in areas of high probability.

Phase II surveys are designed to focus on one or more sites that are already known to exist, find site limits by digging test pits, and determine site content and preservation. Information from Phase II survey work is used by the Maine Historic Preservation Commission (MHPC) to determine site significance (eligibility for listing in the National Register of Historic Places). **Phase III** archaeological work, often called data recovery, is careful excavation of a significant archaeological site to recover the artifacts and information it contains in advance of construction or other disturbance.

Archaeological sites are further divided into two broad categories of culture, **prehistoric** (or Native American), and **historic** (or European-American). Different archaeological specialists are usually needed for prehistoric or historic sites because the nature of content and preservation and site locations are quite different.

Scope of Work

In responding to a project submission, the MHPC may issue a letter specifying which type of archaeological survey is needed (prehistoric, historic or both) and at what level (Phase I, II, or III). Often the response letter contains further information, such as the suspected presence of an historic site of a certain age, or a statement that only a portion of the project parcel in question is sensitive for prehistoric sites and only that portion needs archaeological survey.

Once the project applicant has one or more scopes of work (proposals) from appropriate archaeologists (see below), the applicant should submit their preferred proposal *(without attached financial information or bid total)* to the MHPC for approval. MHPC will not comment upon cost, but will comment on the appropriateness of the scale and scope of the work. An approval from MHPC of the scope of work is the applicant's guarantee that, if the field and laboratory work are done according to the scope, and appropriately described in writing, the results will be accepted by MHPC.

The final written report on the project must also be submitted to MHPC for review and comment.

Project Final Report

Whatever the archaeological survey result, a final report on the project should be submitted by the applicant to the MHPC. The MHPC will review the report, and issue further guidance or issue a "clearance" letter for the project.

Maine Department of Inland
Fisheries and Wildlife
358 Shaker Road
Gray, Maine 04039

Telephone: 207-657-2345 ext.113
Fax: 207-657-2980
Email: brian.lewis @maine.gov

John Elias Baldacci, Governor

Roland Martin, Commissioner

January 9, 2007

Jessica Haider
30 Park Drive
Topsham, Maine 04086

RE: 15 acres, Riverside Street, Portland

Dear Jessica Haider,

I have reviewed your request for fishery resource information, and there are no known threatened/endangered fish species or habitat in the vicinity of the proposed project. However, the Presumpscott River flows near the parcel in question and should be protected with an adequate undisturbed buffer. Our regional riparian buffer policy is outlined below.

Stream systems are vulnerable to environmental impacts associated with increased development and encroachment. If present, this project should be sensitive to these resource issues by including provisions for riparian buffers and minimizing any other potential stream impacts. Our regional buffer policy requests 100 foot undisturbed buffers along both sides of any stream or stream-associated wetlands. Buffers should be measured from the upland wetland edge of stream-associated wetlands, and if the natural vegetation has been previously altered then restoration may be warranted. This buffer requirement improves erosion/sedimentation problems; reduces thermal impacts; maintains water quality; supplies leaf litter and woody debris for the system; and provides valuable wildlife habitat. Protection of these important riparian functions insures that the overall health of the stream habitat is maintained.

Stream crossings, if applicable, must include provisions for adequate fish passage, and any in-stream work needs to be done between the first of July and the first of October. Project design should minimize the number of stream crossings. If you have any additional questions or concerns then feel free to contact us.

Sincerely,

Brian Lewis
Fishery Specialist
MDIFW

Significant Wildlife Habitat Review
Riverside Street, Portland

Map Notes:
- Background hydrologic, topographic and political features are from MEGIS data layers with an accuracy of +/- 40 feet.
- All spatial data is projected to NAD 1983 UTM Zone 19.
- All spatial data is specific to Maine DEP Bureau of Land and Water Quality. Data is maintained by the Maine DEP GIS Unit.
- This map is to be used for reference purposes only and does not represent authoritative locations of displayed features.

Map Prepared By: Cindy Patterson
Maine DEP, BLWQ,
Division of Land Resource Regulation
December 27, 2006

DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF MAINE

STATE OF MAINE
DEPARTMENT OF CONSERVATION
17 ELKINS LANE
93 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0093

JOHN ELIAS BALDACCI
GOVERNOR

PATRICK K. McGOWAN
COMMISSIONER

December 22, 2006

Jessica Haider
Woodlot Alternatives, Inc.
30 Park Drive
Topsham, Maine 04086

Re: Rare and exemplary botanical features, proposed project no. 106253, 15-acre parcel on Riverside Street, Portland, Maine.

Dear Ms. Haider:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of December 18, 2006 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in the City of Portland, Maine. Rare and unique botanical features include the habitat of rare, threatened or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been

MAINE NATURAL AREAS PROGRAM
MOLLY DOGHERTY, DIRECTOR

PHONE: (207) 287-8044
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TTY: (207) 287-2213

documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $75.00 for our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Raquel Goodrich
Information Manager
93 State House Station
Augusta, ME 04333-0093
207-287-8046
Raquel.goodrich@maine.gov

Enclosures

Rare and Exemplary Botanical Features in the Project Vicinity

12/22/2006

Documented within a Four-Mile Radius of the Proposed Project No. 106253, Portland, Maine.

Scientific Name Common Name	Last Seen	Global Rarity Rank	State Rarity Rank	State Protection Status	Habitat Description
Calystegia spithamaea Upright Bindweed	2000-06-23	G4G5	S2	T	Sandy or rocky open soil, thin woods.
Carex polymorpha Variable Sedge	1911	G3	S1	E	In Maine, habitat is between downslope seeps (with horsetails and wetland sedges) and upslope mixed oak/huckleberry forest. Preferred soil type is Deerfield Loamy Sand.
Carex polymorpha Variable Sedge	1911-06-29	G3	S1	E	In Maine, habitat is between downslope seeps (with horsetails and wetland sedges) and upslope mixed oak/huckleberry forest. Preferred soil type is Deerfield Loamy Sand.
Allium canadense Wild Garlic	1918-07-16	G5	S2	SC	Alluvial woods, thickets, and meadows.
Elymus hystrix Bottlebrush Grass	1905-09-13	G5	S2S3	T	Rich, rocky, or alluvial deciduous forests.
Carex vestita Clothed Sedge	2000-06-06	G5	S1	E	Dry sandy woods and clearings

Rare and Exemplary Botanical Features in the Project Vicinity

12/22/2006

Documented within a Four-Mile Radius of the Proposed Project No. 106253, Portland, Maine.

Scientific Name Common Name	Last Seen	Global Rarity Rank	State Rarity Rank	State Protection Status	Habitat Description
Phegopteris hexagonoptera Broad Beech Fern	1872-08	G5	S2	SC	Rich, often rocky, hardwood forests.
Eleocharis engelmannii Engelmann's Spikerush	1916-08-31	G4G5Q	SH	PE	Wet sand, peat or mud
Asplenium platyneuron Ebony Spleenwort	1910-06-06	G5	S2	SC	Rich partly forested slopes, rocky ledges, and dry, circumneutral outcrops.
Potamogeton vaseyi Vasey's Pondweed	1901-08-04	G4	S2	T	Quiet muddy or calcareous waters.
Adlumia fungosa Allegheny Vine	1860-10	G4	S1	T	Wet or recently burned woods, rocky wooded slopes.
Arabis missouriensis Missouri Rockcress	1905-06-11	G5?Q	S1	T	Circumneutral bluffs, ledges or rocky woods.

Rare and Exemplary Botanical Features in the Project Vicinity

Documented within a Four-Mile Radius of the Proposed Project No. 106253, Portland, Maine.

Scientific Name / Common Name	Last Seen	Global Rarity Rank	State Rarity Rank	State Protection Status	Habitat Description
Suaeda calceoliformis American Sea-blite	1932-09-12	G5	S1	T	Rocky or gravelly saltmarshes and sea-strands.
Potamogeton pulcher Spotted Pondweed	1995-10-01	G5	S1	T	Peaty or muddy acid waters or shores.
Pannichellia palustris Horned Pondweed	1913-09-13	G5	S2	SC	Fresh, brackish or alkaline waters, and stream edges.
Pedicularis pedicularia Fern-leaved False Foxglove	1902-09-02	G5	S3	SC	Dry deciduous woods and clearings.
Polygala cruciata var. aquilonia Marsh Milkwort	1903-08-18	G5T4	SH	PE	Wet pinelands, savannas, peats, and sands.
Lobelia siphilitica Great Blue Lobelia	1905-09	G5	SX	PE	Rich low woods and swamps

WOODLOT ALTERNATIVES, INC.
ENVIRONMENTAL CONSULTANTS

April 20, 2007

Carl Beal
Civil Consultants
P.O. Box 100
293 Main Street
South Berwick, ME 03908

Subject: **Addendum to the Wetland Delineation of Proposed Scrap Metal Recycling Facility Riverside Street, Portland, Maine**

Dear Carl:

As requested, on April 19, 2007, Woodlot Alternatives, Inc. (Woodlot) attended a site walk with Dawn Hallowell [Maine Department of Environmental Protection (MDEP)] of the 15-acre site of a proposed scrap metal recycling facility on Riverside Street in Portland, Maine. The purpose of the visit was to determine whether some of the disturbed wetland areas identified by Woodlot during the December 2006 wetland delineation would be considered jurisdictional wetlands by MDEP. Woodlot's delineation report from the December work is dated March 19, 2007. Please refer to this report for wetland descriptions and map.

Based on the site walk, Ms. Hallowell determined that MDEP would not consider Wetlands 1 and 2 to be jurisdictional wetlands. Both wetlands have been created in upland areas. Wetland 1 is the remnant of a small garden pond and swale associated with a former greenhouse on the property. Wetland 2 is a ditch adjacent to the access drive to the property. Because both these features and wetlands are being maintained, they are not considered jurisdictional by MDEP. Wetland 3 has also been created by human activity and is associated with a containment berm on the property. Because the wetland associated with the berm is not being maintained, it would be considered jurisdictional by MDEP.

Please contact our office if you have questions related to the information presented in this report or if we can be of further assistance.

Sincerely,
Woodlot Alternatives, Inc.

Michael Johnson

Michael Johnson
Wetland Scientist

WAI PN 106253.01

30 PARK DRIVE TOPSHAM, MAINE 04086 PHONE 207-729-1199 FAX 207-729-2715

R. W. Gillespie & Associates, Inc.
Geotechnical Engineering • Geohydrology • Materials Testing Services

September 13, 2007

Mr. Carl V. Beal, P.E.
Civil Consultants, Inc.
P.O. Box 100
South Berwick, Maine 03906

Subject: Summary of "Phase 0" Prehistoric Walkover Survey Observations
Proposed Scrap Metal Recycling Facility - Riverside Street
Portland, Maine
MHPC #3070-06
RWG&A Project No. 427-42.ENV

Dear Mr. Beal:

As requested, and as a follow-up to the project review letter issued by the Maine Historic Preservation Commission (MHPC) for the above subject project (see copy contained in Appendix A), R.W. Gillespie & Associates, Inc., (RWG&A) in association with archaeologist Nathan D. Hamilton, Ph.D., conducted a "Phase 0" prehistoric walkover survey of the project site. Our observations and comments are summarized below based upon our understanding of the project, field reconnaissance, review of project plans and maps, and MHPC correspondence.

Background

A Phase 0 archaeological assessment of the proposed scrap metal recycling facility property (MHPC #3070-06) was conducted on March 29, 2007, by the archaeological survey team consisting of Principal Investigator Nathan D. Hamilton, Ph.D. accompanied by archaeologists Robert Proctor and Kevin Clark. The USGS 7.5 minute topographic map adapted as Figure 1, *Locus Map*, illustrates the project location. The Maine Historic Preservation Commission (MHPC) in their letter dated January 10, 2007, requested a Phase I prehistoric archaeological survey be conducted at the site (see copy in Appendix A) to evaluate the potential for prehistoric site sensitivity.

As shown on the *Existing Conditions Map* adapted as Figure 2, the subject site to be redeveloped as a metal recycling facility is a portion of a larger parcel currently owned by the City

200 International Dr., Ste 170
Portsmouth, NH 03801
603-427-0244 • Fax 603-430-2041

Corporate Office
86 Industrial Park Rd., Ste 4
Saco, ME 04072
207-286-8008 • Fax 207-286-2882
www.rwgillespie.com

P.O. Box 289
Augusta, ME 04344
207-623-4914 • Fax 207-623-3429

of Portland, but previous occupied by Lucas Tree Experts. Activities associated with Lucas Tree's use of the property resulted in adverse environmental impacts to be addressed via the Maine Department of Environmental Protection's (DEP) Voluntary Remedial Action Program (VRAP) or the U.S. Environmental Protection Agency's (EPA) Portland Brownfield's initiatives; impacts are associated with treatment and storage of utility poles with pentachlorophenols (subject parcel) as well as use of on-premises greenhouses and underground storage tanks (abutting land).

According to knowledgeable employees of a local construction firm, the subject parcel was extensively filled in the past, particularly at the west end of the property, to create suitable uplands for industrial use. Placement of uncontrolled fill materials at the site was confirmed by our visual site reconnaissance and RWG&A's concurrent geotechnical investigations. Subsurface conditions encountered during the geotechnical investigation consisted of fill underlain by naturally deposited silty sand over stiff silty clay (fine grain facies of the glaciomarine Presumpscot Formation). Fill was encountered in ten geotechnical test pits and was composed of a mixture of silty sand, silty clay, topsoil, and rubble (i.e., miscellaneous brick, rock, and/or concrete pieces). Wood and other organic material was encountered in the fill in four of the test pits. The fill extended to depths of 3 to more than 11 feet below current ground surface. The bedrock surface was not encountered to the depths explored. (The description of the nature and extent of on-site fill placement was consistent with information provided to our office by the local construction company informant.)

Phase 0 Prehistoric Survey

The Phase 0 archaeological assessment of the proposed Schnitzer Steel Industries, Inc., scrap metal recycling facility at Riverside Street included walkover observations and photographic documentation of the property from the existing road and parking area. In addition, the archaeological survey team examined the perimeter of the project site and the small tributaries to the Presumpscot River located in the project vicinity.

Near the access road is an existing residential structure (unoccupied) that is adjacent to the entrance of the former Lucas Tree facility (see Photograph 1, Appendix B). This area of the property has been modified and filled with gravelly material to enable vehicle and equipment parking, utility pole treatment and storage, and similar industrial activities. Residual material stockpiles are present in some areas of the site (see Figures 2 and 3). The margin of this former upper terrace of the Presumpscot River has evidence of extensive fill placement that expanded the working surface of the land form (see Photograph 2). Several areas along the fill margin were recently cut with heavy equipment resulting in exposures documenting the ground disturbance and nature of the fill material at the top of the terrace (see Photograph 3). At the time of our site visit, the terrace margin had grown over with grass and had no obvious secondary growth of shrubs or trees. Just beyond the property boundary line are secondary growth of soft and hard woods. The trees are generally young, with less than 30 to 40 years of growth. The terrace margin is evident in

Photographs 4 and 5, just beyond the trees. Evidence of recently dumped gravel material is exposed at the terrace edge (see Photographs 5 and 6).

As illustrated on Figure 2, the proposed Schnitzer Steel scrap metal recycling facility site is bounded by a small tributary and a low terrace of the Presumpscot River. The terrace is beyond the limits of the proposed project area and walkover observations indicate flood inundation is likely to occur during spring run-off and severe precipitation events. The recent aerial photograph of the project area, adapted as Figure 3, shows site development and land use trends in the project vicinity.

Summary and Conclusions

In summary, the land form that comprises the Schnitzer Steel scrap metal recycling site has undergone extensive surface disturbance and fill placement. Lucas Tree Experts formerly used the land form and adjacent properties for treatment and storage of wood, chipping operations, and the like. No intact surficial deposits are reasonably accessible for Phase I testing. Based on our Phase 0 evaluations, we conclude no Phase I testing to address prehistoric site sensitivity is warranted for the proposed Schnitzer Steel scrap metal recycling facility on Riverside Street in Portland.

Closure

We appreciate the opportunity to be of assistance to you on this project, and we look forward to a continuing relationship. Following your internal review, it is recommended that one copy of this report be forwarded to the MHPC in support of the project for their review and approval. If you have any questions, please contact Cynthia Thayer, C.G., at R.W. Gillespie & Associates, Inc., in Saco.

Very truly yours,
R.W. GILLESPIE & ASSOCIATES, INC.

Nathan D. Hamilton /cat

Nathan D. Hamilton, Ph.D.
Archaeological Consultant

Cynthia A. Thayer

Cynthia A. Thayer M.S., C.G.
Chief Geohydrologist/Geoarchaeologist

NDH/CAT:ci
In five copies
Attachments

G:\PROJECTS\0400\0427\0427-042\Reports\2007-09Phase0 Arch.wpd

Source: Figure adapted from Maine Office of GIS 2007 image acquired by RWG&A from Google Maps www.google maps.com

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering • Geohydrology • Materials Testing Services

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W E
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Figure 3 – Aerial Photograph
Phase 0 Archaeological Survey
Proposed Metal Recycling Facility
Portland, Maine

RWG&A Project No. 427-42

Sept. 2007

APPENDIX A

MHPC CORRESPONDENCE

Summary of "Phase 0" Prehistoric Walkover Survey Observations
Proposed Scrap Metal Recycling Facility - Riverside Street
Portland, Maine
MHPC #3070-06

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JOHN ELIAS BALDACCI
GOVERNOR

EARLE G. SHETTLEWORTH JR.
DIRECTOR

January 10, 2007

Jessica Haider
Woodlot Alternatives, Inc.
30 Park Drive
Topsham, ME 04086

Project: MHPC #3070-06 - proposed scrap metal recycling facility; Riverside Street
Town: Portland, ME

Dear Ms. Haider:

In response to your recent request, I have reviewed the information received December 19, 2006 to initiate consultation on the above referenced parcel in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Based on the information provided, I have concluded that the entire project area is sensitive for prehistoric archaeological sites. A Phase I archaeological survey will be necessary to determine whether such sites are present.

A list of qualified archaeologists is enclosed along with material explaining the Phase I/II/III approach to archaeological survey. This office must approve any proposal for archaeological fieldwork. Please contact Dr. Art Spiess of my staff if we can be of further assistance in this matter.

Sincerely,

Earle G. Shettleworth, Jr.
State Historic Preservation Officer

enc:

PHONE: (207) 287-2132

FAX: (207) 287-2335

APPENDIX B

PHOTODOCUMENTATION

Summary of "Phase 0" Prehistoric Walkover Survey Observations
Proposed Scrap Metal Recycling Facility - Riverside Street
Portland, Maine
MHPC #3070-06

Photograph 1. General view across the entrance to the proposed Schnitzer Steel scrap metal recycling facility on Riverside Street. The late 19th century farm house with addition is located just west of the entrance*(NDH/RWG&A March 29, 2007)*

Photograph 2. General view of the filled margin of the upper terrace at the proposed Schnitzer Steel scrap metal recycling facility. The softwood trees to the left are just beyond the property boundary and the Presumpscot River just beyond the hard wood trees at center. The photo faces north *(NDH/RWG&A March 29, 2007).*

Photograph 3. General view of cut and eroded portion of the upper terrace margin at the proposed Schnitzer Steel scrap metal recycling facility on Riverside Street. The photo faces east (NDH/RWG&A March 29, 2007).

Photograph 4. General view of the elevated terrace margin from the wooded area adjacent to the river at the proposed Schnitzer Steel scrap metal recycling facility on Riverside Street. The photo faces northeast and composites with Photos 5 and 6 to create a panoramic view of the terrace (NDH/RWG&A March 29, 2007).

Photograph 5. General view of the elevated terrace margin from the wooded area adjacent to the river at the proposed Schnitzer Steel scrap metal recycling facility. The recent fill and exposed deposits are apparent on the right half of the image. The photo faces east and composites with Photo 4 to the left and Photo 6 to the right (NDH / RWG&A March 29, 2007).

Photograph 6. General view of elevated terrace margin from the wooded area adjacent to the river at the proposed Schnitzer Steel recycling facility on Riverside Street. The recent fill and eroded deposits are apparent in the background on the left half of the photo. The exposed area in Photo 2 is evident at the terrace edge. The photo faces southeast and composites with Photos 4 and 5 to the left (NDH/RWG&A March 29, 2007).

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
95A County Road Gorham, Maine 04038
(207) 839-5563 FAX (207) 839-5564

Albert Frick, SS, SE
James Logan, SS, SE
Matthew Logan, SE
Brady Frick, SE
Bryan Jordan, SE
William O'Connor, SE

N/F LUCAS TREE PROPERTY
(SCHNITZER STEEL)
Riverside Street
Portland, Maine

SOIL NARRATIVE REPORT

July, 2007

DATE: Soil profiles observed on May 21, 2007 .

BASE MAP: Contour map -foot intervals, scaled 1"=100', provided by Civil Consultants.

GROUND CONTROL: Test pits located by Civil Consultants.

THE SOIL MAPPING CONFORMS WITH A HIGH-INTENSITY (CLASS B) SURVEY.

Class B - Soil Survey

1. Mapping units of 1 acre or greater.
2. Scale of 1" = 200' or larger.
3. Up to 35% inclusions in mapping units of which no more than 25% may be dissimilar soils.
4. Ground control - test pits located from known, surveyed, control points.
5. Base map with 5' contour lines.

This was prepared for a commercial development of land utilizing public sewer and water.

The accompanying soil profile descriptions, soil map and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

James Logan C.S.S. #213, S.E. #237 7/13/07
James Logan Date

STATE OF MAINE
JAMES LOGAN #213
SOIL SCIENTIST

CORNISH
(Fluvaquentic Dystrochrepts)

SETTING

Parent Material: Alluvial sediments.

Landform: Floodplains.

Position in Landscape: Nearly level areas, commonly in broad depressions.

Slope Gradient Ranges: (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat poorly drained, with an apparent water table 1.0 to 2.0 feet beneath the soil surface from November through May and during periods of excessive precipitation or spring run-off.

Typical Profile Description:

Surface layer:	Very dark grayish-brown, very fine sandy loam, 0-12"
Subsurface layer:	Light olive-brown, very fine sandy loam, 12-24"
Subsoil layer:	Olive, very fine sandy loam, 24-35"
Substratum:	Olive-gray, very fine sandy loam, 35-60"

Hydrologic Group: Group C

Surface Run Off: Slow

Permeability: Moderate in coarse silty layers, and moderate to very rapid in the silt loam to fine gravel strata, where present.

Depth to Bedrock: Very deep, greater than 60".

Hazard to Flooding: Twice annually to once every ten years.

INCLUSIONS
(Within Mapping Unit)

Similar: Lovewell (moderately well drained floodplain soils), Nicholville, Lamoine

Contrasting: Charles, Medomak

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness, due to the presence of a water table 1.0 to 2.0 feet beneath the soil surface for a significant portion of the year. In addition, it is a floodplain soil that may flood from twice annually to once every ten years. Proper setbacks should be maintained for building construction.

ELDRIDGE (Elmwood)
(Moderately Well Drained)

SETTING

Parent Material: Sandy glaciofluvial deposits underlain by loamy or clayey marine or lacustrine sediments.

Landform: Glacial lake plains, terraces, and glacial outwash areas.

Position in Landscape: Intermediate to upper positions in landform.

Slope Gradient Ranges: (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately well drained with an apparent water table 1.5 to 3.5 feet beneath the soil surface from November through May, or during periods of heavy precipitation.

Typical Profile Description:

Surface layer:	Very dark grayish brown sandy loam or loamy sand, 0-9"
Subsurface layer:	Olive brown loamy sand, 9-17"
Subsoil layer:	Olive brown loamy sand, 17-27"
Substratum:	Olive very fine sand/ silt/silty clay, 27-65"

Hydrologic Group: Group C

Surface Run Off: Moderately rapid to rapid.

Permeability: Rapid in the solum and moderately slow or slow in substratum.

Depth to Bedrock: Deep, greater than 40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Nicholville, Croghan, Made Land, Filled Land

Contrasting: Elmwood (S.W.P.), Lamoine

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness, due to the presence of a groundwater table for some portion of the year. Proper foundation drainage or other site modification is recommended for construction.

FILLED LAND

SETTING

Parent Material: Variable

Landform: N/A

Position in Landscape: N/A

Slope Gradient Ranges: (B) 3-8% (C) 8-20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: N/A

Typical Profile Description:

Surface layer:)
Subsurface layer:) Typically loamy sand
Subsoil layer:) and gravelly sand fill
Substratum:)

Hydrologic Group: Not assigned a hydrologic group due to variability.

Surface Run Off: Variable

Permeability: Variable

Depth to Bedrock: N/A

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Made Land

Contrasting: None

Development with Public Sewer and Water: The limiting factor for building site development is wetness, due to firm or restrictive layers within map units within 40" of the existing surface. Proper foundation drainage or other site modification is recommended for construction.

FILLED LAND/MADE LAND

SETTING

Parent Material: Variable

Landform: N/A

Position in Landscape: N/A

Slope Gradient Ranges: (A) 0-3% (B) 3-8% (C) 3-20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Note: This map unit consist of filled land interspersed with regarded original soils that are no longer classifiable by taxonomy.

Drainage Class: N/A

Typical Profile Description:
Surface layer:)
Subsurface layer:) Typically loamy sand
Subsoil layer:) and gravelly sand fill
Substratum:)

Hydrologic Group: Not assigned a hydrologic group due to variability.

Surface Run Off: Variable

Permeability: Variable

Depth to Bedrock: N/A

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Made Land

Contrasting: None

Development with Public Sewer and Water: The limiting factor for building site development is wetness, due to firm or restrictive layers within map units within 40" of the existing surface. Proper foundation drainage or other site modification is recommended for construction.

LAMOINE
(Aeric Haplaquepts)

SETTING

Parent Material: Lacustrine or marine sediments.

Landform: Lake or marine, coastal plains or terraces.

Position in Landscape: Intermediate positions in landform.

Slope Gradient Ranges: (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat poorly drained, with a perched water table 1.0 to 1.5 feet below the soil surface from November through May, and during periods of excessive precipitation.

Typical Profile Description:

Surface layer:	Dark brown silt loam, 0-7"
Subsurface layer:	Light olive brown or yellowish brown silt loam, 7-12"
Subsoil layer:	Light olive brown and olive silty clay loam, 12-21"
Substratum:	Olive silty clay, 21-65"

Hydrologic Group: Group D

Surface Run Off: Medium

Permeability: Moderate or moderately slow in surface layer, moderately slow or slow in subsoil, and slow or very slow in the dense substratum.

Depth to Bedrock: Deep, greater than 40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Buxton, Elmwood (S.W.P.)

Contrasting: Scantic, Swanton, inclusions of C slopes in D slope units

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness, due to the presence of a water table within 1.5 feet of the soil surface for a significant portion of the year. Proper foundation drainage or other site modification is recommended for construction.

MADE LAND

SETTING

Parent Material: Variable

Landform: Variable

Position in Landscape: Variable

Slope Gradient Ranges: (A) 0-3% (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: None assigned

Typical Profile Description:

Surface layer:) Typically this map unit
Subsurface layer:) consists of areas
Subsoil layer:) excavated and reworked
Substratum:) by man, then smoothed.

Hydrologic Group: None assigned

Surface Run Off: Variable

Permeability: Variable

Depth to Bedrock: Variable

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Filled Land

Contrasting:

USE AND MANAGEMENT

This map unit consists of areas reworked by man, so that the soils are no longer taxonomically classifiable. Limiting factor for development is soil drainage, though somewhat difficult to determine in these map units. Proper foundation drainage or other site alterations recommended for construction.

NICHOLVILLE
(Aquic Haplorthods)

SETTING

Parent Material: Lacustrine material having a high content of silt and fine sand.

Landform: Commonly found on lake plains and upland till plains that have a mantle of water-deposited silt or very fine sand.

Position in Landscape: Intermediate and upper portions of landscape feature.

Slope Gradient Ranges: (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately well drained, with a perched water table 1.5 to 2.0 feet below the soil surface from November through May.

Typical Profile Description:

Surface layer:	Very dark grayish brown silt loam, 0-10"
Subsurface layer:	Dark yellowish brown silt loam, 10-13"
Subsoil layer:	Yellowish brown and grayish brown very fine sandy loam, 13-18"
Substratum:	Grayish brown loamy very fine sand, 18-70"

Hydrologic Group: Group C

Surface Run Off: Medium

Permeability: Moderate throughout the profile.

Depth to Bedrock: Very deep, greater than 60".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Croghan, Elmwood

Contrasting: Nicholville (S.W.P.), Buxton, Made Land, Filled Land

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness due to the presence of a groundwater table. Proper foundation drainage or site modification is recommended for construction.

SACO (MEDOMAK)
(Fluvaquentic Humaquepts)

SETTING

Parent Material: Recently alluvial sediments on flood plains.

Landform: Floodplains adjacent to rivers and streams.

Position in Landscape: Lowest lying areas of landform.

Slope Gradient Ranges: (A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Very poorly drained, with a permanent water table at or very near the surface. At times this soil may be ponded.

Typical Profile Description:

Surface layer: Very dark grayish brown silt loam, 0-14"
Subsoil layer: Dark gray silt loam, 14-47"
Substratum: Very dark gray silt loam, 47-65"

Hydrologic Group: Group D

Surface runoff: Slow to ponded

Permeability: Moderate to rapid in the fine gravel substrata, if present.

Depth to Bedrock: Very deep, greater than 60".

Hazard to Flooding: Flooding generally occurs once or twice annually during spring runoff and periods of heavy precipitation.

INCLUSIONS
(Within Mapping Unit)

Similar: Charles (poorly drained)

Contrasting: Searsport, Chocorua

USE AND MANAGEMENT

Development with public sewer and water: (Saco) Medomak soils have severe limitations for building site development, due to a high water table near the soil surface for a significant portion of the year, and a tendency to flood once or twice annually. Medomak soils usually are classified as wetlands, on the combined basis of hydric conditions, hydrology, and vegetation.

SCANTIC
(Typic Haplaquepts)

SETTING

Parent Material: Marine or lacustrine sediments.

Landform: Level or gently sloping marine or lake plains.

Position in Landscape: Lower to intermediate positions.

Slope Gradient Ranges: (A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Poorly drained, with a perched water table 0.5 to 1.0 feet beneath the soil surface.

Typical Profile Description:

Surface layer:	Dark grayish brown silt loam, 0-9"
Subsurface layer:	Olive gray silt loam, 9-11"
Subsoil layer:	Olive gray, silty clay loam, 11-16"
Substratum:	Olive gray clay, 16-65"

Hydrologic Group: Group D

Surface Run Off: Slow

Permeability: Moderate or moderately slow in upper profile, slow to very slow in dense substratum.

Depth to Bedrock: Very deep, greater than 60".

Hazard to Flooding: May flood occasionally on lowest fringes during spring and periods of excessive precipitation.

INCLUSIONS
(Within Mapping Unit)

Similar: Lamoine, Enosburg (Swanton)

Contrasting: Biddeford, Whately, Saco (Medomak)

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness due to the presence of a shallow water table throughout most of the year. Proper foundation drainage or site modification is recommended for construction. Scantic soil may be classified as wetlands, based upon the combined consideration of hydric conditions, hydrology, and vegetation.

URBAN LAND

This map unit consists of gently sloping land that has been previously developed.

INCLUSIONS
(Within Mapping Unit)

Similar: Filled Land, Made Land

R. W. Gillespie & Associates, Inc.
Geotechnical Engineering • Geohydrology • Materials Testing Services

21 August 2007

Carl V. Beal, P.E.
Civil Consultants, Inc.
P.O. Box 100
South Berwick, Maine 03906

Subject: Geotechnical Investigation
Proposed Metal Recycling Facility
Portland, Maine
RWG&A Project No. 427-44

Dear Mr. Beal:

R. W. Gillespie & Associates, Inc., (RWG&A) is pleased to present the results of our geotechnical investigation for the proposed Metal Recycling Center in Portland, Maine. This work was performed in general accordance with RWG&A's proposal to you dated 29 May 2007 (note: RWG&A Proposal No. P-6481GI). The purpose of the investigation was to obtain information about subsurface conditions on which to base recommendations for design and construction of pavement sections.

The following report presents the findings of our field explorations and engineering evaluations, and provides our geotechnical design recommendations. In summary, subsurface conditions encountered consisted of fill underlain by naturally deposited silty sand over stiff silty clay. Fill was encountered in test pits TP-1 and TP-6 through TP-14, and was composed of a mix of silty sand, silty clay, topsoil, and rubble (i.e., brick, rock, and/or concrete pieces). Wood and other organic material was encountered in the fill in test pits TP-11 and TP-14. The fill extended to depths of 3 to more than 11 feet below current ground surface. Refusal was not encountered to the depths explored.

The attached report provides recommendations for construction of flexible and rigid pavements in the truck circulation and material processing areas. Pavement underdrains or a free draining ditch should be provided at the perimeter of paved areas. Additional information regarding our subsurface investigation and engineering recommendations are provided in the attached report.

We have enjoyed working with Civil Consultants, Inc., on this project. If you have any questions or if we may be of further service, please contact us.

Very truly yours,
R. W. GILLESPIE & ASSOCIATES, INC.

Marc R. Grenier, P.E.
Project Geotechnical Engineer

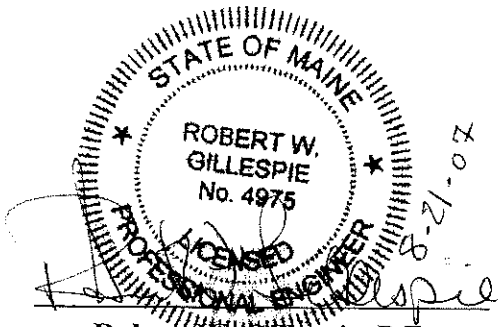
Robert W. Gillespie, P.E.
Principal Geotechnical Engineer

MRG/RWG:ci
In quadruplicate

Report
of
GEOTECHNICAL INVESTIGATION
for
PROPOSED METAL RECYCLING FACILITY
PORTLAND, MAINE

Prepared
for
CIVIL CONSULTANTS, INC.
SOUTH BERWICK, MAINE

Prepared
by
R. W. GILLESPIE & ASSOCIATES, INC.
SACO, MAINE



Robert W. Gillespie, P.E.
Maine PE No. 4975

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Background

The project consists of redevelopment of an approximately 12.9 acre parcel which is located within a larger, 53.5-acre property formerly occupied by Lucas Tree Expert Facility, Inc. The property is located at 636 Riverside Street, as illustrated on Figure 1, *Locus Map*. Our understanding of the current site conditions and proposed construction is based on conversations with Civil Consultants, Inc., and Prolerized New England, and review of the following documents:

- Sheet No. C2, untitled, dated 24 April 2007 prepared by Civil Consultants, Inc.
- Letter dated 03 April 2007 from Tewhey Associates, Inc., to Maine Department of Environmental Protection (VRAP) re: "VRAP Application for Lucas Tree Expert Facility, Riverside Street, Portland, Maine."
- Sheet No. C1, titled Existing Conditions, dated 17 July 2007 prepared by Civil Consultants, Inc.

1.2 Scope

This investigation was performed to develop site-specific soil and laboratory data, and to make geotechnical evaluations for the proposed paved areas. As performed, our scope of work included the following items.

1. Prepared a program of subsurface explorations to obtain information for pavement section and earthwork design.

2. Arranged to have the subsurface explorations performed by a local contractor. Provided technical monitoring of the exploration activities so that depths, locations, and sampling methods could be modified in response to the subsurface conditions encountered.

3. Performed laboratory tests on selected soil samples recovered from the subsurface explorations to aid in soil description and for determination of engineering properties needed for pavement design.

4. Conducted engineering evaluations of the geotechnical aspects related to pavement sections, groundwater control and subgrade drainage, and construction difficulties related to subgrade conditions.

5. Prepared this report presenting the findings, conclusions, and recommendations of the geotechnical investigation.

RWG&A's scope of services did not include an Environmental Site Assessment relative to oil and hazardous materials or evidence of a potential release or threat of oil or hazardous materials on, below, or around the site. Any statement in this report, or on the exploration logs, regarding odors or unusual or suspicious conditions are for informational purposes only and are not intended to constitute an environmental assessment.

2.0 SUBSURFACE EXPLORATION

The subsurface exploration program consisted of fourteen (14) test pits advanced to depths ranging from 10 to 11 feet below local ground surface. Test pits were excavated on 29 June 2007 by White Brothers Construction, Inc., of Westbrook, Maine. The test pits were excavated with a Volvo SE 210 excavator. Bulk samples were collected from several of the test pits and measurements of undrained shear strength of cohesive soils were made using a pocket penetrometer.

Exploration activities were coordinated and monitored by RWG&A personnel who prepared the exploration logs. The soils were described in general accordance with *ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. Logs of the explorations are included in Appendix A of this report. Stratification lines shown on the exploration logs represent the estimated boundaries between the different soil types encountered and approximate refusal depths; the actual transitions will be more gradual and vary over short distances.

Figure 2, *Exploration Location Plan*, shows the locations of the explorations. Explorations were located in the field by representatives of RWG&A by taping and pacing from identifiable site features prior to excavating. The locations shown on Figure 2 were determined by Civil Consultants, Inc., using GPS and other survey techniques. Elevations were interpolated from contours on the provided plan. Locations and elevations should be considered accurate only to the degree implied by the methodology used to determine them.

3.0 LABORATORY TESTING

Laboratory testing was performed to assist in description and estimation of engineering properties of the soils. Select samples were visually examined and, if necessary, re-described. The laboratory testing program consisted of three (3) sieve analyses and one (1) California Bearing

Ratio (CBR) test. The tests were performed in general accordance with the following methods and procedures:

- *ASTM D2216, Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.*
- *ASTM D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).*
- *ASTM D422, Standard Test Method for Particle-Size Analysis of Soils.*
- *ASTM D1140, Standard Test Method for Amount of Material in Soils Finer Than the No. 200 (75-μm) Sieve.*
- *ASTM D1883, Standard Test Method for CBR (California Bearing Ratio) of Laboratory-Compacted Soils.*

Results of the laboratory tests are presented in Appendix B, *Laboratory Test Results*. All tests were conducted at the RWG&A soil and materials testing laboratory in Saco, Maine, which is accredited by the American Association of State Highway and Transportation Officials (AASHTO) for the tests performed.

4.0 SUBSURFACE CONDITIONS

4.1 Subsurface Soils

Four distinct soil units were encountered in the explorations: topsoil, fill, silty sand, and silty clay. In general, the conditions encountered consisted of fill underlain by naturally deposited silty sand over stiff silty clay. Fill was encountered in test pits TP-1 and TP-6 through TP-14 and extended to depths of 3 to more than 11 feet below current ground surface. The fill generally consisted of a mix of silty sand, silty clay, topsoil, and rubble consisting of rock, brick, and/or concrete pieces. Wood and other organic material were encountered in test pits TP-11 and TP-14. Topsoil was encountered at the interface between fill and naturally deposited soils in several of the test pits. Explorations were advanced to depths of 10 to 11 feet below current ground surface; refusal was not encountered to the depths explored. Please refer to the exploration logs in Appendix A for detailed descriptions at specific locations.

4.2 Groundwater

Free water was not observed in the explorations to the depths explored. It is anticipated that water becomes locally perched, or trapped, near ground surface during periods of snowmelt and

extended wet weather. Groundwater levels at the site will fluctuate due to season, temperature, rainfall and construction activity in the area; therefore, water levels during and following construction will vary from those observed in the explorations.

5.0 EVALUATION OF GEOTECHNICAL DATA

5.1 General

Engineering evaluations for this project are based on the subsurface explorations, laboratory testing data, and the preliminary design information currently available to RWG&A. Should differing information become known prior to or during construction, these evaluations should be reviewed by RWG&A to confirm their continued applicability.

5.2 Proposed Construction

Sheet C-2 indicates the metal recycling facility will consist of adjoining metal recycling process and bailer buildings in the central part of the site with approximately 5 acres of bituminous concrete pavement (i.e., flexible pavement). Portland cement concrete pavement (i.e., rigid pavement) might be used in localized areas such as handling bins, where vehicles turn frequently. The paved areas will be used for bulk storage, handling of scrap metals, and truck circulation. Conceptual layout information indicates final grades will be within 2 to 3 feet of current ground surface. Traffic loading was provided by Civil Consultants, Inc., and Prolerized New England, as follows:

- Eight 18-wheel dump trucks per day;
- Nineteen 10-wheel dump trucks per day;
- Sixty small trucks (i.e., delivery/van) per day;
- One Caterpillar, Inc., Model 980 rubber tired wheel loader, operating continuously, 12 hours per day, 6 days per week.

5.3 Pavement Design Considerations

The area surrounding the building will be paved, except for local landscaping. Silty clay is expected at subgrade in the front (note: east part) of the site and silty sand or compacted fill is anticipated at subgrade for the rest of the site. Based on laboratory testing and our experience with similar subgrade soils, pavement sections were developed using a CBR value of 3 for silty clay and a CBR of 8 for silty sand and fill. Traffic loading was provided, as outlined in Section 5.2 of this report, and AASHTO methods were used to determine the recommended pavement sections. The AASHTO method uses equivalent single axle loads (ESAL) to determine both concrete and rigid

pavement thickness. The ESALs are calculated by converting given axle loads into 18,000 pound axle loads based on data collected during the AASHTO road test. The following table shows the ESALs calculated for both 10 year and 20 year design life. "Standard Duty" pavements are areas where traffic will consist of only trucks and automobiles, while "Heavy Duty" areas are areas where loader traffic is included.

Design Life	Rigid Pavement		Flexible Pavement	
	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty
10 Years	680,000	11,000,000	510,000	10,000,000
20 Years	1,400,000	22,000,000	1,020,000	20,000,000

Pavement Frost Penetration: The design freezing index for the project site is approximately 1,250 degree days. Estimated freezing temperature penetration for the design freezing index is summarized below:

Approximate Freezing Temperature Penetration (inches)		
Ground Cover Condition	Subgrade Soil Type	
	Silty Clay	Silty Sand/Fill
Turf with 12 inches snow cover	14	24
Turf snow free	20	34
Pavement snow free	39	52
12-inch pavement section snow free	32	52
24-inch pavement section snow free	36	52
36-inch pavement section snow free	40	52

The on-site soils are highly to moderately frost susceptible. Full-depth frost protection of pavements would require a total pavement section of about 52 inches which would be cost prohibitive. It is typical practice in the New England region to provide partial depth frost protection for pavements with the expectation that some frost heaving will occur.

5.4 Construction Considerations

Site Preparation: Up to 11 feet of fill was encountered in explorations performed in the proposed paved areas. The composition of, and methods used to place and compact the fill are uncertain, although fill which contained organic material was encountered in test pits TP-11 and TP-14. RWG&A recommends that test pits and proofrolling be performed prior to pavement section construction to evaluate existing fill. Test pits should be performed at a frequency of one per 7,500

square feet of pavement area and be advanced at least 8 feet below current ground surface to evaluate the presence of organic material in the fill.

Construction Dewatering: The on-site soils are very sensitive to disturbance when wet. To reduce disturbance of exposed subgrade soils, it will be important to divert runoff, provide positive grading to shed seepage and runoff from flat areas, and compact exposed soils to reduce rutting, ponding, and surface water infiltration.

Groundwater was not observed in the explorations. If required, RWG&A anticipates groundwater control can be accomplished through the use of ditches, sumps, and open pumping. Temporary detention ponds, trenches, ditches, and dewatering sumps should not be made within or near areas to be filled.

Use of On-site Soils: It is anticipated that the surficial topsoil will be stripped and either incorporated into proposed landscaped areas, where practical, or hauled off site. Topsoil and organic materials are not considered suitable for use as common fill below paved areas. The on-site, inorganic soils are considered suitable for use as common fill beneath the pavement sections.

The subsurface soils from foundation and site work excavations will generally consist of sandy, silty, clayey soils that are not suitable for use as base below pavements but, with proper moisture conditioning and earthwork handling, might be used as common fill beneath pavement subbase where more than three feet of fill is required. If on-site soil is proposed for use other than common fill, the soil should be stockpiled separately and tested to determine if it meets specification requirements for its intended use.

The silt, silty sand, and silty clay are moisture sensitive due to their high fines content and will be difficult to place and compact when they are wet. Moisture-density relationships should be established during construction to provide guidance for appropriate working moisture contents. Working moisture content for moisture sensitive soils typically ranges from about minus three to plus one percent of optimum moisture content.

5.5 Portland Water District Pipeline Crossing

Site plans provided indicate a Portland Water District 48-inch diameter concrete water main crosses the east part of the site. Evaluation of effects of the proposed construction activities and facility operation on the pipeline is beyond the scope of this investigation. Existing underground utilities should be protected from construction activities and facility operations to reduce the potential for damage to the pipeline. The Portland Water District should be provided the opportunity to review the proposed design and construction methods.

6.0 RECOMMENDATIONS

6.1 Site Preparation

1. All topsoil, peat, organic material, debris, rubbish, frozen soils, muck, loose, or disturbed soils and other unsuitable materials should be removed from the area of new construction. Topsoil may be stockpiled outside the construction area for reuse in landscape areas.

   Limited amounts of fill containing organic matter may remain below proposed paved areas. Fill that contains wood, stumps, logs, boards, and other deleterious materials should be removed within 6 feet of proposed finished pavement grade. Topsoil, loam, and other soils containing more than 5 percent organic content by weight should be removed down to within 3 feet of finished grade in proposed paved areas. Test pits extending a minimum of 8 feet into the fill should be conducted at a frequency of not less than one per 10,000 square feet to evaluate the composition of existing fill below proposed paved areas.

   After the topsoil and unsuitable fill have been removed from the construction area, the subgrade should be compacted with several passes each way with a vibratory, smooth drum compactor and be proof rolled with a fully loaded dump truck prior to the placement of new fill. If high groundwater is present during subgrade preparation, then the subgrades should be compacted with a smooth drum roller in the "static" mode only. Naturally deposited silty clay should not be proofrolled, and excavations in naturally deposited silty clay should be made with equipment fitted with smooth edged buckets. Soft areas or areas that yield excessively during proofrolling should be overexcavated and replaced with compacted common or granular fill.

2. Site grading should provide positive drainage away from constructed facilities both during and after construction.

3. Depending on the depths of excavations and season, dewatering might be needed. It should be practical to dewater excavations extending to 1 foot below groundwater by open pumping methods. Excavations deeper than 1 foot below groundwater may require the use of side trenches within or adjacent to excavations or other dewatering methods. Surface runoff and infiltration of groundwater should be controlled so that excavation, filling, and foundation construction can be completed in-the-dry.

6.2 Site Filling

4. Common fill may be placed in landscaped areas and as fill more than three feet below pavement section. Common fill should consist of inorganic mineral soil free of ice, loam,

organic, or other unsuitable materials. Common fill may contain cobbles up to 2/3 of the lift thicknesses used to place and compact it; recommended maximum lift thickness for common fill before compaction is 12 inches.

5. The on-site, inorganic soils are not suitable for use as granular fill but may be used as common fill. In addition, the on-site inorganic soils are generally highly frost susceptible and moisture sensitive, and will be difficult to place and compact. The moisture content will need to be tightly controlled for placement and compaction to the required density without excessive weaving, pumping, or other types of instability.

6. Only compacted granular fill is recommended for use as new fill in the upper three feet below paved areas. Granular fill should be a well-graded sand and gravel mixture free of roots, topsoil, loam, organic material, and any other deleterious materials, as well as clods of silt or clay, and meet the following gradation requirements:

Screen or Sieve Size	Percent Passing
6 inches	100
No. 4	25-100
No. 40	0-50
No. 200	0-7

7. In open areas, common fill and granular fill should be placed in level, uniform lifts not exceeding 12 inches in uncompacted thickness and be compacted with self-propelled compaction equipment. All fill placed beneath paved areas, including fill used to backfill test pits, should be compacted to at least 95 percent of the maximum dry density as determined by *ASTM Standard D 1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3))*.

6.3 Pavement Sections

8. Paved areas should be provided with the following pavement sections. Pavement sections were developed using AASHTO design methods. Materials and placement methods should meet the current Maine Department of Transportation requirements. Areas where traffic is limited to daily truck traffic are considered "Standard Duty," while areas where the Caterpillar, Inc., model 980 rubber tire wheel loader is included in traffic are considered "Heavy Duty."

Flexible Pavement - Silty Clay Subgrade

Component	Thickness in Inches			
	10 Year Design Life		20 Year Design Life	
	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty
Surface Course (MDOT Type 12.5 mm)	2	2	2	2
Binder Course (MDOT Type 19 mm)	2	5	2.5	5
Gravel Base (MDOT 703.06 Type A)	8	12	10	14
Subbase (MDOT 703.06 Type C)	16	20	18	24
Totals	28	39	32.5	45

Rigid Pavement - Silty Clay Subgrade

Component	Thickness in Inches			
	10 Year Design Life		20 Year Design Life	
	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty
Concrete (5000 psi compressive strength)	6	9.5	7	10.5
Gravel Base (MDOT 703.06 Type C)	12	12	12	12
Totals	18	21.5	19	22.5

Flexible Pavement - Silty Sand/Fill Subgrade

Component	Thickness in Inches			
	10 Year Design Life		20 Year Design Life	
	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty
Surface Course (MDOT Type 12.5 mm)	1.5	2	1.5	2
Binder Course (MDOT Type 19 mm)	2.5	3.5	2.5	3.5
Gravel Base (MDOT 703.06 Type A)	6	8	6	10
Subbase (MDOT 703.06 Type C)	12	14	12	18
Totals	22	27.5	22	33.5

Rigid Pavement - Silty Sand/Fill Subgrade

Component	Thickness in Inches			
	10 Year Design Life		20 Year Design Life	
	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty
Concrete (5000 psi compressive strength)	6	9	6.5	10
Gravel Base (MDOT 703.06 Type C)	12	12	12	12
Totals	18	21	18.5	22

Perimeter pavement underdrains or a free-draining ditch should be provided at the perimeter of paved areas unless finished grades outside the pavement are lower than the pavement subgrade elevation. The invert of the drain or ditch should be a minimum of 1 foot below the pavement section.

9. Underdrains should consist of 2 cubic feet of MDOT Underdrain Backfill Material Type C per linear foot, wrapped in a filter fabric, and located a minimum of 1 foot beneath the pavement section. The trench above the geotextile wrapped underdrain stone should be backfilled with MDOT Underdrain Backfill Material Type B. The top of the underdrain trench backfill should be in direct contact with the pavement subbase.

   Each pavement underdrain pipe should be provided with a minimum of two outlet pipes so as not to be reliant upon a single flow path. Drains should be outletted by gravity to surface drainage features or storm drains that will be free flowing under all conditions.

10. Prior to the start of paving, it is recommended that a thorough evaluation of the paved area subgrade be undertaken. The evaluation should include proof rolling of the pavement base course with a loaded tandem axle dump truck. Any unstable areas encountered should be repaired. Repairs should consist of excavation of the soft material(s) and replacement with compacted fill.

6.4 Utilities

11. Utilities may be earth supported. Bedding placed between the utility and subgrade should meet the utility and manufacturer requirements for the type of conduit or pipe being installed.

12. It is difficult to properly place and compact trench backfill material where a trench box or excavation shield is used. There is a tendency during construction to remove the trench box after the pipe is installed and then end-dump backfill material with little or no compactive

effort applied. The usual result of the above construction practice is post-construction settlement of the ground surface along the trench alignment. This settlement may be tolerable for cross-country alignments; however, under paved areas, this usually means having to re-level the surface years after the construction is complete. If this situation is not acceptable, a systematic compaction effort must be applied to the trench backfill below pavements.

6.5 Temporary Excavations

13. Soils at this site, encountered within the anticipated depths of excavations, consist of topsoil, fill, and naturally deposited silty sand and silty clay. We anticipate that foundation and utility excavations can be accomplished using sloped, open-cut techniques. It is also anticipated that dewatering can be accomplished using sumps and open pumping methods.

    The Contractor should be aware that slope height, slope inclination, and excavation depths (including utility trench excavations) should in no case exceed those specified in local, state, or federal safety regulations (e.g., OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926, or successor regulations). Such regulations are strictly enforced and, if they are not followed, the Owner, Contractor, and/or earthwork and utility subcontractors could be liable for substantial penalties.

    As a safety measure, it is recommended that all vehicles and spoil piles be kept a minimum lateral distance from the top of excavations equal to no less than 100 percent of the slope height. Exposed slope faces should be protected against the elements.

6.6 Geotechnical Observation

The geotechnical recommendations provided as the basis for design of this project were developed using limited numbers of observations and tests. The Owner should be sensitive to the potential need for adjustment in the field. We recommend that the Owner retain RWG&A to observe geotechnical construction aspects of the project. These services should include observing general compliance with the design concepts, specifications and recommendations, and assisting in development of design changes should subsurface conditions differ from those anticipated prior to the start of construction. Observation improves the likelihood that the design intent will be carried out during construction. In addition, it allows RWG&A to confirm its design recommendations. For this project, geotechnical observation of the following aspects is recommended:

- Observe site stripping, assess suitability of exposed subgrades, and observe proofrolling

- Perform laboratory and field testing of pavement base, subbase, and pavement underdrain material

- Observe fill placement and compaction

- Observe installation of pavement

In addition to geotechnical observation, RWG&A can also provide full service construction inspection and materials testing. This would include soils, portland cement and asphaltic concrete, structural steel and welding inspections, destructive and non-destructive testing, and special inspection services in fulfillment of building code requirements.

7.0 CLOSURE

This report has been prepared for specific application to the paved areas at the proposed Metal Recycling Facility in Portland, Maine, for the exclusive use of Civil Consultants, Inc. This work has been completed in accordance with generally accepted soil engineering practices. No other warranty, expressed or implied, is made. In the event that any changes are made in the nature, design, or location of the proposed construction, the conclusions and recommendations of this report should be reviewed by RWG&A.

The recommendations presented are based on the results of widely spaced explorations. The nature of variations between the explorations may not become evident until construction has begun. If variations are encountered, it will be necessary for RWG&A to re-evaluate the recommendations presented in this report. RWG&A requests an opportunity for a general review of the final design and specifications in order to determine that earthwork and pavement recommendations have been interpreted in the manner in which they were intended.

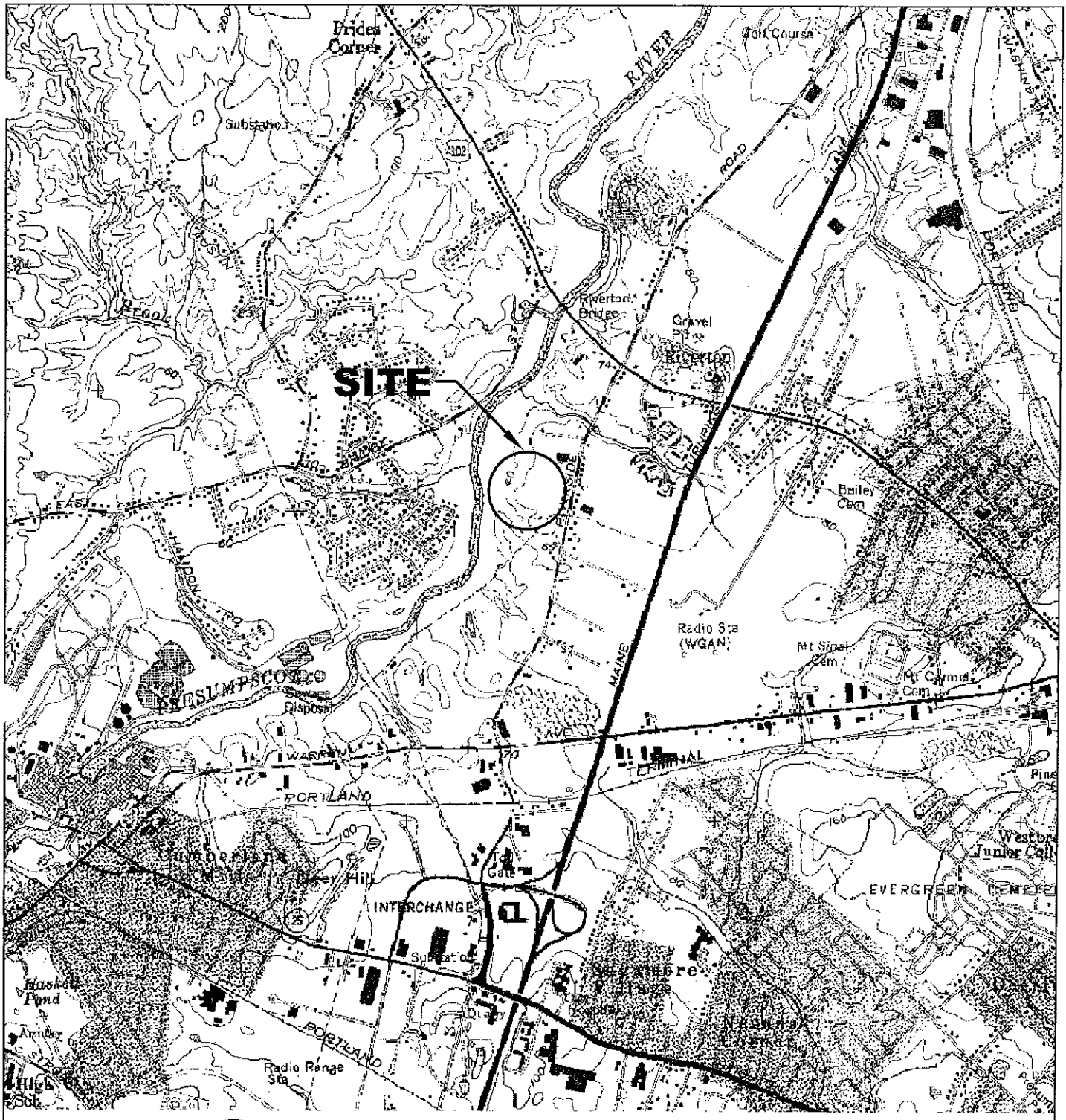


FIGURE 1
LOCUS MAP
PROPOSED METAL RECYCLING CENTER
PORTLAND, MAINE

AUGUST 2007 PROJECT NO. 427-44

SOURCE:
USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLES OF PORTLAND WEST, MAINE, DATED 1978.

R.W. Gillespie & Associates, Inc.
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Fax: (207) 286-2882 E-mail: rwg-a@rwg-a.com

APPENDIX A

EXPLORATION LOGS

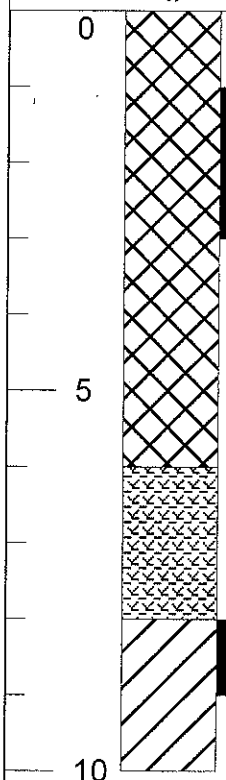
Geotechnical Investigation
Proposed Metal Recycling Facility
Portland, Maine

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering • Geohydrology • Materials Testing Services

TEST PIT LOG

Test Pit No. TP-1

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	67
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM
DEPTH TO - Water:	Not Obs.	When checked:	Caving:



Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			FILL	FILL; Silty clay, stiff, silty sand, trace gravel, brick, rock, organic, moist, olive brown.		
			JT	TOPSOIL AND ORGANIC MATERIAL (24 inches).		
			CL	SILTY CLAY (CL); Very stiff, silty clay, moist, olive gray mottling.		
10				Bottom of Exploration at 10'; Not refusal.		

NOTES

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TEST PIT LOG

Test Pit No. TP-2

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	71
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM
DEPTH TO - Water:	Not Obs.	When checked:	Caving:

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			JT	TOPSOIL AND ORGANIC MATERIAL (10 inches).		
				SILTY CLAY (CL); Very stiff, silty clay, moist, gray.		
5			CL			
10				Bottom of Exploration at 10'; Not refusal.		
15						

NOTES

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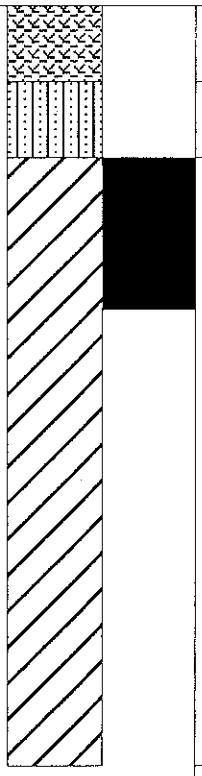
TEST PIT LOG

Test Pit No. TP-3

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	71
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM

DEPTH TO - Water: Not Obs. When checked: Caving:



Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			JT	TOPSOIL AND ORGANIC MATERIAL (12 inches).		
			SM	SILTY SAND (SM); Medium to fine sand, little silt, moist, reddish brown.		
			CL	SILTY CLAY (CL); Very stiff, silty clay, moist, olive gray.		
10				Bottom of Exploration at 10'; Not refusal.		
15						

NOTES

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TEST PIT LOG

Test Pit No. TP-4

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	71
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM
DEPTH TO - Water:	Not Obs.	When checked:	Caving:

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			JT	TOPSOIL AND ORGANIC MATERIAL (12 inches).		
			SM	SILTY SAND (SM); Medium to fine sand, little silt, moist, light brown.		
5			CL	SILTY CLAY (CL); Very stiff, silty clay, moist, gray.		
10				Bottom of Exploration at 10'; Not refusal.		
15						

NOTES

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering • Geohydrology • Materials Testing Services

TEST PIT LOG

Test Pit No. TP-5

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	70
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM
DEPTH TO - Water:	Not Obs.	When checked:	Caving:

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			JT	TOPSOIL AND ORGANIC MATERIAL (6 inches).		
			SM	SILTY SAND (SM); Medium to fine sand, little silt, moist, reddish brown.		
5			CL	SILTY CLAY (CL); Hard to very stiff, silty clay, moist, olive gray. Pocket Penetrometer: Undrained Shear Strength: Su >5.0 ksf.		
10				Bottom of Exploration at 8'; Not refusal.		
15						

NOTES

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Geotechnical Engineering • Geohydrology • Materials Testing Services

TEST PIT LOG

Test Pit No. TP-6

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	68
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM
DEPTH TO - Water:	Not Obs.	When checked:	Caving:

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			FILL	FILL; Silty sand, medium to fine sand, little silt, moist, light brown.	GS	6
			FILL	FILL; Silty sand, silty clay, with organics, wood fibers.		
			JT	TOPSOIL AND ORGANIC MATERIAL (6 inches).		
5			CL	SILTY CLAY (CL); Very stiff, moist, olive gray.		
10				Bottom of Exploration at 10'; Not refusal.		
15						

NOTES

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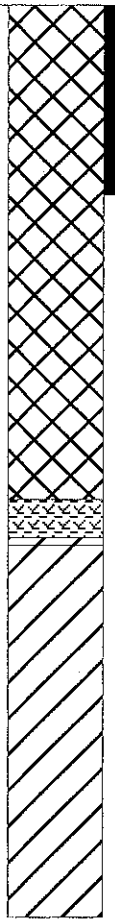
Geotechnical Engineering • Geohydrology • Materials Testing Services

TEST PIT LOG

Test Pit No. TP-7

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	70
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM
DEPTH TO - Water:	Not Obs.	When checked:	Caving:



Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			FILL	FILL; Sand, medium to fine sand, little gravel, little silt, moist, brown.	GS	3
			JT	TOPSOIL AND ORGANIC MATERIAL (6 inches).		
5			CL	SILTY CLAY (CL); Hard to very stiff, silty clay, moist, olive. Pocket Penetrometer: Undrained Shear Strength: Su > 5.0 ksf.		
10			CL	Pocket Penetrometer: Undrained Shear Strength: Su > 5.0 ksf.		
15				Bottom of Exploration at 12'; Not refusal.		

NOTES

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Geotechnical Engineering • Geohydrology • Materials Testing Services

TEST PIT LOG

Test Pit No. TP-8

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	67
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM
DEPTH TO - Water:	Not Obs.	When checked:	Caving:

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			OL	Wood chips (6 inches).		
			FILL	FILL; Silty sand, medium to fine sand, little silty clay, trace gravel, trace organics, moist, light brown to gray.		
5			SM	SILTY SAND (SM); Medium to fine sand and silt, trace organic, moist, brown.		
			CL	SILTY CLAY (CL); Very stiff, silty clay, moist, olive brown. Pocket Penetrometer: Undrained Shear Strength: Su > 5.0 ksf.		
10				Bottom of Exploration at 10'; Not refusal.		
15						

NOTES

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Geotechnical Engineering • Geohydrology • Materials Testing Services

TEST PIT LOG

PROJECT	Proposed Metal Recycling Facility	Test Pit No.	TP-9
CLIENT	Civil Consultants, Inc.	PROJECT NO.	427-44
LOCATION	Portland, Maine	DATE	06/29/07
EXCAVATION METHOD	Volvo SE210 Excavator	ELEVATION	66
DEPTH TO - Water:	Not Obs. When checked:	LOGGER	GSM
		Caving:	

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			FILL	FILL; Medium to fine silty sand, with silty clay, moist, light brown to blue gray.		
5			CL	SILTY CLAY (CL); Hard to very stiff, silty clay, moist, olive brown.		
10				Bottom of Exploration at 8'; Not refusal.		
15						

NOTES

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Geotechnical Engineering•Geohydrology•Materials Testing Services

TEST PIT LOG

Test Pit No. TP-10

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	66
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM

DEPTH TO - Water: Not Obs. When checked: Caving:

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			FILL	FILL; Gravel, medium to fine sand, trace silt, moist, brown.		
			FILL	FILL; Gravel, mixed with asphalt, concrete, silty sand, moist, gray. Geotextile observed at 0.8'.		
5			CL	SILTY CLAY (CL); Hard to very stiff, silty clay, moist, olive brown.		
10				Bottom of Exploration at 8'; Not refusal.		
15						

NOTES

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering•Geohydrology•Materials Testing Services

TEST PIT LOG

Test Pit No. TP-11

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	70
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM
DEPTH TO - Water:	Not Obs.	When checked:	Caving:

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			FILL	FILL; Silty sand, medium to fine sand, silt, brick, rock, roots, wood, moist, brown blue.		
5			CL	SILTY CLAY (CL); Stiff to very stiff, silty clay, moist, olive brown.		
10						
				Bottom of Exploration at 12'; Not refusal.		
15						

NOTES

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TEST PIT LOG

Test Pit No. TP-12

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	65
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM

DEPTH TO - Water: Not Obs. When checked: Caving:

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			FILL	FILL; Silty sand with gravel, medium dense, medium to fine sand, little to some silt, trace gravel, moist, brown.		
5			FILL	FILL; Silty sand, dense, medium to fine sand, some silt, moist, gray. Mixed with silty clay, stiff, moist, blue gray.		
10			FILL	FILL; Silty clay and medium to fine sand, little rock, brick, concrete. Difficult to excavate.		
15				Bottom of Exploration at 11'; Not refusal.		

NOTES

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering • Geohydrology • Materials Testing Services

TEST PIT LOG

Test Pit No. TP-13

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	67
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM
DEPTH TO - Water:	Not Obs.	When checked:	Caving:

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0			OL	Wood chips (8 inches).		
			FILL	FILL; Medium to fine silty sand and silty clay, mixed with brick, rock, concrete, trace wood fibers and organics, moist, blue gray. Difficult to excavate.		
5			FILL	FILL; Sand, medium to fine sand, some to little silt, trace organics, moist to wet, brown.		
10			CL	SILTY CLAY (CL); Very stiff, silty clay, moist, olive gray.		
				Bottom of Exploration at 11'; Not refusal.		
15						

NOTES

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering•Geohydrology•Materials Testing Services

TEST PIT LOG

Test Pit No. TP-14

PROJECT	Proposed Metal Recycling Facility	PROJECT NO.	427-44
CLIENT	Civil Consultants, Inc.	DATE	06/29/07
LOCATION	Portland, Maine	ELEVATION	66
EXCAVATION METHOD	Volvo SE210 Excavator	LOGGER	GSM

DEPTH TO - Water: Not Obs. When checked: Caving:

Depth (ft)	Symbol	Bulk Sample	USCS	Description	Lab Tests	Moisture Content
0				FILL; Silty sand, medium to fine sand, some silt, trace gravel, moist, blue gray. Railroad tie encountered from 4' to 4.5'.		
5			FILL			
10				Bottom of Exploration at 10'; Not refusal.		
15						

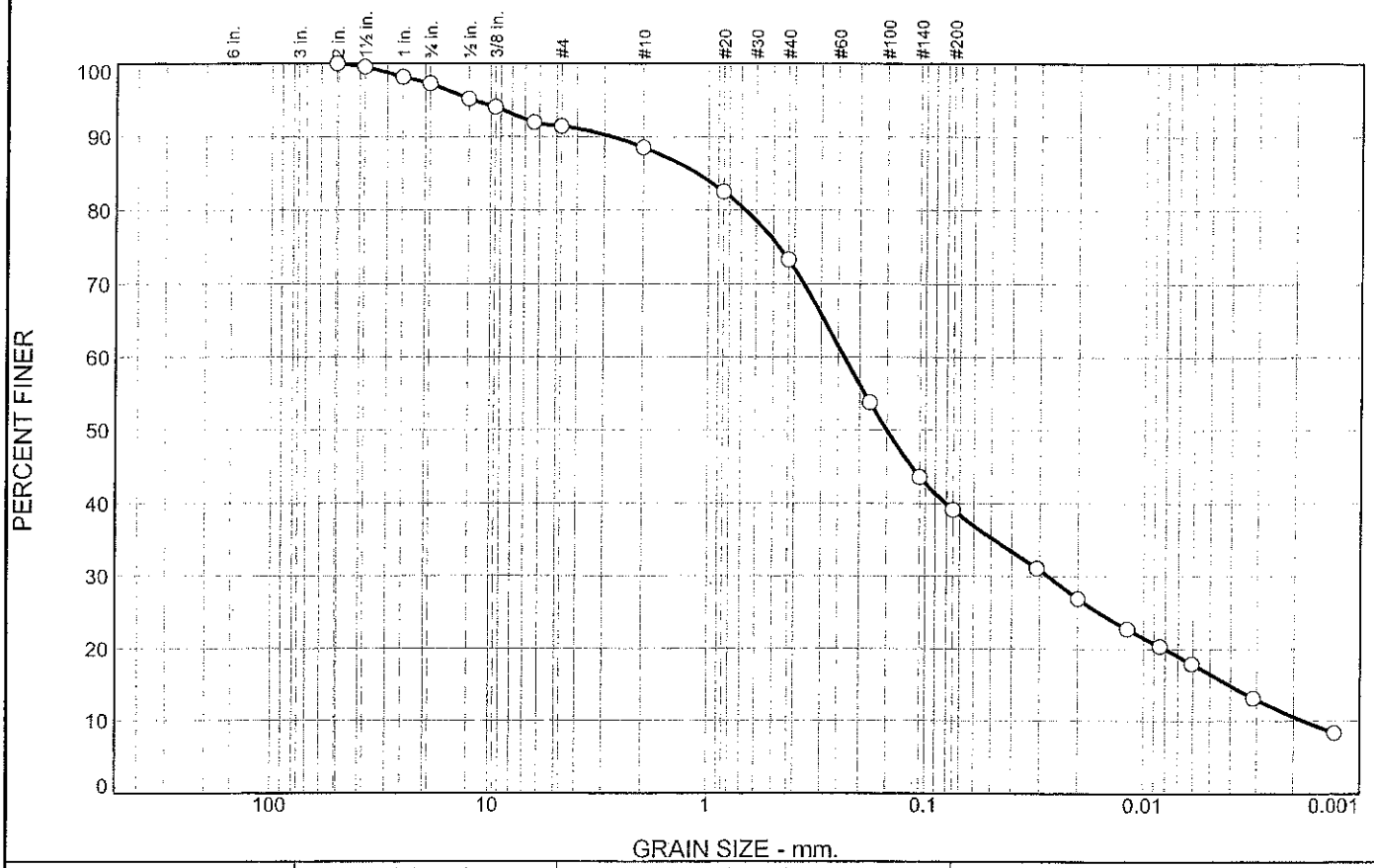
NOTES

APPENDIX B

LABORATORY TESTING

Geotechnical Investigation
Proposed Metal Recycling Facility
Portland, Maine

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	2.7	5.9	2.8	15.3	34.2	22.6	16.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0		
1 1/2"	99.5		
1"	98.1		
3/4"	97.3		
1/2"	95.2		
3/8"	94.0		
1/4"	91.9		
#4	91.4		
#10	88.6		
#20	82.5		
#40	73.3		
#80	53.8		
#140	43.6		
#200	39.1		
0.0308 mm.	31.1		
0.0200 mm.	26.9		
0.0118 mm.	22.7		
0.0085 mm.	20.3		
0.0061 mm.	17.9		
0.0031 mm.	13.1		
0.0013 mm.	8.4		

* (no specification provided)

Soil Description

silty sand

Atterberg Limits

PL= np LL= nv PI=

Coefficients

D_{85}= 1.1348 D_{60}= 0.2345 D_{50}= 0.1509
D_{30}= 0.0275 D_{15}= 0.0041 D_{10}= 0.0018
C_u= 130.22 C_c= 1.80

Classification

USCS= SM AASHTO= A-4(0)

Remarks

Moisture content 11.0%

Sample No.: S-1 **Source of Sample:** TP-9 **Date:** 7/11/07
Location: Portland, Maine **Elev./Depth:** 0-2.5'

R.W. Gillespie & Associates, Inc.
Saco, Maine

Client: Civil Consultants, Inc.
Project: Proposed Metal Recycling Facility
Project No: 427-44 **Lab #** 9521

Tested By: JTR/DCH **Checked By:** MTG MTG

Moisture-Density Test Report

Test specification: ASTM D 1557-00 Method A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
0-2.5'	SM	A-4(0)	11.0%		nv		8.6	39.1

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 114.6 pcf Optimum moisture = 13.9 %	silty sand

Project No. 427-44 **Client:** Civil Consultants, Inc.

Project: Proposed Metal Recycling Facility

● **Location:** Portland, Maine

R.W. Gillespie & Associates, Inc.

Saco, Maine

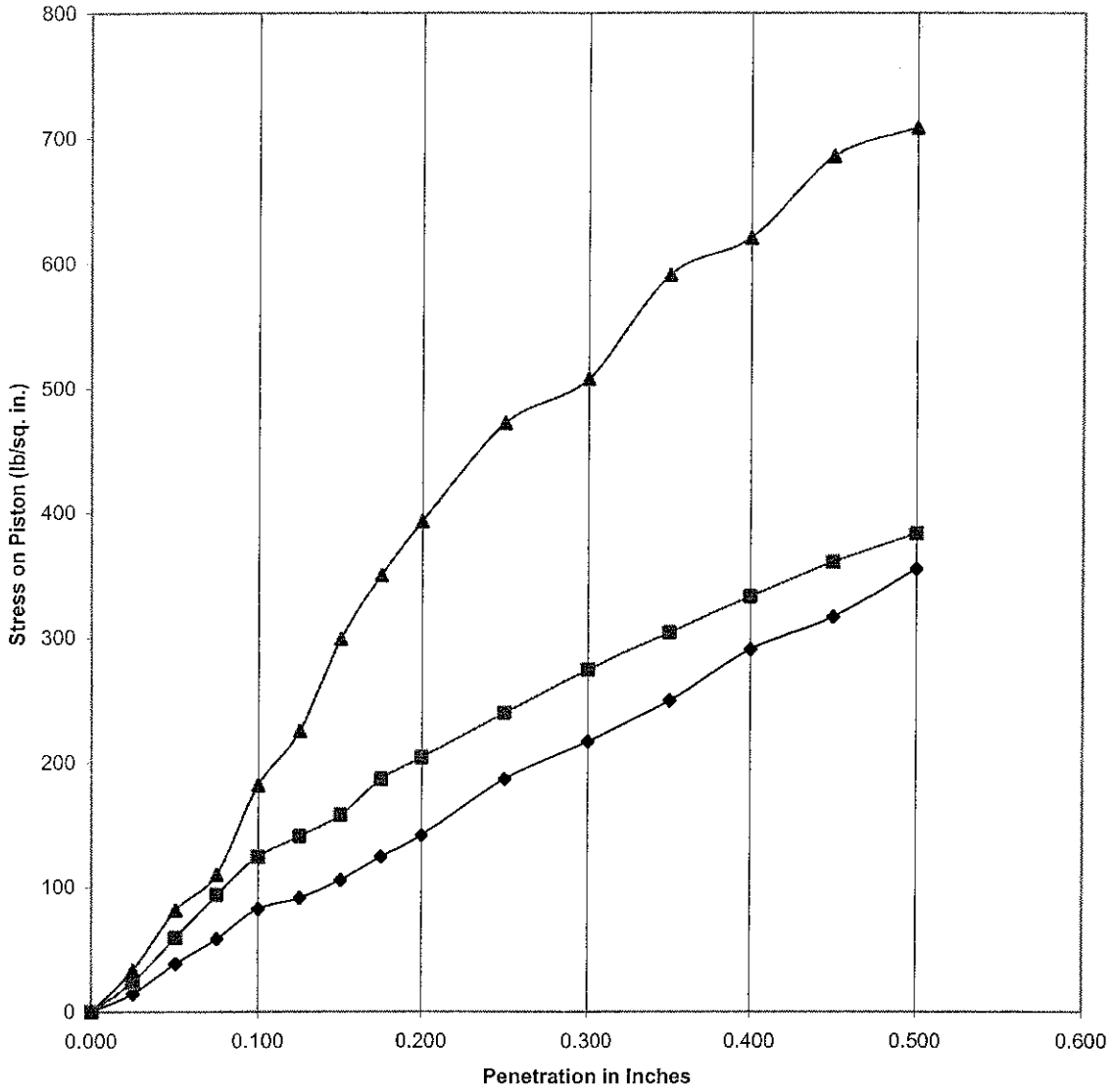
Remarks:

Testedby: DCH

MTC

Lab # 9521

Lab California Bearing Ratio



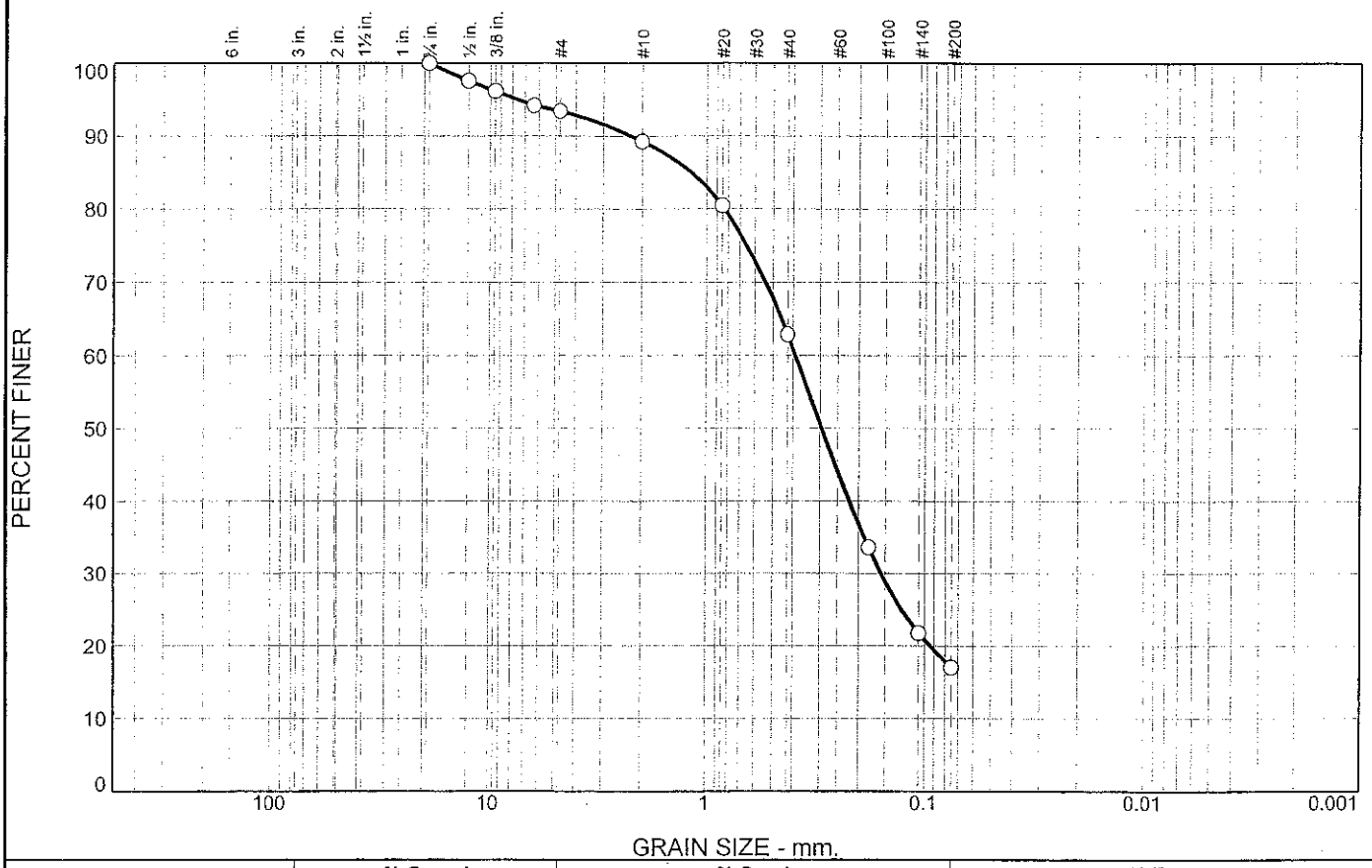
Bearing Ratio at 0.1 inch penetration =	**8.2**	at 92.4% Compaction
Bearing Ratio at 0.1 inch penetration =	**12.5**	at 94.8% Compaction
Bearing Ratio at 0.1 inch penetration =	**18.2**	at 97.5% Compaction

Project:	Prop. Metal Recycling Facility	Client:	Civil Consultants, Inc.
RWG&A Project No:	427-44	Date:	July 16, 2007
Location:	Portland, Maine	Lab #	9521
Test Location:	TP-9	Test Depth:	0-2.5'

R. W. Gillespie & Associates

86 Industrial Park Road, Suite 4, Saco, ME 04072
200 International Drive, Suite 170, Portsmouth, NH 03801
690 Maine Ave., Suite D, Augusta, ME 04344

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	6.6	4.1	26.4	45.9	17.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
1/2"	97.6		
3/8"	96.2		
1/4"	94.2		
#4	93.4		
#10	89.3		
#20	80.5		
#40	62.9		
#80	33.6		
#140	21.8		
#200	17.0		

* (no specification provided)

Soil Description

silty sand

Atterberg Limits

PL= np LL= nv PI=

Coefficients

D_{85}= 1.1712 D_{60}= 0.3899 D_{50}= 0.2938
D_{30}= 0.1579 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Moisture content: 6.4%

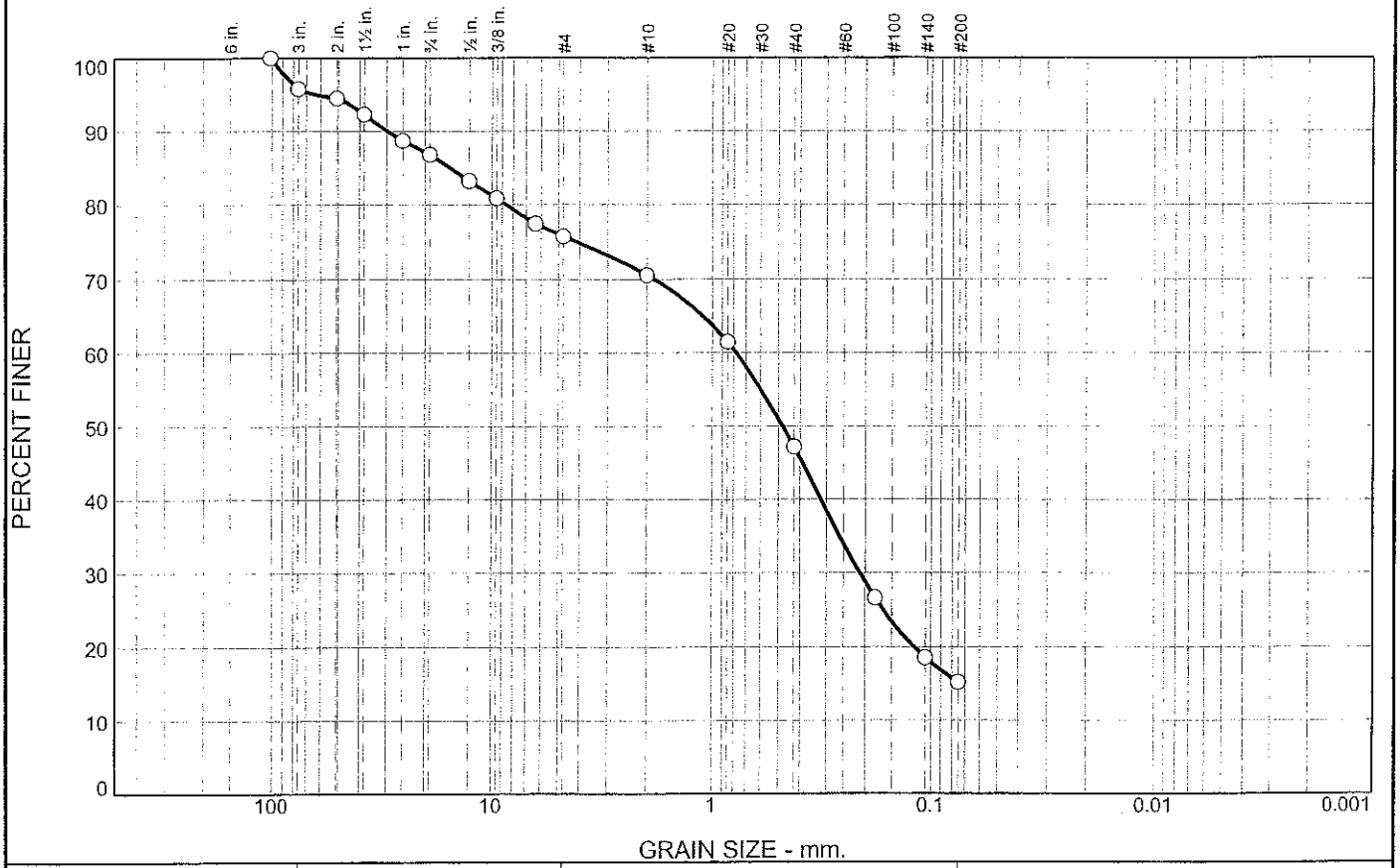
Sample No.: S-1 **Source of Sample:** TP-6 **Date:** 7/9/07
Location: Portland, Maine **Elev./Depth:** 1'-3'

R.W. Gillespie & Associates, Inc.
Saco, Maine

Client: Civil Consultants, Inc.
Project: Proposed Metal Recycling Facility
Project No: 427-44 **Lab #** 9522a

Tested By: JTR/DCH **Checked By:** MTG MTG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
4.2	9.0	11.0	5.2	23.4	32.0	15.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
4"	100.0		
3"	95.8		
2"	94.5		
1 1/2"	92.3		
1"	88.7		
3/4"	86.8		
1/2"	83.2		
3/8"	80.9		
1/4"	77.5		
#4	75.8		
#10	70.6		
#20	61.5		
#40	47.2		
#80	26.7		
#140	18.5		
#200	15.2		

* (no specification provided)

Soil Description

silty sand with gravel

Atterberg Limits

PL= np LL= nv PI=

Coefficients

D_{85}= 15.4748 D_{60}= 0.7786 D_{50}= 0.4776
D_{30}= 0.2108 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO= A-1-b

Remarks

Moisture content: 3.3%

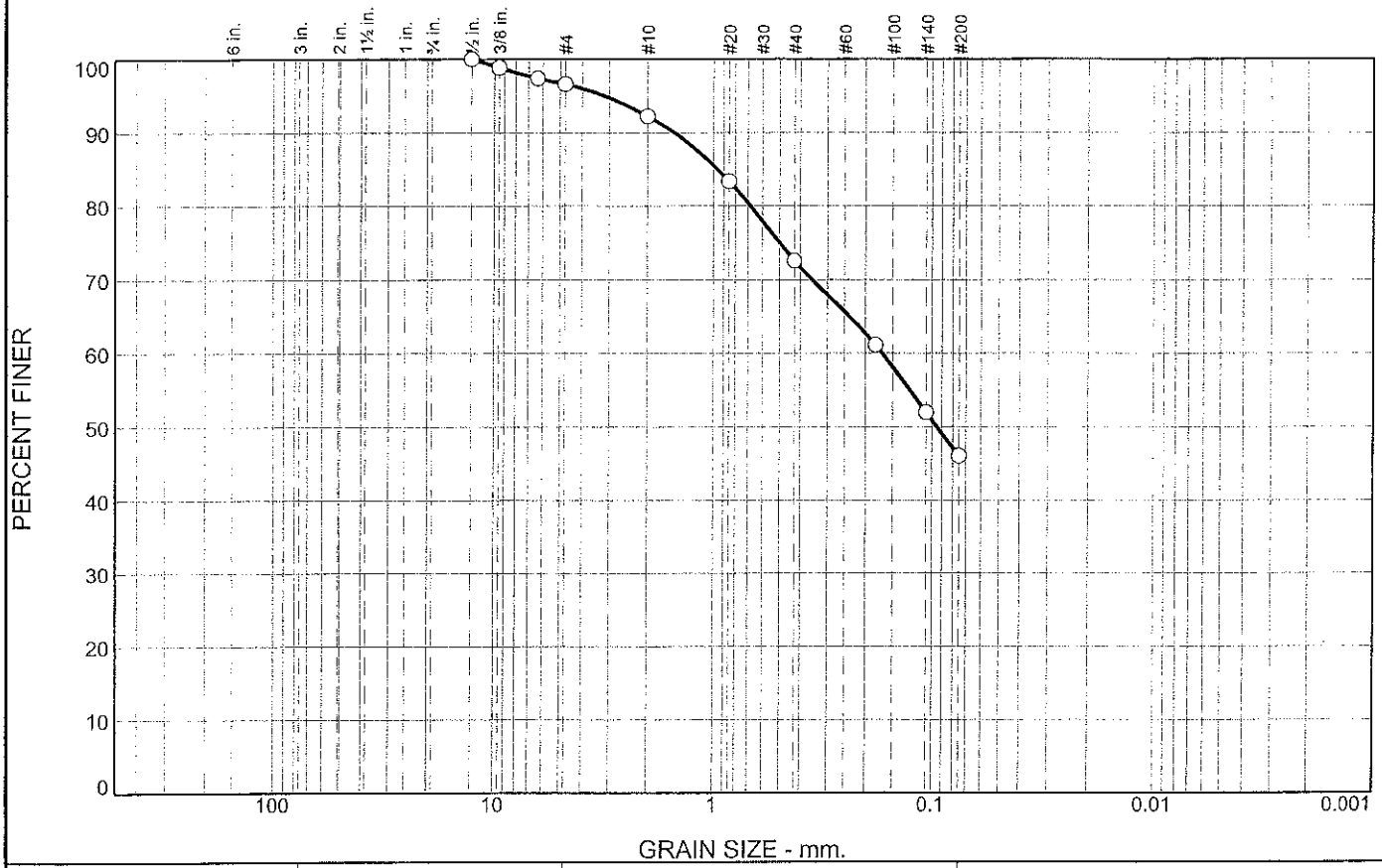
Sample No.: S-1 **Source of Sample:** TP-7 **Date:** 7/9/06
Location: Portland, Maine **Elev./Depth:** 0-2.5'

R.W. Gillespie & Associates, Inc.
Saco, Maine

Client: Civil Consultants, Inc.
Project: Proposed Metal Recycling Facility
Project No: 427-44 **Lab #** 9522b

Tested By: JTR/DCH **Checked By:** MTG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.4	4.4	19.6	26.6	46.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/2"	100.0		
3/8"	98.8		
1/4"	97.4		
#4	96.6		
#10	92.2		
#20	83.4		
#40	72.6		
#80	61.1		
#140	52.0		
#200	46.0		

* (no specification provided)

Soil Description

silty sand

Atterberg Limits

PL= np LL= nv PI=

Coefficients

D_{85}= 0.9575 D_{60}= 0.1677 D_{50}= 0.0947
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO= A-4(0)

Remarks

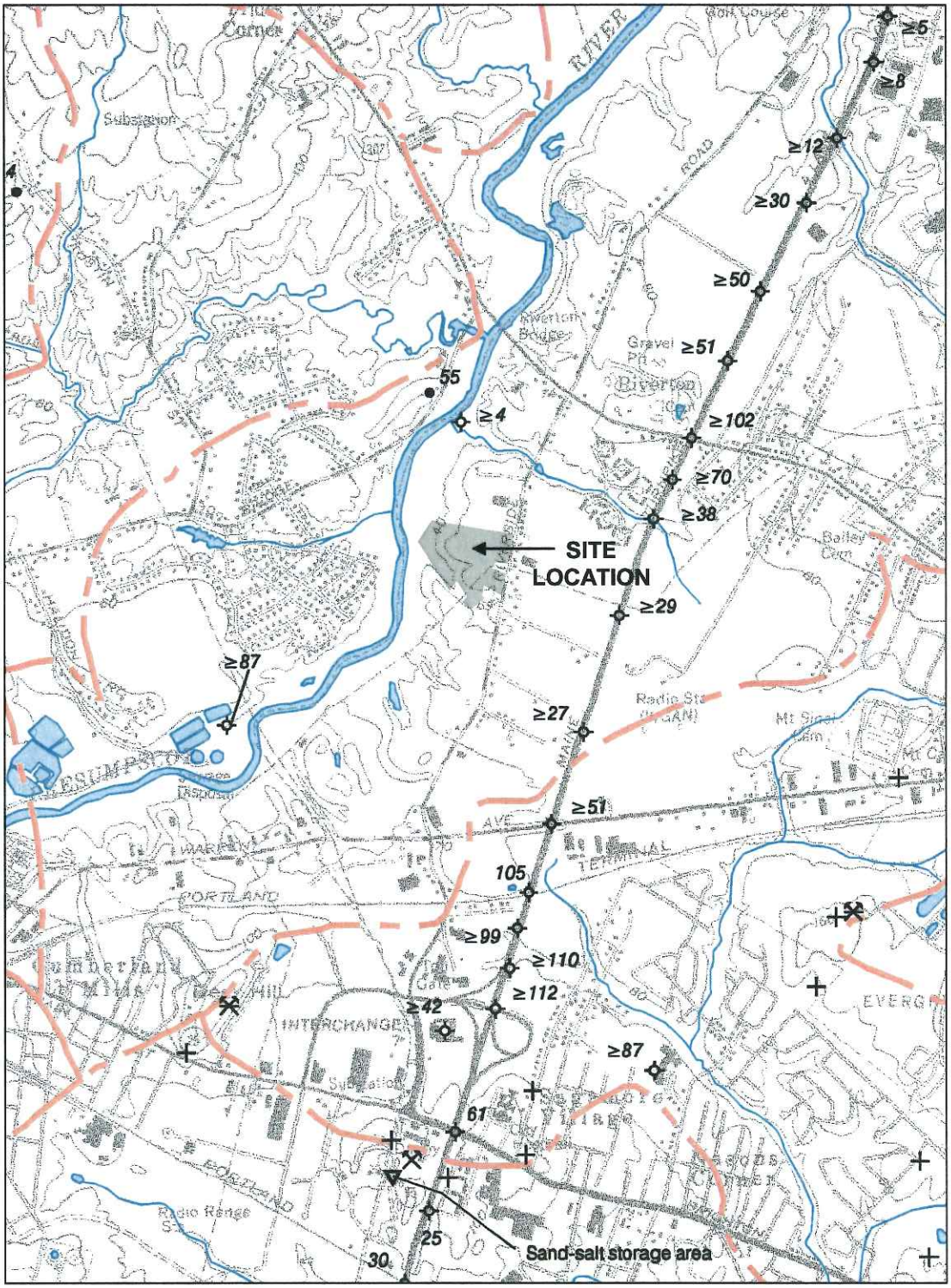
Moisture content: 16.8%

Sample No.: S-2 **Source of Sample:** TP-12 **Date:** 7/9/06
Location: Portland, Maine **Elev./Depth:** 3'-5'

R.W. Gillespie & Associates, Inc.
Saco, Maine

Client: Civil Consultants, Inc.
Project: Proposed Metal Recycling Facility
Project No: 427-44 **Lab #** 9522c

Tested By: JTR/DCH **Checked By:** MTG MTG



AQUIFER MAP *Portion of Portland West Map*		*PREPARED FOR:*	*Prolerized New England LLC* *d/b/a Schnitzer Northeast* *Scrap Metal Recycling Facility* *Riverside Street, Portland, Maine*
JOB NO: 06-769.00	*Scale: reduced*	*DATE: September 2007*	

J:\aaa\2006\0676900\AQUIFERmap.doc

CIVIL CONSULTANTS
P.O. Box 100 South Berwick, Maine 03908 207-384-2550

SIGNIFICANT SAND AND GRAVEL AQUIFERS
(yields greater than 10 gallons per minute)

---------- Approximate boundary of surficial deposits with significant saturated thickness where potential ground-water yield is moderate to excellent.

Surficial deposits with good to excellent potential ground-water yield; yields generally greater than 50 gallons per minute to a properly constructed well. Deposits consist primarily of glacial sand and gravel, but can include areas of sandy till and alluvium; yield zones are based on subsurface data where available, and may vary from mapped extent in areas where data are unavailable.

Surficial deposits with moderate to good potential ground-water yield; yields generally greater than 10 gallons per minute to a properly constructed well. Deposits consist primarily of glacial sand and gravel, but can include areas of sandy till and alluvium; yields may exceed 50 gallons per minute in deposits hydraulically connected with surface-water bodies, or in extensive deposits where subsurface data are available.

SURFICIAL DEPOSITS WITH LESS FAVORABLE AQUIFER CHARACTERISTICS
(yields less than 10 gallons per minute)

Areas with moderate to low or no potential ground-water yield (includes areas underlain by till, marine deposits, eolian deposits, alluvium, swamps, thin glacial sand and gravel deposits, or bedrock); yields in surficial deposits generally less than 10 gallons per minute to a properly constructed well.

SEISMIC-LINE INFORMATION

Profiles for selected 12-channel seismic lines are shown on Plate 2 of Open-File Report 83-1 (Tolman and others, 1983). Length of 12-channel and single-channel seismic lines as shown on the map is to scale.

63 Depth to bedrock, in feet below land surface.

≥53 Depth to bedrock exceeds depth shown (based on calculations).

12 Depth to water level, in feet below land surface.

MAP-7 ***131***, **23** Twelve-channel seismic line, with depth to bedrock and depth to water shown at the midpoint of the line, in feet below land surface.

69, **12**
MAP-E
72, **12** Single-channel seismic line, with depth to bedrock and depth to water shown at each end of the line, in feet below land surface. Unless otherwise indicated, data shown above the line-identifier box refers to the northern end of the seismic line.

The 3-letter identifier for a line is an abbreviation for the topographic quadrangle. If the 3-letter identifier for the line is followed by a number (ex: MAP - 7, MAP - 4), the line is a 12-channel line. If the identifier is followed by a letter (ex: MAP - E, MAP- P), the line is a single-channel line. Seismic interpretations by C. D. Neil and D. H. Tepper.

GEOLOGIC AND WELL INFORMATION

50 Depth to bedrock, in feet below land surface

≥13 Penetration depth of boring; ≥ symbol refers to minimum depth to bedrock based on boring depth or refusal

6 Depth to water level in feet below land surface (observed in well, spring, test boring, pit, or seismic line)

Gravel pit (overburden thickness noted in feet, e.g. 5-12')

Quarry

4 GPM Yield (flow) of well or spring in gallons per minute (GPM)

Spring, with general direction of flow

Drilled overburden well

Dug well

Observation well (project well if labeled; nonproject well if unlabeled)

Test boring (project boring if labeled; nonproject boring if unlabeled)

Driven point

Test pit

Drilled bedrock well

Potential point source of ground-water contamination

Bedrock outcrop

Surface-water drainage-basin boundary; surface-water divides generally correspond to ground-water divides. Horizontal direction of ground-water flow generally is away from divides and toward surface-water bodies.

AQUIFER LEGEND

Prolerized New England Company

Recycling Today for the Future

Ferrous Scrap:

1. Loaded trucks will enter the facility at the incoming staging area and receive notification to proceed to the incoming scale.
2. Office will weigh in truck and determine commodity.
3. Customer will be issued incoming ticket from office.
4. Customer will proceed, to the ferrous unloading area, contact inspector for grading of load and instructions for unloading location.
5. Load will be inspected, graded and unloaded with front end loader, magnet or grapple.
6. Inspector will sign inspection ticket.
7. Customer will proceed to outbound scale, get weighed out and pulls off scale to outbound staging area.
8. Customer parks truck, goes to office submits ticket and is paid for materials.

Non-ferrous Scrap: (Small trucks)

1. Loaded trucks will enter the incoming staging area.
2. The majority of non-ferrous customers will be small trucks and will proceed to the Metals Recycling building for weighing on a small platform scale inside the building.
3. The materials will be unloaded in the building, inspected, graded and the customer will be issued a ticket.
4. Customer will proceed out of the building to the outbound staging area.
5. Customer parks truck, goes to office submits ticket and is paid for materials.

PO Box 48 • 69 Rover Street • Everett, MA 02149 • Phone (617) 389-8300 • Fax (617) 389-8030

Non-ferrous Scrap: (Large trucks)

1. Loaded trucks will enter the facility at the incoming staging area and receive notification to proceed to the incoming scale.
2. Office will weigh in truck and determine commodity.
3. Customer will be issued incoming ticket from office.
4. Customer will proceed to the non-ferrous unloading area, contact inspector for grading of load and instructions for unloading location.
5. Received materials will be sorted and placed in the specific graded stockpile areas designated by operations supervision.
6. This material will be handled by either front end loaders, magnets or grapples
7. Inspector will sign inspection ticket.
8. Customer will proceed to outbound scale, get weighed out and pulls off scale to outbound staging area.
9. Customer parks truck, goes to office submits ticket and is paid for materials.

Metals Recycling Building flow:

1. Received materials will be sorted and placed in the specific graded stockpile areas designated by operations supervision.
2. This material will be sorted and graded into small mobile bins in the Process and grading area of the building.
3. Materials are moved daily from the process and grading area of the building to the commodity warehouse area for storage until sold, when it will be loaded out via truck dock.
4. Outbound trucks with sold commodity will proceed to the outbound scale to be weighed for inventory control.

Bailing Building flow:

1. Materials stored in the Non-ferrous recycling storage areas outside will be moved with front end loaders, grapples or yard trucks into the Bailing Building on a regular basis.
2. These materials will enter a bailer and be prepared for outbound shipping.
3. Materials are moved from the bailing area to the bailing warehouse for storage until sold, when it will be loaded.
4. Bailed materials will be loaded onto trucks which enter the back of the bailing building.
5. Outbound trucks with sold commodity will proceed to the outbound scale to be weighed for inventory control.

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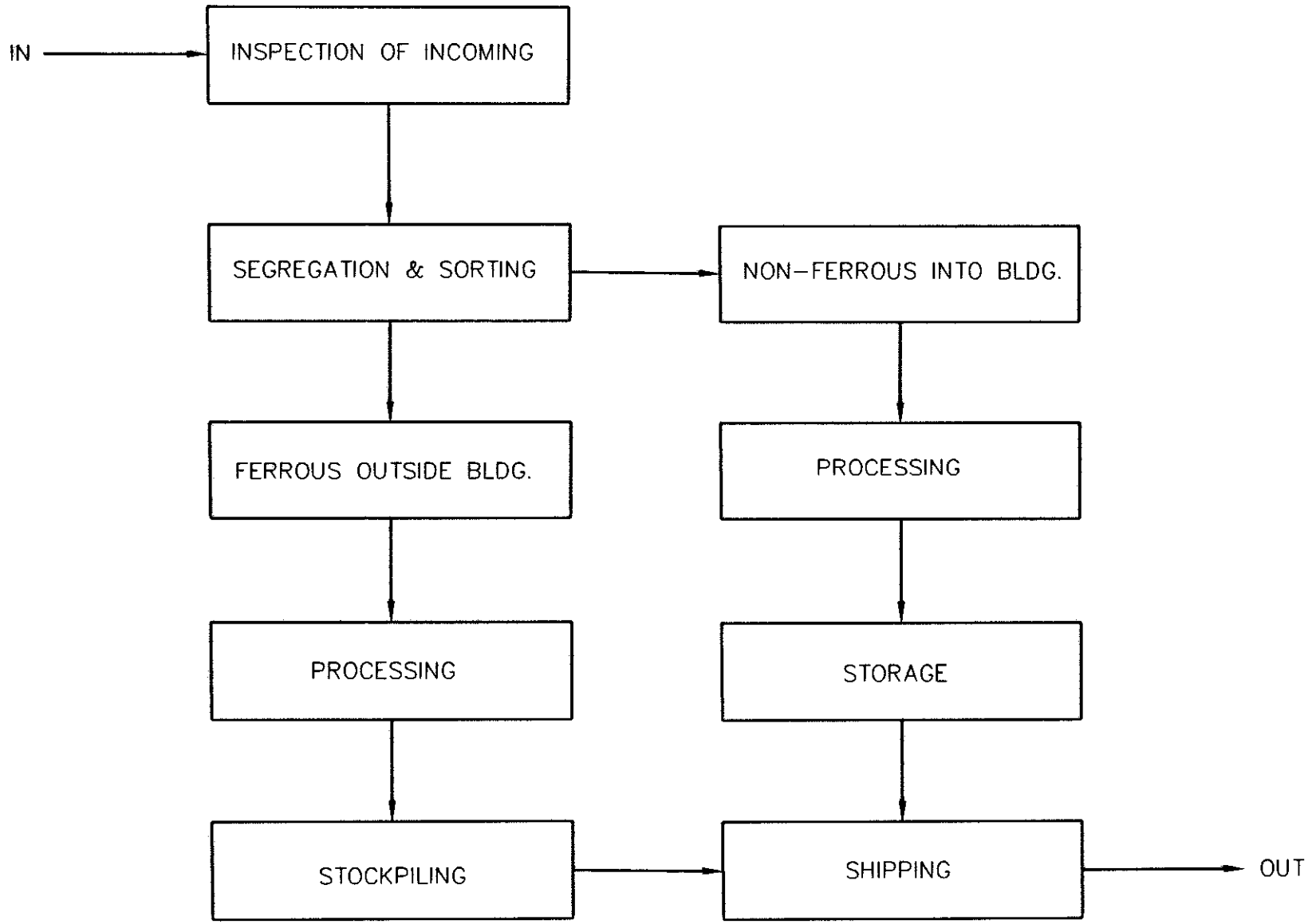

CARL V. BEAL No. 8013 PROFESSIONAL ENGINEER STATE OF MAINE

CIVIL CONSULTANTS

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Planners
Surveyors

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NO.	REVISIONS	INIT.	DATE

SCRAP METAL RECYCLING FACILITY
PROLERIZED NEW ENGLAND CO, LLC
RIVERSIDE STREET
PORTLAND, MAINE
PREPARED FOR:
PROLERIZED NEW ENGLAND CO, LLC
MAILING ADDRESS 89 RIVER STREET EVERETT, MA 02149

CIVIL CONSULTANTS

DESIGNED DHD/JAA DATE
DRAWN 14 FEBRUARY 2008
CHECKED
APPROVED
SCALE NOT TO SCALE
SHEET TITLE:
- PROCESS FLOW DIAGRAM
SHEET NUMBER:
SHEET
PROJECT # 06-769.00

Narrative Summary of
Environmental Monitoring Plan

Prolerized New England Company LLC
Riverside Street Facility, Portland

In accordance with the requirements of Chapter 31 Scrap Metal Recycling Facilities of the Portland Municipal Code and the Amendments to Scrap Metal Recycling Facilities Rules (the "Rules"), promulgated by the Department of Planning and Development (the "Department"), Prolerized New England Company LLC ("PNE") will apply for a license from the City Council to operate its proposed scrap metal recycling facility at the Riverside Street location. R. W. Gillespie & Associates, Inc. ("Gillespie") has prepared a Baseline Soil Sampling Program for the proposed Prolerized scrap metal recycling facility on Riverside Street in Portland (the "Facility"). As required by the Rules, Gillespie has submitted the report to the Department and requested review by the Department as a prerequisite to obtaining its license. In addition, PNE is applying to the Maine Department of Environmental Protection ("Maine DEP") for a solid waste processing facility license, which will also include an Environmental Monitoring Plan.

In accordance with Chapter 31 and DEP solid waste regulations, PNE will work with the Department and the DEP to develop appropriate locations for groundwater monitoring wells. Monitoring of both soil and ground water will be conducted as required by Chapter 31, the Rules, and the Maine DEP regulations. The site plan submitted by PNE for final planning board approval will show the approximate locations of the permanent monitoring wells.

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Traffic Impacts

On behalf of Prolerized New England, also referred to for purposes of the application as Schnitzer Northeast, Gorrill-Palmer Consulting Engineers, Inc. conducted a traffic impact study to quantify the impacts to local traffic that the proposed facility will have. The study was based on a 20% increase over the existing New England Metal Recycling LLC Bayside facility's capacity and traffic generation.

The study's conclusions include, among other things, the following four points:

1. The proposed development is forecast to generate 19 and 17 trip ends for the weekday AM and PM peak hours, respectively. This number of trips does not trigger the need for a MaineDOT traffic permit.

2. The levels of service at the Warren Avenue and Forest Avenue intersections with Riverside Street will not be affected by the proposed development.

3. There are no high crash locations within the study area.

4. Sight lines exceed MaineDOT and City of Portland minimum requirements.

Based on the Gorrill-Palmer study, Prolerized New England has demonstrated that the incremental volume of traffic will not create or aggravate any significant hazard to safety at or to and including intersections in any direction where traffic is expected to be impacted by the proposed facility. Further, the development will not substantially increase congestion on Riverside Street, or at any nearby intersections, including the intersections of Riverside Street with Warren and Forest Avenues.

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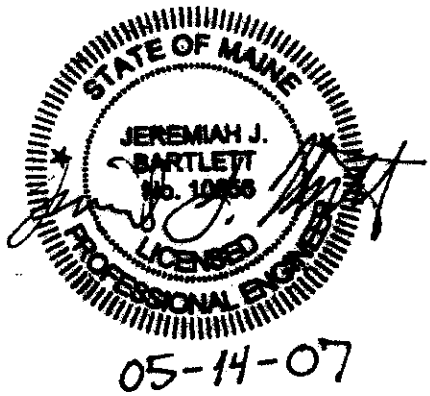
Traffic Impact Study
Schnitzer Steel
Portland, Maine



05-14-07

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May 2007

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Traffic Impact Study
Schnitzer Steel
Portland, Maine

Index

Executive Summary

The following Executive Summary is prepared for the reader's convenience, but is not intended to be a substitute for reading the full report.

Gorrill-Palmer Consulting Engineers, Inc. was retained by Civil Consultants of South Berwick, Maine to prepare a traffic impact study for the proposed relocation of the New England Metals operation on Somerset Street to Riverside Street, where it will be known as Schnitzer Steel. As with the current facility, the proposed facility would act as a transfer station for metals. This study is based on a twenty percent increase in capacity (and therefore, traffic) over the existing facility. Access to the proposed site would be via a driveway on Riverside Street, approximately 1,400 feet south of Waldron Way.

Based on the findings of the traffic impact study, our office reached the following conclusions:

1. The proposed development is forecast to generate 19 and 17 trip ends for the weekday AM and PM peak hours, respectively. (Note: A trip end is either a trip in or out of the site. Therefore a round trip would equal two trip ends). Of these, we anticipate seven trucks during the AM peak hour and five trucks during the PM peak hour. As each truck is considered two passenger car equivalents (PCE's) for the purposes of permitting, total site trip generation is forecast to be 26 and 22 PCE's for the AM and PM peak hours. This level of trip generation is below that required for a traffic movement permit.

2. The level of service analyses show the site traffic does not affect the level of service at the study area intersections of Riverside Street with Warren Avenue and Forest Avenue. All movements to and from the site driveway are anticipated to operate at a level of service 'C' or better.

3. Gorrill-Palmer Consulting Engineers, Inc. referenced the MaineDOT High Crash listings to determine if there were any high crash locations in the project vicinity. Based on the published history, there are no High Crash Locations within the study area.

4. The sight lines at the proposed driveway exceed MaineDOT and City of Portland requirements. Gorrill-Palmer Consulting Engineers, Inc. recommends that all plantings, which will be located within the right-of-way, not exceed three feet in height and be maintained at or below that height. Signage should not interfere with sight lines. In addition, we recommend that during construction, when heavy equipment is entering and exiting into the site, that appropriate measures, such as signage and flag persons, be utilized in accordance with the Manual on Uniform Traffic Control Devices.

Based on these findings, it is the opinion of Gorrill-Palmer Consulting Engineers, Inc. that the local street system can accommodate the traffic generated by the site.

I. Existing and Proposed Site

The proposed site is located on west side of Riverside Street, south of Waldron Way. The site is currently occupied by a residence which is currently uninhabited. The site is relatively level (excepting a corner on the northern portion of the site) and a mixture of open and wooded areas. A site location plan is provided in Appendix A.

The proposed development would consist of an approximately 18,800 square foot facility that will act as a metal transfer facility. A large paved area would be at the rear of the site that would allow for temporary staging and maneuvering of large trucks. Three entry lanes would be provided for trucks, as well as a lane for smaller vehicles (pickups with trailers), and a single exit lane. The site would be served by twenty parking spaces for employees. The driveway would be located approximately 1,400 feet south of the Riverside Street/Waldron Way intersection.

II. Background Traffic Conditions

Gorrill-Palmer Consulting Engineers, Inc. based the study on the following information:

- A site plan prepared by Civil Consultants dated March, 2007
- High Crash Listings for 2003-2005 provided by the Maine Department of Transportation.
- Turning movement count completed on March 27, 2007 from 3:30 PM to 6:00 PM at the intersection of Riverside Street and Warren Avenue.
- Turning movement count completed on April 3, 2007 from 3:15 PM to 6:00 PM at the intersection of Riverside Street and Forest Avenue.
- Riverside Street in the vicinity of the site consists of a three-lane section (one travel lane in each direction plus a dedicated two-way center left turn lane) and four-foot shoulders. Riverside Street is posted at 35 mph.

2008 Predevelopment Traffic Volumes

Seasonal Adjustment

The MaineDOT utilizes highway classifications of I, II, or III for state and local roadways. Type I roadways are defined as urban roadways, or those roads that typically see commuter traffic and experience little fluctuation from week to week throughout the year. Type II roadways, or arterial roadways are those that see a combination of commuter and recreational traffic and therefore experience moderate fluctuations during the year. Type III roadways, or recreational roadways are typically used for recreational purposes and experience significant seasonal fluctuation.

The roadways in the study area are classified as Type I. A seasonal adjustment of seventeen percent was applied to the Riverside Street/Warren Avenue intersection, and an adjustment of fifteen percent was applied to the Riverside Street/Forest Avenue intersection.

Annual Adjustment

Based on historic counts completed by MaineDOT, traffic volumes are typically increasing by one percent per year. Therefore, a one percent adjustment was utilized to compute the 2008 adjusted traffic volumes.

Other Development

Approved projects that are not yet opened as well as projects for which applications have been filed are required to be included in the predevelopment volumes for this project. Gorrill-Palmer Consulting Engineers, Inc. has contacted the City of Portland and obtained copies of the analysis completed for the nearby Hammond Lumber project submitted earlier this year. Based on this information, our office anticipates that the following projects may affect traffic in the vicinity of this project:

- ***Morrill's Crossing:*** A mixed-use commercial site, this project would be located on Allen **Avenue adjacent to Morrill's Corner.**
- *Car Wash:* A vehicle washing facility to be located on Warren Avenue east of Riverside Street.
- *Rug Depot:* A carpet-based retail facility to be located on Warren Avenue east of Riverside Street.
- *Hammond Lumber:* A lumber retail facility to be located at the northwest corner of Riverside Street and Warren Avenue.

Predevelopment Volumes

The raw volumes shown on Figure 2 of Appendix A were seasonally and annually adjusted to result in the 2008 adjusted volumes shown on Figure 3. The traffic from other development as shown on Figure 4 was combined with the adjusted volumes to result in the 2008 predevelopment volumes shown on Figure 5.

III. Trip Generation

Typically, the Institute of Transportation Engineers publication *Trip Generation*, Seventh Edition is utilized to forecast trips associated with a proposed project. However, in the case of a highly specialized facility such as the proposed Schnitzer Steel site, published data is insufficient to determine future activity. Therefore, our office obtained the activity logs for the existing New England Metals site on Somerset Street (which would be relocated to this site) to determine the potential for trip generation.

The logs recorded non truck and truck activity for the week of August 29, 2005, which is enclosed in Appendix C of this report. Based on the weekly information, an hourly activity level of traffic coming in to the site was tabulated and is summarized in the following table:

New England Metals: Hourly Traffic Volumes (Entering Traffic)*

Time	18 wheelers	10 wheelers	4 wheelers	Total
6:30 – 7:30	0.6	1.8	3.2	5.6
7:30 – 8:30	1.2	2.0	2.4	5.6
8:30 – 9:30	0.8	2.4	4.4	7.6
9:30 – 10:30	0.4	1.2	5.0	6.6
10:30 – 11:30	0.8	1.4	7.0	9.2
11:30 – 12:30	0.6	1.4	5.4	7.4
12:30 – 1:30	0.8	1.4	6.2	8.4
1:30 – 2:30	0.8	1.4	8.4	10.6
2:30 – 3:30	0.4	2.2	4.6	7.2
3:30 – 4:30	0.2	1.6	2.2	4.0
Total	**6.6**	**16.8**	**48.8**	**72.2**
Percent of Total Traffic	**9%**	**22%**	**69%**	**100%**

*Based on activity logs provided by New England Metals.

To determine total hourly trip generation, our office assumed full turnover of all entering traffic within an hour. This is a conservative estimate, as some vehicles may remain on-site longer than this period. In addition, although operations at the proposed facility are anticipated to be similar to the existing Somerset Street site, we increased processing by twenty percent to allow for the potential of additional on-site activity. What follows is the resulting existing and projected peak hour information for the purposes of determining permitting applicability and for analysis:

Peak Hour Traffic

Time	Total		Trucks	
	Existing	Projected*	Existing	Projected*
8:30 – 9:30 AM (Peak of Local Street)	16	19	6	7
1:30 – 2:30 PM (Peak of Generator)	21	25	4	5
3:30 – 4:30 PM (Peak of Local Street)	14	17	4	5

*Assumes a twenty percent increase in material handling.

As can be seen from the above table, the peak trip generation for the facility, at 25 vehicles, does not warrant a traffic movement permit from the MaineDOT, or in this case, the City of Portland, which has delegated review authority. It should be noted that for the purposes of permitting, the trucks are considered two passenger car equivalents (PCE's); therefore, the peak activity for permitting is 30 PCE's.

For the purposes of analysis, the PM peak hour is considered the overall design hour in this location, and is assumed to coincide with site operations (a conservative estimate, based on the data provided to our office). Therefore, the study is based on PM peak traffic volumes with the PM data from the site superimposed on the study area.

IV. Trip Distribution

As the trip generation was based on full turnover of all vehicles entering the site (and therefore resulting in a conservative estimate), the trip distribution is fifty percent entering and fifty percent exiting.

V. Trip Composition

All trips associated with this facility are expected to be primary in nature, as is typical for this type of land use.

VI. Trip Assignment

Trip assignment for non heavy vehicles (pickups, etc.) was based on existing traffic patterns in the study area. The same methodology was applied to entering heavy vehicle traffic. However, for exiting heavy vehicle traffic (i.e. vehicles loaded with materials to be sent off to additional processing), the majority of trucks (80 percent) were routed to the Riverside exit of I-95/Maine Turnpike, with the remainder (20 percent) routed to upper Riverside Street with destinations of I-95 or Route 100.

Trip distribution and trip assignment diagrams can be found in Figures 6 and 7 of Appendix A.

VII. 2008 Post Development Traffic

The anticipated year 2008 predevelopment traffic shown in Figure 5 has been combined with the traffic forecast for the development shown in Figure 7 to yield the 2008 postdevelopment traffic shown in Figure 8 of Appendix A.

VIII. Study Area

The study area for this report includes the following intersections:

- Riverside Street at Warren Avenue (signalized)
- Riverside Street at Forest Avenue (signalized)
- Riverside Street at Site Drive (unsignalized)

IX. Capacity Analyses

Gorrill-Palmer Consulting Engineers, Inc. completed capacity analyses for the intersections listed in Section VIII.

The analysis for the signalized locations was completed utilizing the Synchro analysis software package, with outputs based on the HCM level of service methodology. The analysis for the site driveway was completed with the HCS package, as it allows for modeling unsignalized driveways on a roadway with a center left turn lane. Levels of service rankings are similar to the academic ranking system where an 'A' represents little control delay and an 'F' represents extensive delay. A level of service 'D' and higher is typically desirable for a signalized intersection. At an unsignalized intersection, if the level of service falls below a 'D', an evaluation should be made to determine if a traffic signal is warranted. It should be noted that in urban compact municipalities,

The following table summarizes the relationship between control delay and level of service for a signalized intersection:

Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (sec)
A	Up to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	Greater than 80.0

The following table summarizes the relationship between delay and level of service for an unsignalized intersection:

Level of Service Criteria for Unsignalized Intersections

Level of Service	Control Delay per Vehicle (sec)
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The results of the capacity analyses are are summarized below. All scenarios are analyzed with the existing conditions at the intersection of Riverside Street and Forest Avenue. The postdevelopment conditions are analyzed with the addition of the site driveway. In addition, two postdevelopment scenarios have been completed for the intersection of Warren Avenue and Riverside Street. The first reflects existing conditions, while the second reflects those improvements proposed by the Maine Department of Transportation. This information is based on the traffic impact study for Hammond Lumber prepared by Sebago Technics. The analysis printouts are included in Appendix B.

Level of Service for Riverside Street at Forest Avenue (Signalized)

Lane Group	PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Forest EB LT	76	E	76	E
Forest EB TH/RT	47	D	47	D
Forest WB LT	54	D	54	D
Forest WB TH/RT	>100	F	>100	F
Riverside NB LT	92	F	92	F
Riverside NB TH/RT	46	D	46	D
Riverside SB LT	36	D	36	D
Riverside SB TH	58	E	58	E
Riverside SB RT	<1	A	<1	A
Overall	**67**	**E**	**67**	**E**

Based on the analysis, several lane groups are forecast to experience delay. This has been identified in previous studies, and is typical for a signalized urban intersection with a large volume of left turns approaching from a side street. Field visits indicate that existing operations do not result in this level of delay at this intersection. However, the project increases design hour volumes by 0.2 percent, less than typical for daily variation. The project does not impact the levels of service for any of the deficient lane groups, and therefore satisfies MaineDOT criteria for impacts within the urban compact.

Level of Service for Riverside Street at Warren Avenue (Signalized)

Lane Group	PM Peak Hour							
	Existing Conditions				With MaineDOT Improvements			
	Predevelopment		Postdevelopment		Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Warren EB LT	48	D	48	D	32	C	32	C
Warren EB TH/RT	>100	F	>100	F	>100	F	>100	F
Warren WB LT	>100	F	>100	F	36	D	36	D
Warren WB TH/RT	>100	F	>100	F	>100	F	>100	F
Riverside NB LT	74	E	74	E	>100	F	>100	F
Riverside NB TH	53	D	53	D	21	C	21	C
Riverside NB RT	12	B	12	B	8	A	8	A
Riverside SB LT/TH/RT	>100	F	>100	F	>100	F	>100	F
Overall	**>100**	**F**	**>100**	**F**	**99**	**F**	**100**	**F**

Similar to the situation of Forest Avenue and Riverside Street, several lane groups are forecast to experience delay, although this location experiences greater delay. However, the project increases design hour volumes by 0.3 percent, less than typical for daily variation. The project does not impact the levels of service for any of the deficient lane groups, and therefore satisfies MaineDOT criteria for impacts within the urban compact. The addition of the proposed MaineDOT improvements, while not fully addressing the deficiencies, do reduce overall intersection delay from almost 200 seconds of delay to approximately 100 seconds of delay, based on the HCM analysis.

Level of Service for Riverside Street at Site Driveway (Unsignalized)

Lane Group	PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Site EB LT/RT	N/A	N/A	20	C
Riverside NB LT	N/A	N/A	9	A
Riverside NB TH	N/A	N/A	<1	A
Riverside SB TH/RT	N/A	N/A	<1	A

X. Queue Analysis

Based on the analysis from HCM, vehicle queues are not anticipated to consist of more than a single vehicle entering or exiting the site. Given the intermittent nature of traffic anticipated at this facility, this is to be expected.

XI. Parking

The Portland City Ordinance, last revised in March of 2007, requires one parking space per every thousand square feet of industrial uses. The project plans to provide 20 spaces, which is one more than the ordinance requires. This supply should be more than adequate for the ten employees expected to work at the facility.

In addition, the site has been designed to accommodate queued vehicles waiting for the opening of the facility. The entrance will be four lanes in width in order to accommodate up to nine WB-62 trailer trucks as well as seven small trucks/trailers. Overflow truck parking during regular operations will be provided in front of the building.

XII. Crash Data

Gorrill-Palmer Consulting Engineers, Inc. obtained the crash data from MaineDOT for the period of 2003-2005, the most recent period available.

In order to evaluate whether a location has a crash problem, MaineDOT uses two criteria to define High Crash Location (HCL). Both criteria must be met in order to be classified as an HCL.

1. A critical rate factor of 1.00 or more for a three-year period. (A Critical Rate Factor {CRF} compares the actual crash rate to the rate for similar intersection in the state. A CRF of less that 1.00 indicates a rate of less than average) and:
2. A minimum of eight crashes over a three-year period.

The following table summarizes the crash data provided by MaineDOT that satisfies one or both criteria:

MaineDOT Crash Data for 2003-2005: Intersections

Node	Intersection	# of Collisions	CRF	HCL?
6310	Riverside Street at Warren Avenue	30	0.74	No
7310	Riverside Street at Forest Avenue	28	0.77	No

MaineDOT Crash Data for 2003-2005: Links

Nodes	Street Name	# of Collisions	CRF	HCL?
0799-6310	Riverside Street north of Warren	10	0.71	No
0797-7310	Riverside St south of Forest	13	0.63	No

Based on the published history, there are no high crash locations within the study area. The MaineDOT crash history has been provided in Appendix C.

XIII. Pedestrian Accommodations

Riverside Street in the vicinity of the site is served by a bituminous sidewalk on the east side of the roadway (no esplanade). Given the industrial nature of this facility, it is not anticipated that the project will add noticeable demand to pedestrian facilities.

XVI. Sight Line Analysis

The Maine Department of Transportation (MaineDOT) and the City of Portland have guidelines for sight distances at roadways. The sight line standards for MaineDOT and the City of Portland are as follows:

Sight Distance Requirements

Speed (mph)	MaineDOT (ft)	City of Portland (ft)
25	200	367
30	250	440
35	305	513
40	360	587
45	425	660
50	495	773

Gorrill-Palmer Consulting Engineers, Inc. has evaluated the available sight lines at the proposed site driveway on Riverside Street in accordance with MaineDOT and City of Portland standards.

The MaineDOT standards are as follows:

Roadway observation point:	10 feet off major street travelway
Height of eye at roadway:	3 ½ feet above ground
Height of approaching vehicle:	4 ¼ feet above road surface

The posted speed limit on Riverside Street is 35 mph. Based on a site review, the sight distances looking to the left and right of the site driveway exceed 600 feet. Therefore, the available sight distances are acceptable.

Gorrill-Palmer Consulting Engineers, Inc. recommends that all plantings, which will be located within the right of way, not exceed three feet in height and be maintained at or below that height. Signage should not interfere with sight lines. In addition, we recommend that during construction, when heavy equipment is entering and exiting into the site, that appropriate measures, such as signage and flag persons, be utilized in accordance with the Manual on Uniform Traffic Control Devices.

XVII. Conclusions

Gorrill-Palmer Consulting Engineers, Inc. has examined the impact of the traffic associated with the proposed Schnitzer Steel project and reached the following conclusions:

1. The proposed development is forecast to generate 19 and 17 trip ends for the weekday AM and PM peak hours, respectively. (Note: A trip end is either a trip in or out of the site. Therefore a round trip would equal two trip ends). Of these, we anticipate seven trucks during the AM peak hour and five trucks during the PM peak hour. As each truck is considered two passenger car equivalents (PCE's) for the purposes of permitting, total site trip generation is forecast to be 26 and 22 PCE's for the AM and PM peak hours. This level of trip generation is below that required for a traffic movement permit.

2. The level of service analyses show the site traffic does not affect the level of service at the study area intersections of Riverside Street with Warren Avenue and Forest Avenue. All movements to and from the site driveway are anticipated to operate at a level of service 'C' or better.

3. Gorrill-Palmer Consulting Engineers, Inc. referenced the MaineDOT High Crash listings to determine if there were any high crash locations in the project vicinity. Based on the published history, there are no High Crash Locations within the study area.

4. The sight lines at the proposed driveway exceed MaineDOT and City of Portland requirements. Gorrill-Palmer Consulting Engineers, Inc. recommends that all plantings, which will be located within the right-of-way, not exceed three feet in height and be maintained at or below that height. Signage should not interfere with sight lines. In addition, we recommend that during construction, when heavy equipment is entering and exiting into the site, that appropriate measures, such as signage and flag persons, be utilized in accordance with the Manual on Uniform Traffic Control Devices.

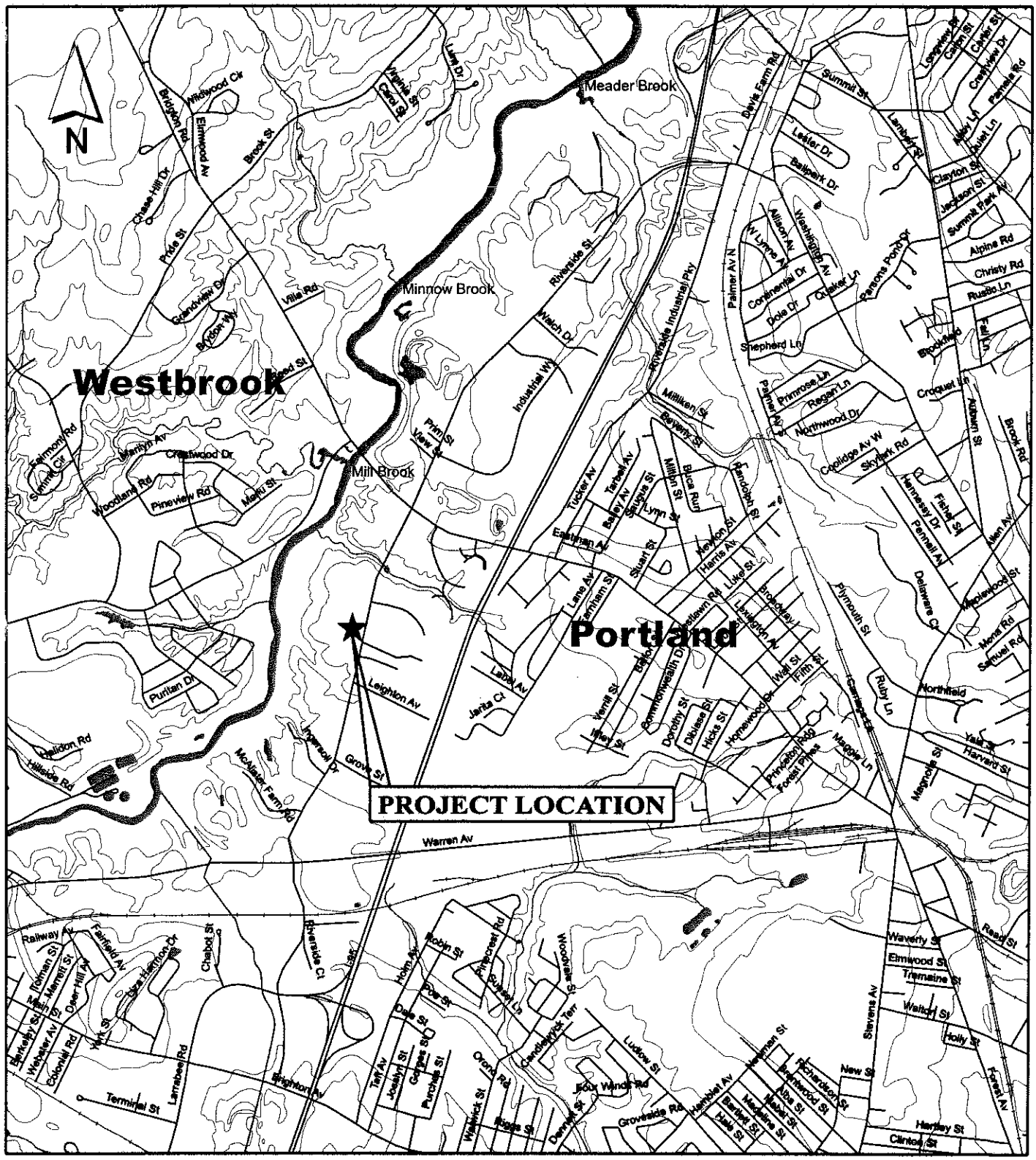
Based on these findings, it is the opinion of Gorrill-Palmer Consulting Engineers, Inc. that the local street system can accommodate the traffic generated by the site.

Appendix A

Site Location Map

Turning Movement Diagrams

Location Map



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FEET
1,000 0 1,000 2,000

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DATE: MAY 2007
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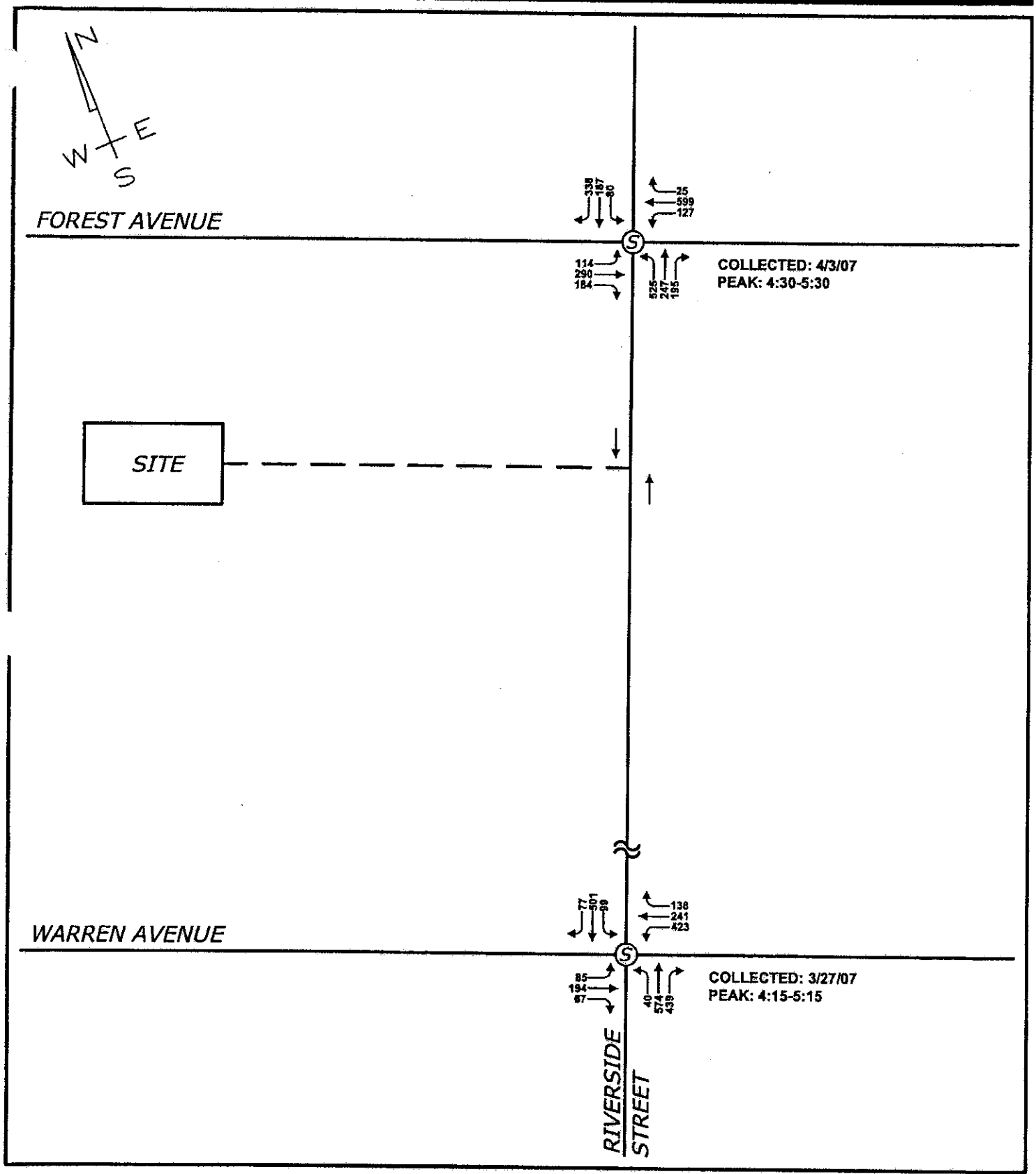
SOURCE: MAINE GIS WEBSITE

Raw Volumes

Figure No. 2



SCHNITZER STEEL, PORTLAND, MAINE

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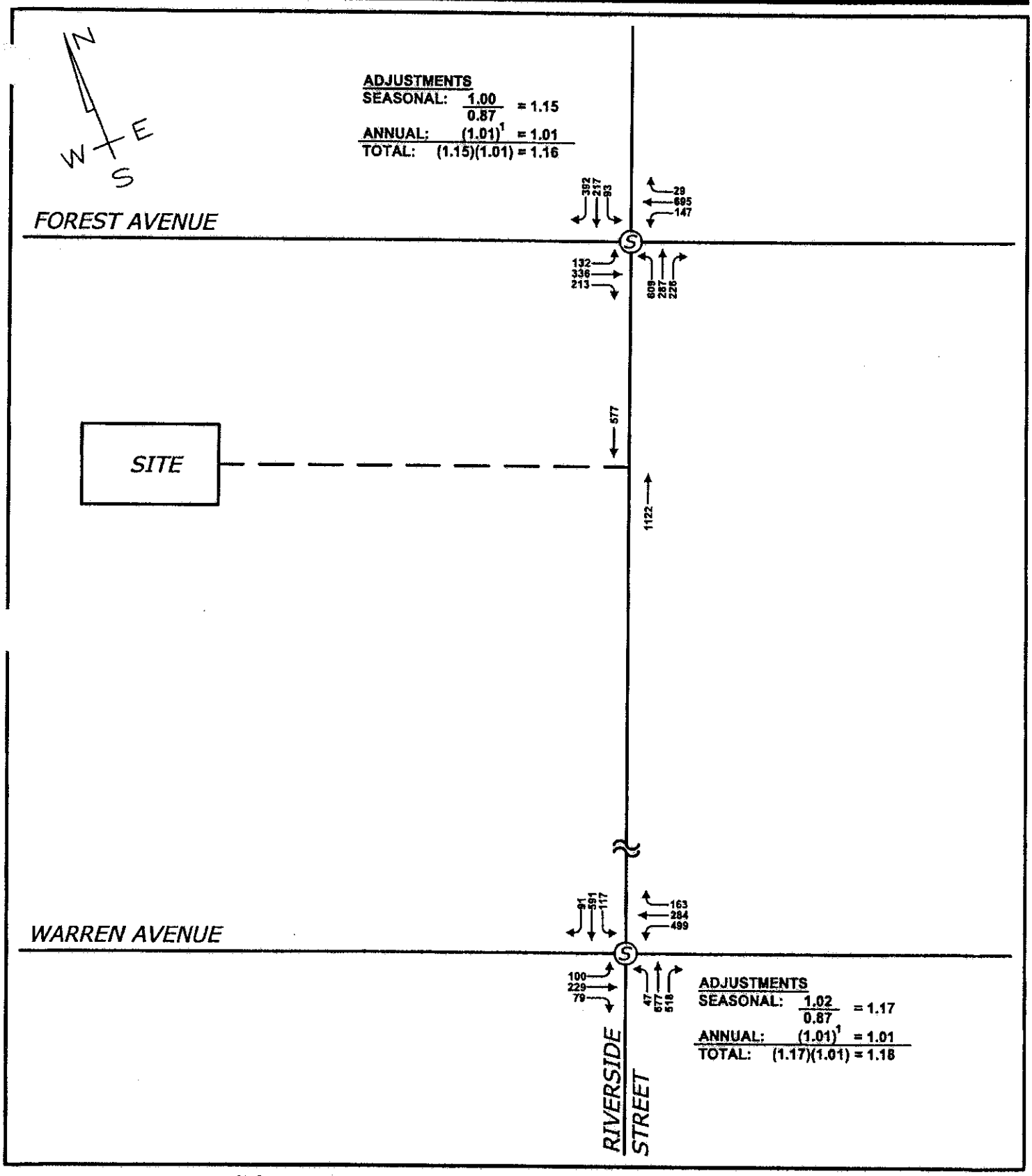
2008 Adjusted Volumes

Figure No. 3



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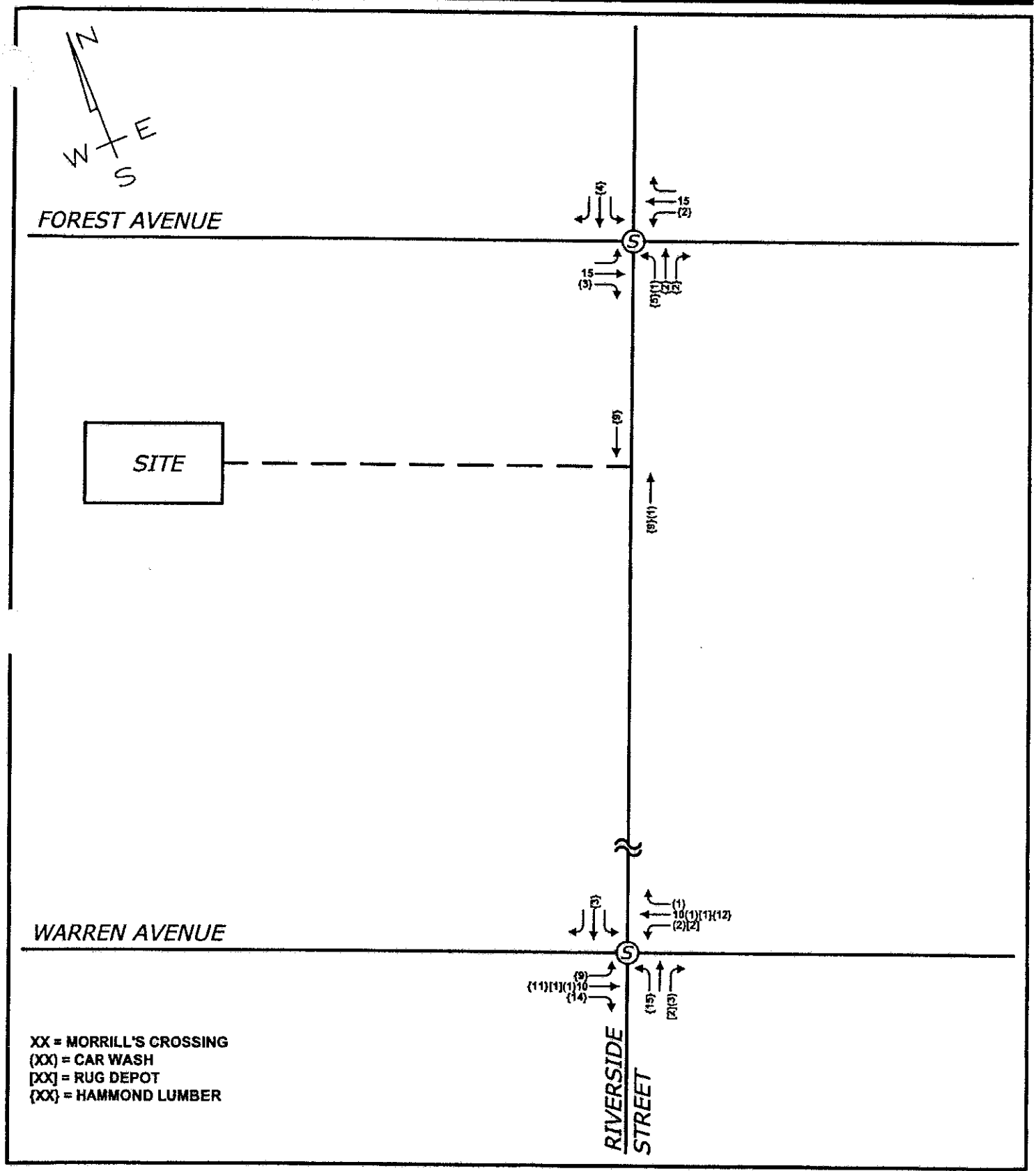
Other Development

Figure No. 4



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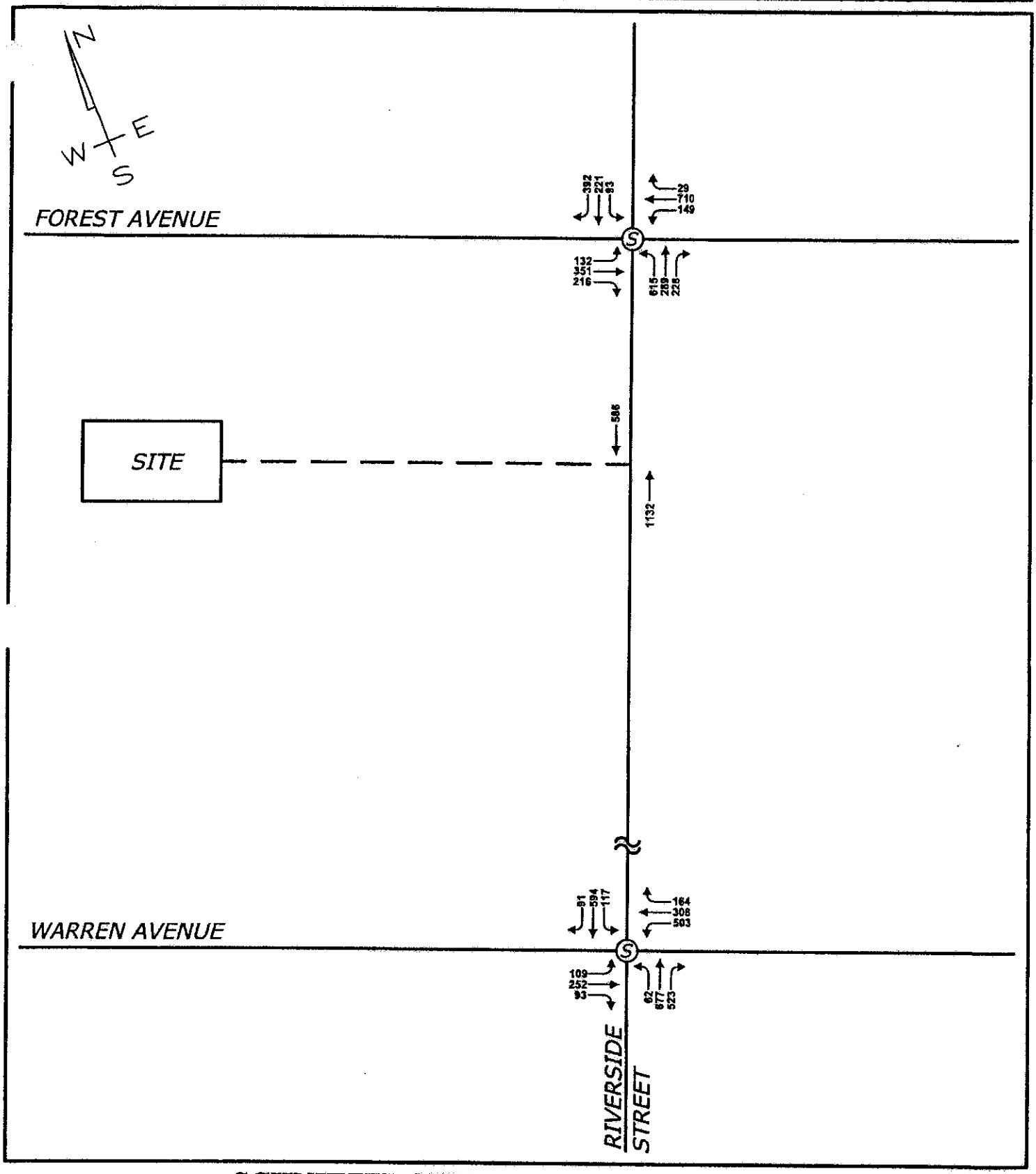
2008 Predevelopment

Figure No. 5



SCHNITZER STEEL, PORTLAND, MAINE

Design:	JJB	Scale:	NONE
Draft:	LMC	Date:	MAY 2007
Checked:	JLW	File Name:	1779-TRAF.dwg

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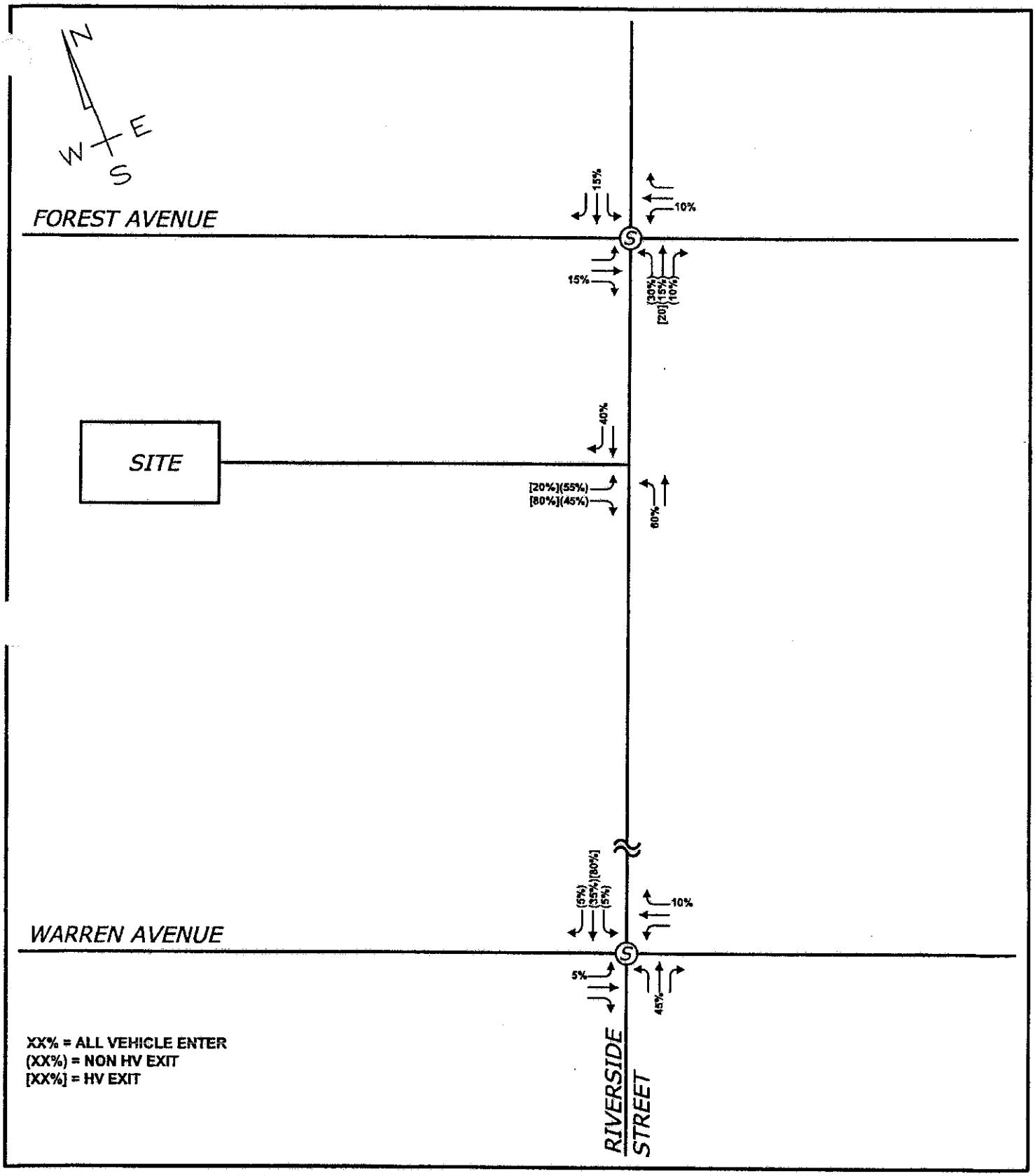
Trip Distribution

Figure No. 6



SCHNITZER STEEL, PORTLAND, MAINE

Design: JJB Scale: NONE
Draft: LMC Date: MAY 2007
Checked: JLW File Name: 1779-TRAF.dwg

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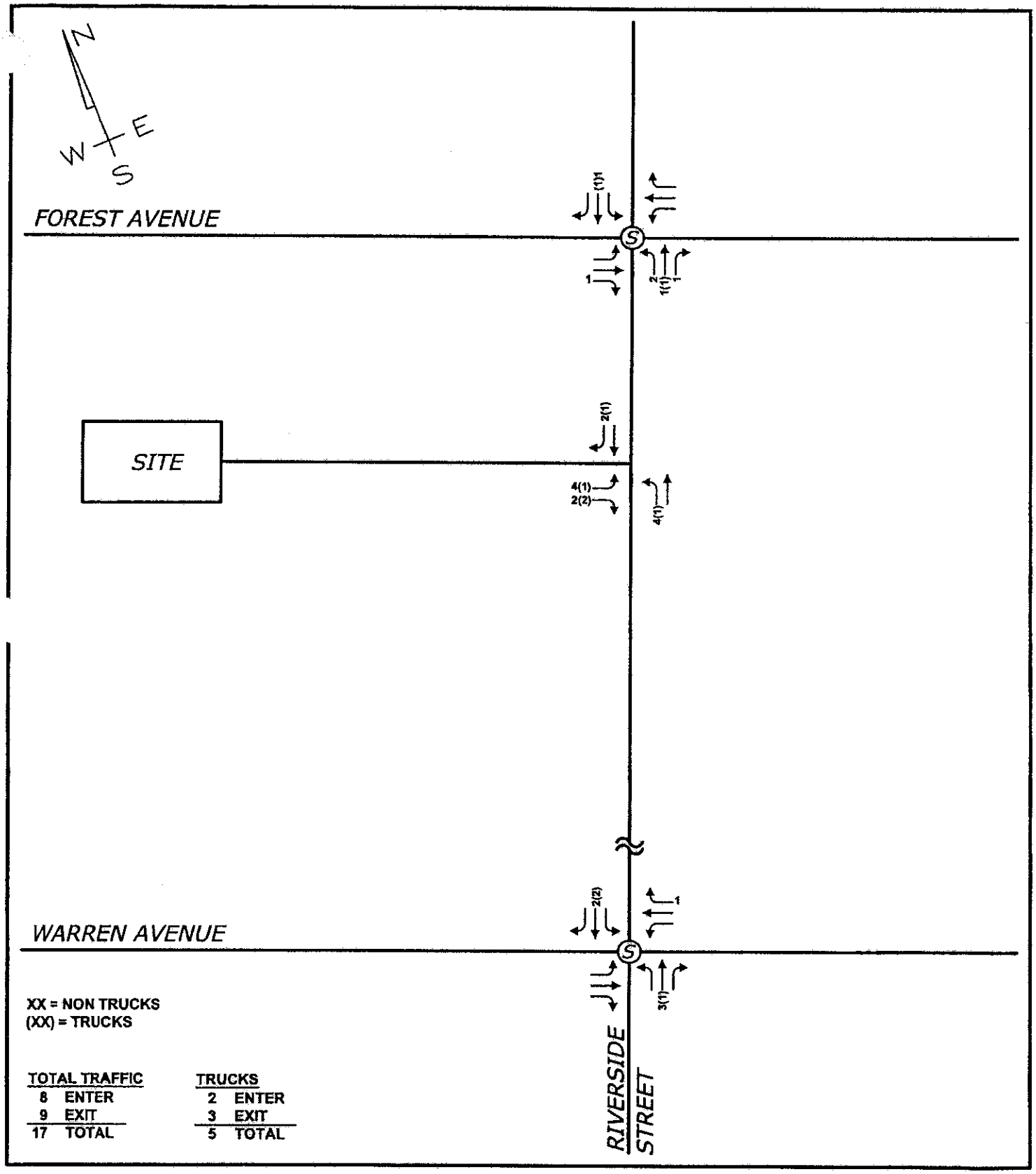
Trip Assignment

Figure No. 7



SCHNITZER STEEL, PORTLAND, MAINE

Design: JJB Scale: NONE
Draft: LMC Date: MAY 2007
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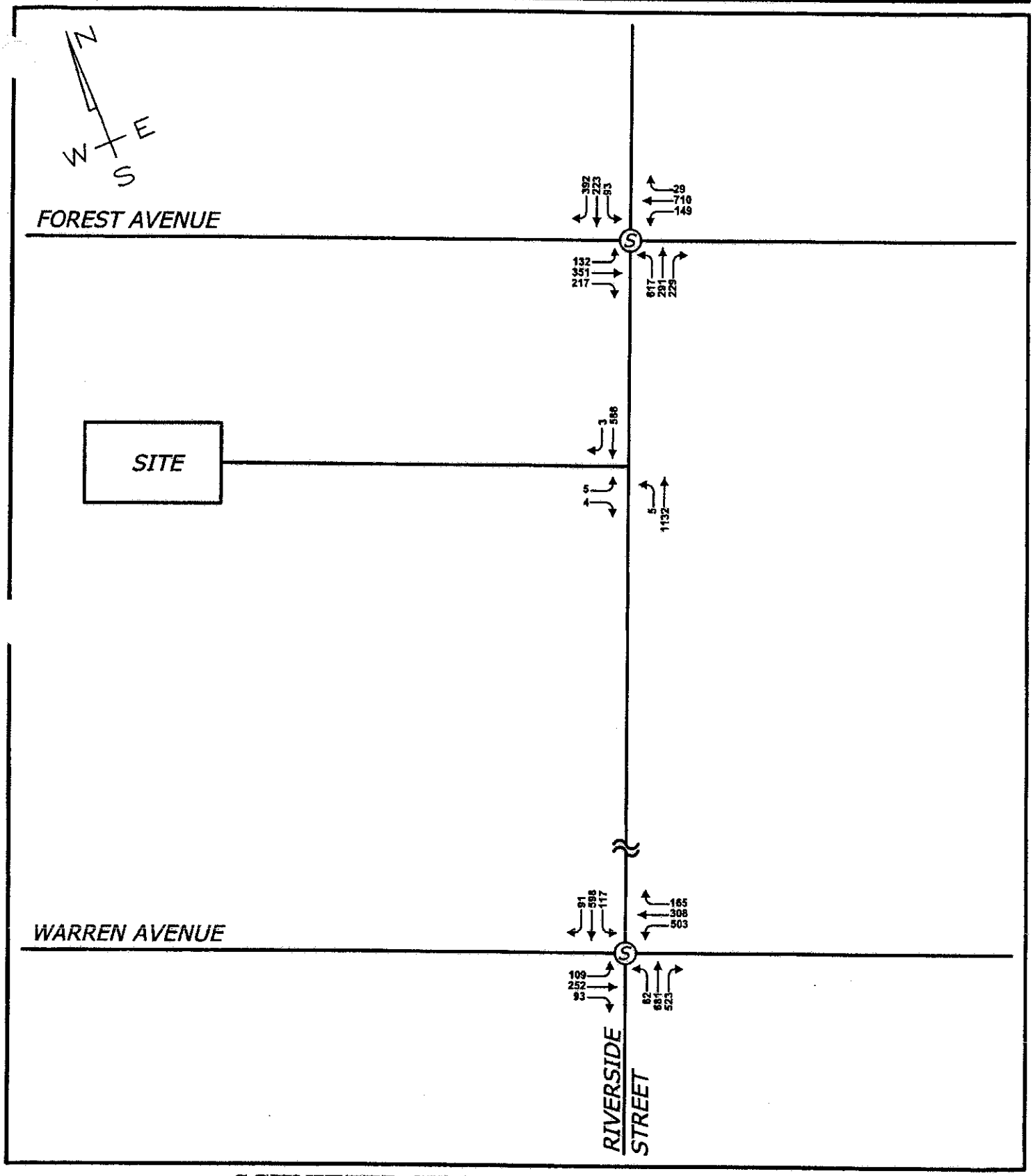
2008 Postdevelopment

Figure No. 8



SCHNITZER STEEL, PORTLAND, MAINE

Design:	JJB	Scale:	NONE
Draft:	LMC	Date:	MAY 2007
Checked:	JLW	File Name:	1779-TRAF.dwg

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Appendix B
Capacity Analysis Results

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	12	12	13	12	12	13	12	12	12	13	12
Grade (%)		2%			0%			0%			0%	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1775	3240		1829	3518		1711	1628		1719	1870	1538
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1775	3240		1829	3518		1711	1628		1719	1870	1538
Volume (vph)	132	351	216	149	710	29	615	289	226	93	221	392
Peak-hour factor, PHF	0.84	0.84	0.84	0.79	0.79	0.79	0.96	0.96	0.96	0.98	0.98	0.98
Adj. Flow (vph)	157	418	257	189	899	37	641	301	235	95	226	400
RTOR Reduction (vph)	0	104	0	0	3	0	0	31	0	0	0	0
Lane Group Flow (vph)	157	571	0	189	933	0	641	505	0	95	226	400
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	9%	9%	9%	5%	5%	5%
Turn Type	Prot			Prot			Split			Split		Free
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												Free
Actuated Green, G (s)	8.0	17.2		10.8	20.0		30.0	30.0		11.9	11.9	89.9
Effective Green, g (s)	9.0	18.2		11.8	21.0		31.0	31.0		12.9	12.9	89.9
Actuated g/C Ratio	0.10	0.20		0.13	0.23		0.34	0.34		0.14	0.14	1.00
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	178	656		240	822		590	561		247	268	1538
v/s Ratio Prot	0.09	0.18		c0.10	c0.27		c0.37	0.31		0.06	c0.12	
v/s Ratio Perm												c0.26
v/c Ratio	0.88	0.87		0.79	1.13		1.09	0.90		0.38	0.84	0.26
Uniform Delay, d1	39.9	34.7		37.8	34.4		29.4	28.0		34.9	37.5	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	36.3	11.8		15.6	75.5		62.7	18.0		1.0	20.8	0.4
Delay (s)	76.2	46.5		53.4	110.0		92.1	46.1		35.9	58.3	0.4
Level of Service	E	D		D	F		F	D		D	E	A
Approach Delay (s)		52.1			100.5			71.1			23.2	
Approach LOS		D			F			E			C	

Intersection Summary			
HCM Average Control Delay	66.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	132	351	216	149	710	29	616	259	228	93	221	392
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.79	0.79	0.79	0.96	0.96	0.96	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	9%	9%	9%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Turn Type	Prot			Prot			Split			Split		Free
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												Free
Detector Phases	7	4		3	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0		21.0	21.0		16.0	16.0	
Total Split (s)	13.0	22.0	0.0	16.0	25.0	0.0	35.0	35.0	0.0	17.0	17.0	0.0
Total Split (%)	14.4%	24.4%	0.0%	17.8%	27.8%	0.0%	38.9%	38.9%	0.0%	18.9%	18.9%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	

Intersection Summary

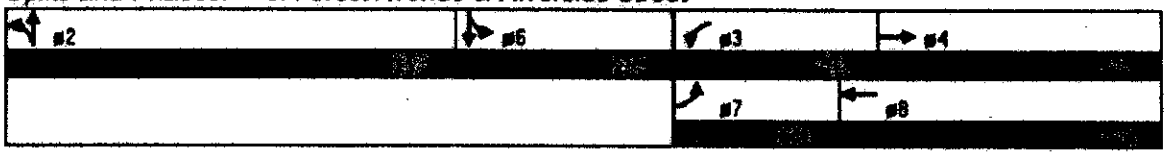
Cycle Length: 90

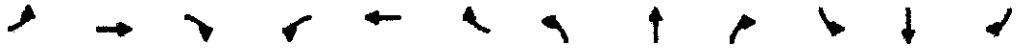
Actuated Cycle Length: 89.3

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Forest Avenue & Riverside Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	12	12	13	12	12	13	12	12	12	13	12
Grade (%)		2%			0%			0%			0%	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1775	3240		1829	3518		1711	1628		1719	1870	1538
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1775	3240		1829	3518		1711	1628		1719	1870	1538
Volume (vph)	132	351	216	149	710	29	615	289	226	83	221	382
Peak-hour factor, PHF	0.84	0.84	0.84	0.79	0.79	0.79	0.96	0.96	0.96	0.98	0.98	0.98
Adj. Flow (vph)	157	418	257	189	899	37	641	301	235	85	226	390
RTOR Reduction (vph)	0	104	0	0	3	0	0	31	0	0	0	0
Lane Group Flow (vph)	157	571	0	189	933	0	641	505	0	85	226	390
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	9%	9%	9%	5%	5%	5%
Turn Type	Prot			Prot			Split			NA		Free
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												Free
Actuated Green, G (s)	8.0	17.2		10.8	20.0		30.0	30.0		11.9	11.9	89.9
Effective Green, g (s)	8.0	17.2		10.8	21.0		31.0	31.0		12.9	12.9	89.9
Actuated g/C Ratio	0.10	0.20		0.13	0.23		0.34	0.34		0.14	0.14	1.00
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	178	656		240	822		590	561		247	269	1538
v/s Ratio Prot	0.09	0.18		c0.10	c0.27		c0.37	0.31		0.05	c0.12	
v/s Ratio Perm												0.25
v/c Ratio	0.88	0.87		0.79	1.13		1.09	0.90		0.34	0.84	0.26
Uniform Delay, d1	39.9	34.7		37.6	34.4		29.5	29.0		36.2	37.5	0.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	36.3	11.9		15.8	76.5		62.7	16.0		1.3	20.8	0.4
Delay (s)	76.2	46.5		53.4	110.0		92.1	46.1		35.9	58.3	0.4
Level of Service	E	D		D	F		F	D		D	E	A
Approach Delay (s)		52.1			100.5			71.1			23.2	
Approach LOS		D			F			E			C	

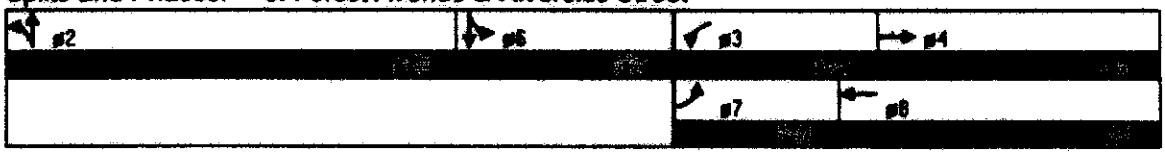
Intersection Summary			
HCM Average Control Delay	66.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group												
Lane Configurations												
Volume (vph)	132	351	215	149	710	29	815	289	226	93	221	392
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.79	0.79	0.79	0.96	0.96	0.96	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	9%	9%	9%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Turn Type	Prot			Prot			Split			Split		Free
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												Free
Detector Phases	7	4		3	8		2	2		6	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0		21.0	21.0		16.0	16.0	
Total Split (s)	13.0	22.0	0.0	16.0	25.0	0.0	35.0	35.0	0.0	17.0	17.0	0.0
Total Split (%)	14.4%	24.4%	0.0%	17.8%	27.8%	0.0%	38.9%	38.9%	0.0%	18.9%	18.9%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	

Cycle Length: 90
Actuated Cycle Length: 89.9
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Forest Avenue & Riverside Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			3%			-1%			2%	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.62	1.00		0.95	
Frt	1.00	0.96		1.00	0.95		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1736	1754		1710	1706		1564	2041	1389		3170	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.52	
Satd. Flow (perm)	1736	1754		1710	1706		1564	2041	1389		1650	
Volume (vph)	109	252	93	503	308	164	62	677	523	117	594	91
Peak-hour factor, PHF	0.79	0.79	0.79	0.86	0.86	0.86	0.93	0.93	0.93	0.80	0.80	0.80
Adj. Flow (vph)	138	319	118	585	358	191	67	728	562	146	742	114
RTOR Reduction (vph)	0	8	0	0	12	0	0	0	81	0	6	0
Lane Group Flow (vph)	138	429	0	585	537	0	67	728	481	0	996	0
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	16%	16%	16%	10%	10%	10%
Turn Type	Split			Split			Prot		pm+ov	pm+pt		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases									2	6		
Actuated Green, G (s)	35.1	35.1		40.1	40.1		10.3	61.0	101.1		45.7	
Effective Green, g (s)	36.1	36.1		41.1	41.1		11.3	62.0	103.1		46.7	
Actuated g/C Ratio	0.24	0.24		0.27	0.27		0.07	0.41	0.68		0.31	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	414	419		465	464		117	837	991		510	
v/s Ratio Prot	0.08	c0.24		c0.34	0.32		0.04	c0.36	0.13			
v/s Ratio Perm									0.21		c0.60	
v/c Ratio	0.33	1.02		1.26	1.16		0.57	0.87	0.49		1.95	
Uniform Delay, d1	47.6	57.6		55.0	55.0		67.6	40.9	11.4		52.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.5	49.9		132.6	92.9		6.6	11.9	0.4		435.7	
Delay (s)	48.1	107.5		187.7	147.9		74.2	52.8	11.8		488.0	
Level of Service	D	F		F	F		E	D	B		F	
Approach Delay (s)		93.2			168.5			36.9			488.0	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	192.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	151.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			3%			-1%			2%	
Storage Length (ft)	210		0	235		0	300		155	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5157			5369			3647			175	
Travel Time (s)		117.4			79.7			82.9			4.0	
Volume (vph)	109	252	83	903	306	184	82	877	523	117	594	91
Peak Hour Factor	0.79	0.79	0.79	0.86	0.86	0.86	0.93	0.93	0.93	0.80	0.80	0.80
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	16%	16%	16%	10%	10%	10%
Turn Type	Split			Split			Prot		pm+ov	pm+pt		
Protected Phases	4	4		8	8		5	2	3	1	6	
Permitted Phases									2	6		
Detector Phases	4	4		8	8		5	2	3	1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		9.0	21.0	21.0	9.0	21.0	
Total Split (s)	40.0	40.0	0.0	45.0	45.0	0.0	25.0	53.0	45.0	22.0	50.0	0.0
Total Split (%)	25.0%	25.0%	0.0%	28.1%	28.1%	0.0%	15.6%	33.1%	28.1%	13.8%	31.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max	None	None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 150.1
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Warren Avenue & Riverside Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			3%			-1%			2%	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.62	1.00		0.95	
Frt	1.00	0.96		1.00	0.95		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1736	1754		1710	1703		1564	2041	1399		3170	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.52	
Satd. Flow (perm)	1736	1754		1710	1703		1564	2041	1399		1650	
Volume (vph)	109	252	93	503	297	164	62	677	523	117	594	91
Peak-hour factor, PHF	0.79	0.79	0.79	0.86	0.86	0.86	0.93	0.93	0.93	0.80	0.80	0.80
Adj. Flow (vph)	138	319	118	585	345	191	67	728	562	146	742	114
RTOR Reduction (vph)	0	6	0	0	12	0	0	0	81	0	6	0
Lane Group Flow (vph)	138	429	0	585	524	0	67	728	481	0	996	0
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	16%	16%	16%	10%	10%	10%
Turn Type	Split			Split			Prot		pm+ov	pm+pt		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases									2	6		
Actuated Green, G (s)	35.1	35.1		40.1	40.1		10.3	61.0	101.1		46.7	
Effective Green, g (s)	36.1	36.1		41.1	41.1		11.3	62.0	103.1		46.7	
Actuated g/C Ratio	0.24	0.24		0.27	0.27		0.07	0.41	0.68		0.31	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	414	419		465	463		117	837	991		510	
v/s Ratio Prot	0.08	c0.24		c0.34	0.31		0.04	c0.36	0.13			
v/s Ratio Perm									0.21		c0.60	
v/c Ratio	0.33	1.02		1.26	1.13		0.57	0.87	0.48		1.95	
Uniform Delay, d1	47.6	57.6		55.0	55.0		67.6	40.9	11.4		52.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.5	49.9		132.6	82.8		6.6	11.9	0.4		435.7	
Delay (s)	48.1	107.5		187.7	137.9		74.3	52.8	11.8		488.0	
Level of Service	D	F		F	F		E	D	B		F	
Approach Delay (s)		93.2			163.9			36.9			488.0	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	191.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	151.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			3%			-1%			2%	
Storage Length (ft)	210		0	235		0	300		155	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5187			3505			3887			175	
Travel Time (s)		117.4			79.7			82.9			4.0	
Volume (vph)	109	252	93	503	297	184	62	677	523	117	594	91
Peak Hour Factor	0.79	0.79	0.79	0.86	0.86	0.86	0.93	0.93	0.93	0.80	0.80	0.80
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	16%	16%	16%	10%	10%	10%
Turn Type	Split			Split			Prot		pm+ov	pm+pt		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases									2	6		
Detector Phases	4	4		8	8		5	2	8	1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		9.0	21.0	21.0	9.0	21.0	
Total Split (s)	40.0	40.0	0.0	45.0	45.0	0.0	25.0	53.0	45.0	22.0	50.0	0.0
Total Split (%)	25.0%	25.0%	0.0%	28.1%	28.1%	0.0%	15.6%	33.1%	28.1%	13.8%	31.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max	None	None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 150.1
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Warren Avenue & Riverside Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			3%			-1%			2%	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	0.95	1.00		0.95	
Frt	1.00	0.96		1.00	0.95		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1736	1754		3317	1706		1564	3128	1399		3170	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.70	
Satd. Flow (perm)	1736	1754		3317	1706		1564	3128	1399		2238	
Volume (vph)	109	252	93	503	308	164	62	677	523	117	594	91
Peak-hour factor, PHF	0.79	0.79	0.79	0.86	0.86	0.86	0.93	0.93	0.93	0.80	0.80	0.80
Adj. Flow (vph)	138	319	118	585	358	191	67	728	562	146	742	114
RTOR Reduction (vph)	0	14	0	9	21	0	0	9	99	0	11	0
Lane Group Flow (vph)	138	423	0	585	528	0	67	728	493	0	991	0
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	10%	15%	15%	10%	10%	10%
Turn Type	Split			Split			Prot		pm+ov	pm+pt		
Protected Phases	4	4		8	8		5	2	3	1	6	
Permitted Phases									2	6		
Actuated Green, G (s)	17.0	17.0		20.0	20.0		3.1	37.2	57.2		29.1	
Effective Green, g (s)	18.0	18.0		21.0	21.0		4.1	38.2	59.2		30.1	
Actuated g/C Ratio	0.20	0.20		0.24	0.24		0.05	0.43	0.66		0.34	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	350	354		781	402		72	1340	991		755	
v/s Ratio Prot	0.08	c0.24		0.18	c0.31		0.04	0.23	c0.12			
v/s Ratio Perm									0.24		c0.44	
v/c Ratio	0.39	1.19		0.75	1.31		0.93	0.54	0.50		1.31	
Uniform Delay, d1	30.9	35.6		31.7	34.1		42.4	19.0	7.5		29.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.7	111.7		4.0	157.4		82.0	1.6	0.4		149.9	
Delay (s)	31.6	147.3		35.6	191.5		124.5	20.6	7.9		179.4	
Level of Service	C	F		D	F		F	C	A		F	
Approach Delay (s)		119.5			111.1			20.6			179.4	
Approach LOS		F			F			C			F	

Intersection Summary			
HCM Average Control Delay	98.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	89.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

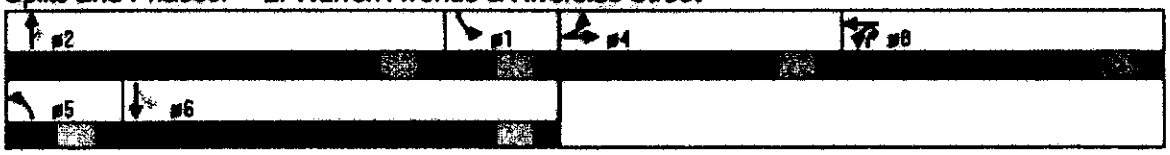
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			3%			-1%			2%	
Storage Length (ft)	210		0	235		0	300		155	0		0
Storage Lanes	1		0	2		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5167			3505			3647			460	
Travel Time (s)		117.4			79.7			82.9			9.1	
Volume (vph)	109	252	93	503	308	164	62	677	523	117	594	91
Peak Hour Factor	0.79	0.79	0.79	0.86	0.86	0.86	0.93	0.93	0.93	0.80	0.80	0.80
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	16%	16%	16%	10%	10%	10%
Turn Type	Split			Split			Prot		pm+ov	pm+pt		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases									2	6		
Detector Phases	4	4		8	8		5	2	8	1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		9.0	21.0	21.0	9.0	21.0	
Total Split (s)	22.0	22.0	0.0	25.0	25.0	0.0	9.0	34.0	25.0	9.0	34.0	0.0
Total Split (%)	24.4%	24.4%	0.0%	27.8%	27.8%	0.0%	10.0%	37.8%	27.8%	10.0%	37.8%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max	None	None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 88.2
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Warren Avenue & Riverside Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			3%			-1%			2%	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		0.97	1.00		1.00	0.95	1.00		0.95	
Frt	1.00	0.96		1.00	0.95		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1736	1754		3317	1705		1584	3128	1399		3171	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.70	
Satd. Flow (perm)	1736	1754		3317	1705		1584	3128	1399		2234	
Volume (vph)	109	252	93	503	308	165	62	681	523	117	598	91
Peak-hour factor, PHF	0.79	0.79	0.79	0.86	0.86	0.86	0.93	0.93	0.93	0.80	0.80	0.80
Adj. Flow (vph)	138	319	118	585	358	192	67	732	562	146	748	114
RTOR Reduction (vph)	0	14	0	0	21	0	0	0	89	0	11	0
Lane Group Flow (vph)	138	423	0	585	529	0	67	732	493	0	997	0
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	16%	16%	10%	10%	10%	10%
Turn Type	Split			Split			Prot		pm+ov	pm+pt		
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases									2	6		
Actuated Green, G (s)	17.0	17.0		20.0	20.0		3.1	37.2	57.2		29.1	
Effective Green, g (s)	18.0	18.0		21.0	21.0		4.1	38.2	59.2		30.1	
Actuated g/C Ratio	0.20	0.20		0.24	0.24		0.05	0.43	0.66		0.34	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	350	354		781	401		72	1340	991		754	
v/s Ratio Prot	0.08	c0.24		0.18	c0.31		0.04	0.23	c0.12			
v/s Ratio Perm									0.24		c0.45	
v/c Ratio	0.39	1.19		0.75	1.32		0.93	0.55	0.50		1.32	
Uniform Delay, d1	30.9	35.6		31.7	34.1		42.4	19.0	7.5		29.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.7	111.7		4.0	159.8		82.0	1.6	0.4		154.5	
Delay (s)	31.6	147.3		35.6	193.9		124.5	20.6	7.9		184.0	
Level of Service	C	F		D	F		F	C	A		F	
Approach Delay (s)		119.5			112.3			20.5			184.0	
Approach LOS		F			F			C			F	

Intersection Summary			
HCM Average Control Delay	100.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	89.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

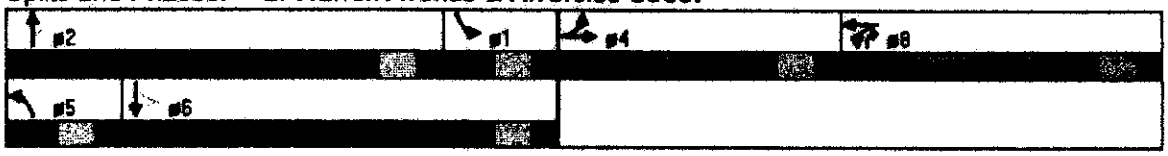
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			3%			-1%			2%	
Storage Length (ft)	210		0	235		0	300		155	0		0
Storage Lanes	1		0	2		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5167			3505			3647			400	
Travel Time (s)		117.4			79.7			82.9			9.1	
Volume (vph)	109	252	93	503	308	185	62	681	523	117	588	91
Peak Hour Factor	0.79	0.79	0.79	0.86	0.86	0.86	0.93	0.93	0.93	0.80	0.80	0.80
Heavy Vehicles (%)	5%	5%	5%	4%	4%	4%	16%	16%	16%	10%	10%	10%
Turn Type	Split			Split			Prot		pm+ov	pm+pt		
Protected Phases	4	4		8	8		5	2	3	1	6	
Permitted Phases									2	6		
Detector Phases	4	4		8	8		5	2	3	1	6	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		9.0	21.0	21.0	9.0	21.0	
Total Split (s)	22.0	22.0	0.0	25.0	25.0	0.0	9.0	34.0	25.0	9.0	34.0	0.0
Total Split (%)	24.4%	24.4%	0.0%	27.8%	27.8%	0.0%	10.0%	37.8%	27.8%	10.0%	37.8%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max	None	None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 88.2
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Warren Avenue & Riverside Street



TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	J. Bartlett	Intersection	Site Drive at Riverside Street
Agency/Co.	Gorrill-Palmer Consulting	Jurisdiction	Portland, Maine
Date Performed	5/7/2007	Analysis Year	2008
Analysis Time Period	PM Peak Hour		
Project Description	JN 1779: 2008 Postdevelopment		
East/West Street:	Site Drive	North/South Street:	Riverside Street
Intersection Orientation:	North-South	Study Period (hrs):	1.00

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	1132	0	0	586	3
Peak-Hour Factor, PHF	0.96	0.96	1.00	1.00	0.98	0.98
Hourly Flow Rate, HFR	5	1179	0	0	597	3
Percent Heavy Vehicles	20	--	--	0	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	1	0	0	1	0
Configuration	L	T				TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	5	0	4
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.92	1.00	0.92
Hourly Flow Rate, HFR	0	0	0	5	0	4
Percent Heavy Vehicles	0	0	0	20	0	50
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
v (vph)	5						9	
C (m) (vph)	895						254	
v/c	0.01						0.04	
95% queue length	0.02						0.11	
Control Delay	9.0						19.7	
LOS	A						C	
Approach Delay	--	--					19.7	
Approach LOS	--	--					C	

Appendix C

MaineDOT Crash Data
Trip Generation Calculations

APR 17,2007 AT 09:11

TINACC30

MAINE DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING, ACCIDENT RECORDS SECTION

ACCIDENT SUMMARY INPUT

TYPE OF STUDY: NODES AND LINKS TYPE OF REQUEST: ACCIDENT I & II WITH LINK DETAIL
STUDY PERIOD: FROM MONTH 01 YEAR 2003 TO MONTH 12 YEAR 2005

INPUT COMMENTS

REQUEST: RIVERSIDE ST
TOWN: PORTLAND

INPUT DATA

ROUTE	COUNTY	FIRST NODE	EXCLUDE FIRST	DISTANCE	SECOND NODE	LAST NODE	EXCLUDE LAST	DISTANCE
60621	05	06310	0	0.00	00799	07310	0	0.00

APR 17,2007 AT 09:11

TINACC30

MAINE DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING, ACCIDENT RECORDS SECTION

ACCIDENT SUMMARY I

COUNTY TOWN#	LOW NODE	HIGH NODE	STREET NAME OR ROUTE #	U/R	TOTAL ACCTS	LINK LENGTH	INJURY ACCIDENTS K	A	B	C	PD	PERCENT INJURY	ANNUAL HM VEH-MILES	ANNUAL M ENT-VEHS	ACCIDENT-RATES LINK	NODE	CRITI RATE	CRF	
05	06310	FOR,	WARREN AVE, RIVERSID	9	30		0	0	3	6	21	30.0		14.162		0.71	0.96	0.00	0.74
05	00799	FOR,	RIVERSIDE, MCALLIS	2	1		0	0	0	0	1	0.0		6.769		0.05	0.35	0.00	
05	01908	FOR,	RIVERSIDE DR, GROVE	2	0		0	0	0	0	0	0.0		6.578		0.00	0.35	0.00	
05	01935	FOR,	RIVERSIDE DR, LEIGH	2	0		0	0	0	0	0	0.0		6.425		0.00	0.35	0.00	
05	00797	FOR,	RIVERSIDE ST, WALD	2	0		0	0	0	0	0	0.0		6.238		0.00	0.35	0.00	
05	07310	FOR,	FOREST AVE, RIVERSID	9	28		0	1	4	3	20	28.6		12.404		0.75	0.98	0.00	0.77
			NODE SUBTOTALS-		59		0	1	7	9	42	28.8		52.576		0.37	0.53	0.00	

TINACC30

MAINE DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING, ACCIDENT RECORDS SECTION

ACCIDENT SUMMARY I

COUNTY TOWN#	LOW NODE	HIGH NODE	STREET NAME OR ROUTE #	U/R	TOTAL ACCTS	LINK LENGTH	INJURY ACCIDENTS K	A	B	C	PD	PERCENT INJURY	ANNUAL HM VEH-MILES	ANNUAL M MNT-VEHS	ACCIDENT-RATES LINK	NODE	CRITI RATE	CRF	
05170	00799	06310	RIVERSIDE ST.	9	10	0.17	0	0	1	0	9	10.0	0.01178		282.97		397.81	0.00	0.71
	00799	01908		2	3	0.19	0	0	0	0	3	0.0	0.01256		79.62		392.39	0.00	
	01908	01935		2	6	0.24	0	0	1	1	4	33.3	0.01565		127.80		374.87	0.00	
	00797	01935		2	4	0.23	0	0	1	2	1	75.0	0.01450		91.95		380.77	0.00	
	00797	07310		2	13	0.31	0	0	1	2	10	23.1	0.01913		226.52		360.26	0.00	0.63
			LINK SUBTOTALS-		36	1.14	0	0	4	5	27	25.0	0.07362		162.99		269.91	0.00	
			GRAND TOTALS-		95	1.14	0	1	11	14	69	27.4	0.07362	52.576	430.13		450.64	0.95	

Narrative Summary of
Environmental Monitoring Plan
Portland Scrap Metal Facility License

Prolerized New England Company LLC
Riverside Street Facility, Portland

In accordance with the requirements of Chapter 31 Scrap Metal Recycling Facilities of the Portland Municipal Code and the Amendments to Scrap Metal Recycling Facilities Rules (the "Rules"), promulgated by the Department of Planning and Development (the "Department"), Prolerized New England Company LLC ("PNE") is applying for a license from the City Council to operate its proposed scrap metal recycling facility at the Riverside Street location. R. W. Gillespie & Associates, Inc. ("Gillespie") has prepared a Baseline Soil Sampling Program (Program) for the proposed Prolerized scrap metal recycling facility in accordance with Chapter 31 and DEP solid waste regulations.

Gillespie performed the sampling and analysis portions of the Program this past summer and has prepared the following October 20, 2008 Baseline Soil and Groundwater Sampling Report that presents the results of the work performed. This report is presented to comply with submission requirements 31-7(h) and (i) of the license application.

J:\aaa\2006\0676900\Submittals\City of Portland\Scrap Metal\20081105Exhibit6Narrative.doc

R. W. Gillespie & Associates, Inc.
Geotechnical Engineering • Geohydrology • Materials Testing Services

October 20, 2008

Carl V. Beal, P.E.
Civil Consultants, Inc.
P.O. Box 100
South Berwick, Maine 03908-0100

Subject: Transmittal of Baseline Soil and Groundwater Sampling Report
Future Schnitzer Steel/Prolerized New England Facility - Riverside Street
Portland, Maine
RWG&A Project No. 427-41.ENV

Dear Mr. Beal:

As requested, and in accordance with City of Portland *Scrap Metal Recycling Facilities Rules*, R.W. Gillespie & Associates, Inc. (RWG&A) on behalf of Schnitzer Steel/Prolerized New England has conducted pre-development, baseline soil and groundwater sampling and testing at the subject site. The purpose of the sampling program was to evaluate soil and groundwater quality to establish waste baseline environmental conditions at the site prior to facility construction. The sampling program was performed in general accordance with Rules #2 and #3 of the City's *Amendments to Scrap Metal Recycling Facilities Rules*.

RWG&A appreciates the opportunity to be of continued service to you on this interesting project. If you have any questions, or if we may be of additional assistance, please contact us.

Very truly yours,
R. W. GILLESPIE & ASSOCIATES, INC.

Cynthia A. Thayer

Cynthia A. Thayer, C.G., P.G.
Chief Geohydrologist

CAT:mb
In eight copies
Attachments

G:\Cynthia Shared\427-41RiversideBaselineGWSoilTestingReport.wpd

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PURPOSE AND SCOPE

As requested and authorized, R. W. Gillespie & Associates, Inc. (RWG&A) has conducted baseline soil and groundwater sampling and testing at the site of the future Schnitzer Steel/Prolerized New England facility located on Riverside Street in Portland, Maine. The purpose of the sampling program was to establish waste baseline environmental conditions at the site, prior to redevelopment as a scrap metal recycling facility. The sampling program was performed in general accordance with City of Portland *Amendments to Scrap Metal Recycling Facilities Rules #2 and #3* (see Appendix A). As performed, RWG&A's scope of services consisted of the following tasks:

- Collect and analyze five surficial soils samples from approved locations for initial waste baseline testing. Three soil sampling locations are located near the proposed recycling building in principal outdoor work areas. The remaining sample locations are downgradient of principal work areas and adjacent to property boundaries. Proposed sampling locations were provided to the City for review and approval prior to implementation.

- Purge and sample three previously installed monitoring wells and obtain groundwater samples for the requisite laboratory testing parameters for initial baseline testing. Field measurements of static groundwater level, specific conductance and temperature were also made at the time of the sampling.

- A report was prepared for the client's use and submittal to the City of Portland, summarizing RWG&A's observations, findings, conclusions, and recommendations for future monitoring.

BACKGROUND

Site Location and Description

The subject site is located on the west side of Riverside Street, south of its intersection with U.S. Route 302 (Forest Avenue) in Portland, Maine. The site is bordered to west by the Presumpscot River. The USGS 7.5 minute topographic map adapted as Figure 1, *Locus Map*, illustrates the project location. Figure 2, *Site Plan with Sampling Locations*, illustrates the soil sampling locations, as well as the three previously installed groundwater monitoring wells.

The subject site is a portion of the former Lucas Tree Experts (Lucas Tree) property, now owned by the City of Portland. A former residence, access driveways, and material stockpiles were present during RWG&A's initial site reconnaissance and geotechnical evaluations in support of the project. Several feet of miscellaneous fill has been historically placed in some areas of the site.

Previous Investigations

It is understood previous site activities associated with former Lucas Tree operations have resulted in soil and possibly groundwater impacts related to hazardous wastes. Phase I environmental site assessment, various Phase II soil investigations, and remedial site investigations have been performed in response to previous Lucas Tree activities since *ca.* 2005 (by others) in support of regulatory site closure under the auspices of Maine Department of Environmental Protection Voluntary Response Action Program (DEP VRAP) and U.S. EPA Brownfields initiatives. Environmental consultants Tewhey Associates, Inc. on behalf of the City of Portland are performing soil remediation at the former Lucas Tree property, including the former "pole storage area" located on the subject site, in anticipation of the planned redevelopment as Schnitzer Steel/Prolerized New England scrap metal recycling facility.

BASELINE SAMPLING ACTIVITIES

Surficial Soil Sampling

Five locations were selected for initial waste baseline testing as identified on the aerial photograph of the site adapted as Figure 2, attached. Three soil sampling locations–labeled SSI-1, SSI-2 and SSI-3–are situated near the proposed recycling building in principal outdoor work areas. Two soil sampling locations–labeled SSI-4 and SSI-5–are downgradient of principal work areas and are adjacent to property boundaries.

Due to the potential for existing soil impacts from previous operations at the site (Lucas Tree) a site specific health and safety plan was prepared prior to field work to guide sampling activities. Samples for laboratory testing were collected by an RWG&A geohydrologist at the approved locations under the direction of a Maine Certified Geologist (CG). Samples were manually collected from the upper six inches of the soil mantle utilizing a shovel. An approximate 2 ft by 2 ft sampling unit was established at each location. A total of four subsamples, one from each quadrant of the sampling unit, were collected from the upper six inches of the ground surface (the organic root mat, if present, was not tested). The four subsamples were mixed together to form a single, composite soil sample at each of the five locations. Polyethylene sample bags were used to contain the composite sample during homogenization. (Note: because Rule #2 specifies a composite sample at each location, undisturbed, in-situ samples were not be collected.) Prior to

moving to the next location, non-disposable sampling tools was decontaminated with deionized water and a non-sulfate based detergent to minimize the possibility of cross-contamination.

Following collection, the requisite volume of materials for analysis was placed in appropriate containers provided by the laboratory. In the case of volatile organic compounds, diesel range organics, and gasoline range organics, the material for testing was collected in calibrated syringes provided by the laboratory and placed directly in vials containing preservative. All containers were labeled, placed in a cooler with ice, and transported to Analytics Environmental Laboratory LLC, a Maine certified laboratory, accompanied by a completed chain-of-custody form for testing.

Groundwater Sampling

Three monitoring wells previously installed by Tewhey Associates in 2007 were selected for initial baseline groundwater testing. Monitoring wells are also identified on the aerial photograph of the site adapted as Figure 2, attached.

Depth to static groundwater surface (DTW) and total well depth (TWD) measurements were obtained from each of the three monitoring wells prior to sample collection. Groundwater level observations will be recorded relative to the top of the polyvinyl chloride well riser "measuring point" using an electronic water level indicator. Upon retrieval, the water level meter probe and cord were examined for the presence of sediment or odor, and decontaminated using deionized water and a non-sulfate based detergent between sampling points to minimize the potential for cross contamination.

Employing DTW and TWD measurements, the volume of standing water in each monitoring was calculated. Using a low flow peristaltic pump with dedicated polyethylene tubing, each program well was purged of groundwater prior to sampling in general accordance with U.S. EPA, and Maine DEP groundwater sampling protocols. Care was taken during purging to minimize oxygen introduction, rapid well drawdown, and turbulence within the well casing that might affect groundwater quality observations. Temperature, specific conductance, and pH were monitored using field instrumentation during the purging activities to ensure a representative groundwater sample was collected from each well. Once consecutive measurements remained consistent (i.e., three measurements within 10 percent of one another), and groundwater quality is considered "stabilized" and representative of aquifer conditions, groundwater samples were collected.

During sampling efforts conducted on August 6, 2008, monitoring wells MW-1 and MW-3 could not adequately sustain low-flow pumping to remove the requisite volume prior to sampling.

Therefore, these wells were purged of free groundwater, allowed to recover overnight, then sampled on the morning of August 7, 2008.

All groundwater samples intended for dissolved metals analysis were field filtered using an in-line 0.45 µm Nalgene canister filter to remove particulate matter. Note that groundwater sample MW-3 contained amounts of suspended material (very fine silt and clay particles from the aquifer formation) even after routing through filtration media. As a result, the laboratory analyzed the sample for total metals concentrations instead of dissolved.

Similarly, amounts of fine, suspended sediment were contained in groundwater sample MW-3 collected on August 7, 2008 requiring additional sample volume to be collected on August 8, 2008 to enable laboratory Diesel Range Organics (DRO) testing.

Following collection, groundwater samples were placed in appropriate containers provided by the laboratory and preserved according to the respective analytical method. Containers were labeled, placed in a cooler with ice, and transported to Analytics Environmental Laboratory LLC, a Maine certified laboratory, accompanied by a completed chain-of-custody form.

Laboratory Testing

The five composite surficial soil samples were tested for the following parameters in accordance with requirements of Rule #2:

- Volatile Organic Compounds (VOC) - EPA Method 8260;
- Semi-volatile Organic Compounds (SVOC) - EPA Method 8270;
- Polychlorinated Biphenyls (PCB) - EPA Method 8082;
- Total RCRA 8 Metals, plus Nickel, Zinc, and Copper - EPA Methods 3010/6010;
- Diesel Range Organics (DRO) - Maine DEP (HETL) Method 4.1.25;
- Gasoline Range Organics (GRO) - Maine DEP (HETL) Method 4.2.17

For purposes of data evaluation and interpretation relative to Rule #2, we understand that baseline soil testing results are to be compared with Maine Department of Environmental Protection (Maine DEP) Remedial Action Guidelines for Soils (RAGS).

In addition, the three groundwater samples were tested for the following parameters in accordance with requirements of Rule #3:

- Volatile Organic Compounds (VOC) - EPA Method 8260;
- Semi-volatile Organic Compounds (SVOC) - EPA Method 8270;
- Polychlorinated Biphenyls (PCB) - EPA Method 8082;

- Dissolved RCRA 8 Metals, plus Nickel, Zinc, Copper and Antimony- EPA Methods 6010/7470;
- Diesel Range Organics (DRO) - Maine DEP (HETL) Method 4.1.25;
- Gasoline Range Organics (GRO) - Maine DEP (HETL) Method 4.2.17

For purposes of data evaluation and interpretation relative to Rule #3, baseline groundwater testing results were compared with current Maine Centers for Disease Control (CDC) Maximum Exposure Guidelines (MEGs) for drinking water, a revision to the Maine DHS Maximum Exposure Guidelines of January 20, 2000 ("MEGs") referenced in City rules, and the Maine DEP Procedural Guidelines for Establishing Action Levels and Remediation Goals for the Remediation of Oil-Contaminated Soil and Groundwater in Maine, effective March 13, 2000 (a/k/a "Decision Tree Analysis").

RESULTS

Surficial Soil Testing

Based on our review of the August 2008 data, regulatory limits and/or recommended Maine DEP RAGs for soils were not exceeded at any of the five surficial soil sampling locations. No VOCs, PCBs, or GRO were detected at the listed laboratory quantitation limits in the five samples analyzed. SVOCs were detected in two samples, SSI-3 and SSI-4, but were well below published guidelines, where available. Also, low to non-detectable concentrations of various metals were detected in all of the samples, and DRO was detected in three of five locations. Table 1 summarizing laboratory data for the soil samples can be found in Appendix B. Raw laboratory data is contained in Appendix C.

Groundwater Testing

No VOCs, SVOCs, PCBs, or GRO were detected at the listed laboratory quantitation limits in the three samples analyzed. Of the three monitoring wells tested, regulatory limits and/or recommended drinking water guidelines were exceeded in two of the sampling locations. DRO was detected above the 50 µg/L limit in groundwater in monitoring wells MW-2 and MW-3 at 162 µg/L and 79 µg/L respectively. In addition, dissolved selenium was detected at 49 µg/L and dissolved antimony at 5 µg/L in groundwater sample MW-2 above respective MEGs, see Appendix B, Table 2. Also, concentrations of total arsenic (14 µg/L), chromium (91 µg/L), and lead (67 µg/L) were detected above MEGs in groundwater sample MW-3. Table 2 summarizing laboratory data for groundwater samples can be found in Appendix B. Raw laboratory data is contained in Appendix C.

In summary, Maine CDC MEGs for DRO, antimony, arsenic, chromium, lead, and selenium were exceeded at one or more on-site groundwater monitoring stations during the August 2008 baseline sampling event. No other detected compound exceeded regulatory limits for groundwater quality.

SUMMARY AND RECOMMENDATIONS

Based on our observations, the following summary and recommendations are presented for consideration:

- Baseline soil and groundwater sampling at the Future Schnitzer Steel/Prolerized New England facility in Portland, Maine was conducted from August 6 through August 8, 2008. The sampling program was performed in general accordance with the *Amendments to Scrap Metal Recycling Facilities Rules #2 and #3*.

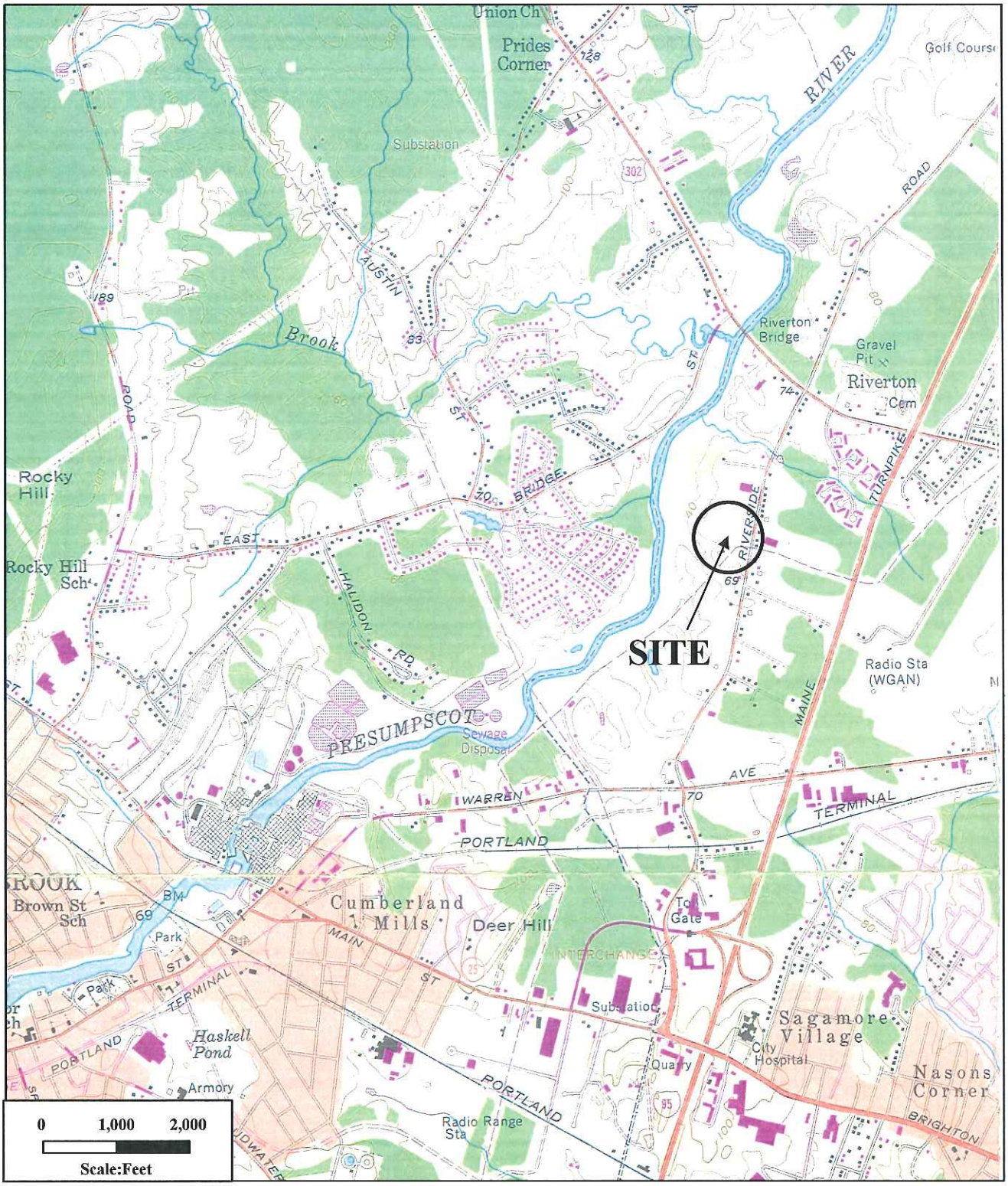
- Regulatory limits and/or recommended Maine DEP RAGs for soils were not exceeded at any of the five surficial soil sampling locations tested.

- Maine CDC MEGs for DRO, antimony, and selenium were exceeded at groundwater monitoring well MW-2. DRO, arsenic, chromium, and lead exceeded MEGs at groundwater monitoring well MW-3 for the August 2008 baseline sampling event.

- Based on these findings, RWG&A recommends that groundwater samples be collected from the existing three on-site overburden monitoring wells on an annual basis and tested in accordance with provisions outlined in *Amendments to Scrap Metal Recycling Facilities Rule #3(b)-(c)*.

CLOSURE

This Baseline Soil and Groundwater Sampling report has been prepared for the exclusive use of Civil Consultants, Inc., Schnitzer Steel/Prolerized New England, and their designated recipients. The report was prepared in accordance with generally accepted professional engineering practices consistent with the level of skill ordinarily practiced by members of the profession in the same locality under similar conditions.



Source: Figure adapted from the Portland West USGS 7.5-minute topographic quadrangle dated 1956, and photorevised in 1978.

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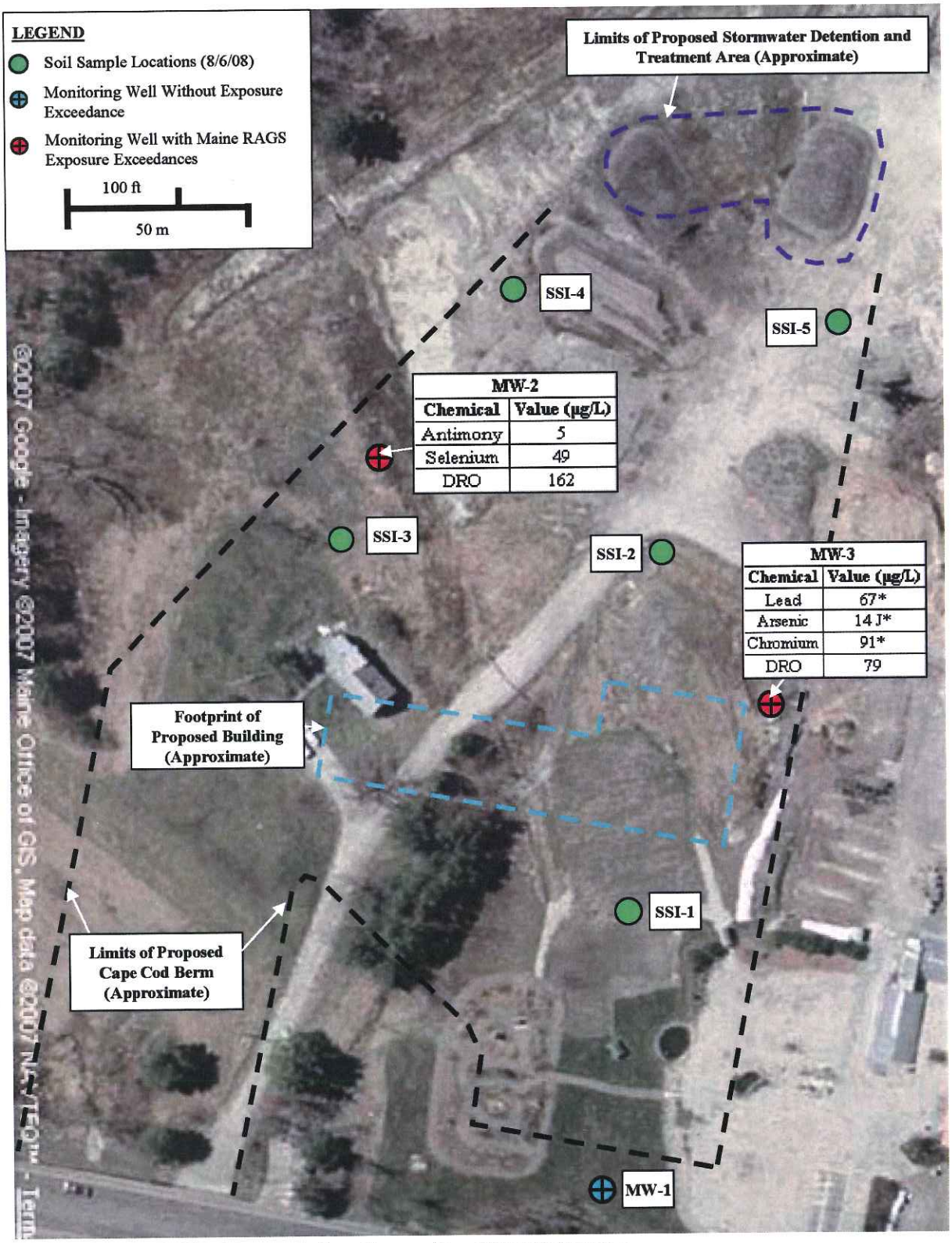
RWG&A: 427-41.ENV

Figure 1 – Locus Map

Future Schnitzer Steel Industries, Inc.
Riverside Street
Portland, Maine 04101

October 2008



*** Reported values represent total metals concentrations. See report for additional information.**

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RWG&A: 427-41.ENV

Figure 2 – Site Plan with Sampling Locations

Future Schnitzer Steel Industries, Inc.
Riverside Street
Portland, Maine 04101

October 2008
(Rev 11/08)

Table 3
Field Parameters Table
Future Schnitzer Steel - Riverside Street
Portland, Maine

Parameter	Sample Location and Date					
	MW-1		MW-2		MW-3	
	11/25/2007[(1)]	8/6/2008	11/25/2007[(1)]	8/6/2008	11/25/2007[(1)]	8/6/2008
Depth to Water (ftoc, feet)	--	2.62	--	9.46	--	7.33
Depth to Water (BGS, feet)	1.04	0.82*	3.97	7.16*	4.42	5.48*
Temperature (°C)	9.7	13.9	11.4	17.4	11.4	14.0
Conductivity (µmhos/cm)	102	180	770	600	372	460

(1) November 2007 readings collected by Tewhey Associates.

ftoc - Measurement taken below top of PVC well casing

BGS - Below ground surface

"--" - Measurements obtained during the November 2007 sampling event were not circulated by Tewhey Associates.

"*" Value determined based on well construction information contained in the Phase II report submitted by Tewhey Associates dated January 2008

APPENDIX A

AMENDMENTS TO SCRAP METAL RECYCLING FACILITIES RULES

Baseline Soil and Groundwater Sampling Report
Future Schnitzer Steel/Prolerized New England Facility - Riverside Street
Portland, Maine

Amendments to Scrap Metal Recycling Facilities Rules
Promulgated by the
Department of Planning and Development
Pursuant to the
Scrap Metal Recycling Facilities Ordinance

The following amendments to the scrap metal recycling facilities rules are promulgated pursuant to Section 31-10 of the Scrap Metal Facilities Ordinance and all terms, conditions and requirements in that ordinance are hereby incorporated by reference.

Rule #1 Baseline Testing:

(a) An environmental waste baseline sampling plan is required which shall include the location of soil sampling and groundwater sampling locations to establish waste baseline environmental conditions at the site.

(b) A minimum of three on-site surficial soil samples, on the upper six (6) inches and three Geoprobe-installed or conventionally-installed overburden monitoring wells are required for all sites.

(c) The Department shall review and approve the number and location of soil samples and monitoring wells after reviewing the waste baseline exploration and sampling plan in accordance with generally accepted environmental standards and after consulting with the applicant's environmental consultant, if necessary.

(d) Initial waste baseline evaluation of the scrap metal recycling facility requires a waste management compliance audit of the facility by a qualified professional and the results of the audit shall be submitted to the City of Portland for evaluation prior to issuance of the license for the facility.

Rule #2 Soil Testing:

(a) Initial waste baseline testing shall consist of five on-site soil samples collected according to a sampling plan developed by a qualified environmental professional and submitted to the Department for review and approval as part of the application.

(b) Of the five on-site samples three shall be taken from soils in the principle outdoor work areas, i.e., in which metals to be recycled are received, processed and stored. The two additional on-site samples shall be taken in areas that are down-gradient from the principal work areas and are adjacent to property boundaries at which metals to be recycled are received, processed or stored. The soil samples shall represent a composite of the upper six-inches of soil at the sampling location.

(c) The soil samples shall be analyzed for volatile organic compounds (EPA Method 8260), semi-volatile organic compounds (EPA Method 8270), PCBs (EPA Method 8082), the eight RCRA metals (EPA Methods 3010/6010), and nickel (Ni), zinc (Zn) and copper (Cu) (EPA Method 6010) diesel-range organics (MDEP Method 4.1.25), and gasoline-range organics (MDEP Method 4.2.17).

(d) The criteria for evaluation of soil samples shall be the Maine DEP Remedial Action Guidelines for Soils (RAGS) of May 20, 1997 (the "Remedial Action Guidelines".

(e) The City of Portland reserves the right to request split samples of soil taken as part of the licensing procedure. The split samples taken by the City of Portland shall be analyzed by an independent laboratory in order to provide corroboration of results.

In the event that the results of waste baseline soil sampling exceed the Remedial Action Guidelines, the City may require additional sampling at the metal recycling facility or off-site and/or a plan for remediation of contaminated soils at on-site or off-site locations.

Notwithstanding any other provision of the Scrap Metal Recycling Ordinance or these Rules, in the event that a scrap metal recycling facility is located on or has relocated to an existing industrial, commercial or retail site and the baseline test results for that site exceed certain parameters that either are consistent with a use known to exist at the site prior to the scrap metal recycling facility's operation on the site, or shown to have occurred prior to the scrap metal recycling facility's operation on the site, then no remediation plan for those parameters shall be required of the owner or operator of the scrap metal recycling facility so long as the previously existing baselines or the state regulatory guidelines as incorporated, whichever are higher, are not exceeded.

If a remediation plan is implemented by an entity other than the owner or operator of the scrap metal recycling facility or voluntarily implemented by such owner or operator and the remediation lowers the previously existing baselines, the lower baselines or the state regulatory guidelines as incorporated, whichever are higher, shall be used for the purpose of future testing and remediation requirements.

For the purpose of this rule an "owner or operator" includes any prior owners or operators in which a controlling interest was held by the same individuals or legal entities, or any person or entity acting in their behalf.

Rule #3 Groundwater Testing:

(a) Initial waste baseline testing shall consist of three on-site overburden monitoring wells installed by Geoprobe or conventional drilling methods. The location and the rationale for the location of the three monitoring wells shall be developed by a qualified environmental professional and submitted to the Department for review and approval as part of the application.

(b) The three monitoring wells shall be located so as to monitor groundwater emanating from the principle outdoor work areas, i.e., areas in which metals to be recycled are received, processed and stored. Ten-foot well screens in the monitoring wells shall be placed so as to intersect the groundwater table. Groundwater samples shall be taken from the three monitoring wells in according with MDEP Low-Flow Groundwater Sampling Guidance, June 1996.

(c) The water samples shall be analyzed for volatile organic compounds (EPA Method 8260), semi-volatile organic compounds (EPA Method 8270), PCBs (EPA Method 8082), the eight RCRA metals (EPA Methods 6010/7470), and nickel (Ni, zinc (Zn), copper (Cu), and antimony (Sb) (EPA Method 6010) diesel-range organics (MDEP Method 4.1.25), and gasoline-range organics (MDEP Method 4.2.17).

(d) The criteria for evaluation of water samples shall be the Maine DHS Maximum Exposure Guidelines of January 20, 2000 ("MEGs") and the Procedural Guidelines for Establishing Action Levels and Remediation Goals for the Remediation of Oil-Contaminated Soil and Groundwater in Maine, March 13, 2000 (a/k/a "Decision Tree analysis").

(e) The City of Portland reserves the right to request split samples of groundwater taken as part of the licensing procedure. The split samples taken by the City of Portland shall be analyzed by an independent laboratory in order to provide corroboration of results.

In the event that the waste baseline groundwater sampling exceeds the Maximum Exposure Guidelines or the guidelines of the decision tree, the City may require additional sampling at the metal recycling facility and a plan for remediation of contaminated groundwater at the on-site locations.

Notwithstanding any other provision of the Scrap Metal Recycling Ordinance or these Rules in the event that a scrap metal recycling facility is located on or has relocated to another existing industrial, commercial, or retail site and the baseline test results for that site exceed of certain parameters that either are consistent with a use known to exist at that site prior to the scrap metal recycling facility's operation on the site, or are shown to have occurred prior to the scrap metal recycling facility's operation on the site, then no remediation plan for those parameters shall be required of the owner or operator of the scrap metal recycling facility so long as the previously existing baselines ore the state regulatory guidelines as incorporated, whichever are higher, are not exceeded.

If a remediation plan is implemented by an entity other than the owner or operator of the scrap metal recycling facility or voluntarily implemented by such owner or operator and the remediation lowers the previously existing baselines, the lower baselines or the state regulatory guidelines as incorporated, whichever are higher, shall be used for the purpose of future testing and remediation requirements.

For the purpose of this rule an "owner or operator" includes any prior owners or operators in which a controlling interest was held by the same individuals or legal entities, or any person or entity acting in their behalf.

Rule #4 Dismantling Motor Vehicles and Other Items Containing Waste:

The dismantling of items containing waste shall take place in a building with an impervious floor and appropriate equipment and containers to properly extract and store waste and recover any spilled or escaped waste in compliance with state and federal laws.

Upon receiving a motor vehicle, the battery shall be removed and located in such a ways as to ensure the battery's contents will not spill onto the ground.

When any engine lubricant, transmission fluid, brake fluid and/or engine coolant is removed from a vehicle, those fluids shall be drained into watertight containers which shall be kept covered and secured by containment in a storage building designed to contain spills. Any fluids from the motor vehicle shall be stored, recycled or disposed of according to all applicable federal and state laws. No discharge of any fluids from any motor vehicle shall be permitted into or onto the ground.

Rule #5 Storage and Handling of Waste:

Waste shall be stored and handled pursuant to and in compliance with state law and applicable regulations of the Maine Department of Environmental Protection and any amendments thereto.

Hazardous substances and hazardous waste, including PCBs, solvents, and degreasers, and mercury and special wastes, including petroleum-related products shall be received, handled, processed, stored and disposed of in accordance with State of Maine Hazardous Waste Management Rules (06-096 CMR 850, Chapter 850 and 851, January 23, 2001) and Solid Waste Management Regulations (06-096 CMR Chapter 400 et seq., September 1, 1999).

Rule #6 Setback Requirement; Visual Screening and Limitation on the Height of Piles of Metal or Other Material.

In no event shall the scrap metal recycling facility be located closer than 100 feet from a public road. The setback provision shall apply to temporary or permanent storage, weighing, or processing areas for any metal or material within the scrap metal recycling facility, but shall not apply to any driveways or administrative buildings, and shall not apply to the fences or screening which may be established to keep the facility screened from ordinary view, except such fences or screening must be outside the public road right-of-way. For the purposes of the Rules, the term "from a public road" shall mean from the far side of any immediately adjacent public road.

Visual impact standards can be met through buildings, plantings, fences, berms, setbacks, or other screening, or a combination thereof; however, the screening shall in no case exceed 15

feet in height and any piles of metal or other material shall not exceed 30 feet in height except as allowed by this Rule.

(a) *Fencing.* Fences shall be so located and of sufficient height to entirely screen those portions of the metal recycling facility or any piles of material within the facility used to receive, process or store any form of metal from ordinary view. The minimum height of any fence is six feet, although the actual height must be sufficient to accomplish the complete screening from ordinary view but in no case may the height of the fence exceed 15 feet. All fences shall be well constructed and maintained. All fences shall be uniform in appearance, erected in a workmanlike manner, and constructed of sound, undamaged material.

(b) *Plantings.* Screening may be accomplished through the planting and/or maintenance of trees, shrubs, or other vegetation of sufficient height, density and depth of planting or growth to entirely screen those portions of the metal recycling facility used to receive, process or store any form of metal from ordinary view throughout the calendar year.

(c) *Natural or man-made screening.* Screening may be accomplished by use of the following natural or man-made screens provided those portions of the scrap metal recycling facility used to receive, process or store any form of metal are entirely screened from ordinary view.

(1) *Hills, gullies, or embankments.* Where man-made, such screens must be constructed to blend with the landscape with loaming and seeding or other treatment as may be necessary to establish a natural appearance; or

(2) Building or other installations; or

(3) A combination of the above.

If buildings or other installations are used, they are not subject to the 15 foot height limitation on fences or other types of screening.

For the purpose of this rule the phrase "entirely screened" shall not be interpreted to apply to piles of metal or other material that exceed 30 ft. on 5 days or less in a 30 consectuve day period unless the owner or operator applies for additional time and shows good cause for the request, or to openings used for entrances or exits to and from the facility or that are on abutting property.

Rule #7 Exemption from Specific Requirements:

The following requirements shall not apply to facilities existing on or before the effective date of this Ordinance.

(a) Rule 6, 100' setback requirement.

Rule #8 Annual Testing Requirements

The annual testing required under Section 31-6(d) of the Scrap Metal Recycling Facilities Ordinance shall conform to the following requirements.

(a) Groundwater samples shall be taken from the existing three on-site overburden monitoring wells on an annual basis in conformance with Rule #3(b)-(c).

(b) For those facilities that were required to undertake a remedial action plan after the initial waste baseline sampling, annual soil sampling shall be conducted in conformance with Rule #2(b)-(c), if the department demonstrates that the remedial action plan was not implemented in accordance with its terms. Said sampling shall be limited to those areas identified in either the initial waste baseline sampling plan or through further testing previously required by the department.

(c) After a facility can demonstrate for three consecutive years that the results of any sampling that it conducted are within the regulatory guidelines as outlined above, that facility shall be allowed to test once every three years for those substances the levels of which were below the regulatory guidelines.

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J:\aaa\2006\0676900\Submittals\City of Portland\Scrap Metal\Scrap Yard Rules Final Version Passed20070618.doc

Corporation Counsel
Gary C. Wood

Associate Counsel
Mary E. Costigan
Danielle P. West-Chuhta
Ann M. Freeman

September 3, 2010

Hope Creal Jacobsen, Esq.
Perkins Thompson
One Canal Plaza
P.O. Box 426
Portland, ME 04112

RE: Delivery of Scrap Metal Recycling Facilities License and Temporary Certificate of Occupancy

Dear Hope:

I have enclosed the scrap metal recycling facilities license and temporary certificate of occupancy for the Riverside site owned and operated by Schnitzer Northeast/Prolerized New England, LLC.

The Building Inspection Office and Police and Fire Departments are in agreement that the address for City purposes is 568 Riverside Street.

You will note that there are a list of building/fire code deficiencies attached to the certificate of occupancy as we discussed. John Rioux or Phil DiPierro of our Building Inspections Office will be available to you and your client for any consultation or discussion to help address those deficiencies and resolve them by September 30, 2010. In our opinion most, if not all, of them can be addressed by that date.

If they are resolved by that point in time then the City will issue a permanent certificate of occupancy. If there are still some unresolved issues, we will work with you to extend the date of the temporary certificate of occupancy so that the deficiencies can be addressed.

Please convey my thanks to David Murphy and your client for their ongoing conduct and actions throughout this complicated but important project for them and the City.

Sincerely,

Gary C. Wood

City of Portland, Maine
Office of the City Clerk

License No. 08302010 Issue Date August 30, 2010

To all Whom These Presents May Concern:

This is to certify that the Municipal Officers have granted a license to
SCHNITZER NORTHEAST/PROLERIZED NEW ENGLAND, LLC

Doing business as SCHNITZER NORTHEAST/PROLERIZED NEW ENGLAND

at RIVERSIDE STREET

for SCRAP METAL RECYCLING FACILITY

and at that place only on the following conditions:

This license is granted subject to strict observance of all laws, ordinances and regulations enacted for the protection of the City of Portland so far as they may apply and is to continue in force until 09/30/2011 unless sooner revoked.

SIGILLUM CIVITATIS PORTLANDIÆ RESURGAM.

Linda C Cohen /cd

City Clerk

THIS LICENSE IS NOT TRANSFERABLE
PLEASE POST IN A CONSPICUOUS PLACE

Cc: Joseph Gray
City Clerk
Ellen Sanborn
Penny Littel
Greg Mitchell
Nicole Clegg
John Rioux
Phil DiPierro
Rick Knowland

O:\OFFICE\GARY\Letters\Jacobsen Letter to Acc. T of O with lic Schnitzer.doc

CITY OF PORTLAND, MAINE

Department of Building Inspection

Certificate of Occupancy

LOCATION 568 Riverside St **CBL** 321 A001001

Issued to Prolerized New England Co. Llc/Patco Construction **Date of Issue** 08/31/2010

This is to certify that the building, premises, or part thereof, at the above location, built — altered — changed as to use under Building Permit No. 10-052 **has had final inspection, has been found to conform substantially to requirements of Zoning Ordinance and Building Code of the City, and is hereby approved for occupancy or use, limited or otherwise, as indicated below.**

PORTION OF BUILDING OR PREMISES	APPROVED OCCUPANCY
Entire	Metal Recycling Facility Use Group: F-1/ B Type: 3B IBC, 2003

Limiting Conditions: This is a temporary occupancy certificate which expires on September 30, 2010 for the completion of site work and noted Building / Fire Code deficiencies, see attached.

This certificate supersedes certificate issued

Approved:

08/31/10 (Date) *Inspector* for BO 202 *Inspector of Buildings*

Notice: This certificate identifies lawful use of building or premises, and ought to be transferred from owner to owner when property changes hands. Copy will be furnished to owner or lessee for one dollar.

Memorandum
Department of Planning and Urban Development
Inspection Services Division

TO: **Prolerized New England Co. LLC/ Patco Construction**

FROM: **Jon Rioux, Code Enforcement Officer**

DATE: **September 3, 2010**

CC: **Gary Wood, Corporation Counsel, & Ben Wallace, Fire Prevention Officer**

RE: **C. of O. for # 568 Riverside Street; CBL 321 A001001**

Below, are the deficiencies noted during our walk-through inspection of 568 Riverside Street. As discussed, the following conditions of approval shall be corrected, and or met by September 30, 2010.

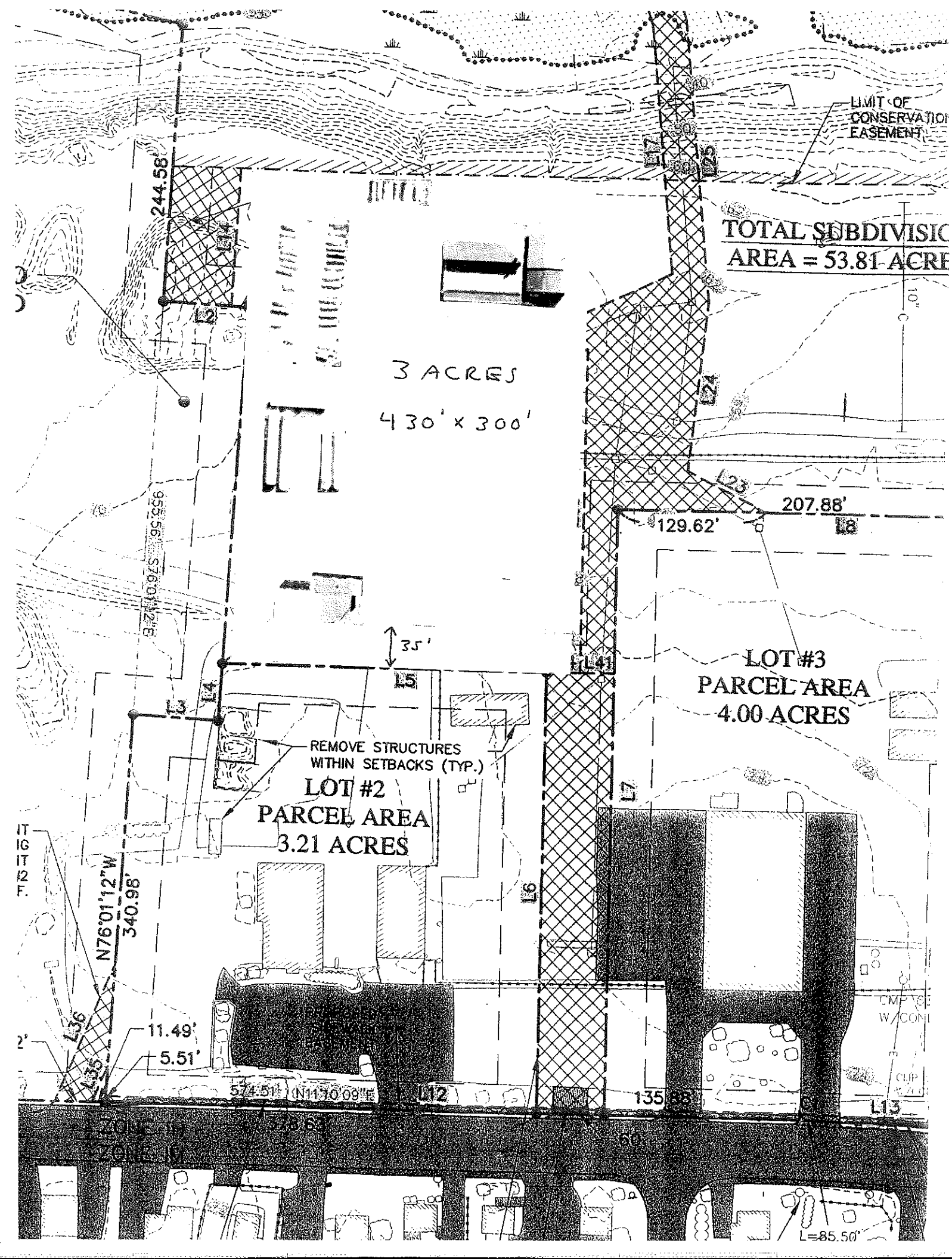
Life Safety Code (Fire):

1. The fire alarm does not provide occupant notification through out the building and an annunciator or the fire alarm panel must be in the entry.
2. The exterior doors must be labeled inside and out (Door 1, etc) due to the way the fire alarm system is annunciated.
3. The Knox Box must be installed and a Knox Pad lock provided at the gate. Also need building keys for the box.
4. Street numbers must be on the building and a street side sign.
5. The FDC requires a Knox locking cap.
6. Signage is required for the water flow bells.
7. A Maltese Cross sign is required above the Knox Box.
8. A Cutting and Welding License must be submitted
9. Building Code

Building, Electrical & Plumbing:

1. Second floor employee kitchen- plumbing and electrical work
2. Exterior lighting in accordance with City Code

Please feel free to contact me at 207.874.8702 if you have any questions or concerns.


LIMIT OF CONSERVATION EASEMENT
TOTAL SUBDIVISIC
AREA = 53.81 ACRE
3 ACRES
430' x 300'
244.58'
955.56' S76°01'12"E
207.88'
129.62'
35'
LOT #3
PARCEL AREA
4.00 ACRES
REMOVE STRUCTURES
WITHIN SETBACKS (TYP.)
LOT #2
PARCEL AREA
3.21 ACRES
N76°01'12"W
340.98'
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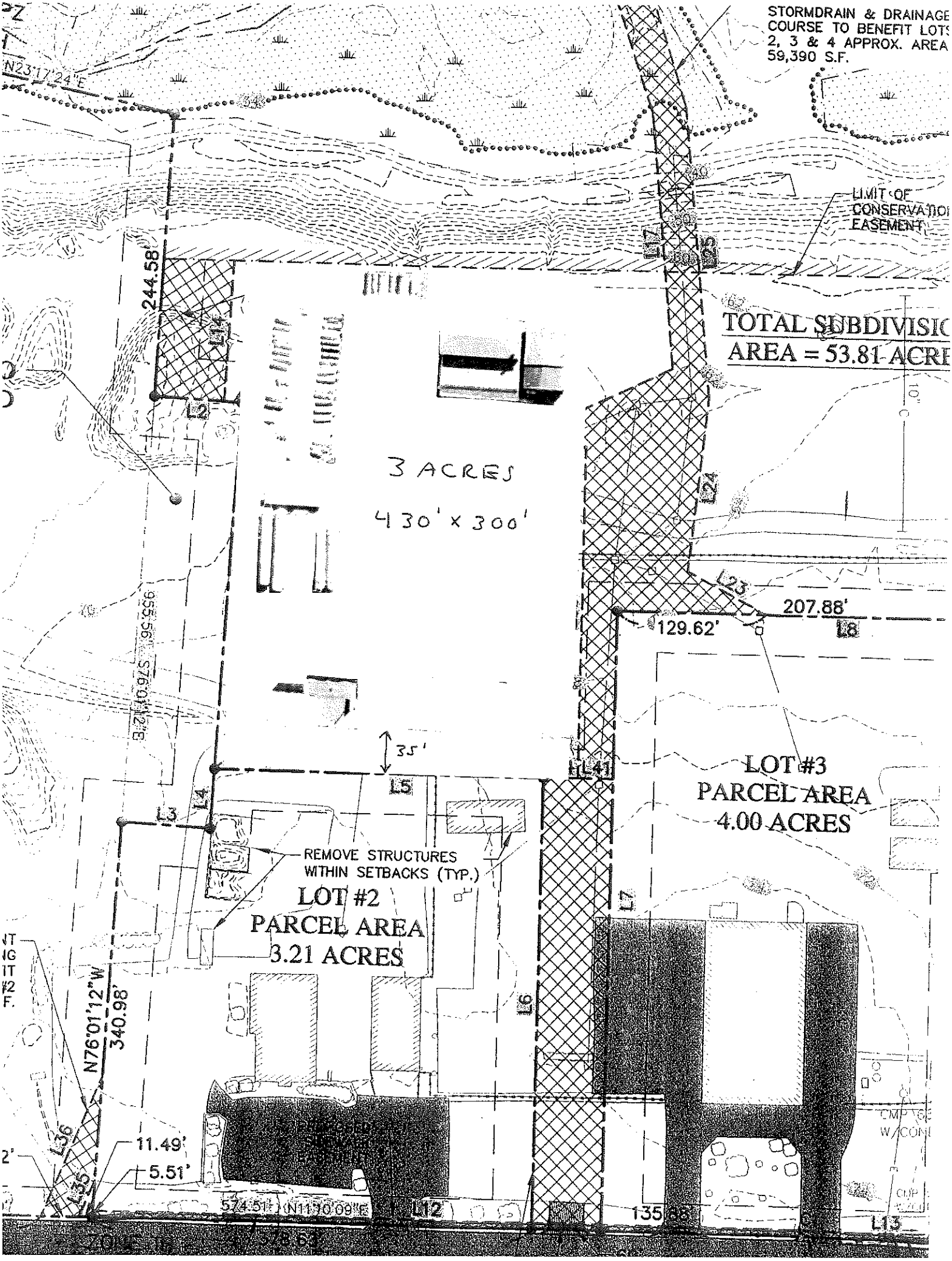
STORMDRAIN & DRAINAGE COURSE TO BENEFIT LOTS 2, 3 & 4 APPROX. AREA 59,390 S.F.
LIMIT OF CONSERVATION EASEMENT
TOTAL SUBDIVISIO
AREA = 53.81 ACRE
3 ACRES
430' x 300'
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4.00 ACRES
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244.58'
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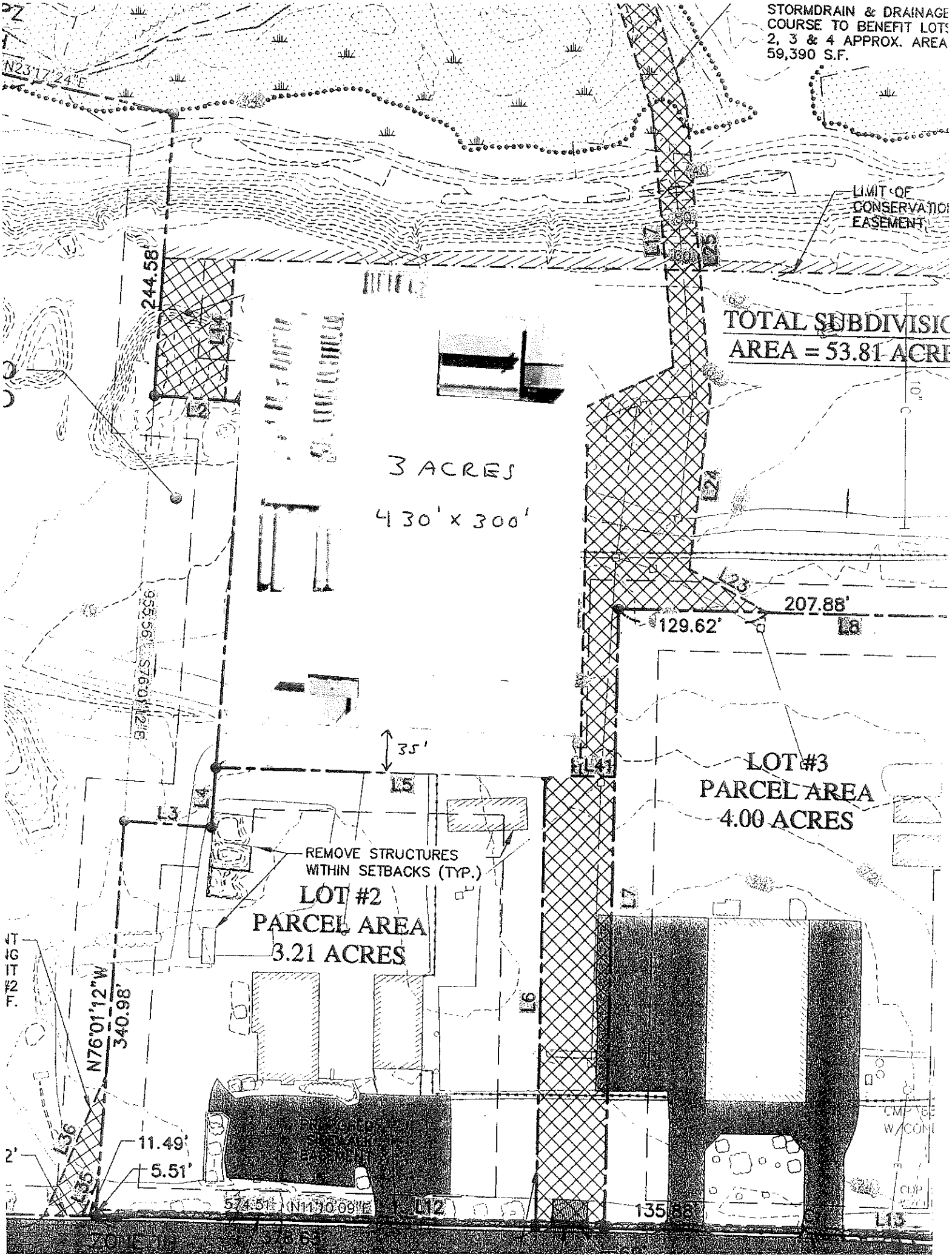
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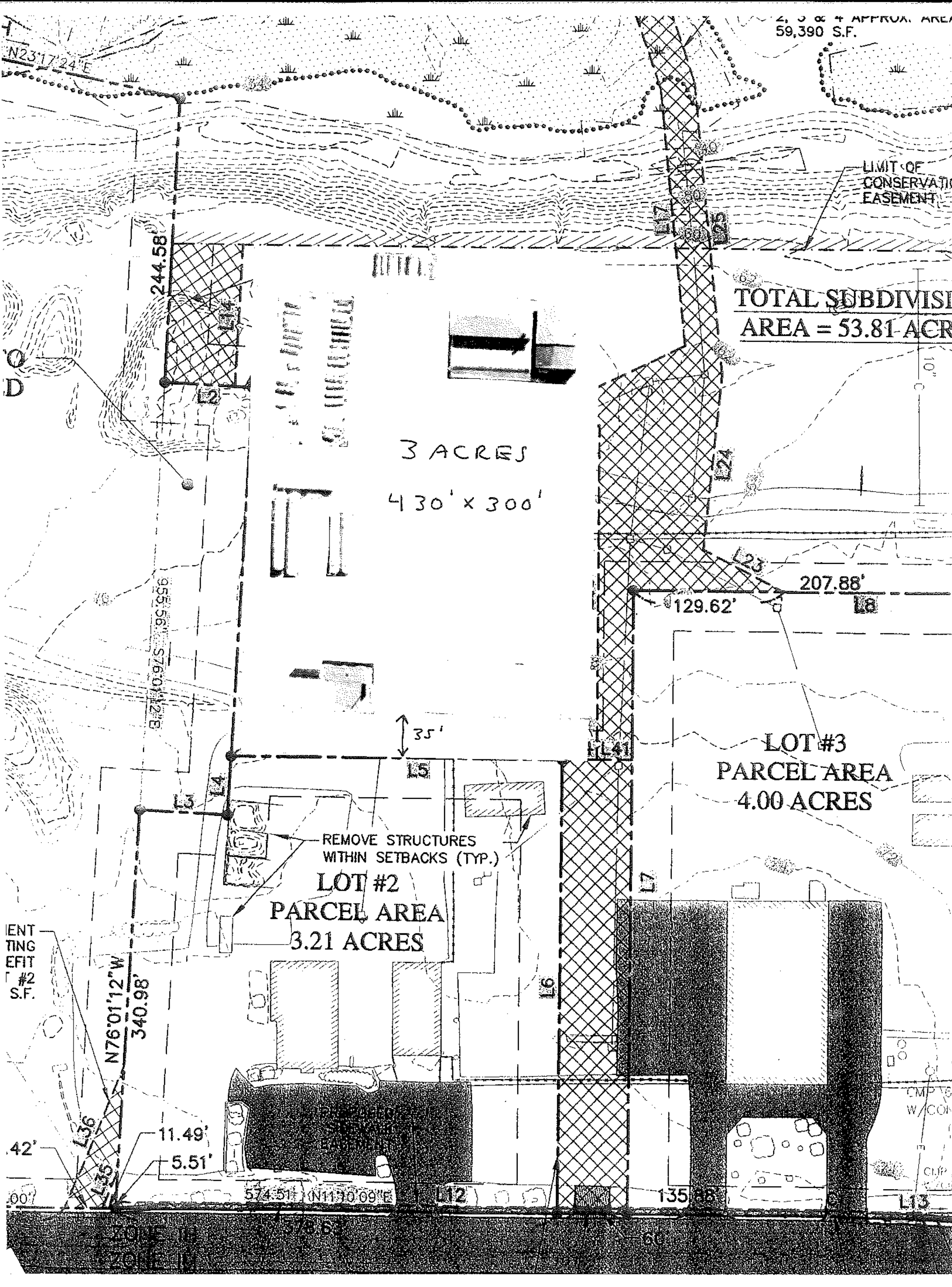
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11.49'
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N11°10'09"E
135.88'

ACADIA
ENVIRONMENTAL TECHNOLOGY

November 11, 2010

Rick Knowland, Senior Planner
Planning & Development Department
City of Portland
389 Congress Street
Portland, Maine 04101

RE: Groundwater Monitoring Results
Prolerized New England Company
568 Riverside Street

Dear Mr. Knowland:

At the request of Prolerized New England Company, LLC/Schnitzer Northeast, Acadia Environmental Technology (Acadia) conducted groundwater monitoring at the Schnitzer Northeast scrap metal recycling facility located at 568 Riverside Street in Portland, Maine. This letter report is submitted to document that monitoring.

Background

The facility became operational on September 14, 2010. This monitoring was performed to meet the requirements for annual testing of groundwater (Rule #8 (a)) under the Scrap Metal Recycling Facility Rules (Rules) promulgated by the City of Portland (City) as authorized under Chapter 31, the ordinance for Scrap Metal Recycling Facilities, Revised July 19, 2006, of its Code of Ordinances.

The monitoring wells that were sampled are designated as MW-1, MW-2, and MW-3, whose location is shown on the site plan, Sheet D4, which follows the test of this report. These monitoring wells were installed for the City of Portland in November 2007 under the oversight of Tewhey Associates as part of the evaluation of the property in advance of purchase. Documentation of the installation, development and initial monitoring of these wells is found in the January 2008 report prepared by Tewhey Associates and entitled *Phase II Supplemental Soil and Groundwater Investigation, Lucas Tree Expert Site, 636 Riverside Street, Portland, Maine* prepared for the City of Portland, Maine.

Scope of Work

The scope of work performed to meet this requirement included:

- Groundwater sampling by low-flow methods,

- Laboratory analysis of groundwater samples for VOCs (volatile organic compounds), SVOCs (semivolatile organic compounds), PCBs (polychlorinated biphenyls), RCRA 8 metals, antimony (Sb), nickel (Ni), zinc (Zn), and copper (Cu), extractable petroleum hydrocarbons (EPH), and volatile petroleum hydrocarbons (VPH); and
- Preparation of this report documenting the monitoring results.

Methodology

Groundwater Sampling

Groundwater sampling was completed according to the Maine Department of Environmental Protection's (MEDEP) Standard Operating Procedure RWM-DR#003 (SOP DR003), titled *Groundwater Sampling Using Low Flow Purging and Sampling Protocol,* which is an updated version of the 1996 SOP protocol specified in Rule #8(a).

At the commencement of sampling, static groundwater levels were measured with a Heron Dipper-T water level meter to the nearest 0.01 foot from the top of casing. Dedicated tubing was installed in each well prior to sampling. The depth of the intake was in the screened interval within 3 to 5 feet of the bottom of the well. A peristaltic pump was used to purge the wells. The pumping rate was adjusted to minimize draw down during purging and sampling. A YSI 600XL with flow cell was used to monitor field parameters during low flow purging. Field parameters included temperature, specific conductance, pH, dissolved oxygen, oxidation-reduction potential and turbidity. Samples were collected when field parameters stabilized to within 10 percent of the prior reading for 3 consecutive readings taken at three to five minute intervals.

Groundwater samples were placed into laboratory-supplied containers with preservatives as specified by each analytical method, and stored on ice. Chain of custody documentation was maintained.

Laboratory Analysis of Groundwater Samples

Groundwater samples were submitted to Katahdin Analytical Services located in Scarborough, Maine for analysis of the parameters specified by the City's Scrap Metal Recycling Facility Rules. These include the following: VOCs by EPA Method 8260B, SVOCs by EPA Method 8270, PCBs by EPA Method 8082, RCRA 8 metals by EPA method 6010/7040, and Sb, Ni, Zn, and Cu by EPA Method 6010/6020, EPH by MADEP EPH 04-1.1, and VPH by MADEP VPH 04-1.1.

When written the rules specified the testing for petroleum hydrocarbons using the diesel range organics analysis (DRO) by Maine Health and Environmental Testing Laboratory, HETL, Method 4.1.25 and gasoline range organics (GRO) by Maine HETL Method 4.2.17. Since that time, however, the MEDEP has in most cases switched to the use of the EPH and VPH methods.

Results

Hydrogeology

As written in the January 2008 Tewhey report, each of the monitoring wells was installed in thick, massive deposits of clay and silty clay that underlie the site. Shallow groundwater flow at the site is northward, toward the Presumpscott River.

The depth of the wells range from 18 to 22 feet, and each was constructed with a 2-inch diameter schedule 40 PVC well screen (10-ft long) and riser. Static groundwater levels were measured prior to sampling each well on September 16, 2010. The depth to water from the top of the well casing ranged from 7.60 feet in MW-1 to 12.20 in MW-2. Field data are summarized in Table 1 and data sheets are included in Appendix B.

Samples from all wells were collected on September 16, 2010 according to the methodology described above; however MW-2 had to be re-sampled because the samples for PCBs and SVOCs were inadvertently placed into containers preserved with acid. Therefore, MW-2 was re-sampled on September 27 for these parameters. On this date MW-2 was sampled by adjusting the pump to operate at the same rate as was used for sampling on September 16. The depth to water from top of casing before pumping was measured to be 15.25 feet as compared to 12.20 feet on September 16, 2010.

Groundwater Quality

Groundwater quality data is summarized below in Table 1. Only parameters that were measured at levels equal to or greater than their respective practical quantitation limit (PQL) are listed in Table 1. The full laboratory report is included as Appendix A.

None of the monitoring well samples contained SVOCs, VOCs, PCBs, EPH or VPH at a concentration equal to or above their PQL. None of the parameters were measured at levels that exceed their respective Maine Center for Disease Control and Prevention (CDC) Maximum Exposure Guideline (MEG) for Drinking Water.

Table 1 – Detected Compounds in Groundwater

Monitoring Location	Parameter	Result (mg/L)	MEG (mg/L)
MW-1	Barium	0.012	2.0
MW-2	Arsenic	0.008	0.010
	Barium	0.0202	2.0
	Bis(2 ethylhexyl)phthalate	0.017	0.025
MW-3	Barium	0.0202	2.0

Conclusion

Groundwater monitoring was performed at the Prolerized New England site at 568 Riverside Street as required under the City of Portland Scrap Metal Recycling Facility Rules. Monitoring results showed that none of the parameters measured exceeds applicable drinking water standards, the Maine MEGs.

Sincerely,

Mark Arienti, P.E.
Senior Environmental Engineer

Thomas E. Schwarm, CG
President/Hydrogeologist

STATE OF MAINE
THOMAS E. SCHWARM
NO. 212
CERTIFIED GEOLOGIST

cc: Keri Fitzpatrick, Schnitzer Northeast
Randy McMullin, MEDEP

City of Portland
Scrap Metal Application

PROLERIZED NEW ENGLAND COMPANY LLC

RIVERSIDE STREET, PORTLAND, ME

Prepared for

Prolerized New England Company, LLC
69 Rover Street
Everett, MA 02149

November 2008

Prolerized New England Company
Recycling Today for the Future

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CIVIL CONSULTANTS
P.O. Box 100 South Berwick, Maine 03908 207-384-2550

Photograph 5. General view of the elevated terrace margin from the wooded area adjacent to the river at the proposed Schnitzer Steel scrap metal recycling facility. The recent fill and exposed deposits are apparent on the right half of the image. The photo faces east and composites with Photo 4 to the left and Photo 6 to the right (NDH / RWG&A March 29, 2007).

Photograph 6. General view of elevated terrace margin from the wooded area adjacent to the river at the proposed Schnitzer Steel recycling facility on Riverside Street. The recent fill and eroded deposits are apparent in the background on the left half of the photo. The exposed area in Photo 2 is evident at the terrace edge. The photo faces southeast and composites with Photos 4 and 5 to the left (NDH/RWG&A March 29, 2007).

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
95A County Road Gorham, Maine 04038
(207) 839-5563 FAX (207) 839-5564

Albert Frick, SS, SE
James Logan, SS, SE
Matthew Logan, SE
Brady Frick, SE
Bryan Jordan, SE
William O'Connor, SE

N/F LUCAS TREE PROPERTY
(SCHNITZER STEEL)
Riverside Street
Portland, Maine

SOIL NARRATIVE REPORT

July, 2007

DATE: Soil profiles observed on May 21, 2007 .

BASE MAP: Contour map -foot intervals, scaled 1"=100', provided by Civil Consultants.

GROUND CONTROL: Test pits located by Civil Consultants.

THE SOIL MAPPING CONFORMS WITH A HIGH-INTENSITY (CLASS B) SURVEY.

Class B - Soil Survey

1. Mapping units of 1 acre or greater.
2. Scale of 1" = 200' or larger.
3. Up to 35% inclusions in mapping units of which no more than 25% may be dissimilar soils.
4. Ground control - test pits located from known, surveyed, control points.
5. Base map with 5' contour lines.

This was prepared for a commercial development of land utilizing public sewer and water.

The accompanying soil profile descriptions, soil map and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

James Logan

James Logan C.S.S. #213, S.E. #237 7,13,07
Date

STATE OF MAINE
JAMES LOGAN #213
SOIL SCIENTIST

CORNISH
(Fluvaquentic Dystrochrepts)

SETTING

Parent Material: Alluvial sediments.

Landform: Floodplains.

Position in Landscape: Nearly level areas, commonly in broad depressions.

Slope Gradient Ranges: (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat poorly drained, with an apparent water table 1.0 to 2.0 feet beneath the soil surface from November through May and during periods of excessive precipitation or spring run-off.

Typical Profile Description:

Surface layer:	Very dark grayish-brown, very fine sandy loam, 0-12"
Subsurface layer:	Light olive-brown, very fine sandy loam, 12-24"
Subsoil layer:	Olive, very fine sandy loam, 24-35"
Substratum:	Olive-gray, very fine sandy loam, 35-60"

Hydrologic Group: Group C

Surface Run Off: Slow

Permeability: Moderate in coarse silty layers, and moderate to very rapid in the silt loam to fine gravel strata, where present.

Depth to Bedrock: Very deep, greater than 60".

Hazard to Flooding: Twice annually to once every ten years.

INCLUSIONS
(Within Mapping Unit)

Similar: Lovewell (moderately well drained floodplain soils), Nicholville, Lamoine

Contrasting: Charles, Medomak

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness, due to the presence of a water table 1.0 to 2.0 feet beneath the soil surface for a significant portion of the year. In addition, it is a floodplain soil that may flood from twice annually to once every ten years. Proper setbacks should be maintained for building construction.

ELDRIDGE (Elmwood)
(Moderately Well Drained)

SETTING

Parent Material: Sandy glaciofluvial deposits underlain by loamy or clayey marine or lacustrine sediments.

Landform: Glacial lake plains, terraces, and glacial outwash areas.

Position in Landscape: Intermediate to upper positions in landform.

Slope Gradient Ranges: (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately well drained with an apparent water table 1.5 to 3.5 feet beneath the soil surface from November through May, or during periods of heavy precipitation.

Typical Profile Description:

Surface layer:	Very dark grayish brown sandy loam or loamy sand, 0-9"
Subsurface layer:	Olive brown loamy sand, 9-17"
Subsoil layer:	Olive brown loamy sand, 17-27"
Substratum:	Olive very fine sand/ silt/silty clay, 27-65"

Hydrologic Group: Group C

Surface Run Off: Moderately rapid to rapid.

Permeability: Rapid in the solum and moderately slow or slow in substratum.

Depth to Bedrock: Deep, greater than 40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Nicholville, Croghan, Made Land, Filled Land

Contrasting: Elmwood (S.W.P.), Lamoine

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness, due to the presence of a groundwater table for some portion of the year. Proper foundation drainage or other site modification is recommended for construction.

FILLED LAND

SETTING

Parent Material:	Variable
Landform:	N/A
Position in Landscape:	N/A
Slope Gradient Ranges:	**(B)** 3-8% **(C)** 8-20% **(D)** 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	N/A
Typical Profile Description:	**Surface layer:**) **Subsurface layer:**) Typically loamy sand **Subsoil layer:**) and gravelly sand fill **Substratum:**)
Hydrologic Group:	Not assigned a hydrologic group due to variability.
Surface Run Off:	Variable
Permeability:	Variable
Depth to Bedrock:	N/A
Hazard to Flooding:	None

INCLUSIONS
(Within Mapping Unit)

Similar:	Made Land
Contrasting:	None

Development with Public Sewer and Water: The limiting factor for building site development is wetness, due to firm or restrictive layers within map units within 40" of the existing surface. Proper foundation drainage or other site modification is recommended for construction.

FILLED LAND/MADE LAND

SETTING

Parent Material: Variable

Landform: N/A

Position in Landscape: N/A

Slope Gradient Ranges: (A) 0-3% (B) 3-8% (C) 3-20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Note: This map unit consist of filled land interspersed with regarded original soils that are no longer classifiable by taxonomy.

Drainage Class: N/A

Typical Profile Description:

Surface layer:)
Subsurface layer:) Typically loamy sand
Subsoil layer:) and gravelly sand fill
Substratum:)

Hydrologic Group: Not assigned a hydrologic group due to variability.

Surface Run Off: Variable

Permeability: Variable

Depth to Bedrock: N/A

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Made Land

Contrasting: None

Development with Public Sewer and Water: The limiting factor for building site development is wetness, due to firm or restrictive layers within map units within 40" of the existing surface. Proper foundation drainage or other site modification is recommended for construction.

LAMOINE
(Aeric Haplaquepts)

SETTING

Parent Material:	Lacustrine or marine sediments.
Landform:	Lake or marine, coastal plains or terraces.
Position in Landscape:	Intermediate positions in landform.
Slope Gradient Ranges:	(D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat poorly drained, with a perched water table 1.0 to 1.5 feet below the soil surface from November through May, and during periods of excessive precipitation.

Typical Profile Description:

Surface layer:	Dark brown silt loam, 0-7"
Subsurface layer:	Light olive brown or yellowish brown silt loam, 7-12"
Subsoil layer:	Light olive brown and olive silty clay loam, 12-21"
Substratum:	Olive silty clay, 21-65"

Hydrologic Group: Group D

Surface Run Off: Medium

Permeability: Moderate or moderately slow in surface layer, moderately slow or slow in subsoil, and slow or very slow in the dense substratum.

Depth to Bedrock: Deep, greater than 40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Buxton, Elmwood (S.W.P.)

Contrasting: Scantic, Swanton, inclusions of C slopes in D slope units

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness, due to the presence of a water table within 1.5 feet of the soil surface for a significant portion of the year. Proper foundation drainage or other site modification is recommended for construction.

MADE LAND

SETTING

Parent Material:	Variable
Landform:	Variable
Position in Landscape:	Variable
Slope Gradient Ranges:	(A) 0-3% (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	None assigned	
Typical Profile Description:	Surface layer:	) Typically this map unit
	Subsurface layer:	) consists of areas
	Subsoil layer:	) excavated and reworked
	Substratum:	) by man, then smoothed.
Hydrologic Group:	None assigned	
Surface Run Off:	Variable	
Permeability:	Variable	
Depth to Bedrock:	Variable	
Hazard to Flooding:	None	

INCLUSIONS
(Within Mapping Unit)

Similar: Filled Land

Contrasting:

USE AND MANAGEMENT

This map unit consists of areas reworked by man, so that the soils are no longer taxonomically classifiable. Limiting factor for development is soil drainage, though somewhat difficult to determine in these map units. Proper foundation drainage or other site alterations recommended for construction.

NICHOLVILLE
(Aquic Haplorthods)

SETTING

Parent Material: Lacustrine material having a high content of silt and fine sand.

Landform: Commonly found on lake plains and upland till plains that have a mantle of water-deposited silt or very fine sand.

Position in Landscape: Intermediate and upper portions of landscape feature.

Slope Gradient Ranges: (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately well drained, with a perched water table 1.5 to 2.0 feet below the soil surface from November through May.

Typical Profile Description:

Surface layer:	Very dark grayish brown silt loam, 0-10"
Subsurface layer:	Dark yellowish brown silt loam, 10-13"
Subsoil layer:	Yellowish brown and grayish brown very fine sandy loam, 13-18"
Substratum:	Grayish brown loamy very fine sand, 18-70"

Hydrologic Group: Group C

Surface Run Off: Medium

Permeability: Moderate throughout the profile.

Depth to Bedrock: Very deep, greater than 60".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Croghan, Elmwood

Contrasting: Nicholville (S.W.P.), Buxton, Made Land, Filled Land

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness due to the presence of a groundwater table. Proper foundation drainage or site modification is recommended for construction.

SACO (MEDOMAK)
(Fluvaquentic Humaquepts)

SETTING

Parent Material: Recently alluvial sediments on flood plains.

Landform: Floodplains adjacent to rivers and streams.

Position in Landscape: Lowest lying areas of landform.

Slope Gradient Ranges: (A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Very poorly drained, with a permanent water table at or very near the surface. At times this soil may be ponded.

Typical Profile Description:

Surface layer: Very dark grayish brown silt loam, 0-14"
Subsoil layer: Dark gray silt loam, 14-47"
Substratum: Very dark gray silt loam, 47-65"

Hydrologic Group: Group D

Surface runoff: Slow to ponded

Permeability: Moderate to rapid in the fine gravel substrata, if present.

Depth to Bedrock: Very deep, greater than 60".

Hazard to Flooding: Flooding generally occurs once or twice annually during spring runoff and periods of heavy precipitation.

INCLUSIONS
(Within Mapping Unit)

Similar: Charles (poorly drained)

Contrasting: Searsport, Chocorua

USE AND MANAGEMENT

Development with public sewer and water: (Saco) Medomak soils have severe limitations for building site development, due to a high water table near the soil surface for a significant portion of the year, and a tendency to flood once or twice annually. Medomak soils usually are classified as wetlands, on the combined basis of hydric conditions, hydrology, and vegetation.

SCANTIC
(Typic Haplaquepts)

SETTING

Parent Material:	Marine or lacustrine sediments.
Landform:	Level or gently sloping marine or lake plains.
Position in Landscape:	Lower to intermediate positions.
Slope Gradient Ranges:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Poorly drained, with a perched water table 0.5 to 1.0 feet beneath the soil surface.	
Typical Profile Description:	**Surface layer:**	Dark grayish brown silt loam, 0-9"
	Subsurface layer:	Olive gray silt loam, 9-11"
	Subsoil layer:	Olive gray, silty clay loam, 11-16"
	Substratum:	Olive gray clay, 16-65"
Hydrologic Group:	Group D	
Surface Run Off:	Slow	
Permeability:	Moderate or moderately slow in upper profile, slow to very slow in dense substratum.	
Depth to Bedrock:	Very deep, greater than 60".	
Hazard to Flooding:	May flood occasionally on lowest fringes during spring and periods of excessive precipitation.	

INCLUSIONS
(Within Mapping Unit)

Similar:	Lamoine, Enosburg (Swanton)
Contrasting:	Biddeford, Whately, Saco (Medomak)

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness due to the presence of a shallow water table throughout most of the year. Proper foundation drainage or site modification is recommended for construction. Scantic soil may be classified as wetlands, based upon the combined consideration of hydric conditions, hydrology, and vegetation.

URBAN LAND

This map unit consists of gently sloping land that has been previously developed.

INCLUSIONS
(Within Mapping Unit)

Similar: Filled Land, Made Land

R. W. Gillespie & Associates, Inc.
Geotechnical Engineering • Geohydrology • Materials Testing Services

21 August 2007

Carl V. Beal, P.E.
Civil Consultants, Inc.
P.O. Box 100
South Berwick, Maine 03906

Subject: Geotechnical Investigation
Proposed Metal Recycling Facility
Portland, Maine
RWG&A Project No. 427-44

Dear Mr. Beal:

R. W. Gillespie & Associates, Inc., (RWG&A) is pleased to present the results of our geotechnical investigation for the proposed Metal Recycling Center in Portland, Maine. This work was performed in general accordance with RWG&A's proposal to you dated 29 May 2007 (note: RWG&A Proposal No. P-6481GI). The purpose of the investigation was to obtain information about subsurface conditions on which to base recommendations for design and construction of pavement sections.

The following report presents the findings of our field explorations and engineering evaluations, and provides our geotechnical design recommendations. In summary, subsurface conditions encountered consisted of fill underlain by naturally deposited silty sand over stiff silty clay. Fill was encountered in test pits TP-1 and TP-6 through TP-14, and was composed of a mix of silty sand, silty clay, topsoil, and rubble (i.e., brick, rock, and/or concrete pieces). Wood and other organic material was encountered in the fill in test pits TP-11 and TP-14. The fill extended to depths of 3 to more than 11 feet below current ground surface. Refusal was not encountered to the depths explored.

The attached report provides recommendations for construction of flexible and rigid pavements in the truck circulation and material processing areas. Pavement underdrains or a free draining ditch should be provided at the perimeter of paved areas. Additional information regarding our subsurface investigation and engineering recommendations are provided in the attached report.

We have enjoyed working with Civil Consultants, Inc., on this project. If you have any questions or if we may be of further service, please contact us.

Very truly yours,
R. W. GILLESPIE & ASSOCIATES, INC.

Marc R. Grenier, P.E.
Project Geotechnical Engineer

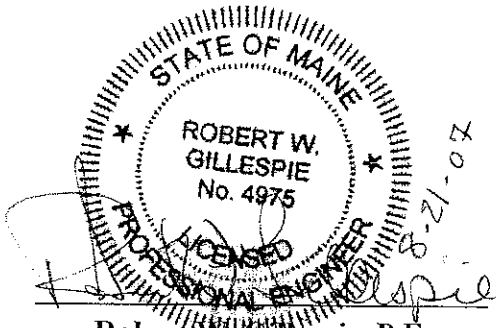
Robert W. Gillespie, P.E.
Principal Geotechnical Engineer

MRG/RWG:ci
In quadruplicate

Report
of
GEOTECHNICAL INVESTIGATION
for
PROPOSED METAL RECYCLING FACILITY
PORTLAND, MAINE

Prepared
for
CIVIL CONSULTANTS, INC.
SOUTH BERWICK, MAINE

Prepared
by
R. W. GILLESPIE & ASSOCIATES, INC.
SACO, MAINE



Robert W. Gillespie, P.E.
Maine PE No. 4975

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Background

The project consists of redevelopment of an approximately 12.9 acre parcel which is located within a larger, 53.5-acre property formerly occupied by Lucas Tree Expert Facility, Inc. The property is located at 636 Riverside Street, as illustrated on Figure 1, *Locus Map*. Our understanding of the current site conditions and proposed construction is based on conversations with Civil Consultants, Inc., and Prolerized New England, and review of the following documents:

- Sheet No. C2, untitled, dated 24 April 2007 prepared by Civil Consultants, Inc.
- Letter dated 03 April 2007 from Tewhey Associates, Inc., to Maine Department of Environmental Protection (VRAP) re: "VRAP Application for Lucas Tree Expert Facility, Riverside Street, Portland, Maine."
- Sheet No. C1, titled Existing Conditions, dated 17 July 2007 prepared by Civil Consultants, Inc.

1.2 Scope

This investigation was performed to develop site-specific soil and laboratory data, and to make geotechnical evaluations for the proposed paved areas. As performed, our scope of work included the following items.

1. Prepared a program of subsurface explorations to obtain information for pavement section and earthwork design.

2. Arranged to have the subsurface explorations performed by a local contractor. Provided technical monitoring of the exploration activities so that depths, locations, and sampling methods could be modified in response to the subsurface conditions encountered.

3. Performed laboratory tests on selected soil samples recovered from the subsurface explorations to aid in soil description and for determination of engineering properties needed for pavement design.

4. Conducted engineering evaluations of the geotechnical aspects related to pavement sections, groundwater control and subgrade drainage, and construction difficulties related to subgrade conditions.

5. Prepared this report presenting the findings, conclusions, and recommendations of the geotechnical investigation.

RWG&A's scope of services did not include an Environmental Site Assessment relative to oil and hazardous materials or evidence of a potential release or threat of oil or hazardous materials on, below, or around the site. Any statement in this report, or on the exploration logs, regarding odors or unusual or suspicious conditions are for informational purposes only and are not intended to constitute an environmental assessment.

2.0 SUBSURFACE EXPLORATION

The subsurface exploration program consisted of fourteen (14) test pits advanced to depths ranging from 10 to 11 feet below local ground surface. Test pits were excavated on 29 June 2007 by White Brothers Construction, Inc., of Westbrook, Maine. The test pits were excavated with a Volvo SE 210 excavator. Bulk samples were collected from several of the test pits and measurements of undrained shear strength of cohesive soils were made using a pocket penetrometer.

Exploration activities were coordinated and monitored by RWG&A personnel who prepared the exploration logs. The soils were described in general accordance with *ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).* Logs of the explorations are included in Appendix A of this report. Stratification lines shown on the exploration logs represent the estimated boundaries between the different soil types encountered and approximate refusal depths; the actual transitions will be more gradual and vary over short distances.

Figure 2, *Exploration Location Plan*, shows the locations of the explorations. Explorations were located in the field by representatives of RWG&A by taping and pacing from identifiable site features prior to excavating. The locations shown on Figure 2 were determined by Civil Consultants, Inc., using GPS and other survey techniques. Elevations were interpolated from contours on the provided plan. Locations and elevations should be considered accurate only to the degree implied by the methodology used to determine them.

3.0 LABORATORY TESTING

Laboratory testing was performed to assist in description and estimation of engineering properties of the soils. Select samples were visually examined and, if necessary, re-described. The laboratory testing program consisted of three (3) sieve analyses and one (1) California Bearing

Ratio (CBR) test. The tests were performed in general accordance with the following methods and procedures:

- *ASTM D2216, Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.*
- *ASTM D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).*
- *ASTM D422, Standard Test Method for Particle-Size Analysis of Soils.*
- *ASTM D1140, Standard Test Method for Amount of Material in Soils Finer Than the No. 200 (75-μm) Sieve.*
- *ASTM D1883, Standard Test Method for CBR (California Bearing Ratio) of Laboratory-Compacted Soils.*

Results of the laboratory tests are presented in Appendix B, *Laboratory Test Results*. All tests were conducted at the RWG&A soil and materials testing laboratory in Saco, Maine, which is accredited by the American Association of State Highway and Transportation Officials (AASHTO) for the tests performed.

4.0 SUBSURFACE CONDITIONS

4.1 Subsurface Soils

Four distinct soil units were encountered in the explorations: topsoil, fill, silty sand, and silty clay. In general, the conditions encountered consisted of fill underlain by naturally deposited silty sand over stiff silty clay. Fill was encountered in test pits TP-1 and TP-6 through TP-14 and extended to depths of 3 to more than 11 feet below current ground surface. The fill generally consisted of a mix of silty sand, silty clay, topsoil, and rubble consisting of rock, brick, and/or concrete pieces. Wood and other organic material were encountered in test pits TP-11 and TP-14. Topsoil was encountered at the interface between fill and naturally deposited soils in several of the test pits. Explorations were advanced to depths of 10 to 11 feet below current ground surface; refusal was not encountered to the depths explored. Please refer to the exploration logs in Appendix A for detailed descriptions at specific locations.

4.2 Groundwater

Free water was not observed in the explorations to the depths explored. It is anticipated that water becomes locally perched, or trapped, near ground surface during periods of snowmelt and

extended wet weather. Groundwater levels at the site will fluctuate due to season, temperature, rainfall and construction activity in the area; therefore, water levels during and following construction will vary from those observed in the explorations.

5.0 EVALUATION OF GEOTECHNICAL DATA

5.1 General

Engineering evaluations for this project are based on the subsurface explorations, laboratory testing data, and the preliminary design information currently available to RWG&A. Should differing information become known prior to or during construction, these evaluations should be reviewed by RWG&A to confirm their continued applicability.

5.2 Proposed Construction

Sheet C-2 indicates the metal recycling facility will consist of adjoining metal recycling process and bailer buildings in the central part of the site with approximately 5 acres of bituminous concrete pavement (i.e., flexible pavement). Portland cement concrete pavement (i.e., rigid pavement) might be used in localized areas such as handling bins, where vehicles turn frequently. The paved areas will be used for bulk storage, handling of scrap metals, and truck circulation. Conceptual layout information indicates final grades will be within 2 to 3 feet of current ground surface. Traffic loading was provided by Civil Consultants, Inc., and Prolerized New England, as follows:

- Eight 18-wheel dump trucks per day;
- Nineteen 10-wheel dump trucks per day;
- Sixty small trucks (i.e., delivery/van) per day;
- One Caterpillar, Inc., Model 980 rubber tired wheel loader, operating continuously, 12 hours per day, 6 days per week.

5.3 Pavement Design Considerations

The area surrounding the building will be paved, except for local landscaping. Silty clay is expected at subgrade in the front (note: east part) of the site and silty sand or compacted fill is anticipated at subgrade for the rest of the site. Based on laboratory testing and our experience with similar subgrade soils, pavement sections were developed using a CBR value of 3 for silty clay and a CBR of 8 for silty sand and fill. Traffic loading was provided, as outlined in Section 5.2 of this report, and AASHTO methods were used to determine the recommended pavement sections. The AASHTO method uses equivalent single axle loads (ESAL) to determine both concrete and rigid

pavement thickness. The ESALs are calculated by converting given axle loads into 18,000 pound axle loads based on data collected during the AASHTO road test. The following table shows the ESALs calculated for both 10 year and 20 year design life. "Standard Duty" pavements are areas where traffic will consist of only trucks and automobiles, while "Heavy Duty" areas are areas where loader traffic is included.

Design Life	Rigid Pavement		Flexible Pavement	
	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty
10 Years	680,000	11,000,000	510,000	10,000,000
20 Years	1,400,000	22,000,000	1,020,000	20,000,000

Pavement Frost Penetration: The design freezing index for the project site is approximately 1,250 degree days. Estimated freezing temperature penetration for the design freezing index is summarized below:

Approximate Freezing Temperature Penetration (inches)		
Ground Cover Condition	Subgrade Soil Type	
	Silty Clay	Silty Sand/Fill
Turf with 12 inches snow cover	14	24
Turf snow free	20	34
Pavement snow free	39	52
12-inch pavement section snow free	32	52
24-inch pavement section snow free	36	52
36-inch pavement section snow free	40	52

The on-site soils are highly to moderately frost susceptible. Full-depth frost protection of pavements would require a total pavement section of about 52 inches which would be cost prohibitive. It is typical practice in the New England region to provide partial depth frost protection for pavements with the expectation that some frost heaving will occur.

5.4 Construction Considerations

Site Preparation: Up to 11 feet of fill was encountered in explorations performed in the proposed paved areas. The composition of, and methods used to place and compact the fill are uncertain, although fill which contained organic material was encountered in test pits TP-11 and TP-14. RWG&A recommends that test pits and proofrolling be performed prior to pavement section construction to evaluate existing fill. Test pits should be performed at a frequency of one per 7,500

square feet of pavement area and be advanced at least 8 feet below current ground surface to evaluate the presence of organic material in the fill.

Construction Dewatering: The on-site soils are very sensitive to disturbance when wet. To reduce disturbance of exposed subgrade soils, it will be important to divert runoff, provide positive grading to shed seepage and runoff from flat areas, and compact exposed soils to reduce rutting, ponding, and surface water infiltration.

Groundwater was not observed in the explorations. If required, RWG&A anticipates groundwater control can be accomplished through the use of ditches, sumps, and open pumping. Temporary detention ponds, trenches, ditches, and dewatering sumps should not be made within or near areas to be filled.

Use of On-site Soils: It is anticipated that the surficial topsoil will be stripped and either incorporated into proposed landscaped areas, where practical, or hauled off site. Topsoil and organic materials are not considered suitable for use as common fill below paved areas. The on-site, inorganic soils are considered suitable for use as common fill beneath the pavement sections.

The subsurface soils from foundation and site work excavations will generally consist of sandy, silty, clayey soils that are not suitable for use as base below pavements but, with proper moisture conditioning and earthwork handling, might be used as common fill beneath pavement subbase where more than three feet of fill is required. If on-site soil is proposed for use other than common fill, the soil should be stockpiled separately and tested to determine if it meets specification requirements for its intended use.

The silt, silty sand, and silty clay are moisture sensitive due to their high fines content and will be difficult to place and compact when they are wet. Moisture-density relationships should be established during construction to provide guidance for appropriate working moisture contents. Working moisture content for moisture sensitive soils typically ranges from about minus three to plus one percent of optimum moisture content.

5.5 Portland Water District Pipeline Crossing

Site plans provided indicate a Portland Water District 48-inch diameter concrete water main crosses the east part of the site. Evaluation of effects of the proposed construction activities and facility operation on the pipeline is beyond the scope of this investigation. Existing underground utilities should be protected from construction activities and facility operations to reduce the potential for damage to the pipeline. The Portland Water District should be provided the opportunity to review the proposed design and construction methods.

6.0 RECOMMENDATIONS

6.1 Site Preparation

1. All topsoil, peat, organic material, debris, rubbish, frozen soils, muck, loose, or disturbed soils and other unsuitable materials should be removed from the area of new construction. Topsoil may be stockpiled outside the construction area for reuse in landscape areas.

   Limited amounts of fill containing organic matter may remain below proposed paved areas. Fill that contains wood, stumps, logs, boards, and other deleterious materials should be removed within 6 feet of proposed finished pavement grade. Topsoil, loam, and other soils containing more than 5 percent organic content by weight should be removed down to within 3 feet of finished grade in proposed paved areas. Test pits extending a minimum of 8 feet into the fill should be conducted at a frequency of not less than one per 10,000 square feet to evaluate the composition of existing fill below proposed paved areas.

   After the topsoil and unsuitable fill have been removed from the construction area, the subgrade should be compacted with several passes each way with a vibratory, smooth drum compactor and be proof rolled with a fully loaded dump truck prior to the placement of new fill. If high groundwater is present during subgrade preparation, then the subgrades should be compacted with a smooth drum roller in the "static" mode only. Naturally deposited silty clay should not be proofrolled, and excavations in naturally deposited silty clay should be made with equipment fitted with smooth edged buckets. Soft areas or areas that yield excessively during proofrolling should be overexcavated and replaced with compacted common or granular fill.

2. Site grading should provide positive drainage away from constructed facilities both during and after construction.

3. Depending on the depths of excavations and season, dewatering might be needed. It should be practical to dewater excavations extending to 1 foot below groundwater by open pumping methods. Excavations deeper than 1 foot below groundwater may require the use of side trenches within or adjacent to excavations or other dewatering methods. Surface runoff and infiltration of groundwater should be controlled so that excavation, filling, and foundation construction can be completed in-the-dry.

6.2 Site Filling

4. Common fill may be placed in landscaped areas and as fill more than three feet below pavement section. Common fill should consist of inorganic mineral soil free of ice, loam,

organic, or other unsuitable materials. Common fill may contain cobbles up to 2/3 of the lift thicknesses used to place and compact it; recommended maximum lift thickness for common fill before compaction is 12 inches.

5. The on-site, inorganic soils are not suitable for use as granular fill but may be used as common fill. In addition, the on-site inorganic soils are generally highly frost susceptible and moisture sensitive, and will be difficult to place and compact. The moisture content will need to be tightly controlled for placement and compaction to the required density without excessive weaving, pumping, or other types of instability.

6. Only compacted granular fill is recommended for use as new fill in the upper three feet below paved areas. Granular fill should be a well-graded sand and gravel mixture free of roots, topsoil, loam, organic material, and any other deleterious materials, as well as clods of silt or clay, and meet the following gradation requirements:

Screen or Sieve Size	Percent Passing
6 inches	100
No. 4	25-100
No. 40	0-50
No. 200	0-7

7. In open areas, common fill and granular fill should be placed in level, uniform lifts not exceeding 12 inches in uncompacted thickness and be compacted with self-propelled compaction equipment. All fill placed beneath paved areas, including fill used to backfill test pits, should be compacted to at least 95 percent of the maximum dry density as determined by *ASTM Standard D 1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3))*.

6.3 Pavement Sections

8. Paved areas should be provided with the following pavement sections. Pavement sections were developed using AASHTO design methods. Materials and placement methods should meet the current Maine Department of Transportation requirements. Areas where traffic is limited to daily truck traffic are considered "Standard Duty," while areas where the Caterpillar, Inc., model 980 rubber tire wheel loader is included in traffic are considered "Heavy Duty."

Flexible Pavement - Silty Clay Subgrade

Component	Thickness in Inches			
	10 Year Design Life		20 Year Design Life	
	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty
Surface Course (MDOT Type 12.5 mm)	2	2	2	2
Binder Course (MDOT Type 19 mm)	2	5	2.5	5
Gravel Base (MDOT 703.06 Type A)	8	12	10	14
Subbase (MDOT 703.06 Type C)	16	20	18	24
Totals	28	39	32.5	45

Rigid Pavement - Silty Clay Subgrade

Component	Thickness in Inches			
	10 Year Design Life		20 Year Design Life	
	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty
Concrete (5000 psi compressive strength)	6	9.5	7	10.5
Gravel Base (MDOT 703.06 Type C)	12	12	12	12
Totals	18	21.5	19	22.5

Flexible Pavement - Silty Sand/Fill Subgrade

Component	Thickness in Inches			
	10 Year Design Life		20 Year Design Life	
	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty
Surface Course (MDOT Type 12.5 mm)	1.5	2	1.5	2
Binder Course (MDOT Type 19 mm)	2.5	3.5	2.5	3.5
Gravel Base (MDOT 703.06 Type A)	6	8	6	10
Subbase (MDOT 703.06 Type C)	12	14	12	18
Totals	22	27.5	22	33.5

Rigid Pavement - Silty Sand/Fill Subgrade

Component	Thickness in Inches			
	10 Year Design Life		20 Year Design Life	
	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty
Concrete (5000 psi compressive strength)	6	9	6.5	10
Gravel Base (MDOT 703.06 Type C)	12	12	12	12
Totals	18	21	18.5	22

Perimeter pavement underdrains or a free-draining ditch should be provided at the perimeter of paved areas unless finished grades outside the pavement are lower than the pavement subgrade elevation. The invert of the drain or ditch should be a minimum of 1 foot below the pavement section.

9. Underdrains should consist of 2 cubic feet of MDOT Underdrain Backfill Material Type C per linear foot, wrapped in a filter fabric, and located a minimum of 1 foot beneath the pavement section. The trench above the geotextile wrapped underdrain stone should be backfilled with MDOT Underdrain Backfill Material Type B. The top of the underdrain trench backfill should be in direct contact with the pavement subbase.

   Each pavement underdrain pipe should be provided with a minimum of two outlet pipes so as not to be reliant upon a single flow path. Drains should be outletted by gravity to surface drainage features or storm drains that will be free flowing under all conditions.

10. Prior to the start of paving, it is recommended that a thorough evaluation of the paved area subgrade be undertaken. The evaluation should include proof rolling of the pavement base course with a loaded tandem axle dump truck. Any unstable areas encountered should be repaired. Repairs should consist of excavation of the soft material(s) and replacement with compacted fill.

6.4 Utilities

11. Utilities may be earth supported. Bedding placed between the utility and subgrade should meet the utility and manufacturer requirements for the type of conduit or pipe being installed.

12. It is difficult to properly place and compact trench backfill material where a trench box or excavation shield is used. There is a tendency during construction to remove the trench box after the pipe is installed and then end-dump backfill material with little or no compactive

effort applied. The usual result of the above construction practice is post-construction settlement of the ground surface along the trench alignment. This settlement may be tolerable for cross-country alignments; however, under paved areas, this usually means having to re-level the surface years after the construction is complete. If this situation is not acceptable, a systematic compaction effort must be applied to the trench backfill below pavements.

6.5 Temporary Excavations

13. Soils at this site, encountered within the anticipated depths of excavations, consist of topsoil, fill, and naturally deposited silty sand and silty clay. We anticipate that foundation and utility excavations can be accomplished using sloped, open-cut techniques. It is also anticipated that dewatering can be accomplished using sumps and open pumping methods.

    The Contractor should be aware that slope height, slope inclination, and excavation depths (including utility trench excavations) should in no case exceed those specified in local, state, or federal safety regulations (e.g., OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926, or successor regulations). Such regulations are strictly enforced and, if they are not followed, the Owner, Contractor, and/or earthwork and utility subcontractors could be liable for substantial penalties.

    As a safety measure, it is recommended that all vehicles and spoil piles be kept a minimum lateral distance from the top of excavations equal to no less than 100 percent of the slope height. Exposed slope faces should be protected against the elements.

6.6 Geotechnical Observation

The geotechnical recommendations provided as the basis for design of this project were developed using limited numbers of observations and tests. The Owner should be sensitive to the potential need for adjustment in the field. We recommend that the Owner retain RWG&A to observe geotechnical construction aspects of the project. These services should include observing general compliance with the design concepts, specifications and recommendations, and assisting in development of design changes should subsurface conditions differ from those anticipated prior to the start of construction. Observation improves the likelihood that the design intent will be carried out during construction. In addition, it allows RWG&A to confirm its design recommendations. For this project, geotechnical observation of the following aspects is recommended:

- Observe site stripping, assess suitability of exposed subgrades, and observe proofrolling

- Perform laboratory and field testing of pavement base, subbase, and pavement underdrain material

- Observe fill placement and compaction

- Observe installation of pavement

In addition to geotechnical observation, RWG&A can also provide full service construction inspection and materials testing. This would include soils, portland cement and asphaltic concrete, structural steel and welding inspections, destructive and non-destructive testing, and special inspection services in fulfillment of building code requirements.

7.0 CLOSURE

This report has been prepared for specific application to the paved areas at the proposed Metal Recycling Facility in Portland, Maine, for the exclusive use of Civil Consultants, Inc. This work has been completed in accordance with generally accepted soil engineering practices. No other warranty, expressed or implied, is made. In the event that any changes are made in the nature, design, or location of the proposed construction, the conclusions and recommendations of this report should be reviewed by RWG&A.

The recommendations presented are based on the results of widely spaced explorations. The nature of variations between the explorations may not become evident until construction has begun. If variations are encountered, it will be necessary for RWG&A to re-evaluate the recommendations presented in this report. RWG&A requests an opportunity for a general review of the final design and specifications in order to determine that earthwork and pavement recommendations have been interpreted in the manner in which they were intended.

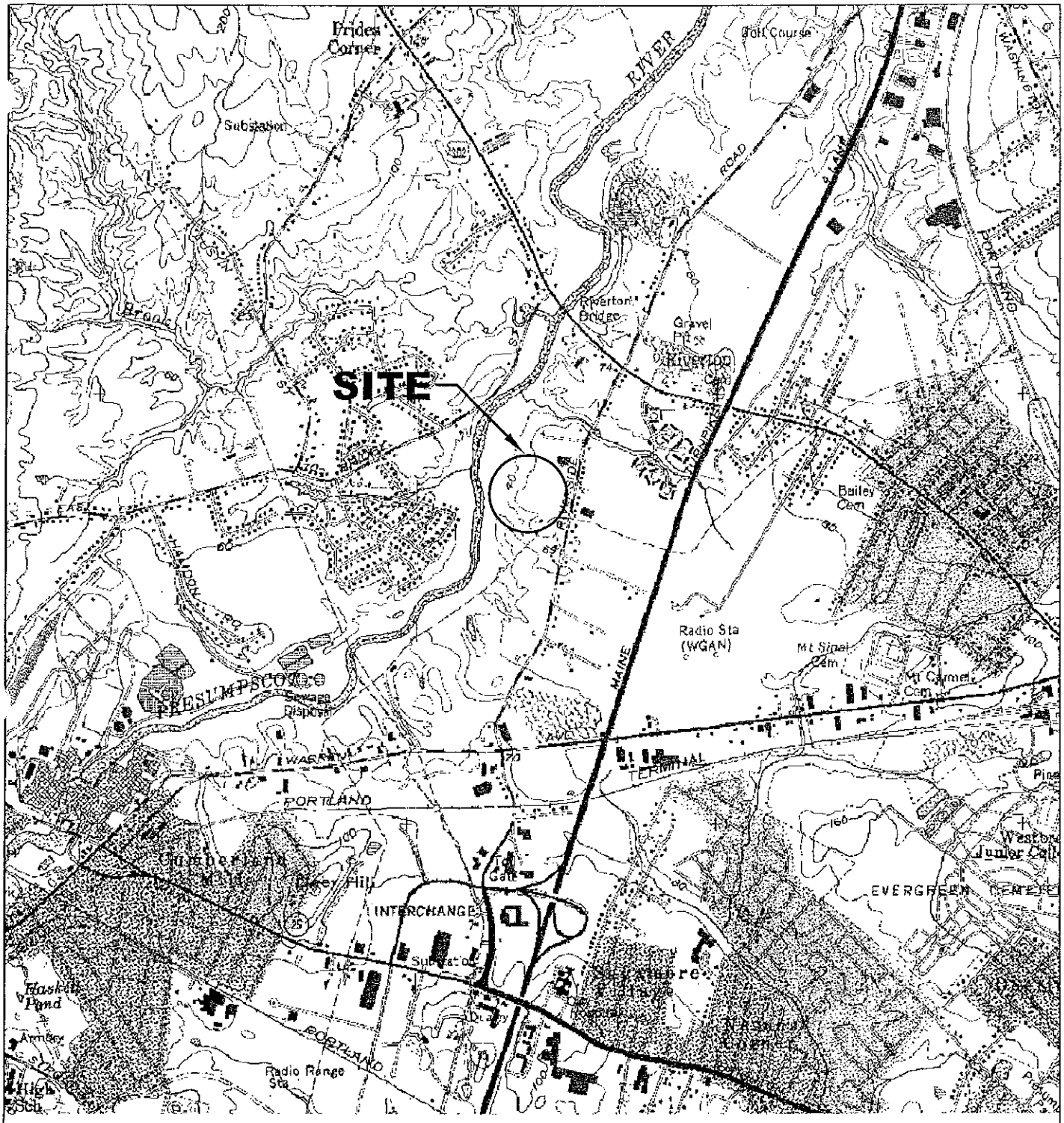


FIGURE 1
LOCUS MAP
PROPOSED METAL RECYCLING CENTER
PORTLAND, MAINE

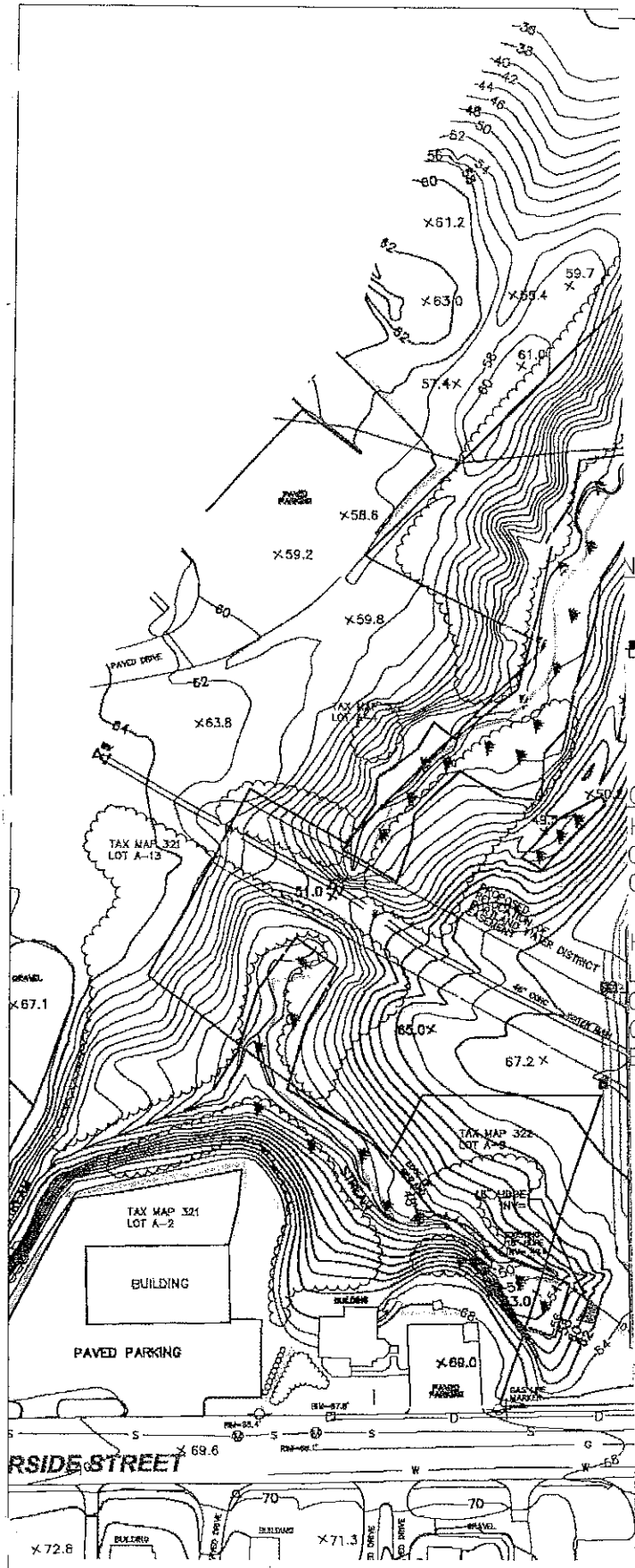
AUGUST 2007

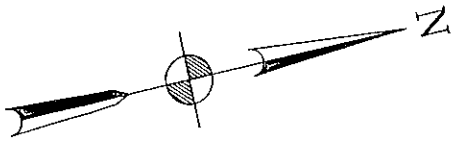
PROJECT NO. 427-44

SOURCE:

USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLES OF PORTLAND WEST, MAINE, DATED 1978.

R.W. Gillespie & Associates, Inc.
CONSULTING GEOTECHNICAL & ENVIRONMENTAL SPECIALISTS
86 Industrial Park Rd., Suite 4 Saco, Maine 04072 (207) 286-8008
Fax: (207) 286-2882 E-mail: rwg-a@rwg-a.com





ND:

TP-13 TEST PIT AND DESIGNATION AND LOCATION

CES:

HEET NO. C2 TITLED "SITE PLAN" FOR CRAP METAL RECYCLING FACILITY BY CIVIL ONSULTANTS, INC. DATED 25 APRIL, 2007.

HEET C1 TITLED "EXISTING CONDITIONS LAN OF LAND OF THE CITY OF PORTLAND" CHNITZER STEEL INDUSTRIES, INC. BY CIVIL ONSULTANTS, DATED 30 APRIL, 2007 EVISED 17 JULY, 2007.

FIGURE 2
EXPLORATION LOCATION PLAN
PAVEMENT EVALUATION
PROPOSED METAL RECYCLING FACILITY
PORTLAND, MAINE

AUGUST 2007 PROJECT NO. 427-44

R.W. Gillespie & Associates, Inc.
CONSULTING GEOTECHNICAL & ENVIRONMENTAL SPECIALISTS
86 Industrial Park Rd., Suite 4 Saco, Maine 04072 (207) 286-8008
Fax: (207) 286-2882 E-mail: rwg-a@rwg-a.com

APPENDIX A

EXPLORATION LOGS

Geotechnical Investigation
Proposed Metal Recycling Facility
Portland, Maine

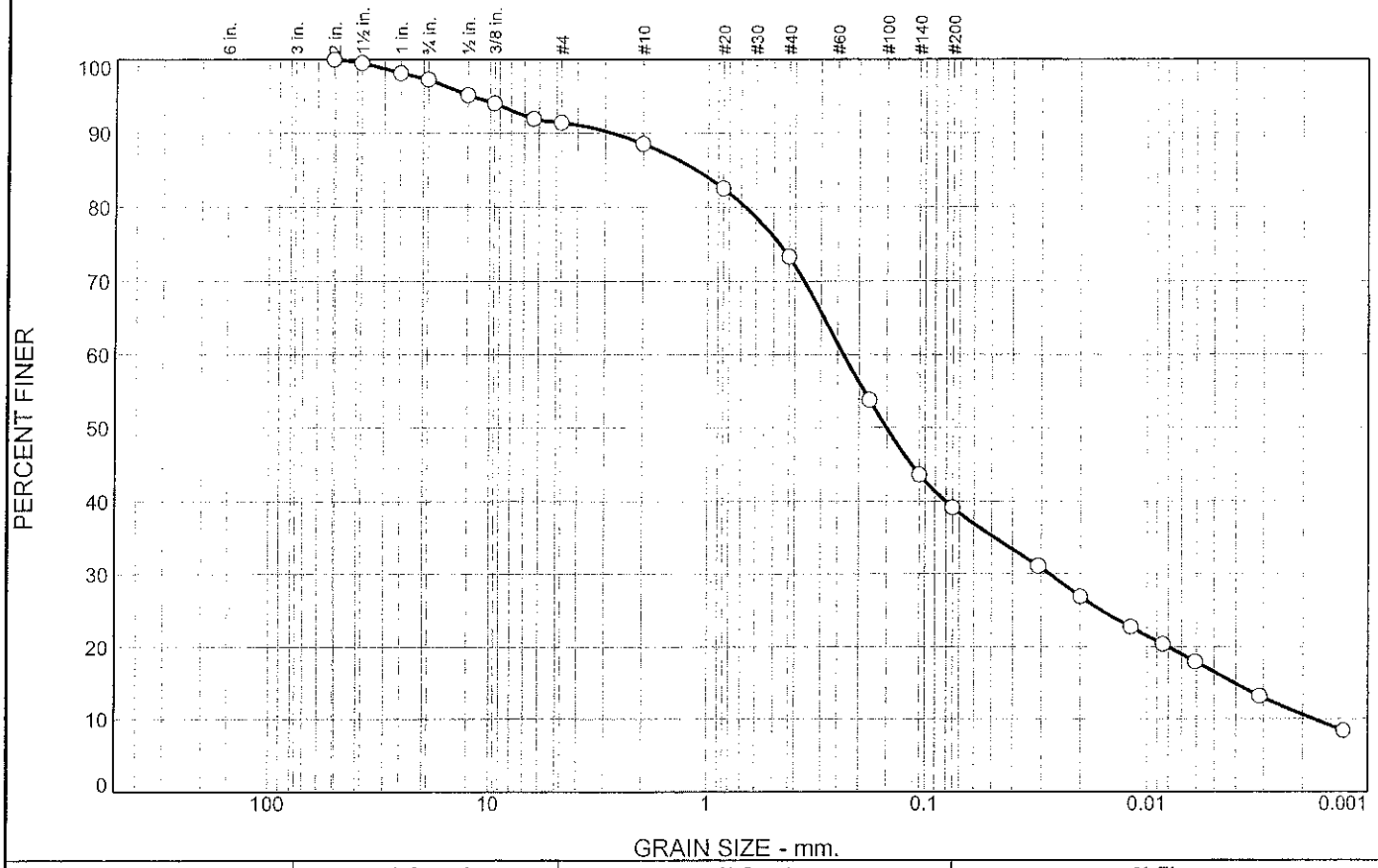
EXHIBIT 12
Supporting Documents (Test Pit Logs)
on file with the City of Portland's Planning Office

APPENDIX B

LABORATORY TESTING

Geotechnical Investigation
Proposed Metal Recycling Facility
Portland, Maine

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	2.7	5.9	2.8	15.3	34.2	22.6	16.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0		
1 1/2"	99.5		
1"	98.1		
3/4"	97.3		
1/2"	95.2		
3/8"	94.0		
1/4"	91.9		
#4	91.4		
#10	88.6		
#20	82.5		
#40	73.3		
#80	53.8		
#140	43.6		
#200	39.1		
0.0308 mm.	31.1		
0.0200 mm.	26.9		
0.0118 mm.	22.7		
0.0085 mm.	20.3		
0.0061 mm.	17.9		
0.0031 mm.	13.1		
0.0013 mm.	8.4		

* (no specification provided)

Soil Description

silty sand

Atterberg Limits

PL= np LL= nv PI=

Coefficients

D_{85}= 1.1348 D_{60}= 0.2345 D_{50}= 0.1509
D_{30}= 0.0275 D_{15}= 0.0041 D_{10}= 0.0018
C_u= 130.22 C_c= 1.80

Classification

USCS= SM AASHTO= A-4(0)

Remarks

Moisture content 11.0%

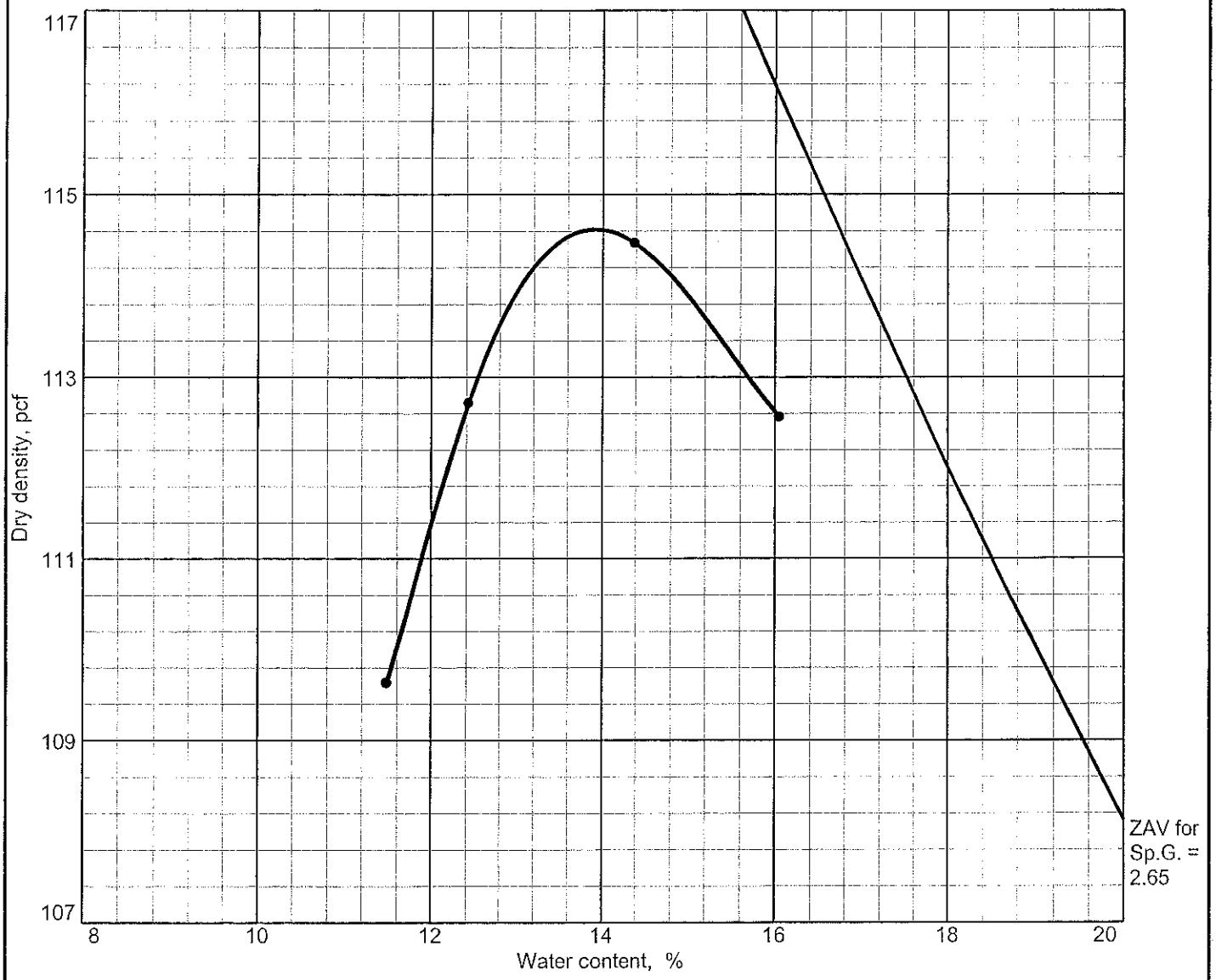
Sample No.: S-1 **Source of Sample:** TP-9 **Date:** 7/11/07
Location: Portland, Maine **Elev./Depth:** 0-2.5'

R.W. Gillespie & Associates, Inc.
Saco, Maine

Client: Civil Consultants, Inc.
Project: Proposed Metal Recycling Facility
Project No: 427-44 **Lab #** 9521

Tested By: JTR/DCH **Checked By:** MTG

Moisture-Density Test Report



Test specification: ASTM D 1557-00 Method A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
0-2.5'	SM	A-4(0)	11.0%		nv		8.6	39.1

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 114.6 pcf Optimum moisture = 13.9 %	silty sand

Project No. 427-44 **Client:** Civil Consultants, Inc.

Project: Proposed Metal Recycling Facility

● **Location:** Portland, Maine

R.W. Gillespie & Associates, Inc.

Saco, Maine

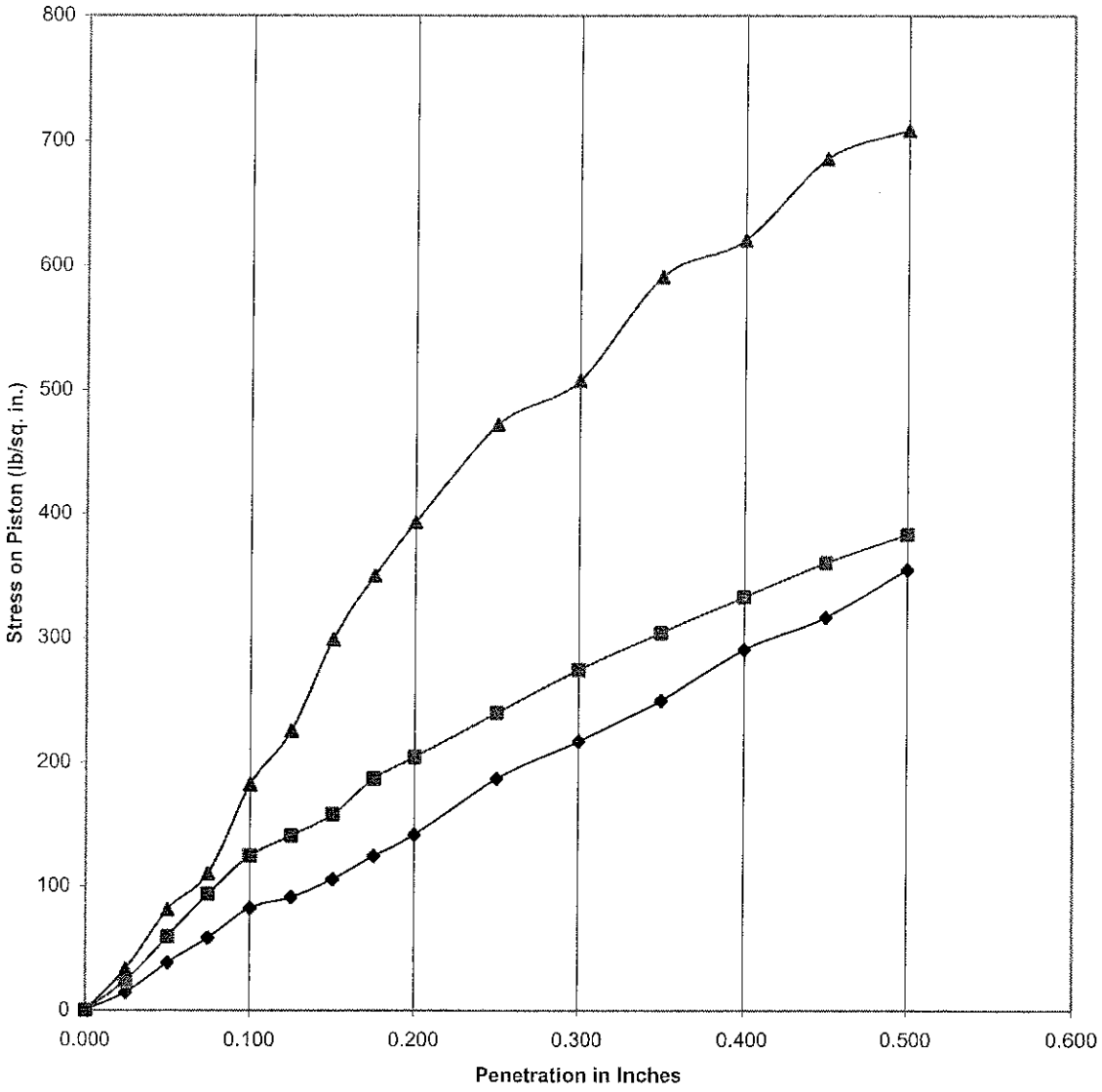
Remarks:

Testedby: DCH

MT

Lab # 9521

Lab California Bearing Ratio



Bearing Ratio at 0.1 inch penetration =	**8.2**	at 92.4% Compaction
Bearing Ratio at 0.1 inch penetration =	**12.5**	at 94.8% Compaction
Bearing Ratio at 0.1 inch penetration =	**18.2**	at 97.5% Compaction

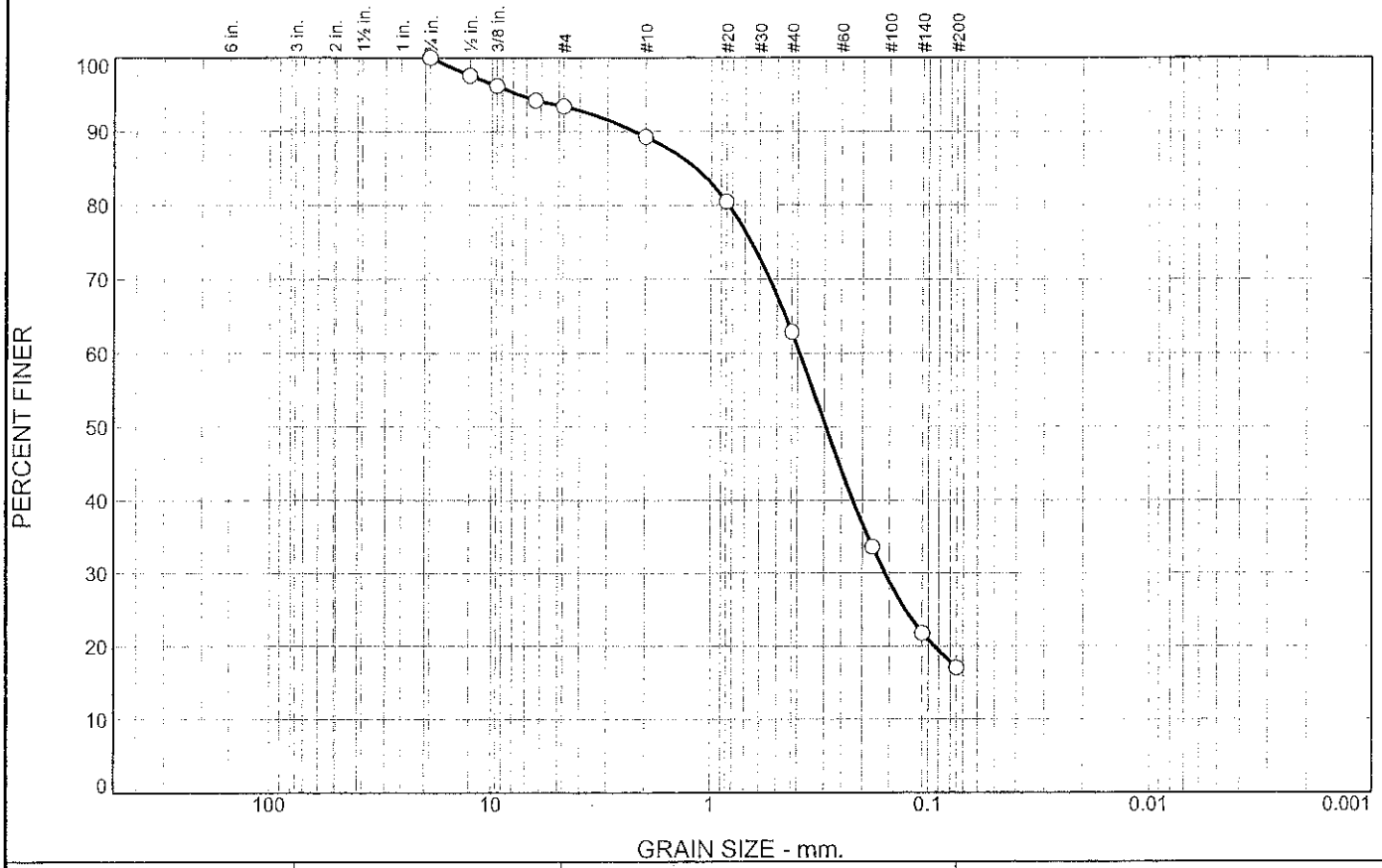
Project:	Prop. Metal Recycling Facility	Client:	Civil Consultants, Inc.
RWG&A Project No:	427-44	Date:	July 16, 2007
Location:	Portland, Maine	Lab #	9521
Test Location:	TP-9	Test Depth:	0-2.5'

R. W. Gillespie & Associates

86 Industrial Park Road, Suite 4, Saco, ME 04072 | 200 International Drive, Suite 170, Portsmouth, NH 03801 | 690 Maine Ave., Suite D, Augusta, ME 04344

MTG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	6.6	4.1	26.4	45.9	17.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
1/2"	97.6		
3/8"	96.2		
1/4"	94.2		
#4	93.4		
#10	89.3		
#20	80.5		
#40	62.9		
#80	33.6		
#140	21.8		
#200	17.0		

* (no specification provided)

Soil Description

silty sand

Atterberg Limits

PL= np LL= nv PI=

Coefficients

D_{85}= 1.1712 D_{60}= 0.3899 D_{50}= 0.2938
D_{30}= 0.1579 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Moisture content: 6.4%

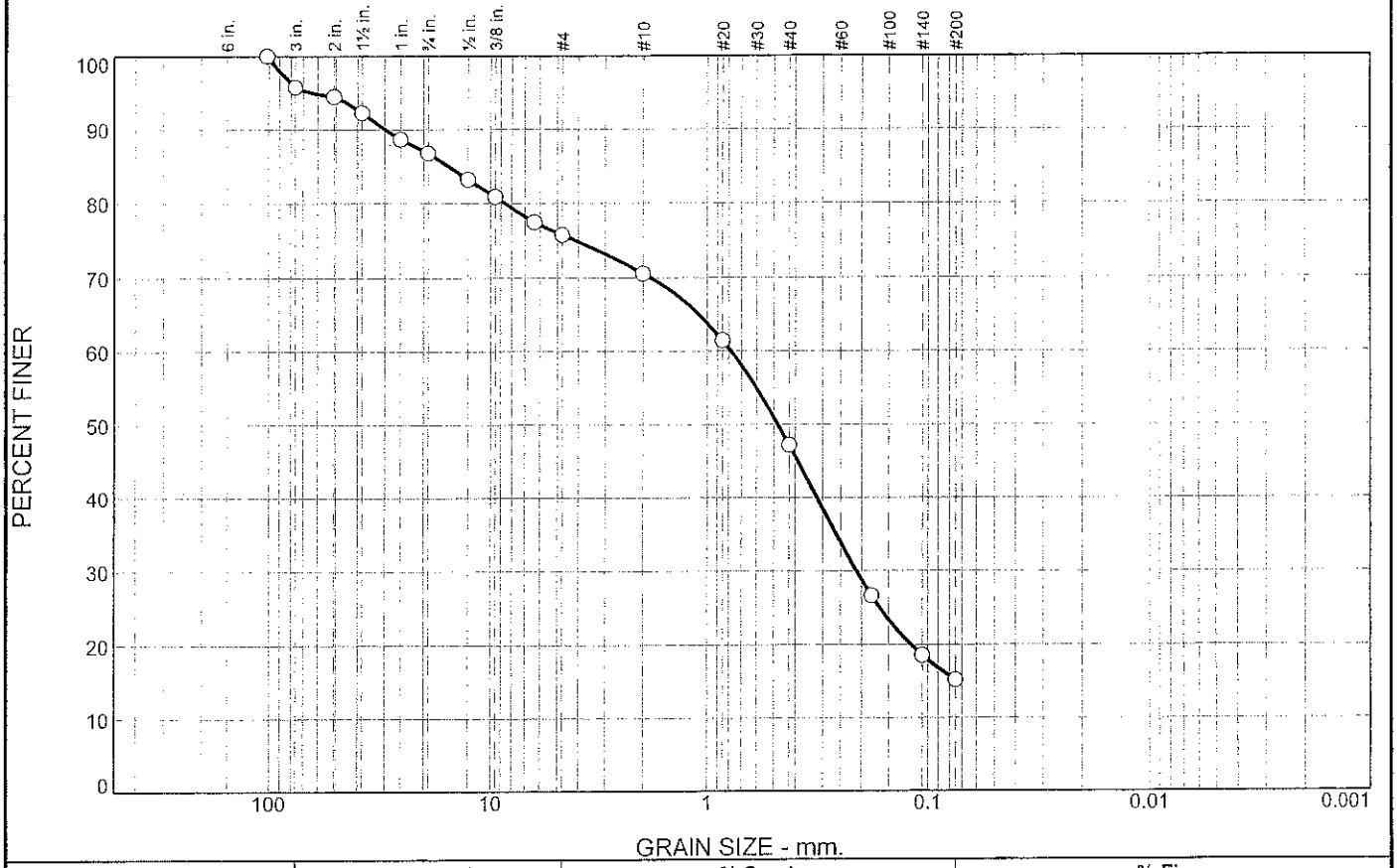
Sample No.: S-1 **Source of Sample:** TP-6 **Date:** 7/9/07
Location: Portland, Maine **Elev./Depth:** 1'-3'

R.W. Gillespie & Associates, Inc.
Saco, Maine

Client: Civil Consultants, Inc.
Project: Proposed Metal Recycling Facility
Project No: 427-44 **Lab #** 9522a

Tested By: JTR/DCH **Checked By:** MTG MTG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
4.2	9.0	11.0	5.2	23.4	32.0	15.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
4"	100.0		
3"	95.8		
2"	94.5		
1 1/2"	92.3		
1"	88.7		
3/4"	86.8		
1/2"	83.2		
3/8"	80.9		
1/4"	77.5		
#4	75.8		
#10	70.6		
#20	61.5		
#40	47.2		
#80	26.7		
#140	18.5		
#200	15.2		

* (no specification provided)

Soil Description

silty sand with gravel

Atterberg Limits

PL= np LL= nv PI=

Coefficients

D_{85}= 15.4748 D_{60}= 0.7786 D_{50}= 0.4776
D_{30}= 0.2108 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO= A-1-b

Remarks

Moisture content: 3.3%

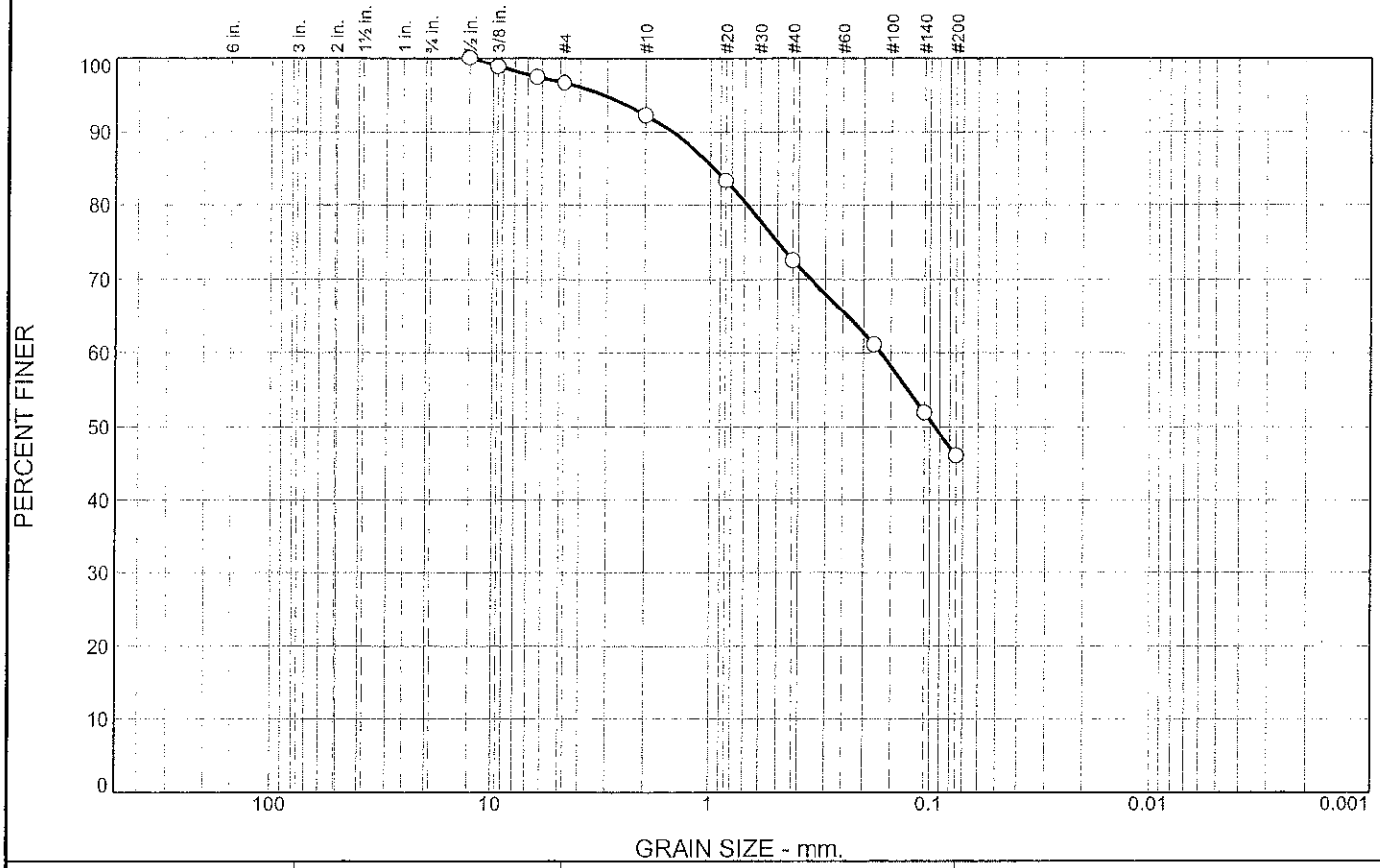
Sample No.: S-1 **Source of Sample:** TP-7 **Date:** 7/9/06
Location: Portland, Maine **Elev./Depth:** 0-2.5'

R.W. Gillespie & Associates, Inc.
Saco, Maine

Client: Civil Consultants, Inc.
Project: Proposed Metal Recycling Facility
Project No: 427-44 **Lab #** 9522b

Tested By: JTR/DCH **Checked By:** MTG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.4	4.4	19.6	26.6	46.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/2"	100.0		
3/8"	98.8		
1/4"	97.4		
#4	96.6		
#10	92.2		
#20	83.4		
#40	72.6		
#80	61.1		
#140	52.0		
#200	46.0		

* (no specification provided)

Soil Description

silty sand

Atterberg Limits

PL= np LL= nv PI=

Coefficients

D_{85}= 0.9575 D_{60}= 0.1677 D_{50}= 0.0947
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO= A-4(0)

Remarks

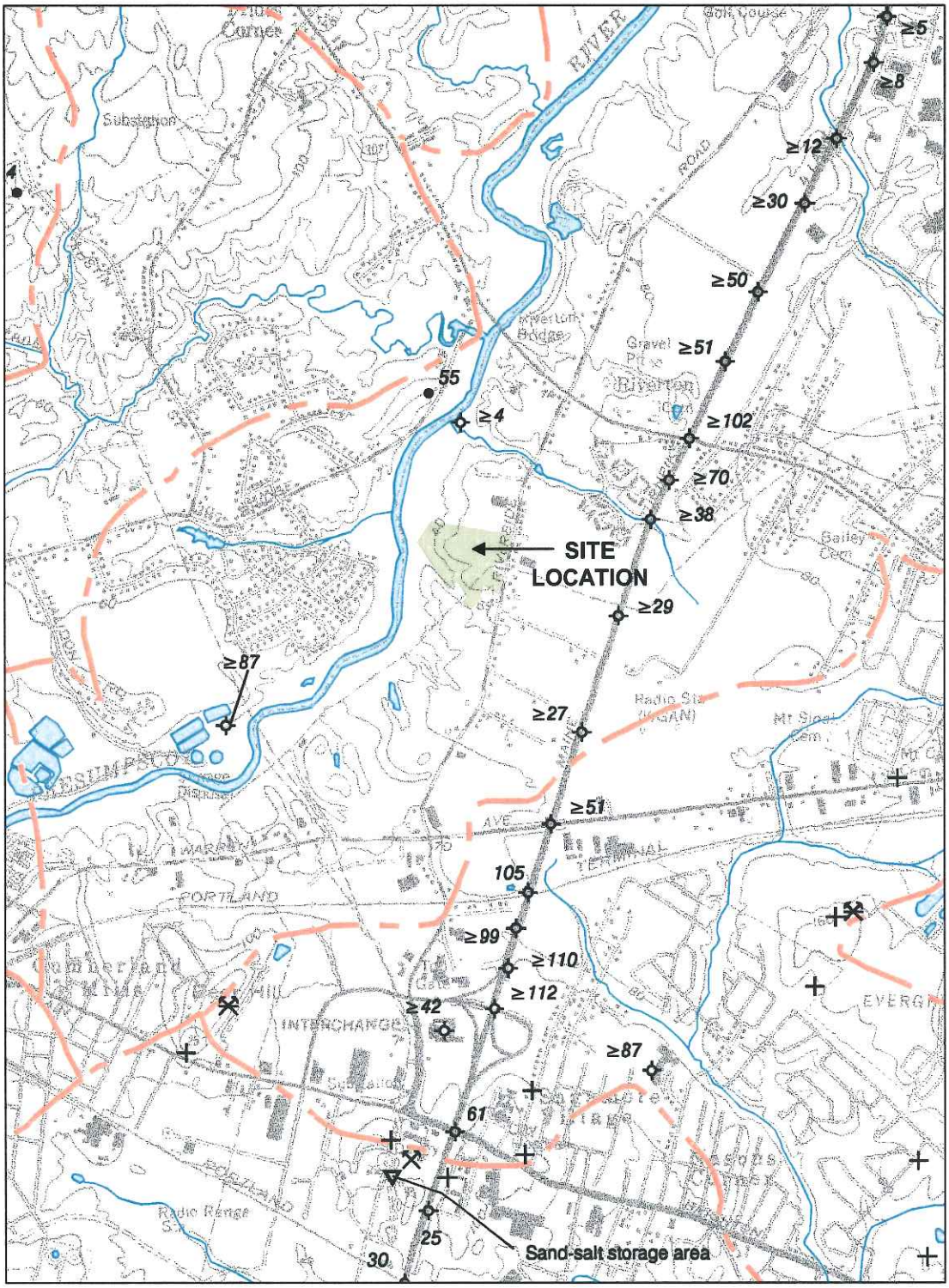
Moisture content: 16.8%

Sample No.: S-2 **Source of Sample:** TP-12 **Date:** 7/9/06
Location: Portland, Maine **Elev./Depth:** 3'-5'

R.W. Gillespie & Associates, Inc.
Saco, Maine

Client: Civil Consultants, Inc.
Project: Proposed Metal Recycling Facility
Project No: 427-44 **Lab #** 9522c

Tested By: JTR/DCH **Checked By:** MTG MTG



Portion of Maine Geological Survey **AQUIFER MAP** *Portland West Quadrangle, Maine*		PREPARED FOR:	*Prolerized New England LLC d/b/a Schnitzer Northeast Scrap Metal Recycling Facility Riverside Street, Portland, Maine*
JOB NO: 06-769.00	*Scale: reduced*	*DATE: September 2007*	

J:\aaa\2006\0676900\AQUIFERmap.doc

CIVIL CONSULTANTS

P.O. Box 100 South Berwick, Maine 03908 207-384-2550

SIGNIFICANT SAND AND GRAVEL AQUIFERS
(yields greater than 10 gallons per minute)

---------- Approximate boundary of surficial deposits with significant saturated thickness where potential ground-water yield is moderate to excellent.

Surficial deposits with good to excellent potential ground-water yield; yields generally greater than 50 gallons per minute to a properly constructed well. Deposits consist primarily of glacial sand and gravel, but can include areas of sandy till and alluvium; yield zones are based on subsurface data where available, and may vary from mapped extent in areas where data are unavailable.

Surficial deposits with moderate to good potential ground-water yield; yields generally greater than 10 gallons per minute to a properly constructed well. Deposits consist primarily of glacial sand and gravel, but can include areas of sandy till and alluvium; yields may exceed 50 gallons per minute in deposits hydraulically connected with surface-water bodies, or in extensive deposits where subsurface data are available.

SURFICIAL DEPOSITS WITH LESS FAVORABLE AQUIFER CHARACTERISTICS
(yields less than 10 gallons per minute)

Areas with moderate to low or no potential ground-water yield (includes areas underlain by till, marine deposits, eolian deposits, alluvium, swamps, thin glacial sand and gravel deposits, or bedrock); yields in surficial deposits generally less than 10 gallons per minute to a properly constructed well.

SEISMIC-LINE INFORMATION

Profiles for selected 12-channel seismic lines are shown on Plate 2 of Open-File Report 83-1 (Tolman and others, 1983). Length of 12-channel and single-channel seismic lines as shown on the map is to scale.

53 Depth to bedrock, in feet below land surface.

≥*53* Depth to bedrock exceeds depth shown (based on calculations).

12 ▼ Depth to water level, in feet below land surface.

MAP-7 *131*, 23 ▼ Twelve-channel seismic line, with depth to bedrock and depth to water shown at the midpoint of the line, in feet below land surface.

69, 12 ▼ MAP-E *72*, 12 ▼ Single-channel seismic line, with depth to bedrock and depth to water shown at each end of the line, in feet below land surface. Unless otherwise indicated, data shown above the line-identifier box refers to the northern end of the seismic line.

The 3-letter identifier for a line is an abbreviation for the topographic quadrangle. If the 3-letter identifier for the line is followed by a number (ex: MAP - 7, MAP - 4), the line is a 12-channel line. If the identifier is followed by a letter (ex: MAP - E, MAP- P), the line is a single-channel line. Seismic interpretations by C. D. Neil and D. H. Tepper.

GEOLOGIC AND WELL INFORMATION

50 Depth to bedrock, in feet below land surface

≥*13* Penetration depth of boring; ≥ symbol refers to minimum depth to bedrock based on boring depth or refusal

6 ▼ Depth to water level in feet below land surface (observed in well, spring, test boring, pit, or seismic line)

Gravel pit (overburden thickness noted in feet, e.g. 5-12')

Quarry

4 GPM Yield (flow) of well or spring in gallons per minute (GPM)

Spring, with general direction of flow

Drilled overburden well

Dug well

Observation well (project well if labeled; nonproject well if unlabeled)

Test boring (project boring if labeled; nonproject boring if unlabeled)

Driven point

Test pit

Drilled bedrock well

Potential point source of ground-water contamination

Bedrock outcrop

Surface-water drainage-basin boundary; surface-water divides generally correspond to ground-water divides. Horizontal direction of ground-water flow generally is away from divides and toward surface-water bodies.

AQUIFER LEGEND

Ferrous Scrap:

1. Loaded trucks will enter the facility at the incoming staging area and receive notification to proceed to the incoming scale.
2. Office will weigh in truck and determine commodity.
3. Customer will be issued incoming ticket from office.
4. Customer will proceed, to the ferrous unloading area, contact inspector for grading of load and instructions for unloading location.
5. Load will be inspected, graded and unloaded with front end loader, magnet or grapple.
6. Inspector will sign inspection ticket.
7. Customer will proceed to outbound scale, get weighed out and pulls off scale to outbound staging area.
8. Customer parks truck, goes to office submits ticket and is paid for materials.

Non-ferrous Scrap: (Small trucks)

1. Loaded trucks will enter the incoming staging area.
2. The majority of non-ferrous customers will be small trucks and will proceed to the Metals Recycling building for weighing on a small platform scale inside the building.
3. The materials will be unloaded in the building, inspected, graded and the customer will be issued a ticket.
4. Customer will proceed out of the building to the outbound staging area.
5. Customer parks truck, goes to office submits ticket and is paid for materials.

PO Box 48 • 69 Rover Street • Everett, MA 02149 • Phone (617) 389-8300 • Fax (617) 389-8030

Non-ferrous Scrap: (Large trucks)

1. Loaded trucks will enter the facility at the incoming staging area and receive notification to proceed to the incoming scale.
2. Office will weigh in truck and determine commodity.
3. Customer will be issued incoming ticket from office.
4. Customer will proceed to the non-ferrous unloading area, contact inspector for grading of load and instructions for unloading location.
5. Received materials will be sorted and placed in the specific graded stockpile areas designated by operations supervision.
6. This material will be handled by either front end loaders, magnets or grapples
7. Inspector will sign inspection ticket.
8. Customer will proceed to outbound scale, get weighed out and pulls off scale to outbound staging area.
9. Customer parks truck, goes to office submits ticket and is paid for materials.

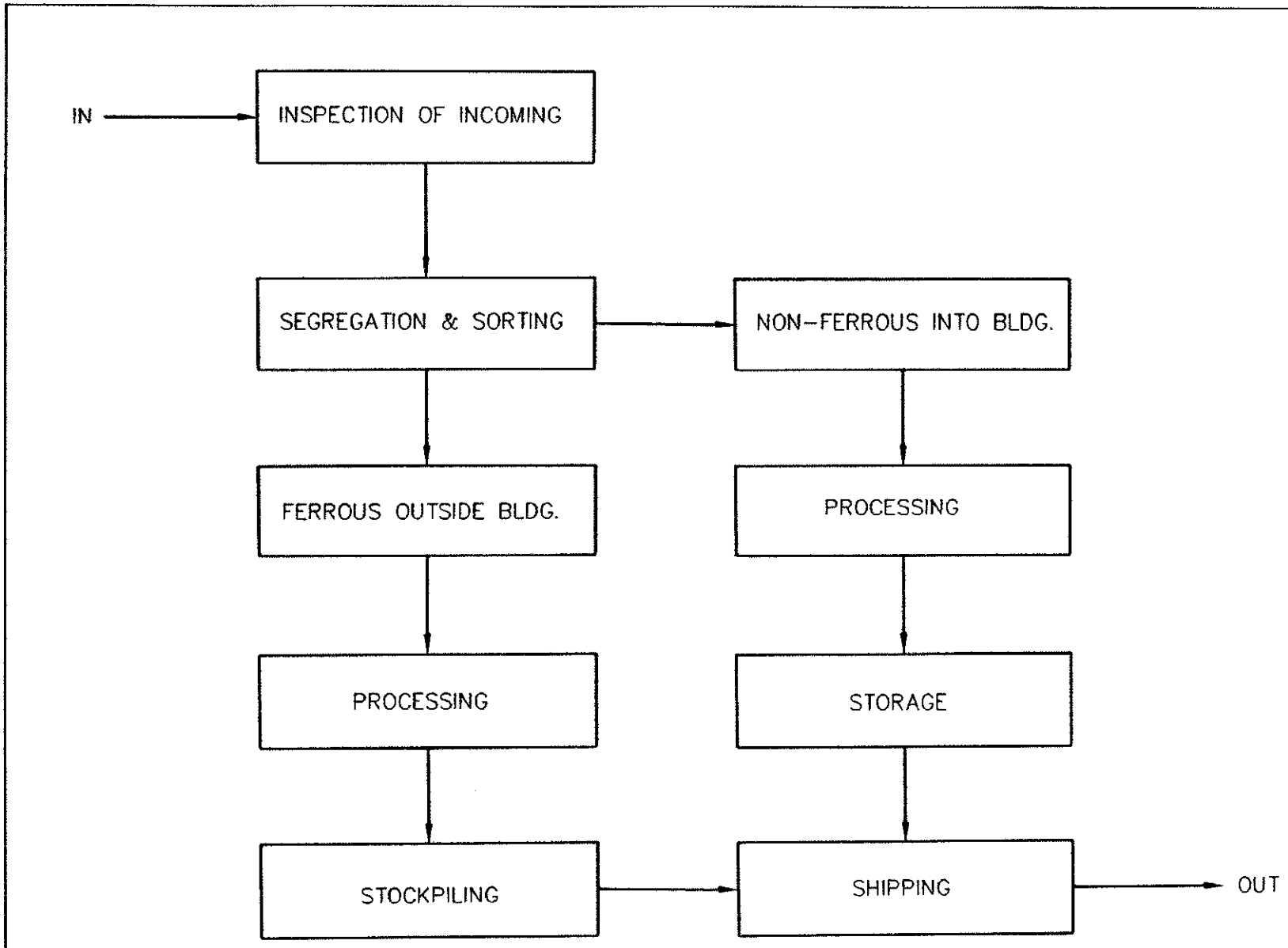
Metals Recycling Building flow:

1. Received materials will be sorted and placed in the specific graded stockpile areas designated by operations supervision.
2. This material will be sorted and graded into small mobile bins in the Process and grading area of the building.
3. Materials are moved daily from the process and grading area of the building to the commodity warehouse area for storage until sold, when it will be loaded out via truck dock.
4. Outbound trucks with sold commodity will proceed to the outbound scale to be weighed for inventory control.

Bailing Building flow:

1. Materials stored in the Non-ferrous recycling storage areas outside will be moved with front end loaders, grapples or yard trucks into the Bailing Building on a regular basis.
2. These materials will enter a bailer and be prepared for outbound shipping.
3. Materials are moved from the bailing area to the bailing warehouse for storage until sold, when it will be loaded.
4. Bailed materials will be loaded onto trucks which enter the back of the bailing building.
5. Outbound trucks with sold commodity will proceed to the outbound scale to be weighed for inventory control.

J:\aaa\2006\0676900\Site Plan\SchnitzerMaterial flow description20070511.DOC



CIVIL CONSULTANTS

SCRAP METAL RECYCLING FACILITY
PROLERIZED NEW ENGLAND CO, LLC
RIVERSIDE STREET
PORTLAND, MAINE

PREPARED FOR:
PROLERIZED NEW ENGLAND CO, LLC

CIVIL CONSULTANTS

SCALE: NOT TO SCALE

SHEET TITLE:
PROCESS FLOW DIAGRAM

Narrative Summary of
Environmental Monitoring Plan

Prolerized New England Company LLC
Riverside Street Facility, Portland

In accordance with the requirements of Chapter 31 Scrap Metal Recycling Facilities of the Portland Municipal Code and the Amendments to Scrap Metal Recycling Facilities Rules (the "Rules"), promulgated by the Department of Planning and Development (the "Department"), Prolerized New England Company LLC ("PNE") will apply for a license from the City Council to operate its proposed scrap metal recycling facility at the Riverside Street location. R. W. Gillespie & Associates, Inc. ("Gillespie") has prepared a Baseline Soil Sampling Program for the proposed Prolerized scrap metal recycling facility on Riverside Street in Portland (the "Facility"). As required by the Rules, Gillespie has submitted the report to the Department and requested review by the Department as a prerequisite to obtaining its license. In addition, PNE is applying to the Maine Department of Environmental Protection ("Maine DEP") for a solid waste processing facility license, which will also include an Environmental Monitoring Plan.

In accordance with Chapter 31 and DEP solid waste regulations, PNE will work with the Department and the DEP to develop appropriate locations for groundwater monitoring wells. Monitoring of both soil and ground water will be conducted as required by Chapter 31, the Rules, and the Maine DEP regulations. The site plan submitted by PNE for final planning board approval will show the approximate locations of the permanent monitoring wells.

J:\aaa\2006\0676900\Submittals\20080219monitoring_14CITY.doc

Traffic Impacts

On behalf of Prolerized New England, also referred to for purposes of the application as Schnitzer Northeast, Gorrill-Palmer Consulting Engineers, Inc. conducted a traffic impact study to quantify the impacts to local traffic that the proposed facility will have. The study was based on a 20% increase over the existing New England Metal Recycling LLC Bayside facility's capacity and traffic generation.

The study's conclusions include, among other things, the following four points:

1. The proposed development is forecast to generate 19 and 17 trip ends for the weekday AM and PM peak hours, respectively. This number of trips does not trigger the need for a MaineDOT traffic permit.

2. The levels of service at the Warren Avenue and Forest Avenue intersections with Riverside Street will not be affected by the proposed development.

3. There are no high crash locations within the study area.

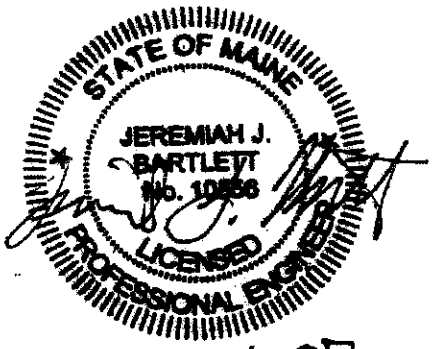
4. Sight lines exceed MaineDOT and City of Portland minimum requirements.

Based on the Gorrill-Palmer study, Prolerized New England has demonstrated that the incremental volume of traffic will not create or aggravate any significant hazard to safety at or to and including intersections in any direction where traffic is expected to be impacted by the proposed facility. Further, the development will not substantially increase congestion on Riverside Street, or at any nearby intersections, including the intersections of Riverside Street with Warren and Forest Avenues.

J:\aaa\2006\0676900\Submittals\20080218traffic.doc
J:\aaa\2006\0676900\Submittals\City of Portland\Site App\20080320_CityApplication_Word\Ex15_20080218traffic.doc

EXHIBIT 15
Supporting Documents (Appendix B, Traffic Capacity Analysis Results)
on file with the City of Portland's Planning Office

Traffic Impact Study
Schnitzer Steel
Portland, Maine



05-14-07

Prepared for:

Civil Consultants
PO Box 100
South Berwick, Maine 03908

EXHIBIT 15
Supporting Documents (Appendix B, Traffic Capacity Analysis Results)
on file with the City of Portland's Planning Office

May 2007

Prepared by:

Gorrill-Palmer Consulting Engineers, Inc.
Traffic and Civil Engineering Services
PO Box 1237
15 Shaker Road
Gray, ME 04039
(207) 657-6910
Fax: (207) 657-6912
E-mail: mailbox@gorrillpalmer.com

Executive Summary

The following Executive Summary is prepared for the reader's convenience, but is not intended to be a substitute for reading the full report.

Gorrill-Palmer Consulting Engineers, Inc. was retained by Civil Consultants of South Berwick, Maine to prepare a traffic impact study for the proposed relocation of the New England Metals operation on Somerset Street to Riverside Street, where it will be known as Schnitzer Steel. As with the current facility, the proposed facility would act as a transfer station for metals. This study is based on a twenty percent increase in capacity (and therefore, traffic) over the existing facility. Access to the proposed site would be via a driveway on Riverside Street, approximately 1,400 feet south of Waldron Way.

Based on the findings of the traffic impact study, our office reached the following conclusions:

1. The proposed development is forecast to generate 19 and 17 trip ends for the weekday AM and PM peak hours, respectively. (Note: A trip end is either a trip in or out of the site. Therefore a round trip would equal two trip ends). Of these, we anticipate seven trucks during the AM peak hour and five trucks during the PM peak hour. As each truck is considered two passenger car equivalents (PCE's) for the purposes of permitting, total site trip generation is forecast to be 26 and 22 PCE's for the AM and PM peak hours. This level of trip generation is below that required for a traffic movement permit.

2. The level of service analyses show the site traffic does not affect the level of service at the study area intersections of Riverside Street with Warren Avenue and Forest Avenue. All movements to and from the site driveway are anticipated to operate at a level of service 'C' or better.

3. Gorrill-Palmer Consulting Engineers, Inc. referenced the MaineDOT High Crash listings to determine if there were any high crash locations in the project vicinity. Based on the published history, there are no High Crash Locations within the study area.

4. The sight lines at the proposed driveway exceed MaineDOT and City of Portland requirements. Gorrill-Palmer Consulting Engineers, Inc. recommends that all plantings, which will be located within the right-of-way, not exceed three feet in height and be maintained at or below that height. Signage should not interfere with sight lines. In addition, we recommend that during construction, when heavy equipment is entering and exiting into the site, that appropriate measures, such as signage and flag persons, be utilized in accordance with the Manual on Uniform Traffic Control Devices.

Based on these findings, it is the opinion of Gorrill-Palmer Consulting Engineers, Inc. that the local street system can accommodate the traffic generated by the site.

The roadways in the study area are classified as Type I. A seasonal adjustment of seventeen percent was applied to the Riverside Street/Warren Avenue intersection, and an adjustment of fifteen percent was applied to the Riverside Street/Forest Avenue intersection.

Annual Adjustment

Based on historic counts completed by MaineDOT, traffic volumes are typically increasing by one percent per year. Therefore, a one percent adjustment was utilized to compute the 2008 adjusted traffic volumes.

Other Development

Approved projects that are not yet opened as well as projects for which applications have been filed are required to be included in the predevelopment volumes for this project. Gorrill-Palmer Consulting Engineers, Inc. has contacted the City of Portland and obtained copies of the analysis completed for the nearby Hammond Lumber project submitted earlier this year. Based on this information, our office anticipates that the following projects may affect traffic in the vicinity of this project:

- ***Morrill's Crossing:*** A mixed-use commercial site, this project would be located on Allen Avenue adjacent to Morrill's Corner.
- *Car Wash:* A vehicle washing facility to be located on Warren Avenue east of Riverside Street.
- *Rug Depot:* A carpet-based retail facility to be located on Warren Avenue east of Riverside Street.
- *Hammond Lumber:* A lumber retail facility to be located at the northwest corner of Riverside Street and Warren Avenue.

Predevelopment Volumes

The raw volumes shown on Figure 2 of Appendix A were seasonally and annually adjusted to result in the 2008 adjusted volumes shown on Figure 3. The traffic from other development as shown on Figure 4 was combined with the adjusted volumes to result in the 2008 predevelopment volumes shown on Figure 5.

III. Trip Generation

Typically, the Institute of Transportation Engineers publication *Trip Generation,* Seventh Edition is utilized to forecast trips associated with a proposed project. However, in the case of a highly specialized facility such as the proposed Schnitzer Steel site, published data is insufficient to determine future activity. Therefore, our office obtained the activity logs for the existing New England Metals site on Somerset Street (which would be relocated to this site) to determine the potential for trip generation.

IV. Trip Distribution

As the trip generation was based on full turnover of all vehicles entering the site (and therefore resulting in a conservative estimate), the trip distribution is fifty percent entering and fifty percent exiting.

V. Trip Composition

All trips associated with this facility are expected to be primary in nature, as is typical for this type of land use.

VI. Trip Assignment

Trip assignment for non heavy vehicles (pickups, etc.) was based on existing traffic patterns in the study area. The same methodology was applied to entering heavy vehicle traffic. However, for exiting heavy vehicle traffic (i.e. vehicles loaded with materials to be sent off to additional processing), the majority of trucks (80 percent) were routed to the Riverside exit of I-95/Maine Turnpike, with the remainder (20 percent) routed to upper Riverside Street with destinations of I-95 or Route 100.

Trip distribution and trip assignment diagrams can be found in Figures 6 and 7 of Appendix A.

VII. 2008 Post Development Traffic

The anticipated year 2008 predevelopment traffic shown in Figure 5 has been combined with the traffic forecast for the development shown in Figure 7 to yield the 2008 postdevelopment traffic shown in Figure 8 of Appendix A.

VIII. Study Area

The study area for this report includes the following intersections:

- Riverside Street at Warren Avenue (signalized)
- Riverside Street at Forest Avenue (signalized)
- Riverside Street at Site Drive (unsignalized)

Level of Service for Riverside Street at Forest Avenue (Signalized)

Lane Group	PM Peak Hour			
	Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS
Forest EB LT	76	E	76	E
Forest EB TH/RT	47	D	47	D
Forest WB LT	54	D	54	D
Forest WB TH/RT	>100	F	>100	F
Riverside NB LT	92	F	92	F
Riverside NB TH/RT	46	D	46	D
Riverside SB LT	36	D	36	D
Riverside SB TH	58	E	58	E
Riverside SB RT	<1	A	<1	A
Overall	**67**	**E**	**67**	**E**

Based on the analysis, several lane groups are forecast to experience delay. This has been identified in previous studies, and is typical for a signalized urban intersection with a large volume of left turns approaching from a side street. Field visits indicate that existing operations do not result in this level of delay at this intersection. However, the project increases design hour volumes by 0.2 percent, less than typical for daily variation. The project does not impact the levels of service for any of the deficient lane groups, and therefore satisfies MaineDOT criteria for impacts within the urban compact.

Level of Service for Riverside Street at Warren Avenue (Signalized)

Lane Group	PM Peak Hour							
	Existing Conditions				With MaineDOT Improvements			
	Predevelopment		Postdevelopment		Predevelopment		Postdevelopment	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Warren EB LT	48	D	48	D	32	C	32	C
Warren EB TH/RT	>100	F	>100	F	>100	F	>100	F
Warren WB LT	>100	F	>100	F	36	D	36	D
Warren WB TH/RT	>100	F	>100	F	>100	F	>100	F
Riverside NB LT	74	E	74	E	>100	F	>100	F
Riverside NB TH	53	D	53	D	21	C	21	C
Riverside NB RT	12	B	12	B	8	A	8	A
Riverside SB LT/TH/RT	>100	F	>100	F	>100	F	>100	F
Overall	**>100**	**F**	**>100**	**F**	**99**	**F**	**100**	**F**

Similar to the situation of Forest Avenue and Riverside Street, several lane groups are forecast to experience delay, although this location experiences greater delay. However, the project increases design hour volumes by 0.3 percent, less than typical for daily variation. The project does not impact the levels of service for any of the deficient lane groups, and therefore satisfies MaineDOT criteria for impacts within the urban compact. The addition of the proposed MaineDOT improvements, while not fully addressing the deficiencies, do reduce overall intersection delay from almost 200 seconds of delay to approximately 100 seconds of delay, based on the HCM analysis.

MaineDOT Crash Data for 2003-2005: Intersections

Node	Intersection	# of Collisions	CRF	HCL?
6310	Riverside Street at Warren Avenue	30	0.74	No
7310	Riverside Street at Forest Avenue	28	0.77	No

MaineDOT Crash Data for 2003-2005: Links

Nodes	Street Name	# of Collisions	CRF	HCL?
0799-6310	Riverside Street north of Warren	10	0.71	No
0797-7310	Riverside St south of Forest	13	0.63	No

Based on the published history, there are no high crash locations within the study area. The MaineDOT crash history has been provided in Appendix C.

XIII. Pedestrian Accommodations

Riverside Street in the vicinity of the site is served by a bituminous sidewalk on the east side of the roadway (no esplanade). Given the industrial nature of this facility, it is not anticipated that the project will add noticeable demand to pedestrian facilities.

XVI. Sight Line Analysis

The Maine Department of Transportation (MaineDOT) and the City of Portland have guidelines for sight distances at roadways. The sight line standards for MaineDOT and the City of Portland are as follows:

Sight Distance Requirements

Speed (mph)	MaineDOT (ft)	City of Portland (ft)
25	200	367
30	250	440
35	305	513
40	360	587
45	425	660
50	495	773

Gorrill-Palmer Consulting Engineers, Inc. has evaluated the available sight lines at the proposed site driveway on Riverside Street in accordance with MaineDOT and City of Portland standards.

The MaineDOT standards are as follows:

Roadway observation point: 10 feet off major street travelway
Height of eye at roadway: 3 ½ feet above ground
Height of approaching vehicle: 4 ¼ feet above road surface

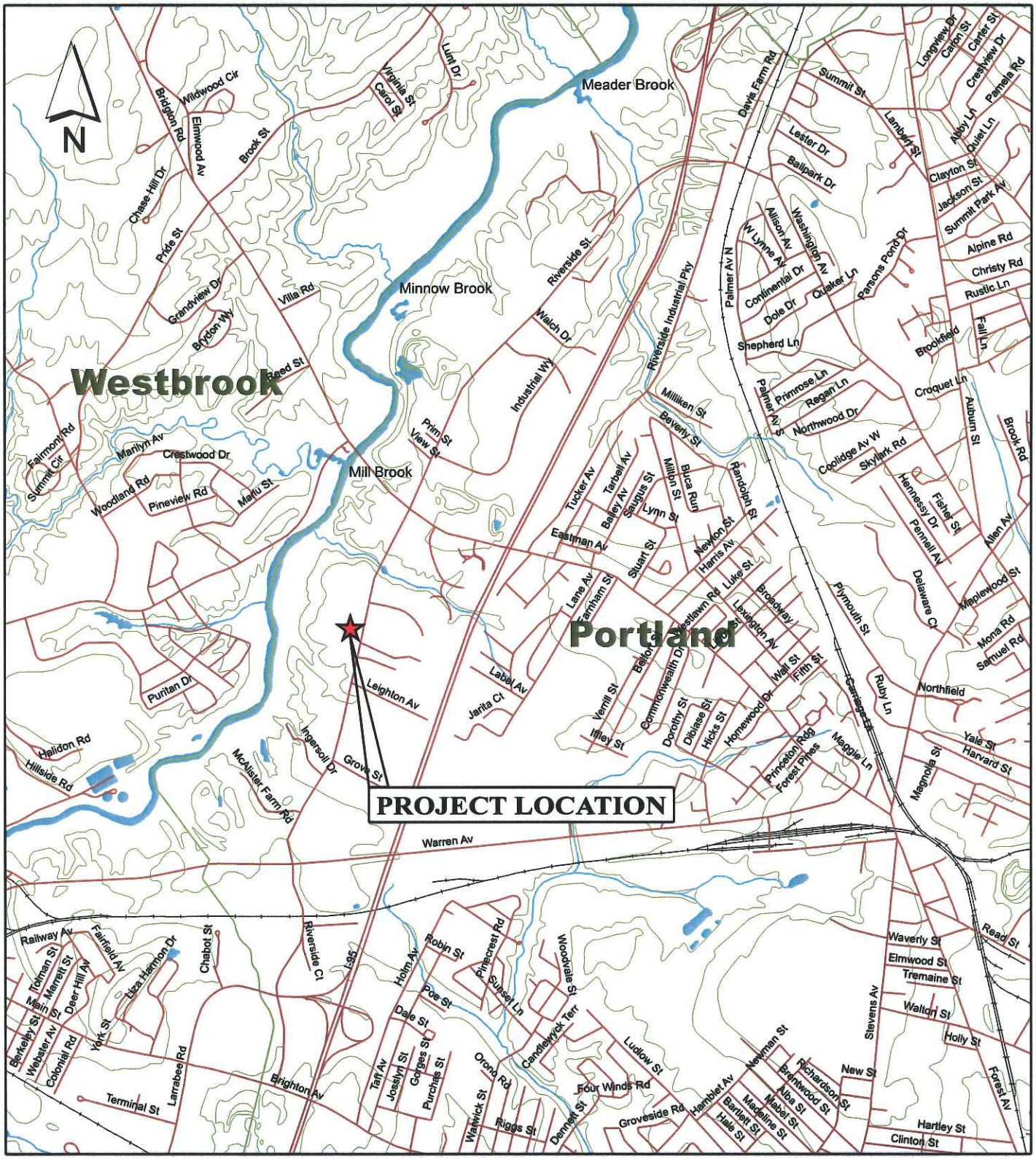
Appendix A

Site Location Map

Turning Movement Diagrams

Location Map

Figure No. 1



SCHNITZER STEEL, PORTLAND, MAINE

GP Gorrill-Palmer Consulting Engineers, Inc.

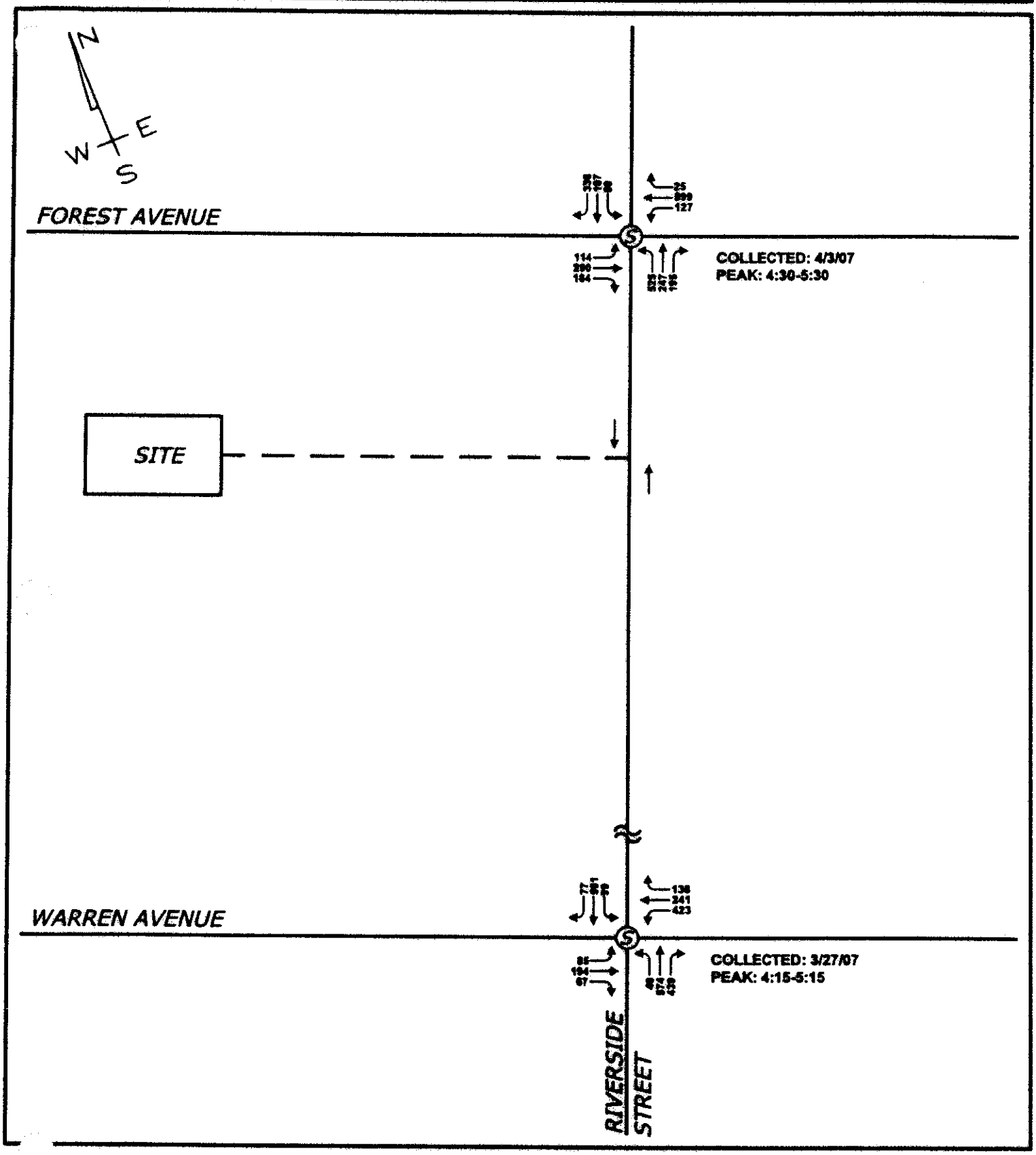
Traffic and Civil Engineering Services

PO Box 1237
15 Shaker Road
Gray, ME 04039

207-657-6910
Fax: 207-657-6912
mailbox@gorrillpalmer.com
www.gorrillpalmer.com

FEET
1,000 0 1,000 2,000

JN: 1779
DATE: MAY 2007
FILE: 1779_LOCMAP.MXD
SOURCE: MAINE GIS WEBSITE



SCHNITZER STEEL, PORTLAND, MAINE

Design: JJB Scale: NONE
Draft: LMC Date: MAY 2007
Checked: JLW File Name: 1779-TRAF.dwg

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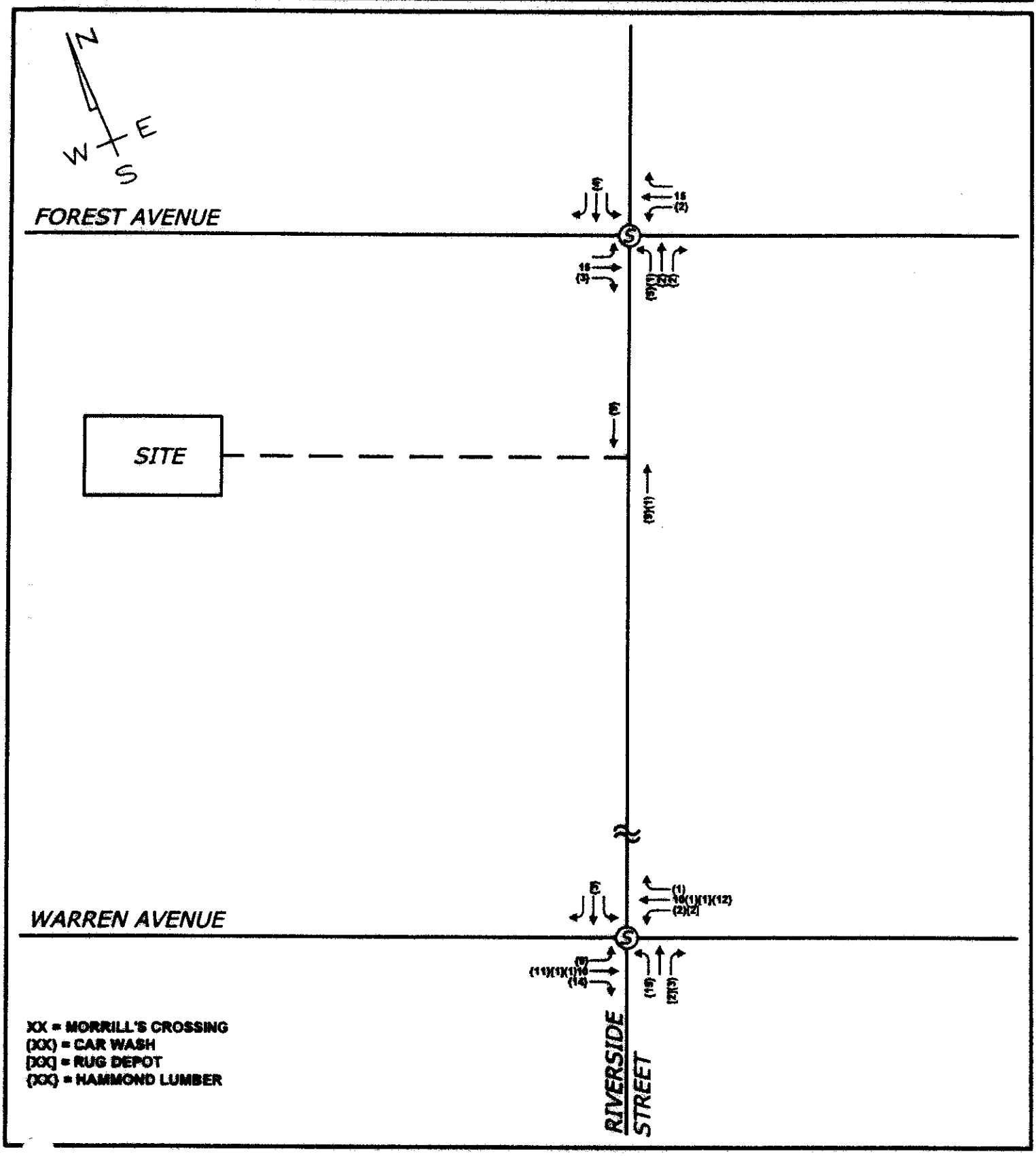

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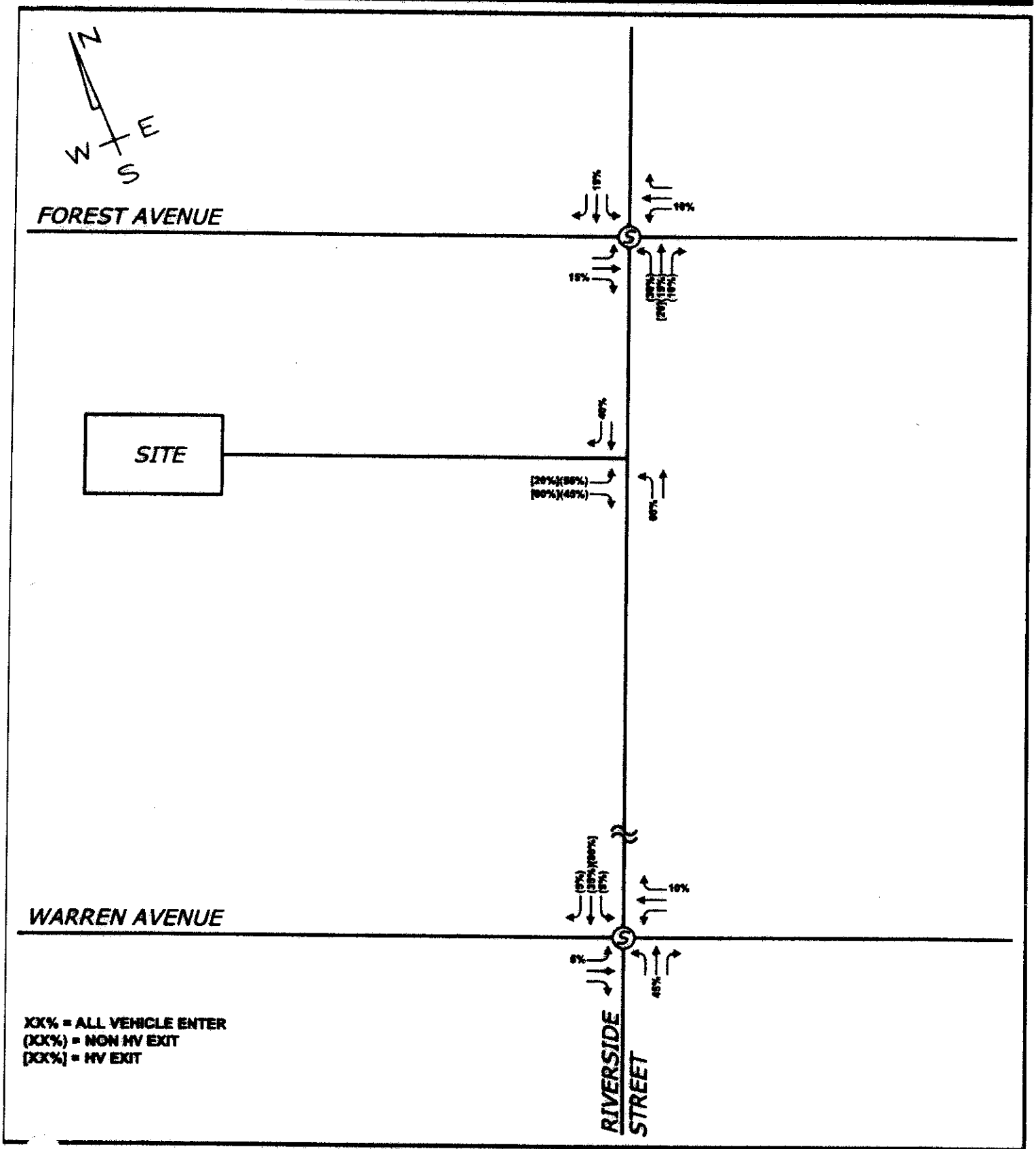

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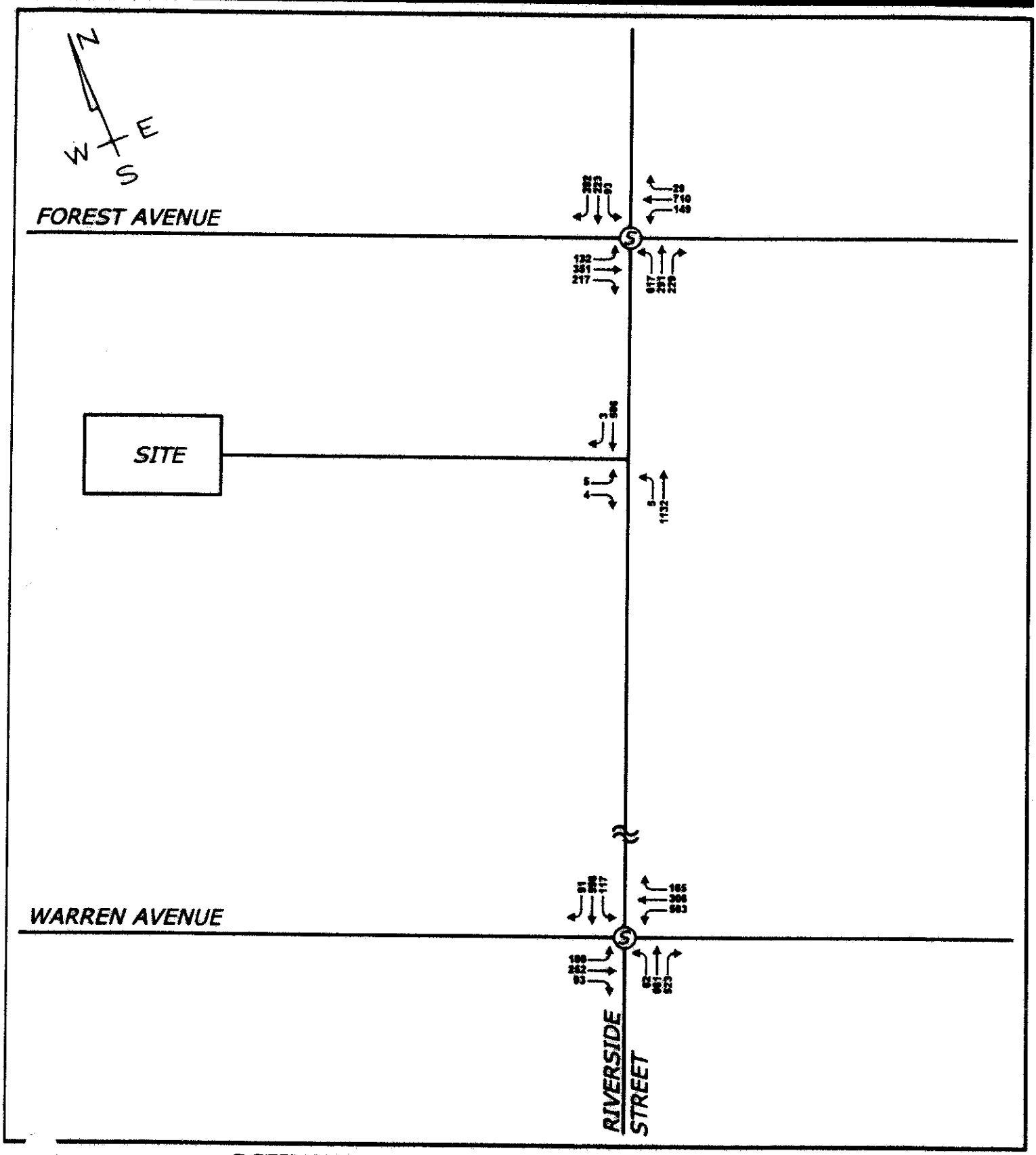

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Appendix B
Capacity Analysis Results

EXHIBIT 15
Supporting Documents (Appendix B, Traffic Capacity Analysis Results)
on file with the City of Portland's Planning Office

Gorrill-Palmer Consulting Engineers, Inc.
Traffic and Civil Engineering Services

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October 2, 2007

Mr. Carl Beal, PE
Civil Consultants
PO Box 100
South Berwick, Maine 03908

RE: Update to Traffic Counts
Schnitzer Steel
Riverside Street, Portland

Dear Carl:

At the request of Tom Errico, Peer Review Traffic Engineer for the City of Portland, Gorrill-Palmer Consulting Engineers, Inc. is providing additional count data and updated discussion related to the proposed Schnitzer Steel project on Riverside Street. Mr. Errico wanted to see the level of activity at Manual Drive and Phoenix Drive across the street from the site to determine if vehicles turning left into the driveways had the potential to conflict turns into the Schnitzer site.

Our office completed turning movement counts at Manual and Phoenix drives on July 24, 2007. Updated volumes for the AM and PM peak hours are shown on updated Figures 5 through 8 enclosed with this letter. Based on the updated counts, the highest volume of left turns occurred at Manual Drive, eleven during the AM peak hour from 7:30 to 8:30 AM. This translates to one left turn approximately every six minutes. However, the site drive is proposed to be aligned with Manual Drive, so it is the opinion of our office that these left turns do not pose much potential for left turn conflicts.

Phoenix Drive, which is offset from the site driveway to the south by approximately eighty feet, has a low peak left turn entering volume, three left turns during the AM peak, or one turn every twenty minutes. Combined with six lefts forecast into Schnitzer during the AM peak period (or one every ten minutes), the potential for simultaneous left turns resulting in a conflict on Riverside Street is very low in our opinion, and does not pose a significant operational concern on the roadway.

Lastly, it should be noted that there a number of driveways on the east side of Riverside Street in the vicinity of the proposed site. These driveways are not in compliance with current City offsets, and relocating the site driveway to another portion of the frontage would still result in some offsets. It is our opinion that the current access point proposed for Schnitzer is the optimal location for the current traffic volumes, and that access management practices should be taken into consideration when the lots on the opposite side of the street are redeveloped.

Please contact us with any questions regarding this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.

Peter A. Hedrich, P.E., P.T.O.E.
Vice President, Transportation

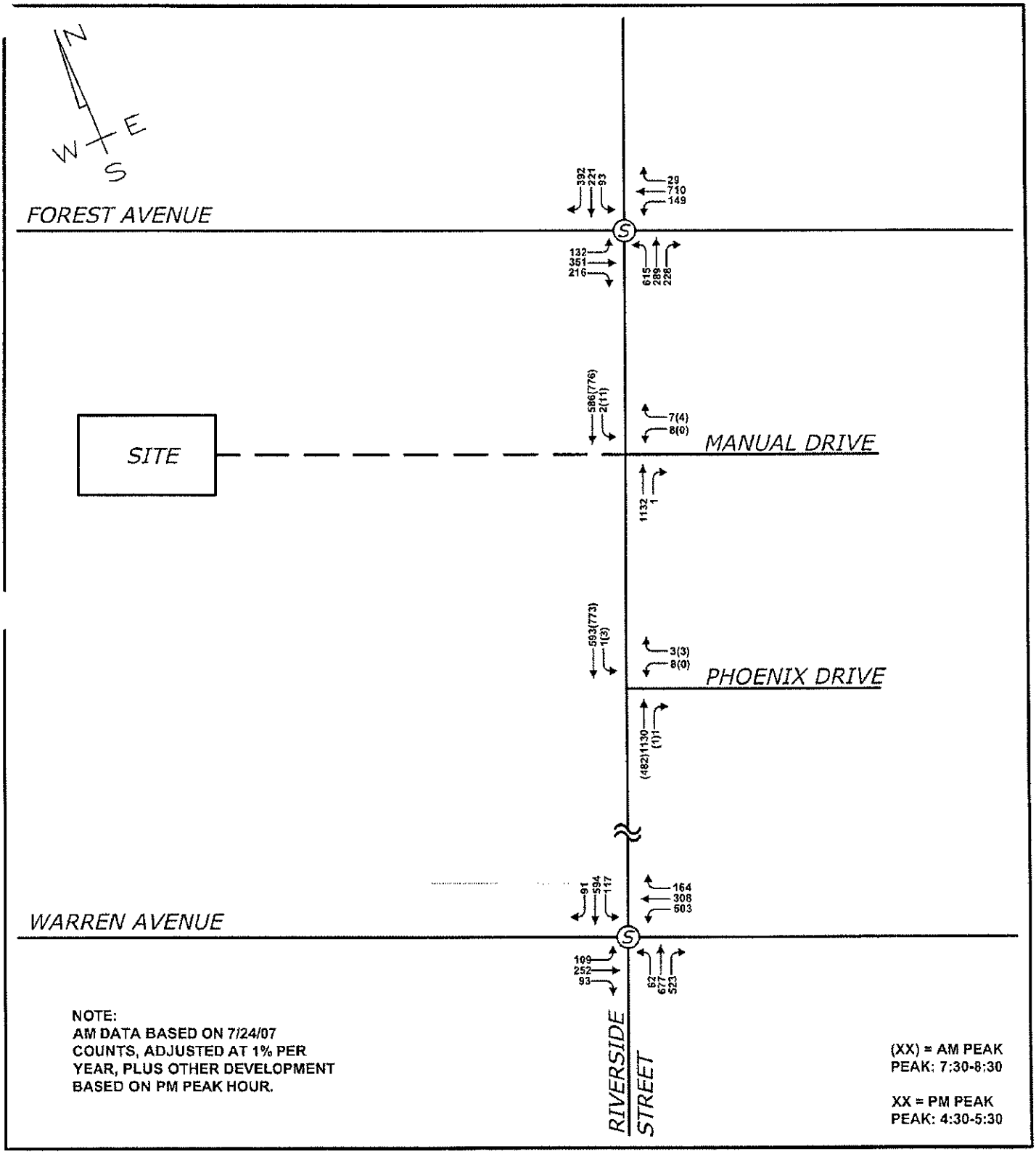
Enclosure

Copy: Tom Errico, Wilbur Smith Associates

PAH/jjb/JN1779/proposal10-02-07.doc

2008 Predevelopment

Figure No. 5



SCHNITZER STEEL, PORTLAND, MAINE

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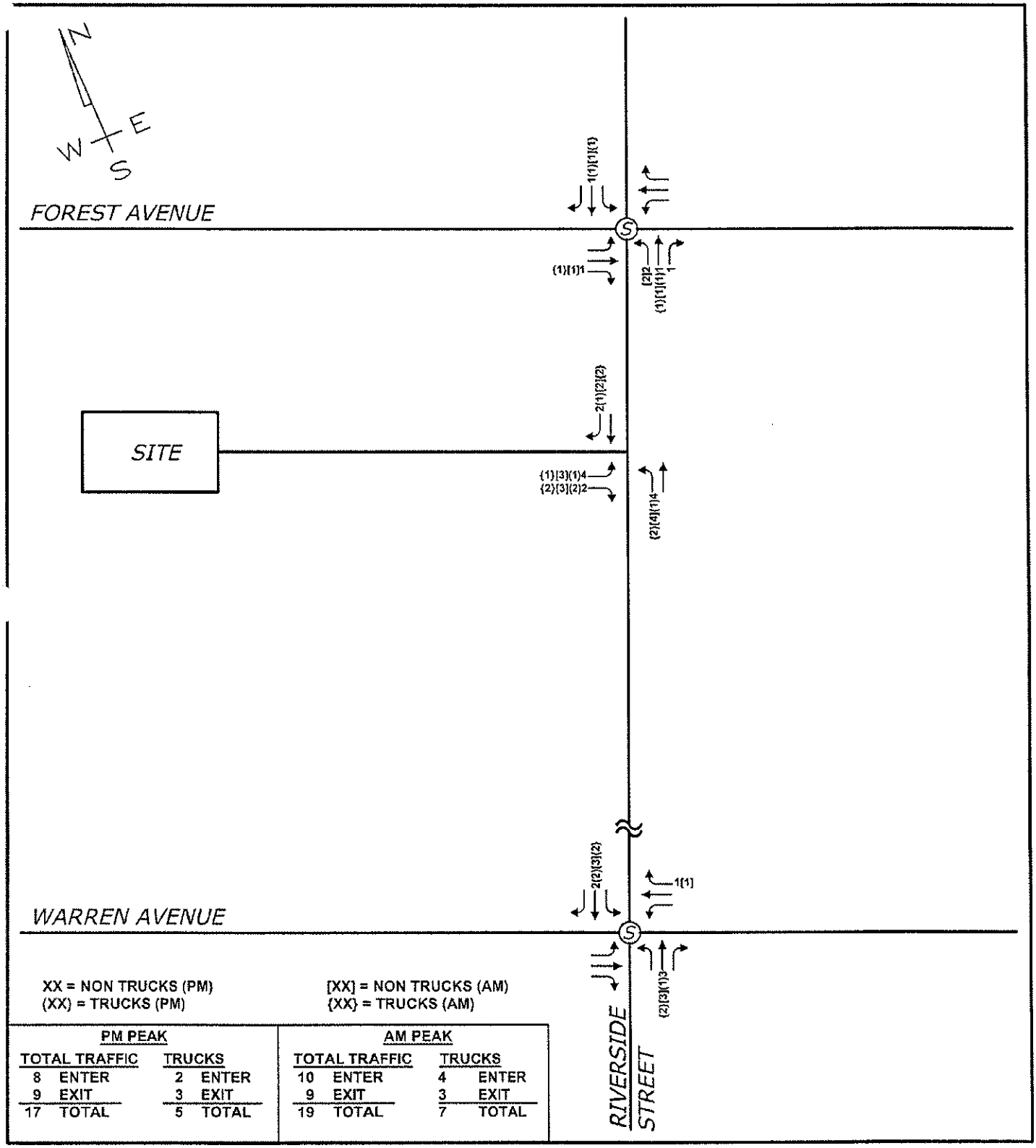
Trip Assignment

Figure No. 7



XX = NON TRUCKS (PM)
(XX) = TRUCKS (PM)

[XX] = NON TRUCKS (AM)
{XX} = TRUCKS (AM)

PM PEAK				AM PEAK			
TOTAL TRAFFIC		TRUCKS		TOTAL TRAFFIC		TRUCKS	
8	ENTER	2	ENTER	10	ENTER	4	ENTER
9	EXIT	3	EXIT	9	EXIT	3	EXIT
17	TOTAL	5	TOTAL	19	TOTAL	7	TOTAL

SCHNITZER STEEL, PORTLAND, MAINE

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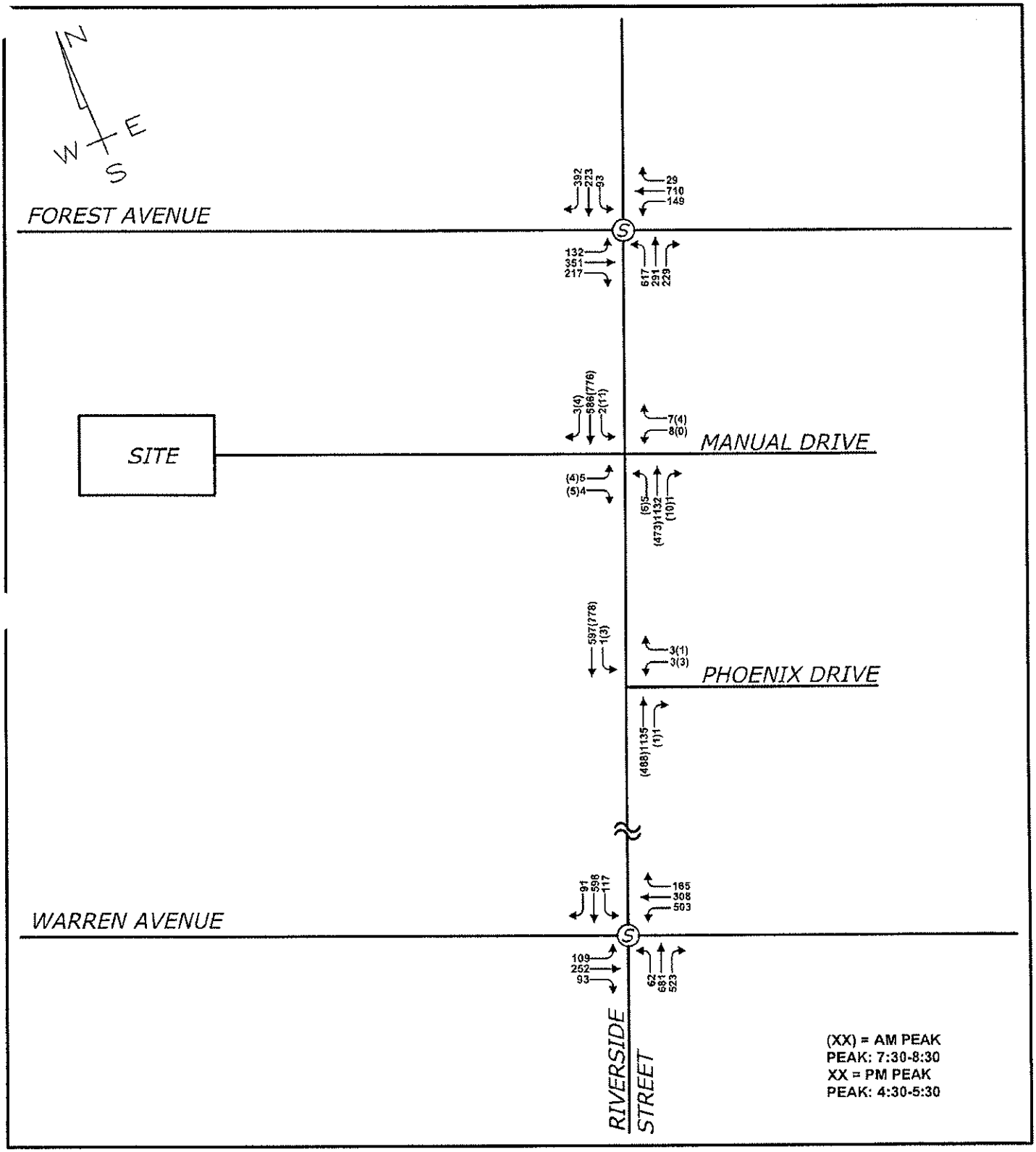
2008 Postdevelopment

Figure No. 8



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Narrative Summary of
Scenic Character
Buffers

Prolerized New England Company LLC
Riverside Street Facility, Portland

In accordance with the licensing criteria of Chapter 400, Section 4 of the Maine Department of Environmental Protection (DEP)'s Maine Solid Waste Management Rules, Prolerized New England Company LLC ("PNE") will apply for a license to operate its proposed scrap metal recycling facility at the Riverside Street location. The proposed recycling facility will conform to Licensing Criteria "E", which requires the facility to fit harmoniously into the natural environment. In addition Section 14-525 of the Portland Land Use Ordinance and Scrap Metal License require projects to have buffers and visual screening along the project boundaries.

Woodburn & Company Landscape Architecture has designed landscape buffers along Riverside Street and along abutting property boundaries to screen the facility from vehicles traveling along Riverside Street and from abutting property owners. Large stockpiles of scrap metal will be located behind the proposed building and at a lower elevation, so as not to be visible from Riverside Street. Landscaping trees have also been added at the West edge of the development along the Presumpscot River to screen operations from residential properties on the Westbrook side of the river.

This proposed landscaping, along with the preservation of mature trees on the property, will allow the facility to fit in with the existing industrial uses along this portion of Riverside Street and to not alter the scenic character of the neighborhood.

J:\aaa\2006\0676900\Submittals\20080219Scenic.doc


WELCOME TO
SCHNITZER
NORTHEAST
SPEED
LIMIT
25
STOP
MAR 12 2007


NOV 13 2006


SCHNITZER NORTHEAST
NOV 15 2006

JOB#: 75490

SCOPE OF WORK - BARLO

MANUFACTURE & SHIP ALL...

ITEM B- 1 NON-ILLUMINATED DISHPAN & EMC
POSITION 2

HOLD

GENERAL NOTES

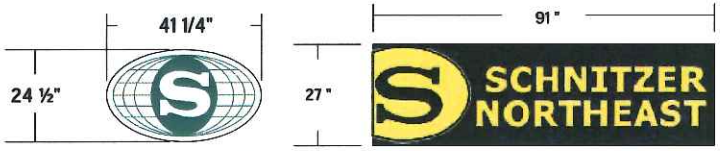
COLORS

DISHPAN

Returns: 4" BLACK

Face: WHITE 080 ALUM. WITH APPLIED 3630-76 HOLLY GREEN VINYL

SCALE: 1/4"= 1'-0"



REMOVE FACE TO INSTALL

OPTEC 17mm. S/F, 32 x 128 MATRIX, RF COMM., AMBER

SCALE: 3/8" = 1'- 0"

ITEM B- 1 NON-ILLUMINATED PILL & EMC

ELECTRIC	Existing	Required
Circuits		
Amp		
Voltage		
U.L.		

STEEL	Existing	Required
Size		
Length		
W. Thickness		
Stub Size		
Stub Length		
W. Thickness		

PLATE	W	L	Th
GUSSETS	W	L	Th
ANCHOR BOLTS	L	HOOK	Dia

BOLLARDS

Qty. _____ Size _____

CONCRETE BASE

Depth_____Width_____Length_____
_____Yds.

MATERIAL OPTIONS & ESTIMATE

BARLO:

MATERIAL OPTIONS & ESTIMATE

BARLOMEX

FOR OFFICE USE

Quote # 43663A

☐ Proposal ☐ Drawing
☐ Deposit ☐ L.L.
☐ Permits ☐ Crew W/O

Signature Date

ALL COLORS ARE FOR REPRESENTATION ONLY. SEE ACTUAL SAMPLES FOR COLOR MATCH.

SIGN DISPOSITION

☐Store for Barlo ☐Leave @ Site ☐Dispose
☐Store for Customer ☐Chargeable ■N/A

GENERAL INFO.

Qty: 1 Sq. Ft: 7

(S/F) D/F ILL. (Non-ILL)

NEON LETTERS

Interior (Exterior) Drain Holes: (Y) N
Face Mat: PLEX Th: 3/16" Return Mat: BLACK BEA Th: .040 Depth: 4"
Back Mat: Mill (Wht BEA) Lexan Th: Mylar Size: (1") 2" Metal:
Mounting: Nutsert (Thru Back) < Clip Other:
MM:

Date Released for production: By:

Rev.#	Date	Description	To Shop	To Mex
	1-25	UPDATE	X	

Print Approval Date

Engineering: GN	Production:	Estimating:
Check By:	Survey:	Sales:

Job Name: SCHNITZER STEEL
Location: 69 ROVER ST. EVERETT, MA 02149
Design Specifications Accepted By
Drawn By: Tim T.
Client:
Sales Rep: MIKE P.
Landlord:
Date: 4/24/07

BARLO SIGNS
158 Greeley St., Hudson, NH 03051
(603) 882-2638 Fax (603) 882-7680

File Name: SCHNITZER STEEL 0611135(co4-24)J

B- 06-11-135

JOB#:

SCOPE OF WORK - BARLOMEX

MANUFACTURE & SHIP ALL...

Pg1- ITEM A- 1 D/F NON-ILLUMINATED DISHPAN SIGN

Pg2- ITEM B- 1 NON-ILLUMINATED PILL

SCOPE OF WORK - BARLO

DELIVER & INSTALL ALL...

SCOPE OF WORK - SIGN/SUB

GENERAL NOTES

COLORS

SIGN

Dishpan: PTM 3630-76 HOLLY GREEN VINYL W/ ½" WHITE VINYL OUTLINE

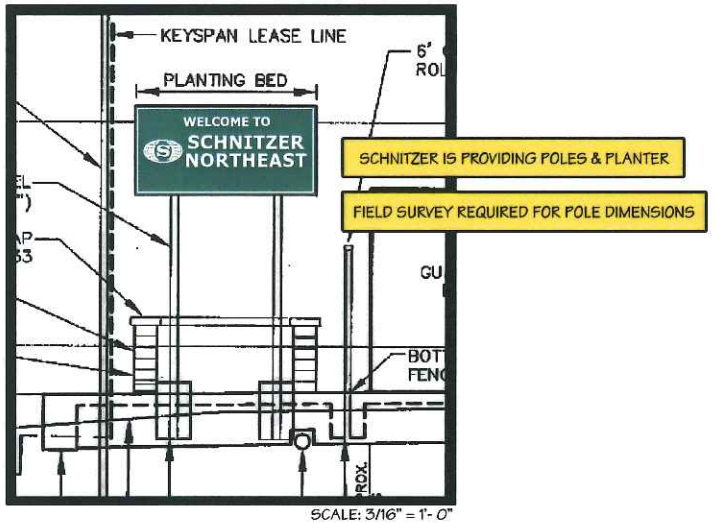
Copy:

¼" WHITE PLEXI FCO'S, LOGO TO HAVE APPLIED 3630-76 HOLLY GREEN VINYL

POLES

Pole:

Pole Cover: EXISTING



SCALE: 3/16" = 1'- 0"

ENTRANCE SIDE

EXIT SIDE

SCALE: ½" = 1'- 0"

ITEM A- D/F NON-ILLUMINATED DISHPAN SIGN

ELECTRIC	Existing	Required
Circuits		
Amp		
Voltage		
U.L.		

STEEL	Existing	Required
Size		
Length		
W. Thickness		
Stub Size		
Stub Length		
W. Thickness		

PLATE	W	L	Th
GUSSETS	W	L	Th
ANCHOR BOLTS	L	HOOK	Dia

BOLLARDS

Qty. _____ Size _____

CONCRETE BASE

Depth____Width____Length____

____Yds.

MATERIAL OPTIONS & ESTIMATE

BARLO:

MATERIAL OPTIONS & ESTIMATE

BARLOMEX

FOR OFFICE USE

Quote # ____43663A____

☐ Proposal ☐ Drawing
☐ Deposit ☐ L.L.
☐ Permits ☐ Crew W/O

Signature Date

ALL COLORS ARE FOR REPRESENTATION ONLY. SEE ACTUAL SAMPLES FOR COLOR MATCH.

SIGN DISPOSITION

☐ Store for Barlo ☐ Leave @ Site ☐ Dispose
☐ Store for Customer ☐ Chargeable ■ N/A

GENERAL INFO.

Qty: 1	Sq. Ft: 48
S/F (D/F)	ILL. (Non-ILL)

SIGNS

Sign Type	S/F D/F	Illum Non-Illum	Interior Exterior		
Custom Extrusion	Box Depth:	Framing: Steel Alum.			
Ret.Size:	Face Mat:	Thickness:	Copy:		
Illumination:	Fluorescent Neon LED HID Other				
Ballast:	Standard Electronic				
Pole Cover:	Standard Custom	Hgt:	Depth:		
Material:	Non-Illuminated Illuminated				

Date Released for production: **By:**

Rev.#	Date	Description	To Shop	To Mex

Print Approval Date

Engineering:	Production:	Estimating:
Check By:	Survey:	Sales:

Job Name: SCHNITZER STEEL

Location: 69 ROVER ST. EVERETT, MA 02149

Design Specifications Accepted By

Drawn By: Tim T.

Client:

Sales Rep: MIKE P.

Landlord:

Date: 12/27/06

Underwriters Laboratories Inc.®

BARLO SIGNS
158 Gracley St., Hudson, NH 03051
(603) 882-2630 Fax (603) 882-7680

File Name: SCHNITZER STEEL 0611135(12-27)J

B= 06-11-135

JOB#:

SCOPE OF WORK - BARLOMEX

MANUFACTURE & SHIP ALL...

ITEM B- 1 NON-ILLUMINATED PILL

SCOPE OF WORK - BARLO

DELIVER & INSTALL ALL...

SCOPE OF WORK - SIGN/SUB

GENERAL NOTES

COLORS

LETTERS

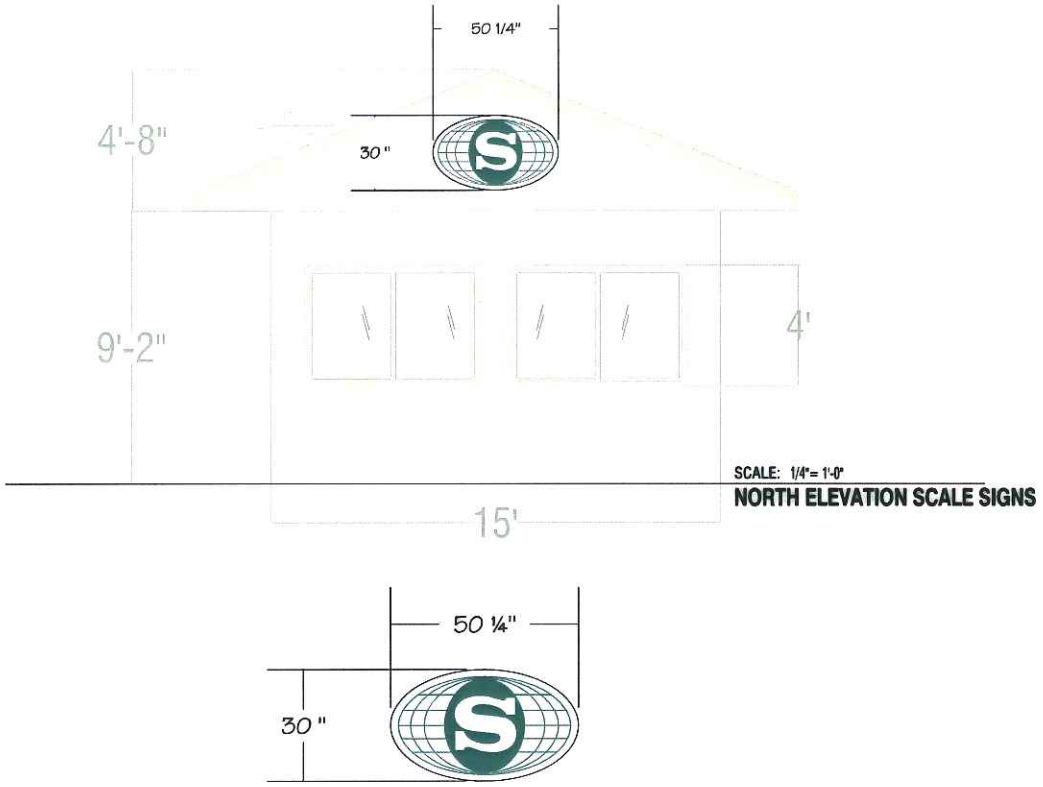
Returns: 4" BLACK

Face: WHITE PLEXI 7328 WITH APPLIED 3630-76 HOLLY GREEN VINYL

Trim: BLACK

Neon: NA

Raceway: NA



SCALE: 1/4"= 1'-0"

NORTH ELEVATION SCALE SIGNS

SCALE: 3/8" = 1'- 0"

ITEM B- 1 NON-ILLUMINATED PILL

ELECTRIC	Existing	Required
Circuits		
Amp		
Voltage		
U.L.		

STEEL	Existing	Required
Size		
Length		
W. Thickness		
Stub Size		
Stub Length		
W. Thickness		

PLATE	W	L	Th
GUSSETS	W	L	Th
ANCHOR BOLTS	L	MOK	Dia

BOLLARDS

Qty. _____ Size _____

CONCRETE BASE

Depth_____Width_____Length_____

_____Yds.

MATERIAL OPTIONS & ESTIMATE

BARLO:

MATERIAL OPTIONS & ESTIMATE

BARLOMEX

FOR OFFICE USE

Quote # ____43663A_____

☐ Proposal ☐ Drawing

☐ Deposit ☐ L.L.

☐ Permits ☐ Crew W/O

Signature Date

ALL COLORS ARE FOR REPRESENTATION ONLY. SEE ACTUAL SAMPLES FOR COLOR MATCH.

SIGN DISPOSITION

☐ Store for Barlo ☐ Leave @ Site ☐ Dispose

☐ Store for Customer ☐ Chargeable ■ N/A

GENERAL INFO.

Qty: 1 Sq. Ft: 10.41

(S/F) D/F ILL. (Non-ILL)

NEON LETTERS

Interior Exterior	Face-Lit Back-Lit	Drain Holes: Y N		
Face Mat:	Th:	Return Mat:	Th:	Depth:
Back Mat: Mill Wht BEA Lexan	Th:	Mylar Size: 1" 2"	Metal:	
Mounting: Nutsert Thru Back	< Clip	Other:		
UL Sticker Location: Stnd Top Only	Rows of Neon:	MM:		
Housings: Glass Pk's Pass Thru	N/A			
Dbl Backs Same Plain	90° Bend	90° Double Back		
Trans. Location: R'mote S/Cont. Raceway	30MA 60MA Standard	Electronic		

Date Released for production: By:

Rev.#	Date	Description	To Shop	To Mex

Print Approval Date

Engineering:	Production:	Estimating:
Check By:	Survey:	Sales:

Job Name: SCHNITZER STEEL

Location: 69 ROVER ST. EVERETT, MA 02149

Design Specifications Accepted By

Drawn By: Tim T.

Client:

Sales Rep: MIKE P.

Landlord:

Date: 12/27/06

Underwriters Laboratories Inc.®

BARLO SIGNS

150 Greeley St., Hudson, NH 03051

(603) 882-2638 Fax (603) 882-7680

File Name: SCHNITZER STEEL 0611135(12-27)J

B= 06-11-135

JOB#:

SCOPE OF WORK - BARLOMEX

MANUFACTURE & SHIP ALL...

PG 1- ITEM A- 1 NON-ILLUMINATED 27 ¼" PILL SIGN

PG 1- ITEM B- 1 NON-ILLUMINATED 38 ¼" PILL SIGN

PG 1- ITEM C- 1 NON-ILLUMINATED SET OF 27" CHANNEL LETTERS AND 38 ¼" PILL

PG 2- ELEVATIONS

PG 3- MOUNTING DETAIL

SCOPE OF WORK - BARLO

DELIVER AND INSTALL 3 CHANNEL LETTER SIGNS WITH PILLS

SCOPE OF WORK - SIGN/SUB

GENERAL NOTES

COLORS

LETTERS- TAHOMA FONT

Returns: 4" BLACK

Face: WHITE PLEXI 7328 WITH APPLIED 3630-76 HOLLY GREEN VINYL

Trim: BLACK

Neon: NA

Raceway: NA

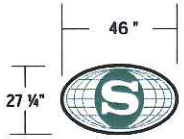
ALL COLORS ARE FOR REPRESENTATION ONLY. SEE ACTUAL SAMPLES FOR COLOR MATCH.

SIGN DISPOSITION

☐ Store for Barlo ☐ Leave @ Site ☐ Dispose
☐ Store for Customer ☐ Chargeable ■ N/A

GENERAL INFO.

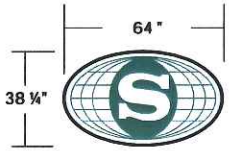
Qty: 1 EACH	Sq. Ft:
(S/F) D/F	ILL. (Non-ILL)



8.70 SQ. FT.

SCALE: 1/4" = 1'

ITEM A- NON-ILLUMINATED 27 ¼" PILL SIGN



17 SQ. FT.

SCALE: 1/4" = 1'

ITEM B- NON-ILLUMINATED 38 ¼" PILL SIGN

139 SQ. FT.

SCALE: 1/4" = 1'

ITEM C- NON-ILLUMINATED CHANNEL LETTERS AND PILL SIGN

ELECTRIC	Existing	Required
Circuits		
Amp		
Voltage		
U.L.		

STEEL	Existing	Required
Size		
Length		
W. Thickness		
Stub Size		
Stub Length		
W. Thickness		

PLATE	W	L	Th
GUSSETS	W	L	Th
ANCHOR BOLTS	L	HOOK	Dia

BOLLARDS

Qty. _____ Size _____

CONCRETE BASE

Depth_____Width_____Length_____
_____Yds.

MATERIAL OPTIONS & ESTIMATE

BARLO:

MATERIAL OPTIONS & ESTIMATE

BARLOMEX

FOR OFFICE USE

Quote # ___31476A_____

☐ Proposal ☐ Drawing
☐ Deposit ☐ L.L.
☐ Permits ☐ Crew W/O

Signature Date

NEON LETTERS

Interior Exterior	Face-Lit Back-Lit		Drain Holes: Y N	
Face Mat:	Th:	Return Mat:	Th:	Depth:
Back Mat: Mill Wht BEA Lexan	Th:	Mylar Size: 1" 2"	Metal:	
Mounting: Nutsert Thru Back	< Clip	Other:		
UL Sticker Location: Stnd Top Only		Rows of Neon:	MM:	
Housings: Glass Pk's Pass Thru	N/A			
Dbl Backs Same Plain	90° Bend	90° Double Back		
Trans. Location: R'mote S/Cont. Raceway	30MA 60MA Standard		Electronic	

Date Released for production: By:

Rev.#	Date	Description	To Shop	To Mex

Print Approval Date

Engineering:	Production:	Estimating:
Check By:	Survey:	Sales:

Job Name: SCHNITZER NORTHEAST 060731

Location: 69 ROVER ST EVERETT, MA 02149

Design Specifications Accepted By

Drawn By: Tim T.

Client:

Sales Rep: MIKE P.

Landlord:

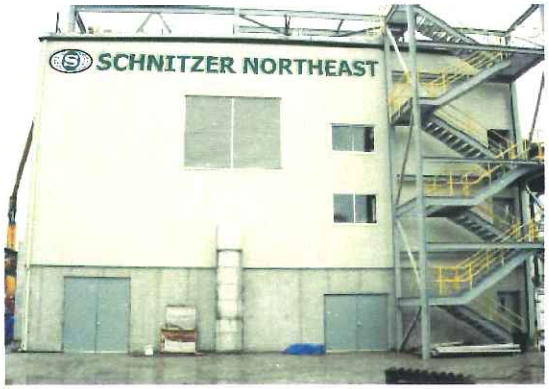
Date: 11/10/06

Underwriters Laboratories Inc.®

BARLO SIGNS
158 Greeley St., Hudson, NH 03051
(603) 882-2638 Fax (603) 882-7680

File Name: SCHNITZER NORTHEAST 060731(11-10-06)J

B- 06-07-31



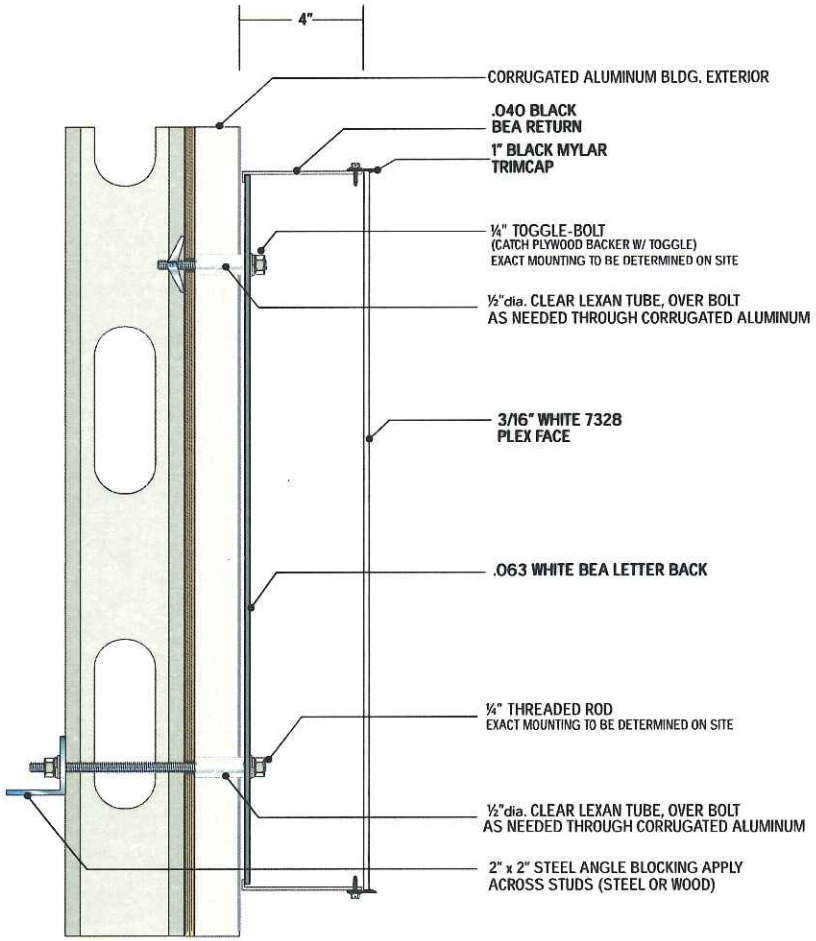
ITEM C- EAST SIDE

ITEM B- NORTH SIDE

ITEM A- PLATFORM SHELTER

SCALE: 1/16" = 1'

Job Name: SCHNITZER NORTHEAST 060731	BARLO SIGNS
Location: 69 ROVER ST EVERETT, MA 02149	158 Greeley St., Hudson, NH 03051 (603) 882-2638 Fax (603) 882-7680
Design Specifications Accepted By / Drawn By: Tim T.	
Client: / Sales Rep: MIKE P.	
Landlord: / Date: 11/10/06	
	File Name: SCHNITZER NORTHEAST 060731(11-10-06)J
B- 06-07-31	SHEET 2 OF 3



LETTER SECTION- NON-ILLUMINATED CHANNEL LETTER

SCALE: 3"=1'-0"

Job Name: SCHNITZER NORTHEAST 060731	BARLO SIGNS
Location: 69 ROVER ST EVERETT, MA 02149	158 Greeley St., Hudson, NH 03051 (603) 882-2638 Fax (603) 882-7680
Design Specifications Accepted By	Drawn By: Tim T.
Client:	Sales Rep: MIKE P.
Landlord:	Date: 11/10/06
	File Name: SCHNITZER NORTHEAST 060731(11-10-06).J
Underwriters Laboratories Inc.®	B- 06-07-31 SHEET 3 OF 3

Air Quality Impacts

The proposed facility will not generate any significant air quality impacts, and therefore will have no undue adverse impact on air quality. First, the facility will only process ferrous and nonferrous metals. No putrescible wastes will be processed on the facility. None of the materials accepted for recycling generates any odors or gases. The facility will not contain any heavy equipment that requires an air permit.

The generation of fugitive dust from the site will be minimized because of most of the operating site will be paved with concrete and/or other impervious surface. Impervious areas will be maintained as needed when conditions exist that are likely to produce dust.

J:\aaa\2006\0676900\Submittals\20080218air quality.doc

Maine Department of Environmental Protection
Solid Waste Processing Facility Application
&
City of Portland
Site Plan Application
STORMWATER MANAGEMENT SUBMISSION

"PROLERIZED NEW ENGLAND COMPANY, LLC"
RIVERSIDE STREET, PORTLAND, ME

Prepared for

Prolerized New England Company, LLC
69 Rover Street
Everett, MA 02149

January 2008

J:\aaa\2006\0676900\STORMWATER\COVER_address.doc
J:\aaa\2006\0676900\Submittals\City of Portland\Site App\20080320_CityApplication_Word\Ex18_COVER_address.doc

EXHIBIT 18
Supporting Documents (Pre & Post Development Calcs)
on file with the City of Portland's Planning Office.

CIVIL CONSULTANTS
P.O. Box 100 South Berwick, Maine 03908 207-384-2550

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Planners

Surveyors

Stormwater Management Narrative

STATE OF MAINE DEP
SOLID WASTE PROCESSING FACILITY
& CITY OF PORTLAND
SITE PLAN

STORMWATER MANAGEMENT
Scrap Metal Recycling Facility
Riverside Street
Portland, Maine

Prepared for:

Prolerized New England Co., LLC
69 Rover Street
Everett, MA 02149

January 2008

INTRODUCTION:

The proposed industrial site development is located on a portion of Map 322, Lots A-1, A-2, and A-4, formally owned by Lucas Tree Expert Company, which is situated on the West side of Riverside Street in Portland, Maine, abutting the Presumpscot River. The development will consist of a scrap metal processing facility with associated structures and stormwater treatment/detention facilities.

Of the site's 12.9+/- acres, approximately 7.6 acres will be altered by the proposed development. Much of this work will consist of installing the processing building and associated parking and conveyance areas. The development will also require clearing vegetation, regrading, and plantings in the locations of proposed stormwater facilities. Of the disturbed area, approximately 5.5 acres will be impervious (pavement and roofs).

In addition to the buildings and pavement, a treatment wet pond with a surface area of 10,250 sf is proposed. Most impervious areas not treated by the wet pond will be treated via a bioretention cell located at Riverside Street. Only a small portion (4% of impervious area) will remain untreated.

Stormwater runoff conditions have been evaluated for the proposed development. The analysis was performed to assess the influence of the proposed project on future runoff and to recommend measures to control runoff generated by the site. The outlet control structures, culverts and pond sizes used to control runoff rates have been designed to the standards presented in "Stormwater Management for Maine – Vol III BMPs Technical Design Manual, January 2006", with revisions through April, 2007. BMP designs are verified in the attached calculations. The Stormwater BMP's bring the project into conformance with State of Maine Stormwater Law, Chapters 500 & 502, as administrated by the Maine DEP.

TREATMENT RATIOS:

The impervious area to remain untreated is 0.22 acres, accounting for 4% of the total impervious. Therefore, the development meets the DEP requirement of 95% treatment of impervious area.

The developed area to remain untreated is 1.22 acres. When combined with the untreated impervious area, this accounts for 16% of the total developed area. Therefore, the development meets the DEP requirement of 80% treatment of developed area.

EXISTING DRAINAGE CONDITIONS:

The site is the southernmost ¼ of a parcel that was the former location of Lucas Tree Expert Company on Riverside Street, in Portland. The area is a mixture of woodlands, grass meadows, man-made

wetlands, and areas of made land with buildings and pavement. An unmapped stream is also located along the southern boundary of the site. The existing topography on the site varies; exceeding 2:1 slopes at some areas adjacent to the stream bank and are between 2% and 8% over the remainder of the site. Piles of soil material and wood products of varying heights have been placed on and removed from the site through the years.

The entire site currently drains to the Presumpscot River either via the on-site stream or through a wetland adjacent to the Northwest corner of the site. The stream thread begins along Riverside Street at two outlets of the City storm drain system. There are man-made wetlands and drainage swales on the site, along with a small (465 sf) isolated wetland in the area to be developed. There is also a man-made sediment basin that has been constructed at the bottom of the existing fill slope, adjacent to the stream. No USGS mapped streams are located within the proposed development.

As noted above, the runoff from the site flows to the Presumpscot River, and does not impact any streams or brooks designated as Urban Impaired Streams. (See Appendix A for a copy of the applicable USGS map).

Soils in the watershed are primarily hydrologic types C & D with a small amount of B soils on site. Class B High Intensity Soils Mapping for the site was performed by James Logan (S.S. #213) of Albert Frick Associates based in Gorham, Maine. The soils investigation found that the majority of the area to be impacted was made land with an undetermined hydrologic soil group (HSG) designation. For these areas, the soils have been conservatively assumed to be HSG C (See Appendix B for a copy of the applicable SCS map and HISS report).

There is a one hundred (100) year flood area (Zone AE) on site surrounding the stream with a flood elevation of approximately 35 ft, according to the most recent Federal Emergency Management Act (FEMA) map(s) of the area (See Appendix E for a copy of the applicable FEMA map). This project has no development within 100 feet horizontal distance from this flood zone or below an elevation of 60 ft.

PROPOSED DRAINAGE:

This project is required to meet the basic, general and flooding standards per DEP Chapter 500. Two types of BMPs are proposed to meet these standards.

A wet pond located at the western edge of the site will treat the majority of runoff from the development. Prior to entering the pond, runoff will receive pre-treatment by flowing through a concrete treatment swale, to allow sediments to drop out and to remove oils with polyester based oil-absorbent booms. Runoff will then flow through an Oil/Water Separator Structure, then flow into the wet pond. The wet pond will outlet through a gravel filter bench, installed in the side of the pond, then be routed through a system of drains to the existing sediment basin and continue on to the stream and the Presumpscot River.

A bioretention basin is proposed to treat the employee parking area and Riverside Street entrance drive. A stone trench along the edge of the basin will diffuse flow directly off of the parking lot into the basin.
The pond and bioretention basin have been sized to the standards given in the

Maine DEP Volume III BMP Manual (No. DEPLW0738). See Appendix C and sheet D3 for further information on treatment sizing and layout determinations.

Peak flows exiting the site will be controlled by the on-site wet pond and bioretention basin. The outlet structures are designed to maintain peak flow rates for the two (2), ten (10), and twenty-five (25) year storms at or below current rates. The one-hundred (100) year storm has also been evaluated due to the proximity of the development to the flood zone.

Detailed drainage system and detention basin sizing calculations are attached herewith.

METHODOLOGY:

All runoff calculations were performed using the methods based on USDA–SCS Technical Release No. 20 (also known as TR-20). The two-, ten-, twenty-five-, and one-hundred year, twenty-four-hour storm events (Type III rainfall distribution) were used for the site-specific analysis to determine pre- and post-development peak discharge rates.

Runoff curve numbers (CN) and times of concentration (Tc) were determined by the methods outlined in USDA-SCS Technical Release No. 55 (better known as TR-55). On site watershed areas were determined using two-foot contour data provided by field survey crews and photogrammetric survey. The applicable USGS Quadrangles were used to determine off-site areas of interest.

The detailed analysis for this project was performed by computer utilizing "HYDROCAD." The computer printouts are attached.

As previously noted, a High Intensity Soils survey (HISS) was used to obtain the hydrologic characteristics of on-site soils. The York County Soil Survey was used to determine the hydraulic designation for areas that contribute to the site where a HISS was unavailable. The general distribution of soils is shown on the attached subcatchment plans.

The attached Pre- and Post Development plans (D1& D2) show subcatchment boundaries, hydraulic flow lines, existing and proposed roads, and drainage features and facilities, respectively. Land cover type boundaries used in the model are also shown on the plan.

The BMP layout and the areas treated are shown on the Treatment Plan (D3).

ANALYSIS:

The perimeter of the overall watershed remained the same for both Pre- and Post Development. There were eleven subcatchments identified for the Pre Development analysis and sixteen subcatchments identified for Post Development analysis. The additional areas were used to evaluate stormwater management facilities and modifications to the site.

The first discharge point (identified as OUT 1 in the calculations) includes the flows draining to the large wetland feeding the Presumpscot River via naturally existing swales and channels. The second discharge point (identified as OUT 2) represents the area which feeds the unnamed stream that drains directly to the Presumpscot River.
The discharge points capture the same flows as described above for the post analysis and are named OUT 1 and OUT 2, matching the pre-development designations.

The total area contributing to OUT 1 has been slightly decreased in size from pre- to post-development, while OUT 2 will have an increase in contributing area. This is due to the way subcatchments have been modified to account for changes in topography and drainage ways.

RESULTS:

In order to meet the flooding standard, the Post-Development flows need to be held to a level at, or below, Pre-Development levels. The following tables summarize the results of the analyses:

TWO-YEAR EVENT -

Discharge Point Designation Pre/Post	Peak Runoff(in cfs) Pre	Post	Change (+/-)%
OUT 1	2.84	2.69	-5.3
OUT 2	28.12	24.01	-14.6

TEN-YEAR EVENT -

Discharge Point Designation Pre/Post	Peak Runoff(in cfs) Pre	Post	Change (+/-)%
OUT 1	5.60	5.29	-5.5
OUT 2	55.61	53.56	-3.7

TWENTY-FIVE YEAR EVENT -

Discharge Point Designation Pre/Post	Peak Runoff(in cfs) Pre	Post	Change (+/-)%
OUT 1	6.92	6.54	-5.5
OUT 2	69.18	65.63	-5.1

ONE-HUNDRED YEAR EVENT -

Discharge Point Designation Pre/Post	Peak Runoff(in cfs) Pre	Post	Change (+/-)%
OUT 1	8.92	8.85	-0.8
OUT 2	89.74	83.51	-6.9

As shown in the tables, peak flows are reduced for all storm events at both outlet locations.

The following tables summarize the height that water will reach in the wet pond and bioretention basin created to achieve DEP quality standards:

Water Level @ Wet Pond (Pond 23)

Storm	Peak elev. in ft.
2yr	63.65
10yr	64.44
25yr	64.79
100yr (emergency)	65.11

NOTE: Pond 23 top berm elevation is 66.50±. Permanent pool elev 62.00. Overflow elev 64.85.

Water Level @ Bioretention (Pond 51)

Storm	Peak elev. in ft.
2yr	65.15
10yr	65.30
25yr	65.34
100yr	65.39

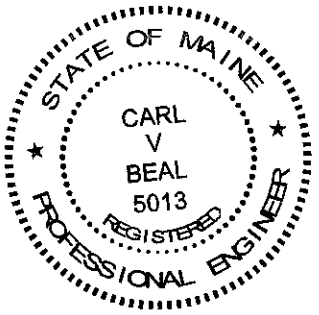
NOTE: Pond 51 is a Bioretention Basin designed to treat the 1.0 inch storm event and is located adjacent to the site entrance, which elevation is 67.50±.

CONCLUSIONS:

The proposed development will utilize a wet pond and bioretention basin to remove sediment and other pollutants caused by the proposed site use. These will also effectively reduce Post-Development peak runoff rates to Pre-Development rates for all storm events.

Whereas post-development flows have been reduced for the 2-, 10-, 25- and 100-year storm events in all locations, it is our opinion that there will be no adverse downstream impacts as a result of this project.

The seal affixed below applies to this report which consists of four pages of text, calculations dated January 21, 2008 and sheets D1, D2 and D3.



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CIVIL
CONSULTANTS

Engineers

Planners

Surveyors

Pre-Development Calculations

EXHIBIT 18
Supporting Documents (Pre & Post Development Calculations)
on file with the City of Portland's Planning Office

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Engineers

Planners

Surveyors

Post-Development Calculations

EXHIBIT 18
Supporting Documents (Pre & Post Development Calculations)
on file with the City of Portland's Planning Office

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Pond Overflow Calculations

EXHIBIT 18
Supporting Documents (Pre & Post Development Calculations)
on file with the City of Portland's Planning Office

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Surveyors

APPENDICIES

A – Location & Topographic Plan

B – SCS Soils Map

C – Supplemental Calculations

D – Stormwater Maintenance Plan and Inspection Log

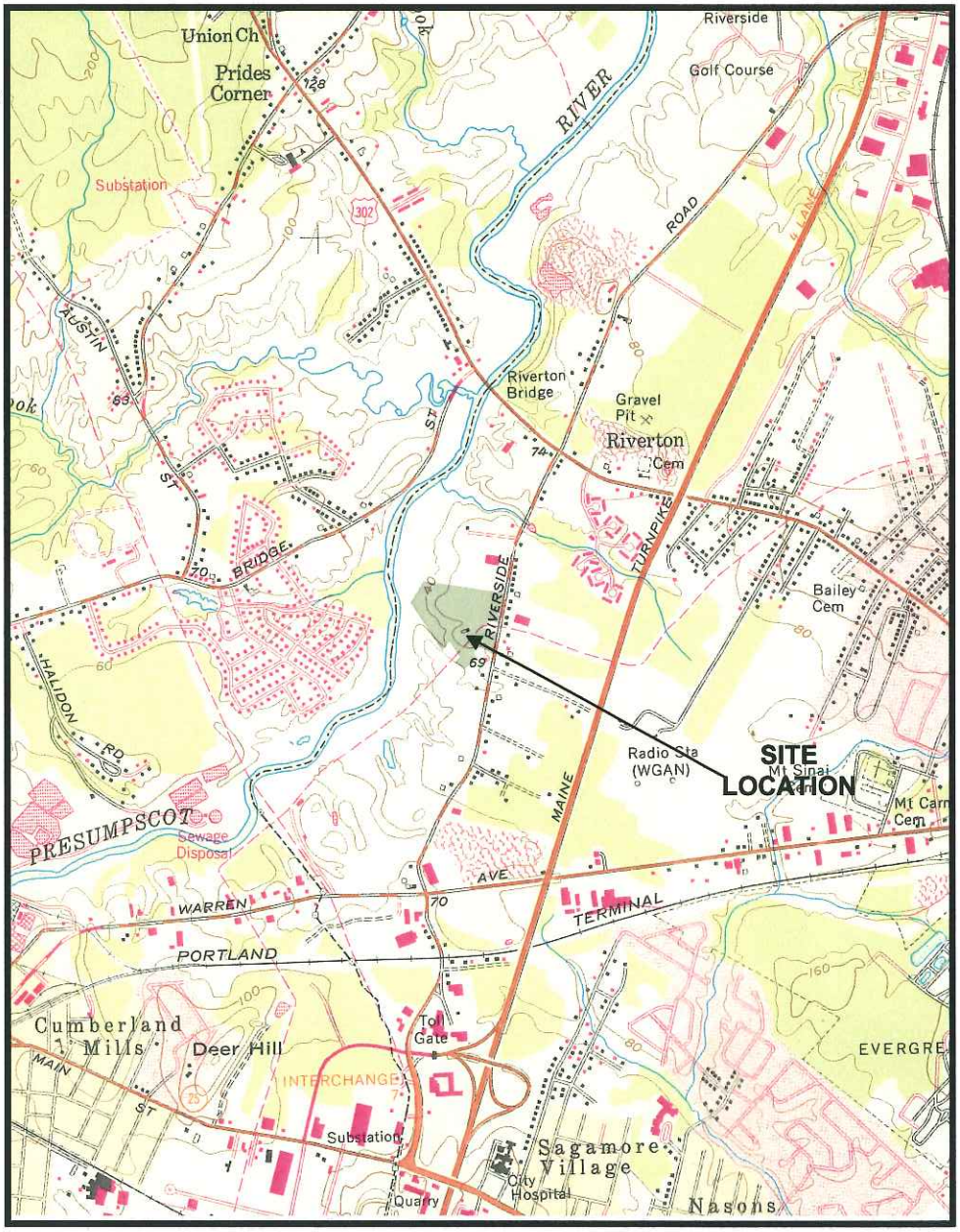
E – FIRM Flood Mapping

F – Qualifications of Stormwater Analyst

G – Drainage Plans

APPENDIX A

LOCATION AND TOPOGRAPHIC PLAN



Portion of

U.S.G.S. PORTLAND QUADRANGLE
MAINE
7.5 Minute Series (TOPOGRAPHIC)

APPENDIX B

Medium Intensity Soil Survey Plan

Portions of

USDA-NRCS – SOIL SURVEY
CUMBERLAND AND OXFORD COUNTY, MAINE

Information from Web Soil Survey (Photograph dated 1997 & 1998 –Survey Data Issued 2006)

Soil delineation data (by Hydrologic Soil Grouping) that is shown on sheets D1 & D2 was based upon Medium Intensity information taken from USDA Web Soil Survey noted above and a High Intensity Soil Survey provided by Albert Frick Associates of Gorham, Maine.

APPENDIX C

Supplemental Stormwater Calculations

Conveyance Systems. Calculations for sizing on-site conveyance structures, including culverts are included in the HydroCad print outs included in this report. Stabilization calculations are included here. Ditch stabilization is per MDOT Highway design manual. Riprap sizing and erosion control measures are shown and noted on the Site Plans. These plans also show scaled drawings and cross sections of these conveyance systems and associated practices.

Riprap Outlet Calculations.

Based upon the intentions of figure 32.1 in Section 32.0 of the *Maine Erosion and Sediment Control Handbook for Construction; Best Management Practices* – Cumberland County SWCD by the Department of Environmental Protection, March 1991, the following geometry will be used for the control structure discharge pipe outlets:

Structure #(&pipe)	*Design Flow (CFS)**	*Length of Apron*	*Width of Apron*	*d_{50} stone size*
P22 - (3) 15"	7.43 each	25'	12'-20'	6"
P23 - 24"	8.99	10'	6'-16'	6"
P40 - 12"	2.84	10'	3'-12'	6"
P51/P55 - 12"/24"	5.20/12.42	17'	15'-15'	6"

* Based on 25 year storm event.

d_{50} Gradation range for d_{50} of 6"
100% of weight to be stones smaller than 9"
50% of weight to be stones smaller than 6"

Stormwater Maintenance
Facilities Inspection Plan

During the construction of the Prolerized New England Company Metal Recycling Facility, maintenance of all erosion, sedimentation, and stormwater flow control structures and devices will be the responsibility of the developer. The Owner of the facility at the time of required maintenance will be responsible for the annual maintenance of the stormwater treatment system for the life of the systems.

The Owner will be responsible for the maintenance of all erosion, sedimentation, and stormwater flow control structures and devices within the limits of the development (limits as defined in the association documents) and will retain that responsibility until such time as another individual and/or agency (acceptable to the DEP) accepts the responsibility.

During and after construction all erosion control devices and structures shall be checked monthly and after each "significant rainfall"**. Necessary repairs will be made to correct undermining or deterioration of the devices and/or structures. Sediment in the stormwater detention pond will be removed annually or as needed to maintain functionality of the structure.

The Owner shall maintain inspection logs as shown below (or similar) of all stormwater and erosion control measures. The log shall reflect the dates of the inspections and describe actions taken (if any) and be kept on file for a minimum of 5 years. This logbook will be made available to the DEP upon request.

The following activities will be accomplished according the development's maintenance schedule or at a minimum twice each year, once in early spring and once in late fall.

A major storm event is classified as a rainfall exceeding 3.0 inches (2yr) storm event.

** significant rainfall is ½" in 24 hr

Sweeping

Paved surfaces shall be swept or vacuumed at least annually in the Spring to remove all Winter sand, and periodically during the year on an as-needed basis to minimize transportation of sediment during rainfall events.

Roadways and Parking Surfaces				
	Spring	Fall or Yearly	After a Major Storm	Every 2– 5 Years
Clear accumulated winter sand in parking lots and along roadways	X			
Sweep pavement to remove sediment	X			
Grade road shoulders and remove excess sand either manually or by a front-end loader	X			
Grade gravel roads and gravel shoulders	X			
Clean-out the sediment within water bars or open top culverts	X			
Ensure that stormwater is not impeded by accumulations of material or false ditches in the shoulder	X			

Catch Basins

All catch basins, and any other field inlets throughout the collection system, need to be inspected on a monthly basis to assure that the inlet entry point is clear of debris and will allow the intended water entry. These will be cleared, if necessary on a yearly basis or when sediment reaches two thirds of total volume. Catch basins need to be vacuumed and cleaned of all accumulated sediment. This work must be done by a vacuum truck. The removed material must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

Catch Basins Systems				
	Spring	Fall or Yearly	After a Major Storm	Every 2– 5 Years
Remove and legally dispose of accumulated sediments and debris from the bottom of the basin, inlet grates, inflow channels to the basin, and pipes between basins.	X	X		
Remove floating debris and floating oils (using oil absorptive pads) from any trap designed for such	X	X		

Culverts				
	Spring	Fall or Yearly	After a Major Storm	Every 2– 5 Years
Remove accumulated sediments and debris at the inlet, at tie outlet, and within the conduit	X	X	X	
Repair any erosion damage at the culvert's inlet and outlet	X	X	X	

Vegetated Swales

Erosion: It is important to install erosion and sediment control measures to stabilize this area as soon as possible and to retain any organic matter in the bottom of the trench.

Routine Maintenance and Inspection: The area should be inspected for failures following heavy rainfall and repaired as necessary for newly formed channels or gullies, reseeding or sodding of bare spots, removal of trash, leaves and/or accumulated sediments, the control of woody or other undesirable vegetation, and to check the condition and integrity of any stone dams.

Mowing: Grass should not be trimmed extremely short, as this will reduce the filtering effect of the swale. The cut vegetation should be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale. The mowed height of the grass should be 2-4 inches taller than the maximum flow depth of the design water quality storm. A minimum mow height of 6 inches is generally recommended.

Fertilization: Routine fertilization and/or use of pesticides is strongly discouraged. If complete reseeding is necessary, half the original recommended rate of fertilizer should be applied with a full rate of reseeding.

Sediment Removal: The level of sediment deposition in the channel should be monitored regularly, and removed from grassed channels before permanent damage is done to the grassed vegetation, or if infiltration times are longer than 12 hours. Sediment should be removed from riprap channels when it reduces the capacity of the channel.

Aeration: The buffer strip may require periodic mechanical aeration to restore infiltration capacity. This aeration must be done during a time when the area can be reseedinged and mulched prior to any significant rainfall.

	Spring	Fall or Yearly	After a Major Storm	Every 2– 5 Years
Vegetated Swales				
Grass should not be trimmed extremely short, as this will reduce the filtering effect of the swale (MPCA, 1989). The cut vegetation should be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale. The mowed height of the grass should be 2-4 inches taller than the maximum flow depth of the design water quality storm. A minimum mow height of 6 inches is generally recommended		X		
The area should be inspected for failures following heavy rainfall and repaired as necessary for newly formed channels or gullies, sodding of bare spots, removal of trash, leaves and/or accumulated sediments, the control of woody or other undesirable vegetation, and to check the condition and integrity of the check dams			X	
The buffer strip may require periodic mechanical aeration to restore infiltration capacity. This aeration must be done during a time when the area can be reseedinged and mulched prior to any significant rainfall				X
The level of sediment deposition in the channel should be monitored regularly, and removed from grassed channels before permanent damage is done to the grassed vegetation, or if infiltration times are longer than 12 hours. Sediment should be removed from riprap channels when it reduces the capacity of the channel				X

Vegetated Areas

All areas of maintained lawn are to be inspected regularly for signs of erosions and channelization. Areas where erosion is occurring or areas of sparse growth shall be replanted and stabilized. Channelized flows from the eroded land shall be diverted to buffers or other areas able to withstand the high sediment loan in the erosive runoff.

	Spring	Fall or Yearly	After a Major Storm	Every 2– 5 Years
Vegetated Areas				
Inspect all slopes and embankments	X		X	
Replant bare areas or areas with sparse growth	X		X	
Armor areas with fill erosions with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows	X		X	

Level Lip Spreader & Ditch Trench

Long term maintenance of the level spreader is essential to ensure its continued effectiveness. The following provisions should be followed; in the first year the level spreader should be inspected semi annually and following major storm events for any signs of channelization and should be immediately repaired. After the first year, annual inspection should be sufficient.

Inspect and remove debris in level spreader. Record weir elevation, and adjust if necessary per the direction of the design engineer. Inspect for bypass or undermining, repair as needed any channelization as it is occurring and remove sediment buildup to assure sheet flow conditions.

Inspections: At least once a year, the level spreader pool should be inspected for sand accumulation and debris that may reduce its capacity.

Sediment Removal: Sediment build-up within the swale should be removed when it has accumulated to approximately 25% of design volume or channel capacity. Dispose of the sediments appropriately.

Debris: As needed remove debris such as leaf litter, branches and tree growth from the spreader.

Snow Storage: Do not store snow removed from the street and parking lot within the area of the level spreader.

Level Spreader Replacement: The reconstruction of the level spreader may be necessary when sheet flow from the spreader becomes channeled into the buffer.

Mowing: Filters with grass cover should be mowed no more than 2 times per growing season to maintain grass heights less than 12 inches.

Level Lip Spreader & Ditch Trench				
	Spring	Fall or Yearly	After a Major Storm	Every 2– 5 Years
The level spreader pool should be inspected for sand accumulation and debris that may reduce its capacity	X			
Sediment build-up within the swale should be removed when it has accumulated to approximately 25% of design volume or channel capacity				X
Remove debris such as leaf litter, branches and tree growth from the spreader	X	X		
Do not store snow removed from the street and parking lot within the area of the level spreader				
The reconstruction of the level spreader may be necessary when sheet flow from the spreader becomes channeled into the buffer				X
Filters with grass cover should be mowed not more than 2 times per growing season				

Filtration Facilities

Soil Filter Inspection: The soil filter should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining between 24 and 48 hours.

Soil Filter Replacement: The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. The removed sediments should be disposed in an acceptable manner.

Sediment Removal: Sediment and plant debris should be removed from the pre-treatment structure at least annually.

Mowing: Filters with grass cover should be mowed no more than 2 times per growing season to maintain grass heights less than 12 inches.

Fertilization: Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation.

Harvesting and Weeding: Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary.

Filtration Facilities				
	Spring	Fall or Yearly	After a Major Storm	Every 2– 5 Years
The soil filter should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining between 24 and 48 hours	**X**	**X**	**X**	
The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. The removed sediments should be disposed in an acceptable manner				**X**
Sediment and plant debris should be removed from the pre-treatment structure at least annually	**X**			
Filters with grass cover should be mowed no more than 2 times per growing season to maintain grass heights less than 12 inches				
Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation				
Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary		**X**		

Wet Ponds

Clearing Inlets and Outlets: The inlet and outlet of the pond should be checked periodically to ensure that flow structures are not blocked by debris. Inspections should be conducted monthly during wet weather conditions from March to November.

Gravel Trench Outlet Inspection: The gravel trench outlet should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the gravel trench should be inspected at least once every six months. Inspection consists of verifying that the pond is slowly emptying through the gravel filter for a short time (12-24 hours) after a storm and any potentially clogging material such as accumulations of decaying leaves are not preventing discharge through the gravel.

Gravel Replacement: The top several inches of the gravel in the outlet trench must be replaced with fresh material when water ponds above the permanent pool for more than 72 hours. The removed sediments should be disposed of in an acceptable manner.

Inspecting Ponds for Instability and Erosion: Wet ponds should be inspected annually for erosion, destabilization of side slopes, embankment settling, and other signs of structural failure. Corrective action should be taken immediately upon identification of problems.

Maintenance Dredging: Wet ponds lose 0.5-1.0% of their volume annually due to sediment accumulation. Dredging is required when accumulated volume loss reaches 15%, or approximately every 15-20 years.

After each significant rainfall event, or at least monthly, the detention basin shall be visually inspected to assure that the outlet structure is not blocked and that no sign of erosion is apparent within the berm or riprap.

Any sign of erosion or blockage shall be immediately repaired.

The pond shall be inspected on an annual basis to assure that significant sediment accumulation has not occurred. Whenever the sediment is within three inches of the outlet invert the accumulated sediment shall be removed and disposed of properly.

On a semi-annual basis, remove debris from the level lip spreader, outlets and emergency overflow channel. Examine the sediment accumulation in the forebay sump.

On a semi-annual basis, inspect and remove debris from the control structure; check the orifice and all openings, and the elevation of any outlet weirs.

Remove sediment if it occupies 15% of the pond volume. In larger ponds with a permanent pool of water, the sediment can be measured by measuring bottom surface elevations and comparing with records of initial construction.

During the active dewatering process, inspection of the dewatering facility should be reviewed frequently. Special attention should be paid to the buffer area for any sign of erosion and concentration of flow that may compromise the buffer area. Observe where possible the visual quality of the effluent and determine if additional treatment can be provided.

Stormwater Detention and Retention Facilities				
	Spring	Fall or Yearly	After a Major Storm	Every 2– 5 Years
Inspect the embankments for settlement, slope erosion, internal piping, and downstream swamping. A professional engineer must review these immediately.		X	X	
Mow the embankment to control woody vegetation		X		
Inspect the outlet control structure for broken seals, obstructed orifices, and plugged trash racks	X	X	X	
Remove and dispose of sediments and debris within the control structure		X		X
Repair any damage to trash racks or debris guards		X		
Mow vegetated spillways to control woody vegetation and replace any dislodged stone in riprap spillways		X		
Remove and dispose of accumulated sediments within the impoundment and forebay		X		X
The gravel trench outlet should be inspected after every major storm in the first few months to ensure proper function and thereafter, the gravel trench should be inspected at least once every six months	X	X	X	
The top several inches of the gravel in the outlet trench must be replaced with fresh material when water ponds above the permanent pool for more than 72 hours. The removed sediments should be disposed of in an acceptable manner.				X
Wet ponds should be inspected annually for erosion, destabilization of side slopes, embankment settling, and other signs of structural failure. Corrective action should be taken immediately upon identification of problems. Contact design engineer.		X		

Roadway, Ditches, Swales and Culverts

Open swales and ditches need to be inspected on a monthly basis or after a major rainfall event to assure that debris or sediments do not reduce the effectiveness of the system. Debris needs to be removed at that time. Any sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the structure and proper functioning.

Vegetated ditches should be mowed at least monthly during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be repaired and revegetated.

If sediment in culverts or piped drainage systems exceeds 20% of the diameter of the pipe, it should be removed. This may be accomplished by hydraulic flushing or any mechanical means; however, care should be taken to not flush the sediments into the retention/detention pond as it will reduce the pond's capacity and hasten the time when it must be cleaned. All pipes should be inspected on an annual basis.

Stormwater Channels				
	Spring	Fall or Yearly	After a Major Storm	Every 2– 5 Years
Inspect ditches, swales and other open stormwater channels	X	X	X	
Remove any obstructions and accumulated sediments or debris	X	X		
Control vegetated growth and woody vegetation		X		
Repair any erosion of the ditch lining		X		
Mow vegetated ditches		X		
Remove woody vegetation growing through riprap		X		
Repair any slumping side slopes	X	X		
Replace riprap where underlying filter fabric or underdrain gravel is showing big or where stones have dislodge	X			X

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Stormwater Maintenance
Prolerized New England Company, LLC
Metal Recycling Facility
Maintenance Log

This log is intended to accompany the Stormwater Management Facilities Maintenance Plan for Schnitzer Northeast. The following items shall be checked, cleaned and maintained on regular basis as specified in the Maintenance Plan and as described in the table below. This log shall be kept on file for a minimum of five years and shall be available for review by MDEP. Qualified personnel familiar with drainage systems and soils shall perform all inspections.

Item	Maintenance Required & Frequency	Date Completed	Maintenance Personnel	Comments
Sweeping of Roads	Sweep annually in the Spring until municipal acceptance of road.			
Ditches, Swales and Culverts	Inspect after major rainfall event. Repair erosion or drainage immediately. Remove sediment if infiltration times become greater than 12 hours.			
Catch Basins and Culverts	Clean sumps with vacuum pump annually or when sediment occupies more than two thirds of the sump capacity. Clean culverts when sediment occupies more than 20% of pipe diameter.			
Level Spreader	Annually inspect for any signs of channelization and immediately repair, clean sump when sediment occupies more than 25% capacity.			
Under drained Ponds	Inspect soil filter every 6 months to ensure drain times between 24 and 48 hours. Remove sediment from pretreatment fore bay annually. Remove or prune unwanted vegetation as necessary.			
Vegetate Buffers	Inspect Annually for evidence of erosion or channelization. Repair as necessary.			

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Stormwater Management System
Prolerized New England Company, LLC
Inspection & Maintenance Checklist

BMP/System Component	Date Inspected	Inspector	Cleaning/Repair Needed *(List Items/Comments)*	Date of Cleaning/Repair	Performed

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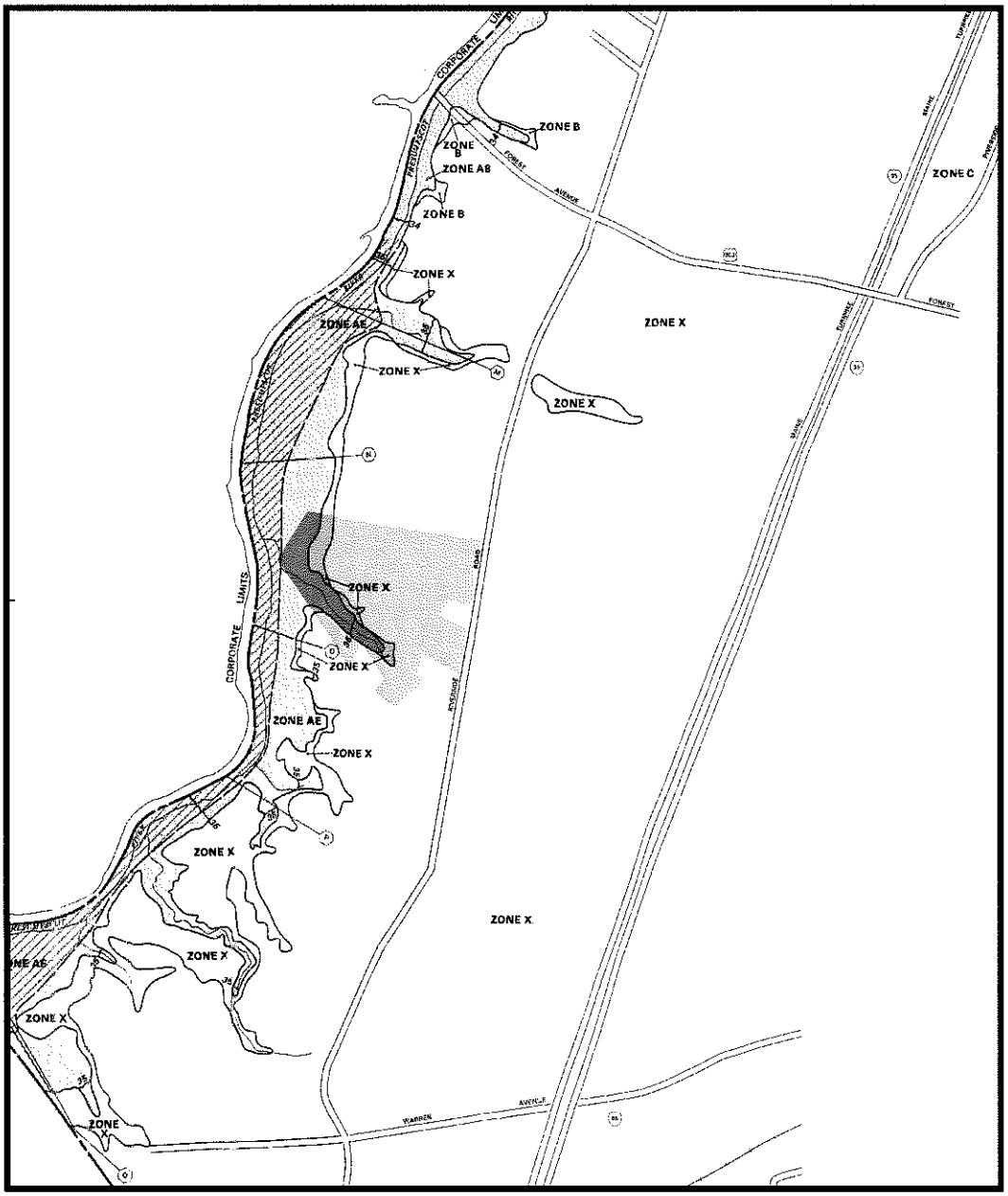
APPENDIX E

NATIONAL FLOOD INSURANCE RATE MAP- FIRM



Reduced Scale Sketch Reproduced from Portions of

FIRM MAP CITY OF PORTLAND, MAINE
Panel: 1B 6C

APPENDIX F

QUALIFICATIONS OF PREPARER

A qualified stormwater analyst is a person possessing sufficient training and experience necessary to create/prepare a representative hydrologic model of a site, perform the required pre- & post-development calculations, analyze & evaluate the results and develop a management plan that minimizes potential downstream impacts. A partial resume for the qualified stormwater analyst responsible for preparing this stormwater management report, Carl V. Beal, P.E., is presented below.

Carl V. Beal, P.E.

Upon his graduation with a BSCE from UMO in 1980, Carl went to work for E. C. Jordan, in Portland, Maine. Carl joined CIVIL CONSULTANTS in 1996 after more than fifteen years in engineering design, project management with Jordan. He acquired extensive experience in Stormwater Management and Erosion Control projects including The Mall at Augusta project, Woodyard Expansion of Great Northern Paper Co.'s East Millinocket mill, Southborough Office Park in South Portland, and The Woodlands Golf Course and Subdivision in Falmouth, ME. Carl prepared designs, drainage calculations, construction documents, provided coordination and administrative services during construction, prepared DEP permit applications, and routinely communicated with municipal and State officials.

Since joining CIVIL CONSULTANTS in 1996 Carl has been a Senior Project Engineer. His responsibilities include all phases of a project from inception through scheduling, designing, approvals, permitting and construction. He also is responsible for performing or reviewing stormwater management plans (SMP's). He has been involved with SMP's ranging from minimally developed land through high density commercial sites involving contributing areas from an acre through several hundred acres. Specific examples include the New Marshwood High School in South Berwick, the Moody Meadows RV Park in Wells, Sanford Storage Facility in Sanford, and the Salvation Army Facility Improvements Project in Old Orchard Beach.

Carl has attended numerous seminars related to stormwater management and been a member of several committees that developed local and regional stormwater policies. Carl was a member of the team that assisted the Cumberland County Soil & Water Conservation District in developing their 1990 Environmental Planning Guide. Carl was on the 2002 DEP peer review committee establishing the NPDES Phase II program for the state of Maine. Carl is currently on the DEP's Stormwater Stakeholder Group that is working on recommendations for revising Chapter 500 of the Maine Stormwater Law. Carl is a member of both the Stormwater Technical Subgroup, responsible for developing quantity and quality treatment alternatives, and the full Stakeholder Committee.

As a senior staff member, Carl provides guidance to junior personnel and insight into staff operations and procedures. In addition, Carl directs in-house review services for client communities in Maine. His municipal service and public involvement expand the services provided by CIVIL CONSULTANTS.

Professional Data:

Education	Registrations	Memberships
University of Maine B.S., ***Civil Engineering, 1980***	*Registered Professional Engineer: Maine, New Hampshire*	*American Society of Civil Engineers*
University of Maine A.S., Civil Engineering Technology, 1977	*CPESC Certified Professional in Erosion and Sediment Control.*	*Maine Section, Past President American Society of Civil Engineers*

CIVIL
CONSULTANTS

Engineers

Planners

Surveyors

APPENDIX G

D1 – Pre-Development Stormwater Plan

D2 – Post-Development Stormwater Plan

D3 – Stormwater Treatment Plan

EXHIBIT 18
Supporting Documents (Drainage Plans)
on file with the City of Portland's Planning Office

CIVIL CONSULTANTS
Engineers · Planners · Surveyors

Noise Impact Assessment Study
Prolerized New England Company, LLC
d/b/a Schnitzer Northeast Metal Recycling Facility
Portland, ME

Riverside Street
Portland, ME

Prepared for:

Civil Consultants
293 Main Street, PO Box 100
South Berwick, Maine 03908

Prepared by:

Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754

October 15, 2007

Epsilon
ASSOCIATES INC
ENGINEERS ENVIRONMENTAL CONSULTANTS

PERKINS | THOMPSON
ATTORNEYS & COUNSELORS AT LAW

ESTABLISHED 1871

ONE CANAL PLAZA
PO BOX 426
PORTLAND ME 04112
TEL 207.774.2635
FAX 207.871.8026

www.perkinsthompson.com

January 14, 2009

VIA HAND DELIVERY

Rick Knowland
Planning & Development
City of Portland
389 Congress Street
Portland, ME 04101

Re: New England Metal Recycling/Schnitzer Steel Industries/Prolerized New England LLC

Dear Rick:

Enclosed please find the original executed Scrap Metal Recycling Facilities Permit Application form for the above-referenced matter, which is being submitted to supplement the full application filed at the end of December.

If you have any questions, please feel free to give me a call.

Very truly yours,

Hope C. Jacobsen

HCJ:pal

Enclosure

cc: Gary C. Wood, Esq., w/enc.
David A. Murphy, w/enc.
Carl V. Beal, w/enc.

Planning _____
PPD_____
Zone_____
Taxes _____
Fire_____

City Clerk's Office
389 Congress Street
Portland, Maine 04101
(207)-874-8557

License fee: $500.00 plus costs
Fee After October 1: $1500.00
Application fee: $30.00 new $20.00 renewal
Total Due: _____
License Expires 12/31_____

SCRAP METAL RECYCLING FACILITIES PERMIT APPLICATION
CHAPTER 31, PORTLAND CITY CODE §31-1 et. seq.

Please check one: (Corporation/ LLC/ Non-profit org. __X__) (Sole Proprietor ____) (Partnership ____)

Property Owner's Name: The Trust for Public Land Phone: 617-367-6200

Property Owner's Address: 33 Union Street, 4th Floor, Boston, MA Zip 02108
*If the property is owned by more than one entity please supplement above information on an additional sheet of paper.

Schnitzer Steel Industries, Inc./Prolerized New England Company LLC/New England Metal Recycling, LLC
Business Name: _____ Phone: _____

Location Address: 568 Riverside Street, Portland Zip_____

Mailing Address: 69 Rover Street Everett, MA Zip 02149

Contact Person: Dave Murphy Phone: 207-212-2360

Manager of Business _____ Home Phone #_____

Does the issuance of this license benefit any City employee? ____Yes __X__No
If yes, please list name(s) of employee(s) and City Department(s):

Have applicant, partners, associates, or corporate officers ever been arrested, indicted, convicted or court martialed for any violation of law? NO If yes, please explain: _____

Have any of the applicants, including the corporation if applicable, ever held a business license with the City of Portland?
__X__Yes _____No. If yes, please list business name(s) and location(s):
NEMR LLC 25-39 Somerset Street
Is any principal officer under the age of 18? _____Yes _____No

Please list items or general type of items for sale, if any: _____

SOLE PROPRIETOR / PARTNERSHIP INFORMATION: (if corporation, leave blank)
Name of Owner(s): _____ Date of Birth _____ Residence Zip Code _____
Name of Owner(s): _____ Date of Birth _____ Residence Zip Code _____
Name of Owner(s): _____ Date of Birth _____ Residence Zip Code _____

CORPORATE / LLC / NON-PROFIT ORGANIZATION APPLICANTS: (if sole proprietor, leave blank)
Schnitzer Steel Industries Inc./Prolerized New England Company LLC/New England Metal Recycling, LLC
Corporation Name: _____

Corporation Mailing Address: 69 Rover Street, Everett, MA 02149 ZIP_____

Contact Person: Dave Murphy Phone Number: 207-212-2360

PRINCIPAL OFFICERS: (if more space is needed, please attach a separate page)

Name N/A Title _____ Date of Birth _____ Residence Zip Code _____
Name _____ Title _____ Date of Birth _____ Residence Zip Code _____
Name _____ Title _____ Date of Birth _____ Residence Zip Code _____
Name _____ Title _____ Date of Birth _____ Residence Zip Code _____
Name _____ Title _____ Date of Birth _____ Residence Zip Code _____
Name _____ Title _____ Date of Birth _____ Residence Zip Code _____

Please provide the following information and check all items for which information has been submitted. **20 COPIES MUST BE SUBMITTED WITH THIS APPLICATION FOR DISTRIBUTION TO CITY DEPARMENTS. Incomplete packets will not be accepted.**

X The maximum storage height of any piles of metal or other material. (30' per Chapter 31-10)

X A map of the location of any areas on the site used for processing, preparing or storage of materials.

N/A A map of the location of any sand and/or gravel aquifer and/or any sand and gravel aquifer recharge area as described on the Maine Geological Survey significant aquifer map for the Portland West Quadrangle (GSM Map No. 99-11) or as mapped by a State of Maine certified geologist or other competent professional.

on Sheet C2A
X A map of the location of any residences, schools, public parks, public playgrounds, public bathing beaches, churches, or cemeteries within 500 feet of the area where metal and/or materials will be stored or processed.

on Sheet C1
X A map of the boundaries of the 100-year floodplain.

N/A A map of any sand or gravel aquifer on or adjacent to the site as mapped by the Maine Geological Survey or by a licensed geologist.

on Sheet C1
X A map of any waterbody, watercourse or wetland on or within 300 feet of the site.

X A site plan that complies with chapter 14, section 525(b) as files for approval by the Portland Planning Department/Board. Planning Board Approval
**Please note date of site plan submission at Planning Office, 4th floor, City Hall: July 8, 2008

X Results and data from on-site and off-site soil sampling and testing, which testing complies with the Rules attached hereto.

X Results and data from on-site and off-site groundwater sampling and testing , which testing complies with the Rules attached hereto.

X A depiction of any and all screening of the site.

_____ *Other information.*

X 1. The types of metal processed on the site.

X 2. The types of waste handled and the average volume per year per material.

X 3. A description of the protocol for handling waste and the destination to which that waste is sent.

X 4. An operations manual as described in chapter 402 of the Maine Department of Environmental Protection regulations.

N/A 5. Operational records as described in chapter 402 of the Maine Department of Environmental Protection regulations.

X 6. An annual report as described in chapter 402 of the Maine Department of Environmental Protection regulations.

Renewal Application

_____ If this is a renewal application, please provide evidence of annual testing completed according to the Rules attached to this application.

Applicant, by signature below, agrees to abide by all laws, orders, ordinances, rules and regulations governing the above license and further agrees that any misstatement of material fact may result in refusal of license or revocation if one has been granted. Applicant agrees that all taxes and accounts pertaining to the premises, or otherwise owed to the City by the Applicant, will be paid prior to issuance of the license.
It is understood that this and any application(s) shall become public record and the applicant(s) hereby waive(s) any rights to privacy with respect thereto.
I/We, hereby waive any rights to privacy with respect thereto.

Signature David A. Murphy Title DIRECTOR / PLANNING Date 01-13-09
New England Metal Recyling

Signature David A. Murphy Title DIRECTOR/PLANNING Date 01-13-09
Schnitzer Steel Industries/Prolerzied New England LLC

0676900/submittals/cityofPortland/scrapmetal/20080122scrapmetalAPP
20090108 rld

Amendments to Scrap Metal Recycling Facilities Rules
Promulgated by the
Department of Planning and Development
Pursuant to the
Scrap Metal Recycling Facilities Ordinance

As passed by the Portland City Council June 18, 2007 and, therefore, effective June 28, 2007.

The following amendments to the scrap metal recycling facilities rules are promulgated pursuant to Section 31-10 of the Scrap Metal Facilities Ordinance and all terms, conditions and requirements in that ordinance are hereby incorporated by reference.

Rule #1 Baseline Testing:

(a) An environmental waste baseline sampling plan is required which shall include the location of soil sampling and groundwater sampling locations to establish waste baseline environmental conditions at the site.

(b) A minimum of three on-site surficial soil samples, on the upper six (6) inches and three Geoprobe-installed or conventionally-installed overburden monitoring wells are required for all sites.

(c) The Department shall review and approve the number and location of soil samples and monitoring wells after reviewing the waste baseline exploration and sampling plan in accordance with generally accepted environmental standards and after consulting with the applicant's environmental consultant, if necessary.

(d) Initial waste baseline evaluation of the scrap metal recycling facility requires a waste management compliance audit of the facility by a qualified professional and the results of the audit shall be submitted to the City of Portland for evaluation prior to issuance of the license for the facility.

Rule #2 Soil Testing:

(a) Initial waste baseline testing shall consist of five on-site soil samples collected according to a sampling plan developed by a qualified environmental professional and submitted to the Department for review and approval as part of the application.

(b) Of the five on-site samples three shall be taken from soils in the principle outdoor work areas, i.e., in which metals to be recycled are received, processed and stored. The two additional on-site samples shall be taken in areas that are down-gradient from the

principal work areas and are adjacent to property boundaries at which metals to be recycled are received, processed or stored. The soil samples shall represent a composite of the upper six-inches of soil at the sampling location.

(c) The soil samples shall be analyzed for volatile organic compounds (EPA Method 8260), semi-volatile organic compounds (EPA Method 8270), PCBs (EPA Method 8082), the eight RCRA metals (EPA Methods 3010/6010), and nickel (Ni), zinc (Zn) and copper (Cu) (EPA Method 6010) diesel-range organics (MDEP Method 4.1.25), and gasoline-range organics (MDEP Method 4.2.17).

(d) The criteria for evaluation of soil samples shall be the Maine DEP Remedial Action Guidelines for Soils (RAGS) of May 20, 1997 (the "Remedial Action Guidelines".

(e) The City of Portland reserves the right to request split samples of soil taken as part of the licensing procedure. The split samples taken by the City of Portland shall be analyzed by an independent laboratory in order to provide corroboration of results.

In the event that the results of waste baseline soil sampling exceed the Remedial Action Guidelines, the City may require additional sampling at the metal recycling facility or off-site and/or a plan for remediation of contaminated soils at on-site or off-site locations.

Notwithstanding any other provision of the Scrap Metal Recycling Ordinance or these Rules, in the event that a scrap metal recycling facility is located on or has relocated to an existing industrial, commercial or retail site and the baseline test results for that site exceed certain parameters that either are consistent with a use known to exist at the site prior to the scrap metal recycling facility's operation on the site, or shown to have occurred prior to the scrap metal recycling facility's operation on the site, then no remediation plan for those parameters shall be required of the owner or operator of the scrap metal recycling facility so long as the previously existing baselines or the state regulatory guidelines as incorporated, whichever are higher, are not exceeded.

If a remediation plan is implemented by an entity other than the owner or operator of the scrap metal recycling facility or voluntarily implemented by such owner or operator and the remediation lowers the previously existing baselines, the lower baselines or the state regulatory guidelines as incorporated, whichever are higher, shall be used for the purpose of future testing and remediation requirements.

For the purpose of this rule an "owner or operator" includes any prior owners or operators in which a controlling interest was held by the same individuals or legal entities, or any person or entity acting in their behalf.

Rule #3 Groundwater Testing:

(a) Initial waste baseline testing shall consist of three on-site overburden monitoring wells installed by Geoprobe or conventional drilling methods. The location and the

rationale for the location of the three monitoring wells shall be developed by a qualified environmental professional and submitted to the Department for review and approval as part of the application.

(b) The three monitoring wells shall be located so as to monitor groundwater emanating from the principle outdoor work areas, i.e., areas in which metals to be recycled are received, processed and stored. Ten-foot well screens in the monitoring wells shall be placed so as to intersect the groundwater table. Groundwater samples shall be taken from the three monitoring wells in according with MDEP Low-Flow Groundwater Sampling Guidance, June 1996.

(c) The water samples shall be analyzed for volatile organic compounds (EPA Method 8260), semi-volatile organic compounds (EPA Method 8270), PCBs (EPA Method 8082), the eight RCRA metals (EPA Methods 6010/7470), and nickel (Ni, zinc (Zn), copper (Cu), and antimony (Sb) (EPA Method 6010) diesel-range organics (MDEP Method 4.1.25), and gasoline-range organics (MDEP Method 4.2.17).

(d) The criteria for evaluation of water samples shall be the Maine DHS Maximum Exposure Guidelines of January 20, 2000 ("MEGs") and the Procedural Guidelines for Establishing Action Levels and Remediation Goals for the Remediation of Oil-Contaminated Soil and Groundwater in Maine, March 13, 2000 (a/k/a "Decision Tree analysis").

(e) The City of Portland reserves the right to request split samples of groundwater taken as part of the licensing procedure. The split samples taken by the City of Portland shall be analyzed by an independent laboratory in order to provide corroboration of results.

In the event that the waste baseline groundwater sampling exceeds the Maximum Exposure Guidelines or the guidelines of the decision tree, the City may require additional sampling at the metal recycling facility and a plan for remediation of contaminated groundwater at the on-site locations.

Notwithstanding any other provision of the Scrap Metal Recycling Ordinance or these Rules in the event that a scrap metal recycling facility is located on or has relocated to another existing industrial, commercial, or retail site and the baseline test results for that site exceed of certain parameters that either are consistent with a use known to exist at that site prior to the scrap metal recycling facility's operation on the site, or are shown to have occurred prior to the scrap metal recycling facility's operation on the site, then no remediation plan for those parameters shall be required of the owner or operator of the scrap metal recycling facility so long as the previously existing baselines ore the state regulatory guidelines as incorporated, whichever are higher, are not exceeded.

If a remediation plan is implemented by an entity other than the owner or operator of the scrap metal recycling facility or voluntarily implemented by such owner or operator and the

remediation lowers the previously existing baselines, the lower baselines or the state regulatory guidelines as incorporated, whichever are higher, shall be used for the purpose of future testing and remediation requirements.

For the purpose of this rule an "owner or operator" includes any prior owners or operators in which a controlling interest was held by the same individuals or legal entities, or any person or entity acting in their behalf.

Rule #4 Dismantling Motor Vehicles and Other Items Containing Waste:

The dismantling of items containing waste shall take place in a building with an impervious floor and appropriate equipment and containers to properly extract and store waste and recover any spilled or escaped waste in compliance with state and federal laws.

Upon receiving a motor vehicle, the battery shall be removed and located in such a ways as to ensure the battery's contents will not spill onto the ground.

When any engine lubricant, transmission fluid, brake fluid and/or engine coolant is removed from a vehicle, those fluids shall be drained into watertight containers which shall be kept covered and secured by containment in a storage building designed to contain spills. Any fluids from the motor vehicle shall be stored, recycled or disposed of according to all applicable federal and state laws. No discharge of any fluids from any motor vehicle shall be permitted into or onto the ground.

Rule #5 Storage and Handling of Waste:

Waste shall be stored and handled pursuant to and in compliance with state law and applicable regulations of the Maine Department of Environmental Protection and any amendments thereto.

Hazardous substances and hazardous waste, including PCBs, solvents, and degreasers, and mercury and special wastes, including petroleum-related products shall be received, handled, processed, stored and disposed of in accordance with State of Maine Hazardous Waste Management Rules (06-096 CMR 850, Chapter 850 and 851, January 23, 2001) and Solid Waste Management Regulations (06-096 CMR Chapter 400 et seq., September 1, 1999).

Rule #6 Setback Requirement; Visual Screening and Limitation on the Height of Piles of Metal or Other Material.

In no event shall the scrap metal recycling facility be located closer than 100 feet from a public road. The setback provision shall apply to temporary or permanent storage, weighing, or processing areas for any metal or material within the scrap metal recycling facility, but shall not apply to any driveways or administrative buildings, and shall not apply to the fences or screening which may be established to keep the facility screened from ordinary view, except such fences or screening must be outside the public road right-of-way. For the purposes of the Rules, the term

"from a public road" shall mean from the far side of any immediately adjacent public road.

Visual impact standards can be met through buildings, plantings, fences, berms, setbacks, or other screening, or a combination thereof; however, the screening shall in no case exceed 15 feet in height and any piles of metal or other material shall not exceed 30 feet in height except as allowed by this Rule.

(a) *Fencing.* Fences shall be so located and of sufficient height to entirely screen those portions of the metal recycling facility or any piles of material within the facility used to receive, process or store any form of metal from ordinary view. The minimum height of any fence is six feet, although the actual height must be sufficient to accomplish the complete screening from ordinary view but in no case may the height of the fence exceed 15 feet. All fences shall be well constructed and maintained. All fences shall be uniform in appearance, erected in a workmanlike manner, and constructed of sound, undamaged material.

(b) *Plantings.* Screening may be accomplished through the planting and/or maintenance of trees, shrubs, or other vegetation of sufficient height, density and depth of planting or growth to entirely screen those portions of the metal recycling facility used to receive, process or store any form of metal from ordinary view throughout the calendar year.

(c) *Natural or man-made screening.* Screening may be accomplished by use of the following natural or man-made screens provided those portions of the scrap metal recycling facility used to receive, process or store any form of metal are entirely screened from ordinary view.

(1) *Hills, gullies, or embankments.* Where man-made, such screens must be constructed to blend with the landscape with loaming and seeding or other treatment as may be necessary to establish a natural appearance; or

(2) Building or other installations; or

(3) A combination of the above.

If buildings or other installations are used, they are not subject to the 15 foot height limitation on fences or other types of screening.

For the purpose of this rule the phrase "entirely screened" shall not be interpreted to apply to piles of metal or other material that exceed 30 ft. on 5 days or less in a 30 consectuve day period unless the owner or operator applies for additional time and shows good cause for the request, or to openings used for entrances or exits to and from the facility or that are on abutting property.

Rule #7 Exemption from Specific Requirements:

The following requirements shall not apply to facilities existing on or before the effective date of this Ordinance.

(a) Rule 6, 100' setback requirement.

Rule #8 Annual Testing Requirements

The annual testing required under Section 31-6(d) of the Scrap Metal Recycling Facilities Ordinance shall conform to the following requirements.

(a) Groundwater samples shall be taken from the existing three on-site overburden monitoring wells on an annual basis in conformance with Rule #3(b)-(c).

(b) For those facilities that were required to undertake a remedial action plan after the initial waste baseline sampling, annual soil sampling shall be conducted in conformance with Rule #2(b)-(c), if the department demonstrates that the remedial action plan was not implemented in accordance with its terms. Said sampling shall be limited to those areas identified in either the initial waste baseline sampling plan or through further testing previously required by the department.

(c) After a facility can demonstrate for three consecutive years that the results of any sampling that it conducted are within the regulatory guidelines as outlined above, that facility shall be allowed to test once every three years for those substances the levels of which were below the regulatory guidelines.

LEGAL ADVERTISEMENT
NOTICE OF PUBLIC HEARING
CITY OF PORTLAND

The Portland City Council will hold a public hearing on Wednesday, January 21, 2009, 7:00 p.m., Council Chambers, 2nd Floor, City Hall, 389 Congress Street, to consider an application by Prolerzied New England Company LLC., for a license to operate a scrap metal recycling facility at 568 Riverside Street. Public comments will be taken at this meeting.

FMI: The proposed scrap metal recycling facility application is available in the Portland Planning Division, 4th Floor, City Hall. If you wish to submit written comments, address them to Richard Knowland, Senior Planner, Planning Division, 4th Floor, 389 Congress Street, Portland, ME 04101, by phone at (207) 874-8725 or email rwk@portlandmaine.gov

Portland Water District
225 Douglas Street
Portland, ME 04102

Alpine Realty Corp
120 Exchange Street
Portland, ME 04101

Whitaker Real Estate Investments LLC
84 Brook Road
Falmouth, ME 04105

The Trust for Public Land
33 Union St. 4th Floor
Boston, MA 02108

Six G's Coed LLC
557 Riverside Street
Portland, ME 04103

Maine Dept. of Transportation
16 State House Station
Augusta, ME 04333-0016

410 Riverside Street LLC
70 Ingersoll Dr.
Portland, ME 04103

Maine Turnpike Authority
430 Riverside Street
Portland, ME 04103

Orman Cummings
202 US Rt. 1 Ste. 4
Falmouth, ME 04105

508 Riverside Street
20 Continental Dr.
Portland, ME 04103

Scott Hopkins
537 Riverside Street
Portland, ME 04103

Joseph Pirone
One Partridge Cir.
Portland, ME 04102

Riverside Welders LLC
557 Riverside Street
Portland, ME 04103

Benjamin Roper
117 Florida Ave
Portland, ME 04103

B&L Partners LLC
277 Milton Rd.
Rochester, NH 03868

Mainely Investments
674 Main Street
Gorham, ME 04038

Penney Littel

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

RECEIVED

IN THE MATTER OF

OCT 31 2008

City of Portland
Planning Division

PROLERIZED NEW ENGLAND COMPANY, LLC	)	SOLID WASTE ORDER
PORTLAND, CUMBERLAND COUNTY, MAINE	)	
SOLID WASTE PROCESSING FACILITY	)	
#S-022289-WK-A-N	)	
(APPROVAL WITH CONDITIONS)	)	NEW LICENSE

Pursuant to the provisions of the *Maine Hazardous Waste, Septage and Solid Waste Management Act*, 38 M.R.S.A. §§ 1301–1319-Y, *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2 (last amended April 1, 2003), the *Solid Waste Management Rules: General Provisions*, 06-096 CMR 400 (last amended March 5, 2001) and the *Solid Waste Management Rules: Processing Facilities*, 06-096 CMR 409 (last amended June 16, 2006), the Department of Environmental Protection ("Department") has considered the application of PROLERIZED NEW ENGLAND COMPANY LLC ("The applicant" or "PNE"), with all supportive data, agency review comments, and other related materials on file, and FINDS THE FOLLOWING FACTS:

1. APPLICATION SUMMARY

A. Application: The applicant has applied for approval to construct a new scrap metal processing/recycling facility on a 12.9 acre parcel at 568 Riverside Street in Portland, Maine.

B. Summary of Proposal: Prolerized New England Company LLC ("PNE") is a wholly owned subsidiary of Schnitzer Steel Industries, Inc. ("Schnitzer Steel"), which, through its wholly-owned subsidiaries, operates facilities in the northeastern United States under the names of "Schnitzer Northeast" and "New England Metal Recycling" ("NEMR"). New England Metal Recycling's parent company, Schnitzer Steel, or its wholly owned subsidiaries, operates 12 regional metal recycling facilities in the New England area. The applicant proposes to construct a new metal recycling facility at 568 Riverside Street to replace the existing NEMR facility currently operating at 25 Somerset Street in Portland. When the Riverside facility is operational, the Somerset Street facility in Portland will be closed and all metal removed before the property is redeveloped.

PNE intends to operate the Riverside facility as a regional scrap metal processing and recycling facility, buying, processing and transporting ferrous and non-ferrous metals. Metals will be brought in by municipalities, commercial contractors, businesses, homeowners, and small scrap metal collectors. Metals will be sheared to size, sorted, containerized, or baled before shipping to shredders, recycling facilities, foundries, or steel mills. Throughput of recycled metal accepted and removed from the facility is estimated to be approximately

4,000 tons per month initially and up to 75,000 tons per year. Signage for the proposed facility in Portland will be as "Schnitzer Northeast, Prolerized New England Company, LLC." Construction is expected to commence during the fall and winter of 2008 with the facility becoming fully operational in the spring of 2009.

2. PROJECT AND SITE DESCRIPTION

The proposed 7.6 acre metal recycling facility will be constructed on a larger 12.9 acre parcel of the former Lucas Tree property located on the westerly side of Riverside Street within the Riverside Industrial park. The property slopes to the Presumpscot River and the perimeter of the property is fenced to control access when the facility is not open.

Vehicular access to the property is via Riverside Street with 4 queuing lanes for incoming traffic with approximately 780 feet of traffic storage between the facility sliding gates and the facility entrance on Riverside Street. A pair of scales, one for incoming and one for outgoing traffic, will be located inside the facility gate near the south end of the process and baler building. Employee parking will be provided along the south side of the paved area next to the queuing lanes.

An 18,800 square foot building, consisting of a process building (60' x 180') and baler building (80'x 100') is proposed to be 50' tall and will contain all processing and baling operations at the facility. This combined building will be partially shielded from view with existing and supplemental mixed tree plantings. A 50' x 100' "flat auto storage building" will be constructed on the northwest section of the property for indoor storage of flattened automobiles, equipment, and other recyclable materials. A 28' x 30' non-ferrous metal storage building containing several storage bins will be located on the northeast corner of the property. The queuing lanes, parking area, and the area around the process and baler building will be surfaced with bituminous pavement. The northern end of the property where the scrap metal piles and auto storage building are to be located will be paved with reinforced concrete paving. A double walled equipment fuel tank will be located at the south edge of the property just west of the access gates.

5.5 acres of the 7.6 acre metal processing facility portion of the property will be paved and surface water drainage will be pitched to the 10,250 square foot "wet" stormwater detention basin. This stormwater detention basin will be equipped with an oil/water separator and oil sorbent booms to collect any petroleum products that may wash off the paved portion of the property. Stormwater will be detained within the basin to provide for additional treatment prior to discharge to the Presumpscot River via a small "unnamed stream" and small wetland.

A small bioretention wet cell is located near the Riverside Street entrance to collect and treat stormwater from the upper portion of the property. Oil sorbent booms will be installed to collect any petroleum product being washed off the paved traffic queuing areas, prior to discharge to the small "unnamed stream" and eventually to the Presumpscot River.

3. PUBLIC NOTICE

The applicant has provided documentation of the publication of a completed "Notice of Intent to File" and has documented notification of abutters as required in *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2 (last amended April 1, 2003), and other potentially interested neighbors. Public notice was sent by certified mail to abutting property owners and the cities of Portland and Westbrook on February 21, 2008. The notice was published in the Portland Press Herald/Maine Sunday Telegram on February 16, 2008.

The Department finds that the applicant has complied with all the public notice requirements of 06-096 CMR Chapters 2 and 400 of the Departments rules and regulations.

4. TITLE, RIGHT OR INTEREST

PNE has submitted two agreements to demonstrate title, right and interest in this property. The first agreement is a purchase option agreement, dated September 10, 2004 and known as the "Riverside Agreement" between the "sellers" (John Lucas Tree Expert Co. and Arthur W. Batson) to the "buyers", Riverside Ventures LLC (the City of Portland and the Trust for Public Lands) for the entire 54 acre parcel on Riverside Street known as the "Riverside Parcel".

The second agreement, dated January 13, 2006, is for PNE (through the subsidiary New England Metal Recycling or "NEMR") to purchase a 13.2 acre portion of the 54 acre Riverside Parcel from Riverside Ventures LLC (the City of Portland and the Trust for Public Lands). The remaining 40 +/- acres of the Riverside Parcel is to be retained by the City of Portland or Trust for Public Land. PNE has submitted these agreements to demonstrate title, right and interest in the property.

The Department finds that that applicant has provided adequate evidence of title, right or interest in the property.

5. FINANCIAL ABILITY

The Prolerized New England facility is estimated to cost $2,000,000 for the construction and equipment needed to operate and close this new facility.

Prolerized New England Company LLC is an indirect, wholly-owned subsidiary of Schnitzer Steel. Schnitzer intends to self-finance the entire project through expenditures of existing capital and has submitted the corporation's 2007 Annual Report in support of the applicant's ability to fund the proposed facility.

In fiscal year 2007, Schnitzer Steel (worldwide) generated $2.6 billion in sales with an operating income of $214 million and a net income was $131 million.

The Metal Recycling Business portion of parent corporation Schnitzer Steel generated revenues of $2.1 billion, with an operating income of $166 million.

Closure of the facility will be accomplished through the working capital of Prolerized New England LLC or through reserves of its parent company, Schnitzer Steel.

The Department finds the applicant has provided adequate evidence of financial ability to operate, maintain, and close the proposed Riverside Industrial Park facility in accordance with state environmental regulations.

6. TECHNICAL ABILITY

Schnitzer Steel, the parent company of Prolerized New England LLC, has been in the business of metal recycling since 1906. Schnitzer Steel (or one of the wholly-owned subsidiaries) currently operates metal recycling facilities which process metal in "mega-shredders" capable of processing over 2,500 tons of metals per day in Everett, MA, Portland, OR, Tacoma, WA, and Oakland, CA. Regional metal collection facilities, such as this one proposed for the Riverside Industrial Park, feed metal to these "mega-shredders", where metal is processed prior to shipping to the end users.

Schnitzer has provided resumes for the key personnel in charge of facility operations at the proposed facility, and for those preparing this license application. Schnitzer has constructed and/or operated dozens of similar metal sorting facilities and feeder yards and has an experienced team tasked with designing, constructing, and operating the proposed facility.

Ongoing operations and maintenance of this facility involve sorting of ferrous and non-ferrous metals, use and maintenance of the various equipment on site, packaging or

containerizing some materials, handling universal wastes, performing stormwater monitoring, and recordkeeping. The application includes an operations manual that addresses operating requirements for processing facilities and areas of particular concern for this project.

Patrick Murphy is the current general manager of Maine Metal Recycling, Inc. in Auburn, Maine and also the general Manager of the Finkelman-Schnitzer facility at 25 Somerset Street in Portland, Maine and will also be assuming the role of General Manager at this proposed facility. Mr. Murphy has more than 20 years of experience in the scrap metal recycling industry.

Environmental compliance activities at the facility will be undertaken by the Schnitzer Steel's Environmental Compliance Section located in Everett, MA. Regional Environmental Manager Keri Fitzpatrick has experience in environmental management and compliance for similar facilities. Former Regional Environmental Manager Jeanne Schmeichel, who has more than 30 years of environmental management experience, currently serves as National Director of Environmental Management for the Metals Recycling Business of Schnitzer, and will be available for consultation as well on this project.

The Department finds that the applicant has provided adequate evidence of technical ability to manage the project in a manner consistent with state environmental regulations.

7. TRAFFIC MOVEMENT

Traffic will enter the facility off Riverside Street and will stack behind the facility gates in 780 feet (4 lanes) of queuing space. There will be no vehicular parking on Riverside Street when the facility is open or closed. All traffic will be required to stop, weigh in, and log in prior to entering the facility. Once the vehicles are logged in and inspected, the vehicle will be directed to the portion of the facility suitable to receive the transported metal. After the metal is off loaded, the vehicle will return to the scales to be logged out and all traffic will leave the facility via a single exit lane onto Riverside Street.

The applicant has submitted a traffic impact study to determine the impact of the proposed development of the facility on local and through traffic in the area. This study was based on the existing traffic patterns from the existing Somerset Street facility and incorporates a 20% traffic increase to allow for projected growth in capacity at the proposed facility.

The results of this traffic study indicate:

A. The proposed facility is forecast to generate 19 additional trip ends for the weekday AM and 17 additional trip ends for the weekday PM peak hours. This number of trip ends does not trigger the need for a Maine DOT traffic permit;
B. The levels of service on Warren Avenue/Forest Avenue intersections where Riverside Street intersects will not be affected by the proposed development;
C. There are no "high crash locations" within the study area; and
D. Sight distances exceed Maine DOT and City of Portland minimum requirements.

The Department finds the applicant has made adequate provision for safe and uncongested traffic movement of all types into, out of, and within the solid waste facility.

8. FITTING HARMONIOUSLY INTO THE NATURAL ENVIRONMENT

The applicant has submitted documentation that the proposed facility does not contain protected significant wildlife habitat, fragile mountain areas, or rare or threatened and endangered plant or animal species. The facility is to be constructed in excess of 100 feet of the Presumpscot River floodplain and the associated wetland located to the west of the facility.

This documentation includes:

A. A letter from the Maine Department of Inland Fisheries and Wildlife (dated January 9, 2007) which indicates that there are no known threatened or endangered fisheries or habitat in the vicinity of the proposed development;

B. A letter from the Maine Department of Conservation (dated December 22, 2006) indicating that there are no known rare, threatened, or endangered plant species in the area of the proposed facility; and

C. A vegetative buffer enhancement and buffer management plan (Landscape Plans L1 and L2 dated February 18, 2008) has been included to describe maintenance of the existing vegetative buffer of the facility and the proposed additional plantings to further buffer the facility from area wetlands and floodplain.

The Department finds that the proposed facility will not unreasonably adversely affect protected natural resources and rare, threatened and endangered plant and animal species.

9. EXISTING USES AND SCENIC CHARACTER

The proposed facility will be located in the existing Riverside Street Industrial Park at the site of the former "Lucas Tree Expert Company". Existing uses in the area include vacant land (northeast), numerous commercial and light industrial uses (south and southeast), mixed commercial and residential uses (southeast of Riverside Street), and the Presumpscot River (north and northwest).

The facility will not accept putrescible wastes and is therefore not expected to present a bird hazard to aircraft.

The applicant has provided documentation from the Maine Historical Preservation Commission (dated February 15, 2008) indicating that there are no known historic or archeological properties or sites affected by the proposed solid waste facility.

There are no public viewing areas (as defined in the Solid Waste Management Regulations) at the proposed facility location.

The applicant has provided a noise study which indicates that noise expected to be generated at the facility will not exceed 75 dBA for daytime or nighttime hours at the facility property boundary, or exceed 70 dBA for daytime hours and 60 dBA for nighttime hours at any protected location. Department staff comments that a post-construction noise study must be conducted, which takes into account the simultaneous operation of all equipment that could reasonably be expected to operate simultaneously. The noise study must demonstrate compliance with the noise standards listed above.

Visual screening at the facility is provided by the existing natural topography and vegetation. The existing vegetative buffer will be enhanced with additional plantings to further screen the facility from view from the northwest from the Presumpscot River as described in Landscaping Plans L1 and L2.

The Department finds that the facility will not unreasonably affect existing uses and scenic character, provided that the applicant conducts a post-development noise study, which takes into account the simultaneous operation of all equipment that could reasonably be expected to operate simultaneously, that demonstrates compliance with the noise standards listed above.

10. AIR QUALITY

The applicant states that it has no equipment that is of sufficient power to require a Department air emissions license and that no putrescible materials will be accepted for

processing at the facility. The applicant notes that the on-site pavement will be maintained in a manner to prevent fugitive dust conditions.

The Department finds that the applicant has made adequate provisions to ensure that the facility will not unreasonably affect air quality, including impact from fugitive dust and nuisance odors.

11. SURFACE WATER QUALITY

The applicant has provided pre- and post-development stormwater management plans and calculations for stormwater leaving the site during 2, 10, 25 and 100 year storms. All stormwater structures, including the "wet pond" and a bioretention basin, are designed to manage run-off from 2, 10, and 25 year storms.

This facility will need a Multi-Sector General Permit or "MSGP" from the Department prior to the facility becoming operations to further characterize stormwater leaving the property as further described in Finding of Fact #20.

The facility will not discharge phosphorous to a waterbody most at risk from new development, as defined in 06-096 CMR Chapter 502.

The Department finds that the applicant has provided evidence that the proposed facility will not unreasonably adversely affect surface water quality.

12. OTHER NATURAL RESOURCES

The applicant has delineated 6 wetlands of varying size on the facility parcel. Of these wetlands, only 454 square feet of Wetland #4, is jurisdictional and will be impacted by this development. This determination is made by the Department under the provisions of the Natural Resources Protection Act (38 MRSA §§ 480-A to 480-Z), and by the U.S. Army Corps of Engineers. This small amount of wetland impact does not meet the permit thresholds that require a NRPA permit by the Department.

The Department finds that the applicant has made adequate provisions to ensure the facility will not have an unreasonable adverse effect on other natural resources in the municipality, or in neighboring municipalities.

13. SOIL TYPES

The applicant has had geotechnical evaluations performed at the site by R.W. Gillespie & Associates to determine if the soils are suitable for this proposed activity. The result of this determination is that the "native soils" in the area of the proposed construction are

generally filled land from 3-11 feet below the native soils (which are silty sands over stiff silty clays). Existing fill at the site is generally a mixture of silty sands to topsoils and inert materials including bricks, concrete and soil.

Construction activities will require the removal of organic rich soils and previously filled materials to a depth of approximately 3 feet. Suitable sub-base fill will be used provide an appropriate base for areas of building construction and pavement.

The applicant has provided an erosion and sediment control plan for both construction activity at the site and for post construction activity to prevent soil erosion during facility operations.

The Department finds that the facility will be constructed on soils suitable for the proposed use, and that adequate provisions have been made for erosion and sedimentation control.

14. RISK OF DISCHARGE TO GROUNDWATER AQUIFER

The proposed facility is not located on a significant ground water aquifer. In addition, the applicant has proposed the following measures to demonstrate the solid waste facility will not pose an unreasonable risk that a direct or indirect discharge to a significant ground water aquifer will occur at the facility:

A. There will be no disposal of wastes or water discharges, direct or indirect, at the facility;
B. All storage of metal will be either within the metal processing facility building, in suitable containers, or directly stored on paved storage pads;
C. All wastewater fluids from the facility will go to a licensed Publicly Owned Treatment Works or public sewer;
D. Petroleum stored in the 1,000 gallon above ground off road diesel re-fueling station will be provided with secondary containment, and measures will be taken to protect the fueling station from accidental vehicular traffic impact; and
E. The facility has submitted a Spill Prevention, Control and Countermeasures Plan ("SPCC") to minimize the impact and remediate any petroleum spill at the facility.

The Department finds that the proposed facility will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur.

15. UTILITIES

The applicant has provided for city water and sewer from the Portland Water District, and overhead utility lines at the facility. These existing utilities will be modernized and partially relocated to meet the needs of the proposed facility.

The Department finds that the applicant has made adequate provisions for utilities to service the solid waste facility without having an unreasonable effect on existing or proposed utilities in the municipality or areas served by those utilities as required in 06-096 CMR Chapter 400.4.L of the Solid Waste Management Rules.

16. FLOODING

The applicant has submitted the most recent Federal flood plain map showing that the facility is located more than 100 feet away from the 100-year flood plain associated with the Presumpscot River. In addition, all proposed development associated with the new facility is located thirty (30) feet in elevation above the flood elevation of the adjacent flood plain.

The Department finds that the facility will not unreasonably cause or increase flooding on-site or on adjacent properties nor create an unreasonable flood hazard to a structure.

17. SUMMARY OF FACILITY DESIGN AND OPERATIONS

Proposed hours of operation are between the hours of 6 AM and 6 PM Monday through Friday and 6 AM until 3 PM on Saturday, although the facility may operate occasionally and perform maintenance outside of the proposed hours. The facility will accept deliveries between 7 AM and 4 PM on Monday through Friday, unless special arrangements have been made with the facility operator. Any mechanized sorting, baling or processing of metal may only occur after 7 a.m. and before 6 p.m. Mondays through Saturdays.

Public access to the facility is by means of the entrance on Riverside Street. Traffic will stack behind the locked facility gates in 780 feet (4 lanes) of queuing space and will be required to stop and log in prior to entering the facility. Materials will be inspected, weighed in, unloaded and segregated into the various metal commodities by facility personnel as the metal is unloaded at the facility. Unacceptable materials will not be allowed to be unloaded at the facility. Records of incoming material content and weight along with the customers name are to be maintained at the Riverside PNE office.

Metals will be stored at the facility on impervious surfaces in bins, buildings or pads, with all materials stored to remain suitable for the intended use. No materials will be stored on soils or on any non-impervious surface, with no storage exceeding 2 years. Normal storage of materials will be approximately one week of production capacity. Estimated maximum ferrous pile height is expected to be 30 feet above grade.

The facility has provided a petroleum SPCC plan designed to prevent the spillage of petroleum products, effectively remediate with any spilled petroleum, notification to regulatory officials of spillage, and to inspect monthly the petroleum stored on site (fuel for vehicles and heating of the facility).

Contingency plans are provided for fire and explosion events, for injury, spill response, incident notification.

The facility will submit an annual report to the Department including a summary of all operations of the facility, a comprehensive review and report of activities, and any testing required as part or condition of approval of the facility license.

18. PROCESS DESIGN INFORMATION

A. Overview:

The facility is intended to operate as an integrated ferrous and non ferrous metal processing and recycling center. The facility will accept outside customer traffic as well as applicant-owned trucks. Various types of trucks will be accepted at the facility, including but not limited to container trucks and trailers, flat beds, car trailers, pick-up trucks, dump trailers, "walking floor" and "dead floor" trailers, drop deck and low bed trailers.

Traffic will enter the facility from Riverside Street and proceed through a sliding gate. Queuing lanes will allow for the temporary parking of incoming trucks off of Riverside Street as they wait to access the incoming material scale. Vehicles will be weighed and issued an incoming ticket before being directed to the appropriate unloading area. Loads will be inspected, graded, and unloaded, and the inspector will sign an inspection ticket. The unloaded vehicle will proceed to the outbound scale to be weighed, and then pull off the scale into the outbound staging area. The customer will then park and proceed into the office, submit the ticket, and receive payment before leaving the facility.

Large loads of ferrous metal will generally be dropped off on the reinforced concrete area at the west side of the facility, and will be unloaded with a front end loader, magnet, or grapple. Most non-ferrous metals will arrive in smaller trucks, which will be unloaded inside the metal recycling building. Larger loads of non-ferrous metal will be weighed

on the incoming scale and directed to the non-ferrous unloading area, where the material will be sorted and placed into specific graded stockpile areas.

In the processing building, materials will be sorted and placed into specific graded stockpile areas for sorting and grading into small mobile bins. Materials will be moved each day to the commodity warehouse area for storage until sold and loaded out via the truck dock. Outbound trucks will proceed to the outbound scale before exiting the facility.

Non-ferrous metals from the outside non-ferrous metal storage area will be moved with loaders, grapples, or yard trucks to the baling building on a regular basis. These materials will be baled and prepared for outbound shipping. Bales will be stored until sold and loaded onto trucks which will enter from the back of the baling building. Outbound trucks will proceed to the outbound scale before exiting the facility.

Prohibited or otherwise unacceptable materials will not be accepted or unloaded at the facility. In the unlikely event that unacceptable materials are unloaded at the facility, they will be temporarily segregated and stored on an impervious surface, and the delivering vendor will be required to remove them.

B. Acceptable Materials:

Materials proposed to be accepted and processed at the Riverside Industrial Park location are only materials suitable for processing or transferring at the Everett, MA facility. Acceptable materials include:

1) Ferrous scrap metals consisting of iron, steel, and cast iron in various forms such as:

    a) Prepared steel: material conforming to 5' x 2' size, thickness, and quality requirements. This requires no further processing;
    b) Unprepared steel: requires processing (shearing, cutting, baling) into prepared steel (above);
    c) Mixed steel needing sorting and processing to create marketable ferrous material;
    d) Cast iron materials (radiators, boilers, obsolete machinery) that is not steel;
    e) Light iron/white goods: appliances, roofing, and other ferrous materials generated from households and transfer stations;

f) Automobiles and obsolete vehicles that are processed within ME DEP, ME DOT and Federal requirements; and,
g) Obsolete machinery and other equipment generally from manufacturing operations processed within state and federal requirements.

2) Non-ferrous scrap metal including:

a) Brass,
b) Copper,
c) Aluminum,
d) Nickel,
e) Stainless steel,
f) Any other non-ferrous recyclable metals.

C. Prohibited Materials:

Materials not accepted at the facility include but are not limited to:

1) Hazardous material,
2) Sludge and septage material,
3) Asbestos material, including transite pipe
4) Contained gaseous material,
5) Infectious materials,
6) Explosives.

19. CIVIL AND CRIMMINAL DISCLOSURE STATEMENT

PNE is a limited liability company, incorporated in Delaware, and authorized to do business in Maine. The managing members of PNE are Proleride Transport Systems, Inc. and TTS Recycling LLC, each with a 50% interest in PNE. Both Proleride Transport Systems, Inc. and TTS Recycling LLC, are indirect and wholly-owned subsidiaries of Schnitzer Steel.

Parent company Schnitzer Steel, through its subsidiaries, wholly owns and operates facilities in the Northeastern United States under the names of "Schnitzer Northeast" and "New England Metal Recycling (NEMR)".

Schnitzer Steel, and its subsidiaries have filed complete civil and criminal disclosure statements in accordance with 06-096 CMR Chapter 400.12 of Solid Waste Management Rules. Specifically, Schnitzer (and/or through the former affiliate Prolerized New England Company (predecessor to PNE) and Patriot Metals Company):

a. Pleaded no contest to a misdemeanor charge of disposal of solid waste at an unlicensed facility in Rhode Island on January 9, 1989 and paid a fine of $125,000 and removed the material (#P3890387 & #P3890386).
b. Entered into administrative consent agreements and resolved the disposal of auto shredder residue in Salem, MA #CA 2003-02055-A, dated July 2006.
c. Entered into an administrative consent agreement and resolved the breach of contract claim for the dredging of Boston Harbor in Suffolk Superior Court #CA 01-2582-G, dated May 2003.
d. Was issued a Notice Of Responsibility on November 16, 1999 to conduct an assessment and clean up of oil or hazardous material discharge by MA DEP and resolved the matter on October 23, 2003.

The Department finds that the applicant has filed complete disclosure statements and through making all reasonable efforts to resolve environmental damage and paying fines where required, has demonstrated clear and convincing evidence of rehabilitation.

20. OPERATIONS MANUAL

The applicant has submitted an operations manual for the facility addressing operating procedures, prepared in accordance with applicable provisions of 06-096 CMR Chapter 409 of the Solid Waste Management Rules. The operations manual for the facility includes a Hazardous and Special Waste Handling and Exclusion Plan, an SPCC plan, and will include a Multi Sector General Permit or MSGP prior to the facility becoming operational.

A part of the operations manual includes the Environmental Monitoring Plan for the facility that includes periodic soil and groundwater characterization at the facility. Department staff comments that the Environmental Monitoring Plan does not contain adequate provisions to characterize run-off following a ½ inch or greater storm event. Specifically, the applicant must characterize stormwater tri-annually after a ½ inch or greater storm event for total petroleum hydrocarbons after on-site treatment and prior to detention in the detention basin, such requirement to be further delineated in the MSGP, with all results of environmental monitoring to be included in the facility annual report.