



RECEIVED

APR 28 2004

TOWN OF PELHAM, NH

CMA ENGINEERS, INC.
CIVIL/ENVIRONMENTAL ENGINEERS

35 Bow Street
Portsmouth, New Hampshire
03801-3819

Phone: 603/431-6196

Fax: 603/431-5376

E-mail: info@cmaengineers.com

Web Site: www.cmaengineers.com

April 27, 2004

Board of Selectmen
Town of Pelham
Town Office
6 Main Street
Pelham, NH 03076

**Re: Judge J. Albert Lynch Park, Mammoth Road, Pelham
CMA #547**

Dear Board Members:

The purpose of this letter is to present our observations from a site visit to the proposed Judge J. Albert Lynch Park now under construction by the Town of Pelham. The undersigned visited the site at the request of the Town on Friday April 16, 2004, accompanied by Town Administrator Tom Gaydos and Selectmen Harold Lynde and Jean-Guy Bergeron. The purpose of the site visit was to gather information to begin to review regulatory issues with respect to buried tires and site erosion and sedimentation issues. During the site visit, town representatives also requested that CMA Engineers review and comment upon certain engineering issues pertinent to the on-going park construction.

I. Background

The Town of Pelham is in the process of constructing an athletic facility consisting of two rectangular playing fields at a site located off of Mammoth Road in the northwestern area of Pelham. Construction has been proceeding on the basis of informal sketches of the layout of the facility. Two rectangular playing fields have been rough-graded, and associated site work is in process.

Test pits excavated by the Town's contractor in an effort to locate suitable soil conditions for a stormwater retention pond and irrigation water source indicated the presence of old buried tires on Town-owned land. The buried tires are located in an old trolley easement off of Mammoth Road, immediately south of an existing auto salvage operation. Although the edge of waste has not been identified, the "footprint" of the tire landfill appears to be on the order of 0.5 acres in area. The tires excavated from the test pits were partially backfilled in place, and the Selectmen contacted CMA Engineers to evaluate the site with respect to regulatory compliance. Adjacent to the buried tires are several areas where tires are present on the surface, both in the open and in areas where small trees have grown up around and through the tires.

II. Regulatory Issues

a. Regulatory Status of Buried Tires

Tires deposited in an underground disposal area after 1981 in New Hampshire are deemed to be solid waste under state regulations, and the tire disposal area is deemed to be a landfill, subject to closure requirements specified in the New Hampshire Solid Waste Rules. However, for facilities which did not accept tires after 1981, the buried tires are not deemed solid waste, and the facility does not come under the purview of the Solid Waste Rules. New Hampshire initially began to regulate solid waste in 1981. There are numerous landfill sites throughout New Hampshire which are dealt with from a regulatory standpoint as pre-1981 sites. Pre-1981 sites are required to comply with New Hampshire's groundwater quality regulations, but are not required to comply with the solid waste regulations which specify monitoring, closure and post-closure requirements.

Town records indicate that the Town of Pelham acquired the property containing the buried tires in late 1984 from a Joseph B. Grossman. We understand that the Town did not operate a tire landfill operation on the site after the property was acquired.

The buried tires remaining exposed from the Town's recent test pits obviously pre-date 1981 based on the wheel types, tire types and data recorded from the tire walls. The memorandum presented in Attachment 1 indicates that one tire indicated a dated code, with a manufacturing date of 1964, and the other tires inspected all lacked a DOT code which was required on all tires as of 1969. It is apparent that the buried tires inspected are pre-1981. We recommend that this information be forwarded to the NH Department of Environmental Services for a determination as to the sufficiency of this data establishing the site as a pre-1981 landfill.

Pre-1981 landfill sites are required to be "registered" with the NH Department of Environmental Services by the provisions of Env-Wm 309 (see Attachment 2). This requires the preparation of a brief engineering report which presents what is known about the site, including the specific information required by the NHDES rules. Once this information is submitted to NHDES, a decision will be made as to whether or not monitoring of downgradient groundwater quality will be required. The site registration application could present the case that the setting is not sensitive with respect to potential downgradient receptors and the likelihood of a significant groundwater or surface water quality impact from a 25-40 year old tire landfill is very low. It should be noted that New Hampshire does not directly regulate contamination of in-place soils, as this contamination is dealt with under the provisions of groundwater regulations.

After the registration process is completed and NHDES has provided its response, the Town of Pelham may wish to install on-site cover soil over the buried tire test pit locations such that the buried tires and rims are not exposed permanently.

Recommendation #1 – We recommend that the Town authorize the preparation of a site registration application for the buried tires, in accordance with NHDES regulations.

b. Surface Tires

The tires present on the surface of the ground are solid waste, present on the Town's land. They cannot be buried on the site, as this would constitute operation of a new landfill, needing to meet all current permitting requirements. The surface tires need to be removed from the site and disposed of properly.

Recommendation #2 – We recommend that the Town remove the tires exposed on the ground surface and dispose of the tires and rims properly in accordance with current solid waste disposal practices.

c. Site-Wide Erosion and Sedimentation Control

We understand that an NHDES "Site Specific" permit under the provisions of Env-Ws-415 (RSA-485-A:17) has not yet been obtained for the on-going construction activities. Such permits are required for all construction activities which result in the disturbance of more than 100,000 square feet. Although we have not determined the existing area of disturbance, it is apparent that the construction has and will affect substantially more area than that threshold. The application process requires engineering plans and a report which outline the measures to be taken to control erosion and sedimentation during and after construction. NHDES will review the application, provide comments and often request modifications, and issue an approval.

A major storm event with over 7 inches of rain preceded our recent site visit by a week or two. On April 16, we observed three areas of the active construction site which had been subjected to significant erosion during recent storm events, resulting in sedimentation impacts to an on-site constructed wetland and to a local unnamed brook at a brook crossing to the north of the site. Also, part of a gravel road on town land to the west of the Lynch park construction area had eroded into the adjacent streambed. The existing erosion should be remediated in a permanent fashion, in accordance with engineering input.

In addition to the state site specific permit, the site requires a Federal stormwater permit under NPDES construction general permit. This requires the submittal of an engineering report prepared in a prescribed format. Review comments in this regulatory process are infrequent.

Recommendation #3 – It is recommend that the Town authorize an engineer to prepare an application for a site specific permit and a Federal stormwater permit prior to completing additional substantive sitework.

We would note that we have not reviewed the status of wetlands permits issued for the on-going construction which is impacting wetlands at stream crossings and at the constructed wetlands adjacent to the roughed-in playing fields.

We would also note from a regulatory standpoint that the planned second vehicular access to Mammoth Road (south of the main park access road) would require a wetlands permit to fill in an existing small pond and drainage swales adjacent to Mammoth Road. Obtaining such a permit to dredge and fill a wetland typically requires documentation that there are not

alternatives which negate or minimize the need to fill wetlands. Since the site could rely on one access road to Mammoth Road from an engineering standpoint, obtaining a wetlands permit for the second access road may not be consistent with NHDES regulatory requirements.

III. Engineering Issues

During our site visit, a number of engineering issues with respect to the design and construction of the park were apparent. We would note that the parcel is certainly developable for its intended uses as an athletic facility and that much good work has been accomplished to date. As the plan and the construction are finalized, we suggest that a number of engineering issues be addressed, as outlined below.

a. Use of the Tire Landfill

We believe that, in all likelihood, the most reasonable resolution of the issues associated with the buried tires will be to leave them in place in accordance with NHDES regulations. The excavation of the tires would be costly, due both to the need to dispose of the tires properly, and to test and dispose of the soil in accordance with NHDES regulations.

Assuming that the tire landfill can remain in place, we do not recommend that the "footprint" of the tire landfill be used for either the construction of a stormwater pond, or for the construction of a gravel parking area. Placing loads on top of buried tires inevitably results in soil slowly dropping down into the buried tires, and the tires slowly moving upwards until they are exposed at the surface. Whole tires are also inadequate as sub-base for access roads, whether gravel or paved, for the same reason.

Not using the tire landfill area would require that the parking areas to be provided be re-evaluated. We believe that there is more than sufficient room on the Town-owned property to accommodate parking for the proposed athletic fields without using the tire landfill footprint.

Recommendation #4 - If the tires remain in place, we recommend that the tire landfill "footprint" not be used for vehicular access. We also recommend that the area not be readily accessible to the public such that exposure of the public to surface soils does not occur.

b. Access Road

Project planning to date has included two access roads to Mammoth Road, and one back access road to Keyes Hill Road. The southernmost of the two proposed access roads to Mammoth Road has a number of distinct drawbacks. The sight distance, particularly to the south, is not as advantageous for the southernmost access point. This location would require a significant wetlands permit. The buried tires would need to be removed in whole or in part at significant cost to the Town. The right-of-way is adjacent to an existing operating junkyard which would require visual screening at significant cost.

It appears that the northernmost access point to Mammoth Road would provide the safest and least costly access to the proposed park.

Recommendation #5 – One access road from Mammoth Road should be provided. It is recommended that plans for the southernmost access road located in the old trolley easement be abandoned due to intersection sight distance and visual, wetlands and landfill impacts.

c. Irrigation Water Supply

We understand that a bedrock well was installed at the site with water quantities suitable for drinking water uses but inadequate for field irrigation. We would recommend that the installed well be utilized for future drinking water purposes, and that a series of test pits be excavated in the vicinity of brooks to the north and west of the athletic fields in an effort to locate a shallow well in unconsolidated (non-bedrock) deposits below year-round groundwater levels. If soil conditions allow, well tile could be installed to allow withdrawal of an appropriate quantity of water for irrigation purposes. This would be significantly less costly than excavating a pond for accomplishing the same purposes. We believe that a stormwater retention pond will likely not be needed due to the lack of any proposed impervious surfaces.

Recommendation #6 – It is recommended that test pits be excavated in an effort to locate suitable conditions for the installation of a shallow well in consolidated materials above bedrock for playing field irrigation purposes.

d. Drainage/Grading Design

The lower of the two athletic fields under construction is graded such that stormwater runoff from the north and west of the field, and from the higher field immediately to the south will run onto the field from off of the playing surface. This is likely to create ponded conditions during and immediately after significant rainfall events. The site design could easily be modified to have positive drainage between the two fields and to the north of the lower field to direct drainage to the constructed wetland to the northwest of the athletic fields. This could be accomplished with surface drainage swales where there is adequate room, or with a combination of swales and drain pipes if the swales would usurp too much space from the playing fields.

Recommendation #7 – It is recommended that the lower of the two athletic fields be provided with positive drainage by swales or a combination of swales and drainage pipes to ensure that stormwater runoff does not flow onto the playing field from any direction.

e. Engineering Design

In order to assure that the final constructed park meets the Town's objectives, it is recommended that the Town of Pelham retain an engineer to prepare a final design plan to assist the contractor in the proper completion of the work. A site plan is required in order to apply for the site specific permit, and is necessary in our opinion to finalize site grading and drainage. An

engineering design need not add significantly to the scope of the construction project as the site should easily accommodate the proposed improvements with only minor modifications.

Recommendation #8 – We recommend that the Town retain an engineer to prepare a final design of the athletic fields and ancillary site improvements.

Despite the list of recommendations above, we would reiterate the fact that the Town's volunteer forces and the Town's contractor have done a great deal of good work towards creating a fine athletic facility for the long term use of the Town. The recommendations above will "dot the i's and cross the t's" and assure full regulatory compliance as the facility's construction is completed.

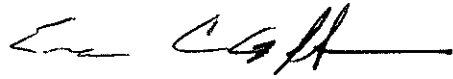
CMA Engineers appreciates the opportunity to assist the Town of Pelham in this capacity. We would be pleased to continue to assist in pursuing regulatory compliance or in assisting with the final design of the park. If you have questions or comments concerning the above, please don't hesitate to contact us.

Very truly yours,

CMA ENGINEERS, INC.



Craig N. Musselman, P.E.
President



Evan C. Griffiths, P.E., Ph.D.
Project Engineer

CNM/ECG/cak

Encl.

cc: T. Gaydos, Town Administrator

MEMORANDUM

TO: Craig Musselman

FROM: Evan C. Griffiths, Ph.D., P.E.,

RE: Abandoned Tires at Pelham, NH Park Site
CMA #547

DATE: April 20, 2004

I did some investigation regarding the abandoned tires at the proposed park site in Pelham, NH. I recorded the data on the sidewalls of seven tires.

Six of the seven tires lacked a DOT tire code. The DOT tire code became a requirement in 1969. Prior to 1969 the DOT code was optional. The first 2-3 letters identify the manufacturer of the tire, the middle set of numbers/letters are available for use by the manufacturer at their discretion, and the last 3-4 numbers indicate the date of manufacture.

1. Only one tire, the Atlas Cushionaire, had a DOT Code (PHL 9 ABC 2264), which means it was manufactured the 22nd week of 1964. See attached picture.

Anecdotal evidence regarding some of the other tires was also gathered.

2. The Allstate XST (3-36410-3A, G0575740) was last made in the early 60's.
3. The General Power Jet (9.00-20 DK3376-3) was really popular in the 50's and 60's and last made in the mid 1980's. Since there was no DOT code on the tire, this tire was probably made prior to 1969.

Several other tires are also described, but I could not find any information on them.

4. Coop Level SPD, Tubless Nylon, 8.55-14
5. Super Shell Snowshoe G70-14
6. Delta Super Sure Trac 3251-403
7. Dean Polaris G78-14



NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

Env-Wm 308.06 Compliance Report and Temporary Waivers.

(a) The compliance report required by Env-Wm 308.05(d)(1) shall identify all noncomplying aspects of facility operations and provide either:

(1) A plan and schedule for achieving compliance before issuance of a permit based on the application filed pursuant to Env-Wm 308.05(d)(2), if the facility does not intend to close when interim status expires; or

(2) A plan and schedule for achieving compliance through implementation of a closure plan pursuant to Env-Wm 2806, including post-closure remedial activities if applicable based on site conditions, if the facility shall not continue to operate beyond the expiration of interim status.

(b) For any non-complying aspect of facility operations, a waiver pursuant to Env-Wm 202 shall be required for operations under interim status.

(c) Any waiver issued shall be subject to implementing a plan to achieve full compliance before the expiration of interim status.

Source. (See Revision Note at PART Heading Env-Wm 101)
#5172, eff 7-1-91; ss by #6535, INTERIM, eff 7-1-97, EXPIRES:
10-29-97; ss by #6619-B, eff 10-29-97

Env-Wm 308.07 Expiration of Interim Status. Interim status shall expire if:

(a) The facility fails to comply with the interim status operating requirements in Env-Wm 308.05;

(b) The department issues or denies a permit based on the application filed pursuant to Env-Wm 308.05(d)(2); or

(c) The facility closes in accordance with a plan and schedule for closure submitted pursuant to the provisions of Env-Wm 308.05(d)(3) and approved by the department pursuant to Env-Wm 2806, including completion of post-closure remedial activities if applicable based on site conditions.

Source. #6619-B, eff 10-29-97

Env-Wm 308.08 Interim Status Facility Closure. Any facility subject to this part shall be required to implement full closure in accordance with Env-Wm 2806 if:

(a) The facility fails to submit registration pursuant to Env-Wm 309;

(b) Interim status expires pursuant to Env-Wm 308.07; or

(c) A provision for closure in Env-Wm 2706 applies.

Source. #6619-B, eff 10-29-97

PART Env-Wm 309 REGISTRATIONSEnv-Wm 309.01 Purpose.

(a) The purpose of registration of landfills that stopped receiving waste before July 10, 1981 is to provide the department with:

(1) Documentation demonstrating that the criteria for exemption in Env-Wm 101.04 applies; and

NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

(2) Information to identify whether an exempt landfill poses a potential threat to human health and the environment which requires action under the provisions of other state or federal regulations.

(b) The purpose of registration of interim status facilities is to notify the department of facility existence and to initiate the permitting or closure process pursuant to Env-Wm 308.

Source. (See Revision Note at PART Heading Env-Wm 101)
#5172, eff 7-1-91; ss by #6535, INTERIM, eff 7-1-97, EXPIRES:
10-29-97; ss by #6619-B, eff 10-29-97

Env-Wm 309.02 Applicability. The rules in this part shall apply to:

(a) Persons owning landfills, including asbestos waste sites, which stopped receiving waste before July 10, 1981 and claiming exemption from the solid waste rules pursuant to Env-Wm 101.04; and

(b) Persons owning facilities requiring interim status pursuant to Env-Wm 308.

Source. (See Revision Note at PART Heading Env-Wm 101)
#5172, eff 7-1-91; ss by #6535, INTERIM, eff 7-1-97, EXPIRES:
10-29-97; ss by #6619-B, eff 10-29-97

Env-Wm 309.03 Registration Requirement.

(a) Persons identified in Env-Wm 309.02 shall register in accordance with (b) below.

(b) The following registration information shall be filed with the department in accordance with Env-Wm 303:

(1) Facility identification:

(2) Identification of parties;

(3) If a written permit has been issued by the department for any other activity at the facility or site, the following information for each permit so issued:

a. The permittee's name, mailing address and telephone number;

b. The permit number;

c. The type of permit or description of the activity(s) authorized by the permit; and

d. The date of issuance;

(4) The operating status of the facility, including:

a. Whether active or inactive;

b. The date the facility commenced operations; and

c. The remaining facility life expectancy; or

d. The date on which the facility ceased active operation;

(5) The type(s) of waste management activity(s) conducted at the facility, including:

a. Collection;

NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

- b. Storage;
 - c. Transfer;
 - d. Processing;
 - e. Treatment; and
 - f. Landfilling;
- (6) Type of service provided by the facility, as defined in Env-Wm 102, namely "limited" or "unlimited";
 - (7) The type(s) of wastes handled at the facility;
 - (8) Identification of the service area, including a list of all New Hampshire communities and areas outside the state served by facility;
 - (9) For interim status facilities, the capacity of the facility as follows:
 - a. Design capacity of processing and treatment equipment;
 - b. Quantity of waste managed at the facility, on average annually, since first commencing operations; and
 - c. Storage capacity;
 - (10) For inactive landfills, an estimated volume of waste at the facility;
 - (11) For inactive landfills, a description of the type and depth of cover material placed over landfilled waste;
 - (12) If the facility is active, the days and hours of operation; and
 - (13) A report of any environmental assessment done of the facility.
- (c) Notification provided the department in accordance with Env-Wm 315 of rules adopted under RSA 149-M effective July 1, 1991 shall constitute registration under this part.

Source. (See Revision Note at PART Heading Env-Wm 101)
#5172, eff 7-1-91; ss by #6535, INTERIM, eff 7-1-97. EXPIRES:
10-29-97; ss by #6619-B, eff 10-29-97

Env-Wm 309.04 Registration Processing.

- (a) Following receipt of registration from the owner of a landfill that stopped receiving waste before July 10, 1981, the department shall review the information submitted and, if it determines that the landfill is a known or suspected source of groundwater or surface water contamination, the department shall notify the facility owner of the requirements of RSA 485.
- (b) Following receipt of registration from an asbestos waste site that stopped receiving waste before July 10, 1981, the department shall notify the site owner of requirements for site closure and post-closure maintenance in compliance with RSA 147-A, RSA 141-E, 40 CFR Part 61, 29 CFR Part 1910, and 29 CFR Part 1926.
- (c) Following receipt of registration from a facility seeking interim status, the department shall determine whether the facility qualifies for interim status and so notify the facility owner in accordance with Env-Wm 308.

NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

Source. (See Revision Note at PART Heading Env-Wm 101)
#5172, eff 7-1-91; ss by #6535, INTERIM, eff 7-1-97, EXPIRES:
10-29-97; ss by #6619-B, eff 10-29-97

PART Env-Wm 310 FACILITY APPLICATION FEES

Statutory Authority: RSA 149-M:7

Env-Wm 310.01 Applicability. The rules in this part shall apply to persons filing applications for permits and permit modifications.

Source. (See Revision Note at PART Heading Env-Wm 101)
#5172, eff 7-1-91; ss by #6535, INTERIM, eff 7-1-97, EXPIRES:
10-29-97; ss by #6619-B, eff 10-29-97

Env-Wm 310.02 Standard Permit Application Fees for New Facilities.

(a) The permit application fee (PAF) for a standard permit for a facility without a temporary permit shall be:

(1) Zero if the facility is scheduled to close; or

(2) The sum of the minimum base fee (MBF) as specified in (b) below plus the product of a capacity factor (CF) as specified in (c) below multiplied by a lifespan index (LI) as specified in (d) below, plus the cost of completing a background investigation (BI) pursuant to Env-Wm 316, plus the cost of public notice and hearing (PNH) pursuant to Env-Wm 304, as illustrated in the following equation:

$$PAF = MBF + (CF)(LI) + BIF + PNH$$

(b) The MBF shall be the largest fee specified in Table 310-I which corresponds to any function encompassed at the facility:

Table 310-I

MBF for Single Function Facilities	
Facility Type	Minimum Base Fee (MBF)
Landfill, lined	\$15,000
Landfill, unlined	\$ 5,000
Processing/Treatment	\$ 2,000
Collection/Storage/Transfer	\$ 2,000

(c) The CF shall be determined from Table 310-II based on the design capacity of the facility in tons per day (TPD), as demonstrated in the application:

Table 310-II

CF Based on Facility Capacity	
Facility Capacity (TPD)	Capacity Factor
601 or more	\$20,000
301 to 600	\$10,000
121 to 300	\$ 5,000
31 to 120	\$ 2,000
30 or fewer	\$ 1,000