

415-A-4

Ocean Ave.

Quarry - Zero change

Dragon Products

on Spreadsheet

CITY OF PORTLAND, MAINE
MEMORANDUM

TO: Chair Caron and Members of the Portland Planning Board

FROM: Sarah Hopkins, Development Review Manager

DATE: April 20, 2001

RE: Dragon Products Contract Zone

Dragon Products has requested an interim workshop with the Planning Board to provide an update on the research done to date regarding the proposal to blast ledge at the quarry on Ocean Avenue. Since the previous workshop on this contract zone proposal, the applicant has made progress toward answering many of the questions raised by the Planning Board and neighbors.

Additionally, the City has hired Mark Peterson of Peterson-Rabasca, a geotechnical engineering firm to review Dragon's proposal and advise the City on potential impacts and concerns. Mr. Peterson will be available at the workshop to discuss with the Board his findings to date and to outline the additional work needed to resolve the outstanding questions.

Since the last workshop, the contract was amended to include a streamlined process for minor damage complaints from neighbors, as well as the addition of an annual review by the City of Portland. Attachment 1 includes the revised contract with exhibits.

Included as Attachment 2 is a geologic assessment of the proposed quarry expansion conducted by Jacques Whitford at the request of Dragon Products. Attachment 3 is a comparison chart created by Dragon, showing the existing versus proposed conditions at the Dragon site.

Attachments

1. Draft Contract with Attachments
2. Geologic Assessment by Jacques Whitford
3. Comparison Chart

DEP Quarry Standards

DRAGON PRODUCTS COMPANY, INC. AGREEMENT

This document is an Agreement made by **DRAGON PRODUCTS COMPANY, INC.**, a corporation with a business address of 38 Preble Street, P.O. Box 1521, Portland, Maine 04104 ("DRAGON").

WHEREAS, DRAGON requested a rezoning of its property located at Ocean Avenue, in the **City of Portland**, a Maine municipality located in Cumberland County and State of Maine ("CITY" or "Portland") in order to permit mining operations on the site of its legally existing nonconforming concrete plant; and

WHEREAS, DRAGON'S property is shown on Portland Assessor's Parcels: Map 416-A, Block A, Lot 2; Map 417, Block A, Lots 4, 5, 10 and 11; and Map 418, Block A, Lots 1, 3, 4, 5, 6, 9 and 10 ("Property"); and

WHEREAS, the Portland Planning Board, pursuant to 30-A M.R.S.A. §4352(8), and after notice and hearing and due deliberations, recommended the rezoning of the Property, subject, however, to certain conditions; and

WHEREAS, the CITY, by and through its City Council, has determined that the rezoning would be pursuant to and consistent with the CITY'S comprehensive land use plan and consistent with the existing and permitted uses within the original R-3 zone; and

WHEREAS, the CITY has determined that because of the unusual nature of the proposed development it is necessary or appropriate to impose the following conditions or restrictions in order to insure that the rezoning is consistent with the CITY'S comprehensive land use plan; and

WHEREAS, the following plans and documents are attached to this Agreement and incorporated into this Agreement by reference:

- Attachment 1: City Zoning Map change (to be prepared by City)
- Attachment 2: Quarry Plan View (F-1) dated June 5, 2000
- Attachment 3: Plan View of Proposed Berm (F-2) dated June 5, 2000
- Attachment 4: Ocean Avenue Longitudal and Cross Sections (F-3) dated June 5, 2000
- Attachment 5: Reclamation Standards for Portland Quarry
- Attachment 6: Maine DEP Performance Standards for Quarries (20 pages)
- Attachment 7: Blasting Plan (5 pages)
- Attachment 8: Protocol for Complaints and Resolutions

NOW, THEREFORE, in consideration of the zone change made by the CITY, DRAGON hereby agrees as follows:

1. Site Development: The Property shall be developed substantially in accordance with the site plans and elevations shown on Attachments 2-4. DRAGON shall:
 - a. Remove the existing batch plant and silos, truck fuel depot, conveyor, concrete retaining wall and temporary ditch, and rock crushing facility.
 - b. Relocate its batch plant and related operations no closer than 350 feet to Ocean Avenue, in the "approximate limit of operation area" shown on Attachment 2.
 - c. Locate the new rock crusher facility no closer than 750 feet to Ocean Avenue in the operations area shown on Attachment 2, and enclose any rock crushing operations within an insulated building.
 - d. A new earthen berm, fence, paved entrance, drainage ditch, and climbing lane will be constructed along the west side of Ocean Avenue as shown on Attachments 2-4. The final berm design, landscape planting and schedule will be determined by the Planning Board in its site plan review, after consultation with the City Arborist.

e. DRAGON shall relocate the entrance driveway to the premises, and shall create a slip lane for slow-moving traffic along Ocean Avenue as shown on Attachments 2 and 3. To the extent that any of the new roadway or drainage improvements are located on land of DRAGON, it will deed that portion of its land to the CITY.

f. Develop a stormwater management plan for the entire site, including all improvements along Ocean Avenue and within the operations area according to MeDEP performance standards.

Provided, however, that such development shall be subject to full Site Plan review and approval by the Planning Board, which may approve modifications to these plans as part of the review process.

2. Authorized Uses: DRAGON shall only be authorized to establish and maintain the following uses or any combination of the uses on the Property, provided that such operations are limited to the areas shown on Attachment 2 and further provided that such operations meet the standards set forth in this Agreement and established by State and Federal law:

a. Mining of stone in the "quarry expansion area", including blasting, and crushing of stone for use in manufacture of concrete on the site.

b. Concrete manufacture and processing.

c. Outdoor storage of materials, including rock piles utilized in the concrete manufacturing, material manufactured on the site, including concrete blocks produced as an incidental part of its operations, and related machinery and equipment.

e. All concrete trucks shall be hosed down before exiting the operations area on the Property to reduce the amount of debris and residue tracked onto Ocean Avenue.

f. Vehicle repair and storage and office operations within the existing Dragon Products Company garage facilities (3 bays) shown on Attachment 2.

3. Timing of Uses on Property: Prior to the commencement of any blasting, mining or rock crushing, Dragon shall obtain from the City a Certificate of Occupancy, verifying that all site alterations described in Section 1 and as otherwise approved by the Planning Board have been completed. DRAGON shall discontinue use of its existing batch plant within 30 days of its new batch plant being fully operational, and shall remove its existing batch plant from the Property within 180 days of its use being discontinued.
4. Time Limit for Certain Site Improvements: Dragon shall apply for Site Plan Approval for the site changes described in Section 1 (a, c-f) (all site improvements except the rock crusher) within one year of the rezoning of the Property by the City Council, and shall complete all approved site improvements within two years of final Planning Board approval of the site plan, or this contract shall automatically terminate and the Property shall automatically revert to the R-3 or any successor zone classification.
5. Natural Buffer Areas: The existing trees and other natural vegetation in the "existing wooded buffer strip" on the south side of the site and the "existing vegetation" on the north side of the site shown on Attachment 2 shall remain in their natural state. These areas, or any portions of them, may not be separately conveyed apart from the Property as a whole, while any blasting, mining, concrete manufacturing, or other uses not consistent with the underlying R-3 or successor zone are being conducted on the Property.
6. Limits on Blasting: DRAGON shall limit the total number of blasts on the site to a maximum of twenty (20) individual blasts per year. In no event shall more than four (4) individual blasts per month be permitted. All blasting and rock crushing on the site shall occur on Monday through Friday between the hours of 9:00 a.m. and 4:00 p.m. and between the months of March and November. No blasting or warning signals for blasting shall be done between 7:00 a.m. and 9:00 a.m. or between 2:00 p.m. and 4:00 p.m. on any day when the City of Portland public schools are in session.
7. Blasting Operations: DRAGON agrees to comply with all requirements of the Maine Department of Environmental Protection regarding mining operations on its site, including those

set forth in 38 M.R.S.A. §§490-W to 490EE (Attachment 6) as it may be amended, except where municipal standards adopted by the CITY which are not otherwise described in this Agreement are more restrictive, the CITY standards shall apply. The MeDEP standards shall include, but not be limited to:

- a. Blasting standards described in §490-Z (14), including preblast surveys as described in subsection (F), sound standards described in subsection (H), vibration standards described in subsections (I) - (K), and blasting records as described in subsection (L), including records of peak particle velocity and decibels for each blast.
- b. Dust standards described §490-Z (12)
- c. Reclamation standards described in §490-Z (13)

All blasting shall also be conducted in accordance with the Blasting Plan, Pre-blast Inspection Procedures, Drilling and Blasting Procedures Blasting Records standards shown on Attachment 7.

8. Complaint Protocol: DRAGON shall maintain the complaint resolution protocol and City reporting protocol described in Attachment 8. Furthermore, in the event of prolonged and chronic complaints by area residents of substantial noncompliance with the terms of this Agreement by DRAGON, then the CITY may ask the MeDEP to review DRAGON's blasting operations for compliance with this Agreement. If DRAGON fails to implement any changes recommended by the MeDEP within a reasonable time period, then: (a) the CITY may hire third-party blasting engineers to conduct a 'peer review' of DRAGON's blasting operations and compliance with this Agreement, and the CITY's reasonable costs for such engineers shall be reimbursed by DRAGON; and/or (b) the CITY may seek to enforce this Agreement pursuant to Section 17.

9. Reclamation of Site: Reclamation of the Property into a vegetated, useable condition shall be completed substantially in accordance with the reclamation plan described in Attachment 5 within 2 years of completion of the mining on the Property; provided, however, that such plan shall be subject to full review and approval by the Planning Board before being implemented.

10. City Zoning Standards: DRAGON shall meet all IL zoning standards contained in sections 14-234, 14-235, and 14-236 of the Portland City Code, except as follows:

- a. No new fence shall be required pursuant to 14-235(6) except as shown on Attachments 2-4 and as may be required by the Planning Board during final site plan review.
- b. Outside storage of sand and stone shall not be required to meet the standards of §14-235(10).
- c. Vibration standards in §14-236(3) shall not apply to blasting, and IM vibration standards found in §14-252(3) shall apply to all other operations.
- d. Noise standards in §14-236(1) shall not apply to blasting.
- e. The existing concrete batch plant shall be allowed to generate 78 decibels along the Ocean Avenue frontage until it is removed from the Property, but the new concrete production building shall comply with §14-236(1) when measured at property lines of the Property.

11. IL Zoning Standards: Except as expressly modified in this Agreement, the use and occupancy of the Property shall be governed by and comply with the IL zoning provisions of the Land Use Code of the City of Portland and any applicable amendments thereto or replacement thereof.

12. Parcels east of Ocean Avenue: As long as it operates its existing concrete batch plant, DRAGON shall maintain ownership of the parcels east of Ocean Avenue across from the Property, more particularly described as Tax Map 418-A, Block A, Lots 5 and 12 in the records of the Assessor of the City of Portland.

13. Liability and Claims: Dragon shall be responsible for all damages determined to be caused by its mining and concrete manufacturing operations. Dragon will acknowledge receipt of any written claim within 2 business days of receipt of the claim in writing. Claims shall include a written estimate of the repair costs by an independent party whenever possible. Claims will be much easier to investigate if the claimant has had a 'pre-blast survey' done of their property as described in section 7 above.

For all property damage claims of \$2,500 or less, Dragon will handle the claim in a 'self-insured' manner. Dragon will promptly inspect the alleged damage with the claimant within 5 business days of receipt of the claim assuming the claimant provides Dragon with reasonable access to the damaged property. Where clear evidence is present to show that the property damage is the result of Dragon activities, full restitution shall be paid based on a written estimate of repair costs by an independent third party or for such amount as can be agreed to be Dragon and the claimant. Dragon shall have the option to make the repairs itself if it believes the written estimate of repair costs to be too high. Dragon will pay the restitution to claimant within 10 business days of the inspection or Dragon will do the repair work itself within 45 days of the inspection, assuming the claimant cooperates by providing reasonable access to the damaged property. Dragon will provide the claimant a written reason why no restitution is offered within 10 business days of the inspection if it does not believe that it is responsible for the damage. The resolution of such property claims will not represent an admission of fault or liability by Dragon, and will not prevent Dragon from defending future claims that may arise. The acceptance of any such restitution will not preclude a claimant from pursuing future claims based on future activities.

For all property damage claims in excess of this \$2,500 'self-insured' level, Dragon shall promptly arrange for the appropriate insurance representatives to appraise the damage and discuss the claim with the claimant. Dragon shall instruct the insurance carrier to make a determination on the claim as soon as possible. If through this investigation, Dragon is clearly found to be responsible for the property damage, Dragon shall instruct the insurance carrier to offer prompt settlement of the claim. If through this investigation, there are issues on Dragon's responsibility for the damage, these issues shall be promptly furnished to the claimant in writing.

so that the claimant can make an informed decision on pursuing the claim. It is Dragon's intent to have such review and investigation complete within 10 business days of receipt of the written claim, with an initial written decision on the claim provided to the claimant within 10 days after the inspection by the insurance agents.

*Records of
monitor data.*

14. Annual Review by CITY: DRAGON shall provide the CITY with its blasting records and its complaints as described in Attachment 8 by the end of each calendar year. The City Planning Department will review these records and will schedule a meeting with DRAGON and residents within 2,000 feet of the quarry on or before March 1st of the following year, which may be held by the Planning Board at the CITY's discretion. The purpose of the meeting will be to discuss any issues that may have arisen in the previous year and the best way to resolve them for the upcoming year. If the CITY is not satisfied with DRAGON's response to any issues, then it may initiate the Default provisions of Section 19.

15. DRAGON's Successors: If DRAGON sells or transfers the Property to any new owner in the future which wants to continue the blasting, mining and concrete manufacturing operations, then any prospective new owner must receive written approval from the City of Portland Planning Department as to that owner's technical and financial abilities to comply with the terms of this contract, and the new owner must sign a copy of this Agreement agreeing to comply with all of its terms.

16. Record Notice: DRAGON agrees to record this Agreement in the Cumberland County Registry of Deeds, and to include a reference to it in any deed conveying any of the Property.

17. Enforceability: The above stated restrictions, provisions and conditions are an essential part of the rezoning, shall run with and bind the subject premises, shall bind DRAGON, its successors and assigns, as owner of the Property or any part thereof or interest therein, and any party in possession or occupancy of the Property or any part thereof, and shall inure to the benefit of and be enforceable by the CITY, by and through its duly authorized representatives.

18. Severability: If any of the restrictions, provisions, conditions, or portions thereof set forth herein is for any reason held invalid or unconstitutional by any Court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such determination shall not affect the validity of the remaining portions hereof.
19. Default by Dragon: In the event that the CITY claims that DRAGON or any successor has failed to utilize the Property in accordance with this Agreement, then it may give DRAGON written notice of the default claimed by the CITY. (Optional: The City Planning Staff may seek a hearing on these issues before the Planning Board at any time.) If DRAGON does not correct the defaults in a timely manner to the CITY's satisfaction, then the CITY may institute a judicial enforcement action for the breach of this Agreement. If it is determined in such judicial enforcement action that DRAGON has breached this Agreement, and DRAGON fails to comply with the Agreement in a timely manner after such judicial determination, then the City Planning Staff may also recommend to the City Council that this Agreement be terminated, requiring a cessation of the blasting and mining use permitted under this terms of this Agreement; provided that the termination of the contract will not require cessation of the concrete manufacturing and processing uses conducted on the site prior to the date of execution of this Agreement, or as relocated pursuant to this Agreement.
20. Execution: This Contract shall be executed simultaneously with Portland City Council approval of the rezoning of the Property.

WITNESS:

DRAGON PRODUCTS COMPANY, INC.

_____ By: _____

Print Name: _____

Its: _____

STATE OF MAINE
CUMBERLAND, ss.

Date: _____, 2000

_____, as _____ of Dragon Products Company, Inc, personally appeared before me and acknowledged that the signature on this document was his free act and deed acting on behalf of Dragon Products Company, Inc.

Before me,

Notary Public/Attorney at Law

Print Name: _____

Draft: February 8, 2001
P:\CSN\Dragon\ZoningContract.wpd

MEMORANDUM

TO: DAVID GRINNELL
FROM: ANN W. THAYER, C.G., ENVIRONMENTAL MANAGER
SUBJECT: RECLAMATION STANDARDS FOR PORTLAND QUARRY
DATE: 1/26/00

I understand that the Portland Planning Board has requested additional information on the reclamation of Dragon's Ocean Ave. quarry. The attached is a summary of reclamation requirements that are consistent with 38 MRSA 490-Z Performance Standards for Quarries. Reclamation, as defined under Article 8-A, means "the rehabilitation of the area of land affected by mining, including, but not limited to, stabilization of slopes and creation of safety benches, the planting of forests, the seeding of grasses..." The objective of the reclamation standard is to minimize the impact posed by an affected area.

Dragon will be required to restore the affected lands associated with the Ocean Ave operation to a condition that minimizes the safety risks posed by the site, is protective of future impacts to the environment (from fugitive dusts, soil and sediment run-off, etc) and is consistent with the intended future use of the site (residential, open-space, commercial or industrial use). In general, Dragon has an obligation to stabilize rock slopes to prevent rockfalls and to stabilize overburden in accordance with the best management practices for erosion and sedimentation control. In meeting the performance standard for quarry reclamation, Dragon will be required to address the following:

- A. Highwalls, or quarry faces, are to be treated in such a manner as to leave them in a condition that minimizes the possibility of rock falls, slope failures and collapse. A highwall that is loose may be controlled by the use of blasting or scaling, the use of safety benches, the use of flatter slopes or reduced face heights, or the use of benching near the top of the face or rounding the edge of the face.
- B. Exposed overburden or soil is to be stabilized to minimize erosion and promote sedimentation control. Slopes are to be graded to minimize run-off and exposed soil may be mulched or otherwise covered until a vegetative cover is established.
- C. A vegetative cover is to be established by seeding affected land except for quarry walls and flooded areas. Vegetative cover used in reclamation may consist of grasses, legumes, herbaceous or woody plants, shrubs, trees or a mixture of these.
- D. Unusable structures are to be removed and unusable access roads, haul roads and other support roads are to be reclaimed.
- E. Affected lands are to be reclaimed within 2 years after final operational grading has been reached.

MAINE DRILLING & BLASTING

Blast Plan Prepared For

Dragon Cement
City of Portland
Cumberland County, Maine

BLASTING PLAN

Submitted by:
Maine Drilling & Blasting, Inc.

The blasting for this project will be done in a safe and efficient manner by personnel who are highly trained and competent in controlled blasting techniques. They will have access to the latest equipment and technology in the industry.

The Drilling and blasting company will at all times operate within the safety guidelines set by the Mine Safety and Health Administration (Dept. Of Labor) and blasting criteria set by the United States Office of Surface Mines.

To monitor ground vibrations and wave frequencies, seismographs measuring peak ground particle velocities in the three spacial components of vertical, longitudinal and transverse along with their correlative dominant frequencies will be used. Velocities are measured in inches per second (IPS), and the frequency is measured in hertz (Hz). These measurements are recorded within ranges of 0.01 IPS to 5.0 IPS and 5 HZ to 250 HZ. The air blast is measured in dB, within a range of 100 - 142 dB A complete wave form depicting the vibration from the blast and measurement of the air blast over pressure and are included in the printout for each blast. Seismic monitoring will be made on every blast to determine adjustments in size of shots, shot patterns, powder factors and other elements of the design to ensure that the limits set out are not exceeded.

A copy of the seismograph's calibration certificate will accompany the seismographs used on site. All seismographs used will have been calibrated within the past one (1) year.

Due to the sensitive nature of neighbors, sequential blasting methods will be used. This will greatly reduce ground and air vibrations from quarry shots and lessen the likelihood of complaints from blasting.

All explosives, blasting agents and initiation devices will be stored during the day in truck magazines that meet local, state and federal regulations. Magazines will be kept locked at all times, except when materials are removed for use at the blast site. Detonators will be isolated from the explosives by a separate compartment designed to IME SLP No. 22 standards. The vehicles having explosives will be equipped with warning placards, fire extinguishers and back-up alarms. All explosives will be delivered to and vacated from the job site at the beginning and end of each work day. No explosives will be stored on site.

The handling, use and storage of explosives will meet all applicable codes including State, County, and Municipal codes, laws, rules and regulations.

PRE-BLAST INSPECTION PROCEDURES

There will be pre-blast inspections on all structures within 2000' radius of the blast area which will cover interior and exterior conditions, cosmetic and structural findings. In addition to these inspections, each property owner receives our pamphlet outlining our procedures, methods and safety systems. This pamphlet also answers some of the most common questions asked by property owners.

The fire and police departments will be notified 24 hours prior to each day of blasting and any necessary signs will be erected to notify people that they are entering or leaving a blasting zone. A neighborhood call list will be generated for those who wish to be notified prior to each blast event.

The following notice will be placed in the (newspaper) at a minimum of 5 days before initial blasting is to begin each year.

NOTIFICATION OF BLASTING

Blasting for the (name of job) is scheduled to begin on or about (date).

Warning whistles will notify person in the area of work:

- 3 whistles - 5 minutes to blast
- 2 whistles - 1 minute to blast
- 1 whistles - All clear

(Contractor)
(Telephone Number)

Any necessary blasting permits will be obtained by the blaster and copies provided to the Contractor at that time.

All blasting operations shall be conducted by experienced, trained and competent persons who understand the hazards involved. Persons working with explosive materials shall:

1. Have demonstrated a knowledge of, and a willingness to comply with, safety and security requirements.
2. Be capable of using mature judgment in all situations.
3. Be in good physical condition and not addicted to intoxicants, narcotics, or other similar type of drugs.
4. The person(s) responsible for the explosives shall possess current knowledge of the local, State and Federal laws and regulations applicable to his work.
5. The person(s) responsible for the explosives shall have obtained a Certificate of Competency or a license as required by State law.

DRILLING AND BLASTING PROCEDURES

1. Blasting operations shall commence after 9:00 AM and cease before 4:00 PM, Monday through Friday.
2. Blasting may not be conducted at times different from those announced in the blasting schedule except in emergency situations, such as electrical storms or public safety required unscheduled detonation.
3. Warning and all-clear signals of different character shall be audible throughout the blast zone. All persons within the permit area shall be notified of the meaning of the signals through appropriate instructions and signs posted. The following warnings will be used:
 - Three (3) blasts at 5 minutes before the blast.
 - Two (2) blasts at 1 minute before the blast.
 - One (1) blast following the blast indicating all clear.
4. Access to the blasting area shall be regulated to protect the public from the effects of blasting. Access to the blasting area shall be controlled to prevent unauthorized entry at least 10 minutes before each blast and until the permittee's authorized representative has determined that no unusual circumstances exist after the blast. Access to and travel in or through the area can then safely resume.
5. Areas in which charged holes are awaiting firing shall be guarded, barricaded and posted, or flagged against unauthorized entry.
6. All blasts shall be made in the direction of the stress relieved face previously marked out or previously blasted.
7. All stemming shall be minimum as specified using clean, dry crushed stone.
8. Powder factors will be based upon drill patterns and hole sizes which are consistent with rock breakage as well as a minimum impact to neighbors of the quarry. Typical powder factors will range between 1.0 and 1.5 lbs. of explosives per cubic yard.
9. The explosives to be used will consist of ANFO for dry loaded holes and packaged or bulk products for wet loaded holes (i.e. Water Gels, Emulsions). All holes will have an adequate primer charge sufficient to detonate the entire explosive column and the initiation devices will be determined upon conditions (i.e. electric or non-electric detonators)
10. All drill machines will conform with MSHA/OSHA regulations. They will also be equipped with water systems and dust collector devices to lower the impact that dust particles may have on neighbors and the people working around them.

BLASTING RECORD

A record of each blast, including seismograph reports, shall be retained for at least 3 years. The record shall contain the following data:

1. Name of permittee, operator or other person conducting the blast.
2. Location, date and time of blast.
3. Name, signature and license number of blaster in charge.
4. Direction and distance, in feet, to nearest dwelling, school, church, commercial or institutional building or other structure.
5. Weather conditions.
6. Type of material blasted.
7. Number of holes, depth of hole, burden, spacing and stemming.
8. Diameter and depth of holes.
9. Types of explosives used.
10. Total weight of explosives used.
11. Maximum weight of explosives detonated within any 8 millisecond period.
12. Methods of firing and type of circuit.
13. Type and depth of stemming.
14. Mats or other protections used.
15. Type of delay detonator used and delay periods used.
16. Comments or recommendations by blaster.
17. Seismograph records including:
 - a. Seismograph reading, including exact location of seismograph and its distance from the blast.
 - b. Name of person taking the seismograph reading.



Corporate Offices

38 Preble St. • P.O. Box 1521
Portland, Maine 04104
207-774-6355 • Fax 207-761-5694

Attachment

PORTLAND QUARRY-PROPOSED PROTOCOL FOR DOCUMENTATION OF COMPLAINTS & RESOLUTION

- Dragon shall provide contact names and telephone numbers of Dragon personnel to be notified regarding complaints associated with the Portland Quarry facility *annually*. These contact names shall include the supervisor of the quarry operation, Dragon's environmental manager and Dragon's divisional vice-president. This information shall be provided to all neighbors / neighborhoods in the Ocean Avenue vicinity of the quarry with the annual tentative schedule of "blast events".
- Dragon shall contact all individuals registering a complaint within 48 hours to discuss the nature of the complaint and appropriate manner in which to address the specific issue. As necessary, Dragon shall arrange for personal meetings with individuals who register complaints, to further discuss their specific issue.
- Depending on the nature and magnitude of a complaint, Dragon may, as deemed necessary, arrange for an additional meeting to address specific issues of a complaint. This meeting potentially could include Maine D.E.P., City of Portland officials, drilling and blasting experts, engineering experts, and appropriate legal counsel.
- Dragon shall investigate all complaints and respond to such, in writing, within 10 days of the initial registering of the complaint. While this written response may not resolve the complaint, it shall include a chronology of the complaint, status to date, and shall be copied to designated representatives of the City of Portland.
- Dragon shall furnish the City, on an annual basis, a summary of complaints from the previous year regarding the quarry operation, and details of resolution plan. Dragon shall maintain the records of complaints for a minimum of 5 years. This records shall be available to the City of Portland upon request.

DRAGON[®]
PRODUCTS COMPANY

ATTACHMENT 8



**Jacques Whitford
Company, Inc.**

Consulting Engineers
Environmental Scientists
Risk Consultants

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Nova Scotia • New Brunswick • Prince Edward Island • Newfoundland & Labrador • Quebec • Ontario • Saskatchewan • Alberta • British Columbia • Northwest Territories

November 8, 2000

Mr. Dave Grinnell
Dragon Products Company
38 Preble Street
P.O. Box 1521
Portland, Maine 04104

Re: Report on Geologic Assessment of Proposed Quarry Expansion, Ocean Avenue Quarry,
Portland, Maine

Dear Mr. Grinnell:

Jacques Whitford Company, Inc. (JWC) is pleased to provide this report on a geologic assessment of the proposed Dragon Products Company expansion of the Ocean Avenue Quarry in Portland, Maine. In accordance with our proposal dated July 25, 2000, JWC evaluated the proposed quarry expansion relative to the following concerns expressed by area citizens:

1. Blasting rock may result in the release and migration of groundwater contaminants from the closed Ocean Avenue Landfill to area properties.
2. Blasting rock may result in increased radon levels at area properties.
3. Blasting may damage natural gas pipelines or result in natural gas line explosions.
4. Repeated blasting may cause longer-term structural fatigue and damage to homes.

Project Location and Background

The Dragon Products Company quarry is located west of Ocean Avenue, just north of Graves Hill in Portland, Maine. Site location plans are shown on Figures 1 and 2. The site is bounded to the north and south by undeveloped woods and residential property, to the east by Ocean Avenue, and to the west by the former City of Portland Ocean Avenue Landfill. Undeveloped woods and residential properties lie east of the quarry, across Ocean Avenue.



The rock quarry consists of about 20 acres, and has been in operation for over 70 years². Construction of the existing garage and offices at the site were completed around 1939. Production of concrete at the site began in the 1940's.

Dragon Products Company is proposing improvements to the property, and limited expansion of the rock quarry. Improvements include relocation of the concrete production building and cement silo away from Ocean Avenue (towards the interior of the existing quarry), construction of a vegetated earthen berm along Ocean Avenue, construction of a new paved entrance north of the existing entrance, and addition of a climbing lane on Ocean Avenue. Removal of rock will be accomplished with a maximum of 20 rock blast events per year. Blasting will be conducted in accordance with a blast design plan that helps assure safe and efficient removal of the rock resource.

Findings

The findings of our assessment are detailed below. Concerns raised by area citizens are discussed individually under the headings presented in the opening paragraph of this letter.

1. *Blasting rock may result in the release and migration of groundwater contaminants from the closed Ocean Avenue Landfill to area properties.*

The City of Portland Ocean Avenue landfill reportedly operated for approximately 20 years until its closure in 1978.¹ In 1987, the City of Portland installed bedrock monitoring wells around the perimeter of the landfill. Sampling of groundwater from the bedrock wells between 1987 and 1994 indicated slightly elevated concentrations of hardness, specific conductance, calcium, iron, magnesium, manganese and potassium.² In a letter to the City of Portland dated June 11, 1996, Sebago Technics reported that the water quality data between 1987 and 1994 remained relatively constant, and created "no observable health risks." Properties in the area surrounding the former landfill are served by public water provided by the Portland Water District.

The City of Portland is presently completing closure of the landfill in accordance with criteria established by the Maine Department of Environmental Protection (MDEP). Installation of a landfill cover is substantially complete, and a fence has been erected to help prevent unauthorized access.

JWC reviewed the proposed Dragon Products Company blast design plan to evaluate whether blasting would result in the release and migration of groundwater contaminants at the landfill. The blast design plan, prepared by Maine Drilling & Blasting, Inc., specifies controlled blasting using timed delays and requirements for blast hole diameter, depth, spacing, and charge weight,

¹ Haley & Aldrich, Inc., "Report on Oil and Hazardous Material Site Evaluation, Cook Concrete Property, Portland, Maine," February, 1991.

² Sebago Technics, "City of Portland - Ocean Avenue Landfill," June 11, 1996.



among others (refer to Appendix A). Given the parameters proposed in the blast design plan, a peak particle velocity (a measure of seismic vibration) of about 4.8 inches per second (ips) is estimated for the portion of the landfill closest to the proposed quarry expansion area. Dragon Products Company provides a buffer of at least 100 feet between the proposed quarry expansion area and the landfill.

The estimated particle velocity at the landfill is well below that which would result in fracturing of bedrock. Therefore, the risk of release and migration of contaminants through air, soils or water, as a result of blast-induced fractures at the landfill, is low. For example, researchers have identified a conservative lower limit for cracking of granite at a seismic velocity of 28 ips.³ Other sources report that the radius of rock fracturing around a blast hole is limited to a radius of 20 to 40 blast-hole diameters.⁴ Based on this guidance, the zone of rock fracturing beyond the quarry expansion area would be limited to about 13 feet. The relatively low particle velocities estimated for the landfill site are also unlikely to cause damage (such as opening of fissures) to the landfill cover.

In summary, previous reports indicate that the former City of Portland Ocean Avenue Landfill has had some impact on groundwater quality, but not at concentrations that pose a significant threat to human health or the environment at area properties. Due to the relatively low seismic velocities estimated by Maine Drilling & Blasting, Inc., the risk that blasting at the proposed quarry expansion will significantly impact water quality at the former landfill, or at properties in the former landfill vicinity, is low. Maine Drilling & Blasting has prepared a blast design plan to minimize the effects of blasting at the site and in the site vicinity.

2. Blasting rock may result in increased radon levels at area properties.

Discussions with Robert Stillwell of the Maine Radiation Control Program indicate numerous incidences of high radon levels at homes in the vicinity of the proposed Dragon Products Company quarry expansion.⁵ Radon is a naturally-occurring radioactive gas that originates in rock and sediment. Radon can be present in homes as a result of migration from bedrock fractures and pore space in sediments. At certain concentrations, radon poses a health risk.

JWC reviewed the Maine Drilling & Blasting, Inc., blast plan for the proposed quarry expansion to evaluate the potential for the release of radon to area properties as a result of rock blasting. The blast plan provides estimated peak particle velocities at distances ranging from 300 to 600 feet from the quarry expansion boundary. The closest residence is about 300 feet from the quarry expansion boundary. The estimated peak particle velocities reported by Maine Drilling & Blasting, Inc., range from 0.27 to 0.52 ips.

³ Charles H. Dowding, "Blast Vibration Monitoring and Control," Northwestern University, 1985.

⁴ Calvin J. Konya and Edward J. Walter, "Subsurface Blast Design," Prentice Hall, Englewood Cliffs, New Jersey, 1990.

⁵ Robert Stillwell, Letter to Ann Elderkin, P.A., City of Portland, regarding radon levels in the Portland area, dated April 15, 1999.



The predicted range of seismic velocities at area residences is at least 50 times lower than that required to fracture crystalline bedrock.³ As a result, the closest residence, located about 300 feet from the quarry expansion boundary, is well beyond the predicted zone of bedrock fracturing. As reported earlier in this report, the zone of rock fracturing is limited to a radius of about 13 feet from each blast hole. Based on this data, the risk that blasting at the proposed quarry expansion area will result in the release of radon to homes or other structures as a result of rock fracturing, is negligible. Blast-induced vibration of rock and sediment alone would not result in a significant release of radon given the relatively low particle velocities predicted, and the short duration of blast events.

In summary, while high radon levels have been reported in the vicinity of the proposed quarry expansion area, the risk that blasting of bedrock and associated vibrations will result in a significant release of radon, is negligible. This finding is based on the low vibration levels predicted for the surrounding areas as detailed in the blast design plan by Maine Drilling & Blasting, Inc. (Appendix A).

3. Blasting may damage natural gas pipelines or result in natural gas line explosions.

JWC contacted Northern Utilities, Inc., to identify natural gas pipelines in the vicinity of the proposed quarry expansion area. Pipeline maps provided by Northern Utilities indicate the closest gas lines to the quarry are located at the Wellstone Condominium complex, about 1,800 feet south of the southernmost quarry expansion boundary. Based on this distance and the blast plan data provided by Maine Drilling & Blasting, Inc., JWC calculated a peak particle velocity of 0.05 ips. This low particle velocity is substantially below the United States Bureau of Mines "safe" particle velocity of 2.0 ips.⁶ The threshold for damage, defined as the development of cracks in plaster, is generally considered to occur at a velocity of 2.0 ips.

Given the considerable distance from the proposed quarry expansion area to the nearest natural gas pipeline, JWC finds that the risk of damage to this pipeline, as a result of blasting at the quarry, is negligible. The predicted vibration levels at the pipeline are about 40 times less than the damage threshold for structures of 2.0 ips.

4. Repeated blasting may cause longer-term structural fatigue and damage to homes.

JWC evaluated the potential for repeated blasting events to result in damage to off-site structures due to structural fatigue. A number of studies have been undertaken by the United States Bureau of Mines and others to assess the effects of repeated blasting on structures.⁶ For example, the Bureau of Mines subjected a wood frame house, located an estimated 100 to 200 feet from a mine, to 587 production blasts, after which it was mechanically shaken to determine the threshold for fatigue cracking. The first crack appeared after the equivalent of 28 years of

⁶ Calvin J. Konya and Edward J. Walter, "Subsurface Blast Design," Prentice Hall, Englewood Cliffs, New Jersey, 1990.



blasting, twice a day, at a vibration level of 0.5 ips. The reported damage consisted of a cracked wall board tape joint.⁶

Studies of the effects of repeated low-level vibrations from blasting indicate little potential for damage to structures. Reports indicate that particle velocities approaching 2.0 ips are required to create damage under repeated blasting scenarios; the predicted range of particle velocities for properties in the vicinity of the quarry expansion is 0.27 to 0.52 ips. As stated earlier in this report, 2.0 ips is commonly cited as the threshold for damage during a single blast event.

Conclusions

The Dragon Products Company quarry on Ocean Avenue has been in operation for over 70 years. Dragon is proposing improvements to the property and limited expansion of rock quarry operations that will involve a maximum of 20 blast events per year. Area residents have expressed concerns over the impacts of rock blasting, including the potential for the release of contaminants from the closed City of Portland Ocean Avenue Landfill, release of radon at area residences, damage to natural gas pipelines, and structural damage to buildings due to repeated blasting events.

Maine Drilling & Blasting, Inc., has prepared a site-specific blast design plan that specifies controlled blasting using timed delays and requirements for blast hole diameter, depth, spacing, and charge weight, among others. JWC has reviewed this plan relative to each of the concerns expressed by the area citizens. JWC concludes that the risk of impacts to the neighborhood for each area of concern is low. This finding is based on the substantial distance of off-site buildings and natural gas pipelines from the quarry, the relatively low predicted blast-induced vibrations beyond the quarry expansion area, and scientific data on the impacts of blasting gathered by researchers, including the United States Bureau of Mines.

Closure

JWC's findings are based solely on the scope of work conducted and sources of information referenced in this report. Any additional information that becomes available concerning this site should be provided to us so that our conclusions may be reviewed and modified, if necessary. Our work has been undertaken in accordance with generally accepted consulting engineering practices. No other warranty, expressed or implied, is made.



Mr. Dave Grinnell
November 8, 2000
Page 6

Please feel free to contact us should you have any questions regarding this report.

Sincerely,
Jacques Whitford Company, Inc.

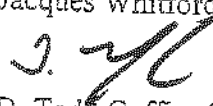
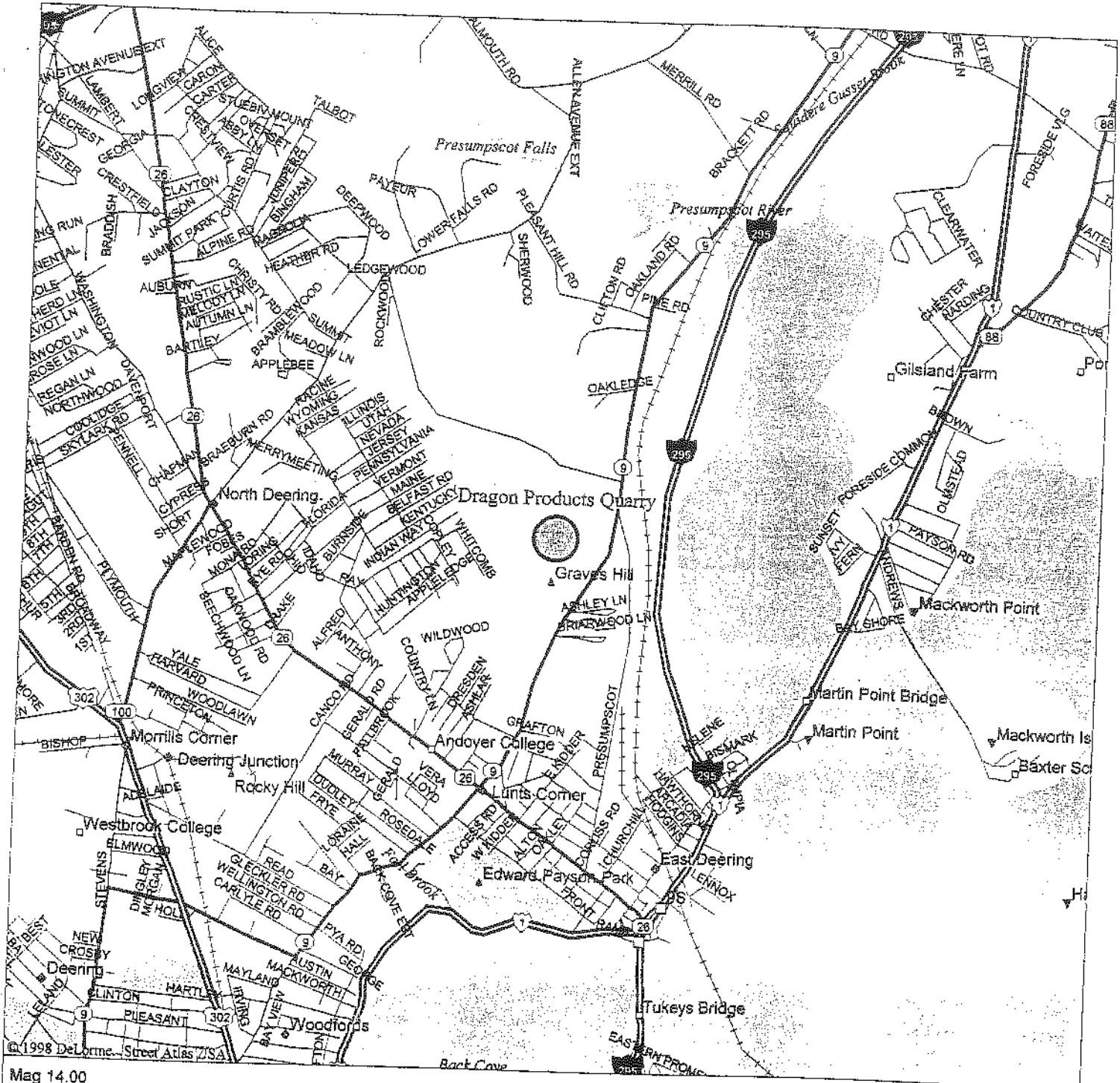

D. Todd Coffin, C.G.
Senior Environmental Geologist

Figure 1 Dragon Products Quarry, Portland, ME
Figure 2 Site Plan
Appendix A Blast Design Plan

MEP00123\rept1





© 1998 DeLorme Street Atlas USA
 Mag 14.00
 Wed Nov 08 14:54 2000
 Scale 1:31,250 (at center)
 2000 Feet
 1000 Meters

- | | | | |
|--|---------------------------|--|--------------------|
| | Local Road | | Railroad |
| | Major Connector | | Point of Interest |
| | State Route | | Summit |
| | Interstate/Limited Access | | Geographic Feature |
| | Toll Highway | | Park/Reservation |
| | US Highway | | Locale |
| | Exit | | Cemetery |

Figure 1 Dragon Products Quarry, Portland, ME

APPENDIX A
BLAST DESIGN PLAN



Elast Design Plan
 DRAGON PRODUCTS QUARRY
 Description: OPEN ROCK
 Production Blasting at 600 Feet

APENDIX A.

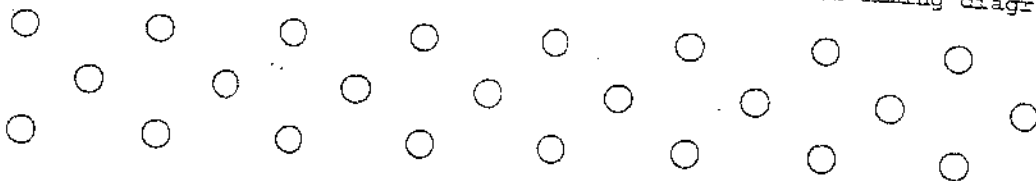
Elast Design Plan				
Est. # of Holes	<u>50</u>			
Depth	<u>33'</u>		Stemming:	5.0' Stamping Stone
Hole Diameter	<u>4.0"</u>			
Burden	<u>8'</u>			
Spacing	<u>9'</u>			
Holes per Delay	<u>1</u>			
Pounds per Delay	<u>124.70 lbs</u>		Dry Load:	16.3' PELLITE (ANFO)
Pounds per Hole	<u>124.70 lbs</u>			
Total Est. Pounds	<u>6234.95 lbs</u>			
Powder Factor	<u>1.42 lbs/CY</u>			
Decks	<u>0</u>			
Blast Plan Notes		Wet Load:	8.8' EXTRA 1300 3"	
4 inch diameter hole		Bottom Load:	3.0' SLURRAN 430 3"	

Vibration Prediction (formula based on Dupont Handbook)

Site Factor (k)	<u>160</u>	Ground Constant based on Site/Rock Conditions
Distance ft (d)	<u>600</u>	Distance to Structure
lbs per Delay (w)	<u>124.70</u>	lbs explosives per 8 millisecond Delay
Scaled Distance (sd)	<u>53.73</u>	(sd = d / square root of w)
Estimated PPV	<u>0.27</u>	(ppv = k * sd ^ - 1.6)

Typical for production work consistent holes 33' deep at 600' from a structure utilizing 4.0" diameter at a 8' by 9' pattern.

Plan View/Timing Design (please see attached timing diagrams)



MAINE DRILLING AND BLASTING, INC.

Blast Design Plan
 DRAGON PRODUCTS QUARRY
 Description: OPEN ROCK
 Production Blasting at 450 Feet

APPENDIX A.

Blast Design Plan				
Est. # of Holes	50			
Depth	33'			
Hole Diameter	4.0"			
Burden	8'			
Spacing	9'			
Holes per Delay	1			
Pounds per Delay	124.70 lbs		Dry Load:	16.3' PELLITE (ANFO)
Pounds per Hole	124.70 lbs			
Total Est. Pounds	6234.95 lbs			
Powder Factor	1.42 lbs/CY			
Decks	0			
		Wet Load:	8.8' EXTRA 1300 3"	
		Bottom Load:	3.0' SLURRAN 430 3"	

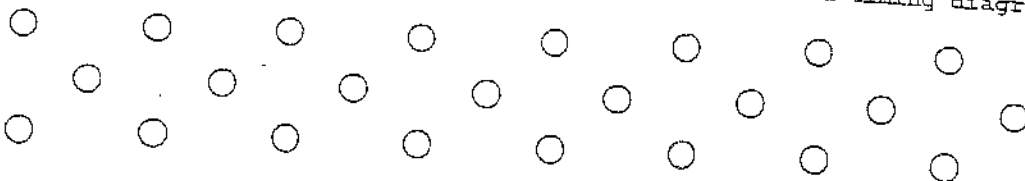
Blast Plan Notes
 4 inch diameter hole

Vibration Predication (formula based on Dupont Handbook)

Site Factor (k)	160	Ground Constant based on Site/Rock Conditions
Distance ft (d)	450	Distance to Structure
Lbs per Delay (w)	124.70	Lbs explosives per 8 millisecond Delay
Scaled Distance (sd)	40.30	($sd = d / \text{square root of } w$)
Esimated PPV	0.43	($ppv = k * sd^{-1.6}$)

Typical for production work consistent holes 33' deep at 450' from a structure utilizing 4.0" diameter at a 8' by 9' pattern.

Plan View/Timing Design (please see attached timing diagrams)

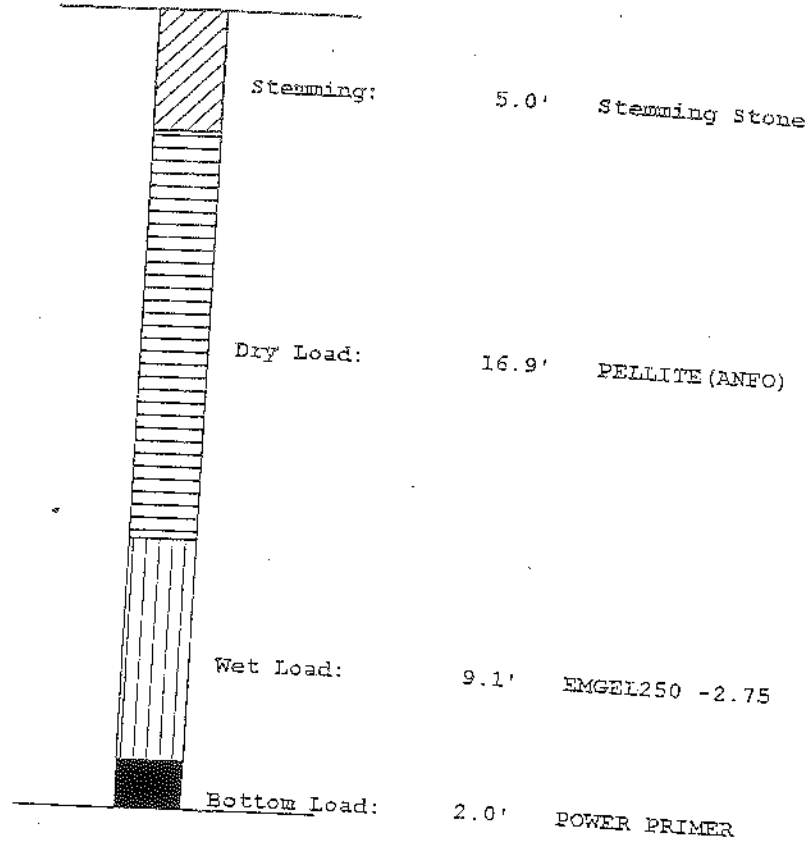


MAINE DRILLING AND BLASTING, INC.

Blast Design Plan
 DRAGON PRODUCTS QUARRY
 Description: OPEN ROCK
 Production Blasting at 400 feet

APENDIX A.

Blast Design Plan	
Est. # of Holes	50
Depth	33'
Hole Diameter	3.5"
Burden	8'
Spacing	8'
Holes per Delay	1
Pounds per Delay	94.64 lbs
Pounds per Hole	94.64 lbs
Total Est. Pounds	4732.20 lbs
Powder Factor	1.21 lbs/CY
Decks	0



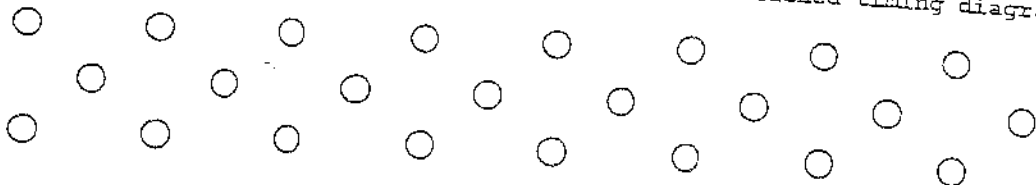
Blast Plan Notes
 3.5 inch diameter holes

Vibration Predication (formula based on Dupont Handbook)

Site Factor (k)	160	Ground Constant based on Site/Rock Conditions
Distance ft (d)	400	Distance to Structure
lbs per Delay (w)	94.64	lbs explosives per 8 millisecond Delay
Scaled Distance (sd)	41.12	($sd = d / \text{square root of } w$)
Esimated PPV	0.42	($ppv = k * sd^{-1.6}$)

Typical for production work consistent holes 33' deep at 400' from a structure utilizing 3.5" diameter at a 8' by 8' pattern.

Plan View/Timing Design (please see attached timing diagrams)



MAINE DRILLING AND BLASTING, INC.

Blast Design Plan
 DRAGON PRODUCTS QUARRY
 Description: OPEN ROCK
 Production Blasting at 350 feet

APPENDIX A.

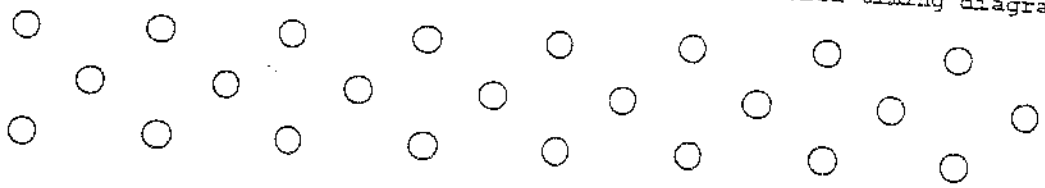
Blast Design Plan				
Est. # of Holes	50			
Depth	33'		Stemming:	5.0' Stemming Stone
Hole Diameter	3.5"			
Burden	8'			
Spacing	8'			
Holes per Delay	1			
Pounds per Delay	94.64 lbs		Dry Load:	16.9' PELLITE (ANFO)
Pounds per Hole	94.64 lbs			
Total Est. Pounds	4732.20 lbs			
Powder Factor	1.21 lbs/CY			
Decks	0			
Blast Plan Notes		Wet Load:	9.1' EMGEL250 -2.75	
3.5 inch diameter holes		Bottom Load:	2.0' POWER PRIMER	

Vibration Predication (formula based on Dupont Handbook)

Site Factor (k)	160	Ground Constant based on Site/Rock Conditions
Distance ft (d)	350	Distance to Structure
lbs per Delay (w)	94.64	lbs explosives per 8 milisecond Delay
Scaled Distance (sd)	35.98	(sd = d / square root of w)
Esimated PPV	0.52	(ppv = k * sd ^ - 1.6)

Typical for production work consistent holes 33' deep at 350' from a structure utilizing 3.5" diameter at a 8' by 8' pattern.

Plan View/Timing Design (please see attached timing diagrams)



Blast Design Plan
 DRAGON PRODUCTS QUARRY
 Description: OPEN ROCK
 Production Blasting w/deck at 300 feet

APPENDIX A.

Blast Design Plan				
Est. # of Holes	50			
Depth	33'		Stemming:	6.0' Stemming Stone
Hole Diameter	3.5"			
Burden	7'			
Spacing	8'		Dry Load:	7.5' PELLITE (ANFO)
Holes per Delay	1			
Pounds per Delay	42.28 lbs			
Pounds per Hole	84.57 lbs		Wet Load:	4.0' EMGEL250 -2.75
Total Est. Pounds	4228.36 lbs		Bottom Load:	1.0' POWER PRIMER
Powder Factor	1.24 lbs/CY			
Decks	1			

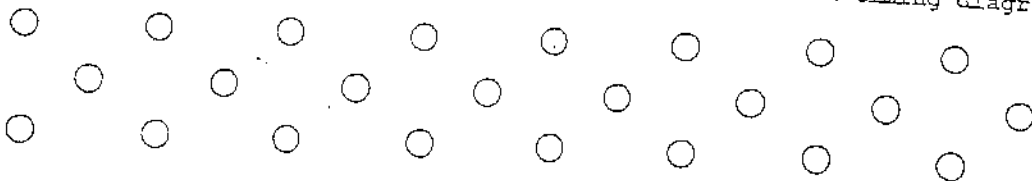
Blast Plan Notes
 3.5 inch diameter holes

Vibration Prediction (formula based on Dupont Handbook)

Site Factor (k)	160	Ground Constant based on Site/Rock Conditions
Distance ft (d)	300	Distance to Structure
lbs per Delay (w)	42.28	lbs explosives per 8 milisecond Delay
Scaled Distance (sd)	46.14	(sd = d / square root of w)
Estimated PPV	0.35	(ppv = k * sd ^ - 1.6)

Typical for production work consistent holes 33' deep at 300' from a structure utilizing 3.5" diameter at a 7' by 8' pattern.

Plan View/Timing Design (please see attached timing diagrams)

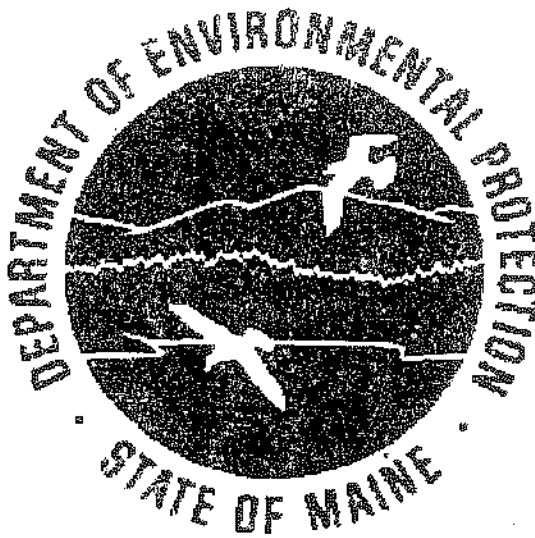


DRAGON INDUSTRIAL ZONE

STATE OF MAINE

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Article 8
Performance Standards for Quarries
38 M.R.S.A. §§ 490-W to 490-EE



Bureau of Land and Water Quality
DEPLW96-1

JULY 4, 1996

PERFORMANCE STANDARDS FOR QUARRIES

38 MRSA §§490-W TO 490-EE

Notes Concerning the Text
July 4, 1996

The following text of Article 8 (Performance Standards for Quarries) includes amendments made by the One Hundredth and Seventeenth Legislature, Second Regular Session. The table of contents and footnotes have been added to this document by the Department of Environmental Protection and are not part of the statutory text.

All copyrights and other rights to statutory text are reserved by the State of Maine. The text included in this publication is current to the end of the Second Regular Session of the 117th Legislature but is subject to change without notice. It is a version that is presumed accurate but which has not been officially certified by the Secretary of State. Refer to the Maine Revised Statutes Annotated and supplements for certified text.

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ARTICLE 8-A
PERFORMANCE STANDARDS FOR QUARRIES

§490-W. Definitions

As used in this article, unless the context otherwise indicates, the following terms have the following meanings.

1. **Affected land.** "Affected land" means all reclaimed and unreclaimed land, land that has or will have the overburden removed, land on which stumps, spoil or other solid waste has or will be deposited and storage areas or other land, except natural buffer strips, that will be or has been used in connection with a quarry.

2. **Airblast.** "Airblast" means an atmospheric compression wave resulting from the detonation of explosives, whether resulting from the motion of blasted materials or the expansion of gases from the explosion.

3. **Blaster.** "Blaster" means a person qualified to be in charge of or responsible for the loading and firing of a blast.

✓ 4. **Blasting.** "Blasting" means the use of explosives to break up or otherwise aid in the extraction or removal of a rock or other consolidated natural formation.

✓ 5. **Blast site.** "Blast site" means the area where explosive material is handled during the loading of drilled blastholes, including the perimeter formed by the loaded blastholes and 50 feet in all directions from loaded blastholes.

6. **Detonating cord.** "Detonating cord" means a flexible cord containing a center core of high explosives that may be used to initiate other explosives.

7. **Explosive.** "Explosive" means any chemical compound or other chemical substance that contains oxidizing or combustible materials used for the purpose of producing an explosion intended to break or move rock, earth or other materials.

8. **Flyrock.** "Flyrock" means rock that is propelled through the air or across the ground as a result of blasting and that leaves the blast area.

9. **Matting.** "Matting" means a covering placed over load holes and adjacent areas in order to minimize generation of flyrock and limit airblast effects.

✓ 10. **Natural buffer strip.** "Natural buffer strip" means an undisturbed area or belt of land that is covered with trees or other vegetation.

11. Passenger car equivalents at peak hour. "Passenger car equivalents at peak hour" means the number of passenger cars, or, in the case of nonpassenger vehicles, the number of passenger cars that would be displaced by nonpassenger vehicles, that pass through an intersection or on a roadway under prevailing roadway and traffic conditions at that hour of the day during which traffic volume generated by the development is higher than the volume during any other hour of the day. For purpose of this article, one tractor-trailer combination is the equivalent of 2 passenger cars.

12. Peak particle velocity. "Peak particle velocity" means the maximum rate of ground movement measured by any of the 3 mutually perpendicular components of ground motion.

13. Preblast survey. "Preblast survey" means documentation, prior to the initiation of blasting, of the condition of buildings, structures, wells or other infrastructures; protected natural resources; historic sites; and unusual natural areas.

14. Private drinking water supply. "Private drinking water supply" means a surface water supply, a dug well, a spring or a hole drilled, driven or bored into the earth that is used to extract drinking water for human consumption and that is not part of a public drinking water supply.

15. Production blasting. "Production blasting" means blasting conducted for the purpose of extracting or removing natural materials for commercial sale or beneficiation.

16. Public drinking water source. "Public drinking water source" means a groundwater well or a surface water source that directly or indirectly serves a water distribution system that has at least 15 service connections or regularly services an average of at least 25 individuals daily at least 60 days of the year.

✓ **17. Quarry.** "Quarry" means a place where rock is excavated.

18. Reclamation. "Reclamation" means the rehabilitation of the area of land affected by mining, including, but not limited to, the stabilization of slopes and creation of safety benches, the planting of forests, the seeding of grasses and legumes for grazing purposes, the planting of crops for harvest and the enhancement of wildlife and aquatic habitat and aquatic resources. "Reclamation" does not include the filling in of pits and the filling or sealing of shafts and underground workings with solid materials unless necessary for the protection of groundwater or for reasons of safety.

19. Regulator. "Regulator" means:

A. For a quarry located wholly within a municipality that is registered under section 490-DD to enforce this article, the municipality; and

B. For all other quarries, the Department of Environmental Protection.

20. **Rock.** "Rock" means a hard, nonmetallic material that requires cutting, blasting or similar methods of forced extraction.

21. **Stemming.** "Stemming" means inert material used in a blasthole to confine the gaseous products of detonation.

22. **Surface blasting.** "Surface blasting" means any blasting for which the blast area lies at the surface of the ground.

23. **Underground production blasting.** "Underground production blasting" means a blasting operation carried out beneath the surface of the ground by means of shafts, declines, adits or other openings leading to the natural material being mined or extracted.

§490-X. Applicability

This article applies to any quarry that is more than one acre in size, including reclaimed and unreclaimed areas, or at which underground production blasting is proposed.

The article does not apply to a quarry located wholly within the jurisdiction of the Maine Land Use Regulation Commission.

This article does not apply to an excavation or grading preliminary to a construction project, unless intended to circumvent this article.

A person with a valid permit for a quarry under article 6 must operate that quarry in compliance with the terms and conditions of that permit. Any modification of the permit must be in conformance with section 484. A person with a permit under article 6 may file a notice of intent to comply with this article. The permit issued under article 6 lapses as of the date a complete notice of intent is filed with the department. If the permittee chooses to substitute a notification pursuant to this article, all terms and conditions that applied to the permit issued pursuant to article 6 are incorporated into the notification approved pursuant to this article.

§490-Y. Notice of intent to comply

Except as provided in section 484-A, a person intending to create or operate a quarry under this article must file a notice of intent to comply before the total area of excavation of rock or overburden on the parcel exceeds one acre. Both reclaimed and unreclaimed areas are added together in determining whether this one-acre threshold is exceeded. A notice filed under this section must be complete, submitted on forms approved by the department and mailed to the municipality where the quarry is located, the department, the Maine Historic Preservation Commission and each abutting property owner. The notice that is mailed to the department must be sent by certified mail, return receipt requested. Upon receiving the postal receipt, the owner or operator may commence operation of the quarry.

A notice of intent to comply is not complete unless it includes the following:

1. **Name, address and telephone number.** The name, mailing address and telephone number of the owner of the quarry and, if different from the owner, the operator of the quarry;

2. **Map and site plan.** A location map and site plan drawn to scale showing property boundaries, stockpile areas, existing reclaimed and unreclaimed lands, proposed maximum acreage of all affected lands, all applicable private drinking water supplies or public drinking water sources and all existing or proposed solid waste disposal areas;

3. **Parcel description.** A description of the parcel including size and deed description;

4. **Legal interest.** A copy of the lease or other document showing that an operator who is not the owner has a legal right to excavate on the property. Stumpage information does not have to be shown;

5. **Information on abutters.** The names and addresses of abutting property owners;

6. **Signed statement.** A statement signed and dated by the owner or operator certifying that the quarry will be operated in compliance with this article; and

7. **Fees.** A fee paid to the department as provided by section 490-EE.

If the department determines that a notice filed under this section is not complete, the department must notify the owner or operator no later than 45 days after receiving the notice.

§490-Z. Performance standards for quarries

1. **Significant wildlife habitat.** Affected land may not be located in a significant wildlife habitat as defined in section 480-B, subsection 10 or in an area listed pursuant to the Natural Areas Program, Title 5, section 13076. The department may not grant a variance from the provisions of this subsection.

2. **Solid waste.** Solid waste, including stumps, wood waste and land-clearing debris generated on the affected land must be disposed of in accordance with chapter 13, including any rules adopted to implement those laws. The department may not grant a variance from the provisions of this subsection.

3. **Groundwater protection.** To ensure adequate groundwater protection, the following setback requirements must be met.

A. A 200-foot separation must be maintained between an excavation and a private drinking water supply that is point driven or dug and was in existence prior to the excavation.

B. A 100-foot separation must be maintained between an excavation and a private drinking water supply that is drilled into saturated bedrock and was in existence prior to the excavation.

C. Separation must be maintained between an excavation and a public drinking water source as follows:

(1) For systems serving a population of 500 persons or less, the minimum separation must be 300 feet;

(2) For systems serving a population of 501 persons up to 1,000 persons, the separation must be 500 feet;

(3) For systems serving a population of more than 1,000 persons, the separation must be 1,000 feet; and

(4) For any system that holds a valid filtration waiver in accordance with the federal Safe Drinking Water Act, 42 United States Code, Sections 300f to 300j-26 (1988), the separation must be 1,000 feet.

D. Refueling operations, oil changes, other maintenance activities requiring the handling of fuels, petroleum products and hydraulic fluids and other on-site activity involving storage or use of products that, if spilled, may contaminate groundwater, must be conducted in accordance with the department's spill prevention, control and countermeasures plan. Petroleum products and other substances that may contaminate groundwater must be stored and handled over impervious surfaces that are designed to contain spills. The spill prevention, control and countermeasures plan must be posted at the site.

E. In the event of excavation below the seasonal high water table, a 300-foot separation must be maintained between the limit of excavation and any predevelopment private drinking water supply and a 1000-foot separation must be maintained between the limit of excavation and any public drinking water source or area previously designated for potential use as a public drinking water source by a municipality or private water company.

The department may grant a variance from the provisions of paragraph C upon consultation with the persons or entity that controls the public drinking water supply affected by the excavation. The department may not grant a waiver from the provisions of paragraph A, B or D.

Excavation below the seasonal highwater table of an area previously designated for potential use as a public drinking water source by a municipality or private water company is prohibited. The department may grant a variance allowing excavation below the seasonal highwater table if the applicant demonstrates that the yield of groundwater flow to protected waters or wetlands or public drinking water sources or private drinking water supplies will not be adversely affected by the excavation.

In the event of excavation below the seasonal highwater table, the operator of a mining activity that affects by excavation activities a public drinking water source or private drinking water supply by contamination, interruption or diminution must restore or replace the affected water supply with an alternate source of water, adequate in quantity and quality for the purpose served by the supply. This provision is not intended to replace any independent action that a person may have whose water supply is affected by a mining activity.

4. **Natural buffer strip.** Existing vegetation within a natural buffer strip may not be removed. If vegetation within the natural buffer strip has been removed or disturbed by the excavation or activities related to operation of a quarry before submission of a notice of intent to comply, that vegetation must be reestablished as soon as practicable after filing the notice of intent to comply. The department may not grant a variance from the provisions of this subsection.

5. **Protected natural resources.** A natural buffer strip must be maintained between the working edge of an excavation and a river, stream, brook, great pond or coastal wetland as defined in section 480-B. A natural buffer strip must also be maintained between the working edge of an excavation and certain freshwater wetlands as defined in section 480-B and having the characteristics listed in paragraph B. Excavation activities conducted within 100 feet of a protected natural resource must comply with the applicable permit requirements under article 5-A. The width requirements for natural buffer strips are as follows.

A. A natural buffer strip at least 100 feet wide must be maintained between the working edge of the excavation and the normal high water line of a great pond classified as GPA or a river flowing to a great pond classified as GPA.

B. A natural buffer strip at least 75 feet wide must be maintained between the working edge of the excavation and a body of water other than as described in paragraph A, a river, stream or brook, coastal wetland or significant wildlife habitat contained within a freshwater wetland consisting of or containing:

(1) Under normal circumstances, at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, except for artificial ponds or impoundments; or

(2) Peat lands dominated by shrubs, sedges and sphagnum moss.

For purposes of this subsection, the width of a natural buffer strip is measured from the upland edge of a floodplain wetland. If no floodplain wetlands are present, the width is measured from the normal high water mark of the river, stream or brook. The width is measured from the normal high water mark of a great pond and upland edge of a freshwater or coastal wetland.

The department may not grant a variance from this subsection.

6. **Roads.** A natural buffer strip must be maintained between the working edge of an excavation and a road as follows.

A. A natural buffer strip at least 150 feet wide must be maintained between the working edge of an excavation and a road designated as a scenic highway by the Department of Transportation.

B. A natural buffer strip at least 100 feet wide must be maintained between the working edge of the excavation and any other public road.

C. A natural buffer strip at least 50 feet wide must be maintained between the working edge of an excavation and a private road or a right-of-way. If a private road is contained within a wider right-of-way, the buffer is measured from the edge of the right-of-way. The width of the natural buffer strip adjacent to a private road may be reduced if the applicant receives written permission from the persons having a right-of-way over the private road.

The department may not grant a variance from the provisions of paragraph A or C. The department may grant a variance from paragraph B if the variance does not result in the natural buffer strip being reduced to less than 50 feet between the working edge of the excavation and any road and if the owner or operator installs visual screening and safety measures as required by the department.

A distance specified in this subsection is measured from the outside edge of the shoulder of the road unless otherwise specifically provided.

7. Property boundary. A natural buffer strip at least 100 feet wide must be maintained between an excavation and any property boundary. This distance may be reduced to 10 feet with the written permission of the affected abutting property owner or owners, except that the distance may not be reduced to less than 25 feet from the boundary of a cemetery or burial ground. The natural buffer strip between quarries owned by abutting owners may be eliminated with the abutter's written permission if the elimination of this natural buffer strip does not increase the runoff from either excavation across the property boundary. All property boundaries must be identified in the field by markings such as metal posts, stakes, flagging or blazed trees. The department may not grant a variance from the provisions of this subsection.

8. Erosion and sedimentation control. All reclaimed and unreclaimed areas, except for access roads, must be naturally internally drained at all times unless a variance is obtained from the department. Stockpiles consisting of topsoil to be used for reclamation must be seeded, mulched or otherwise temporarily stabilized.

A. Sediment may not leave the parcel or enter a protected natural resource.

B. Grubbed areas not internally drained must be stabilized.

C. Erosion and sedimentation control for access roads must be conducted in accordance with the department's best management practices for erosion and sedimentation control.

The department may not grant a variance from the provisions of paragraph A, B or C.

9. Surface water protection and storm water management. Surface water discharges from areas not required to be naturally internally drained may not be increased as a result of storm water runoff from storms up to a level of a 25-year, 24-hour storm. Accumulated water from precipitation must be put into sheet flow and the discharge point must be directed to an undisturbed natural buffer strip. The discharge point must be at least 250 feet away from a protected natural resource. The slope of the discharge area may not exceed 5%.

Grading or other construction activity on the site may not alter natural drainageways so that the drainage, other than that which occurred before development, adversely affects an adjacent parcel of land or so that the drainageways flowing from an adjacent parcel of land to the parcel are impeded.

Structures such as detention ponds, retention ponds and undersized culverts may not be used to meet the standard in this subsection unless a variance is obtained from the department.

10. Traffic. The following provisions govern traffic.

A. Entrances and exits of the quarry must be located, posted and constructed in accordance with standards for roadways in rules adopted by the board. Adequate distances for entering, exiting and stopping must be maintained in accordance with these standards. The department may not grant a variance from the provisions of this subsection. This paragraph is repealed July 1, 1997.

B. Any excavation activity that generates 100 or more passenger car equivalents at peak hour must comply with the applicable permit requirements under article 6. This paragraph takes effect July 1, 1997.

11. Noise. Noise levels may not exceed applicable noise limits in rules adopted by the board.

12. Dust. Dust generated by activities at a quarry, including dust associated with traffic to and from a quarry, must be controlled by sweeping, paving, watering or other best management practices for control of fugitive emissions. Dust control methods may include calcium chloride as long as the manufacturer's labeling guidelines are followed. The department may not grant a variance from the provisions of this subsection.

13. Reclamation. The affected land must be restored to a condition that is similar to or compatible with the conditions that existed before excavation. Reclamation may be conducted in accordance with the department's best management practices for erosion and sedimentation control and must include the following.

A. Highwalls, or quarry faces, must be treated in such a manner as to leave them in a condition that minimizes the possibility of rock falls, slope failures and collapse. A highwall that is loose must be controlled by the use of blasting or scaling, the use of safety benches, the

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use of flatter slopes or reduced face heights or the use of benching near the top of the face or rounding the edge of the face.

B. A vegetative cover must be established by seeding or planting within one year of the completion of excavation. Vegetative cover must be established on all affected land, including safety benches, except for quarry walls and flooded areas. Topsoil must be placed, seeded and mulched within 30 days of final grading. Vegetative cover is acceptable if within one year of seeding:

(1) The planting of trees and shrubs results in a permanent stand or a stand capable of regeneration and succession sufficient to ensure a 75% survival rate; and

(2) The planting of all material results in permanent 90% ground cover.

Vegetative cover used in reclamation must consist of grasses, legumes, herbaceous or woody plants, shrubs, trees or a mixture of these.

C. All structures, once no longer in use, and all access roads, haul roads and other support roads must be reclaimed.

D. All affected lands must be reclaimed within 2 years after final grading.

E. Topsoil that is stripped or removed must be stockpiled for use in reclaiming disturbed land areas. The department may grant a variance from this paragraph if the applicant demonstrates that the soil is not needed for reclamation purposes.

F. The department may require a bond payable to the State with sureties satisfactory to the department or such other security as the department determines adequately secures compliance with this article, conditioned upon the faithful performance of the requirements set forth in this article. Other security may include a security deposit with the State, an escrow account and agreement, insurance or an irrevocable trust. In determining the amount of the bond or the security, the department shall take into consideration the character and nature of the overburden, the future suitable use of the land involved and the cost of grading and reclamation required. All proceeds of forfeited bonds or other security must be expended by the department for the reclamation of the area for which the bond was posted and any remainder returned to the operator.

G. The board may adopt or amend rules to carry out this subsection, including rules relating to operational or maintenance plans; standards for determining the reclamation period; annual revisions of those plans; limits, terms and conditions on bonds or other security; proof of financial responsibility of a person engaged in excavation activity or the affiliated person who guarantees performance; estimation of reclamation costs; reports on reclamation activities; and the manner of determining when the bond or other security may be discharged.

14. Blasting. The applicant must ensure that the blasting is conducted in accordance with Title 25, section 2441.

A. The owner or operator shall use sufficient stemming, matting or natural protective cover to prevent flyrock from leaving property owned or under control of the owner or operator or from entering protected natural resources or natural buffer strips. Crushed rock or other suitable material must be used for stemming when available; native gravel, drill cuttings or other material may be used for stemming only if no other suitable material is available.

B. The maximum allowable airblast at any inhabited building not owned or controlled by the developer may not exceed 129 decibels peak when measured by an instrument having a flat response (+ or - 3 decibels) over the range of 5 to 200 hertz.

C. The maximum allowable airblast at an uninhabited building not owned or controlled by the developer may not exceed 140 decibels peak when measured by an instrument having a flat response (+ or - 3 decibels) over the range of 5 to 200 hertz.

D. Monitoring of airblast levels is required in all cases for which a preblast survey is required by paragraph F. The department may waive the monitoring requirement if the owner or operator secures the permission of affected property owners to increase allowable airblast levels on their property and the department determines that no protected natural resource will be adversely affected by the increased airblast levels.

E. If a blast is to be initiated by detonating cord, the detonating cord must be covered by crushed rock or other suitable cover to reduce noise and concussion effects.

F. A preblast survey is required for all production blasting and must extend a minimum radius of 2000 feet from the blast site. The preblast survey must document any preexisting damage to structures and buildings and any other physical features within the survey radius that could reasonably be affected by blasting. Assessment of features such as pipes, cables, transmission lines and wells and other water supply systems must be limited to surface conditions and other readily available data, such as well yield and water quality. The preblast survey must be conducted prior to the initiation of blasting at the operation. The owner or operator shall retain a copy of all preblast surveys for at least one year from the date of the last blast on the development site.

(1) The owner or operator is not required to conduct a preblast survey if the department determines that no protected natural resource within the limits of the otherwise required survey is likely to be affected by blasting and production blasting will not occur within 2000 feet of any building not owned or under the control of the developer.

(2) The owner or operator is not required to conduct a preblast survey on properties for which the owner or operator documents the rejection of an offer by registered letter, return receipt requested, to conduct a preblast survey. Any person owning a building within a preblast survey radius may voluntarily waive the right to a survey.

(3) The owner or operator is not required to conduct a preblast survey if the owner or operator agrees to design all blasts so that the weight of explosives per eight millisecond or greater delay does not exceed that determined by the equation $W=(D/D_s)^2$, where W is the maximum allowable weight of explosives per delay of 8 milliseconds or greater, D is the shortest distance between any area to be blasted and any inhabitable structure not owned or controlled by the developer and D_s equals 70 ft./ $(lb.)^{1/2}$.

G. Blasting may not occur in the period between sundown and sunrise the following day or in the period 7:00 p.m. and 7:00 a.m., whichever is greater. Routine production blasting is not allowed in the daytime on Sunday. Detonation of misfires may occur outside of these times but must be reported to the department within 5 business days of the misfire detonation. Blasting may not occur more frequently than 4 times per day. Underground production blasting may be exempted from these requirements provided that a waiver is granted by the department.

H. Sound from blasting may not exceed the following limits at any protected location:

Number of Blast Per Day	Sound Level Limit
1	129 dbI
2	126 dbI
3	124 dbI
4	123 dbI

I. The maximum peak particle velocity at inhabitable structures not owned or controlled by the developer may not exceed the levels established in Table 1 in paragraph K and the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1. The department may grant a variance to allow ground vibration levels greater than 2 inches per second on undeveloped property not owned or controlled by the applicant if the department determines that no protected natural resource, unusual natural area or historic site will be adversely affected by the increased ground vibration levels. If inhabitable structures are constructed on the property after approval of the development and prior to completion of blasting, the developer immediately must notify the department and modify blasting procedures to remain in compliance with the standards of this subsection.

J. Based upon an approved engineering study, the department may grant a variance to allow higher vibration levels for certain buildings and infrastructures. In reviewing a variance application, the department shall take into account that the standards in this paragraph and paragraph I are designed to protect conventional low-rise structures such as churches, homes and schools. In cases of practical difficulty, the department may grant a variance from paragraph I if it can be demonstrated that no adverse impacts on existing infrastructures or protected natural resources, unusual natural areas or historic sites will result.

K. Table 1 of this paragraph or the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 must be used to evaluate ground vibration effects for those blasts for which a preblast survey is required.

(1) Either Table 1 of this paragraph or graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 may be used to evaluate ground vibration effects when blasting is to be monitored by seismic instrumentation.

(2) Blasting measured in accordance with Table 1 of this paragraph must be conducted so that the peak particle velocity of any one of the 3 mutually perpendicular components of motion does not exceed the ground vibration limits at the distances specified in Table 1 of this paragraph.

(3) Seismic instruments that monitor blasting in accordance with Table 1 of this paragraph must have the instrument's transducer firmly coupled to the ground.

(4) An owner or operator using Table 1 of this paragraph must use the scaled-distance equation, $W=(D/D_s)^2$, to determine the allowable charge weight of explosives to be detonated in any 8 millisecond or greater delay period without seismic monitoring, where W is equal to the maximum weight of explosives, in pounds, and D and D_s are defined as in Table 1 of this paragraph. The department may authorize use of a modified scaled-distance factor for production blasting if the owner or operator can demonstrate to a 95% confidence level, based upon records of seismographic monitoring at the specific site of the mining activity covered by the permit, that use of the modified scaled-distance factor will not cause the ground vibration to exceed the maximum allowable peak particle velocities of Table 1 of this paragraph.

(5) Blasting monitored in accordance with the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 must be conducted so that the continuously variable particle velocity criteria are not exceeded.

The owner or operator may apply for a variance of the ground vibration monitoring requirement prior to conducting blasting at the development site if the owner or operator agrees to design all blasts so that the weight of explosives per 8 millisecond or greater delay does not exceed that determined by the equation $W=(D/D_s)^2$, where W is the maximum allowable weight of explosives per delay of 8 milliseconds or greater, D is the shortest distance between any area to be blasted and any inhabitable structure not owned or controlled by the developer and D_s equals 70 ft./lb.^{1/2}. As a condition of the variance, the department may require submission of records certified as accurate by the blaster and may require the owner or operator to document compliance with the conditions of this paragraph.

The following is Table 1.

Distance versus Peak Particle Velocity Method

Distance (D) from the blast area (feet)	Maximum allowable peak particle velocity (Vmax) for ground vibration (in./sec.)	Scaled-distance factor (Ds) to be applied without seismic monitoring
0 to 300	1.25	50
301-5000	1.00	55
Greater than 5000	0.75	65

L. A record of each blast, including seismographic data, must be kept for at least one year from the date of the last blast, must be available for inspection at the development or at the offices of the owner or operator if the development has been closed, completed or abandoned before the one-year limit has passed and must contain at a minimum the following data:

- (1) Name of blasting company or blasting contractor;
- (2) Location, date and time of blast;
- (3) Name, signature and social security number of blaster;
- (4) Type of material blasted;
- (5) Number and spacing of holes and depth of burden or stemming;
- (6) Diameter and depth of holes;
- (7) Type of explosives used;
- (8) Total amount of explosives used;
- (9) Maximum amount of explosives used per delay period of 8 milliseconds or greater;
- (10) Maximum number of holes per delay period of 8 milliseconds or greater;
- (11) Method of firing and type of circuit;

- (12) Direction and distance in feet to the nearest dwelling, public building, school, church or commercial or institutional building neither owned nor controlled by the developer;
- (13) Weather conditions, including such factors as wind direction and cloud cover;
- (14) Height or length of stemming;
- (15) Amount of mats or other protection used;
- (16) Type of detonators used and delay periods used;
- (17) The exact location of each seismograph and the distance of each seismograph from the blast;
- (18) Seismographic readings;
- (19) Name and signature of the person operating each seismograph; and
- (20) Names of the person and the firm analyzing the seismographic data.

M. All field seismographs must record the full analog wave form of each of the 3 mutually perpendicular components of motion in terms of particle velocity. All seismographs must be capable of sensor check and must be calibrated according to the manufacturer's recommendations.

§490-AA. Inspections

The department may periodically inspect a site, examine relevant records of the owner or operator of a quarry, take samples and perform tests necessary to determine compliance with the provisions of this article.

§490-BB. Enforcement and penalties

The department shall administer and enforce the provisions of this article.

1. Stop-work order. The department may order the owner or operator of a quarry that is not operating in compliance with this article to cease operations until the noncompliance is corrected.

2. Penalty. A person who violates a provision of this article commits a civil violation and is subject to the penalties established under section 349. Penalties assessed for enforcement actions taken by the State are payable to the State.

3. Reclamation. If, after an opportunity for a hearing, the commissioner determines that the owner of an excavation site or the person who was engaged in the excavation activity at the excavation site has violated this article, the commissioner shall direct the department staff or contractors under the supervision of the commissioner to enter on the property and carry out the necessary reclamation. The person engaged in mining or any affiliated person who guarantees performance at the excavation site is liable for the reasonable expenses of this necessary reclamation. The commissioner may use the bond or other security paid under section 490-Z, subsection 13, paragraph F to meet the reasonable expenses of reclamation.

§490-CC. Variances

An owner or operator must comply with the performance standards in section 490-Z unless a variance from those performance standards is approved by the department. Except when prohibited by section 490-Z, the department may grant a variance from the performance standards in this article if the owner or operator affirmatively demonstrates to the department that the variance does not adversely affect natural resources or existing uses and does not adversely affect the health, safety and general welfare of the public. A variance application must include any fee applicable under section 490-EE. The department shall process the variance application according to chapter 2 and the rules adopted by the department for processing an application. An applicant for a variance under this article shall hold a public informational meeting as described in those rules.

The department shall publish a timetable for responding to variance applications in the same manner prescribed in section 344-B. A variance is not valid unless approved by the department and, if a municipality is the regulator, the municipality. In making its decision on a variance application, the department shall consider comments or information received and the compliance record of the owner or operator. The department shall inform the owner or operator of any significant concerns or issues raised.

§ 490-DD. Municipal enforcement; registration

A municipality may register for authority to enforce this article by adopting and submitting to the commissioner an ordinance that meets or exceeds the provisions of this article. The commissioner shall review that ordinance to determine whether that ordinance meets the provisions of this article and if the municipality has adequate resources to enforce the provisions of this article. If the commissioner determines that the ordinance meets the provisions of this article and that the municipality has the resources to enforce this article, the commissioner shall register that municipality for authority to enforce this article. Immediately upon approval by the commissioner, primary enforcement authority for this article vests in that municipality. The commissioner may not approve an ordinance under this section unless the ordinance requires that any request for a variance from the standards in the article be approved by the commissioner before the variance is valid.

1. Relation to home rule. This section may not be construed to limit a municipality's authority under home rule to adopt ordinances regulating quarries.

2. **Optional participation.** This article may not be construed to require a municipality to adopt any ordinance.¹

3. **Suspension of approval.** The commissioner may act to enforce any provision of this article or suspend the registration of a municipality if the commissioner determines that a municipal ordinance no longer conforms to the provisions of this article or that the municipality is not adequately enforcing this article. The commissioner shall notify a municipality of any such determination in writing. Suspension of municipal registration by the commissioner does not void or in any way affect a municipal ordinance or in any way limit the municipality's authority to enforce the provisions of its ordinance.

4. **Appeal.** A municipality may appeal to the board any decision of the commissioner under this section. Any decision by the board on appeal by a municipality constitutes final agency action.

§ 490-EE. Transfer of ownership or operation, review before expansion; fees

1. **Review before expansion.** Before expanding a quarry beyond an area that exceeds a total of 10 acres of reclaimed and unreclaimed land and before each additional 10-acre expansion, the owner or operator shall notify the regulator of the owner's or operator's intent to expand and must request an inspection. In the same manner as prescribed in section 344-B, the department shall publish a timetable for responding to inspection requests and shall inspect the site within that time period to determine the quarry's compliance with this article and other applicable laws administered by the department. The department may defer an inspection for a reasonable period when winter conditions at the site prevent the department from evaluating an expansion request. The department shall notify the owner or operator of a deferral under this section. Excavation activities may continue after the filing of a notice of an intent to expand. The failure of a regulator to conduct a site visit within a published time period is not a sufficient basis for a stop-work order under section 490-BB, subsection 1.

At the time of filing a notification of intent to expand, the owner or operator shall pay any fee required by this section.

2. **Transfer of ownership or operation.** A person who purchases a quarry that is operated under a notice of intent to comply, as established under section 490-Y, or who obtains operating authority of a quarry that operates under a notice of intent to comply must file within 2 weeks after the purchase or the obtaining of operating authority a notice of intent to comply on a form developed by the department. The new owner or operator may operate the quarry during this 2-week period without having filed a notice of intent to comply if the new owner or operator complies with all standards of this article.

3. **Fees.** The owner or operator a quarry shall pay the regulator:

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- A. An initial fee of \$250 upon filing a notice of intent to comply under section 490-Y;
- B. By March 1st of each year, an annual fee of:
- (1) Three hundred fifty dollars for an excavation from which 2,500 cubic yards or more of material will be extracted during that year; and
 - (2) Fifty dollars for all other excavations. To be eligible for the annual fee under this paragraph, the owner or operator must include with the payment of this fee a signed statement certifying that less than 2,500 cubic yards of material will be extracted during that year;
- C. A fee of \$250 for each variance requested under section 490-CC, except for the following:
- (1) A fee of \$500 for a variance to excavate below the seasonal high water table;
 - (2) A fee of \$500 for a variance to create an externally drained quarry;
 - (3) A fee of \$125, for a variance to waive the topsoil salvage requirement;
 - (4) A fee of \$125 for a variance to waive the monitoring requirements for airblasts and ground vibration; and
 - (5) A fee of \$250 upon filing a notice of intent to expand under section 490-EE; and¹
- D. A fee of \$250 upon filing a notice of intent to expand under this section.

Notwithstanding any other provision of this subsection, the total for all fees paid under paragraphs A and B for one quarry in one calendar year may not exceed \$350.

¹ This subparagraph will be deleted in the Revisor's Errors Bill

CITY OF PORTLAND, MAINE
MEMORANDUM

TO: Chair Caron and Members of the Portland Planning Board
FROM: Sarah Hopkins, Senior Planner
DATE: June 27, 2000
RE: Dragon Products Proposed Contract Zone

Included for the Planning Board's review is a revised draft of the proposed contract for rezoning, as well as an updated set of plans to be attached as exhibits to the contract.

These changes were made as a result of extensive discussions between the applicant and City staff. As a result, the contract is much more specific as to the proposed site development, authorized uses, timing of improvements, blasting limitations, reclamation standards, complaint protocol, zoning standards, and provisions for breach of contract.

The plans associated with the contract have also become more detailed and clearly specify what is existing and proposed. Measurements have been added to the plan to indicate distances between the proposed plant and Ocean Avenue, as well as the dimensions of the proposed Ocean Avenue berm.

We hope to review the contract during the workshop meeting in preparation for advertisement. Otherwise, if the Board would prefer, we can schedule additional workshops to go over any other issues associated with this proposal.

Attachments

1. Contract for Rezoning
2. Reclamation Standards
3. Blast Plan for Dragon
4. Proposed Protocol for Complaints
5. Plans/Exhibits

DRAGON PRODUCTS COMPANY, INC. AGREEMENT

This document is an Agreement made by DRAGON PRODUCTS COMPANY, INC., a corporation with a business address of 38 Preble Street, P.O. Box 1521, Portland, Maine 04104 ("DRAGON").

WHEREAS, DRAGON requested a rezoning of its property located at Ocean Avenue, in the City of Portland, a Maine municipality located in Cumberland County and State of Maine ("CITY" or "Portland") in order to permit the expansion of its existing legally nonconforming mining operation on the site of its legally nonconforming concrete plant; and


WHEREAS, DRAGON'S property is shown on Portland Assessor's Parcels: Map 416-A, Block A, Lot 2; Map 417, Block A, Lots 4, 5, 10 and 11; and Map 418, Block A, Lots 1, 3, 4, 5, 6, 9 and 10 ("Property"); and

WHEREAS, the Portland Planning Board, pursuant to 30-A M.R.S.A. §4352(8), and after notice and hearing and due deliberations, recommended the rezoning of the Property, subject, however, to certain conditions; and

WHEREAS, the CITY, by and through its City Council, has determined that the rezoning would be pursuant to and consistent with the CITY'S comprehensive land use plan and consistent with the existing and permitted uses within the original R-3 zone; and

WHEREAS, the CITY has determined that because of the unusual nature of the proposed development it is necessary or appropriate to impose the following conditions or restrictions in order to insure that the rezoning is consistent with the CITY's comprehensive land use plan; and

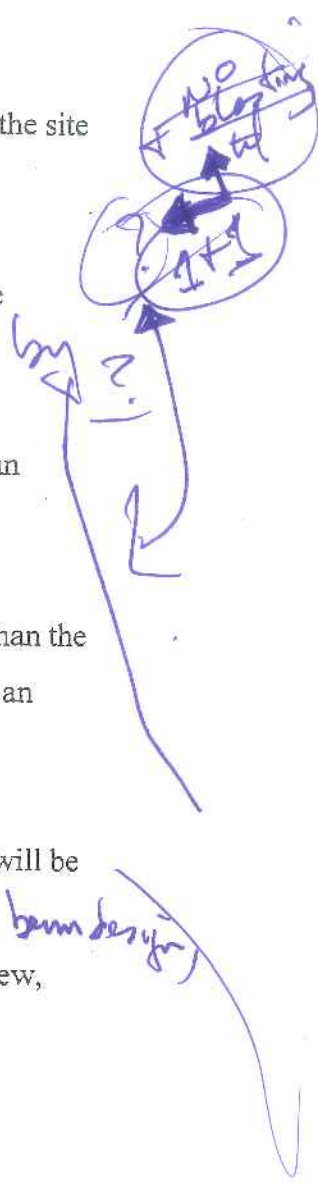
WHEREAS, the following plans and documents are attached to this Agreement and incorporated into this Agreement by reference:

- Attachment 1: City Zoning Map change (to be prepared by City)
- Attachment 2: Quarry Plan View (F-1) dated June 5, 2000
- Attachment 3: Plan View of Proposed Berm (F-2) dated June 5, 2000
- Attachment 4: Ocean Avenue Longitudal and Cross Sections (F-3) dated June 5, 2000
- Attachment 5: Reclamation Standards for Portland Quarry (20 pages)
- Attachment 6: Maine DEP Performance Standards for Quarries 
- Attachment 7: Blasting Plan (5 pages)
- Attachment 8: Protocol for Complaints and Resolutions

NOW, THEREFORE, in consideration of the zone change made by the CITY, DRAGON hereby agrees as follows:

1. Site Development: The Property shall be developed substantially in accordance with the site plans and elevations shown on Attachments 2-4. DRAGON shall:

- a. Remove the existing batch plant and silos, truck fuel depot, conveyor, concrete retaining wall and temporary ditch, and rock crushing facility.
- b. Relocated its batch plant and related operations no closer than 350 feet to Ocean Avenue, in the "approximate limit of operation area" shown on Attachment 2.
- c. Locate the new rock crusher facility no closer than 750 feet to Ocean Avenue than the operations area shown on Attachment 2, and enclose any rock crushing operations within an insulated building.
- d. A new earthen berm, fence, paved entrance, drainage ditch, and climbing lane will be developed along the west side of Ocean Avenue as shown on Attachments 2-4. The final *berm design* landscape planting schedule will be determined by the Planning Board in its site plan review, after consultation with the City Arborist.



e. DRAGON shall relocate the entrance driveway to the premises, and shall create a slip lane for slow-moving traffic along Ocean Avenue as shown on Attachments 2 and 3. To the extent that any of the new roadway or drainage improvements are located on land of DRAGON, it will deed that portion of its land to the CITY.

f. Develop a stormwater management plan for the entire site, including all improvements along Ocean Avenue and within the operations area according to MeDEP performance standards.

Provided, however, that such development shall be subject to full Site Plan review and approval by the Planning Board, which may approve modifications to these plans as part of the review process.

3. Authorized Uses: DRAGON shall only be authorized to establish and maintain the following uses or any combination of the uses on the Property, provided that such operations are limited to the areas shown on Attachment 2 and further provided that such operations meet the standards set forth in this Agreement and established by State and Federal law:

a. Mining of stone in the "quarry expansion area" and crushing of stone for use in manufacture of concrete on the site.

b. Concrete manufacture and processing.

c. Outdoor storage of materials, including rock piles utilized in the concrete manufacturing, material manufactured on the site, including concrete blocks produced as an incidental part of its operations, and related machinery and equipment.

e. All concrete trucks shall be hosed down before exiting the operations area on the Property to reduce the amount of debris and residue tracked onto Ocean Avenue.

f. Vehicle repair and storage and office operations within the existing Dragon Products Company garage facilities (3 bays) shown on Attachment 2.

4. Timing of Uses on Property: Prior to the commencement of any blasting, mining or rock crushing, Dragon shall obtain from the City a Certificate of Occupancy, verifying that all site alterations described in Section 2 and as otherwise approved by the Planning Board have been completed. DRAGON shall discontinue use of its existing batch plant within 30 days of its new batch plant being put into service, and shall remove its existing batch plant from the Property within 180 days of its use being discontinued.

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5. Time Limit for Site Improvements: If the Certificate of Occupancy is not issued within five (5) years of the date of final approval of this Agreement by the City Council, then the rezoning shall automatically terminate and the Property shall automatically revert to the R-3 or any successor zone classification.

6. Natural Buffer Areas: The existing trees and other natural vegetation in the "existing wooded buffer strip" on the south side of the site the "existing vegetation" on the north side of the site shown on Attachment 2 shall remain in their natural state. These areas, or any portions of them, may not be separately conveyed apart from the Property as a whole, while any blasting, mining, concrete manufacturing, or other uses not consistent with the underlying R-3 or successor zone are being conducted on the Property.

7. Time Limits on Blasting: DRAGON shall limit the total number of blasts on the site to a maximum of twenty (20) individual blasts per year. In no event shall more than four (4) individual blasts per month be permitted. All blasting and rock crushing on the site shall occur on Monday through Friday between the hours of 9:00 a.m. and 4:00 p.m. and between the months of March and November.

8. Blasting Operations: DRAGON agrees to comply with all requirements of the Maine Department of Environmental Protection regarding mining operations on its site, including those set forth in 38 M.R.S.A. §§490-W to 490EE (Attachment 6) as it may be amended, except where municipal standards adopted by the CITY which are not otherwise described in this Agreement are more restrictive, the CITY standards shall apply. The MeDEP standards shall include, but not be limited to:

- a. Blasting standards described in §490-Z (14), including preblast surveys as described in subsection (F), sound standards described in subsection (H), vibration standards described in subsections (I) - (K), and blasting records as described in subsection (L), including records of peak particle velocity and decibels for each blast.
- b. Dust standards described §490-Z (12)
- c. Reclamation standards described in §490-Z (13)

All blasting shall also be conducted in accordance with the Blasting Plan, Pre-blast Inspection Procedures, Drilling and Blasting Procedures Blasting Records standards shown on Attachment 7. ?

9. Complaint Protocol: DRAGON shall maintain the complaint resolution protocol and City reporting protocol described in Attachment 8. Furthermore, in the event of prolonged and chronic complaints of substantial noncompliance with the terms of this Agreement by DRAGON, the CITY may ask the MeDEP to review DRAGON's blasting operations for compliance with this Agreement. If DRAGON fails to implement any changes recommended by the MeDEP within a reasonable time period, then the CITY may hire third-party blasting engineers to conduct a 'peer review' of DRAGON's blasting operations and compliance with this Agreement, and the CITY's reasonable costs for such engineers shall be reimbursed by DRAGON. *Planning Authority*

10. Reclamation of Site: Reclamation of the Property into a vegetated, useable condition shall be completed substantially in accordance with the reclamation plan described in Attachment 5 within 2 years of completion of the mining on the Property; provided, however, that such plan shall be subject to full review and approval by the Planning Board before being implemented.

11. City Zoning Standards: DRAGON shall meet all IL zoning standards contained in sections 14-234, 14-235, and 14-236 of the Portland City Code, except as follows:

- a. No new fence shall be required pursuant to 14-235(6) except as shown on Attachments 2-4 and as may be required by the Planning Board during final site plan review.
- b. Outside storage of stone shall not be required to meet the standards of §14-235(10).
- c. Vibration standards in §14-236(3) shall not apply to blasting, and IM vibration standards found in §14-252(3) shall apply to all other operations.
- d. Noise standards in §14-236(1) shall not apply to blasting.
- e. The existing concrete batch plant shall be allowed to generate 78 decibels along the Ocean Avenue frontage until it is removed from the Property, but the new concrete production building shall comply with §14-236(1) when measured at property lines of the Property.

12. Parcels east of Ocean Avenue: As long as it operates its existing concrete batch plant, DRAGON shall maintain ownership of the parcels east of Ocean Avenue across from the Property, more particularly described as Tax Map 418-A, Block A, Lots 5 and 12 in the records of the Assessor of the City of Portland.

13. DRAGON's Successors: If DRAGON sells or transfers the Property to any new owner in the future which wants to continue the blasting, mining and concrete manufacturing operations, then any prospective new owner must receive written approval from the City of Portland Planning Department as to that owner's technical and financial abilities to comply with the terms of this contract, and the new owner must sign a copy of this Agreement agreeing to comply with all of its terms.

13

14. Record Notice: DRAGON agrees to record this Agreement in the Cumberland County Registry of Deeds, and to include a reference to it in any deed conveying any of the Property.

The above stated restrictions, provisions and conditions are an essential part of the rezoning, shall run with and bind the subject premises, shall bind DRAGON, its successors and assigns, as owner of the Property or any part thereof or interest therein, and any party in possession or occupancy of the Property or any part thereof, and shall inure to the benefit of and be enforceable by the CITY, by and through its duly authorized representatives.

If any of the restrictions, provisions, conditions, or portions thereof set forth herein is for any reason held invalid or unconstitutional by any Court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such determination shall not affect the validity of the remaining portions hereof.

Except as expressly modified herein, the use and occupancy of the Property shall be governed by and comply with the IL zoning provisions of the Land Use Code of the City of Portland and any applicable amendments thereto or replacement thereof.

In the event that the CITY claims that DRAGON or any successor has failed to utilize the Property in accordance with this Agreement, or otherwise breached any conditions set forth in this Agreement, the Planning Board shall have the authority, after giving DRAGON a hearing and opportunity to be heard, to determine whether any breach has occurred, before the CITY brings any judicial enforcement action for the breach of this agreement. If it is determined in such judicial enforcement action that DRAGON has breached this Agreement, and DRAGON fails to comply with the Agreement in a timely manner after such judicial determination, then the Planning Board may also make a recommendation to the City Council that this Agreement be terminated, requiring a cessation of the blasting and mining use permitted under this terms of this Agreement; provided that the termination of the contract will not require cessation of the concrete manufacturing and processing uses located on the site prior to the date of execution of

this Agreement, or as relocated pursuant to this Agreement.

WITNESS:

DRAGON PRODUCTS COMPANY, INC.

_____ By: _____

Print Name: _____

Its: _____

STATE OF MAINE
CUMBERLAND, ss.

Date: _____, 2000

Personally appeared the above-named _____, in his/her
said capacity and acknowledged the foregoing instrument to be his/her free act and deed and the
free act and deed of Dragon Products Company, Inc.

Before me,

Notary Public/Attorney at Law

Print Name: _____

Draft: June 20, 2000
P:\CSN\Dragon\ZoningContract2.wpd

MEMORANDUM

TO: DAVID GRINNELL
FROM: ANN W. THAYER, C.G., ENVIRONMENTAL MANAGER
SUBJECT: RECLAMATION STANDARDS FOR PORTLAND QUARRY
DATE: 1/26/00

I understand that the Portland Planning Board has requested additional information on the reclamation of Dragon's Ocean Ave. quarry. The attached is a summary of reclamation requirements that are consistent with 38 MRSA 490-Z Performance Standards for Quarries. Reclamation, as defined under Article 8-A, means "the rehabilitation of the area of land affected by mining, including, but not limited to, stabilization of slopes and creation of safety benches, the planting of forests, the seeding of grasses..." The objective of the reclamation standard is to minimize the impact posed by an affected area.

Dragon will be required to restore the affected lands associated with the Ocean Ave operation to a condition that minimizes the safety risks posed by the site, is protective of future impacts to the environment (from fugitive dusts, soil and sediment run-off, etc) and is consistent with the intended future use of the site (residential, open-space, commercial or industrial use). In general, Dragon has an obligation to stabilize rock slopes to prevent rockfalls and to stabilize overburden in accordance with the best management practices for erosion and sedimentation control. In meeting the performance standard for quarry reclamation, Dragon will be required to address the following:

- A. Highwalls, or quarry faces, are to be treated in such a manner as to leave them in a condition that minimizes the possibility of rock falls, slope failures and collapse. A highwall that is loose may be controlled by the use of blasting or scaling, the use of safety benches, the use of flatter slopes or reduced face heights, or the use of benching near the top of the face or rounding the edge of the face.
- B. Exposed overburden or soil is to be stabilized to minimize erosion and promote sedimentation control. Slopes are to be graded to minimize run-off and exposed soil may be mulched or otherwise covered until a vegetative cover is established.
- C. A vegetative cover is to be established by seeding affected land except for quarry walls and flooded areas. Vegetative cover used in reclamation may consist of grasses, legumes, herbaceous or woody plants, shrubs, trees or a mixture of these.
- D. Unusable structures are to be removed and unusable access roads, haul roads and other support roads are to be reclaimed.
- E. Affected lands are to be reclaimed within 2 years after final operational grading has been reached.

MAINE DRILLING & BLASTING

Blast Plan Prepared For

Dragon Cement
City of Portland
Cumberland County, Maine

BLASTING PLAN

Submitted by:
Maine Drilling & Blasting, Inc.

The blasting for this project will be done in a safe and efficient manner by personnel who are highly trained and competent in controlled blasting techniques. They will have access to the latest equipment and technology in the industry.

The Drilling and blasting company will at all times operate within the safety guidelines set by the Mine Safety and Health Administration (Dept. Of Labor) and blasting criteria set by the United States Office of Surface Mines.

To monitor ground vibrations and wave frequencies, seismographs measuring peak ground particle velocities in the three spacial components of vertical, longitudinal and transverse along with their correlative dominant frequencies will be used. Velocities are measured in inches per second (IPS), and the frequency is measured in hertz (Hz). These measurements are recorded within ranges of 0.01 IPS to 5.0 IPS and 5 HZ to 250 HZ. The air blast is measured in dB, within a range of 100 - 142 dB. A complete wave form depicting the vibration from the blast and measurement of the air blast over pressure and are included in the printout for each blast. Seismic monitoring will be made on every blast to determine adjustments in size of shots, shot patterns, powder factors and other elements of the design to ensure that the limits set out are not exceeded.

A copy of the seismograph's calibration certificate will accompany the seismographs used on site. All seismographs used will have been calibrated within the past one (1) year.

Due to the sensitive nature of neighbors, sequential blasting methods will be used. This will greatly reduce ground and air vibrations from quarry shots and lessen the likelihood of complaints from blasting.

All explosives, blasting agents and initiation devices will be stored during the day in truck magazines that meet local, state and federal regulations. Magazines will be kept locked at all times, except when materials are removed for use at the blast site. Detonators will be isolated from the explosives by a separate compartment designed to IME SLP No. 22 standards. The vehicles having explosives will be equipped with warning placards, fire extinguishers and back-up alarms. All explosives will be delivered to and vacated from the job site at the beginning and end of each work day. No explosives will be stored on site.

The handling, use and storage of explosives will meet all applicable codes including State, County, and Municipal codes, laws, rules and regulations.

PRE-BLAST INSPECTION PROCEDURES

There will be pre-blast inspections on all structures within 2000' radius of the blast area which will cover interior and exterior conditions, cosmetic and structural findings. In addition to these inspections, each property owner receives our pamphlet outlining our procedures, methods and safety systems. This pamphlet also answers some of the most common questions asked by property owners.

The fire and police departments will be notified 24 hours prior to each day of blasting and any necessary signs will be erected to notify people that they are entering or leaving a blasting zone. A neighborhood call list will be generated for those who wish to be notified prior to each blast event.

The following notice will be placed in the (newspaper) at a minimum of 5 days before initial blasting is to begin each year.

NOTIFICATION OF BLASTING

Blasting for the (name of job) is scheduled to begin on or about (date).

Warning whistles will notify person in the area of work:

3 whistles - 5 minutes to blast
2 whistles - 1 minute to blast
1 whistles - All clear

(Contractor)
(Telephone Number)

Any necessary blasting permits will be obtained by the blaster and copies provided to the Contractor at that time.

All blasting operations shall be conducted by experienced, trained and competent persons who understand the hazards involved. Persons working with explosive materials shall:

1. Have demonstrated a knowledge of, and a willingness to comply with, safety and security requirements.
2. Be capable of using mature judgment in all situations.
3. Be in good physical condition and not addicted to intoxicants, narcotics, or other similar type of drugs.
4. The person(s) responsible for the explosives shall possess current knowledge of the local, State and Federal laws and regulations applicable to his work.
5. The person(s) responsible for the explosives shall have obtained a Certificate of Competency or a license as required by State law.

DRILLING AND BLASTING PROCEDURES

1. Blasting operations shall commence after 9:00 AM and cease before 4:00 PM, Monday through Friday.
2. Blasting may not be conducted at times different from those announced in the blasting schedule except in emergency situations, such as electrical storms or public safety required unscheduled detonation.
3. Warning and all-clear signals of different character shall be audible throughout the blast zone. All persons within the permit area shall be notified of the meaning of the signals through appropriate instructions and signs posted. The following warnings will be used:
 - Three (3) blasts at 5 minutes before the blast.
 - Two (2) blasts at 1 minute before the blast.
 - One (1) blast following the blast indicating all clear.
4. Access to the blasting area shall be regulated to protect the public from the effects of blasting. Access to the blasting area shall be controlled to prevent unauthorized entry at least 10 minutes before each blast and until the permittee's authorized representative has determined that no unusual circumstances exist after the blast. Access to and travel in or through the area can then safely resume.
5. Areas in which charged holes are awaiting firing shall be guarded, barricaded and posted, or flagged against unauthorized entry.
6. All blasts shall be made in the direction of the stress relieved face previously marked out or previously blasted.
7. All stemming shall be minimum as specified using clean, dry crushed stone.
8. Powder factors will be based upon drill patterns and hole sizes which are consistent with rock breakage as well as a minimum impact to neighbors of the quarry. Typical powder factors will range between 1.0 and 1.5 lbs. of explosives per cubic yard.
9. The explosives to be used will consist of ANFO for dry loaded holes and packaged or bulk products for wet loaded holes (i.e. Water Gels, Emulsions). All holes will have an adequate primer charge sufficient to detonate the entire explosive column and the initiation devices will be determined upon conditions (i.e. electric or non-electric detonators)
10. All drill machines will conform with MSHA/OSHA regulations. They will also be equipped with water systems and dust collector devices to lower the impact that dust particles may have on neighbors and the people working around them.

BLASTING RECORD

A record of each blast, including seismograph reports, shall be retained for at least 3 years. The record shall contain the following data:

1. Name of permittee, operator or other person conducting the blast.
2. Location, date and time of blast.
3. Name, signature and license number of blaster in charge.
4. Direction and distance, in feet, to nearest dwelling, school, church, commercial or institutional building or other structure.
5. Weather conditions.
6. Type of material blasted.
7. Number of holes, depth of hole, burden, spacing and stemming.
8. Diameter and depth of holes.
9. Types of explosives used.
10. Total weight of explosives used.
11. Maximum weight of explosives detonated within any 8 millisecond period.
12. Methods of firing and type of circuit.
13. Type and depth of stemming.
14. Mats or other protections used.
15. Type of delay detonator used and delay periods used.
16. Comments or recommendations by blaster.
17. Seismograph records including:
 - a. Seismograph reading, including exact location of seismograph and its distance from the blast.
 - b. Name of person taking the seismograph reading.



Corporate Offices

38 Preble St. • P.O. Box 1521
Portland, Maine 04104
207-774-6555 • Fax 207-761-5694

Attachment 4

PORTLAND QUARRY-PROPOSED PROTOCOL FOR DOCUMENTATION OF COMPLAINTS & RESOLUTION

- Dragon shall provide contact names and telephone numbers of Dragon personnel to be notified regarding complaints associated with the Portland Quarry facility *annually*. These contact names shall include the supervisor of the quarry operation, Dragon's environmental manager and Dragon's divisional vice-president. This information shall be provided to all neighbors / neighborhoods in the Ocean Avenue vicinity of the quarry with the annual tentative schedule of "blast events".
- Dragon shall contact all individuals registering a complaint within 48 hours to discuss the nature of the complaint and appropriate manner in which to address the specific issue. As necessary, Dragon shall arrange for personal meetings with individuals who register complaints, to further discuss their specific issue.
- Depending on the nature and magnitude of a complaint, Dragon may, as deemed necessary, arrange for an additional meeting to address specific issues of a complaint. This meeting potentially could include Maine D.E.P., City of Portland officials, drilling and blasting experts, engineering experts, and appropriate legal counsel.
- Dragon shall investigate all complaints and respond to such, in writing, within 10 days of the initial registering of the complaint. While this written response may not resolve the complaint, it shall include a chronology of the complaint, status to date, and shall be copied to designated representatives of the City of Portland.
- Dragon shall furnish the City, on an annual basis, a summary of complaints from the previous year regarding the quarry operation, and details of resolution plan. Dragon shall maintain the records of complaints for a minimum of 5 years. This records shall be available to the City of Portland upon request.

DRAGON[®]
PRODUCTS COMPANY

ATTACHMENT 8

CITY OF PORTLAND, MAINE
MEMORANDUM

TO: Chair Caron and Members of the Portland Planning Board

FROM: Sarah Hopkins, Senior Planner

DATE: June 27, 2000

RE: Dragon Products Proposed Contract Zone

Included for the Planning Board's review is a revised draft of the proposed contract for rezoning, as well as an updated set of plans to be attached as exhibits to the contract.

These changes were made as a result of extensive discussions between the applicant and City staff. As a result, the contract is much more specific as to the proposed site development, authorized uses, timing of improvements, blasting limitations, reclamation standards, complaint protocol, zoning standards, and provisions for breach of contract.

The plans associated with the contract have also become more detailed and clearly specify what is existing and proposed. Measurements have been added to the plan to indicate distances between the proposed plant and Ocean Avenue, as well as the dimensions of the proposed Ocean Avenue berm.

We hope to review the contract during the workshop meeting in preparation for advertisement. Otherwise, if the Board would prefer, we can schedule additional workshops to go over any other issues associated with this proposal.

Attachments

1. Contract for Rezoning
2. Reclamation Standards
3. Blast Plan for Dragon
4. Proposed Protocol for Complaints
5. Plans/Exhibits

DRAGON PRODUCTS COMPANY, INC. AGREEMENT

This document is an Agreement made by DRAGON PRODUCTS COMPANY, INC., a corporation with a business address of 38 Preble Street, P.O. Box 1521, Portland, Maine 04104 ("DRAGON").

WHEREAS, DRAGON requested a rezoning of its property located at Ocean Avenue, in the City of Portland, a Maine municipality located in Cumberland County and State of Maine ("CITY" or "Portland") in order to permit the expansion of its existing legally nonconforming mining operation on the site of its legally nonconforming concrete plant; and

WHEREAS, DRAGON'S property is shown on Portland Assessor's Parcels: Map 416-A, Block A, Lot 2; Map 417, Block A, Lots 4, 5, 10 and 11; and Map 418, Block A, Lots 1, 3, 4, 5, 6, 9 and 10 ("Property"); and

WHEREAS, the Portland Planning Board, pursuant to 30-A M.R.S.A. §4352(8), and after notice and hearing and due deliberations, recommended the rezoning of the Property, subject, however, to certain conditions; and

WHEREAS, the CITY, by and through its City Council, has determined that the rezoning would be pursuant to and consistent with the CITY'S comprehensive land use plan and consistent with the existing and permitted uses within the original R-3 zone; and

WHEREAS, the CITY has determined that because of the unusual nature of the proposed development it is necessary or appropriate to impose the following conditions or restrictions in order to insure that the rezoning is consistent with the CITY's comprehensive land use plan; and

WHEREAS, the following plans and documents are attached to this Agreement and incorporated into this Agreement by reference:

- Attachment 1: City Zoning Map change (to be prepared by City)
- Attachment 2: Quarry Plan View (F-1) dated June 5, 2000
- Attachment 3: Plan View of Proposed Berm (F-2) dated June 5, 2000
- Attachment 4: Ocean Avenue Longitudal and Cross Sections (F-3) dated June 5, 2000
- Attachment 5: Reclamation Standards for Portland Quarry (20 pages)
- Attachment 6: Maine DEP Performance Standards for Quarries
- Attachment 7: Blasting Plan (5 pages)
- Attachment 8: Protocol for Complaints and Resolutions

NOW, THEREFORE, in consideration of the zone change made by the CITY, DRAGON hereby agrees as follows:

1. Site Development: The Property shall be developed substantially in accordance with the site plans and elevations shown on Attachments 2-4. DRAGON shall:
 - a. Remove the existing batch plant and silos, truck fuel depot, conveyor, concrete retaining wall and temporary ditch, and rock crushing facility.
 - b. Relocated its batch plant and related operations no closer than 350 feet to Ocean Avenue, in the "approximate limit of operation area" shown on Attachment 2.
 - c. Locate the new rock crusher facility no closer than 750 feet to Ocean Avenue than the operations area shown on Attachment 2, and enclose any rock crushing operations within an insulated building.
 - d. A new earthen berm, fence, paved entrance, drainage ditch, and climbing lane will be developed along the west side of Ocean Avenue as shown on Attachments 2-4. The final landscape planting schedule will be determined by the Planning Board in its site plan review, after consultation with the City Arborist.

e. DRAGON shall relocate the entrance driveway to the premises, and shall create a slip lane for slow-moving traffic along Ocean Avenue as shown on Attachments 2 and 3. To the extent that any of the new roadway or drainage improvements are located on land of DRAGON, it will deed that portion of its land to the CITY.

f. Develop a stormwater management plan for the entire site, including all improvements along Ocean Avenue and within the operations area according to MeDEP performance standards.

Provided, however, that such development shall be subject to full Site Plan review and approval by the Planning Board, which may approve modifications to these plans as part of the review process.

3. Authorized Uses: DRAGON shall only be authorized to establish and maintain the following uses or any combination of the uses on the Property, provided that such operations are limited to the areas shown on Attachment 2 and further provided that such operations meet the standards set forth in this Agreement and established by State and Federal law:

a. Mining of stone in the "quarry expansion area" and crushing of stone for use in manufacture of concrete on the site.

b. Concrete manufacture and processing.

c. Outdoor storage of materials, including rock piles utilized in the concrete manufacturing, material manufactured on the site, including concrete blocks produced as an incidental part of its operations, and related machinery and equipment.

e. All concrete trucks shall be hosed down before exiting the operations area on the Property to reduce the amount of debris and residue tracked onto Ocean Avenue.

f. Vehicle repair and storage and office operations within the existing Dragon Products Company garage facilities (3 bays) shown on Attachment 2.

4. Timing of Uses on Property: Prior to the commencement of any blasting, mining or rock crushing, Dragon shall obtain from the City a Certificate of Occupancy, verifying that all site alterations described in Section 2 and as otherwise approved by the Planning Board have been completed. DRAGON shall discontinue use of its existing batch plant within 30 days of its new batch plant being put into service, and shall remove its existing batch plant from the Property within 180 days of its use being discontinued.

5. Time Limit for Site Improvements: If the Certificate of Occupancy is not issued within five (5) years of the date of final approval of this Agreement by the City Council, then the rezoning shall automatically terminate and the Property shall automatically revert to the R-3 or any successor zone classification.

6. Natural Buffer Areas: The existing trees and other natural vegetation in the "existing wooded buffer strip" on the south side of the site the "existing vegetation" on the north side of the site shown on Attachment 2 shall remain in their natural state. These areas, or any portions of them, may not be separately conveyed apart from the Property as a whole, while any blasting, mining, concrete manufacturing, or other uses not consistent with the underlying R-3 or successor zone are being conducted on the Property.

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If any of the restrictions, provisions, conditions, or portions thereof set forth herein is for any reason held invalid or unconstitutional by any Court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such determination shall not affect the validity of the remaining portions hereof.

Except as expressly modified herein, the use and occupancy of the Property shall be governed by and comply with the IL zoning provisions of the Land Use Code of the City of Portland and any applicable amendments thereto or replacement thereof.

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this Agreement, or as relocated pursuant to this Agreement.

WITNESS:

DRAGON PRODUCTS COMPANY, INC.

_____ By: _____

Print Name: _____

Its: _____

STATE OF MAINE
CUMBERLAND, ss.

Date: _____, 2000

Personally appeared the above-named _____, in his/her
said capacity and acknowledged the foregoing instrument to be his/her free act and deed and the
free act and deed of Dragon Products Company, Inc.

Before me,

Notary Public/Attorney at Law

Print Name: _____

Draft: June 20, 2000
P:\CSN\Dragon\ZoningContract2.wpd

KELLY, REMMEL & ZIMMERMAN

ATTORNEYS AT LAW

53 EXCHANGE STREET

P.O. BOX 597

PORTLAND, MAINE 04112-0597

JOHN N. KELLY
U. CHARLES REMMEL, II
BARRY ZIMMERMAN
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June 27, 2000

Hand Delivered

Mr. Joseph Gray, Jr.
Portland Planning Board
Portland City Hall
389 Congress Street
Portland, Maine 04101

Re: J. B. Brown, 901 Washington Avenue

Dear Mr. Gray:

I write this brief letter to express the support of my client, Scott Cohen, to the 27,000 square foot office building being proposed by J. B. Brown at 901 Washington Avenue. Thank you for bringing my client's support of this project to the Board.

Sincerely yours,



Barry Zimmerman

BZ/pp

cc: Scott Cohen

KELLY, REMMEL & ZIMMERMAN

ATTORNEYS AT LAW
53 EXCHANGE STREET
P.O. BOX 597
PORTLAND, MAINE 04112-0597

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800-540-4212

FAX
207-773-4895

E-MAIL ADDRESS
admin@krz.com

WEB SITE
www.krz.com

June 27, 2000

Hand Delivered

Mr. Joseph Gray, Jr.
Portland Planning Board
Portland City Hall
389 Congress Street
Portland, Maine 04101

Re: J. B. Brown, 901 Washington Avenue

Dear Mr. Gray:

I write this brief letter to express the support of my client, Scott Cohen, to the 27,000 square foot office building being proposed by J. B. Brown at 901 Washington Avenue. Thank you for bringing my client's support of this project to the Board.

Sincerely yours,


Barry Zimmerman

BZ/pp
cc: Scott Cohen

Scott Cohen
P. O. Box 9715-350
Portland, Maine 04104-5015

August 7, 1998

Dragon Products Co., Inc.
38 Preble Street
Portland, ME 04101

Re: Blasting Near Pheasant Hill, Portland, Maine

Dear Sir or Madam:

My name is Scott Cohen and I am the owner of Lots 23, 24 and 25 in the Pheasant Hill subdivision in Portland near your Ocean Avenue facility. It is my understanding that you are seeking approval of local and state officials for an extension of your blasting program for that facility. As one of the owners of the largest tract of land near your site (approximately 12 acres) I wanted to share with you my thoughts and comments regarding your proposed blasting.

As a general matter, I would support blasting as I do any reasonable effort at responsible commercial activity and I plan to publicly support your project. As I have reviewed the scope of the intended blasting, several matters have arisen which are of concern to me. First, it would be my hope to limit blasting to the time period of 9:00 a.m. to 5:00 p.m. on week days. Second, I am concerned with the possibility of structural damage to my house from the blasting and I wonder if it would be wise to obtain a structural survey of my house to give a benchmark to insure that the blasting does not result in any structural damage to the building. Finally, I am concerned about the issue of underground water. I would like to have this issue addressed by appropriate pre-blast testing. Since it is my intention to have my home serviced by an underground private well, the testing would necessarily involve both quantity and quality of water. I would welcome your input as to ways we can insure that the water quality and quantity will not be adversely effected by the blasting.

It may be that as you proceed, I can be of some assistance in demonstrating some public support by abutting land owners for your proposed project. If that is the case, please let me know. I would also appreciate it if you could have someone contact me to discuss my concerns and to inform me as to your present plans related to blasting.

I look forward to hearing from you.

Sincerely,

A handwritten signature in black ink that reads "SA Cohen". The signature is written in a cursive, flowing style.

Scott Cohen

KELLY, REMMEL & ZIMMERMAN

ATTORNEYS AT LAW

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P.O. BOX 597

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June 27, 2000

Hand Delivered

Mr. Joseph Gray, Jr.
Portland Planning Board
Portland City Hall
389 Congress Street
Portland, Maine 04101

Re: Dragon Products

Dear Mr. Gray:

On behalf of our client, Scott Cohen, I write to advise that our client is supportive of Dragon's proposal being considered this afternoon. I enclose a copy of the letter Mr. Cohen wrote to Dragon in August of 1998. The underground water issue is no longer of concern. Thank you for bringing my client's support of this proposal to the Board.

Sincerely yours,


Barry Zimmerman

BZ/pp
cc: Scott Cohen

CITY OF PORTLAND, MAINE
MEMORANDUM

TO: Chair Caron and Members of the Portland Planning Board

FROM: Sarah Hopkins, Senior Planner

DATE: May 30, 2000

RE: Dragon Products Proposed Contract Zone

For the workshop on Tuesday, we have invited Mark Stebbins from the Department of Environmental Protection to discuss mining and quarry operations with the Board. Mr. Stebbins is a geologist with the DEP and may be able to provide more information on the regulations and standards for quarries, as well as an overview on mining operations and their potential impacts.

The applicant has also invited a mining/drilling expert to the workshop to discuss the proposed operation and answer any questions of the Board

We will continue to work on the language of the contract and return to the Board for a subsequent workshop prior to advertisement for public hearing.

The May 9, 2000 workshop memo is attached.

**CITY OF PORTLAND, MAINE
MEMORANDUM**

TO: Chair Carroll and Members of the Portland Planning Board
FROM: Sarah Hopkins, Senior Planner
DATE: May 9, 2000
RE: Dragon Products Proposed Contract Zone

I. Introduction

Dragon Products has requested a workshop with the Planning Board to reopen the contract zoning proposal to allow an enlargement of the area permitted for extraction and mining of stone at its plant on outer Ocean Avenue, currently a non-conforming use in the R-3 zone.

The Dragon Products lot is 38.4 acres and is zoned R-3 Residential.

The contract for rezoning, as proposed by the applicant, includes in addition to an enlarged area for extraction and mining of stone, the relocation of the rock crusher, concrete plant, storage silos and associated equipment to the rear of the site. The applicant also proposes to construct a berm along the Ocean Avenue frontage of the site and to preserve a natural buffer around the mining area.

II. History

A. ICPAC

Approximately four years ago, the applicant participated in the Planning Board's review of the Industry and Commerce Plan Advisory Committee recommendations regarding the industrial zoning text and map changes and overall policy discussions. At that time, Dragon requested that the City rezone their parcel to the IH zone and allow mining and extraction within the IH zone. During the public hearings, a number of neighbors raised concerns regarding Dragon's request to be a permitted use at that site, and the impact of such a use.

Due to the number of issues raised and the policy considerations which must be discussed, the Planning Board decided to leave the site zoned R-3, and asked the applicant to return at a later date to resume the policy discussions. Leaving the site zoned R-3 allows the plant to continue as a nonconforming use but restricts any expansion of the use.

B. Site History/Operations

The Dragon Products site consists of a stone quarry and concrete manufacturing plant. These uses have been located at this site since 1934, yet have been zoned R-3 Residential since the first zoning in Portland in 1958.

Mining has occurred on and off at the site over the last fifty years.

The manufacture of concrete is a process in which stone, cement, and water are mixed.

Currently, both mined stone and cement are brought to the plant to be mixed with water. From there, the concrete is trucked to construction sites. According to the applicant's submission, an average of 13 to 26 trucks haul stone from April to November, creating 26 to 52 daily trips on Ocean Avenue (in/out).

The applicant has submitted a history of the land acquisition, uses, and ownership of the Ocean Avenue properties from 1932 to 1991. (See Attachment 5.) To summarize, the original 12.5 acre parcel was purchased in 1932. In 1937, 1962, and 1985, more property was purchased along Ocean Avenue, south of the original parcel.

From aerial photographs, it appears that most of the property purchased in the 1930's and 1960's has been mined. The remainder of the parcel which has not been mined and is now proposed for mining was purchased in 1985.

III. Policy Issues

Before discussing the various points and issues raised by the proposed contract, the Board may wish to revisit the policy issues associated with Dragon's proposal to expand its operation. Below are a number of topics that have been raised by the Planning Board and City staff during the review to date of the proposal.

1. Should mining be allowed in the City of Portland?

There have been several arguments on either side of this question during the review of this proposal. One argument reasoned that since Portland is a consumer of Dragon's product through construction, the City should allow the use within its boundaries. The other side of the argument is that this use is incompatible or inappropriate for an urban setting because of its very nature, i.e. the direct impacts of quarrying (blasting, crushing and hauling of rock) and because it "consumes" valuable urban land and leaves a problematic land residual in the form of an abandoned quarry site.

2. Benefits vs. Costs

As the applicant states, there are several benefits to allowing a mining use at the Dragon site. Dragon anticipates the reduction of approximately 7000 truck trips annually. These trucks currently bring aggregate stone and cement to the plant to be mixed with water and made into concrete. By mining stone on-site, those aggregate trips will be eliminated, at least as long as the on-site stone supply lasts. Once the stone is consumed, aggregate will again be brought to the site.

This contract would also require the relocation of the plant and associated infrastructure to the rear of the site, and will require the construction of the berm and drainage infrastructure along Ocean Avenue. The change along Ocean Avenue will create a benefit for the neighborhood, compared to the current operation.

There are also costs to consider. The mining operation will exceed the industrial zoning performance standards related to noise and vibration in a heavy impact industrial zone. Our zoning standards were specifically written to prohibit uses which would exceed those standards.

It is difficult at this point to determine the costs relative to property values for developed and undeveloped land in the vicinity. Will the benefit of relocation of the plant and the improvements along Ocean Avenue cancel out the negative impacts to neighbors nearby? Is it an even trade? How much of a buffer is required to allow nearby residential development? Will the quarry expansion make the abutting residential zoned land unsuited for residential development? If so, what other land use might be suitable adjacent to the quarry operation?

3. Dragon's Land Purchase

As indicated by the applicant's analysis of the history of the property, land was purchased by the Cooks (previous owner) for the mining of stone and manufacture of concrete after the property was zoned residential. In fact, the property now proposed for rezoning to mine was purchased speculatively in 1985.

The City of Portland has been consistent in its policy of keeping this parcel zoned residential. Regardless of this policy, the applicant and their predecessor has continued to annex additional property along Ocean Avenue.

4. Residential vs. Industrial Zoning

Approximately seven years ago, the Summer Place parcel was rezoned from industrial to residential in response to the trend for more low intensive, residential uses along Ocean Avenue. A number of condominium projects were approved in the 1980s and 1990s consistent with that trend: Ocean Woods; Wellstone; and Briarwood. The Planning Board has approved two phase II projects along Ocean Avenue: Ocean Woods and Wellstone.

5. Reclamation

Once the area proposed for rezoning is mined, there will presumably be no more mining on the site. The applicant is clear that the manufacture of concrete will continue indefinitely at the site and that according to the DEP requirements there will be some reclamation of the site. DEP reclamation requirements are minimal safety requirements.

How many years worth of aggregate will be mined from the additional property? Should the blasting be considered a temporary effect? What, then, is the long-term impact? If blasting is temporary, so is the reduction in truck traffic from consuming on site aggregate material.

What are the reclamation plans for the site? The Board may wish to require a master plan for the quarry site as part of the contract for rezoning. Reclamation to state standards would not be sufficient in the City. What use would be possible in the quarry if concrete production ceases? Will there be any organic soil that would support vegetation or would the site remain barren after abandonment?

6. When would blasting be permitted?

The proposed contract indicates that the blasting could commence upon approval of the contract, however the applicant would have five years to complete the improvements. The Board, if it recommends the rezoning, might consider some level of immediate improvements to improve compatibility of this use to the surrounding neighborhood.

7. Truck Route

The board might examine the truck route employed by Dragon at present. If the majority of trucks utilize Ocean Avenue, a residential arterial instead of Presumpscot Street, a more industrial roadway (albeit with a school), perhaps an access management plan could be considered in the contract rezoning.

IV. Proposed Contract for Rezoning

Listed below are the conditions as proposed by the applicant. We are showing a redlined version to indicate those areas that may need further discussion. A complete draft of the contract is included as Attachment 3.

1. The CITY shall amend the Zoning Map of the City of Portland, dated March 1958, as amended and on file in the Department of Planning and Urban Development, and incorporated by reference into the Zoning Ordinance by 14-49 of the Portland City Code, by adopting the map change amendment shown Attachment 1.
2. The property shall may be developed substantially in accordance with the site plans and elevations shown on Attachment 2; including relocating the concrete plant, storage silos, and rock crusher, provided, however, that such plan and elevations development shall be subject to full site plan review by the Planning Board, if required by City ordinances.
3. DRAGON shall be authorized to establish and maintain only those uses or any combination of the uses listed below:
 - a. Mining and crushing of stone for use in manufacture of concrete on the site, provided that such operations are limited to the areas shown on Attachment 2 and further provided that such operations meet the standards set forth herein and established by State and Federal law.

- b. Concrete manufacture and processing.
 - c. Outdoor storage of materials utilized in the concrete manufacturing allowed on the site, material manufacture on the site (including concrete blocks produced as an incidental part of its operations) and related machinery and equipment, provided that such storage is limited to the areas shown on Attachment 2. Rock storage shall be relocated from its current site to the areas shown on Attachment 2.
 - d. ~~The buffer strip shown on the proposed site plan shall remain in its existing natural condition.~~
4. Prior to the commencement of any mining, Dragon shall obtain from the City a Certificate of Occupancy, verifying that the site alterations of the project as approved by the Planning Board, including the relocation of the concrete plant and the removal from the site of old, unused equipment and buildings, etc. have been completed to the satisfaction of the City in accordance with this Agreement.
 5. If the Certificate of Occupancy is not issued within five (5) years of the date of final site plan approval by the Planning Board, this rezoning agreement shall automatically terminate and the land shall automatically revert to the R-3 or any successor zone classification.
 6. **DRAGON** shall construct the densely a vegetated berm and fencing along that portion of the property abutting Ocean Avenue, as indicated on Attachment 2.
 7. The natural vegetation existing in the Permanent Buffer Zone along the perimeter of the property proposed quarry expansion shall remain in its natural state, as indicated on Attachment 2. This area, or any portion of it, may not be separately conveyed apart from the property as a whole.
 8. **DRAGON** shall address to the satisfaction of the Planning Department and Public Works, the existing substandard stormwater condition on Ocean Avenue adjacent to its parcel, including building an adequate drainage ditch along Ocean Avenue, and shall thereafter confine surface water runoff within its site. Pavement and stormwater infrastructure along Ocean Avenue and adjacent to this site parcel shall be repaired and maintained by DRAGON as required by Public Works.
 9. ~~**DRAGON** shall relocate the rock crusher from its current location to the rear of the site, as indicated on Attachment 2~~
 10. **DRAGON** shall relocate the entrance/ingress/egress driveway to the premises, and shall create a slip lane for slow moving traffic along Ocean Avenue as indicated on Attachment 2. [see site plan]
 11. ~~**DRAGON** shall relocate the concrete batch plant and the conveyor belt to the concrete batch plant to the rear of the site, as indicated on Attachment 2, within five years of the date of this Agreement.~~
 12. ~~**DRAGON** shall relocate the silos to the rear of the site, as indicated on Attachment 2.~~

- ~~139.~~ **DRAGON** shall limit the total number of blasts on the site to a maximum of twenty (20) individuals blasts per year. In no event shall more than ~~three~~four (34) individual blasts per month be permitted. All blasting on the site shall occur on Monday through Saturday between the hours of 7:00 a.m. and 4:00 p.m. and between the months of March and November.
- ~~14.~~ ~~All mining operations on-site shall be conducted within the building envelope indicated on Attachment 2.~~
150. **DRAGON** shall hose down trucks on the at the rear of before exiting the site to reduce the amount of debris and residue tracked on the street.
161. **DRAGON** agrees to comply with all requirements of the Maine Department of Environmental Protection regarding mining operations on its site, including but not limited to blasting and reclamation, as set forth in 38 M.R.S.A. 490-W to 490EE, attached hereto and incorporated herein, except, where municipal standards adopted by the CITY are more restrictive, the CITY standards shall apply.
172. Reclamation shall be completed substantially in accordance with the reclamation plan as indicated on Attachment 3; provided, however, that such plan shall be subject to full review and approval by the Planning Board if required by City ordinances.
183. **DRAGON** shall meet all standards contained in sections 14-265, 14-266, and 14-267 of the Portland City Code, except as follows:
- a. No new fence shall be required pursuant to 14-266(6) except as shown on Attachment 2 as may be required by the Planning Board during final site plan review.
 - b. Outside storage of stone shall not be required to meet the standards of 14-266(10).
 - c. Vibration standards in 14-267(3) shall not apply to blasting.
 - d. Noise standards in 14-267(2) shall not apply to blasting.
 - e. The existing concrete plant shall be allowed to generate 78 decibels along the Ocean Avenue frontage until it is relocated, but shall be limited to 65 decibels of noise as measured at property lines in accordance with the procedures set forth in 14-267(2).
194. Until it has relocated the concrete plant, **DRAGON** shall maintain ownership of all property currently owned by it at this site and also the parcels owned by Dragon and located across Ocean Avenue from this site, more particularly described as Tax Map 418, Block A, Lots 5 and 12 in the records of the Assessor of the City of Portland.
- ~~20.~~ ~~This contract shall automatically terminate upon the conveyance of this property by DRAGON to another owner or entity and the area shall automatically revert to R-3 or any successor zone classification.~~

V. Staff Review of the Contract

Corporation Counsel is currently reviewing the proposed changes to the contract and will discuss with the Board any issues to consider during the workshop. A couple of items to consider, though, are the need for a reclamation plan, and the proposed process to follow in the case of breach of contract.

VI. Dragon Products Noise Study

Dragon Products has commissioned a noise study of the plant and surrounding area. (See Attachment 8.) The study found that when the plant was not in operation, the noise level ranged from 62.6 to 66 dB. These readings were taken from a location directly across Ocean Avenue from the plant entrance. Hourly measurements ranged from 51.0 to 77.9 dB. Measurements collected around the perimeter of the quarry were all below 60 dB. A table of noise measurements are included with the report.

The study found that at times, the noise level across Ocean Avenue can be higher than levels within the quarry, given the amount of traffic along Ocean Avenue. The noise study did find that the noise standard was exceeded twice during the testing at the Ocean Avenue property line and across Ocean Avenue from the plant.

VII. Vibrations from the Plant

As the Board may recall, the standards for vibration differ between our local ordinance and the DEP standard for quarries. The applicant has worked with engineers to quantify and compare these standards. A comparison is included as Attachment 6. A narrative comparison is included as Attachment 7: A cork is bobbing on a lake; a stone is thrown into the lake; the distance that the cork bobs up and down is the Portland standard; and the speed at which the cork bobs up and down is the DEP standard.

VIII. Site Plan

The site plan proposed by the applicant will include shifting the rock crusher and aggregate stockpiles to the rear of the site, approximately 400ft northwest of present location. At the last workshop, the applicant had said that the rock crusher would be enclosed. The batch plant and silos would also be moved from the front of the site along Ocean Avenue to the rear.

Additionally, Dragon plans to change its access to the site by consolidating its driveways to one main entrance along the northern property line of the parcel. The brick truck garage and its driveway would remain in its present location on Ocean Avenue but would no longer be connected physically to the plant or its operations.

As part of the reconfiguration, Dragon proposes to make improvements along Ocean Avenue, including the construction and landscaping of a berm along Ocean Avenue and the widening of Ocean Avenue to include a ramping lane for truck exiting the site and moving south along Ocean Avenue.

As a condition of the contract, the improvements will be completed within 5 years of approval of the contract. If the improvements have not been made, the zoning will revert to R-3. The five year timeframe continues to be an issue for discussion.

IX. Next Steps

At the last workshop, the Board asked for engineered site plans indicating existing and proposed topography, drainage, landscaping, parking, circulation, buildings, and quarry reclamation. The Board may wish to give additional direction to the applicant as to the sufficiency of the site plan and the contract proposal. Additionally, the Board may direct the Planning Office to retain a technical expert to advise on the Board on the more complex issues raised by this application.

Attachments:

1. Vicinity Map
2. Contract Zone application
3. Proposed Contract Language
4. History of Dragon Application
5. History of Ownership of Site
6. Blast/Vibration Standards
7. Narrative Comparison of City's Vibration Standards and MDEP's Standards
8. Reclamation Narrative
9. Noise Study from 1997 w/Plan
10. Plan of Proposed Contract Zone Boundaries
11. Plan of Berm, New Operation Area
12. Cross Section of Site and Berm
13. Enlarged Plan of Berm and Entrance

DATE October 29, 1997

TO THE CITY PLANNING BOARD, CITY HALL, PORTLAND, MAINE 04101:

The undersigned hereby requests that you consider whether it would be consistent with the comprehensive plan of the City of Portland, Maine, and make appropriate recommendation for action by the City Council concerning the following proposed amendments to the Zoning Ordinance of the City of Portland, Maine:

A. ZONING MAP AMENDMENT:

FROM R-3 ZONE TO Contract ZONE

The property situated on Ocean ~~street~~/Avenue between Presumpscot ~~street/avenue~~ and Washington ~~street~~/Avenue on West side(s).

Assessor's Reference (Chart, Block and Lot) for the property is as follows:

415-A-4, 8, 9; 416A-A-2; 417-A-4,5,10,11; and 418-A-1, 3, 4, 5, 6, 9, 10

1. What original deed restrictions, if any, concerning the type of improvements and class of uses permitted were placed on the property involved? Give date restrictions expire:

None

2. Description of the existing use of property: stone quarry and concrete manufacturing facility

3. Description of the proposed use of property: stone quarry and concrete manufacturing facility

4. Area of Lot(s): 38.4 acres

Total Floor Area: N/A

Street Address of Property Involved	Property Owner and/or Name of Option Holder	Date of Acquisition
<u>960 Ocean Avenue</u>	<u>Dragon Products, Inc.</u>	<u>1991</u>

7. Submission of plans and addresses of property owners abutting the subject property.

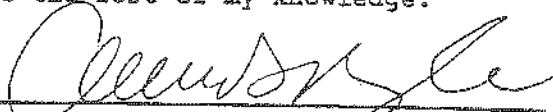
B. ZONING TEXT AMENDMENT:

1. Section of Ordinance to be amended: _____
2. Proposed text amendment - Attach on separate sheet the exact language being proposed, including existing relevant text, in which language to be deleted is depicted as crossed out (example), and language to be added is depicted with underlined (example).
3. Brief statement of the purpose of the proposed amendment.
4. If the amendment is intended to facilitate a development, reuse, alteration, addition or modification to a specific property, fill out the sections above under ZONING MAP AMENDMENT.

A fee for this application for a zoning amendment will be charged in accordance with Section 14-54 of the Municipal Code (see copy attached). The applicant also agrees to pay all costs of publication (or advertising) of the Public Hearing Notice as required for this application. Such amount will be billed to the applicant following the appearance of the advertisement.

The above information and the attached lists of property -- owners in the vicinity are true and accurate to the best of my knowledge.

October 29, 1997
Date of Filing



Signature of Applicant/Attorney

Dragon Products Company

Address of Applicant
38 Preble Street, P.O. Box 1521
Portland, ME 04104

City State ZIP

WITDRAWAL: In the event of withdrawal of the zoning amendment application by the applicant prior to the submission of the advertisement copy to the newspaper to announce the public hearing, a refund of two-thirds of the amount of the zone change fee will be made to the applicant by the City of Portland.

Portland Planning Board
Portland, Maine
Effective: April 11, 1988

DRAGON INDUSTRIAL ZONE

1. **Site History:** Dragon Products Company owns approximately 38 acres west of Ocean Avenue adjacent to the old City dump. This property appears on sections of Tax Maps 415, 416A, 417 and 418.

The Dragon Products Company site consists of a stone quarry and a concrete manufacturing facility, which have been operated continuously on the Ocean Avenue site since at least 1934. The site has been known as the Cook's Concrete Plant, and was purchased by Dragon in 1991. The manufacture of concrete is a process of mixing stone, cement and water.

The facility is assessed by the City Assessor at more than \$1,300,000 and generates about \$33,500 in annual real estate tax revenues for the City.

2. **City Zoning:** The site has been zoned R-3 since the City first adopted zoning, as shown on the 1958 zoning map attached. The facility has operated continuously as a non-conforming use since that time.

The City of Portland Comprehensive Plan, originally written in 1974, states that "Cook's Quarry, an extractive use, is presently located in the R-3 Residential Zone adjacent to the dump, and should be included in the expanded Industrial Zone."

The 1993 City Industry and Commerce Plan Advisory Committee (ICPAC) recommended that the City provide a number of incentives "to promote growth of the industry and commerce sector in Portland". The City followed up on the ICPAC report with a review and revision of its industrial zoning. Dragon Products participated in that process and presented proposals for a rezoning of its property as part of the overall industrial rezoning. However, the Planning Board decided that the issues surrounding this site were too complex to be dealt with as part of the overall industrial rezoning, and encouraged Dragon to make a separate application. The only opposition that surfaced during that process was opposition from the Summer Place residents. The Summer Place site is diagonally across the street on Ocean Avenue, and was rezoned from industrial to residential in 1995. At the time, everyone was fully aware of the adjacent industrial use on the Dragon site.

3. **Proposed Contract Zone:** Dragon's only goal in this application is to clarify that it may mine stone from its site to use in its concrete manufacturing process. An argument exists that it may mine this stone as a continuation of the operation of its non-conforming use, but Dragon would prefer to be in a zone where it is a permitted use. No change in its concrete manufacturing operations is planned.

As shown on the attached site plan, Dragon Products proposes rezoning most of its site from R-3 to what is described as a "Dragon Industrial Zone". Dragon proposes to leave some of its site zoned R-3, establishing a 275 foot strip of land along Ocean Avenue, a 200 foot wide strip along its neighbor to the southwest and a 100 foot wide strip adjacent to the former City dump property. The proposed zone would incorporate all standards of the existing IH Industrial Zone with the following exceptions:

a. Use: The new permitted use would be for "concrete plants, including mining of stone for use of manufacture of concrete on the site".

b. Maine DEP Standards: All provisions of the attached 1996 Maine DEP Performance Standards for Quarries would be incorporated into the new zone, replacing particular sections of the City of Portland IH Zone, including:

(1) Vibration limits would be as set forth in the Maine DEP quarry standards.

(2) Noise limits for the concrete manufacturing plant would be 78 decibels along Ocean Avenue and 65 decibels at other property lines. Noise limits for blasting would be as set forth in Maine DEP quarry standards.

These standards provide many protections for the neighborhood, including groundwater protection, natural resources protection, reclamation standards, and detailed requirements for blasting, including pre-blast surveys of nearby buildings. Dragon intends to comply with these MeDEP standards in all respects.

4. Technical Information: Dragon has obtained the following technical information to assist in the process:

Noise Study. A noise study conducted during 1997 is attached to this application. It is important to note that when the first noise measurements were taken, at a time when the plant was shut down, there was 66 decibels of noise measured directly across the street from plant and 62 decibels of noise at the nearest neighbor. The noise was generated almost exclusively by the road traffic on Ocean Avenue, also known as Route 9, a busy street even on weekends.

When the concrete manufacturing plant was in full operation, measurements were generally 65 decibels or less at all property lines. The only exception was on Ocean Avenue near the plant, where the decibels measured up to 76 when the plant was in full operation. Note that even when the plant was in full operation, the highest noise level at the Summer Place property was 63 decibels, less than even the IL industrial standards adopted by the City.

Truck Traffic: The primary source of noise and vibrations for neighbors in this operation is probably the trucks which go to and from the facility along Ocean Avenue. Generally speaking, there are trucks that deliver cement, trucks that deliver stone, and trucks that take the manufactured concrete from the plant to various job sites.

Allowing Dragon to continue mining its stone will reduce the traffic by reducing the number of trucks that need to haul stone to the site. During a typical concrete production season from April through November, an average of 13 to 26 trucks haul stone on a daily basis. That means a total of 26 to 52 daily trips on Ocean Avenue since its truck needs to deliver the stone and then leave. Allowing Dragon to mine stone from its site will eliminate these truck trips from Ocean Avenue while the mining operations are in progress, reducing noise and vibrations in the neighborhood at large.

5. Summary: The portion of the facility that manufactures concrete has been a continuous operation since the 1930's and will continue operating indefinitely into the future. Whether Dragon mines more stone from its site or not, this manufacturing facility will continue operating as long as there is a demand for concrete in the Greater Portland area. The rezoning will allow the facility to continue operating as a permitted use (as opposed to a non-conforming use) and will also allow Dragon to mine stone from its site in accordance with Maine DEP guidelines.

P:\CSN\DRAGON\CONTRACT.ZNE

PROPOSED DRAGON PRODUCTS INDUSTRIAL ZONE

LIST OF ABUTTING PROPERTY OWNERS

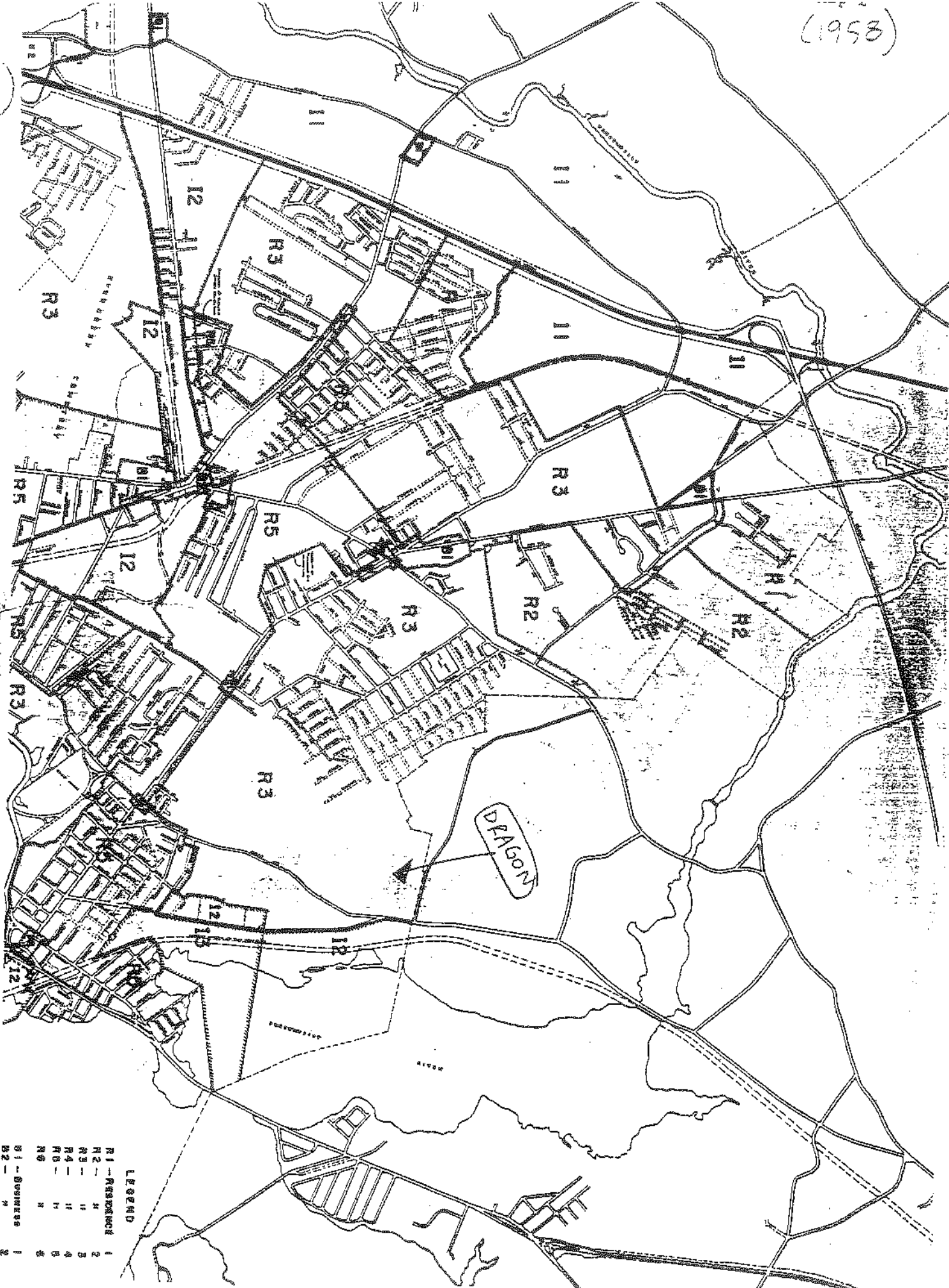
(according to City Assessor's records)

<u>OWNER</u>	<u>TAX MAP and LOT NUMBER</u>
City of Portland 389 Congress Street Portland, ME 04101	417-A-9
Cook Concrete 169 Portland Street Boston, MA 02114.	417-A-6 418-A-8 415-A-3 415-A-11
Patricia M. J. O'Rourke 852 Ocean Avenue Portland, ME 04103	416A-A-1 (848-858 Ocean)
Federal Deposit Insurance Corp. P. O. Box 1416 Portland, ME 04104	416A-A-3 (840-846 Ocean)

PROPERTIES ACROSS OCEAN AVENUE

Linwood Farnworth Mildred Farnsworth 903 Ocean Avenue Portland, ME 04103	418A-A-1,11
Vincent G. Devito Ethel H. Devito 474 Presumpscot Street Portland, ME 04103	418A-A-2
Dragon Products Company (applicant) 38 Preble Street, P. O. Box 1521 Portland, ME 04104	418A-A-5, 12

(1958)



LEGEND

- R1 - Residential 1
- R2 - " " 2
- R3 - " " 3
- R4 - " " 4
- R5 - " " 5
- B2 - Business 1
- B2 - " " 2

"Redlined" changes from 1-28-99 draft by City

AGREEMENT BETWEEN

CITY OF PORTLAND

AND

DRAGON PRODUCTS, INC.

AGREEMENT made this ____ day of _____, ~~1999~~2000 by and between the CITY OF PORTLAND, a body corporate and politic, located in Cumberland County and State of Maine (hereinafter the "CITY") and DRAGON PRODUCTS COMPANY, INC., a corporation with a business address of 38 Preble Street, P.O. Box 1521, Portland, Maine 04104 (hereinafter "DRAGON").

WITNESSETH:

WHEREAS, DRAGON did request a rezoning of property located at Ocean Avenue, in Portland, in order to permit the expansion of its existing legally nonconforming mining operation and on the site of its legally nonconforming ~~cementconcrete~~concrete plant; and

WHEREAS, the Planning Board of the City of Portland, pursuant to 30-A M.R.S.A. §4352(8), and after notice and hearing and due deliberation thereon, recommended the rezoning of the property as aforesaid, subject, however, to certain conditions; and

WHEREAS, the CITY by and through its City Council has determined that said rezoning would be pursuant to and consistent with the CITY'S comprehensive land use plan and consistent with the existing and permitted uses within the original zone; and

WHEREAS, the CITY has determined that because of the unusual nature of the proposed development it is necessary or appropriate to impose by agreement the following conditions or

restrictions in order to insure that the rezoning is consistent with the CITY's comprehensive land use plan; and

WHEREAS, the CITY authorized the execution of this Agreement on _____,
~~1999~~2000;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The CITY shall amend the Zoning Map of the City of Portland, dated March 1958, as amended and on file in the Department of Planning and Urban Development, and incorporated by reference into the Zoning Ordinance by §14-49 of the Portland City Code, by adopting the map change amendment shown on Attachment 1. (Is this a plan the City will produce?)
2. The property ~~shall~~ be developed substantially in accordance with the site plans and elevations shown on Attachment 2; including relocating the concrete plant, storage silos, and rock crusher, provided, however, that such plan and elevations development shall be subject to full site plan review and approval by the Planning Board, ~~if required by City ordinances~~.
3. DRAGON shall be authorized to establish and maintain only those uses or any combination of the uses listed below:
 - a. Mining and crushing of stone for use in manufacture of concrete on the site, provided that such operations are limited to the areas shown on Attachment 2 and further provided that such operations meet the standards set forth herein and established by State and Federal law.
 - b. Concrete manufacture and processing.
 - c. Outdoor storage of materials utilized in the concrete manufacturing allowed on the site, material manufactured on the site (including concrete blocks produced as an incidental part of its operations) and related machinery and equipment, provided that such storage is limited to the areas shown on Attachment 2. Rock storage shall be relocated from its current site to the areas shown on Attachment 2.
 - ~~d. The buffer strip shown on Attachment 2 shall remain in its existing natural condition.~~
4. Prior to the commencement of any mining, Dragon shall obtain from the City a Certificate of Occupancy, verifying that the site alterations of the project as

approved by the Planning Board, including the relocation of the concrete plant and the removal from the site of old, unused equipment and buildings, etc. have been completed to the satisfaction of the City in accordance with this Agreement.

5. If the Certificate of occupancy is not issued within five (5) years of the date of final site plan approval by the Planning Board, this rezoning agreement shall automatically terminate and the land shall automatically revert to the R-3 or any successor zone classification.
6. DRAGON shall construct ~~the~~ a densely vegetated berm and fencing along that portion of the property abutting Ocean Avenue, as indicated on Attachment 2.
7. The natural vegetation existing in the Permanent Buffer Zone along the perimeter of the property proposed quarry expansion shall remain in its natural state, as indicated on Attachment 2. This area, or any portion of it, may not be separately conveyed apart from the property as a whole.
- ~~8. DRAGON shall address to the satisfaction of the Planning Department and Public Works, the existing substandard stormwater condition on Ocean Avenue adjacent to its parcel, including building an adequate drainage ditch along Ocean Avenue, and shall thereafter confine surface water runoff within its site. Pavement and stormwater infrastructure along Ocean Avenue and adjacent to this site parcel shall be repaired and maintained by DRAGON as required by Public Works.~~
- ~~9. DRAGON shall relocate the rock crusher from its current location to the rear of the site, as indicated on Attachment 2.~~
- ~~10. DRAGON shall relocate the entrance/ingress/egress driveway to the premises, and shall create a slip lane for slow moving traffic along ocean Avenue as indicated on Attachment 2.~~
- ~~11. DRAGON shall relocate the concrete batch plant and the conveyor belt to the concrete batch plant to the rear of the site, as indicated on Attachment 2, within five years of the date of this Agreement.~~
- ~~12. DRAGON shall relocate the silos to the rear of the site, as indicated on Attachment 2.~~
13. DRAGON shall limit the total number of blasts on the site to a maximum of twenty (20) individual blasts per year. In no event shall more than ~~three~~ four (34) individual blasts per month be permitted. All blasting on the site shall occur on Monday through Saturday between the hours of 7:00 a.m. and 4:00 p.m. and between the months of March and November.
- ~~14. All mining operations on-site shall be conducted within the building envelope indicated on Attachment 2.~~

150. DRAGON shall hose down its trucks ~~on the at the rear of~~before exiting the site to reduce the amount of debris and residue tracked on the street.
161. DRAGON agrees to comply with all requirements of the Maine Department of Environmental Protection regarding mining operations on its site, including but not limited to blasting and reclamation, as set forth in 38 M.R.S.A. §§490-W to 490EE, attached hereto and incorporated herein, except, where municipal standards adopted by the CITY are more restrictive, the CITY standards shall apply.
172. Reclamation shall be completed substantially in accordance with the reclamation plan as indicated on Attachment 3; provided, however, that such plan shall be subject to full review and approval by the Planning Board, if required by City ordinances.
183. DRAGON shall meet all standards contained in sections 14-265, 14-266, and 14-267 of the Portland City Code, except as follows:
- a. No new fence shall be required pursuant to 14-266(6) except as shown on Attachment 2 as may be required by the Planning Board during final site plan review.
 - b. Outside storage of stone shall not be required to meet the standards of §14-266(10).
 - c. Vibration standards in 14-267(3) shall not apply to blasting.
 - d. Noise standards in §14-267(2) shall not apply to blasting.
 - e. The existing concrete plant shall be allowed to generate 78 decibels along the Ocean Avenue frontage until it is relocated, but shall be limited to 65 decibels of noise as measured at property lines in accordance with the procedures set forth in §14-267(2).
194. Until it has relocated the concrete plant, DRAGON shall maintain ownership of all property currently owned by it at this site and also the parcels owned by Dragon and located across Ocean Avenue from this site, more particularly described as Tax Map 418, Block A, Lots 5 and 12 in the records of the Assessor of the City of Portland.
- ~~20. This contract shall automatically terminate upon the conveyance of this property by DRAGON to another owner or entity and the area shall automatically revert to R-3 or any successor zone classification.~~

The above stated restrictions, provisions and conditions are an essential part of the rezoning, shall run with and bind the subject premises, shall bind DRAGON, its successors and assigns, as ~~permitted by this Agreement,~~owner of said property or any part thereof or interest therein, and any party in possession or occupancy of said property or any part thereof, and shall inure to the benefit of and be enforceable by the CITY, by and through its duly authorized representatives.

If any of the restrictions, provisions, conditions, or portions thereof set forth herein is for any reason held invalid or unconstitutional by any Court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such determination shall not affect the validity of the remaining portions hereof.

Except as expressly modified herein, the use and occupancy of the subject premises shall be governed by and comply with the provisions of the Land Use Code of the City of Portland and any applicable amendments thereto or replacement thereof.

In the event that the CITY claims that DRAGON or any successor fails to continue~~has failed~~ to utilize the property in accordance with this Agreement, or ~~in the event of a~~otherwise breach of any conditions set forth in this Agreement, the Planning Board shall have the authority, after hearing, ~~to resolve the issue resulting in the breach or the failure to operate. The resolution may include~~giving DRAGON a hearing and opportunity to be heard, to determine whether any breach has occurred. Appeals of the Planning Board decision shall be resolved by binding arbitration. If DRAGON does not correct any breach of this Agreement within 30 days of the arbitration decision, then the Planning Board may make a recommendation to the City Council that the site be rezoned to R-3 or any successor zone and that this Agreement be terminated, requiring a cessation of the blasting use permitted under this terms of this

Agreement. However, the termination of the contract will not require cessation of the concrete and ~~cement processing and manufacturing~~ and processing uses located on the site prior to the date of execution of this contract, or as relocated pursuant to this Agreement.

WITNESS:

CITY OF PORTLAND

By: _____

Robert B. Ganley
Its City Manager

STATE OF MAINE
CUMBERLAND, ss.

Date: _____, 19992000

Personally appeared the above-named Robert B. Ganley, in his capacity as City Manager, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of the City of Portland.

Before me,

Notary Public/Attorney at Law

WITNESS:

DRAGON PRODUCTS COMPANY, INC.

By: _____

Its _____

STATE OF MAINE
CUMBERLAND, ss.

Date: _____, 19992000

Personally appeared the above-named _____, in his/her said capacity and acknowledged the foregoing instrument to be his/her free act and deed and the free act and deed of Dragon Products, Inc.

Before me,

Notary Public/Attorney at Law

Draft: March 30, 2000
F:\CSNA\DRAGON\Portland.agr-red.wpd

HISTORY OF DRAGON PRODUCTS COMPANY'S ZONING PROPOSAL

April, 1996: ICPAC zoning process provides notice to Dragon that adjacent land is being rezoned as part of overall review of Industrial Zoning in Portland. Dragon's Ocean Avenue site with quarry and concrete manufacturing operations is not included, despite the fact that it is located in an R-3 residential zone.

May, 1996: Dragon approaches Planning Board to have its site included in industrial rezoning and attends two workshops.

June 11, 1996: At public hearing before Planning Board, Summer Place residents raise objections to rezoning of site, and Dragon's request is dropped from the ICPAC process.

January, 1997: New industrial zoning is passed by City without changing zoning of Dragon site.

June, 1997: Dragon does noise study to provide information on current operations to City and to neighborhood.

October, 1997: Dragon filed an application for contract zoning to allow mining on its site with the Planning Board.

November, 1997: Dragon hosts meeting of interested neighbors and provides site walk for neighbors and concerned citizens.

February 10, 1998: Planning Board holds first workshop to consider request and asks for: (a) text of the proposed contract zone; (b) a better site plan; (c) a history of parcel.

April 28, 1998: Planning Board holds second workshop to review requested information and to discuss MeDEP mining standards, including vibration and blasting standards.

May 26, 1998: Dragon hosts site walk for Planning Board and Planning staff.

December 8, 1998: Planning Board holds third workshop and reviews plans showing proposed relocation of concrete manufacturing operations to rear of site, and redesign of Ocean Avenue portion of lot. Planning Board requests further details on Ocean Avenue redevelopment and reclamation plans for site after mining is completed.

April 28, 2000: Planning Board holds fourth workshop to review requested information.

Memorandum

To: Portland Planning Board

From: Christopher S. Neagle, Esquire
Attorney for Dragon Products Company, Inc.

CON

Date: March 27, 1998

Re: History of Ocean Avenue Site

Based on our research in the Cumberland County Registry of Deeds, I offer the following history of the Dragon Products' site:

1. In 1932, Joseph Cook acquired 12.5 acres of land on Ocean Avenue in the same general area of the existing concrete manufacturing facility and conveyed it to Cook & Company, Inc. by the deed recorded in Book 1409, Page 483.
2. In 1937, Cook & Company, Inc. acquired a 150 foot by 100 foot parcel in the same general area of the existing manufacturing plant by the deed recorded in Book 1516, Page 475.
3. In 1962, Cook & Company, Inc. acquired an additional 4 acres on Ocean Avenue between its 1932 site and the road to the City dump and also an additional 6 acres lot next to its concrete plant, by the deed recorded in Book 2717, Page 446.
4. In 1968, Cook & Company, Inc. conveyed all of its property to The Cook Concrete Company, by the deed recorded in Book 3064, Page 756.
5. In 1985, Farland Realty, Inc. (a corporation related to the Cook Concrete Company) acquired 16 acres on Ocean Avenue adjacent to the existing mining operation by the deed recorded in Book 6995, Page 254. The parcel was transferred to The Cook Concrete Company in 1991 by the deed recorded in Book 9472, Page 330.
6. In 1991 the Cook Concrete Company conveyed its entire 38.4 acre site to Dragon Products Company, Inc. by the deed recorded in Book 9472, Page 348. Also in 1991, Farland Realty conveyed the residence and lot across the street by the deed recorded in Book 9473, Page 1.

Most of the proposed stone mining activity is located on the parcels acquired in 1962 and in 1985. A plan showing these parcels is attached.

PROPOSED DILAOON
INDUSTRIAL ZONE

LOG HOME MOBILE
CAMPUS SITE

EXISTING
SQUARE

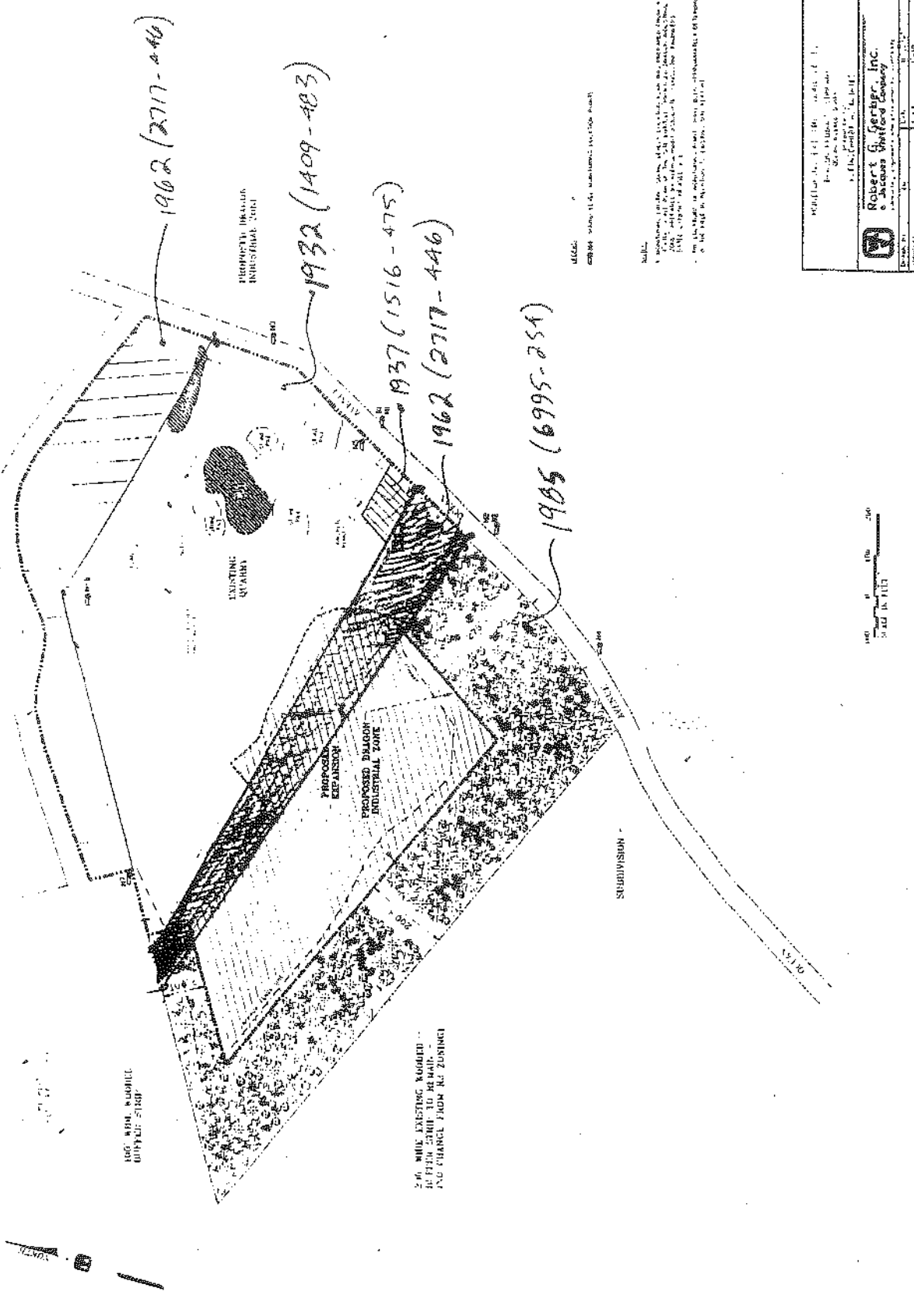
PROPERTY DESIGN
INDUSTRIAL ZONE

PROPOSED
EXPANSION

PROPOSED DILAOON
INDUSTRIAL ZONE

2-40. WHO EXISTING MOBILE
CAMPUS SITE TO BE
CHANGED FROM RE ZONING

SUBDIVISION



LEGAL
CONVEYANCE

NOTICE: THIS MAP IS A PRELIMINARY MAP AND IS NOT TO BE USED FOR ANY PURPOSES OTHER THAN AS SHOWN HEREON. THE STATE OF CALIFORNIA DOES NOT WARRANT THE ACCURACY OF THIS MAP OR THE INFORMATION CONTAINED HEREIN. THE USER OF THIS MAP SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE APPROPRIATE AUTHORITIES.

Map of the City of Los Angeles, California, showing the proposed expansion of the Dilaoon Industrial Zone. The map is prepared by Robert G. Gerber, Inc., a professional land surveyor and civil engineer, under contract to the City of Los Angeles. The map is subject to the provisions of the Subdivision Map Act, Chapter 462 of the California Government Code, and the provisions of the City of Los Angeles Subdivision Map Act, Chapter 12 of the Los Angeles Municipal Code.

Robert G. Gerber, Inc.
Professional Land Surveyor and Civil Engineer
11111 Wilshire Blvd., Suite 1000
Los Angeles, California 90024
Tel: (213) 475-1111

Haley & Aldrich, Inc.
465 Medford Street
Suite 2200
Boston, MA 02129-1400
Tel: 617.886.7400
Fax: 617.886.7600
Email: BOS@HaleyAldrich.com



MEMORANDUM

7 July 1999
File No. 19441-000

TO: Kleinschmidt Associates
Leslie Corrow

C: H&A
Jim Weaver

FROM: Haley & Aldrich, Inc.
Andrew F. McKown, P.E. *afm*

SUBJECT: Blast Vibration Standards
Proposed New Quarry
Portland, ME

Attached are two figures which summarize the vibration limits for (a) the Portland Zoning Ordinance, and (b) the Maine DEP Performance Standards for Quarries. You asked that we summarize and present the limits in an understandable format and compare the limits to something a layman could relate to.

OFFICES

Cleveland
Ohio

Denver
Colorado

Hartford
Connecticut

Los Angeles
California

Manchester
New Hampshire

Newark
New Jersey

Portland
Maine

Rochester
New York

San Diego
California

San Francisco
California

Washington
District of Columbia

Figure 1 presents the Portland Zoning Ordinance limits as well as the two options provided for in the Maine DEP standards. Figure two presents the same limits and also compares the limits to some everyday household vibrations people may feel, as well as to the perceptibility limits for humans. Some comments on the U.S. Bureau of Mines safe limits and what they mean follow, along with some other pertinent findings from U.S. Bureau of Mines research.

Between about 1960 and 1997, the U.S. Bureau of Mines conducted extensive research into the effects of blasting on residential structures, and concluded several things: (1) The best vibration criterion for predicting whether blasting vibrations might damage homes is peak particle velocity of ground motion. Peak particle velocity is the speed at which the ground moves up and down (or back and forth) when elastic vibration waves travel by. (2) Safe levels of ground vibration from blasting range between 0.5 and 2.0 inches per second (ips) peak particle velocity for residential-type structures, depending on the type of construction and frequency of blast vibrations (see Figure 1). The frequency of ground vibration is the number of elastic vibration waves which pass by in a given unit of time, measured in cycles

Kleinschmidt Associates

6 July 1999

Page 2

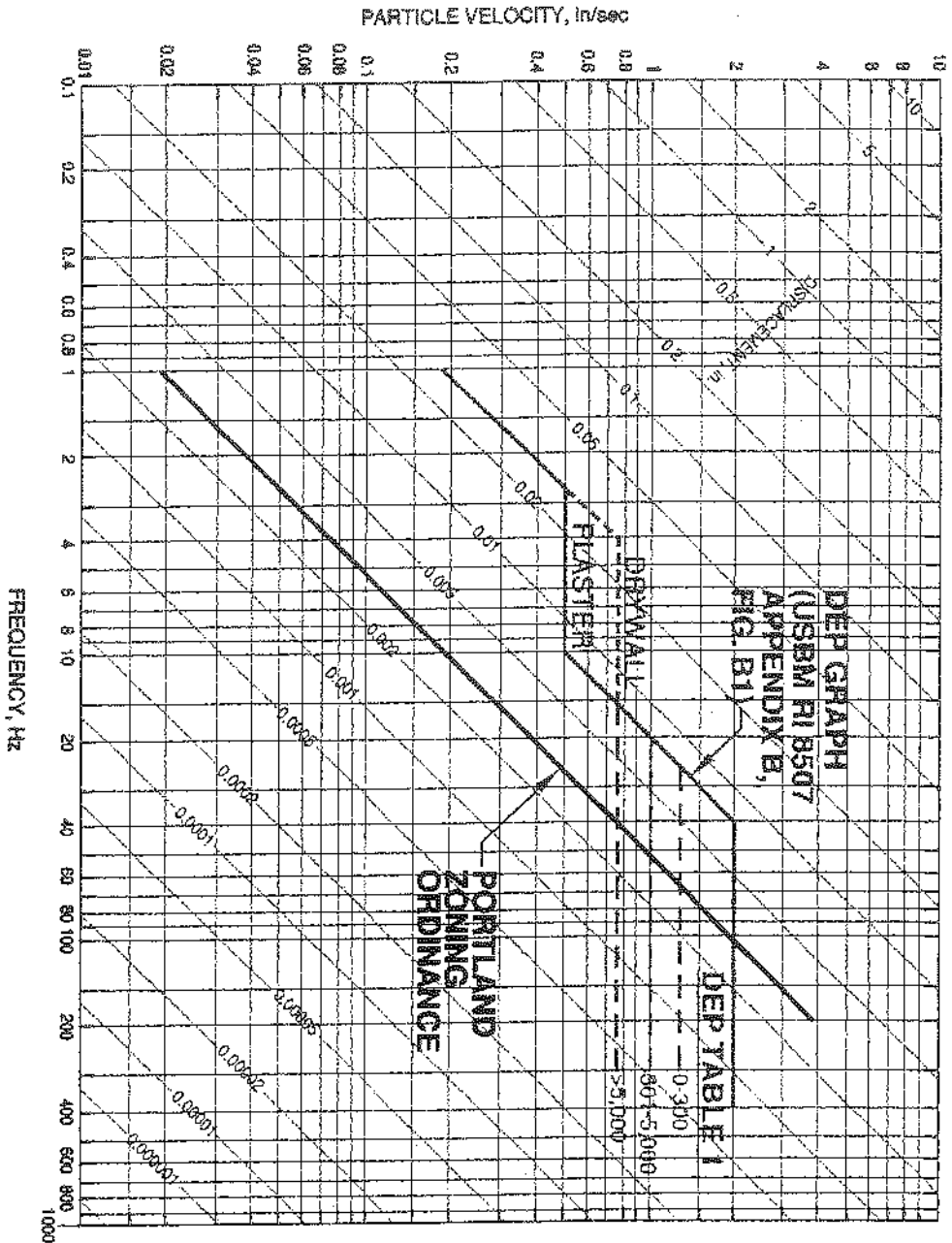
per second, or Hertz (Hz). The lowest limits (0.5 ips for plaster walls and 0.75 ips for drywall construction) are for low frequency vibrations (less than 10 to 15 Hz), where the ground vibrations are near the resonant frequencies of residential type structures and can result in amplification of the vibrations on the upper floors of the structures. (3) The safe limits are to protect against cosmetic damage to residential structures, such as hairline cracking in plaster walls or gypsum drywall. (4) The safe limits are based on a less than 5% probability of cosmetic damage. Therefore if the limits are slightly exceeded, it does not mean damage has occurred, only that the probability of damage is greater than about 5%. (5) People can feel vibrations at levels which are well below (10 to 100 times less than) levels which might cause cosmetic damage (see Figure 2). (6) Normal everyday events in homes (such as door slamming, jumping, and changes in humidity and temperature) can cause stresses and strains in the structures equivalent to the strains produced by ground vibrations of 0.3 to 3.0 ips.

We hope these figures and comments assist you in your work. Please call if you have any questions or require more information.

Attachments

C:\files\word\kinmemo.doc





UNDERGROUND
ENGINEERING &
ENVIRONMENTAL
SOLUTIONS

PREPARED FOR KLEINSCHMIDT ASSOCIATES

COMPARISON OF VIBRATION LIMITS
MAINE DEP QUARRY REGULATIONS
VS. PORTLAND ZONING ORDINANCE

SCALE: AS SHOWN

JULY 1988



Attachment 7

CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csn@verdan.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

Hand Delivered

April 26, 2000

Sarah Hopkins
Planning Department
Basement
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Dragon Products Company, Ocean Avenue
Contract Zoning Proposal

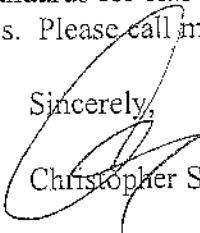
Dear Sarah:

To supplement the material that I delivered last month, I enclose a copy of an engineer's explanation of the difference between the City and MeDEP vibration standards. As it has been explained to me by the engineer, the simple model to illustrate the difference is the ripples caused by a stone being thrown into a pond.

If you imagine a cork bobbing on the water in the ripples, the displacement (City standard) is the distance that the cork moves up and down, and the peak particle velocity (MeDEP) standard) is the speed by which it moves up and down.

By staying within the MeDEP vibration standards for blasting, the neighbors can be assured that there will be no damage to their homes. Please call me if you have any questions.

Sincerely,


Christopher S. Neagle

CSN/csn

Enclosures

cc: David S. Grinnell, Dragon Products Company

P:\CSN\DRAGON\HOPKINS.LTR

MEMORANDUM

TO: DAVID GRINNELL
FROM: ANN W. THAYER, C.G., ENVIRONMENTAL MANAGER
SUBJECT: RECLAMATION STANDARDS FOR PORTLAND QUARRY
DATE: 1/26/00

I understand that the Portland Planning Board has requested additional information on the reclamation of Dragon's Ocean Ave. quarry. The attached is a summary of reclamation requirements that are consistent with 38 MRSA 490-Z Performance Standards for Quarries. Reclamation, as defined under Article 8-A, means "the rehabilitation of the area of land affected by mining, including, but not limited to, stabilization of slopes and creation of safety benches, the planting of forests, the seeding of grasses..." The objective of the reclamation standard is to minimize the impact posed by an affected area.

Dragon will be required to restore the affected lands associated with the Ocean Ave operation to a condition that minimizes the safety risks posed by the site, is protective of future impacts to the environment (from fugitive dusts, soil and sediment run-off, etc) and is consistent with the intended future use of the site (residential, open-space, commercial or industrial use). In general, Dragon has an obligation to stabilize rock slopes to prevent rockfalls and to stabilize overburden in accordance with the best management practices for erosion and sedimentation control. In meeting the performance standard for quarry reclamation, Dragon will be required to address the following:

- A. Highwalls, or quarry faces, are to be treated in such a manner as to leave them in a condition that minimizes the possibility of rock falls, slope failures and collapse. A highwall that is loose may be controlled by the use of blasting or scaling, the use of safety benches, the use of flatter slopes or reduced face heights, or the use of benching near the top of the face or rounding the edge of the face.
- B. Exposed overburden or soil is to be stabilized to minimize erosion and promote sedimentation control. Slopes are to be graded to minimize run-off and exposed soil may be mulched or otherwise covered until a vegetative cover is established.
- C. A vegetative cover is to be established by seeding affected land except for quarry walls and flooded areas. Vegetative cover used in reclamation may consist of grasses, legumes, herbaceous or woody plants, shrubs, trees or a mixture of these.
- D. Unusable structures are to be removed and unusable access roads, haul roads and other support roads are to be reclaimed.
- E. Affected lands are to be reclaimed within 2 years after final operational grading has been reached.

Ann W. Thayer, C.G.
Environmental Manager

Education

Colby College
B.A., Geology and Geology/Environmental Studies, 1986 Dean's list 1984-1986, Distinction in the major of Geology.

Continued Education

- Caribbean Solid Waste - Independent Sabbatical
- JW Future Leader & Managers Training
- Visual MODFLOW
- Applied Geochemistry
- Harvard Negotiation Training
- ASFE Contracts and Loss Prevention
- Dense Non-Aqueous Phase Liquids in Fractured and Porous Media
- Hazardous Waste Site Supervisory Course
- 40 Hour Waste Site Health & Safety Course

Professional Background

- Environmental Manager, Dragon Products Company, Thomaston, Maine, 1998
- Senior Project Manager, JacquesWhitford Company, Inc., Freeport, Maine, 1992 to 1997.
- Senior Geologist/Technical Manager, Weston Geophysical Corporation, Hallowell, Maine, 1989 to 1992.
- Geologist, Weston Geophysical Corporation, Westboro, Massachusetts, 1987 to 1989.
- Geophysical Field Technician, Maine Geological Survey, Augusta, Maine, 1986.
- Contractor, Department of Environmental Protection, Augusta, Maine, 1986.

Registration

- Certified Geologist, #346, Maine

Professional Activities

- Geological Society of Maine
- Environmental & Engineering Geophysical Society
- National Ground Water Association

Civic Activities

- Registered Maine Guide
- Master Composter

**Key Project Experience -
Geologic and Geophysical
Investigations**

Project Manager for investigation associated with Pike Industries' gravel mining and rock quarrying operation in Poland, Maine.

Project Geologist for geologic and geophysical mapping of subsurface conditions along supply pipeline route for a proposed power generating plant in northern Rhode Island.

Project Geologist for geologic and geophysical mapping of subsurface conditions along a proposed water distribution pipeline in northern Rhode Island.

Field Geologist for bedrock and soil slope stabilization project in Western Massachusetts. Unstable material and excavated slopes caused several rock falls and soil slumps along an access road and transformer yard excavation for the Bear Swamp Pump Storage facility in Rowe, Massachusetts.

Project Geologist for major development project in New Ipswich, New Hampshire. Responsibilities included geologic mapping, coordination of seismic refraction program, and analytical evaluation of bedrock content and condition from low to high elevations throughout the property.

Maine Department of Environmental Protection

Project Manager for RI/FS in Plymouth, Maine where operations at a former waste oil storage and transfer facility resulted in contamination of the underlying bedrock aquifer with PCB's solvents and semi volatile organics. Investigations involved detailed assessment of the source area, affected residential wells and the fractured bedrock aquifer.

Maine Department of Environmental Protection

Project Manager for RI/FS in South Berwick, Maine. Led evaluation of multiple potential source areas, migration pathways in the bedrock and surficial aquifer, and potential receptors of the groundwater contamination.

Maine Department of Environmental Protection

Program Manager for multi-method geophysical investigation and test pit program in search of buried drums and industrial waste at an unregulated landfill site in North Berwick, Maine.

Phillips & Gordon

Geologist for evaluation of bedrock and overburden groundwater contamination assessment in a Massachusetts community. A number of private residential water supply wells were found to be contaminated with chlorinated solvents and cyanide compounds. The contamination was attributed to historical disposal practices at a nearby plating facility.

Baker Engineers

Project Geologist - compiled Geologic information in support of Mississippi's bid to attract the federally funded super conducting, super collider. Responsibilities included compilation of published geologic data.

Property Transfer Site Assessments

Central Maine Recycling

Project Manager for the assessment of former poultry feed processing facility in Augusta, Maine. Investigated potential soil and groundwater contamination due to historic operations.

Flakt Products

Project Manager for the assessment and remediation of soil contamination due to operations at a metal fabrication facility in Fitchburg, Massachusetts. Acted as liaison between the client and the Massachusetts Department of Environmental Protection.

Attorney

Project Manager for environmental site assessment for property transfer in Westminster, Massachusetts. Performed hydrogeologic assessment of the property and used geophysical techniques to evaluate the migration of a leachate plume onto the property from an adjacent unlined landfill.

Toll Brothers

Performed numerous site assessment studies in Massachusetts, New Jersey, and Pennsylvania. Investigations have included geologic and hydrogeologic characterization of diverse geologic settings, geophysical surveys, radiation surveys, groundwater sampling and permeability testing.

**MONITORING EXISTING SOUND LEVELS
DRAGON PRODUCTS COMPANY
OCEAN AVENUE QUARRY
PORTLAND, MAINE**

**Prepared for: Kleinschmidt Associates
Prepared by: Jacques Whitford
July 23, 1997**



**Gerber - Jacques Whitford**

Robert G. Gerber, Inc. • Jacques Whitford, Inc.
Consulting Engineers, Geologists and Environmental Scientists

174 South Freeport Road
Freeport, ME U.S.A. 04032

Tel: 207-865-6138
Fax: 207-865-1071

July 23, 1997
File 971016

Mr. Jon Christensen
Kleinschmidt Associates
75 Main Street, P.O. Box 576
Pittsfield, Maine 04967

**Subject: Monitoring Existing Sound Levels
 Dragon Products Company, Ocean Avenue Quarry
 Portland, Maine**

Dear Mr. Christensen:

Jacques Whitford is pleased to present this report on the monitoring of existing sound levels at the Dragon Products Company (Dragon) Ocean Avenue Quarry and Cement Plant in Portland, Maine. Monitoring at the quarry was conducted to assess current sound levels at the site for comparison with applicable noise regulations.

Project Background

Dragon Products is considering an expansion of their quarrying operations located on Ocean Avenue in Portland, Maine (Figure 1, Site Locus). As part of the expansion, the zoning of Dragon's property may change.

Dragon Products has been operating on Ocean Avenue in a residentially-zoned area. The property's zoning may change to industrial, or possibly a unique zone of its own, as the City reassesses its zoning ordinances. City of Portland noise regulations vary from zone to zone. The City allows a maximum average sound level of 75 dBA at the property lines in industrially-zoned areas. City of Portland regulations appear to contain no noise regulations for residential zones.

A new residential development has recently been constructed in the vicinity of the Dragon quarry. Residents of the new subdivision are concerned about the noise levels that may be generated by any expansion of the quarry. Consequently, Dragon implemented a noise assessment to address the concerns of their neighbors and assess compliance of their existing operations with the City of Portland Regulations.



Methodology

The noise assessment was conducted with two Metrosonics dB-308 Sound Analyzers. Measurements were recorded for L_{eq} (equivalent steady state sound level) at one minute intervals during the testing. Measurements were also obtained for L_{max} (maximum sound level), and L_{10} (sound level exceeded 10 percent of the time).

Baseline measurements were obtained on Saturday, June 14, 1997 when the Dragon facility was not in operation. These measurements were collected to assess other sources of noise in the vicinity of the site. These measurements were collected at locations B1 and B2 as shown on the attached site map (Figure 2).

Noise data was collected during plant operations on June 16 and 17, 1997. Measurements were taken over two hour time periods at each location. All of the noise data was collected during the morning hours of operation, which Dragon reported to be the busiest times at the facility.

Noise measurements were collected at four locations on Ocean Avenue: directly across from the entrance to the site (N1); at the property line of the nearest southern neighbor (N2); at the property line of the nearest northeastern neighbor (N3); and at the property line of Summer Place, a newly constructed subdivision south of the site (N4). Measurements were also obtained around the perimeter of the quarry site, including the entrance to the facility (N5, N6, N7, N8). Approximate locations of each monitoring station are included in Figure 2.

Results

The results of the monitoring are presented in Table 1, attached. The table indicates the test location, date/time, and presents the first hour equivalent steady state sound level data, the second hour equivalent steady state sound level data, and the two hour equivalent steady state sound level data. Test locations B1 and B2 were baseline measurements and were collected over a four hour period.

Baseline measurements collected while the plant was not in operation ranged from to 62.6 to 66.0 dB. The high reading was obtained from the baseline location (B1) directly across Ocean Avenue from the plant entrance.

Hourly noise measurements collected on June 16 and 17, 1997, ranged from 51.0 to 77.9 dB. The highest reading was collected at station N1, across Ocean Avenue from the facility entrance. Measurements collected around the perimeter of the quarry were all below 60 dB.



Discussion

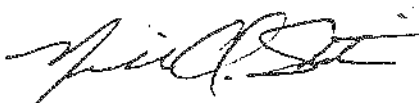
The measurements collected at the Dragon property lines and one location across Ocean Avenue indicate that the City of Portland industrial-zone standard of 75 dB was exceeded two times during the testing. The first hour of monitoring at location N5 at the Ocean Avenue property line resulted in a 76.1 dB equivalent steady state sound level. The first hour of monitoring at location N1 (across Ocean Avenue from the facility) was higher at 77.9 dB equivalent steady state sound level, indicating that traffic is a significant source of noise in the site vicinity.

The noise levels observed correspond to a period of relatively normal plant operation. However, our data must be qualified by the fact that changes in the operations at the plant (e.g., changes in truck traffic volume), or variation in ambient neighborhood noise, may result in noise levels that are different from those reported herein. Furthermore, sound levels may vary based on ambient climatology (e.g., temperature, humidity, wind).

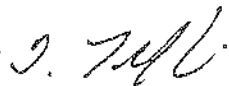
Closure

If you have any questions or require any additional information regarding this project, please call. We have enjoyed working with Kleinschmidt Associates and Dragon Products.

Sincerely,
JACQUES WHITFORD



Nicholas O. Sabatine
Project Manager



D. Todd Coffin
Environmental Scientist

Attachments:

- Table 1 - Noise Monitoring Results
- Figure 1 - Site Locus
- Figure 2 - Site Plan
- Appendix A - Time Histograms



TABLE 1
Noise Monitoring Results
Dragon Products Company
Ocean Ave., Portland, Maine

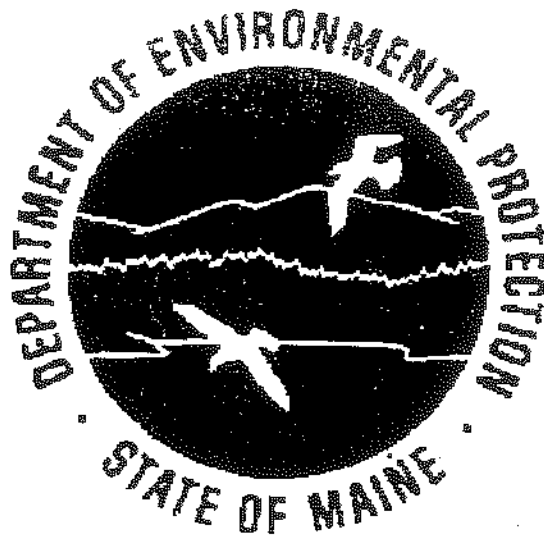
Regulation		Permissible Noise Levels				
City of Portland (Residential Zoning)		No Noise Regulations				
City of Portland (Industrial Zoning)		75.0 dB (measured at the property line)				
Test Location	Date/Time	Hour 1 Sound Level (L _{eq})	Hour 2 Sound Level (L _{eq})	Two Hour Sound Level (L _{eq})	Two Hour Sound Level (L _{eq})	
B1 - Across from Plant Entrance	6/14/97 0830-1229	NA	NA	66.0 dB*	66.0 dB*	
B2 - Southern Neighbor Property Line	6/14/97 0830-1229	NA	NA	62.6 dB*	62.6 dB*	
N1 - Across from Plant Entrance	6/16/97 0650-0849	77.9 dB	74.0 dB	76.4 dB	76.4 dB	
N2 - Southern Neighbor Property Line	6/16/97 0650-0849	65.2 dB	64.5 dB	65.0 dB	65.0 dB	
N3 - Devito Property Line	6/16/97 0920-1119	65.6 dB	66.2 dB	65.9 dB	65.9 dB	
N4 - Summer Place Property Line	6/16/97 0920-1119	63.4 dB	63.6 dB	63.6 dB	63.6 dB	
N5 - Ocean Ave. Property Line	6/17/97 0700-0859	76.1 dB	71.9 dB	74.5 dB	74.5 dB	
N6 - Quarry Southern Perimeter	6/17/97 0700-0859	53.3 dB	51.0 dB	52.3 dB	52.3 dB	
N7 - Quarry Northern Perimeter	6/17/97 0940-1139	59.7 dB	59.7 dB	59.7 dB	59.7 dB	
N8 - Quarry SW Perimeter	6/17/97 0940-1139	55.8 dB	54.8 dB	55.3 dB	55.3 dB	

* - Baseline measurements were collected over a four hour time period.

DRAGON INDUSTRIAL ZONE

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Article 8
Performance Standards for Quarries
38 M.R.S.A. §§ 490-W to 490-EE



Bureau of Land and Water Quality
DEPLW96-1

JULY 4, 1996

PERFORMANCE STANDARDS FOR QUARRIES

38 MRSA §§490-W TO 490-EE

*Notes Concerning the Text
July 4, 1996*

The following text of Article 8 (Performance Standards for Quarries) includes amendments made by the One Hundredth and Seventeenth Legislature, Second Regular Session. The table of contents and footnotes have been added to this document by the Department of Environmental Protection and are not part of the statutory text.

All copyrights and other rights to statutory text are reserved by the State of Maine. The text included in this publication is current to the end of the Second Regular Session of the 117th Legislature but is subject to change without notice. It is a version that is presumed accurate but which has not been officially certified by the Secretary of State. Refer to the Maine Revised Statutes Annotated and supplements for certified text.

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ARTICLE 8-A
PERFORMANCE STANDARDS FOR QUARRIES

§490-W. Definitions

As used in this article, unless the context otherwise indicates, the following terms have the following meanings.

1. **Affected land.** "Affected land" means all reclaimed and unreclaimed land, land that has or will have the overburden removed, land on which stumps, spoil or other solid waste has or will be deposited and storage areas or other land, except natural buffer strips, that will be or has been used in connection with a quarry.
2. **Airblast.** "Airblast" means an atmospheric compression wave resulting from the detonation of explosives, whether resulting from the motion of blasted materials or the expansion of gases from the explosion.
3. **Blaster.** "Blaster" means a person qualified to be in charge of or responsible for the loading and firing of a blast.
- ✓ 4. **Blasting.** "Blasting" means the use of explosives to break up or otherwise aid in the extraction or removal of a rock or other consolidated natural formation.
- ✓ 5. **Blast site.** "Blast site" means the area where explosive material is handled during the loading of drilled blastholes, including the perimeter formed by the loaded blastholes and 50 feet in all directions from loaded blastholes.
6. **Detonating cord.** "Detonating cord" means a flexible cord containing a center core of high explosives that may be used to initiate other explosives.
7. **Explosive.** "Explosive" means any chemical compound or other chemical substance that contains oxidizing or combustible materials used for the purpose of producing an explosion intended to break or move rock, earth or other materials.
8. **Flyrock.** "Flyrock" means rock that is propelled through the air or across the ground as a result of blasting and that leaves the blast area.
9. **Matting.** "Matting" means a covering placed over load holes and adjacent areas in order to minimize generation of flyrock and limit airblast effects.
- ✓ 10. **Natural buffer strip.** "Natural buffer strip" means an undisturbed area or belt of land that is covered with trees or other vegetation.

11. **Passenger car equivalents at peak hour.** "Passenger car equivalents at peak hour" means the number of passenger cars, or, in the case of nonpassenger vehicles, the number of passenger cars that would be displaced by nonpassenger vehicles, that pass through an intersection or on a roadway under prevailing roadway and traffic conditions at that hour of the day during which traffic volume generated by the development is higher than the volume during any other hour of the day. For purpose of this article, one tractor-trailer combination is the equivalent of 2 passenger cars.

12. **Peak particle velocity.** "Peak particle velocity" means the maximum rate of ground movement measured by any of the 3 mutually perpendicular components of ground motion.

13. **Preblast survey.** "Preblast survey" means documentation, prior to the initiation of blasting, of the condition of buildings, structures, wells or other infrastructures; protected natural resources; historic sites; and unusual natural areas.

14. **Private drinking water supply.** "Private drinking water supply" means a surface water supply, a dug well, a spring or a hole drilled, driven or bored into the earth that is used to extract drinking water for human consumption and that is not part of a public drinking water supply.

15. **Production blasting.** "Production blasting" means blasting conducted for the purpose of extracting or removing natural materials for commercial sale or beneficiation.

16. **Public drinking water source.** "Public drinking water source " means a groundwater well or a surface water source that directly or indirectly serves a water distribution system that has at least 15 service connections or regularly services an average of at least 25 individuals daily at least 60 days of the year.

✓ 17. **Quarry.** "Quarry" means a place where rock is excavated.

18. **Reclamation.** "Reclamation" means the rehabilitation of the area of land affected by mining, including, but not limited to, the stabilization of slopes and creation of safety benches, the planting of forests, the seeding of grasses and legumes for grazing purposes, the planting of crops for harvest and the enhancement of wildlife and aquatic habitat and aquatic resources. "Reclamation" does not include the filling in of pits and the filling or sealing of shafts and underground workings with solid materials unless necessary for the protection of groundwater or for reasons of safety.

19. **Regulator.** "Regulator" means:

A. For a quarry located wholly within a municipality that is registered under section 490-DD to enforce this article, the municipality; and

B. For all other quarries, the Department of Environmental Protection.

20. **Rock.** "Rock" means a hard, nonmetallic material that requires cutting, blasting or similar methods of forced extraction.

21. **Stemming.** "Stemming" means inert material used in a blasthole to confine the gaseous products of detonation.

22. **Surface blasting.** "Surface blasting" means any blasting for which the blast area lies at the surface of the ground.

23. **Underground production blasting.** "Underground production blasting" means a blasting operation carried out beneath the surface of the ground by means of shafts, declines, adits or other openings leading to the natural material being mined or extracted.

§490-X. **Applicability**

This article applies to any quarry that is more than one acre in size, including reclaimed and unreclaimed areas, or at which underground production blasting is proposed.

The article does not apply to a quarry located wholly within the jurisdiction of the Maine Land Use Regulation Commission.

This article does not apply to an excavation or grading preliminary to a construction project, unless intended to circumvent this article.

A person with a valid permit for a quarry under article 6 must operate that quarry in compliance with the terms and conditions of that permit. Any modification of the permit must be in conformance with section 484. A person with a permit under article 6 may file a notice of intent to comply with this article. The permit issued under article 6 lapses as of the date a complete notice of intent is filed with the department. If the permittee chooses to substitute a notification pursuant to this article, all terms and conditions that applied to the permit issued pursuant to article 6 are incorporated into the notification approved pursuant to this article.

§490-Y. **Notice of intent to comply**

Except as provided in section 484-A, a person intending to create or operate a quarry under this article must file a notice of intent to comply before the total area of excavation of rock or overburden on the parcel exceeds one acre. Both reclaimed and unreclaimed areas are added together in determining whether this one-acre threshold is exceeded. A notice filed under this section must be complete, submitted on forms approved by the department and mailed to the municipality where the quarry is located, the department, the Maine Historic Preservation Commission and each abutting property owner. The notice that is mailed to the department must be sent by certified mail, return receipt requested. Upon receiving the postal receipt, the owner or operator may commence operation of the quarry.

A notice of intent to comply is not complete unless it includes the following:

1. **Name, address and telephone number.** The name, mailing address and telephone number of the owner of the quarry and, if different from the owner, the operator of the quarry;
2. **Map and site plan.** A location map and site plan drawn to scale showing property boundaries, stockpile areas, existing reclaimed and unreclaimed lands, proposed maximum acreage of all affected lands, all applicable private drinking water supplies or public drinking water sources and all existing or proposed solid waste disposal areas;
3. **Parcel description.** A description of the parcel including size and deed description;
4. **Legal interest.** A copy of the lease or other document showing that an operator who is not the owner has a legal right to excavate on the property. Stumpage information does not have to be shown;
5. **Information on abutters.** The names and addresses of abutting property owners;
6. **Signed statement.** A statement signed and dated by the owner or operator certifying that the quarry will be operated in compliance with this article; and
7. **Fees.** A fee paid to the department as provided by section 490-EE.

If the department determines that a notice filed under this section is not complete, the department must notify the owner or operator no later than 45 days after receiving the notice.

§490-Z. Performance standards for quarries

1. **Significant wildlife habitat.** Affected land may not be located in a significant wildlife habitat as defined in section 480-B, subsection 10 or in an area listed pursuant to the Natural Areas Program, Title 5, section 13076. The department may not grant a variance from the provisions of this subsection.
2. **Solid waste.** Solid waste, including stumps, wood waste and land-clearing debris generated on the affected land must be disposed of in accordance with chapter 13, including any rules adopted to implement those laws. The department may not grant a variance from the provisions of this subsection.
3. **Groundwater protection.** To ensure adequate groundwater protection, the following setback requirements must be met.
 - A. A 200-foot separation must be maintained between an excavation and a private drinking water supply that is point driven or dug and was in existence prior to the excavation.

B. A 100-foot separation must be maintained between an excavation and a private drinking water supply that is drilled into saturated bedrock and was in existence prior to the excavation.

C. Separation must be maintained between an excavation and a public drinking water source as follows:

(1) For systems serving a population of 500 persons or less, the minimum separation must be 300 feet;

(2) For systems serving a population of 501 persons up to 1,000 persons, the separation must be 500 feet;

(3) For systems serving a population of more than 1,000 persons, the separation must be 1,000 feet; and

(4) For any system that holds a valid filtration waiver in accordance with the federal Safe Drinking Water Act, 42 United States Code, Sections 300f to 300j-26 (1988), the separation must be 1,000 feet.

D. Refueling operations, oil changes, other maintenance activities requiring the handling of fuels, petroleum products and hydraulic fluids and other on-site activity involving storage or use of products that, if spilled, may contaminate groundwater, must be conducted in accordance with the department's spill prevention, control and countermeasures plan. Petroleum products and other substances that may contaminate groundwater must be stored and handled over impervious surfaces that are designed to contain spills. The spill prevention, control and countermeasures plan must be posted at the site.

E. In the event of excavation below the seasonal high water table, a 300-foot separation must be maintained between the limit of excavation and any predevelopment private drinking water supply and a 1000-foot separation must be maintained between the limit of excavation and any public drinking water source or area previously designated for potential use as a public drinking water source by a municipality or private water company.

The department may grant a variance from the provisions of paragraph C upon consultation with the persons or entity that controls the public drinking water supply affected by the excavation. The department may not grant a waiver from the provisions of paragraph A, B or D.

Excavation below the seasonal highwater table of an area previously designated for potential use as a public drinking water source by a municipality or private water company is prohibited. The department may grant a variance allowing excavation below the seasonal highwater table if the applicant demonstrates that the yield of groundwater flow to protected waters or wetlands or public drinking water sources or private drinking water supplies will not be adversely affected by the excavation.

In the event of excavation below the seasonal highwater table, the operator of a mining activity that affects by excavation activities a public drinking water source or private drinking water supply by contamination, interruption or diminution must restore or replace the affected water supply with an alternate source of water, adequate in quantity and quality for the purpose served by the supply. This provision is not intended to replace any independent action that a person may have whose water supply is affected by a mining activity.

4. **Natural buffer strip.** Existing vegetation within a natural buffer strip may not be removed. If vegetation within the natural buffer strip has been removed or disturbed by the excavation or activities related to operation of a quarry before submission of a notice of intent to comply, that vegetation must be reestablished as soon as practicable after filing the notice of intent to comply. The department may not grant a variance from the provisions of this subsection.

5. **Protected natural resources.** A natural buffer strip must be maintained between the working edge of an excavation and a river, stream, brook, great pond or coastal wetland as defined in section 480-B. A natural buffer strip must also be maintained between the working edge of an excavation and certain freshwater wetlands as defined in section 480-B and having the characteristics listed in paragraph B. Excavation activities conducted within 100 feet of a protected natural resource must comply with the applicable permit requirements under article 5-A. The width requirements for natural buffer strips are as follows.

A. A natural buffer strip at least 100 feet wide must be maintained between the working edge of the excavation and the normal high water line of a great pond classified as GPA or a river flowing to a great pond classified as GPA.

B. A natural buffer strip at least 75 feet wide must be maintained between the working edge of the excavation and a body of water other than as described in paragraph A, a river, stream or brook, coastal wetland or significant wildlife habitat contained within a freshwater wetland consisting of or containing:

(1) Under normal circumstances, at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, except for artificial ponds or impoundments; or

(2) Peat lands dominated by shrubs, sedges and sphagnum moss.

For purposes of this subsection, the width of a natural buffer strip is measured from the upland edge of a floodplain wetland. If no floodplain wetlands are present, the width is measured from the normal high water mark of the river, stream or brook. The width is measured from the normal high water mark of a great pond and upland edge of a freshwater or coastal wetland.

The department may not grant a variance from this subsection.

6. **Roads.** A natural buffer strip must be maintained between the working edge of an excavation and a road as follows.

A. A natural buffer strip at least 150 feet wide must be maintained between the working edge of an excavation and a road designated as a scenic highway by the Department of Transportation.

B. A natural buffer strip at least 100 feet wide must be maintained between the working edge of the excavation and any other public road.

C. A natural buffer strip at least 50 feet wide must be maintained between the working edge of an excavation and a private road or a right-of-way. If a private road is contained within a wider right-of-way, the buffer is measured from the edge of the right-of-way. The width of the natural buffer strip adjacent to a private road may be reduced if the applicant receives written permission from the persons having a right-of-way over the private road.

The department may not grant a variance from the provisions of paragraph A or C. The department may grant a variance from paragraph B if the variance does not result in the natural buffer strip being reduced to less than 50 feet between the working edge of the excavation and any road and if the owner or operator installs visual screening and safety measures as required by the department.

A distance specified in this subsection is measured from the outside edge of the shoulder of the road unless otherwise specifically provided.

7. Property boundary. A natural buffer strip at least 100 feet wide must be maintained between an excavation and any property boundary. This distance may be reduced to 10 feet with the written permission of the affected abutting property owner or owners, except that the distance may not be reduced to less than 25 feet from the boundary of a cemetery or burial ground. The natural buffer strip between quarries owned by abutting owners may be eliminated with the abutter's written permission if the elimination of this natural buffer strip does not increase the runoff from either excavation across the property boundary. All property boundaries must be identified in the field by markings such as metal posts, stakes, flagging or blazed trees. The department may not grant a variance from the provisions of this subsection.

8. Erosion and sedimentation control. All reclaimed and unreclaimed areas, except for access roads, must be naturally internally drained at all times unless a variance is obtained from the department. Stockpiles consisting of topsoil to be used for reclamation must be seeded, mulched or otherwise temporarily stabilized.

A. Sediment may not leave the parcel or enter a protected natural resource.

B. Grubbed areas not internally drained must be stabilized.

C. Erosion and sedimentation control for access roads must be conducted in accordance with the department's best management practices for erosion and sedimentation control.

The department may not grant a variance from the provisions of paragraph A, B or C.

9. **Surface water protection and storm water management.** Surface water discharges from areas not required to be naturally internally drained may not be increased as a result of storm water runoff from storms up to a level of a 25-year, 24-hour storm. Accumulated water from precipitation must be put into sheet flow and the discharge point must be directed to an undisturbed natural buffer strip. The discharge point must be at least 250 feet away from a protected natural resource. The slope of the discharge area may not exceed 5%.

Grading or other construction activity on the site may not alter natural drainageways so that the drainage, other than that which occurred before development, adversely affects an adjacent parcel of land or so that the drainageways flowing from an adjacent parcel of land to the parcel are impeded.

Structures such as detention ponds, retention ponds and undersized culverts may not be used to meet the standard in this subsection unless a variance is obtained from the department.

10. **Traffic.** The following provisions govern traffic.

A. Entrances and exits of the quarry must be located, posted and constructed in accordance with standards for roadways in rules adopted by the board. Adequate distances for entering, exiting and stopping must be maintained in accordance with these standards. The department may not grant a variance from the provisions of this subsection. This paragraph is repealed July 1, 1997.

B. Any excavation activity that generates 100 or more passenger car equivalents at peak hour must comply with the applicable permit requirements under article 6. This paragraph takes effect July 1, 1997.

11. **Noise.** Noise levels may not exceed applicable noise limits in rules adopted by the board.

12. **Dust.** Dust generated by activities at a quarry, including dust associated with traffic to and from a quarry, must be controlled by sweeping, paving, watering or other best management practices for control of fugitive emissions. Dust control methods may include calcium chloride as long as the manufacturer's labeling guidelines are followed. The department may not grant a variance from the provisions of this subsection.

13. **Reclamation.** The affected land must be restored to a condition that is similar to or compatible with the conditions that existed before excavation. Reclamation may be conducted in accordance with the department's best management practices for erosion and sedimentation control and must include the following.

A. Highwalls, or quarry faces, must be treated in such a manner as to leave them in a condition that minimizes the possibility of rock falls, slope failures and collapse. A highwall that is loose must be controlled by the use of blasting or scaling, the use of safety benches, the

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Article 11
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use of flatter slopes or reduced face heights or the use of benching near the top of the face or rounding the edge of the face.

B. A vegetative cover must be established by seeding or planting within one year of the completion of excavation. Vegetative cover must be established on all affected land, including safety benches, except for quarry walls and flooded areas. Topsoil must be placed, seeded and mulched within 30 days of final grading. Vegetative cover is acceptable if within one year of seeding:

(1) The planting of trees and shrubs results in a permanent stand or a stand capable of regeneration and succession sufficient to ensure a 75% survival rate; and

(2) The planting of all material results in permanent 90% ground cover.

Vegetative cover used in reclamation must consist of grasses, legumes, herbaceous or woody plants, shrubs, trees or a mixture of these.

C. All structures, once no longer in use, and all access roads, haul roads and other support roads must be reclaimed.

D. All affected lands must be reclaimed within 2 years after final grading.

E. Topsoil that is stripped or removed must be stockpiled for use in reclaiming disturbed land areas. The department may grant a variance from this paragraph if the applicant demonstrates that the soil is not needed for reclamation purposes.

F. The department may require a bond payable to the State with sureties satisfactory to the department or such other security as the department determines adequately secures compliance with this article, conditioned upon the faithful performance of the requirements set forth in this article. Other security may include a security deposit with the State, an escrow account and agreement, insurance or an irrevocable trust. In determining the amount of the bond or the security, the department shall take into consideration the character and nature of the overburden, the future suitable use of the land involved and the cost of grading and reclamation required. All proceeds of forfeited bonds or other security must be expended by the department for the reclamation of the area for which the bond was posted and any remainder returned to the operator.

G. The board may adopt or amend rules to carry out this subsection, including rules relating to operational or maintenance plans; standards for determining the reclamation period; annual revisions of those plans; limits, terms and conditions on bonds or other security; proof of financial responsibility of a person engaged in excavation activity or the affiliated person who guarantees performance; estimation of reclamation costs; reports on reclamation activities; and the manner of determining when the bond or other security may be discharged.

14. Blasting. The applicant must ensure that the blasting is conducted in accordance with Title 25, section 2441.

A. The owner or operator shall use sufficient stemming, matting or natural protective cover to prevent flyrock from leaving property owned or under control of the owner or operator or from entering protected natural resources or natural buffer strips. Crushed rock or other suitable material must be used for stemming when available; native gravel, drill cuttings or other material may be used for stemming only if no other suitable material is available.

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B. The maximum allowable airblast at any inhabited building not owned or controlled by the developer may not exceed 129 decibels peak when measured by an instrument having a flat response (+ or - 3 decibels) over the range of 5 to 200 hertz.

C. The maximum allowable airblast at an uninhabited building not owned or controlled by the developer may not exceed 140 decibels peak when measured by an instrument having a flat response (+ or - 3 decibels) over the range of 5 to 200 hertz.

D. Monitoring of airblast levels is required in all cases for which a preblast survey is required by paragraph F. The department may waive the monitoring requirement if the owner or operator secures the permission of affected property owners to increase allowable airblast levels on their property and the department determines that no protected natural resource will be adversely affected by the increased airblast levels.

E. If a blast is to be initiated by detonating cord, the detonating cord must be covered by crushed rock or other suitable cover to reduce noise and concussion effects.

F. A preblast survey is required for all production blasting and must extend a minimum radius of 2000 feet from the blast site. The preblast survey must document any preexisting damage to structures and buildings and any other physical features within the survey radius that could reasonably be affected by blasting. Assessment of features such as pipes, cables, transmission lines and wells and other water supply systems must be limited to surface conditions and other readily available data, such as well yield and water quality. The preblast survey must be conducted prior to the initiation of blasting at the operation. The owner or operator shall retain a copy of all preblast surveys for at least one year from the date of the last blast on the development site.

(1) The owner or operator is not required to conduct a preblast survey if the department determines that no protected natural resource within the limits of the otherwise required survey is likely to be affected by blasting and production blasting will not occur within 2000 feet of any building not owned or under the control of the developer.

(2) The owner or operator is not required to conduct a preblast survey on properties for which the owner or operator documents the rejection of an offer by registered letter, return receipt requested, to conduct a preblast survey. Any person owning a building within a preblast survey radius may voluntarily waive the right to a survey.

(3) The owner or operator is not required to conduct a preblast survey if the owner or operator agrees to design all blasts so that the weight of explosives per eight millisecond or greater delay does not exceed that determined by the equation $W=(D/D_s)^2$, where W is the maximum allowable weight of explosives per delay of 8 milliseconds or greater, D is the shortest distance between any area to be blasted and any inhabitable structure not owned or controlled by the developer and D_s equals 70 ft./ $(lb.)^{1/2}$.

G. Blasting may not occur in the period between sundown and sunrise the following day or in the period 7:00 p.m. and 7:00 a.m., whichever is greater. Routine production blasting is not allowed in the daytime on Sunday. Detonation of misfires may occur outside of these times but must be reported to the department within 5 business days of the misfire detonation. Blasting may not occur more frequently than 4 times per day. Underground production blasting may be exempted from these requirements provided that a waiver is granted by the department.

H. Sound from blasting may not exceed the following limits at any protected location:

Number of Blast Per Day	Sound Level Limit
1	129 dbL
2	126 dbL
3	124 dbL
4	123 dbL

I. The maximum peak particle velocity at inhabitable structures not owned or controlled by the developer may not exceed the levels established in Table 1 in paragraph K and the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1. The department may grant a variance to allow ground vibration levels greater than 2 inches per second on undeveloped property not owned or controlled by the applicant if the department determines that no protected natural resource, unusual natural area or historic site will be adversely affected by the increased ground vibration levels. If inhabitable structures are constructed on the property after approval of the development and prior to completion of blasting, the developer immediately must notify the department and modify blasting procedures to remain in compliance with the standards of this subsection.

J. Based upon an approved engineering study, the department may grant a variance to allow higher vibration levels for certain buildings and infrastructures. In reviewing a variance application, the department shall take into account that the standards in this paragraph and paragraph I are designed to protect conventional low-rise structures such as churches, homes and schools. In cases of practical difficulty, the department may grant a variance from paragraph I if it can be demonstrated that no adverse impacts on existing infrastructures or protected natural resources, unusual natural areas or historic sites will result.

K. Table 1 of this paragraph or the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 must be used to evaluate ground vibration effects for those blasts for which a preblast survey is required.

- (1) Either Table 1 of this paragraph or graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 may be used to evaluate ground vibration effects when blasting is to be monitored by seismic instrumentation.
- (2) Blasting measured in accordance with Table 1 of this paragraph must be conducted so that the peak particle velocity of any one of the 3 mutually perpendicular components of motion does not exceed the ground vibration limits at the distances specified in Table 1 of this paragraph.
- (3) Seismic instruments that monitor blasting in accordance with Table 1 of this paragraph must have the instrument's transducer firmly coupled to the ground.
- (4) An owner or operator using Table 1 of this paragraph must use the scaled-distance equation, $W=(D/D_s)^2$, to determine the allowable charge weight of explosives to be detonated in any 8 millisecond or greater delay period without seismic monitoring, where W is equal to the maximum weight of explosives, in pounds, and D and D_s are defined as in Table 1 of this paragraph. The department may authorize use of a modified scaled-distance factor for production blasting if the owner or operator can demonstrate to a 95% confidence level, based upon records of seismographic monitoring at the specific site of the mining activity covered by the permit, that use of the modified scaled-distance factor will not cause the ground vibration to exceed the maximum allowable peak particle velocities of Table 1 of this paragraph.
- (5) Blasting monitored in accordance with the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 must be conducted so that the continuously variable particle velocity criteria are not exceeded.

The owner or operator may apply for a variance of the ground vibration monitoring requirement prior to conducting blasting at the development site if the owner or operator agrees to design all blasts so that the weight of explosives per 8 millisecond or greater delay does not exceed that determined by the equation $W=(D/D_s)^2$, where W is the maximum allowable weight of explosives per delay of 8 milliseconds or greater, D is the shortest distance between any area to be blasted and any inhabitable structure not owned or controlled by the developer and D_s equals 70 ft./lb.^{1/2}. As a condition of the variance, the department may require submission of records certified as accurate by the blaster and may require the owner or operator to document compliance with the conditions of this paragraph.

The following is Table 1.

Distance versus Peak Particle Velocity Method

Distance (D) from the blast area (feet)	Maximum allowable peak particle velocity (V _{max}) for ground vibration (in./sec.)	Scaled-distance factor (Ds) to be applied without seismic monitoring
0 to 300	1.25	50
301-5000	1.00	55
Greater than 5000	0.75	65

L. A record of each blast, including seismographic data, must be kept for at least one year from the date of the last blast, must be available for inspection at the development or at the offices of the owner or operator if the development has been closed, completed or abandoned before the one-year limit has passed and must contain at a minimum the following data:

- (1) Name of blasting company or blasting contractor;
- (2) Location, date and time of blast;
- (3) Name, signature and social security number of blaster;
- (4) Type of material blasted;
- (5) Number and spacing of holes and depth of burden or stemming;
- (6) Diameter and depth of holes;
- (7) Type of explosives used;
- (8) Total amount of explosives used;
- (9) Maximum amount of explosives used per delay period of 8 milliseconds or greater;
- (10) Maximum number of holes per delay period of 8 milliseconds or greater;
- (11) Method of firing and type of circuit;

- (12) Direction and distance in feet to the nearest dwelling, public building, school, church or commercial or institutional building neither owned nor controlled by the developer;
- (13) Weather conditions, including such factors as wind direction and cloud cover;
- (14) Height or length of stemming;
- (15) Amount of mats or other protection used;
- (16) Type of detonators used and delay periods used;
- (17) The exact location of each seismograph and the distance of each seismograph from the blast;
- (18) Seismographic readings;
- (19) Name and signature of the person operating each seismograph; and
- (20) Names of the person and the firm analyzing the seismographic data.

M. All field seismographs must record the full analog wave form of each of the 3 mutually perpendicular components of motion in terms of particle velocity. All seismographs must be capable of sensor check and must be calibrated according to the manufacturer's recommendations.

§490-AA. Inspections

The department may periodically inspect a site, examine relevant records of the owner or operator of a quarry, take samples and perform tests necessary to determine compliance with the provisions of this article.

§490-BB. Enforcement and penalties

The department shall administer and enforce the provisions of this article.

1. **Stop-work order.** The department may order the owner or operator of a quarry that is not operating in compliance with this article to cease operations until the noncompliance is corrected.

2. **Penalty.** A person who violates a provision of this article commits a civil violation and is subject to the penalties established under section 349. Penalties assessed for enforcement actions taken by the State are payable to the State.

3. **Reclamation.** If, after an opportunity for a hearing, the commissioner determines that the owner of an excavation site or the person who was engaged in the excavation activity at the excavation site has violated this article, the commissioner shall direct the department staff or contractors under the supervision of the commissioner to enter on the property and carry out the necessary reclamation. The person engaged in mining or any affiliated person who guarantees performance at the excavation site is liable for the reasonable expenses of this necessary reclamation. The commissioner may use the bond or other security paid under section 490-Z, subsection 13, paragraph F to meet the reasonable expenses of reclamation.

§490-CC. Variances

An owner or operator must comply with the performance standards in section 490-Z unless a variance from those performance standards is approved by the department. Except when prohibited by section 490-Z, the department may grant a variance from the performance standards in this article if the owner or operator affirmatively demonstrates to the department that the variance does not adversely affect natural resources or existing uses and does not adversely affect the health, safety and general welfare of the public. A variance application must include any fee applicable under section 490-EE. The department shall process the variance application according to chapter 2 and the rules adopted by the department for processing an application. An applicant for a variance under this article shall hold a public informational meeting as described in those rules.

The department shall publish a timetable for responding to variance applications in the same manner prescribed in section 344-B. A variance is not valid unless approved by the department and, if a municipality is the regulator, the municipality. In making its decision on a variance application, the department shall consider comments or information received and the compliance record of the owner or operator. The department shall inform the owner or operator of any significant concerns or issues raised.

§ 490-DD. Municipal enforcement; registration

A municipality may register for authority to enforce this article by adopting and submitting to the commissioner an ordinance that meets or exceeds the provisions of this article. The commissioner shall review that ordinance to determine whether that ordinance meets the provisions of this article and if the municipality has adequate resources to enforce the provisions of this article. If the commissioner determines that the ordinance meets the provisions of this article and that the municipality has the resources to enforce this article, the commissioner shall register that municipality for authority to enforce this article. Immediately upon approval by the commissioner, primary enforcement authority for this article vests in that municipality. The commissioner may not approve an ordinance under this section unless the ordinance requires that any request for a variance from the standards in the article be approved by the commissioner before the variance is valid.

1. **Relation to home rule.** This section may not be construed to limit a municipality's authority under home rule to adopt ordinances regulating quarries.

2. **Optional participation.** This article may not be construed to require a municipality to adopt any ordinance.¹

3. **Suspension of approval.** The commissioner may act to enforce any provision of this article or suspend the registration of a municipality if the commissioner determines that a municipal ordinance no longer conforms to the provisions of this article or that the municipality is not adequately enforcing this article. The commissioner shall notify a municipality of any such determination in writing. Suspension of municipal registration by the commissioner does not void or in any way affect a municipal ordinance or in any way limit the municipality's authority to enforce the provisions of its ordinance.

4. **Appeal.** A municipality may appeal to the board any decision of the commissioner under this section. Any decision by the board on appeal by a municipality constitutes final agency action.

§ 490-EE. Transfer of ownership or operation, review before expansion; fees

1. **Review before expansion.** Before expanding a quarry beyond an area that exceeds a total of 10 acres of reclaimed and unreclaimed land and before each additional 10-acre expansion, the owner or operator shall notify the regulator of the owner's or operator's intent to expand and must request an inspection. In the same manner as prescribed in section 344-B, the department shall publish a timetable for responding to inspection requests and shall inspect the site within that time period to determine the quarry's compliance with this article and other applicable laws administered by the department. The department may defer an inspection for a reasonable period when winter conditions at the site prevent the department from evaluating an expansion request. The department shall notify the owner or operator of a deferral under this section. Excavation activities may continue after the filing of a notice of an intent to expand. The failure of a regulator to conduct a site visit within a published time period is not a sufficient basis for a stop-work order under section 490-BB, subsection 1.

At the time of filing a notification of intent to expand, the owner or operator shall pay any fee required by this section.

2. **Transfer of ownership or operation.** A person who purchases a quarry that is operated under a notice of intent to comply, as established under section 490-Y, or who obtains operating authority of a quarry that operates under a notice of intent to comply must file within 2 weeks after the purchase or the obtaining of operating authority a notice of intent to comply on a form developed by the department. The new owner or operator may operate the quarry during this 2-week period without having filed a notice of intent to comply if the new owner or operator complies with all standards of this article.

3. **Fees.** The owner or operator a quarry shall pay the regulator:

¹

- A. An initial fee of \$250 upon filing a notice of intent to comply under section 490-Y;
- B. By March 1st of each year, an annual fee of:
 - (1) Three hundred fifty dollars for an excavation from which 2,500 cubic yards or more of material will be extracted during that year; and
 - (2) Fifty dollars for all other excavations. To be eligible for the annual fee under this paragraph, the owner or operator must include with the payment of this fee a signed statement certifying that less than 2,500 cubic yards of material will be extracted during that year;
- C. A fee of \$250 for each variance requested under section 490-CC, except for the following:
 - (1) A fee of \$500 for a variance to excavate below the seasonal high water table;
 - (2) A fee of \$500 for a variance to create an externally drained quarry;
 - (3) A fee of \$125, for a variance to waive the topsoil salvage requirement;
 - (4) A fee of \$125 for a variance to waive the monitoring requirements for airblasts and ground vibration; and
 - (5) A fee of \$250 upon filing a notice of intent to expand under section 490-EE; and¹
- D. A fee of \$250 upon filing a notice of intent to expand under this section.

Notwithstanding any other provision of this subsection, the total for all fees paid under paragraphs A and B for one quarry in one calendar year may not exceed \$350.

¹ This subparagraph will be deleted in the Revisor's Errors Bill

CITY OF PORTLAND, MAINE
MEMORANDUM

TO: Chair Carroll and Members of the Portland Planning Board

FROM: Sarah Hopkins, Senior Planner

DATE: February 10, 1998

RE: Dragon Products Industrial Zone

Introduction

Dragon Products has requested a workshop with the Planning Board to discuss a potential contract zone to allow extraction and mining of stone at its plant on outer Ocean Avenue. The Dragon Products lot is 38.4 acres and is zoned R-3 Residential.

History

The applicant participated in the Planning Board's review of the Industry and Commerce Plan Advisory Committee recommendations regarding the industrial zoning text and map changes and overall policy discussions. At that time, Dragon requested that the City rezone their parcel to the IH zone and allow mining and extraction within the IH zone. During the public hearings, a number of neighbors raised concerns regarding Dragon's request to be a permitted use at that site, and the impact of such a use

Due to the number of issues raised and the policy considerations which must be discussed, the Planning Board decided to leave the site zoned R-3, and asked the applicant to return at a later date to resume the policy discussions. Leaving the site zoned R-3 allows the plant to continue as a nonconforming use but restricts any expansion of the use.

The Dragon Products site consists of a stone quarry and concrete manufacturing plant. These uses have been located at this site since 1934, yet have been zoned R-3 Residential since the first zoning in Portland in 1958. Mining has occurred on and off at the site over the last fifty years.

The manufacture of concrete is a process in which stone, cement, and water are mixed. Currently, both mined stone and cement are brought to the plant to be mixed with water. From there, the concrete is trucked to construction sites. According to the applicant's submission, an average of 13 to 26 trucks haul stone from April to November, creating 26 to 52 daily trips on Ocean Avenue (in/out).

Contract Zone Proposal

Dragon Products has requested that the Board recommend a contract zone to the City Council which would allow the mining of stone from the quarry, thereby reducing the number of truck trips associated with their operation.

The applicant suggests the creation of a Dragon Industrial Zone for a portion of its site on Ocean Avenue. A portion of the site would be left R-3 (see Attachment 7) in order to buffer the adjacent residential uses. The new contract zone would incorporate all of the IH standards and would add the following:

A permitted use would be added for "concrete plants, including mining of stone for use of manufacture of concrete on the site".

The Maine DEP standards for quarries would be incorporated into the new zone which would replace the vibration and noise limits existing in the zone. The vibration limit would be changed to those set forth in the MDEP Quarry Standards.

The noise limit would be set at existing noise levels at the plant: 78 decibels along Ocean Avenue and 65 decibels at other property lines. The noise limits for blasting would be set forth in MDEP Quarry Standards.

	Noise *		Vibration	
IH Zone	75dBA 7:00 a.m. -10:00 p.m. at property boundaries		no displacement of .003 or more on 1 inch at property boundaries	
MDEP	Number of blasts per day*	Sound level limits in feet	Distance from blast in feet	Maximum peak particle velocity (inches per second)
	1	129 dbl	0-300	1.25
	2	126 dbl	305-5,000	1.00
	3	124 dbl	greater/5,000	0.75
	4	123 dbl		

* Blasting may not occur more than four times a day.

It is difficult without technical expertise to determine the difference between the standards applied by the IH zone and the MDEP. The noise standard of the industrial zones is designed to regulate frequent or regular sources of sound, whereas a "blast" may not necessarily be characterized that way. Similarly, the Industrial Zoning text regulates the distance a particle can travel due to vibration, as opposed to the DEP standards which regulates the speed at which particle may travel.

Dragon Products has commissioned a noise study of the plant and surrounding area. (See Attachment 4.) The study found that when the plant was not in operation, the noise level ranged from 62.6 to 66 dB. These readings were taken from a location directly across Ocean Avenue from the plant entrance. Hourly measurements ranged from 51.0 to 77.9 dB. Measurements collected around the perimeter of the quarry were all below 60 dB. A table of noise measurements are included with the report.

The study found that at times, the noise level across Ocean Avenue at times can be higher than levels within the quarry, given the amount of traffic along Ocean Avenue. The noise study did find that the noise standard was

exceeded twice during the testing at the Ocean Avenue property line and across Ocean Avenue from the plant.

Summary

There are three options for the Planning Board to consider in determining how to zone the Dragon parcel.

1. Contract zone for Dragon Cement would allow for mining as a permitted use yet would apply a set of MDEP standards in addition to the existing IH standards. Would also allow Dragon to expand its operations into land which is currently zoned R-3.
2. Rezone the entire Dragon parcel to IH and permit mining in the IH zone. Would allow Dragon to expand within their site and mine. Dragon would need to meet IH and MDEP standards.
3. Leave the Dragon parcel zoned R-3. Dragon would continue their present operations under regulation by the MDEP, but would not be allowed to expand.

Attachments:

1. Letter for the Applicant
2. Zoning Application
3. Background Information on Dragon Products
4. Sound Level Study
5. MDEP Performance Standards for Quarries
6. IH Zoning Text
7. Letter from Neighbors
 - a. Chris and Cathy Brougham
 - b. Mike and Sue Yandell
8. Site Plan with Sound Monitoring Location Points
9. Proposed Dragon Industrial Zone Map

Attachment 1

VERRILL & DANA

ATTORNEYS AT LAW
ONE PORTLAND SQUARE
P.O. BOX 586
PORTLAND, MAINE 04112-0586
(207) 774-4000
FACSIMILE (207) 774-7499

CHRISTOPHER S. NEAGLE
PARTNER

OFFICES IN:
AUGUSTA, MAINE
KENNEBUNK, MAINE

October 30, 1997

Hand Delivered

Sarah Hopkins
Planning Office, Fourth Floor
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Industrial Zone

Dear Sarah:

Enclosed is the following material to process this application:

1. City Zoning Amendment application form completed and signed, with a 3 page description of the proposal, a list of abutting property owners, and a 1958 zoning map attached.
2. Check for \$300 for the application fee.
3. Two site plans showing the area on different scales.
4. Maine DEP Quarry Regulations which we propose to incorporate into the new zone.
5. Sound study recently completed for Dragon, with its own site plan.

Please let me know when the first Planning Board workshop will be scheduled as Dragon would like to move this application along as quickly as is reasonably possible, and we want to schedule an informal informational meeting with the neighbors prior to any public hearings at the Planning Board.

Call me with any questions or comments.

Sincerely,


Christopher S. Neagle

CSN/sab
Enclosures

cc: David S. Grinnell, Dragon Products Company

F:\CSN\DRAGON\HOPKINS.LTR

APPLICATION FOR ZONING AMENDMENT
CITY OF PORTLAND, MAINE

Attachment 2

DATE October 29, 1997

TO THE CITY PLANNING BOARD, CITY HALL, PORTLAND, MAINE 04101:

The undersigned hereby requests that you consider whether it would be consistent with the comprehensive plan of the City of Portland, Maine, and make appropriate recommendation for action by the City Council concerning the following proposed amendments to the Zoning Ordinance of the City of Portland, Maine:

A. ZONING MAP AMENDMENT:

FROM R-3 ZONE TO Contract ZONE

The property situated on Ocean ~~Street~~/Avenue between Presumpscot ~~Street/Avenue~~ and Washington ~~Street/Avenue~~ on West side ~~(S)~~.

Assessor's Reference (Chart, Block and Lot) for the property is as follows:

415-A-4, 8, 9; 416A-A-2; 417-A-4,5,10,11; and 418-A-1, 3, 4, 5, 6, 9,
10

1. What original deed restrictions, if any, concerning the type of improvements and class of uses permitted were placed on the property involved? Give date restrictions expire:

None

2. Description of the existing use of property: stone quarry and concrete manufacturing facility

3. Description of the proposed use of property: stone quarry and concrete manufacturing facility

4. Area of Lot(s): 38.4 acres

Total Floor Area: N/A

Street Address of Property Involved	Property Owner and/or Name of Optics Seller	Date of Acquisition
<u>960 Ocean Avenue</u>	<u>Dragon Products, Inc.</u>	<u>1991</u>

6. Submission of a site plan, as required in Article V of the Municipal Code.
7. Submission of plans and addresses of property owners abutting the subject property.

B. ZONING TEXT AMENDMENT:


1. Section of Ordinance to be amended: _____
2. Proposed text amendment - Attach on separate sheet the exact language being proposed, including existing relevant text, in which language to be deleted is depicted as crossed out (example), and language to be added is depicted with underlined (example).
3. Brief statement of the purpose of the proposed amendment.
4. If the amendment is intended to facilitate a development, reuse, alteration, addition or modification to a specific property, fill out the sections above under ZONING MAP AMENDMENT.

A fee for this application for a zoning amendment will be charged in accordance with Section 14-54 of the Municipal Code (see copy attached). The applicant also agrees to pay all costs of publication (or advertising) of the Public Hearing Notice as required for this application. Such amount will be billed to the applicant following the appearance of the advertisement.

The above information and the attached lists of property — owners in the vicinity are true and accurate to the best of my knowledge.

October 29, 1997

Date of Filing



 Signature of Applicant/Attorney

Dragon Products Company

 Address of Applicant

38 Preble Street, P.O. Box 1521
 Portland, ME 04104

 City State ZIP

WITHDRAWAL: In the event of withdrawal of the zoning amendment application by the applicant prior to the submission of the advertisement copy to the newspaper to announce the public hearing, a refund of two-thirds of the amount of the zone change fee will be made to the applicant by the City of Portland.

Portland Planning Board
 Portland, Maine

Effective: April 11, 1988

DRAGON INDUSTRIAL ZONE

1. Site History: Dragon Products Company owns approximately 38 acres west of Ocean Avenue adjacent to the old City dump. This property appears on sections of Tax Maps 415, 416A, 417 and 418.

The Dragon Products Company site consists of a stone quarry and a concrete manufacturing facility, which have been operated continuously on the Ocean Avenue site since at least 1934. The site has been known as the Cook's Concrete Plant, and was purchased by Dragon in 1991. The manufacture of concrete is a process of mixing stone, cement and water.

The facility is assessed by the City Assessor at more than \$1,300,000 and generates about \$33,500 in annual real estate tax revenues for the City.

2. City Zoning: The site has been zoned R-3 since the City first adopted zoning, as shown on the 1958 zoning map attached. The facility has operated continuously as a non-conforming use since that time.

The City of Portland Comprehensive Plan, originally written in 1974, states that "Cook's Quarry, an extractive use, is presently located in the R-3 Residential Zone adjacent to the dump, and should be included in the expanded Industrial Zone."

The 1993 City Industry and Commerce Plan Advisory Committee (ICPAC) recommended that the City provide a number of incentives "to promote growth of the industry and commerce sector in Portland". The City followed up on the ICPAC report with a review and revision of its industrial zoning. Dragon Products participated in that process and presented proposals for a rezoning of its property as part of the overall industrial rezoning. However, the Planning Board decided that the issues surrounding this site were too complex to be dealt with as part of the overall industrial rezoning, and encouraged Dragon to make a separate application. The only opposition that surfaced during that process was opposition from the Summer Place residents. The Summer Place site is diagonally across the street on Ocean Avenue, and was rezoned from industrial to residential in 1995. At the time, everyone was fully aware of the adjacent industrial use on the Dragon site.

3. Proposed Contract Zone: Dragon's only goal in this application is to clarify that it may mine stone from its site to use in its concrete manufacturing process. An argument exists that it may mine this stone as a continuation of the operation of its non-conforming use, but Dragon would prefer to be in a zone where it is a permitted use. No change in its concrete manufacturing operations is planned.

As shown on the attached site plan, Dragon Products proposes rezoning most of its site from R-3 to what is described as a "Dragon Industrial Zone". Dragon proposes to leave some of its site zoned R-3, establishing a 275 foot strip of land along Ocean Avenue, a 200 foot wide strip along its neighbor to the southwest and a 100 foot wide strip adjacent to the former City dump property. The proposed zone would incorporate all standards of the existing IH Industrial Zone with the following exceptions:

a. Use: The new permitted use would be for "concrete plants, including mining of stone for use of manufacture of concrete on the site".

b. Maine DEP Standards: All provisions of the attached 1996 Maine DEP Performance Standards for Quarries would be incorporated into the new zone, replacing particular sections of the City of Portland IH Zone, including:

(1) Vibration limits would be as set forth in the Maine DEP quarry standards.

(2) Noise limits for the concrete manufacturing plant would be 78 decibels along Ocean Avenue and 65 decibels at other property lines. Noise limits for blasting would be as set forth in Maine DEP quarry standards.

These standards provide many protections for the neighborhood, including groundwater protection, natural resources protection, reclamation standards, and detailed requirements for blasting, including pre-blast surveys of nearby buildings. Dragon intends to comply with these MeDEP standards in all respects.

4. Technical Information: Dragon has obtained the following technical information to assist in the process:

Noise Study. A noise study conducted during 1997 is attached to this application. It is important to note that when the first noise measurements were taken, at a time when the plant was shut down, there was 66 decibels of noise measured directly across the street from plant and 62 decibels of noise at the nearest neighbor. The noise was generated almost exclusively by the road traffic on Ocean Avenue, also known as Route 9, a busy street even on weekends.

When the concrete manufacturing plant was in full operation, measurements were generally 65 decibels or less at all property lines. The only exception was on Ocean Avenue near the plant, where the decibels measured up to 76 when the plant was in full operation. Note that even when the plant was in full operation, the highest noise level at the Summer Place property was 63 decibels, less than even the IL industrial standards adopted by the City.

Truck Traffic: The primary source of noise and vibrations for neighbors in this operation is probably the trucks which go to and from the facility along Ocean Avenue. Generally speaking, there are trucks that deliver cement, trucks that deliver stone, and trucks that take the manufactured concrete from the plant to various job sites.

Allowing Dragon to continue mining its stone will reduce the traffic by reducing the number of trucks that need to haul stone to the site. During a typical concrete production season from April through November, an average of 13 to 26 trucks haul stone on a daily basis. That means a total of 26 to 52 daily trips on Ocean Avenue since its truck needs to deliver the stone and then leave. Allowing Dragon to mine stone from its site will eliminate these truck trips from Ocean Avenue while the mining operations are in progress, reducing noise and vibrations in the neighborhood at large.

5. Summary: The portion of the facility that manufactures concrete has been a continuous operation since the 1930's and will continue operating indefinitely into the future. Whether Dragon mines more stone from its site or not, this manufacturing facility will continue operating as long as there is a demand for concrete in the Greater Portland area. The rezoning will allow the facility to continue operating as a permitted use (as opposed to a non-conforming use) and will also allow Dragon to mine stone from its site in accordance with Maine DEP guidelines.

P:\CSN\DRAGON\CONTRACT.ZNE

PROPOSED DRAGON PRODUCTS INDUSTRIAL ZONE

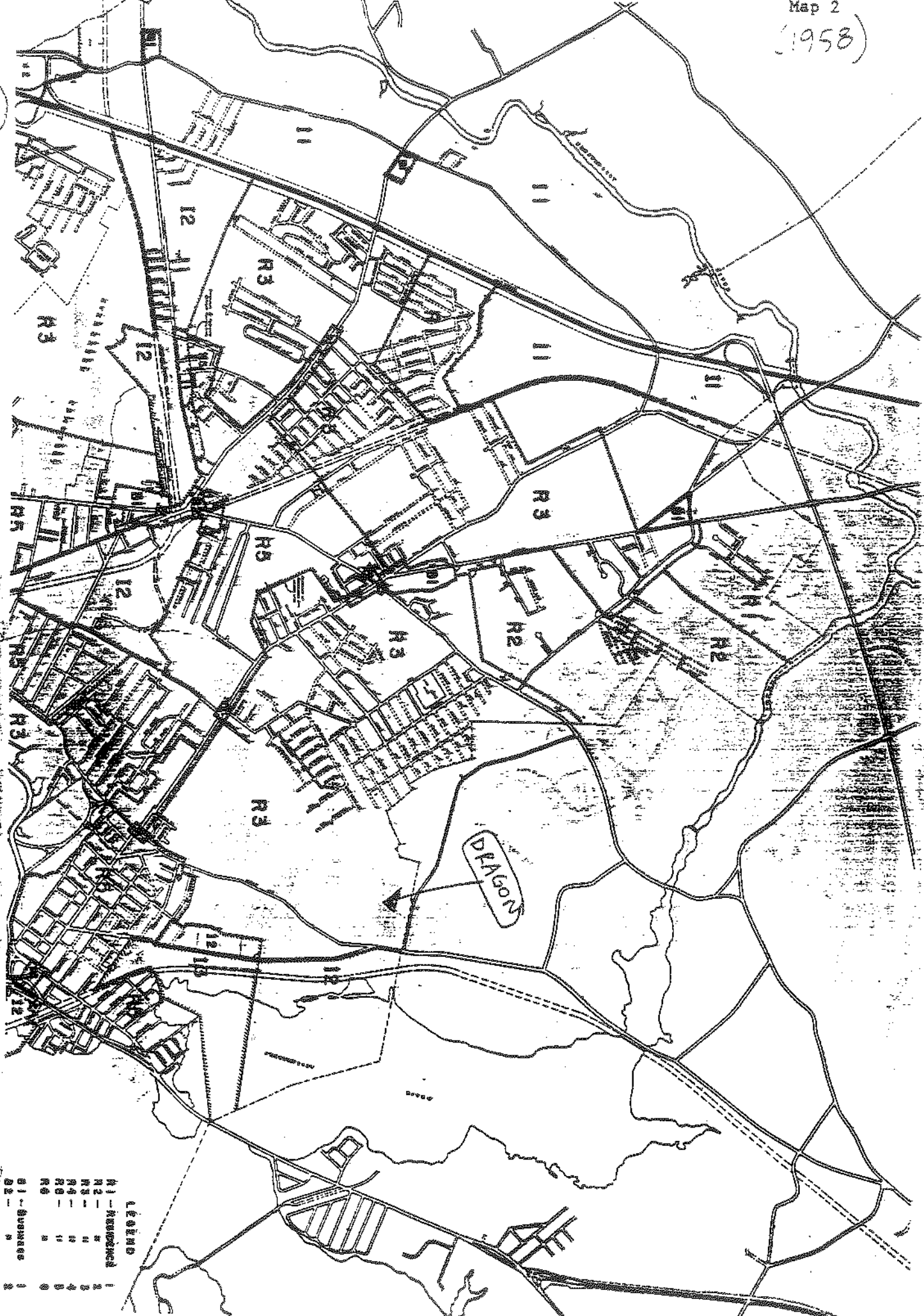
LIST OF ABUTTING PROPERTY OWNERS

(according to City Assessor's records)

<u>OWNER</u>	<u>TAX MAP and LOT NUMBER</u>
City of Portland 389 Congress Street Portland, ME 04101	417-A-9
Cook Concrete 169 Portland Street Boston, MA 02114	417-A-6 418-A-8 415-A-3 415-A-11
Patricia M. J. O'Rourke 852 Ocean Avenue Portland, ME 04103	416A-A-1 (848-858 Ocean)
Federal Deposit Insurance Corp. P. O. Box 1416 Portland, ME 04104	416A-A-3 (840-846 Ocean)

PROPERTIES ACROSS OCEAN AVENUE

Linwood Farnworth Mildred Farnsworth 903 Ocean Avenue Portland, ME 04103	418A-A-1,11
Vincent G. Devito Ethel H. Devito 474 Presumpscot Street Portland, ME 04103	418A-A-2
Dragon Products Company (applicant) 38 Preble Street, P. O. Box 1521 Portland, ME 04104	418A-A-5, 12



LEGEND

R1 - Residential	1
R2 - " "	2
R3 - " "	3
R4 - " "	4
R5 - " "	5
R6 - " "	6
01 - Business	1
02 - " "	2

**MONITORING EXISTING SOUND LEVELS
DRAGON PRODUCTS COMPANY
OCEAN AVENUE QUARRY
PORTLAND, MAINE**

**Prepared for: Kleinschmidt Associates
Prepared by: Jacques Whitford
July 23, 1997**





Gerber - Jacques Whitford

Robert G. Gerber, Inc. - Jacques Whitford, Inc.
Consulting Engineers, Geologists and Environmental Scientists

174 South Freeport Road
Freeport, ME U.S.A. 04032

Tel: 207-865-6138
Fax: 207-865-1071

July 23, 1997
File 971016

Mr. Jon Christensen
Kleinschmidt Associates
75 Main Street, P.O. Box 576
Pittsfield, Maine 04967

**Subject: Monitoring Existing Sound Levels
 Dragon Products Company, Ocean Avenue Quarry
 Portland, Maine**

Dear Mr. Christensen:

Jacques Whitford is pleased to present this report on the monitoring of existing sound levels at the Dragon Products Company (Dragon) Ocean Avenue Quarry and Cement Plant in Portland, Maine. Monitoring at the quarry was conducted to assess current sound levels at the site for comparison with applicable noise regulations.

Project Background

Dragon Products is considering an expansion of their quarrying operations located on Ocean Avenue in Portland, Maine (Figure 1, Site Locus). As part of the expansion, the zoning of Dragon's property may change.

Dragon Products has been operating on Ocean Avenue in a residentially-zoned area. The property's zoning may change to industrial, or possibly a unique zone of its own, as the City reassesses its zoning ordinances. City of Portland noise regulations vary from zone to zone. The City allows a maximum average sound level of 75 dBA at the property lines in industrially-zoned areas. City of Portland regulations appear to contain no noise regulations for residential zones.

A new residential development has recently been constructed in the vicinity of the Dragon quarry. Residents of the new subdivision are concerned about the noise levels that may be generated by any expansion of the quarry. Consequently, Dragon implemented a noise assessment to address the concerns of their neighbors and assess compliance of their existing operations with the City of Portland Regulations.

Methodology

The noise assessment was conducted with two Metrosonics dB-308 Sound Analyzers. Measurements were recorded for L_{eq} (equivalent steady state sound level) at one minute intervals during the testing. Measurements were also obtained for L_{max} (maximum sound level), and L_{10} (sound level exceeded 10 percent of the time).

Baseline measurements were obtained on Saturday, June 14, 1997 when the Dragon facility was not in operation. These measurements were collected to assess other sources of noise in the vicinity of the site. These measurements were collected at locations B1 and B2 as shown on the attached site map (Figure 2).

Noise data was collected during plant operations on June 16 and 17, 1997. Measurements were taken over two hour time periods at each location. All of the noise data was collected during the morning hours of operation, which Dragon reported to be the busiest times at the facility.

Noise measurements were collected at four locations on Ocean Avenue: directly across from the entrance to the site (N1); at the property line of the nearest southern neighbor (N2); at the property line of the nearest northeastern neighbor (N3); and at the property line of Summer Place, a newly constructed subdivision south of the site (N4). Measurements were also obtained around the perimeter of the quarry site, including the entrance to the facility (N5, N6, N7, N8). Approximate locations of each monitoring station are included in Figure 2.

Results

The results of the monitoring are presented in Table I, attached. The table indicates the test location, date/time, and presents the first hour equivalent steady state sound level data, the second hour equivalent steady state sound level data, and the two hour equivalent steady state sound level data. Test locations B1 and B2 were baseline measurements and were collected over a four hour period.

Baseline measurements collected while the plant was not in operation ranged from to 62.6 to 66.0 dB. The high reading was obtained from the baseline location (B1) directly across Ocean Avenue from the plant entrance.

Hourly noise measurements collected on June 16 and 17, 1997, ranged from 51.0 to 77.9 dB. The highest reading was collected at station N1, across Ocean Avenue from the facility entrance. Measurements collected around the perimeter of the quarry were all below 60 dB.



Discussion

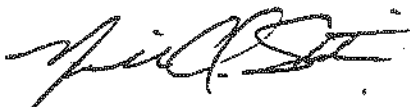
The measurements collected at the Dragon property lines and one location across Ocean Avenue indicate that the City of Portland industrial-zone standard of 75 dB was exceeded two times during the testing. The first hour of monitoring at location N5 at the Ocean Avenue property line resulted in a 76.1 dB equivalent steady state sound level. The first hour of monitoring at location N1 (across Ocean Avenue from the facility) was higher at 77.9 dB equivalent steady state sound level, indicating that traffic is a significant source of noise in the site vicinity.

The noise levels observed correspond to a period of relatively normal plant operation. However, our data must be qualified by the fact that changes in the operations at the plant (*e.g.*, changes in truck traffic volume), or variation in ambient neighborhood noise, may result in noise levels that are different from those reported herein. Furthermore, sound levels may vary based on ambient climatology (*e.g.*, temperature, humidity, wind).

Closure

If you have any questions or require any additional information regarding this project, please call. We have enjoyed working with Kleinschmidt Associates and Dragon Products.

Sincerely,
JACQUES WHITFORD



Nicholas O. Sabatine
Project Manager



D. Todd Coffin
Environmental Scientist

Attachments:

- Table 1 - Noise Monitoring Results
- Figure 1 - Site Locus
- Figure 2 - Site Plan
- Appendix A - Time Histograms



Mag 15.00
Thu Jun 26 10:31 1997
Scale 1:15,625 (at center)

1000 Feet

500 Meters

- Secondary SR/Road/Hwy Ramp
- State Route
- Interstate/Limited Access
- US Highway
- Railroad
- Point of Interest

DRAGON PRODUCTS QUARRY
& CEMENT PLANT

Carroll Hill

Marion Point

SITE LOCUS

Dragon Products Company
Ocean Avenue, Portland, Maine

Jacques Whitford
Freeport, Maine

Figure 1

June 26, 1997

Edward Payson Park

1000 Feet
500 Meters
1000 Feet
500 Meters

TABLE 1
Noise Monitoring Results
Dragon Products Company
Ocean Ave., Portland, Maine

Regulation	Permissible Noise Levels			
City of Portland (Residential Zoning)	No Noise Regulations			
City of Portland (Industrial Zoning)	75.0 dB (measured at the property line)			
Test Location	Date/Time	Hour 1 Sound Level (L _{eq})	Hour 2 Sound Level (L _{eq})	Two Hour Sound Level (L _{eq})
B1 - Across from Plant Entrance	6/14/97 0830-1229	NA	NA	66.0 dB*
B2 - Southern Neighbor Property Line	6/14/97 0830-1229	NA	NA	62.6 dB*
N1 - Across from Plant Entrance	6/16/97 0650-0849	77.9 dB	74.0 dB	76.4 dB
N2 - Southern Neighbor Property Line	6/16/97 0650-0849	65.2 dB	64.5 dB	65.0 dB
N3 - Devito Property Line	6/16/97 0920-1119	65.6 dB	66.2 dB	65.9 dB
N4 - Summer Place Property Line	6/16/97 0920-1119	63.4 dB	63.6 dB	63.6 dB
N5 - Ocean Ave. Property Line	6/17/97 0700-0859	76.1 dB	71.9 dB	74.5 dB
N6 - Quarry Southern Perimeter	6/17/97 0700-0859	53.3 dB	51.0 dB	52.3 dB
N7 - Quarry Northern Perimeter	6/17/97 0940-1139	59.7 dB	59.7 dB	59.7 dB
N8 - Quarry SW Perimeter	6/17/97 0940-1139	55.8 dB	54.8 dB	55.3 dB

* - Baseline measurements were collected over a four hour time period.

PERFORMANCE STANDARDS FOR QUARRIES

38 MRSA §§490-W TO 490-EE

*Notes Concerning the Text
July 4, 1996*

The following text of Article 8 (Performance Standards for Quarries) includes amendments made by the One Hundredth and Seventeenth Legislature, Second Regular Session. The table of contents and footnotes have been added to this document by the Department of Environmental Protection and are not part of the statutory text.

All copyrights and other rights to statutory text are reserved by the State of Maine. The text included in this publication is current to the end of the Second Regular Session of the 117th Legislature but is subject to change without notice. It is a version that is presumed accurate but which has not been officially certified by the Secretary of State. Refer to the Maine Revised Statutes Annotated and supplements for certified text.

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ARTICLE 8-A
PERFORMANCE STANDARDS FOR QUARRIES

§490-W. Definitions

As used in this article, unless the context otherwise indicates, the following terms have the following meanings.

1. **Affected land.** "Affected land" means all reclaimed and unreclaimed land, land that has or will have the overburden removed, land on which stumps, spoil or other solid waste has or will be deposited and storage areas or other land, except natural buffer strips, that will be or has been used in connection with a quarry.

2. **Airblast.** "Airblast" means an atmospheric compression wave resulting from the detonation of explosives, whether resulting from the motion of blasted materials or the expansion of gases from the explosion.

3. **Blaster.** "Blaster" means a person qualified to be in charge of or responsible for the loading and firing of a blast.

✓ 4. **Blasting.** "Blasting" means the use of explosives to break up or otherwise aid in the extraction or removal of a rock or other consolidated natural formation.

✓ 5. **Blast site.** "Blast site" means the area where explosive material is handled during the loading of drilled blastholes, including the perimeter formed by the loaded blastholes and 50 feet in all directions from loaded blastholes.

6. **Detonating cord.** "Detonating cord" means a flexible cord containing a center core of high explosives that may be used to initiate other explosives.

7. **Explosive.** "Explosive" means any chemical compound or other chemical substance that contains oxidizing or combustible materials used for the purpose of producing an explosion intended to break or move rock, earth or other materials.

8. **Flyrock.** "Flyrock" means rock that is propelled through the air or across the ground as a result of blasting and that leaves the blast area.

9. **Matting.** "Matting" means a covering placed over load holes and adjacent areas in order to minimize generation of flyrock and limit airblast effects.

✓ 10. **Natural buffer strip.** "Natural buffer strip" means an undisturbed area or belt of land that is covered with trees or other vegetation.

11. **Passenger car equivalents at peak hour.** "Passenger car equivalents at peak hour" means the number of passenger cars, or, in the case of nonpassenger vehicles, the number of passenger cars that would be displaced by nonpassenger vehicles, that pass through an intersection or on a roadway under prevailing roadway and traffic conditions at that hour of the day during which traffic volume generated by the development is higher than the volume during any other hour of the day. For purpose of this article, one tractor-trailer combination is the equivalent of 2 passenger cars.

12. **Peak particle velocity.** "Peak particle velocity" means the maximum rate of ground movement measured by any of the 3 mutually perpendicular components of ground motion.

13. **Preblast survey.** "Preblast survey" means documentation, prior to the initiation of blasting, of the condition of buildings, structures, wells or other infrastructures; protected natural resources; historic sites; and unusual natural areas.

14. **Private drinking water supply.** "Private drinking water supply" means a surface water supply, a dug well, a spring or a hole drilled, driven or bored into the earth that is used to extract drinking water for human consumption and that is not part of a public drinking water supply.

15. **Production blasting.** "Production blasting" means blasting conducted for the purpose of extracting or removing natural materials for commercial sale or beneficiation.

16. **Public drinking water source.** "Public drinking water source" means a groundwater well or a surface water source that directly or indirectly serves a water distribution system that has at least 15 service connections or regularly services an average of at least 25 individuals daily at least 60 days of the year.

✓ 17. **Quarry.** "Quarry" means a place where rock is excavated.

18. **Reclamation.** "Reclamation" means the rehabilitation of the area of land affected by mining, including, but not limited to, the stabilization of slopes and creation of safety benches, the planting of forests, the seeding of grasses and legumes for grazing purposes, the planting of crops for harvest and the enhancement of wildlife and aquatic habitat and aquatic resources. "Reclamation" does not include the filling in of pits and the filling or sealing of shafts and underground workings with solid materials unless necessary for the protection of groundwater or for reasons of safety.

19. **Regulator.** "Regulator" means:

A. For a quarry located wholly within a municipality that is registered under section 490-DD to enforce this article, the municipality; and

B. For all other quarries, the Department of Environmental Protection.

20. **Rock.** "Rock" means a hard, nonmetallic material that requires cutting, blasting or similar methods of forced extraction.

21. **Stemming.** "Stemming" means inert material used in a blasthole to confine the gaseous products of detonation.

22. **Surface blasting.** "Surface blasting" means any blasting for which the blast area lies at the surface of the ground.

23. **Underground production blasting.** "Underground production blasting" means a blasting operation carried out beneath the surface of the ground by means of shafts, declines, adits or other openings leading to the natural material being mined or extracted.

§490-X. Applicability

This article applies to any quarry that is more than one acre in size, including reclaimed and unreclaimed areas, or at which underground production blasting is proposed.

The article does not apply to a quarry located wholly within the jurisdiction of the Maine Land Use Regulation Commission.

This article does not apply to an excavation or grading preliminary to a construction project, unless intended to circumvent this article.

A person with a valid permit for a quarry under article 6 must operate that quarry in compliance with the terms and conditions of that permit. Any modification of the permit must be in conformance with section 484. A person with a permit under article 6 may file a notice of intent to comply with this article. The permit issued under article 6 lapses as of the date a complete notice of intent is filed with the department. If the permittee chooses to substitute a notification pursuant to this article, all terms and conditions that applied to the permit issued pursuant to article 6 are incorporated into the notification approved pursuant to this article.

§490-Y. Notice of intent to comply

Except as provided in section 484-A, a person intending to create or operate a quarry under this article must file a notice of intent to comply before the total area of excavation of rock or overburden on the parcel exceeds one acre. Both reclaimed and unreclaimed areas are added together in determining whether this one-acre threshold is exceeded. A notice filed under this section must be complete, submitted on forms approved by the department and mailed to the municipality where the quarry is located, the department, the Maine Historic Preservation Commission and each abutting property owner. The notice that is mailed to the department must be sent by certified mail, return receipt requested. Upon receiving the postal receipt, the owner or operator may commence operation of the quarry.

A notice of intent to comply is not complete unless it includes the following:

1. **Name, address and telephone number.** The name, mailing address and telephone number of the owner of the quarry and, if different from the owner, the operator of the quarry;

2. **Map and site plan.** A location map and site plan drawn to scale showing property boundaries, stockpile areas, existing reclaimed and unreclaimed lands, proposed maximum acreage of all affected lands, all applicable private drinking water supplies or public drinking water sources and all existing or proposed solid waste disposal areas;

3. **Parcel description.** A description of the parcel including size and deed description;

4. **Legal interest.** A copy of the lease or other document showing that an operator who is not the owner has a legal right to excavate on the property. Stumpage information does not have to be shown;

5. **Information on abutters.** The names and addresses of abutting property owners;

6. **Signed statement.** A statement signed and dated by the owner or operator certifying that the quarry will be operated in compliance with this article; and

7. **Fees.** A fee paid to the department as provided by section 490-EE.

If the department determines that a notice filed under this section is not complete, the department must notify the owner or operator no later than 45 days after receiving the notice.

§490-Z. Performance standards for quarries

1. **Significant wildlife habitat.** Affected land may not be located in a significant wildlife habitat as defined in section 480-B, subsection 10 or in an area listed pursuant to the Natural Areas Program, Title 5, section 13076. The department may not grant a variance from the provisions of this subsection.

2. **Solid waste.** Solid waste, including stumps, wood waste and land-clearing debris generated on the affected land must be disposed of in accordance with chapter 13, including any rules adopted to implement those laws. The department may not grant a variance from the provisions of this subsection.

3. **Groundwater protection.** To ensure adequate groundwater protection, the following setback requirements must be met.

A. A 200-foot separation must be maintained between an excavation and a private drinking water supply that is point driven or dug and was in existence prior to the excavation.

B. A 100-foot separation must be maintained between an excavation and a private drinking water supply that is drilled into saturated bedrock and was in existence prior to the excavation.

C. Separation must be maintained between an excavation and a public drinking water source as follows:

(1) For systems serving a population of 500 persons or less, the minimum separation must be 300 feet;

(2) For systems serving a population of 501 persons up to 1,000 persons, the separation must be 500 feet;

(3) For systems serving a population of more than 1,000 persons, the separation must be 1,000 feet; and] ?

(4) For any system that holds a valid filtration waiver in accordance with the federal Safe Drinking Water Act, 42 United States Code, Sections 300f to 300j-26 (1988), the separation must be 1,000 feet.

D. Refueling operations, oil changes, other maintenance activities requiring the handling of fuels, petroleum products and hydraulic fluids and other on-site activity involving storage or use of products that, if spilled, may contaminate groundwater, must be conducted in accordance with the department's spill prevention, control and countermeasures plan. Petroleum products and other substances that may contaminate groundwater must be stored and handled over impervious surfaces that are designed to contain spills. The spill prevention, control and countermeasures plan must be posted at the site.

E. In the event of excavation below the seasonal high water table, a 300-foot separation must be maintained between the limit of excavation and any predevelopment private drinking water supply and a 1000-foot separation must be maintained between the limit of excavation and any public drinking water source or area previously designated for potential use as a public drinking water source by a municipality or private water company.

The department may grant a variance from the provisions of paragraph C upon consultation with the persons or entity that controls the public drinking water supply affected by the excavation. The department may not grant a waiver from the provisions of paragraph A, B or D.

Excavation below the seasonal highwater table of an area previously designated for potential use as a public drinking water source by a municipality or private water company is prohibited. The department may grant a variance allowing excavation below the seasonal highwater table if the applicant demonstrates that the yield of groundwater flow to protected waters or wetlands or public drinking water sources or private drinking water supplies will not be adversely affected by the excavation.

In the event of excavation below the seasonal highwater table, the operator of a mining activity that affects by excavation activities a public drinking water source or private drinking water supply by contamination, interruption or diminution must restore or replace the affected water supply with an alternate source of water, adequate in quantity and quality for the purpose served by the supply. This provision is not intended to replace any independent action that a person may have whose water supply is affected by a mining activity.

4. **Natural buffer strip.** Existing vegetation within a natural buffer strip may not be removed. If vegetation within the natural buffer strip has been removed or disturbed by the excavation or activities related to operation of a quarry before submission of a notice of intent to comply, that vegetation must be reestablished as soon as practicable after filing the notice of intent to comply. The department may not grant a variance from the provisions of this subsection.

5. **Protected natural resources.** A natural buffer strip must be maintained between the working edge of an excavation and a river, stream, brook, great pond or coastal wetland as defined in section 480-B. A natural buffer strip must also be maintained between the working edge of an excavation and certain freshwater wetlands as defined in section 480-B and having the characteristics listed in paragraph B. Excavation activities conducted within 100 feet of a protected natural resource must comply with the applicable permit requirements under article 5-A. The width requirements for natural buffer strips are as follows.

A. A natural buffer strip at least 100 feet wide must be maintained between the working edge of the excavation and the normal high water line of a great pond classified as GPA or a river flowing to a great pond classified as GPA.

B. A natural buffer strip at least 75 feet wide must be maintained between the working edge of the excavation and a body of water other than as described in paragraph A, a river, stream or brook, coastal wetland or significant wildlife habitat contained within a freshwater wetland consisting of or containing:

(1) Under normal circumstances, at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, except for artificial ponds or impoundments; or

(2) Peat lands dominated by shrubs, sedges and sphagnum moss.

For purposes of this subsection, the width of a natural buffer strip is measured from the upland edge of a floodplain wetland. If no floodplain wetlands are present, the width is measured from the normal high water mark of the river, stream or brook. The width is measured from the normal high water mark of a great pond and upland edge of a freshwater or coastal wetland.

The department may not grant a variance from this subsection.

6. **Roads.** A natural buffer strip must be maintained between the working edge of an excavation and a road as follows.

A. A natural buffer strip at least 150 feet wide must be maintained between the working edge of an excavation and a road designated as a scenic highway by the Department of Transportation.

B. A natural buffer strip at least 100 feet wide must be maintained between the working edge of the excavation and any other public road.

C. A natural buffer strip at least 50 feet wide must be maintained between the working edge of an excavation and a private road or a right-of-way. If a private road is contained within a wider right-of-way, the buffer is measured from the edge of the right-of-way. The width of the natural buffer strip adjacent to a private road may be reduced if the applicant receives written permission from the persons having a right-of-way over the private road.

The department may not grant a variance from the provisions of paragraph A or C. The department may grant a variance from paragraph B if the variance does not result in the natural buffer strip being reduced to less than 50 feet between the working edge of the excavation and any road and if the owner or operator installs visual screening and safety measures as required by the department.

A distance specified in this subsection is measured from the outside edge of the shoulder of the road unless otherwise specifically provided.

7. **Property boundary.** A natural buffer strip at least 100 feet wide must be maintained between an excavation and any property boundary. This distance may be reduced to 10 feet with the written permission of the affected abutting property owner or owners, except that the distance may not be reduced to less than 25 feet from the boundary of a cemetery or burial ground. The natural buffer strip between quarries owned by abutting owners may be eliminated with the abutter's written permission if the elimination of this natural buffer strip does not increase the runoff from either excavation across the property boundary. All property boundaries must be identified in the field by markings such as metal posts, stakes, flagging or blazed trees. The department may not grant a variance from the provisions of this subsection.

8. **Erosion and sedimentation control.** All reclaimed and unreclaimed areas, except for access roads, must be naturally internally drained at all times unless a variance is obtained from the department. Stockpiles consisting of topsoil to be used for reclamation must be seeded, mulched or otherwise temporarily stabilized.

A. Sediment may not leave the parcel or enter a protected natural resource.

B. Grubbed areas not internally drained must be stabilized.

C. Erosion and sedimentation control for access roads must be conducted in accordance with the department's best management practices for erosion and sedimentation control.

The department may not grant a variance from the provisions of paragraph A, B or C.

9. **Surface water protection and storm water management.** Surface water discharges from areas not required to be naturally internally drained may not be increased as a result of storm water runoff from storms up to a level of a 25-year, 24-hour storm. Accumulated water from precipitation must be put into sheet flow and the discharge point must be directed to an undisturbed natural buffer strip. The discharge point must be at least 250 feet away from a protected natural resource. The slope of the discharge area may not exceed 5%.

Grading or other construction activity on the site may not alter natural drainageways so that the drainage, other than that which occurred before development, adversely affects an adjacent parcel of land or so that the drainageways flowing from an adjacent parcel of land to the parcel are impeded.

Structures such as detention ponds, retention ponds and undersized culverts may not be used to meet the standard in this subsection unless a variance is obtained from the department.

10. **Traffic.** The following provisions govern traffic.

A. Entrances and exits of the quarry must be located, posted and constructed in accordance with standards for roadways in rules adopted by the board. Adequate distances for entering, exiting and stopping must be maintained in accordance with these standards. The department may not grant a variance from the provisions of this subsection. This paragraph is repealed July 1, 1997.

B. Any excavation activity that generates 100 or more passenger car equivalents at peak hour must comply with the applicable permit requirements under article 6. This paragraph takes effect July 1, 1997.

11. **Noise.** Noise levels may not exceed applicable noise limits in rules adopted by the board.

12. **Dust.** Dust generated by activities at a quarry, including dust associated with traffic to and from a quarry, must be controlled by sweeping, paving, watering or other best management practices for control of fugitive emissions. Dust control methods may include calcium chloride as long as the manufacturer's labeling guidelines are followed. The department may not grant a variance from the provisions of this subsection.

13. **Reclamation.** The affected land must be restored to a condition that is similar to or compatible with the conditions that existed before excavation. Reclamation may be conducted in accordance with the department's best management practices for erosion and sedimentation control and must include the following.

A. Highwalls, or quarry faces, must be treated in such a manner as to leave them in a condition that minimizes the possibility of rock falls, slope failures and collapse. A highwall that is loose must be controlled by the use of blasting or scaling, the use of safety benches, the

See
Article 10
Re DEP
Site Act
Regs.

use of flatter slopes or reduced face heights or the use of benching near the top of the face or rounding the edge of the face.

B. A vegetative cover must be established by seeding or planting within one year of the completion of excavation. Vegetative cover must be established on all affected land, including safety benches, except for quarry walls and flooded areas. Topsoil must be placed, seeded and mulched within 30 days of final grading. Vegetative cover is acceptable if within one year of seeding:

- (1) The planting of trees and shrubs results in a permanent stand or a stand capable of regeneration and succession sufficient to ensure a 75% survival rate; and
- (2) The planting of all material results in permanent 90% ground cover.

Vegetative cover used in reclamation must consist of grasses, legumes, herbaceous or woody plants, shrubs, trees or a mixture of these.

C. All structures, once no longer in use, and all access roads, haul roads and other support roads must be reclaimed.

D. All affected lands must be reclaimed within 2 years after final grading.

E. Topsoil that is stripped or removed must be stockpiled for use in reclaiming disturbed land areas. The department may grant a variance from this paragraph if the applicant demonstrates that the soil is not needed for reclamation purposes.

F. The department may require a bond payable to the State with sureties satisfactory to the department or such other security as the department determines adequately secures compliance with this article, conditioned upon the faithful performance of the requirements set forth in this article. Other security may include a security deposit with the State, an escrow account and agreement, insurance or an irrevocable trust. In determining the amount of the bond or the security, the department shall take into consideration the character and nature of the overburden, the future suitable use of the land involved and the cost of grading and reclamation required. All proceeds of forfeited bonds or other security must be expended by the department for the reclamation of the area for which the bond was posted and any remainder returned to the operator.

G. The board may adopt or amend rules to carry out this subsection, including rules relating to operational or maintenance plans; standards for determining the reclamation period; annual revisions of those plans; limits, terms and conditions on bonds or other security; proof of financial responsibility of a person engaged in excavation activity or the affiliated person who guarantees performance; estimation of reclamation costs; reports on reclamation activities; and the manner of determining when the bond or other security may be discharged.

(3) The owner or operator is not required to conduct a preblast survey if the owner or operator agrees to design all blasts so that the weight of explosives per eight millisecond or greater delay does not exceed that determined by the equation $W=(D/D_s)^2$, where W is the maximum allowable weight of explosives per delay of 8 milliseconds or greater, D is the shortest distance between any area to be blasted and any inhabitable structure not owned or controlled by the developer and D_s equals $70 \text{ ft.}/(1\text{b.})^{1/2}$.

G. Blasting may not occur in the period between sundown and sunrise the following day or in the period 7:00 p.m. and 7:00 a.m., whichever is greater. Routine production blasting is not allowed in the daytime on Sunday. Detonation of misfires may occur outside of these times but must be reported to the department within 5 business days of the misfire detonation. Blasting may not occur more frequently than 4 times per day. Underground production blasting may be exempted from these requirements provided that a waiver is granted by the department.

H. Sound from blasting may not exceed the following limits at any protected location:

Number of Blast Per Day	Sound Level Limit
1	129 dbi
2	126 dbi
3	124 dbi
4	123 dbi

I. The maximum peak particle velocity at inhabitable structures not owned or controlled by the developer may not exceed the levels established in Table 1 in paragraph K and the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1. The department may grant a variance to allow ground vibration levels greater than 2 inches per second on undeveloped property not owned or controlled by the applicant if the department determines that no protected natural resource, unusual natural area or historic site will be adversely affected by the increased ground vibration levels. If inhabitable structures are constructed on the property after approval of the development and prior to completion of blasting, the developer immediately must notify the department and modify blasting procedures to remain in compliance with the standards of this subsection.

J. Based upon an approved engineering study, the department may grant a variance to allow higher vibration levels for certain buildings and infrastructures. In reviewing a variance application, the department shall take into account that the standards in this paragraph and paragraph I are designed to protect conventional low-rise structures such as churches, homes and schools. In cases of practical difficulty, the department may grant a variance from paragraph I if it can be demonstrated that no adverse impacts on existing infrastructures or protected natural resources, unusual natural areas or historic sites will result.

K. Table 1 of this paragraph or the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 must be used to evaluate ground vibration effects for those blasts for which a preblast survey is required.

(1) Either Table 1 of this paragraph or graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 may be used to evaluate ground vibration effects when blasting is to be monitored by seismic instrumentation.

(2) Blasting measured in accordance with Table 1 of this paragraph must be conducted so that the peak particle velocity of any one of the 3 mutually perpendicular components of motion does not exceed the ground vibration limits at the distances specified in Table 1 of this paragraph.

(3) Seismic instruments that monitor blasting in accordance with Table 1 of this paragraph must have the instrument's transducer firmly coupled to the ground.

(4) An owner or operator using Table 1 of this paragraph must use the scaled-distance equation, $W=(D/D_s)^2$, to determine the allowable charge weight of explosives to be detonated in any 8 millisecond or greater delay period without seismic monitoring, where W is equal to the maximum weight of explosives, in pounds, and D and D_s are defined as in Table 1 of this paragraph. The department may authorize use of a modified scaled-distance factor for production blasting if the owner or operator can demonstrate to a 95% confidence level, based upon records of seismographic monitoring at the specific site of the mining activity covered by the permit, that use of the modified scaled-distance factor will not cause the ground vibration to exceed the maximum allowable peak particle velocities of Table 1 of this paragraph.

(5) Blasting monitored in accordance with the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 must be conducted so that the continuously variable particle velocity criteria are not exceeded.

The owner or operator may apply for a variance of the ground vibration monitoring requirement prior to conducting blasting at the development site if the owner or operator agrees to design all blasts so that the weight of explosives per 8 millisecond or greater delay does not exceed that determined by the equation $W=(D/D_s)^2$, where W is the maximum allowable weight of explosives per delay of 8 milliseconds or greater, D is the shortest distance between any area to be blasted and any inhabitable structure not owned or controlled by the developer and D_s equals 70 ft/lb.^{1/2}. As a condition of the variance, the department may require submission of records certified as accurate by the blaster and may require the owner or operator to document compliance with the conditions of this paragraph.

The following is Table 1.

Distance versus Peak Particle Velocity Method

Distance (D) from the blast area (feet)	Maximum allowable peak particle velocity (V _{max}) for ground vibration (in./sec.)	Scaled-distance factor (Ds) to be applied without seismic monitoring
0 to 300	1.25	50
301-5000	1.00	55
Greater than 5000	0.75	65

L. A record of each blast, including seismographic data, must be kept for at least one year from the date of the last blast, must be available for inspection at the development or at the offices of the owner or operator if the development has been closed, completed or abandoned before the one-year limit has passed and must contain at a minimum the following data:

- (1) Name of blasting company or blasting contractor;
- (2) Location, date and time of blast;
- (3) Name, signature and social security number of blaster;
- (4) Type of material blasted;
- (5) Number and spacing of holes and depth of burden or stemming;
- (6) Diameter and depth of holes;
- (7) Type of explosives used;
- (8) Total amount of explosives used;
- (9) Maximum amount of explosives used per delay period of 8 milliseconds or greater;
- (10) Maximum number of holes per delay period of 8 milliseconds or greater;
- (11) Method of firing and type of circuit;

- (12) Direction and distance in feet to the nearest dwelling, public building, school, church or commercial or institutional building neither owned nor controlled by the developer;
- (13) Weather conditions, including such factors as wind direction and cloud cover;
- (14) Height or length of stemming;
- (15) Amount of mats or other protection used;
- (16) Type of detonators used and delay periods used;
- (17) The exact location of each seismograph and the distance of each seismograph from the blast;
- (18) Seismographic readings;
- (19) Name and signature of the person operating each seismograph; and
- (20) Names of the person and the firm analyzing the seismographic data.

M. All field seismographs must record the full analog wave form of each of the 3 mutually perpendicular components of motion in terms of particle velocity. All seismographs must be capable of sensor check and must be calibrated according to the manufacturer's recommendations.

§490-AA. Inspections

The department may periodically inspect a site, examine relevant records of the owner or operator of a quarry, take samples and perform tests necessary to determine compliance with the provisions of this article.

§490-BB. Enforcement and penalties

The department shall administer and enforce the provisions of this article.

1. **Stop-work order.** The department may order the owner or operator of a quarry that is not operating in compliance with this article to cease operations until the noncompliance is corrected.

2. **Penalty.** A person who violates a provision of this article commits a civil violation and is subject to the penalties established under section 349. Penalties assessed for enforcement actions taken by the State are payable to the State.

2. **Optional participation.** This article may not be construed to require a municipality to adopt any ordinance.¹

3. **Suspension of approval.** The commissioner may act to enforce any provision of this article or suspend the registration of a municipality if the commissioner determines that a municipal ordinance no longer conforms to the provisions of this article or that the municipality is not adequately enforcing this article. The commissioner shall notify a municipality of any such determination in writing. Suspension of municipal registration by the commissioner does not void or in any way affect a municipal ordinance or in any way limit the municipality's authority to enforce the provisions of its ordinance.

4. **Appeal.** A municipality may appeal to the board any decision of the commissioner under this section. Any decision by the board on appeal by a municipality constitutes final agency action.

§ 490-EE. Transfer of ownership or operation, review before expansion; fees

1. **Review before expansion.** Before expanding a quarry beyond an area that exceeds a total of 10 acres of reclaimed and unreclaimed land and before each additional 10-acre expansion, the owner or operator shall notify the regulator of the owner's or operator's intent to expand and must request an inspection. In the same manner as prescribed in section 344-B, the department shall publish a timetable for responding to inspection requests and shall inspect the site within that time period to determine the quarry's compliance with this article and other applicable laws administered by the department. The department may defer an inspection for a reasonable period when winter conditions at the site prevent the department from evaluating an expansion request. The department shall notify the owner or operator of a deferral under this section. Excavation activities may continue after the filing of a notice of an intent to expand. The failure of a regulator to conduct a site visit within a published time period is not a sufficient basis for a stop-work order under section 490-BB, subsection 1.

At the time of filing a notification of intent to expand, the owner or operator shall pay any fee required by this section.

2. **Transfer of ownership or operation.** A person who purchases a quarry that is operated under a notice of intent to comply, as established under section 490-Y, or who obtains operating authority of a quarry that operates under a notice of intent to comply must file within 2 weeks after the purchase or the obtaining of operating authority a notice of intent to comply on a form developed by the department. The new owner or operator may operate the quarry during this 2-week period without having filed a notice of intent to comply if the new owner or operator complies with all standards of this article.

3. **Fees.** The owner or operator a quarry shall pay the regulator:

1

- A. An initial fee of \$250 upon filing a notice of intent to comply under section 490-Y;
- B. By March 1st of each year, an annual fee of:
 - (1) Three hundred fifty dollars for an excavation from which 2,500 cubic yards or more of material will be extracted during that year; and
 - (2) Fifty dollars for all other excavations. To be eligible for the annual fee under this paragraph, the owner or operator must include with the payment of this fee a signed statement certifying that less than 2,500 cubic yards of material will be extracted during that year;
- C. A fee of \$250 for each variance requested under section 490-CC, except for the following:
 - (1) A fee of \$500 for a variance to excavate below the seasonal high water table;
 - (2) A fee of \$500 for a variance to create an externally drained quarry;
 - (3) A fee of \$125, for a variance to waive the topsoil salvage requirement;
 - (4) A fee of \$125 for a variance to waive the monitoring requirements for airblasts and ground vibration; and
 - (5) A fee of \$250 upon filing a notice of intent to expand under section 490-EE; and¹
- D. A fee of \$250 upon filing a notice of intent to expand under this section.

Notwithstanding any other provision of this subsection, the total for all fees paid under paragraphs A and B for one quarry in one calendar year may not exceed \$350.

¹ This subparagraph will be deleted in the Revisor's Errors Bill

- (3) Implement the plan in accordance with the schedule approved by the building authority.
- b. *Ambient odor limits:* The maximum ambient intensity standard for odors generated by uses located in the I-M zones shall not exceed the following levels when the odor is measured in the zone indicated:
- 4.0 in any industrial or business zone for odors resulting from any industrial use.
- 3.0 in any residential zone for odors resulting from any industrial use.
- (7) *Smoke:* Discharges of smoke shall not exceed opacity percentage of forty (40) percent or number 2 on the Ringelmann chart.
- (8) *Emissions:* All emissions shall be made in accordance with all applicable state and federal regulations.
- (9) *Radiation:* Radiation at a site shall comply with all applicable state and federal regulations.
- (10) *Discharge into sewers:* No discharge shall be permitted at any point into any private sewage disposal system, or stream, or into the ground of any materials in such a way or of such nature or temperature as to contaminate any water supply, or otherwise cause the emission of dangerous or objectionable elements, except in accordance with standards approved by the health authority or by the public works authority.
- (11) *Lighting:* All lighting shall be designed and installed with cut-off fixtures to direct illumination onto the site and to prevent illumination from such fixtures on neighboring properties.
- (12) *Traffic:* Development in the I-M, I-Ma and I-Mb zones shall utilize to the greatest extent possible arterial streets as delineated on the Maine Department of Transportation Map, a copy of which is on file in the Department of Planning and Urban Development.
- (Ord. No. 164-97, § 7, 1-6-97)

Secs. 14-253—14-260. Reserved.

DIVISION 15. I-H AND I-Hb INDUSTRIAL ZONES*

Sec. 14-261. Purpose.

The high impact industrial zones are intended to provide areas suitable for higher impact industrial uses than are permitted in other industrial zones.

*Editor's note—Ord. No. 164-97, § 8, passed Jan. 6, 1997, repealed div. 15, §§ 14-261—14-266 of this article and enacted new provisions as herein set out. Formerly, such provisions pertained to the I-3 and I-3b industrial zones and derived from §§ 602.13.A—602.13.F of the 1968 Code as amended by Ord. No. 499-74, § 5, adopted Aug. 19, 1974; Ord. No. 334-76, §§ 4—5, adopted Jul. 7, 1976; Ord. No. 198-88, adopted Nov. 21, 1988; Ord. No. 201-88, adopted Nov. 21, 1988; Ord. No. 330-90, § 3, adopted May 7, 1990; Ord. No. 15-92, § 19, adopted Jun. 15, 1992; and Ord. No. 193A-93, §§ 3, 4, adopted Feb. 17, 1993.

Due to the intensity of use, the I-H zones are intended for uses which may require extensive outdoor storage and usage and may utilize heavy equipment. Processes may require separation from residential or sensitive environmental areas. The I-H zones are separated from other nonindustrial uses as well as natural or constructed features.

High impact industrial uses will be of a higher intensity, with a greater lot coverage, than the other zones. Due to the intensity of uses, the performance standards will allow for the higher intensity of use.

(Ord. No. 164-97, § 8, 1-6-97)

Sec. 14-262. Permitted uses.

The following uses are permitted in the high impact industrial zone and the I-Hb zone:

- (1) Low impact industrial uses, including but not limited to bakeries, breweries, bottling, printing and publishing, pharmaceuticals, machine shops, musical instruments, precision instruments, watchmakers, toys and sporting goods, wood products, jewelry, assembly of electrical components, tool and die shops and the packaging of food.
- (2) Research and development.
- (3) Wholesale trade.
- (4) Warehousing and distribution facilities.
- (5) Intermodal transportation facilities and transportation terminals.
- (6) Repair services, including all types of automotive repair services.
- (7) High impact industrial uses.
- (8) Building contractors and construction services.
- (9) Plant and tree nurseries, including associated recycling activities.
- (10) Lumber yards.
- (11) Fish waste processing facility, provided that it has received all required licenses and is in compliance with all applicable licensing requirements.
- (12) Commercial kitchens or other food preparation, provided that the food is not prepared for service on the premises.
- (13) Recycling facilities.
- (14) Food and seafood processing.
- (15) Dairies.
- (16) Municipal or regional solid waste disposal facilities, provided that all disposal activities are carried out within an enclosed structure.
- (17) Utility substations.

(18) Correctional prerelease facilities for up to twelve (12) persons, plus staff, serving a primary clientele of parolees or persons in correctional prerelease programs, provided that:

- a. No correctional prerelease facility shall be located within one thousand (1,000) feet of another, as measured in a radius from the center of the lot;
- b. Such facilities shall not be permitted in the I-Hb zone;
- c. If a facility requires a state or federal license, staffing of the facility shall be as required by such license. If a facility does not require state or federal licenses, there shall be a minimum of one (1) staff person for every ten (10) residents or fraction thereof; and
- d. The facility shall provide twenty-four-hour supervision of program participants.

(Ord. No. 164-97, § 8, 1-6-97)

Sec. 14-263. Prohibited uses.

Uses that are not expressly enumerated herein as permitted uses are prohibited. Those uses that are prohibited shall include, but are not limited to, the following:

- (1) Residential uses.
- (2) Retail trade that is not ancillary to a permitted use.
- (3) Restaurant uses.
- (4) Junk yards.
- (5) Amusement parks.
- (6) Refining of petroleum or its products, including tar distillation.
- (7) Distillation of bones; fat rendering; glue, soap, or fertilizer manufacture, except that fish waste processing may be permitted as set forth in section 14-262.
- (8) Dumping, disposal, incineration, or reduction of garbage, sewage, offal, dead animals, or refuse.
- (9) Stockyard or slaughtering of animals.
- (10) Smelting of iron, copper, tin, zinc, or any other ore.
- (11) Manufacture of explosives or fireworks.
- (12) Coal distillation or coke ovens.
- (13) Creosote treatment.
- (14) Drop forging.
- (15) Steel mills or furnaces.
- (16) Coal- or coke-fired kilns.
- (17) Used tire storage.

- (18) Extraction of raw materials.
 - (19) Concert halls or dance halls.
 - (20) Banquet facilities.
- (Ord. No. 164-97, § 8, 1-6-97)

Sec. 14-264. Contract or conditional zoning.

A conditional or contract rezoning shall only be approved if, after public hearing and opportunity for public comment, the reviewing body finds that the applicant has carried the burden of proof to show that the proposed development meets the following standards:

- (1) The proposed development is consistent with the comprehensive plan.
 - (2) The proposed development is consistent with the purposes of this zone.
 - (3) The proposed development is designed and operated so that it will prevent undue adverse environmental impacts, substantial diminution of the value or utility of neighboring structures, or significant hazards to the health or safety of neighboring residents by controlling noise levels, emissions, traffic, lighting, odors, and any other potential negative impacts of the proposal.
 - (4) All plans must include complete information of processes, materials or methods of storage to be used by the development and shall specify how hazardous impacts to neighboring properties will be prevented.
- (Ord. No. 164-97, § 8, 1-6-97)

Sec. 14-265. Dimensional requirements.

- (1) *Minimum lot size:*
 - a. Correctional prerelease facilities: Ten thousand (10,000) square feet.
 - b. Other uses: None.
- (2) *Maximum impervious surface ratio:* I-H zone: Eighty-five (85) percent. I-Hb zone: One hundred (100) percent.
- (3) *Maximum building height:* Seventy-five (75) feet.
- (4) *Minimum side yards:* Principal and accessory structures in the I-H zone: Thirty-five (35) feet. Principal and accessory structures in the I-Hb zone: None.
- (5) *Minimum rear yards:* Principal and accessory structures in the I-H zone: Thirty-five (35) feet. Principal and accessory structures in the I-Hb zone: None.
- (6) *Minimum front yard:* Principal and accessory structures in the I-H zone: Twenty-five (25) feet. Principal and accessory structures in the I-Hb zone: None.
- (7) *Minimum street frontage:* Sixty (60) feet.

(8) *Pavement setback from lot boundaries:* Ten (10) feet.
(Ord. No. 164-97, § 8, 1-6-97)

Sec. 14-266. Other requirements.

- (1) Off-street parking shall meet the requirements of division 20 of this article.
- (2) Off-street loading shall meet the requirements of division 21 of this article.
- (3) Signs shall be subject to the provisions of division 22 of this article.
- (4) *Shoreland and floodplain management regulations:* Any lot or portion of a lot located in a shoreland zone as identified on the city shoreland zoning map or in a flood hazard zone shall be subject to the requirements of division 26 and/or division 26.5 of this article.
- (5) All uses shall be operated within a fully enclosed structure, except for those customarily operated in open air.
- (6) Any storage of new materials, finished products, or related equipment must be suitably screened from the public way and from abutting nonindustrial use properties by a solid fence at least five (5) feet in height, or by a solid evergreen planting strip.
- (7) All waste shall be stored in covered containers that do not leak or otherwise permit liquids or solids to escape from the container.
- (8) All food processing waste shall be stored within a completely enclosed structure and if not refrigerated shall be removed from the site in an enclosed container within forty-eight (48) hours of its generation. All enclosed and exterior food processing waste storage areas shall be cleaned and sanitized on a regular basis.
- (9) Outdoor storage of refuse, debris or material awaiting reuse shall be in an appropriate container or located within a designated, screened area.
- (10) Any permitted outdoor storage of materials shall be done in such a manner as to prevent the breeding and harboring of insects or vermin, to prevent the transfer of such materials from the site by natural causes or forces and to contain fumes, dust, or other materials which constitute a fire hazard. This storage shall be accomplished within enclosed containers or by one (1) or more of the following methods: raising materials above ground, separating materials, preventing stagnant water, or by some other means. No outdoor storage shall be permitted between the front of any building on the site and the street, except for storage for plant and tree nurseries or lumber yards.

(Ord. No. 164-97, § 8, 1-6-97)

Sec. 14-267. Performance standards.

Uses in the I-H and I-Hb zones shall meet the following standards:

- (1) *Required landscaping:* Where a front yard abuts an arterial or a major collector street, it shall be landscaped. Rear yards, side yards and the perimeter of any parking area for greater than fifteen (15) vehicles shall be landscaped if visible from a street, public open space or residential zone.

(2) *Noise:*a. *Definitions:*

- i. Tonal sounds are defined as sound waves usually perceived as a hum or whine because their instantaneous sound pressure varies essentially as a simple sinusoidal function of time.
- ii. Impulse sounds are defined as sound events characterized by brief excursions of sound pressure, each with a duration of less than one (1) second.

b. *Measurement:* Sound levels shall be measured with a sound level meter with a frequency weighting network manufactured according to standards prescribed by the American National Standards Institute (ANSI) or its successor body. Measurements shall be made at all major lot lines of the site, at a height of at least four (4) feet above the ground surface. In measuring sound levels under this section, sounds with a continuous duration of less than sixty (60) seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of sixty (60) seconds or more shall be measured on the basis of the energy average sound level over a period of sixty (60) seconds (LEQ₁).

c. *Maximum permissible sound levels:* The maximum permissible sound level of any continuous, regular or frequent source of sound produced by an activity shall be as follows:

- i. Seventy-five (75) dBA between the hours of 7:00 a.m. and 10:00 p.m.
- ii. Fifty-five (55) dBA between the hours of 10:00 p.m. and 7:00 a.m., as measured at or within the boundaries of any residential zone.

In addition to the sound level standards established above, all uses located within this zone shall employ best practicable sound abatement techniques to prevent tonal sounds and impulse sounds or, if such tonal and impulse sounds cannot be prevented, to minimize the impact of such sounds in residential zones.

d. *Exemptions:*

- i. Noises created by construction and maintenance activities between 7:00 a.m. and 10:00 p.m. are exempt from the maximum permissible sound levels set forth in subsection (1)c. of this section. Construction activities on a site abutting any residential use between the hours of 10:00 p.m. of one (1) day and 7:00 a.m. of the following day shall not exceed fifty (50) dBA.
- ii. The following uses and activities shall also be exempt from the requirements of subsection (1)c. of this section:
 - (a) The noises of safety signals, warning devices, emergency pressure relief valves, and any other emergency devices.
 - (b) Traffic noise on public roads or noise created by airplanes and railroads.
 - (c) Noise created by refuse and solid waste collection, provided that the activity is conducted between 6:00 a.m. and 7:00 p.m.

- (d) Emergency construction or repair work by public utilities, at any hour.
 - (e) Noise created by any recreational activities which are permitted by law and for which a license or permit has been granted by the city, including but not limited to parades, sporting events, and fireworks displays.
- (2) *Electromagnetic interference:* There shall be no electromagnetic interference that adversely affects the operation of any equipment other than that belonging to the creator of such interference, or that does not conform to the regulations of the Federal Communications Commission.
- (3) *Vibrations:* Any use creating earthshaking vibrations shall be controlled in such a manner as to prevent transmission beyond lot lines of vibrations causing a displacement of .003 or greater on one (1) inch, as measured by a vibrograph or similar instrument at the property boundaries.
- (4) *Glare, heat:* Any use shall be in an enclosed structure in such a manner that glare and heat shall be imperceptible from neighboring properties.
- (5) *Discharge of toxic or noxious matter:* All discharges of toxic or noxious matter shall be made in accordance with all applicable state and federal regulations.
- (6) *Odor:* It shall be a violation of this chapter to create an odor nuisance.
- a. *Determination of odor nuisance:* An odor nuisance shall be considered to exist when ten (10) confirmed complaints occur in an area within two (2) separate twenty-four-hour periods. The ten (10) confirmed complaints must originate from ten (10) different households in an area zoned residential or from ten (10) different individuals in a commercial or industrial facility. The building authority shall only respond to a complainant who confirms that the odor is detectable at the time of the actual complaint. In order to confirm a complaint, the building authority or its designee shall first determine that an odor is detectable in the area of the complaint. The building authority or its designee shall interview the complainant to verify that the detectable odor is in fact the odor that resulted in the complaint. If the complainant verifies the odor as the source of the complaint, then the building authority shall notify the owner or operator of the alleged odor source either in person or by telephone within one (1) working day, with a written confirmation within seven (7) working days of the complaint. In the event that the building authority is unable to contact the owner or operator of the alleged odor source in person or by telephone within one (1) working day, then the building authority shall send written notice to the operator within seven (7) working days of the complaint.
- In the event that ten (10) complaints are confirmed as set forth in subsection (1) in two (2) separate twenty-four-hour periods within a ninety-day period, the building authority shall cause a certified odor inspector to investigate any odor complaints received in the next thirty (30) days following the receipt of the tenth confirmed complaint from the second twenty-four-hour period. If the odors

remain under the ambient intensity standard as established in this subsection for the next thirty (30) days, then a new odor nuisance must be established after that time in accordance with the requirements of this section. The certified odor inspector shall do the following in response to a complaint under this section:

1. Verify that an odor is detectable in the area of the complaint and confirm that it is the odor that resulted in the complaint;
2. Quantify the intensity of the odor on the eight-point n-butanol intensity scale as defined in regulations promulgated by the director of the planning authority to establish training and technical standards to support this section; and
3. Track the odor to its source.

When the certified odor inspector determines that a violation has occurred because an odor has exceeded the maximum ambient odor levels set forth in this section, the building authority shall notify the owner or operator either by telephone or in person of the violation within one (1) working day of the violation. The building authority shall confirm this notification in writing within seven (7) working days of this initial notice. In the event that the building authority is unable to contact the owner or operator by telephone or in person within the required time period, then it will send written notification within seven (7) working days of the violation.

Upon receipt of the written notice of violation, the owner or operator of the odor source shall do the following:

- (1) Implement odor reduction procedures immediately upon notification by the building authority that the facility has violated this section wherever odor reduction can be achieved by operational or procedural changes at the facility;
- (2) Submit to the building authority, within thirty (30) days of the written notice of violation, an odor reduction plan which is designed to reduce ambient odors attributable to emissions from that source to the maximum allowable intensity for that zone. The plan shall include a detailed summary of the measures that the owner or operator will take to mitigate the community annoyance and estimated dates for completion of those measures. In the event that it will take longer than thirty (30) days to develop the odor reduction plan, the owner or operator of the facility shall submit within the thirty-day time period a schedule for the development of the odor reduction plan. The building authority shall review this plan to determine whether it will be adequate to resolve the odor nuisance in a reasonable time period; and
- (3) Implement the plan in accordance with the schedule approved by the building authority.

- b. *Ambient odor limits:* The maximum ambient intensity standard for odors generated by uses located in the I-H zones shall not exceed the following levels when the odor is measured in the zone indicated:

4.0 in any industrial or business zone for odors resulting from any industrial use.

3.0 in any residential zone for odors resulting from any industrial use.

- (7) *Smoke:* Discharges of smoke shall not exceed opacity percentage of forty (40) percent or number 2 on the Ringelmann chart.
- (8) *Emissions:* All emissions shall be made in accordance with all applicable state and federal regulations.
- (9) *Radiation:* Radiation at a site shall comply with all applicable state and federal regulations.
- (10) *Discharge into sewers:* No discharge shall be permitted at any point into any private sewage disposal system, or stream, or into the ground of any materials in such a way or of such nature or temperature as to contaminate any water supply, or otherwise cause the emission of dangerous or objectionable elements, except in accordance with standards approved by the health authority or by the public works authority.
- (11) *Lighting:* All lighting shall be designed and installed with cut-off fixtures to direct illumination onto the site and to prevent illumination from such fixtures on neighboring properties.

(Ord. No. 164-97, § 8, 1-6-97)

Secs. 14-268—14-275. Reserved.

DIVISIONS 16, 17. RESERVED*

Secs. 14-276—14-312. Reserved.

*Editor's note—Ord. No. 164-97, § 9, passed Jan. 6, 1997, repealed divs. 16 and 17 of this article, which pertained to the I-4 industrial zone and the I-P industrial park zone, respectively. Formerly, such divisions consisted of substantive §§ 14-276—14-282, 14-291—14-297 and derived from 602.13B.A—602.13B.F, 602.13B.H, 602.10A.A—602.10A.E and 602.10A.H of the 1968 Code as amended by Ord. No. 536-74, § 2, adopted Aug. 19, 1974; Ord. No. 334-76, §§ 6, 7, adopted Jul. 7, 1976; Ord. No. 159-87, adopted Nov. 2, 1987; Ord. No. 235-88, adopted Feb. 1, 1988; Ord. No. 330-90, §§ 4, 5, adopted May 7, 1990; Ord. No. 15-92, §§ 20, 21, adopted Jun. 15, 1992; and Ord. No. 193A-93, § 5, adopted Feb. 17, 1993.

DIVISION 18. WATERFRONT CENTRAL ZONE*

Sec. 14-313. Purpose.

The waterfront central zone was created to protect and nurture water-dependent and marine-related support uses so that they may grow and prosper in an environment and area dedicated to this purpose. The following priority of uses is recognized:

- (1) The first priority of this zone is to protect and nurture existing and potential water-dependent uses;
- (2) The second priority is to encourage other marine and marine-related support uses so long as they do not interfere with water-dependent uses, either directly by displacement or indirectly by placing incompatible demands on the zone's infrastructure;
- (3) Other specified uses are encouraged only if they do not interfere with and are not incompatible with first and second priority uses.

Other specified uses are beneficial to the waterfront economy because they provide the financial return to property owners necessary for the maintenance and improvement of the marine infrastructure. However, water-dependent and marine-related support uses by their nature have activities and operational needs that are unique to this area and are not shared by other commercial and industrial uses in the city. These first and second priority uses and related activities may result in noise, odor, dust, hours of operation, parking and traffic patterns and traffic control needs that are necessary for the convenient and successful conduct of such uses. Other uses may not be compatible with these types of effects. Other specified uses are permitted under certain circumstances in the waterfront central zone, provided that they do not significantly interfere with the activities and operation of water-dependent and marine-related support uses. Such uses must be, and are assumed to be, aware of the impacts associated with marine uses and therefore must accept and be tolerant of them. Other specified uses in the zone shall accommodate to those patterns and needs of the higher priority uses so long as those higher priority uses do not have a substantially adverse effect on public health and safety and the higher priority activities are conducted in accordance with sound practices or practices customary in the trade.

(Ord. No. 168-93, § 2, 1-4-93)

*Editor's note—Ord. No. 168-93, § 2, adopted Jan. 4, 1993, repealed former Divs. 18, 18.5 and 18.7, §§ 14-306—14-320.2, which pertained to waterfront zones, and enacted new provisions as Divs. 18, 18.5 and 18.7 to read as herein set out. Formerly, such provisions derived from Ord. No. 426-83, § 1, adopted Apr. 25, 1983; Ord. No. 427-83, § 1, adopted Apr. 25, 1983; Ord. No. 355-85, § 1, adopted Jan. 7, 1985; Ord. No. 438-86, § 1, adopted Apr. 7, 1986; Ord. No. 189-87, § 3, adopted Feb. 7, 1987; Ord. No. 174-87, §§ 1, 2, adopted Mar. 4, 1987; Ref. of May 5, 1987; Ord. No. 385-87, adopted Apr. 6, 1987; Ord. No. 36-89, §§ 1, 2, adopted June 28, 1989; and Ord. No. 15-92, §§ 22, 23, adopted June 15, 1992.

Mike and Sue Yandell
51 Summer Place
Portland, Maine 04103
Tel. 207-761-4678

January 20, 1998

Mr. John Carroll, Chairman
Planning Board of the City of Portland
4th Floor Planning Office
389 Congress Street
Portland, Maine 04101

Dear Mr. Carroll:

We are writing in response to Dragon Cement's Application for Zoning Amendment.

We reside in Summer Place, a neighborhood community of 19 homes (20 home sites) situated diagonally across the street from Dragon Cement. As noted in the application, Summer Place was rezoned in 1995 and "at the time, everyone was fully aware of the adjacent industrial use on the Dragon site." Yes, we were aware of this grandfathered non-conforming use, we did not find it objectionable then and we do not object to it at present. We do, however, strongly object to their request to commence mining (blasting) operations on R-3 zoned property acquired in the 1980's, which is not part of the property grandfathered as a non-conforming use. This property, to the best of my knowledge, has never been used as part of the manufacturing or mining operations of Dragon Cement or its predecessor. According to Dragon's own Plant Manager, Dave Grinnell, "Dragon knew there was some question as to this property's use" when they acquired the site in 1991. At least this is what he said at a meeting with abutters in December 1997. (There may even be some question as to whether Dragon would be permitted to resume mining operations at its present quarry, but then we are not lawyers.)

As a point of clarification, the Application states in Paragraph 3 that "Dragon's only goal in this application is to clarify that it may mine stone from its site to use in its concrete manufacturing process," but the application seeks much more than that with respect to noise levels and the like. In fact, by its own admission the company is currently in violation of zoning standards for noise levels (76 decibels versus the highest allowable standard of 75 decibels for IH). Another misrepresentation in the application is the assertion in Paragraph 2 that the only opposition that "surfaced during that process was opposition from . . . Summer Place residents." In fact, other abutting neighbors opposed this application too, as the record will clearly show.

In summary, we understand and respect Dragon's right to continue their manufacturing operation on the present site as a legitimately grandfathered, non-conforming use. We do not believe that gives them the right to rezone the adjacent property from R-3 to Contract Zoning, which would permit blasting and all that entails in terms of safety, noise, vibrations, dust, etc.

Thank you for your earnest consideration of our position.

Sincerely,

Andrew ...

Nike Yardell

Chris and Cathy Brigham

31 Summer Place, Portland, ME 04103
207-879-5400, FAX: 207-874-9896

John Carroll, Chair
Planning Board of the City of Portland
4th Floor Planning Office
389 Congress Street
Portland, Maine 04101

RE: Request by Dragon Products for Rezoning

Dear Mr. Carroll:

This letter is in regards to the request by Dragon Products Company to rezone property designated R-3 as a contract zone. Their request is not in the best interests of the City of Portland or the surrounding community. Dragon Products Company was knowledgeable of the zoning issues when they purchased the property. It is unfair to the surrounding community for them to want to change the situation because it would be more economical for them to blast gravel then transport gravel in.

We live off of Ocean Avenue in the vicinity of Dragon Products. Therefore, we are both residents and tax payers. In addition, I (Chris) serve as President of the Summer Place Homeowners Association. When we moved to the area we recognized that Dragon Products Company was our neighbor and accepted this as reality. We understood that they were permitted to utilize certain property zoned as R-3 for a non-conforming use. We also understood that they had not blasted for several years and there were no intentions to blast in the future. The mining portion of their business was inactive, and the original property had been quarried. We also recognized that only a portion of the R-3 property which Dragon Products had purchased from Cook was permitted to be used for non-conforming purposes.

Our "eyes were open" when we moved to the area. However, we have been concerned by other issues, including: extended hours of operation, noise levels (which at their property boundaries is in excess of the levels established for medium intensity Industrial Zone), the frequent travel of concrete trucks down Ocean Avenue (resulting in both noise and road damage), and the frequent blockage of Ocean Avenue (Route 9) by large transport trucks (at the turn in the road near their entrance). We certainly are not asking them to leave, although we do have these concerns.

A major concern at that this time is their desire to change the situation. Although they articulate a position that this would ultimately benefit the surrounding community, we strongly disagree. In reviewing their application, we note major concerns:

- Their request would expand the use of the "non-conforming" property, even though it would be redefined as a "contract zone." This is inconsistent with an intent to reduce the extent of "non-conforming" property.
- It is inconsistent with the best interests of the City of Portland and the surrounding community. It also appears to be inconsistent with your long term planning for business development within the City and the potential for recreational use of the land which previously served as the City of Portland landfill.
- It would appear that the operation would need to expand beyond its current scope in all phases for it to be economically viable.
- Processing of blasted rock into usable sized gravel alone would greatly increase noise and dust from the operation.
- As outlined above there are concerns about their existing operation.

We hope that the Dragon Products Company realizes the realities of its current situation as we recognize the realities of ours. We accept them as a neighbor, however as with all neighbors want them to be a "good neighbor." We do not want them to "change the rules," which we had all accepted, merely because it would be to their financial advantage to do so. Their requested changes would not benefit the surrounding community nor the City of Portland. We would welcome the opportunity to meet with the Planning Board and to express our concerns.

Sincerely,



Christopher R. Brigham



Cathy V. Brigham

cc: Sara Hopkins, City Planner
John Bannon

**CITY OF PORTLAND, MAINE
MEMORANDUM**

TO: Chair Carroll and Members of the Portland Planning Board

FROM: Sarah Hopkins, Senior Planner

DATE: December 8, 1998

RE: Dragon Products Proposed Contract Zone

Introduction

Dragon Products has requested an interim workshop with the Planning Board to discuss some recent changes to their schematic site plan and building layout as they relate to the proposed contract zone to allow extraction and mining of stone at its plant on outer Ocean Avenue. The Dragon Products lot is 38.4 acres and is zoned R-3 Residential. Since the Board's last workshop and site visit, the applicant has proposed revisions to the site layout. These changes include moving the rock crusher, plant, and associated equipment to the rear of the site.

Site Plan Revisions

The site revisions proposed by the applicant will include shifting the rock crusher and aggregate stockpiles to the rear of the site, approximately 800ft southwest of present location. The rock crusher would be enclosed. The batch plant and silos would also be moved from the front of the site along Ocean Avenue to the rear. Additionally, Dragon plans to change its access to the site by consolidating its driveways to one main entrance along the northern property line of the parcel. The brick truck garage and its driveway would remain in its present location on Ocean Avenue but would no longer be connected physically to the plant or its operations.

As part of the reconfiguration, Dragon proposes to make improvements along Ocean Avenue, including the construction and landscaping of a berm along Ocean Avenue and the widening of Ocean Avenue to include a ramping lane for truck exiting the site and moving south along Ocean Avenue.

The applicant intends to make these improvements to the site within the next five to ten years and has suggested adding such a timeframe to the proposed contract for rezoning.

Next Steps

At the last workshop, the Board asked for engineered site plans indicating existing and proposed topography, drainage, landscaping, parking, circulation, buildings, and quarry reclamation. Due to the anticipated expense of future site work, the applicant would prefer to move forward with the contract based on the attached schematic plan.

Staff is encouraged by the efforts made by the applicant to move the plant to the rear of the site, yet recommends the submission of a more detailed site plan. Regardless of where the plant and crusher are located, there are still a number site plan issues to be resolved, including stormwater management, quarry reclamation, and the methods proposed for buffering neighbors from the site's impacts.

Items left to be completed by the Board:

1. Determination of site plan requirement
2. Evaluation and analysis of previously submitted noise study
3. Analysis and comparison of the III and DEP noise and vibration standards
4. Public hearing

Attachments:

1. Vicinity Map
2. Draft Contract (2/98)
3. Existing Layout
4. Proposed Layout

**CITY OF PORTLAND, MAINE
MEMORANDUM**

TO: Chair and Members of the Portland Planning Board

FROM: Alexander Jaegerman, Chief Planner

DATE: October 23, 2001

SUBJECT: Industrial Policy

The report on Dragon includes the statement that the current policy does not support the Dragon rezoning. In fact there is a recommendation for making the quarry a permitted use in the ICPAC report (attached). It is therefore not necessary to create a new policy statement to support the contract rezoning. The Planning Board chose not to include the quarry use in the original industrial rezoning package, in recognition of the complexity of the issue. It directed Dragon to file a separate application to be reviewed independently from the sweeping changes enacted with the ICPAC plan. It was felt that the issue needed more focused attention than could be provided within the ICPAC process.

CC:

Hopkins

Portland Industry and Commerce Plan
Recommendations of the Industry and Commerce Plan Advisory Committee
Final Report

Prepared for:

City of Portland
389 Congress Street
Portland, ME 04101

Prepared by:

Industry and Commerce Plan Advisory Committee

Assisted by:

Market Decisions, Inc.
P.O. Box 2414
South Portland, ME 04116-2414

Gore Flynn
Enterprise Resources
P.O. Box 10198
Portland, ME 04104

June 13, 1994

Board could even develop a range of buffers and setbacks to meet various situations. Some Committee members felt that if a road was between the areas that were being buffered, the standard should be reduced to reflect the road.

3. Noise

Several items also arose in the discussion about noise standards.

First, it was suggested that the Planning Board should review the standards used by the Maine Department of Environmental Protection to see if they might not be more appropriate. It was also suggested that the time limits on outdoor loading should probably set the parameters for noise standards. A third issue deals with the presence of a road between an industrial lot and a non-industrial district and noise extending beyond a zone that is adjacent to the industrial district to another zoning district which is residential.

G. Enforcement

The issue of enforcement was raised both at the focus groups and within the Committee. The Committee was very concerned that standards of the new districts should be enforceable by the City. Concern about lack of resources and personnel, both in number and training, was expressed as limiting the City's ability to keep up with enforcement or understand the technical issues involved in many of the industries. Some members of the Committee were also concerned that fines need to be reviewed to assure that they are high enough to serve as a disincentive to violating the City's standards. The issue of the City's responsiveness to and response time for residents' complaints was raised a number of times in the discussion. The need for an ombudsman in City Hall was identified to assure a timely response to residents' complaints.

H. Mapping Concerns

It was impossible for the Committee to discuss and refine the details of the proposed zones without a sense of where the districts would be located. As a result, the Consultant at the Committee's direction prepared a working conceptual map of the four industrial districts. See **Figure 5-4**. This map is not intended to be a Revised Zoning Map which is yet to be prepared by the groups responsible for implementing this section of the City's Comprehensive Plan. The Committee wants to emphasize that a comprehensive look at the location of the proposed zones was not attempted. However, one benefit of the mapping exercise was that it raised a number of policy issues that need to be addressed when the revised zoning map is prepared.

1. Generally the Committee felt that the waterfront area adjacent to the Burnham & Morrill site should be zoned to reflect and preserve waterfront and rail potential.

2. Concern was expressed about imposing IL-1 standards on the Sawyer subdivision. Even though this area seemed to fit the parameters of the IL-1 District (small in area, adjacent to a residential neighborhood, etc.), the City should consider other factors, such as investment made,

expectations of the landowner, etc., when rezoning property. It was felt that downzoning this subdivision would be a poor message to send to the industrial development community.

3. It was felt that the area of the proposed High Point Park identified in the City's Open Space Plan has been proposed for a number of different uses, including a park, affordable housing, etc. It may be desirable to keep the land in an industrial designation, either IL-1 or IL-2, because it is adjacent to a large industrial area.

4. The Committee believes that the industrial area near the Jetport should be designated IM where it is currently developed. If some of the newly acquired land adjacent to the AB District is set aside for airport-industrial uses, the Committee felt that the remaining industrial area could be rezoned to a business district, possibly B4.

5. The Committee felt that the area in the vicinity of outer Congress Street should be zoned IM to reflect numerous new warehouse/distribution facilities.

6. A concern was raised about the proposed rezoning of the Tilcon property off Bishop Street from I2 to IH. It was felt that an IM designation is more appropriate given the proximity of the site to residential neighborhoods and Evergreen Cemetery.

7. It was not recommended that the City land on outer Washington Avenue be rezoned to an office park designation. The Committee noted that the neighborhood wants the land for a park and that access is not particularly well-suited for office park or industrial development.

8. It was recommended that quarrying should be an allowed use in the IH District if Maine Department of Environmental Protection standards can be met in the area off Ocean Avenue. The perimeter of the quarry site could be zoned industrial, but be stepped down in impact to protect adjoining residential areas. } DRAGON

9. It was not recommended that the City rezone a portion of the Rand Road area from residential to industrial because of concerns about wetlands, the adjoining residential neighborhood, and issues of access.

10. The Committee recognized that the Bayside Area needs to be rezoned. The area currently includes several large properties which offer opportunities for manufacturing operations, as well as retail uses along Marginal Way. The Committee felt that it is desirable to keep the back areas for the kinds of businesses that are presently there. It was suggested that the B5 standards could be modified to allow larger manufacturing facilities. It is recommended that this concept be more fully explored by the Planning Board.

DRAGON PRODUCTS COMPANY, INC. AGREEMENT

This document is an Agreement made by **DRAGON PRODUCTS COMPANY, INC.**, a corporation with a business address of 38 Preble Street, P.O. Box 1521, Portland, Maine 04104 ("DRAGON").

WHEREAS, DRAGON requested a rezoning of its property located at Ocean Avenue, in the **CITY of PORTLAND**, a Maine municipality located in Cumberland County and State of Maine ("CITY" or "Portland") in order to permit mining operations on the site of its legally existing nonconforming concrete plant; and

WHEREAS, DRAGON'S property is shown on Portland Assessor's Parcels: Map 416-A, Block A, Lot 2; Map 417, Block A, Lots 4, 5, 10 and 11; and Map 418, Block A, Lots 1, 3, 4, 5, 6, 9 and 10 ("Property"); and

WHEREAS, the Portland Planning Board, pursuant to 30-A M.R.S.A. §§4352(8), and after notice and hearing and due deliberations, recommended the rezoning of the Property, subject, however, to certain conditions; and

WHEREAS, the CITY, by and through its City Council, has determined that the rezoning would be pursuant to and consistent with the CITY'S comprehensive plan and would not unreasonably interfere with the existing and permitted uses within the underlying R-3 zone; and

WHEREAS, the CITY has determined that because of the unusual nature of the proposed development it is necessary or appropriate to impose the following conditions or restrictions in order to insure that the rezoning is consistent with the CITY'S comprehensive land use plan; and

WHEREAS, the following plans and documents are attached to this Agreement and incorporated into this Agreement by reference:

- Attachment 1: City Zoning Map change
- Attachment 2: Quarry Plan View (F-1) dated June 5, 2000
- Attachment 3: Plan View of Proposed Berm (F-2) dated June 5, 2000
- Attachment 4: Ocean Avenue Longitudinal and Cross Sections (F-3) dated June 5, 2000
- Attachment 5: Vibration Standards
- Attachment 6: Blasting Plan
- Attachment 7: Pre-Blast Survey
- Attachment 8: Test Blast Program
- Attachment 9: Blast Event Protocol
- Attachment 10. Blast Monitoring
- Attachment 11. City Landfill Monitoring
- Attachment 12. Groundwater Monitoring
- Attachment 13. Quarry Reclamation
- Attachment 14. Protocol for Complaints, Damage Claims, and Restitution
- Attachment 15. Annual Quarry Report to City

NOW, THEREFORE, in consideration of the zone change made by the CITY, DRAGON hereby agrees as follows:

1. Site Development: The Property shall be developed substantially in accordance with the site plans and elevations shown on Attachments 2-4. DRAGON shall:
 - a. Remove the existing batch plant and silos, truck fuel depot, conveyor, concrete retaining wall and temporary ditch, and rock crushing facility.
 - b. Relocate its batch plant and related operations no closer than 350 feet to Ocean Avenue, in the "approximate limit of operation area" shown on Attachment 2.
 - c. Locate the new rock crusher facility no closer than 750 feet to Ocean Avenue as shown on Attachment 2, and enclose any rock crushing operations within a sound insulated building.
 - d. A new earthen berm, fence, paved entrance, drainage ditch, and climbing lane will be constructed along the west side of Ocean Avenue. All Site Plan elements, including but not limited to the final berm design, landscape planting, scheduling, etc. will be determined by the Planning Board in its site plan review.
 - e. DRAGON shall relocate the entrance driveway to the concrete plant, and shall create a slip lane for slow-moving traffic along Ocean Avenue as shown on Attachments 2 and 3. To the extent that any of the new roadway or drainage improvements are located on land of DRAGON, it will deed that portion of its land to the CITY.

f. Develop a stormwater management plan for the entire site according to MeDEP performance standards, including all improvements along Ocean Avenue and within the operations area .

Notwithstanding the foregoing paragraphs a through f, all development on the Property shall be subject to full Site Plan review and approval by the Planning Board, which may approve modifications to these plans as part of the review process. In addition, all development must meet all federal and state review requirements. DRAGON shall post with the CITY a performance guarantee in the full amount of infrastructure improvements, including stormwater management, internal roadways, erosion control, etc.

2. Authorized Uses: DRAGON shall only be authorized to establish and maintain the following uses or any combination of the uses on the Property, provided that such operations are limited to the areas shown on Attachment 2 and further provided that such operations meet the standards set forth in this Agreement and established by State and Federal law:

a. Mining of stone (through various methods, including blasting) in the "quarry expansion area" shown on Attachment 2 and crushing of stone for use in the on-site manufacture of concrete. No crushed stone shall be provided or sold for off-site concrete manufacturing.

b. Concrete manufacture and processing.

c. Outdoor storage of materials, including aggregate (rock, sand, etc) piles utilized in the concrete manufacturing, material manufactured on the site (including concrete blocks produced as an incidental part of its operations), and related machinery and equipment.

e. All concrete trucks shall be hosed down before exiting the operations area on the Property to reduce the amount of dust and debris tracked onto Ocean Avenue.

f. Vehicle repair and storage and office operations within the existing Dragon Products Company garage facilities (3 bays) on Ocean Avenue shown on Attachment 2.

3. Timing of Uses on Property: Prior to the commencement of any blasting (including test blasts), mining or rock crushing, Dragon shall obtain from the City a Certificate of Occupancy, verifying that all site alterations described in Section 1 are completed as approved by the Planning Board within the time frame in paragraph 4 . DRAGON shall discontinue use of its existing batch plant within 30 days of its new batch plant being fully operational, and shall remove its existing batch plant from the Property within 180 days of its use being discontinued.

4. Time Limit for Certain Improvements: Dragon shall apply for Site Plan Approval for the site changes described in Section 1 (a, b, d-f) (all site improvements except the rock crusher) within one year of the rezoning of the Property by the City Council. Dragon shall complete the improvements along Ocean Avenue within one year of final Planning Board approval of the site plan, and shall complete all approved site improvements within two years of final Planning Board approval of the site plan, or this contract shall automatically terminate and the Property shall automatically revert to the R-3 or any successor zone classification.

5. Natural Buffer Areas: The existing trees and other natural vegetation in the "existing wooded buffer strip" on the south side of the site and the "existing vegetation" on the north side of the site shown on Attachment 2 shall remain in their natural state. These areas, or any portions of them, may not be separately conveyed apart from the Property as a whole, while any blasting, mining, or concrete manufacturing activities are being conducted on the Property.

6. Limits on Blasting: DRAGON shall limit the total number of blasts on the site to a maximum of twenty (20) individual blasts per year. In no event shall more than four (4) individual blasts per month be permitted. All blasting and rock crushing on the site shall occur on Monday through Friday between the hours of 9:00 a.m. and 4:00 p.m. and between April 1st and November 15th of each year. No blasting or warning signals for blasting shall be done between 7:00 a.m. and 9:00 a.m. or between 2:00 p.m. and 4:00 p.m. on any day when the City of Portland public schools are in session.

Vibration standards shall meet the limits described in Attachment 5, Maximum Allowable Peak Particle Velocity for Ground Vibration.

7. Blasting Operations: All blasting shall also be conducted in accordance with the Blasting Plan (Attachment 6), Pre-Blast Survey Protocol (Attachment 7), Test Blast Program (Attachment 8), Blast Event Protocol (Attachment 9) and Blast Event Monitoring (Attachment 10).

-DRAGON also agrees to comply with all requirements of the Maine Department of Environmental Protection regarding mining operations on its site, including those set forth in 38 M.R.S.A. §§490-W to 490EE as it may be amended, except that where municipal standards adopted by the CITY which are not otherwise described in this Agreement are more restrictive, then the CITY standards shall apply. The MeDEP standards shall include, but not be limited to:

- a. Blasting standards described in §490-Z(14), including airblast standards in subsection (B) and (C), preblast surveys as described in subsection (F), sound standards described in subsection (H), vibration standards described in subsections (I) - (K), and blasting records as described in subsection (L), including records of peak particle velocity and decibels for each blast.
- b. Dust standards described §490-Z (12)
- c. Reclamation standards described in §490-Z (13)

8. Adjacent City Landfill: DRAGON will monitor the adjacent City landfill as described in Attachment 11. Dragon hereby indemnifies the CITY for any damage done by Dragon's operations to the former landfill on adjacent land of the CITY on land to the north of the Dragon site.
9. Groundwater Monitoring: DRAGON will do groundwater monitoring as described in Attachment 12.
10. Parcels east of Ocean Avenue: As long as it operates its existing concrete batch plant on Ocean Avenue, DRAGON shall maintain ownership of the parcels east of Ocean Avenue across from the Property, more particularly described as Tax Map 418-A, Block A, Lots 5 and 12 in the records of the Assessor of the City of Portland.
11. Reclamation of Site: Reclamation of the Property into a vegetated, useable condition shall be completed substantially in accordance with the reclamation plan described in Attachment 13 within 2 years of completion of the mining on the Property; provided, however, that such plan shall be subject to full review and approval by the Planning Board before being implemented. If the owner of the Property fails to implement proper reclamation activities, then the CITY may do the work after 30 days notice to the owner, and the reasonable costs and expenses of the work by the CITY shall be a lien on the Property enforceable in the same manner as a lien for real estate taxes.
12. City Zoning Standards: DRAGON shall meet all IL zoning standards contained in sections 14-234, 14-235, and 14-236 of the Portland City Code, except as follows:
- a. No new fence shall be required pursuant to 14-235(6) except as shown on Attachments 2-4 and as may be required by the Planning Board during final Site Plan review.
 - b. Outside storage of sand and stone shall not be required to meet the standards of ¶14-235(10).
 - c. Vibration standards in ¶14-236(3) shall not apply to blasting, and IM vibration standards found in ¶14-252(3) shall apply to all other operations.
 - d. Noise standards in ¶14-236(1) shall not apply to blasting.
 - e. The existing concrete batch plant shall be allowed to generate 78 decibels along the Ocean Avenue frontage until it is removed from the Property, but the new concrete production building shall comply with the IL noise standards at ¶14-236(1) when measured at property lines of the Property.
13. IL Zoning Standards: Except as expressly modified in this Agreement, the use and occupancy of the Property shall be governed by and comply with the IL zoning provisions of the Land Use Code of the City of Portland and any applicable amendments thereto or replacement thereof.

14. Liability and Claims: Dragon shall be responsible for all damages determined to be caused by its mining and concrete manufacturing operations. Dragon will follow the Protocol for Complaints, Damage Claims, and Restitution described on Attachment 14. Copies of all written complaints and/or claims will be provided by DRAGON to the City upon a written request from the City at any time.

15. Annual Review by CITY: DRAGON shall provide the CITY with its written records of its pre-blast survey work, monitoring work, blasting activities and complaints and claims received as further described in Attachment 15 by February 1st following any year in which blasting occurred or upon written request from the City. The CITY Planning Department will review these records and may schedule a meeting with DRAGON and residents within 2,000 feet of the quarry on or before the following March 15th, which may be held by the Planning Board at the CITY's discretion. The purpose of the meeting will be to discuss any issues that may have arisen in the previous year and the best way to resolve them for the upcoming year. If the CITY is not satisfied with DRAGON's response to any issues, then it may initiate the default provisions further described in Section 20.

16. DRAGON's Successors: If DRAGON sells or transfers the Property to any new owner in the future which wants to continue the blasting, mining and concrete manufacturing operations, then any prospective new owner must receive written approval from the City of Portland Planning Board as to that owner's technical and financial abilities to comply with the terms of this Agreement. The Planning Board must be satisfied that the new owner have a demonstrated expertise of mining operations and have comported with all applicable laws and regulations. The new owner must sign a copy of this Agreement agreeing to comply with all of its terms.

17. Record Notice: DRAGON agrees to record this Agreement in the Cumberland County Registry of Deeds, and to include a reference to it in any deed conveying any of the Property.

18. Enforceability: The restrictions, provisions and conditions in this Agreement are an essential part of the rezoning, shall run with and bind the Property, shall bind DRAGON, its successors and assigns, as owner of the Property and any party in possession or occupancy of the Property or any portion of it, and shall inure to the benefit of and be enforceable by the CITY, by and through its duly authorized representatives.

19. Severability: If any of the restrictions, provisions, conditions, or portions of this Agreement are determined to be invalid or unconstitutional for any reason by any Court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such determination shall not affect the validity of the remaining portion of this Agreement.

20. Default by Dragon: In the event that the CITY claims that DRAGON or any successor has failed to utilize the Property in accordance with this Agreement, then it may give DRAGON written notice of the default claimed by the CITY. The City Planning Staff may seek a hearing on these issues before the Planning Board at any time. If DRAGON does not correct the defaults in a timely manner to the CITY's satisfaction, then the CITY may institute a judicial enforcement action for the breach of this Agreement. If it is determined in such judicial enforcement action that DRAGON has breached this Agreement, and DRAGON fails to comply with the Agreement in a timely manner after such judicial determination, then the CITY may recommend to the City Council that this Agreement be terminated, requiring a cessation of the blasting and mining uses permitted under the terms of this Agreement; provided that the termination of the Agreement will not require cessation of the concrete manufacturing and processing and other uses described in Section 2 excluding paragraph (a) as noted above. In addition, if the CITY prevails in any court proceeding to enforce this Agreement, DRAGON shall pay all CITY attorney fees and costs incurred in such enforcement.

21. Future Peer Review: If the CITY does not understand the material given to the CITY according to the terms of this Agreement, then it may request a further explanation or clarification from DRAGON at any time. After reviewing the additional information, if the CITY still has a reasonable need to hire engineers or other blasting professionals to help it evaluate the material, then DRAGON agrees to pay the reasonable costs of such peer review; ~~provided, however, that DRAGON must reasonably approve the scope and expected cost of such peer review work in writing before any work is done for which DRAGON is financially responsible.~~

22. Execution: This Contract shall be executed upon the Portland City Council approval of the rezoning of the Property.

WITNESS: DRAGON PRODUCTS COMPANY, INC.

By: _____

Print Name: _____

Its: _____

STATE OF MAINE
CUMBERLAND, ss. Date: _____, 2001

_____, as _____ of Dragon Products Company, Inc., personally appeared before me and acknowledged that the signature on this document was his free act and deed acting on behalf of Dragon Products Company, Inc.

Before me,

Notary Public/Attorney at Law

Print Name: _____

Draft: September 28, 2001
P:\CSM\DRAGON\ZoningContract.doc

Attachment 5

Maximum Allowable Peak Particle Velocity (in./sec.) for Ground Vibration from Blasting Operations

- Maine Department of Environmental Protection Article 8, Performance Standards for Quarries allows the following maximum peak particle velocity; 0 to 300 feet from the blast area is 1.25 in./sec. and 301 to 5000 feet from the blast area is 1.00 in./sec.
- Dragon shall reduce the allowable peak particle velocity maximum to a target of 0.75 in./sec., regardless of the distance from the blast area.
- Dragon shall not be considered in violation of the contract should a blast result in peak particle velocity of 0.76 to 1.00 in./sec. Outside the Dragon site, but will be required to take necessary steps to reduce the peak particle velocity to the 0.75 in./sec. target on the next blast. If such an event occurs, Dragon shall immediately notify the City and provide a detailed descriptions of the action(s) to be taken to reduce the peak particle vibration.
- If Dragon is repeatedly in (more than 2 consecutive blasts) excess of the 0.75 peak particle velocity target, then the City shall have the option of requiring a 3rd party peer review to determine what action Dragon shall be required to take prior to further blasting activity, with Dragon responsible for the cost of the peer review.
- This 0.75 in./sec. vibration standard may be reviewed by the CITY as part of its annual review after three full years of blasting, to determine if the experiences of the last three years would allow it to be relaxed to allow for fewer blasts or tightened to better protect the neighborhood. Dragon will be given a full opportunity to participate in this review process. Upon the recommendation of the Planning Board, the City Council may amend this standard, but the standard may not be dropped below 0.65 in./sec. This standard may continued to be reviewed every three years as set forth above.

DRAFT: 9-28-01
P:\CSN\DRAGON\Attachment 5.doc

REVIEW EVERY 2 YEARS?
0.65 as lower limit?

Attachment 6

Quarry Blasting Plan

- The blasting plan shall contain the full details of the drilling and blasting patterns, controls, rock removal sequence, monitoring, and data reporting Dragon plans to use during the life of the quarry blasting operations. A blasting plan shall be submitted to the City at least one (1) month prior to the start of production blasting, or at least one (1) month prior to any changes Dragon proposes to make to the drilling and blasting methods used during the course of production blasting.
- All blasting plan submittals shall be approved by Dragon's 3rd party independent engineering firm or specialized blasting consultant.
- The blasting plan shall contain the following minimum information:
 - a) Plan and profile drawings showing proposed lifts, benches and blasting area sequence for the life of the quarry operation.
 - b) Plan and section view drawings of proposed drill pattern, including free face, burden, blast hole spacing, blast hole diameters, blast hole angles, lift height, and sub-drill depth.
 - c) Identification of explosives suppliers and blasting specialists.
 - d) Manufacturer's data sheets for all explosives, primers and initiators to be employed.
 - e) Procedures to inform the public and adjacent property.
 - f) Plan for 'misfire' of blast.
 - g) Form for reporting shot by shot blasting records.
 - h) Form for reporting vibration and airblast.
 - i) Blasting records to be maintained for each blast in accordance with MDEP 38 MRSA, 490-Z, 14 (L).
 - j) Description of monitoring instruments and characteristics, the individual (s) or firm operating the instruments, criteria to be used for locating the instruments, how the monitoring data will be analyzed, and who will be reporting the data and evaluation results.

Attachment 7

Pre-Blast Survey Protocol

- Prior to any blasting activity (including test blasts) at the Ocean Avenue quarry, Dragon shall provide the opportunity for Ocean Avenue neighbors, at no cost to the neighbor, to have a 'pre-blast survey' conducted to document the current structural conditions present at the residence.
- The 'Pre-blast survey' shall be offered to all property owners within 2,000 feet of the quarry, both in Portland and Falmouth. As offered, the 'pre-blast survey' exceeds both industry standards and M.D.E.P. requirements regarding distance from the quarry.
- A 3rd party independent engineering firm, specializing in this type of business, shall be contracted, to provide this service for Dragon. Dragon shall submit the qualifications and experience of the firm/individual retained to conduct the preblast surveys to the City for review. The City may, at its request, have the opportunity to meet with and interview the firm/individual conducting the surveys prior to the performance of this work.
- Utilizing Portland and Falmouth real estate tax assessment records, the first notification of the opportunity for a 'pre-blast survey' shall be by certified mail, with the next two attempts being hand delivered notices to the residence. The notification will request that the owner responds, either positive or negative, on an enclosed return self-addressed form. No surveys will be conducted without the owner's written permission, and shall only be conducted in the presence of the owner, or a representative designated by the owner in writing. This notification process shall be fully documented, with a summary provided to the City.
- Each survey shall involve approximately one to one and one-half hours, with a representative from the 3rd party firm visiting with the homeowner. During that visit, the surveyor will discuss blasting with the owner and what they should expect when a blast event occurs. The survey shall document the existing exterior and interior conditions of the buildings. The survey shall include documentation of interior subgrade and above grade accessible walls, ceilings, floors, roof, and visible exterior as viewed from the grade level. It will detail, by video or photographs, the existing structural, cosmetic, plumbing and electrical condition, and shall include all walls, and not be limited to areas in buildings showing existing damage. Notes and sketches may be made to highlight or enhance the photographic documentation. The condition report shall present engineering notes and photographs or video records. The report shall also summarize the condition of each building and define areas of concern. If the homeowner has any particular area of concern, the surveyor will make special effort to document.
- Dragon shall retain the original pre-blast survey records, with a copy provided to the homeowner if requested. Dragon shall provide access for the City to the survey records upon request, but only with written permission from the owner. While Dragon shall not,

without written permission from the owner, share any records with any 3rd party, Dragon does reserve the right to use the records in resolving any claims related to the property in question, and may make such records public if any claims lead to any litigation.

- All pre-blast surveys shall be completed a minimum of one month prior to starting the test blast program. At the completion of the pre-blast surveys, Dragon shall provide the City a list of all properties contacted for a pre-blast survey, indicating those who accepted or declined the survey.
- Dragon shall annually determine whether there has been a change of ownership of any properties whose owners have previously declined to had a survey done of their property, and shall offer to have a survey done for the new owners of such properties.
- Dragon shall annually include a 'pre-blast survey' program summary with its year-end report to the City. This summary shall include the list of properties offered a survey, those who accepted or declined the offer, changes in ownership resulting in a requested survey, and any request from property owners for records of their survey.

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Attachment 8

Test Blast Program

- Prior to the implementation of any "Blasting Plan" for the Ocean Avenue quarry, Dragon shall conduct 'test blast program', consisting of a minimum of five (5) blasts, in order to build accurate, site-specific information regarding vibration (peak particle velocity) and air overpressure (airblast). This information shall be analyzed and utilized to provide guidance for design of blasts to meet the vibration controls for this project described in Attachment 5.
- Test blasts shall start with low energy charge weights and work up to a peak particle velocity of 0.75 rather than beginning with a high energy charge weights and working down to a peak particle velocity of 0.75.
- Dragon shall contract with a 3rd party engineering firm or specialized blasting consultant to design, monitor and analyze the monitoring data for the test blast program. The qualifications and experience of this consultant shall be submitted to the City for review prior to commencement of this work.
- A written summary of the proposed test blast program shall be submitted to the City at least one (1) month before the test blasting is conducted. The test blast program submittal shall describe the details of the test blasting operations, sequence, monitoring and data evaluation, and shall include the following as a minimum: the overall intent and sequencing of proposed test blasts; test blast location(s); the number, spacing, diameter and depth of test blast holes; the type and weight of explosives planned for each test blast; the weight of explosives planned to be detonated within an 8 millisecond delay period; stemming material and depths; the type and number of vibration and airblast monitoring instruments; the proposed locations and layouts of monitoring instruments; a description of the parameters that will be monitored and recorded; a description of how the monitoring data will be evaluated and summarized; a description of what will be included in the blast program report; and the estimated schedule of the program.
- Prior to commencement of the 'test blast program', Dragon shall complete preblast survey requirements in accordance with Attachment 7 and City Landfill benchmark monitoring in accordance with Attachment 12.
- All blasts during the 'test blast program' shall follow the Blast Event' Protocol. This shall include notification of neighbors and City agencies of blast schedule, security of site during 'blast event' and monitoring during the 'blast event'. See Attachment 9 for details.
- At any time during the 'test blast program', upon request and reasonable notice, Dragon shall provide the City access to 'test blast' monitoring records. Upon completion of the 'test blast program, Dragon shall provide the City a summary report of blast program in accordance with the criteria described in the test blast program submittal.

- Once the 'test blast program' is complete (minimum of five (5) blasts) and adequate site-specific information is available, Dragon shall finalize the design the 'blasting plan' to be used in quarry operation. The content of the blasting plan is described in Attachment 6. This 'blasting plan' shall be provided to the City for review and discussion prior to implementation. As appropriate, this 'blast plan' shall be reviewed with M.D.E.P. prior to implementation.
- Dragon shall maintain all 'test blast' records for a minimum of 5 years after termination of quarry activities at Ocean Avenue.

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Attachment 9

Blast Event Protocol

- Dragon shall provide an annual schedule of tentative 'blast event' dates to all neighbors within 2000 feet of the quarry each year prior to any blasting activity. This tentative schedule shall also be provided to designated representatives of the City of Portland, the Police Department and the Fire Department. Included in this annual notification shall be the protocol for neighbor complaints, with contact names and telephone numbers at Dragon.
- The day before an actual 'blast event', Dragon shall attempt by telephone to notify neighbors who wish to be on a 'call list', of the time of the next day's blast. The designated City, Police and Fire representatives shall also be notified by telephone.
- On the morning of the 'blast event', Dragon's sub-contracted blasting company and 3rd party engineering company shall set blast monitoring equipment at predetermined locations around the quarry.
- On the morning of the 'blast event', Dragon shall attempt to notify all abutting neighbors who wish to be on the 'call list', of the time of the upcoming blast. The designated City, Police and Fire representatives shall also be notified by telephone of the blast time.
- At least 10 minutes prior to the blast, Dragon shall secure all ingress to the quarry property, and post personnel on Ocean Avenue to be prepared to stop vehicle pedestrian traffic passing by the Dragon site for the actual blast.
- A series of air horn warnings shall be used to warn of imminent blast as follows; 5 minutes prior to blast - 3 air horn signals; 1 minute prior to blast - 2 air horn signals, with all vehicle / pedestrian traffic passing in front of Dragon's site stopped until after the blast; and 1 air horn signal signifying All Clear. Ocean Avenue traffic will be released upon the All Clear signal.

Attachment 10

Blast Event Monitoring

- Blast monitoring shall be conducted in accordance with the provisions of the "Blasting Plan" - Attachment 6.
- Dragon shall provide vibration (peak particle velocity and frequency) and air overpressure (airblast) monitoring for all 'blast events' at the Ocean Avenue quarry. This monitoring shall begin with the 'Test Blast Program' and continue through the life of the quarry operation.
- Dragon shall provide the City with the qualifications and experience of the individual(s) doing the monitoring (if different than the test blast program).
- For each 'blast event', Dragon shall provide monitoring at a minimum of six different locations around the perimeter of the blast site/quarry. The blasting contractor shall maintain a minimum of three monitoring stations and a 3rd party engineering consultant, employed by Dragon, shall maintain an additional minimum of three monitoring stations. It is anticipated that two of the six monitoring stations shall be maintained at the Summer Place and Ocean Ridge neighborhoods.
- As described in the "Blasting Plan" - Attachment 6, prior to any blasting, Dragon's blasting contractor and 3rd party engineering consultant shall provide specifications of instruments to be used for blast monitoring to the City. This information shall include instrument manufacturer and model number, frequency range for ground motion and air overpressure, digitalization rate, method of calculating dominant frequency, and transducer attachments methods.
- Upon the completion of a blast, the information from the six monitoring stations shall be gathered immediately and analyzed by the 3rd party engineering consultant for compliance with the contract limits on vibration (peak particle velocity) and airblast overpressure (in db(L)).
- If vibration (peak particle velocity) or air overpressure (airblast) contract limits are exceeded, the City, and M.D.E.P. as appropriate, shall be notified and provided pertinent blasting record data. Prior to any future blast, Dragon shall provide the City, and as appropriate M.D.E.P., with details of steps to be taken to assure compliance with contract limits.
- Blasting records shall be maintained by Dragon for each blast in accordance with the provisions of the "Blasting Plan" - Attachment 6.

- * Dragon shall maintain all data collected from monitoring stations, providing an annual summary of monitoring stations data with the annual report to the City. Prior to the annual report, Dragon shall provide the City, upon request and reasonable notice, access to monitoring records. This data shall also be available to M.D.E.P. upon request.
- * Dragon shall maintain all blast monitoring records for a minimum of 5 years after termination of quarry operations at Ocean Avenue.

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Attachment 11

Monitoring of Portland's Ocean Avenue Landfill

- While the Jacques Whitford Engineering report of November 8, 2000 states that the Portland landfill integrity will not be jeopardized by Dragon's plan to blast on the adjacent quarry site, Dragon shall implement the following plan to monitor any potential impact the quarry blasting may have on the landfill cap.
- The Jacques Whitford Engineering report of May 8, 2001 states that the previous investigation by Sebago Techniques and the City of Portland has indicated that methane gas is not an issue at the landfill. Therefore Dragon does not propose methane gas monitoring.
- Dragon shall provide a 'benchmark' condition overview of the landfill cap prior to any blasting activities. This 'benchmark' overview shall be conducted by Dragon's environmental manager, in conjunction with a 3rd party engineering firm. Dragon will document with written notes and video records existing conditions such as rilling, slumping, leachate breakout, stressed vegetation or other features. The current condition data gathered will be compared to available cap information from the date of landfill closure. This 'benchmark' report will be reviewed with M.D.E.P. for comment and provided to the City for review.
- Upon commencement of blasting operations, Dragon shall monitor the cap on a monthly basis during the first two years of blasting activities, and at least 3 times per year for subsequent years. The cap monitoring shall be performed by the same parties (or qualified alternates) who conducted the 'benchmark' landfill review prior to blasting activity. As part of the cap monitoring, changes such as leachate breakouts, new areas of stressed vegetation, or new erosion features will be identified.
- If during the landfill cap monitoring program, changes are seen in the cap integrity, such as leachate breakouts, settlement or cracks that may be attributable to blasting activity, Dragon shall immediately notify the City and M.D.E.P. for review and comment prior to any further blasting activity.
- Annually, Dragon will provide the City with a summary of landfill cap monitoring data that will contain a description of leachate breakout, settlement cracks and other pertinent observations.
- Dragon shall maintain all records regarding landfill cap monitoring for the life of the quarry, making them available to the City and M.D.E.P. upon request. Dragon shall maintain all monitoring records for a minimum of 5 years after termination of quarry operations at Ocean Avenue.

Attachment 12

Groundwater Monitoring Plan

Dragon will implement the following groundwater monitoring program:

- Prior to any blasting activities, Dragon's environmental manager and a 3rd party engineering firm will provide 'benchmark' groundwater analysis from surface water sources and the same 5 existing landfill monitoring well locations used for the June 11, 1996 report to the MeDEP by Sebago Technics. These parameters include specific conductance, pH, sulfate, chloride, calcium, sodium, potassium, bicarbonate, magnesium, iron, and total dissolved solids (TDS). This 'benchmark' groundwater data will be compared with available groundwater data from the date of landfill closure, to determine if any changes since the closure have occurred. This 'benchmark' data will be reviewed with D.E.P. prior to any quarry activity and provided to the City for review
- Upon commencement of the blasting operations, Dragon will provide water level monitoring of the landfill monitoring wells on the same schedule that the landfill cap monitoring is performed. Additional ground water sampling and analysis will be conducted at high water period (April), low water period (July or August) and at the end of the season.
- Ground water monitoring data will be summarized in tables and provided to the City and to MEDEP on an annual basis.
- In accordance with D.E.P. quarry standards that specify a minimum setback of excavation from 100 to 1,000 feet from a well, Dragon's quarry is at least double that distance with no drinking water well identified within 2,000 feet. There has been no data provided that suggests that there is a cause of concern for well water quality at distances in excess of 2,000 feet, and there will be no groundwater testing at those distances.

Attachment 13

Quarry Reclamation

- The Ocean Avenue Quarry is subject to reclamation requirements that are consistent with 38 MRSA 490-Z Performance Standards for Quarries. Reclamation, as defined under Article 8A, means "the rehabilitation of the area of land affected by mining, including, but not limited to, stabilization of slopes and creation of safety benches, the planting of forests, the seeding of grasses..." The objective of the reclamation standard is to minimize the impact posed by an affected area.
- Dragon will be required to restore the affected lands associated with the Ocean Ave operation to a condition that minimizes the safety risks posed by the site, is protective of future impacts to the environment (from fugitive dusts, soil and sediment run-off, etc) and is consistent with the intended future use of the site (residential, open-space, commercial or industrial use).
- While a detailed reclamation plan will be dependent on the final configuration of the quarry, Dragon has an obligation to stabilize rock slopes to prevent rockfalls and to stabilize overburden in accordance with the best management practices for erosion and sedimentation control. In meeting the performance standard for quarry reclamation, Dragon will be required to address the following at the Ocean Avenue Quarry:
 - Quarry faces, will be left in a condition that minimizes the possibility of rock falls. Loose rock may be controlled by the use of blasting or scaling. Highwalls will be reduced using safety benches to reduce face heights to a maximum of 30 feet.
 - Exposed overburden or soil will be stabilized to minimize erosion and promote sedimentation control. Slopes will be graded to minimize run-off and exposed soil will be mulched or otherwise covered until a vegetative cover is established.
 - A vegetative cover will be established by seeding affected land except for quarry walls and flooded areas. Vegetative cover used in reclamation may consist of grasses, legumes, herbaceous or woody plants, shrubs, trees or a mixture of these.
 - Unusable structures will be removed and unusable access roads, haul roads and other support roads will be reclaimed.
 - Affected lands will be reclaimed within 2 years after final operational grading has been reached.

Attachment 14

Protocol for Complaints, Damage Claims & Resolution

- On an annual basis, Dragon shall provide neighbors of the Ocean Avenue quarry a list of contact names, addresses and telephone numbers of Dragon personnel to be notified in the event of a complaint regarding the quarry operation or a claim for damages. This list will include the supervisor of the quarry, Dragon's environmental manager and Dragon's divisional vice-president. This list will be updated annually and provided to the City and neighbors at the time of the annual review meeting prior to a new season of blasting.
- Dragon shall contact any individual filing a complaint about its operations within two business days to discuss the nature of the complaint and an appropriate manner in which to address the specific issue, and depending on the nature and magnitude of the complaint, determine if it is necessary to schedule a meeting to further discuss to complaint. If necessary, such a meeting may include representatives from M.D.E.P., City of Portland, drilling and blasting contractor, project engineering firms, and insurance and legal representatives of any party.
- Dragon shall investigate all complaints about its operations and respond, in writing, within 10 days of the registering of the complaint. While the written response may not resolve the complaint, it shall include the history of the complaint, status or work done on the complaint to date and any follow-up work planned, with a copy being provided to the City upon request and/or as part of Dragon's annual report to the City.
- Dragon shall acknowledge receipt of any written claim for damages as a result of its operations within 2 business days of receipt of the written claim. Claims shall include a written estimate of the repair costs by an independent party whenever possible. Claims will be much easier to investigate if the claimant has had a 'pre-blast survey' done of their property as described in Attachment 7.
- Dragon shall inspect the alleged damage with the property owner within 5 business days of receipt of the written claim, assuming the claimant provides Dragon with reasonable access to area of alleged damage. In the event of broken windows that are clearly the result of blasting, Dragon shall arrange for glass replacement at the earliest possible schedule of a glass company. Dragon shall respond within 10 business days of this inspection depending on the amount of the claim as follows:

For all property damage claims of \$2,500 or less, Dragon will handle the claim in a 'self-insured' manner. Where clear evidence is present to show that the property damage is the result of Dragon activities, full restitution shall be paid based on a written estimate of repair costs by an independent third party or for such amount as can be agreed to by Dragon and the claimant. Dragon shall have the option to make the repairs itself if it believes the written estimate of repair costs to be too high. Dragon will pay the restitution to claimant within 10 business days of the inspection or Dragon will do the

repair work itself within 45 days of the inspection, assuming the claimant cooperates by providing reasonable access to the damaged property. Dragon will provide the claimant a written reason why no restitution is offered within 10 business days of the inspection if it does not believe that it is responsible for the damage. The resolution of such property claims will not represent an admission of fault or liability by Dragon, and will not prevent Dragon from defending future claims that may arise. The claimant will reserve all rights against Dragon if no agreement is reached. The acceptance of any such restitution will not preclude a claimant from pursuing future claims based on future activities.

For all property damage claims in excess of this \$2,500 'self-insured' level, Dragon shall promptly arrange for the appropriate insurance representatives to appraise the damage and discuss the claim with the claimant. Dragon shall instruct the insurance carrier to make a determination on the claim as soon as possible. If through this investigation, Dragon is clearly found to be responsible for the property damage, Dragon shall instruct the insurance carrier to offer prompt settlement of the claim. If through this investigation, there are issues on Dragon's responsibility for the damage, these issues shall be promptly furnished to the claimant in writing, so that the claimant can make an informed decision on pursuing the claim. It is Dragon's intent to have such review and investigation complete within 10 business days of receipt of the written claim, with an initial written decision on the claim provided to the claimant within 10 business days after the inspection by the insurance agents.

- Dragon shall provide the City, on an annual basis, a summary report of all complaints, damage claims and resolutions from the previous year of quarry operation. Dragon shall maintain all records regarding complaints for a minimum of 5 years, with the records available to the City upon request.

Attachment 15

Annual Quarry Report to the City of Portland

- On or before February 1 of each year, Dragon shall provide an annual summary report to the City of Portland regarding the operation of the Ocean Avenue quarry during the previous year, with all supporting data to this summary available upon request. This report shall include, but not be limited to the following:
 - a) Neighborhood pre-blast survey summary
 - b) Ocean Avenue landfill monitoring summary
 - c) Quarry blast event data - including blast monitoring summary
 - d) Complaints, Claims and Resolution summary
 - e) Tentative blast event schedule for the upcoming year
- Dragon shall, upon request, provide a copy of this annual quarry report to Ocean Avenue neighbors.
- On or before March 15th of each year, prior to blasting activities in the new year, and at the City's convenience, Dragon shall schedule an annual 'neighborhood meeting', to allow for public discussion of the previous year's quarry activities. Dragon representatives, including individuals providing subcontracted blasting and engineering services, will be in attendance to provide a review of the previous year and discuss plans for the upcoming quarry season.
- Dragon shall provide the City of Portland such an annual summary report until termination of quarry activities at the Ocean Avenue site, with copies of this annual report available to neighbors upon request. All supporting data for this annual summary report shall be available for review upon request and shall be maintained for a minimum of 5 years upon termination of quarry activities.
- Upon request, at any time during the year, Dragon shall provide the City a summary of available quarry data year-to-date, with the supporting detail available for review upon request.

OCEAN AVENUE QUARRY SITE SUMMARY HISTORY

- 1932** Joe Cook (Cook & Company) acquires original 12.5 +/- acres for mining stone and manufacturing concrete at the Ocean Avenue site
- 1937** Cook & Company acquires 150 foot by 100 foot parcel abutting the 1932 purchase to better accommodate growing business
- 1958** Paul Merrill (Merrill Transportation) purchased Cook & Company, including all operations at the Ocean Avenue site, continuing the mining and concrete manufacturing that begun in 1932
- 1962** Cook & Company (Merrill Transportation) purchased an additional 10 +/- acres adjacent to the original 12.5 +/- acres at the Ocean Avenue site, continuing mining and concrete manufacturing
- 1968** Boston Sand & Gravel purchased Cook & Company's (Merrill Transportation) Ocean Avenue quarry and concrete operations, changing the name to **The Cook Concrete Company**, and continued mining stone and manufacturing concrete
- 1985** **The Cook Concrete Company (Boston Sand & Gravel)** purchased an additional 16 +/- acres adjacent to the quarries 22.5 +/- acres on Ocean Avenue, continuing mining and concrete manufacturing
- 1991** **Dragon Products Company** purchased the 38.5 +/- acre Ocean Avenue quarry and concrete operation of **The Cook Concrete Company** from **Boston Sand & Gravel**, with **Dragon Products Company** continuing mining and producing concrete at the site
- 1994** **Dragon Products Company** recognized that to continue the mining process that had operated continually at this site for approximately 60 years would require a D.E.P. permit and City rezoning, thus **Dragon** voluntarily ceased mining operations until necessary City and State permits were in place

	<u>Existing Dragon Site</u>	<u>Proposed Dragon Site</u>	<u>Noise</u>	<u>Vibration</u>	<u>Dust</u>	<u>Appearance</u>
1.	Open Concrete Plant on Ocean Avenue	Enclosed Concrete Plant 400 feet from road at bottom of quarry	Far Less Noise (++)	Less Vibration on Ocean Ave. (+)	Less Dust (-)	Plant no longer visible (++)
2.	1,000 Cement Trucks on roads	1,000 Cement Trucks on roads	No Change	No Change	No Change	No Change
3.	1,000 Cement Trucks unloading near Ocean Avenue	1,000 Cement Trucks unloading at new plant	Far Less Noise (++)	No Change	Less Dust (+)	No longer visible (+)
4.	4,000 Sand Trucks on roads	4,000 Sand Trucks on roads	No Change	No Change	No Change	No Change
5.	4,000 Sand Trucks unload near Ocean Avenue	4,000 Sand Trucks unload at new plant	Less Noise (+)	Less Vibration (+)	Less Dust (+)	No longer visible (+)
6.	5,000 Stone Trucks on roads	No Stone Trucks	Far Less Noise (++)	Far Less Vibration (++)	Less Dust (+)	No longer visible (+)
7.	5,000 Stone Trucks unload near Ocean Avenue	No Stone Trucks	Less Noise (+)	Far Less Vibration (++)	Less Dust (+)	Improved View (+)
8.	12,000 Concrete Trucks leave current plant	12,000 Concrete Trucks exit new driveway	No Change	No Change	Less Dust (+)	No Change
9.	No Drilling for Blasting	Drilling for Blasting	New Noise < 65 decibels (-)	None Off Site	Minimal Dust (-)	No Change
10.	No Blasting	Blasting Stone per Me DEP Standards	20 blasts/year 1 second/blast (-)	20 blasts/year (slamming door nearby) (-)	20 blasts/year (-)	No Change
11.	Old Rock Crusher near Ocean Avenue	New enclosed rock crusher 750' from Ocean Avenue	New noise < 65 decibels (-)	None felt off-site	Most dust contained in enclosure (-)	No longer visible (+)
12.	Entrance to plant on Ocean Avenue hill	New Entrance at bottom of hill	No Change	No Change	Less Dust (+)	Improved Entrance (+)
13.	Two Lanes on Ocean Avenue	Third Travel Lane going up hill	No Change	No Change	No Change	Improved roadside (+)
14.	Poor Surface Water Drainage on Ocean Avenue	New Drainage Ditch on Ocean Avenue - Operations drain internally	No Change	No Change	No Plant run off (+)	Improved roadside (-)
15.	Old Equipment and Walls on Ocean Avenue	New landscaped berm on Ocean Avenue	Noise barrier (+)	Air blast barrier (+)	Dust barrier (+)	Mitch Improved View (++)

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October 18, 2001

Sarah Hopkins
Planning Department
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Dragon Products Company, Ocean Avenue
Contract Zoning Proposal


Dear Sarah:

I enclose an engineering report Dave just sent me that we want to include in the Planning Board package, to address the probability issue that Brad Kauffman has raised. Note that at 0.75 inch/sec, NO DAMAGE has been observed after extensive testing.

Penny sent me some redrafted Exhibits. I have not yet had a chance to review them all, but have discussed with Dave the change of the proposed review periods for vibration limits (Exhibit 5) from 3 years (which is what we all agreed to at our August meeting) to 2 years and the change of the lower vibration limit from 0.65 to 0.5. While Dave will reluctantly agree to a review every 2 years, he cannot agree to the 0.5 lower limit. There does not seem to be any scientific or objective basis for this lower limit.

If Staff still wants the lower 0.5 limit, we will have to ask the Planning Board to resolve the disagreement. I understand that you will call me today to talk about the Planning Board package. I will be in all day.

Sincerely,


Chris Neagle

CSN/mle
Enclosure

cc: David S. Grinnell, Dragon Products Company (fax)
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Corporation Counsel
Gary C. Wood



Associate Counsel
Charles A. Lane
Elizabeth L. Boynton
Donna M. Katsiaficas
Penny Littell

CITY OF PORTLAND

February 28, 2001

Christopher Neagle, Esq.
Verrill Dana
PO Box 586
Portland ME 04112-0586

Dear Chris:

In consulting with the Building Inspection Department, who has received complaints about a series of blasts occurring in North Deering, the following is a list of "issues" experienced by the City in the past when trying to enforce its requirements for blasting and pre-blast surveys:

1. What method(s) would the surveyor employ in contacting homeowners prior to conducting a pre-blast survey? Would they telephone and schedule appointments, show up on the doorsteps of the homeowner, send letters requesting convenient time(s) for the survey? Etc.
2. What explanation is provided the homeowners about the survey and what literature is delivered to them to make them better understand the process?
3. What radius is being covered by the survey – an identification, at the outset, of all those houses encompassed within the survey range?
4. Specifics on what the survey will cover: a detailed report, a video, etc.
5. Who will receive the results of the pre-blast survey?
6. Specifics on how claims were to be handled.
7. How were the blasts to be monitored? Where, when, by whom etc.
8. Is the pre-blast survey and monitoring subcontracted?
9. A definition of pre-blast surveys.

Christopher Neagle, Esquire
Page 2
February 28, 2001

10. Blasting company to provide proof to City that inquiry was made and survey was offered.
11. Who coordinates the pre-blast surveys?

Sincerely,


Penny Littell
Associate Corporation Counsel

PL:hs

c: Sarah Hopkins, Planning ✓



CHRISTOPHER NEAGLE
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September 28, 2001

Sarah Hopkins
Planning Office
Portland City Hall
389 Congress Street
Portland, ME 04101

Penny Littell
Corporation Counsel
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Industrial Zone

Dear Sarah and Penny:

I have enclosed a new draft of the proposed agreement (without the 3 plans which you already have) between the City of Portland and Dragon Products Company, Inc. I understand that both of you and Mark Peterson will get us any final comments by early next week. Once it is agreed to by all of us, I will send copies to the neighbors and you can advertise for the October 23rd public hearing based on the final text. Get me the plan to be Attachment 1 as soon as you have it ready. This document is not in a 'redline' format, but here are the changes I made from the previous draft:

Page 1, 4th Whereas: I changed the last clause due to the public comments of Brad Kaufman. I do not think that the contract zoning provisions of the City Ordinance require that the use be "consistent with" the R-3 zone, which Brad seemed to think was a problem.

Paragraph 5: Deleted last clause based on comments of Brad Kaufman. There will be no other uses of the site by Dragon which are not consistent with the R-3 zone, so that language was not necessary.

Paragraph 7: Attachments 6 and 7 had been switched, and are now correct.

July 20, 2001

Page 2

Paragraph 11: Added the thought that if the owner does not do the reclamation, then the City can do it and enforce a lien against the property the same as for unpaid real estate taxes.

Paragraph 12(c): We had intended to use the IM vibration standards for non-blasting activities, as there are no specific vibration standards in the IL zone. This idea was worked out a few years ago.

Paragraph 12(3): Added the words "IL noise standards" to make it easier to understand.

Paragraph 16: Changed approval of new owners from Planning Staff to Planning Board.

Attachment 5: Changed name as suggested by Mark.

Attachment 10: Clarified that both the blasting contractor and third party engineers need to provide specifications for their instruments. Deleted word "etc" from information list.

Attachment 12: Clarified that the 5 test wells used in 1996 will be used again, and that the monitoring after the baseline monitoring will be done to the same level.

Attachment 15: Changed the date of the meeting to March 15th to be consistent with the contract.

Call me with any questions. Otherwise, I assume we will get your final comments early next week.

Sincerely,



Chris Neagle

CSN/mlc
Enclosure

cc: David S. Grinnell, Dragon Products Company
Mark S. Peterson, P.E.

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July 26, 2001

To: Mayor Cheryl Leeman
Twelve Portland neighbors
John S. Rudd, Esq.
Larry Bastien, Sebago Technics, Ocean Ridge Condominium project engineer

Re: Dragon Products Company Proposed Contract Zone

Greetings:

I enclose the latest version of the proposed Contract and some other information that was sent to the City Planner, City Attorney, and the City's engineer last week. Dragon has now agreed to reduce the already conservative MeDEP vibration standard by 25% as a further assurance to the neighborhood that no damage will occur as a result of its proposed operations. We hope to get back on the Planning Board's workshop agenda soon.

Thank you all for keeping an open mind about the planned changes on Ocean Avenue. We do hope the neighborhood will be improved for everyone's benefit in the long run.

Sincerely,

Chris Neagle

CSN/mle
Enclosure

cc: David S. Grinnell, Dragon Products Company
Sarah Hopkins, Planning Office, Portland City Hall

P:\CSN\DRAGON\neighborhood.ltr.wpd



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July 20, 2001

Sarah Hopkins
Planning Office
Portland City Hall
389 Congress Street
Portland, ME 04101

Penny Littell
Corporation Counsel
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Industrial Zone

Dear Sarah and Penny:

To give you time to prepare for our meeting on August 3rd at 10:00 a.m., I have enclosed a new draft of the proposed agreement between the City of Portland and Dragon Products Company, Inc. You will see that there are more attachments that have been rewritten. I would also suggest that we not attach the MeDEP Quarry Standards, but incorporate them by reference. Dragon Products has not yet had a chance to review this text, so I reserve the right to suggest other changes after it has had a chance to do so.

Dragon's biggest change is its offer to meet a ground vibration standard of 0.75 inches/second, 75% of the MeDEP conservative standard of 1.0, as it understands that the City wanted to set an even tougher standard. The details are in Attachment 5.

I have also enclosed a July 18, 2001 engineering report, a quarry site summary, some information on the '7,000 foot' damage report, an estimate of the quarry life, a report of coastal bluff stability, and some typical sound levels, all of which information had been requested by the Planning Board, Planning Staff, and/or the public at the meetings we held this spring.

July 20, 2001

Page 2

I have not yet had a chance to mail this material to the many interested neighbors, but will do so early next week. I did want to get it to City Hall and to your engineer this week as promised, so you would have ample time to review it in the next two weeks.

I assume that you can get Dragon back on a Planning Board workshop schedule for sometime soon after our August 3rd meeting with the staff, so that the Planning Board can review the final proposed agreement and set a public hearing date for a recommendation to the City Council

Thanks for all of your help on this project. Call me with any questions.

Sincerely,



Chris Neagle

CSN/csn

Enclosures

cc: David S. Grinnell, Dragon Products Company

Mark S. Peterson, P.E.

P:\CSN\Dragon\Hopkins - Littell letter.wpd

DRAGON PRODUCTS COMPANY, INC. AGREEMENT

This document is an Agreement made by **DRAGON PRODUCTS COMPANY, INC.**, a corporation with a business address of 38 Preble Street, P.O. Box 1521, Portland, Maine 04104 ("DRAGON").

WHEREAS, DRAGON requested a rezoning of its property located at Ocean Avenue, in the **City of Portland**, a Maine municipality located in Cumberland County and State of Maine ("CITY" or "Portland") in order to permit mining operations on the site of its legally existing nonconforming concrete plant; and

WHEREAS, DRAGON'S property is shown on Portland Assessor's Parcels: Map 416-A, Block A, Lot 2; Map 417, Block A, Lots 4, 5, 10 and 11; and Map 418, Block A, Lots 1, 3, 4, 5, 6, 9 and 10 ("Property"); and

WHEREAS, the Portland Planning Board, pursuant to 30-A M.R.S.A. §4352(8), and after notice and hearing and due deliberations, recommended the rezoning of the Property, subject, however, to certain conditions; and

WHEREAS, the CITY, by and through its City Council, has determined that the rezoning would be pursuant to and consistent with the CITY'S comprehensive land use plan and consistent with the existing and permitted uses within the original R-3 zone; and

WHEREAS, the CITY has determined that because of the unusual nature of the proposed development it is necessary or appropriate to impose the following conditions or restrictions in order to insure that the rezoning is consistent with the CITY's comprehensive land use plan; and

WHEREAS, the following plans and documents are attached to this Agreement and incorporated into this Agreement by reference:

- Attachment 1: City Zoning Map change (to be prepared by City)
- Attachment 2: Quarry Plan View (F-1) dated June 5, 2000
- Attachment 3: Plan View of Proposed Berm (F-2) dated June 5, 2000
- Attachment 4: Ocean Avenue Longitudinal and Cross Sections (F-3) dated June 5, 2000
- Attachment 5: Vibration Standards
- Attachment 6: Pre-Blast Survey
- Attachment 7: Test Blast Program
- Attachment 8: Blast Event Protocol
- Attachment 9. Blast Monitoring
- Attachment 10. City Landfill Monitoring
- Attachment 11. Groundwater Monitoring
- Attachment 12. Quarry Reclamation

NOW, THEREFORE, in consideration of the zone change made by the CITY, DRAGON hereby agrees as follows:

1. Site Development: The Property shall be developed substantially in accordance with the site plans and elevations shown on Attachments 2-4. DRAGON shall:

a. Remove the existing batch plant and silos, truck fuel depot, conveyor, concrete retaining wall and temporary ditch, and rock crushing facility.

b. Relocate its batch plant and related operations no closer than 350 feet to Ocean Avenue, in the "approximate limit of operation area" shown on Attachment 2.

c. Locate the new rock crusher facility no closer than 750 feet to Ocean Avenue in the operations area shown on Attachment 2, and enclose any rock crushing operations within a sound insulated building.

d. A new earthen berm, fence, paved entrance, drainage ditch, and climbing lane will be constructed along the west side of Ocean Avenue as shown on Attachments 2-4. The final berm design, landscape planting and schedule will be determined by the Planning Board in its site plan review, after consultation with the City Arborist.

e. DRAGON shall relocate the entrance driveway to the premises, and shall create a slip lane for slow-moving traffic along Ocean Avenue as shown on Attachments 2 and 3. To the extent that any of the new roadway or drainage improvements are located on land of DRAGON, it will deed that portion of its land to the CITY.

f. Develop a stormwater management plan for the entire site, including all improvements along Ocean Avenue and within the operations area according to MeDEP performance standards.

Provided, however, that such development shall be subject to full Site Plan review and approval by the Planning Board, which may approve modifications to these plans as part of the review process.

2. Authorized Uses: DRAGON shall only be authorized to establish and maintain the following uses or any combination of the uses on the Property, provided that such operations are limited to the areas shown on Attachment 2 and further provided that such operations meet the standards set forth in this Agreement and established by State and Federal law:

a. Mining of stone in the "quarry expansion area", including blasting, and crushing of stone for use in manufacture of concrete on the site only.

b. Concrete manufacture and processing.

c. Outdoor storage of materials, including aggregate (rock, sand, etc) piles utilized in the concrete manufacturing, material manufactured on the site (including concrete blocks produced

as an incidental part of its operations), and related machinery and equipment.

e. All concrete trucks shall be hosed down before exiting the operations area on the Property to reduce the amount of dust and debris tracked onto Ocean Avenue.

f. Vehicle repair and storage and office operations within the existing Dragon Products Company garage facilities (3 bays) on Ocean Avenue shown on Attachment 2.

3. Timing of Uses on Property: Prior to the commencement of any blasting, mining or rock crushing, Dragon shall obtain from the City a Certificate of Occupancy, verifying that all site alterations described in Section 1 and as otherwise approved by the Planning Board have been completed. DRAGON shall discontinue use of its existing batch plant within 30 days of its new batch plant being fully operational, and shall remove its existing batch plant from the Property within 180 days of its use being discontinued.

4. Time Limit for Certain Improvements: Dragon shall apply for Site Plan Approval for the site changes described in Section 1 (a, b, d-f) (all site improvements except the rock crusher) within one year of the rezoning of the Property by the City Council. Dragon shall complete the improvements along Ocean Avenue within one year of final Planning Board approval of the site plan, and shall complete all approved site improvements within two years of final Planning Board approval of the site plan, or this contract shall automatically terminate and the Property shall automatically revert to the R-3 or any successor zone classification.

5. Natural Buffer Areas: The existing trees and other natural vegetation in the "existing wooded buffer strip" on the south side of the site and the "existing vegetation" on the north side of the site shown on Attachment 2 shall remain in their natural state. These areas, or any portions of them, may not be separately conveyed apart from the Property as a whole, while any blasting, mining, concrete manufacturing, or other uses not consistent with the underlying R-3 or successor zone are being conducted on the Property.

6. Limits on Blasting: DRAGON shall limit the total number of blasts on the site to a maximum of twenty (20) individual blasts per year. In no event shall more than four (4) individual blasts per month be permitted. All blasting and rock crushing on the site shall occur on Monday through Friday between the hours of 9:00 a.m. and 4:00 p.m. and between the months of March and November. No blasting or warning signals for blasting shall be done between 7:00 a.m. and 9:00 a.m. or between 2:00 p.m. and 4:00 p.m. on any day when the City of Portland public schools are in session.

Vibration standards shall meet the limits described in Attachment 5, Maximum Allowable Peak Particle Velocity for Ground Vibration.

7. Blasting Operations: DRAGON agrees to comply with all requirements of the Maine Department of Environmental Protection regarding mining operations on its site, including those set forth in 38 M.R.S.A. §§490-W to 490-EE as it may be amended, except that where municipal standards adopted by the CITY which are not otherwise described in this Agreement are more restrictive, then the CITY standards shall apply. The MeDEP standards shall include, but not be limited to:

a. Blasting standards described in §490-Z (14), including airblast standards in subsection (B) and (C), preblast surveys as described in subsection (F), sound standards described in subsection (H), vibration standards described in subsections (I) - (K), and blasting records as described in subsection (L), including records of peak particle velocity and decibels for each blast.

b. Dust standards described §490-Z (12)

c. Reclamation standards described in §490-Z (13)

All blasting shall also be conducted in accordance with the Pre-Blast Survey Protocol (Attachment 6), Test Blast Program (Attachment 7), Blast Event Protocol (Attachment 8) and Blast Event Monitoring Program (Attachment 9) attached to this Agreement.

8. Adjacent City Landfill: DRAGON will monitor the adjacent City landfill as described in Attachment 10.

9. Groundwater Monitoring: DRAGON will do groundwater monitoring as described in Attachment ??.

10. Parcels east of Ocean Avenue: As long as it operates its existing concrete batch plant on Ocean Avenue, DRAGON shall maintain ownership of the parcels east of Ocean Avenue across from the Property, more particularly described as Tax Map 418-A, Block A, Lots 5 and 12 in the records of the Assessor of the City of Portland.

11. Reclamation of Site: Reclamation of the Property into a vegetated, useable condition, with safety benches left on the face of the quarry wall being mined, shall be completed substantially in accordance with the reclamation plan described in Attachment 12 within 2 years of completion of the mining on the Property; provided, however, that such plan shall be subject to full review and approval by the Planning Board before being implemented.

12. City Zoning Standards: DRAGON shall meet all IL zoning standards contained in sections 14-234, 14-235, and 14-236 of the Portland City Code, except as follows:

- a. No new fence shall be required pursuant to 14-235(6) except as shown on Attachments 2-4 and as may be required by the Planning Board during final site plan review.
- b. Outside storage of sand and stone shall not be required to meet the standards of §14-235(10).
- c. Vibration standards in §14-236(3) shall not apply to blasting, and IM vibration standards found in §14-252(3) shall apply to all other operations.
- d. Noise standards in §14-236(1) shall not apply to blasting.
- e. The existing concrete batch plant shall be allowed to generate 78 decibels along the Ocean Avenue frontage until it is removed from the Property, but the new concrete

production building shall comply with §14-236(1) when measured at property lines of the Property.

13. IL Zoning Standards: Except as expressly modified in this Agreement, the use and occupancy of the Property shall be governed by and comply with the IL zoning provisions of the Land Use Code of the City of Portland and any applicable amendments thereto or replacement thereof.

14. Liability and Claims: Dragon shall be responsible for all damages determined to be caused by its mining and concrete manufacturing operations. Dragon will make public the address and telephone number of a contact for all claims for damages, and will give written acknowledgement of the receipt of any written claim within 2 business days of receiving the claim. Copies of all claims will be provided to the City upon a written request from the City. Claims shall include a written estimate of the repair costs by an independent party whenever possible. Claims will be much easier to investigate if the claimant has had a 'pre-blast survey' done of their property as described in section 7 above.

For all property damage claims of \$2,500 or less, Dragon will handle the claim in a 'self-insured' manner. Dragon will promptly inspect the alleged damage with the claimant within 5 business days of receipt of the claim assuming the claimant provides Dragon with reasonable access to the damaged property. Where clear evidence is present to show that the property damage is the result of Dragon activities, full restitution shall be paid based on a written estimate of repair costs by an independent third party or for such amount as can be agreed to by Dragon and the claimant. Dragon shall have the option to make the repairs itself if it believes the written estimate of repair costs to be too high. Dragon will pay the restitution to claimant within 10 business days of the inspection or Dragon will do the repair work itself within 45 days of the inspection, assuming the claimant cooperates by providing reasonable access to the damaged property. Dragon will provide the claimant a written reason why no restitution is offered within 10 business days of the inspection if it does not believe that it is responsible for the damage. The resolution of such property claims will not represent an admission of fault or liability by

Dragon, and will not prevent Dragon from defending future claims that may arise. The claimant will reserve all rights against Dragon if no agreement is reached. The acceptance of any such restitution will not preclude a claimant from pursuing future claims based on future activities.

For all property damage claims in excess of this \$2,500 'self-insured' level, Dragon shall promptly arrange for the appropriate insurance representatives to appraise the damage and discuss the claim with the claimant. Dragon shall instruct the insurance carrier to make a determination on the claim as soon as possible. If through this investigation, Dragon is clearly found to be responsible for the property damage, Dragon shall instruct the insurance carrier to offer prompt settlement of the claim. If through this investigation, there are issues on Dragon's responsibility for the damage, these issues shall be promptly furnished to the claimant in writing, so that the claimant can make an informed decision on pursuing the claim. It is Dragon's intent to have such review and investigation complete within 10 business days of receipt of the written claim, with an initial written decision on the claim provided to the claimant within 10 days after the inspection by the insurance agents.

Dragon hereby indemnifies the CITY for any damage done by Dragon's operations to the former landfill on adjacent land of the CITY on land to the north of the Dragon site.

15. Complaint Protocol: DRAGON shall maintain the complaint resolution protocol and City reporting protocol described in Attachment 13.

16. Annual Review by CITY: DRAGON shall provide the CITY with its blasting records and its complaints as described in Attachment 14 by the end of each calendar year or upon request. The City Planning Department will review these records and will schedule a meeting with DRAGON and residents within 2,000 feet of the quarry on or before March 1st of the following year, which may be held by the Planning Board at the CITY's discretion. The purpose of the meeting will be to discuss any issues that may have arisen in the previous year and the best way to resolve them for the upcoming year. If the CITY is not satisfied with DRAGON's response to any issues, then it may initiate the Default provisions of Section 19.

17. DRAGON's Successors: If DRAGON sells or transfers the Property to any new owner in the future which wants to continue the blasting, mining and concrete manufacturing operations, then any prospective new owner must receive written approval from the City of Portland Planning Department as to that owner's technical and financial abilities to comply with the terms of this contract, and the new owner must sign a copy of this Agreement agreeing to comply with all of its terms.

18. Record Notice: DRAGON agrees to record this Agreement in the Cumberland County Registry of Deeds, and to include a reference to it in any deed conveying any of the Property.

19. Enforceability: The above stated restrictions, provisions and conditions are an essential part of the rezoning, shall run with and bind the subject premises, shall bind DRAGON, its successors and assigns, as owner of the Property or any part thereof or interest therein, and any party in possession or occupancy of the Property or any part thereof, and shall inure to the benefit of and be enforceable by the CITY, by and through its duly authorized representatives.

20. Severability: If any of the restrictions, provisions, conditions, or portions thereof set forth herein is for any reason held invalid or unconstitutional by any Court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such determination shall not affect the validity of the remaining portions hereof.

21. Default by Dragon: In the event that the CITY claims that DRAGON or any successor has failed to utilize the Property in accordance with this Agreement, then it may give DRAGON written notice of the default claimed by the CITY. (**Optional**: The City Planning Staff may seek a hearing on these issues before the Planning Board at any time.) If DRAGON does not correct the defaults in a timely manner to the CITY's satisfaction, then the CITY may institute a judicial enforcement action for the breach of this Agreement. If it is determined in such judicial enforcement action that DRAGON has breached this Agreement, and DRAGON fails to comply with the Agreement in a timely manner after such judicial determination, then the City Planning

Staff may recommend to the City Council that this Agreement be terminated, requiring a cessation of the blasting and mining use permitted under the terms of this Agreement; provided that the termination of the contract will not require cessation of the concrete manufacturing and processing uses conducted on the site prior to the date of execution of this Agreement, or as relocated pursuant to this Agreement.

22. Execution: This Contract shall be executed simultaneously with Portland City Council approval of the rezoning of the Property.

WITNESS: DRAGON PRODUCTS COMPANY, INC.

_____ By: _____

Print Name: _____

Its: _____

STATE OF MAINE
CUMBERLAND, ss.

Date: _____, 2001

_____, as _____ of Dragon Products Company, Inc., personally appeared before me and acknowledged that the signature on this document was his free act and deed acting on behalf of Dragon Products Company, Inc.

Before me,

Notary Public/Attorney at Law

Print Name: _____

**'DRAFT' – Maximum Allowable Peak Particle Velocity for Ground
Vibration (in./sec.)**

- Maine Department of Environmental Protection Article 8, Performance Standards for Quarries allows the following maximum peak particle velocity; 0 to 300 feet from the blast area is 1.25 in./sec. and 301 to 5000 feet from the blast area is 1.00 in./sec.
- Dragon shall reduce the M.D.E.P. allowable peak particle velocity maximum to a target of 0.75 in./sec., regardless of the distance from the blast area, at the Ocean Avenue quarry.
- Dragon shall not be considered in violation of the contract should a blast result in peak particle velocity of 0.76 to 1.00 in./sec., but will be required to take necessary steps to reduce the peak particle velocity to the 0.75 in./sec. target on the next blast. In such an occurrence, Dragon shall immediately notify the City and provide detail of the actions to be taken to reduce the peak particle vibration.
- If Dragon is repeatedly (more than 3 consecutive blasts?) in excess of the 0.75 peak particle velocity target, the City shall have the option of requiring a 3rd party peer review to determine what action Dragon shall be required to take prior to further blasting activity, with Dragon responsible for the cost of the peer review.

'DRAFT' – Pre-Blast Survey Protocol (Revised 5/24/01)

- Prior to any blasting activity at the Ocean Avenue quarry, Dragon shall provide the opportunity for Ocean Avenue neighbors, at no cost to the neighbor, to have a 'pre-blast survey' conducted to document the current structural conditions present at the residence.
- The 'pre-blast survey' shall be offered to all property owners within 2,000 feet of the quarry, both in Portland and Falmouth. As offered, the 'pre-blast survey' exceeds both industry standards and M.D.E.P. requirements regarding distance from the quarry.
- A 3rd party engineering firm, specializing in this type of business, shall be contracted to provide this service for Dragon.
- Utilizing Portland and Falmouth tax records, the first notification of the opportunity for a 'pre-blast survey' shall be by certified mail, with the next two attempts being hand delivered notices to the residence. The notification will request that the owner responds, either positive or negative, on an enclosed return self-addressed form. No surveys will be conducted without the owners written permission, and shall only be conducted in the presence of the owner, or a representative designated in writing. This notification process shall be fully documented, with a summary copy provided to the City.
- Each survey shall involve approximately one to one and one-half hours, with a representative from the 3rd party firm visiting with the homeowner. During that visit, the surveyor will discuss blasting with the owner and what they should expect when a blast event occurs. Utilizing a video recorder with audio capabilities, the surveyor will walk through all areas of the house with the owner, operating the video recorder continuously, recording the current condition of ceilings, walls, windows, floors, etc. This includes living space, basements, garages, outbuildings and the exterior structure. If the homeowner has any particular area of concern, the surveyor will make special effort to document.
- Dragon shall retain the original tape, with a copy provided to the homeowner if requested. Dragon shall provide access for the City to the survey tapes upon request with written permission from the owner. While Dragon shall not, without written permission, share any survey with a 3rd party, Dragon does reserve the right to use in the case of litigation.
- Dragon shall, upon change of property ownership, offer a survey to the new owners of properties that have previously declined such a survey.
- Dragon shall annually include a 'pre-blast survey' program summary with its year-end report to the City.

'DRAFT' – Ocean Avenue Quarry 'Test Blast Program' (6/12/01)

- Prior to final design and implementation of a 'blast plan' at the Ocean Avenue quarry, Dragon shall conduct 'test blast program', consisting of a minimum of five (5) blasts, in order to build accurate, site-specific information regarding vibration (peak particle velocity) and air overpressure (airblast). This information shall be analyzed and utilized in developing the details of the long-term blast plan specifically for this quarry.
- Prior to commencement of the 'test blast program', Dragon shall complete pre-blast survey requirements and Portland landfill benchmark monitoring.
- All blasts during the 'test blast program' shall follow the "Portland Quarry 'Blast Event' Protocol". This shall include notification of neighbors and City agencies of blast schedule, security of site during 'blast event' and monitoring during the 'blast event'. Please see "Portland Quarry 'Blast Event' Protocol" for details.
- For each 'test blast' Dragon shall provide monitoring at a minimum of six (6) different locations around the perimeter of the blast site / quarry. The blasting contractor shall maintain a minimum of three (3) monitoring stations and a 3rd party engineering contractor, employed by Dragon, shall maintain an additional minimum of three (3) monitoring stations. It is anticipated that one (1) of the six (6) monitoring stations shall be maintained at Summer Place.
- After each 'test blast', data shall be immediately gathered from the monitoring stations and analyzed for vibration (peak particle velocity) and air overpressure (airblast) levels, with Dragon utilizing this information in planning subsequent 'test blasts'.
- At any time during the 'test blast program', upon request and reasonable notice, Dragon shall provide the City access to 'test blast' monitoring records. Upon completion of the 'test blast program, Dragon shall provide the City a summary of blast monitoring.
- Once the 'test blast program' is complete (minimum of five (5) blasts) and adequate site-specific information is available, Dragon shall design the 'blast plan' to be used in quarry operation. This 'blast plan' shall be provided to the City for review and discussion prior to implementation. As appropriate, this 'blast plan' shall be reviewed with M.D.E.P. prior to implementation.
- Dragon shall maintain all 'test blast' records for a minimum of 5 years after termination of quarry activities at Ocean Avenue.

'DRAFT' – Portland Quarry 'Blast Event' Protocol (Revised 5/25/01)

- Dragon shall provide an annual schedule of tentative 'blast event' dates to all neighbors within 2000' of the quarry each year prior to any blasting activity. This tentative schedule shall also be provided to designate representatives for the City of Portland, the Police Department and the Fire Department. Included in this annual notification shall be the protocol for neighbor complaints, with contact names and telephone numbers at Dragon.
- The day before an actual 'blast event', Dragon shall attempt by telephone to notify neighbors who wish to be on a 'call list', of the time of the next day's blast. The designated City, Police and Fire representatives shall also be notified by telephone.
- On the morning of the 'blast event', Dragon's sub-contracted blasting company and 3rd party engineering company shall set blast monitoring equipment at pre-determined locations around the quarry.
- The morning of the 'blast event', Dragon shall attempt to notify all abutting neighbors who wish to be on the 'call list', of the time of the upcoming blast. The designated City, Police and Fire representatives shall also be notified by telephone of the blast time.
- At least 10 minutes prior to the blast, Dragon shall secure all ingress to the quarry property, and post personnel on Ocean Avenue to be prepared to stop vehicle / pedestrian traffic passing by the Dragon site for the actual blast.
- A series of air horn warnings shall be used to warn of imminent blast as follows; 5 minutes prior to blast – 3 air horn signals; 1 minute prior to blast – 2 air horn signals, with all vehicle / pedestrian traffic passing in front of Dragon's site stopped until after the blast; and 1 air horn signal signifying All Clear. Ocean Avenue traffic will be released upon the All Clear signal.
- Monitoring stations data shall be collected immediately after the blast, to be analyzed for compliance with vibration and air over pressure limits. Dragon shall maintain all data collected from monitoring stations, providing an annual summary of monitoring stations data with the annual report to the City. Prior to the annual report, Dragon shall provide the City, upon request and reasonable notice, access to monitoring records.

**'DRAFT' – Blast Event Monitoring Program for Dragon Quarry
(6/01/01)**

- Dragon shall provide vibration (peak particle velocity) and air overpressure (airblast) monitoring for all 'blast events' at the Ocean Avenue quarry. This monitoring shall begin with the 'test blast program' and continue through the life of the quarry operation.
- For each 'blast event', Dragon shall provide monitoring at a minimum of six (6) different locations around the perimeter of the blast site / quarry. The blasting contractor shall maintain a minimum of three (3) monitoring stations and a 3rd party engineering contractor, employed by Dragon, shall maintain an additional minimum of three (3) monitoring stations. It is anticipated that one (1) of the six (6) monitoring stations shall be maintained at the Summer Place neighborhood.
- Upon the completion of a blast, the information from the six (6) monitoring stations shall be gathered immediately and analyzed for compliance with the contract limits on vibration (peak particle velocity) and air overpressure (airblast).
- If vibration (peak particle velocity) or air overpressure (airblast) contract limits are exceeded, the City, and M.D.E.P. as appropriate, shall be notified immediately. Prior to any future blast, Dragon shall provide the City, and as appropriate M.D.E.P., with details of steps to be taken to assure compliance with contract limits.
- Dragon shall maintain all data collected from monitoring stations, providing an annual summary of monitoring stations data with the annual report to the City. Prior to the annual report, Dragon shall provide the City, upon request and reasonable notice, access to monitoring records. This data shall also be available to M.D.E.P. upon request.
- Dragon shall maintain all blast monitoring records for a minimum of 5 years after termination of quarry operations at Ocean Avenue.

BLASTING RECORD

A record of each blast, including seismograph reports, shall be retained for at least 3 years. The record shall contain the following data:

1. Name of permittee, operator or other person conducting the blast.
2. Location, date and time of blast.
3. Name, signature and license number of blaster in charge.
4. Direction and distance, in feet, to nearest dwelling, school, church, commercial or institutional building or other structure.
5. Weather conditions.
6. Type of material blasted.
7. Number of holes, depth of hole, burden, spacing and stemming.
8. Diameter and depth of holes.
9. Types of explosives used.
10. Total weight of explosives used.
11. Maximum weight of explosives detonated within any 8 millisecond period.
12. Methods of firing and type of circuit.
13. Type and depth of stemming.
14. Mats or other protections used.
15. Type of delay detonator used and delay periods used.
16. Comments or recommendations by blaster.
17. Seismograph records including:
 - a. Seismograph reading, including exact location of seismograph and its distance from the blast.
 - b. Name of person taking the seismograph reading.

'DRAFT' – Monitoring of Portland's Ocean Avenue Landfill
(Revised 7/12/01)

- While the attached reference from the Jacques Whitford Engineering report of November 8, 2000, states that the Portland landfill integrity will not be jeopardized by Dragon's plan to blast on the adjacent quarry site, Dragon shall provide the following monitoring plan in regards to any potential impact quarry blasting may have on the landfill cap or groundwater quality.
- The enclosed reference to the Jacques Whitford Engineering report of May 8, 2001, states that the previous investigation by Sebago Techniques and the City of Portland has indicated that methane gas is not an issue at this site; therefore Dragon does not propose Methane monitoring.
- Dragon shall provide a 'benchmark' condition overview of the landfill prior to any blasting activities. This 'benchmark' overview shall be conducted by Dragon's environmental manager, in conjunction with a 3rd party engineering firm, and shall include the current condition of the landfill cap and groundwater analysis as sampled from surface and existing monitoring well locations. The current information gathered will be compared to available cap and groundwater data from the date of landfill closure. This 'benchmark' report will be reviewed with M.D.E.P. for comment and provided to the City for review.
- Upon commencement of blasting operations, Dragon shall provide annual monitoring of the landfill cap and groundwater quality using both surface and monitoring well locations. Monitoring of the cap shall be performed on a monthly basis during the period of blasting activities – March through November, and shall be performed by the same parties who conducted the 'benchmark' landfill review prior to blasting activity. As part of the cap monitoring, any changes or leachate breakouts will be identified. Limited groundwater monitoring will be performed at the high water (April), at low water period (July or August) and at the end of the season (October).
- If at any time during the monitoring program, changes are seen in the cap integrity, such as leachate breakouts, settlement or cracks, Dragon shall immediately notify the City and M.D.E.P. for review and comment prior to any further blasting activity.

Page II

'Draft' – Monitoring of Portland's Ocean Avenue Landfill

Revised 7/12/01

- Annually, Dragon will provide the City with a summary of landfill monitoring data that will contain the following: a) ground and surface water monitoring of water level and chemical constituents, b) cap monitoring of leachate breakout, settlement and cracks, and c) an evaluation of any changes or trends exhibited in this data.
- Dragon shall maintain all records regarding landfill monitoring for the life of the quarry, making them available to the City and M.D.E.P. upon request. Dragon shall maintain all monitoring records for a minimum of 5 years after termination of quarry operations at Ocean Avenue.

**'DRAFT - Dragon Quarry Groundwater Monitoring Plan
(Revised 7/18/01)**

With the attached regulatory excerpts and geologist opinion in mind; 1) Maine D.E.P. regulations on minimum distance from quarry to drinking water well source, 2) Town of Topsham regulations on minimum distance on drinking water well source from blasting and 3) Jacques Whitford Engineering comments regarding distance of bedrock fracture from blast site; Dragon proposes the following groundwater monitoring as part of our annual Portland landfill monitoring and quarry operation.

- Prior to quarry operation, Dragon's environmental manager and a 3rd party engineering firm will provide 'benchmark' groundwater analysis from surface and existing landfill test well locations. This 'benchmark' groundwater data will be compared with available groundwater data from the date of landfill closure, to determine if any changes since the closure. This 'benchmark' data will be reviewed with D.E.P. prior to any quarry activity and provided to the City for review. Water samples will be analyzed for a limited set of parameters that are indicative of ground water quality.
- Dragon will provide surface and landfill test well groundwater analysis on a periodic basis during the period of quarry operation, providing a summary report as part of Dragon's annual report to the city, with detail available upon request. The operational monitoring will consist of field monitoring for pH and SpC and water levels.
- In accordance with D.E.P. quarry standards, that specify a minimum setback of excavation from 100 to 1,000 feet from a well, Dragon's quarry is at least double that distance with no drinking water well identified within 2,000 feet. There has been no data provided that suggests that there is a cause of concern for well water quality at distances in excess of 2,000 feet, and we do not propose groundwater testing at those distances.

Groundwater Protection Information
Page II

D.E.P. Article 8 Performance Standards for Quarries (1996)

490-Z. Performance Standards for Quarries

3. Groundwater Protection. To ensure adequate groundwater protection, the following setback requirements must be met.

- A. A 200-foot separation must be maintained between an excavation and a private drinking water supply that is point driven or dug and was in existence prior to excavation.
- B. A 100-foot separation must be maintained between an excavation and a private drinking water supply that is drilled into saturated bedrock and was in existence prior to the excavation.
- C. Separation must be maintained between an excavation and a public water source as follows:
 - 1) For systems serving a population of 500 persons or less, the minimum separation must be 300 feet;
 - 2) For systems serving a population of 501 persons up to 1,000 persons, the separation must be 500 feet;
 - 3) For systems serving a population of more than 1,000 persons, the separation must be 1000 feet.

Town of Topsham Code Chapter 85 – Blasting (1991)

85-5. Performance Standards

- D. Water quality protection. Water is a precious resource and measures shall be taken to protect groundwater quality. Water quality shall be as found in the nearest non-owned well within 250 feet from the property line or as determined by the Town Planner or Planning Board and from post-blast testing results. Post-blast testing shall be done no sooner than 24 hours or no later than 48 hours following a blast. Turbidity in wells tested shall be no greater than that which existed prior to blasting as established in the pre-blast survey if such survey has been completed.

Groundwater Protection Information
Page III

July 18, 2001 Jacques Whitford Engineering Letter
D. Todd Coffin, C.G.
Senior Environmental Geologist

“These findings are consistent with blasting literature that indicates a very limited zone of bedrock fracture around the blast sites (about 20 to 40 blasthole diameters). For a 6-in. hole, this is 10 to 20 feet. As such, there is no widespread creation of fractures to transport potential contaminants to off-site receptors, such as water wells. Research indicates that water levels in wells sometimes drop after a blast event, but recover over time. This observation is related to the localized increase in aquifer storage capacity due to localized blast-induced fracturing. In these instances, water is actually moving *into* the newly created storage within the blast zone. (1)

At the proposed Dragon Products quarry site, the zone of bedrock fracture will be limited to about 13 feet; the closest boundary of the landfill to the area of blasting is 100 feet. Furthermore, there are no water supply wells located within at least 2,000 feet of the blast. As concluded in our earlier report (dated November 8, 2000), the risk that blasting at the proposed quarry expansion will significantly impact water quality at the former landfill, or at properties in the former landfill vicinity, is low.”

1 Calvin J. Konya and Edward J. Walter, Subsurface Blast Design, Prentice Hall, Englewood Cliffs, New Jersey, 1990.

MEMORANDUM

TO: DAVID GRENNELL
FROM: ANN W. THAYER, C.G., ENVIRONMENTAL MANAGER
SUBJECT: RECLAMATION STANDARDS FOR PORTLAND QUARRY
DATE: 1/26/00

I understand that the Portland Planning Board has requested additional information on the reclamation of Dragon's Ocean Ave. quarry. The attached is a summary of reclamation requirements that are consistent with 38 MRSA 490-Z Performance Standards for Quarries. Reclamation, as defined under Article 8-A, means "the rehabilitation of the area of land affected by mining, including, but not limited to, stabilization of slopes and creation of safety benches, the planting of forests, the seeding of grasses..." The objective of the reclamation standard is to minimize the impact posed by an affected area.

Dragon will be required to restore the affected lands associated with the Ocean Ave operation to a condition that minimizes the safety risks posed by the site, is protective of future impacts to the environment (from fugitive dusts, soil and sediment run-off, etc) and is consistent with the intended future use of the site (residential, open-space, commercial or industrial use). In general, Dragon has an obligation to stabilize rock slopes to prevent rockfalls and to stabilize overburden in accordance with the best management practices for erosion and sedimentation control. In meeting the performance standard for quarry reclamation, Dragon will be required to address the following:

- A. Highwalls, or quarry faces, are to be treated in such a manner as to leave them in a condition that minimizes the possibility of rock falls, slope failures and collapse. A highwall that is loose may be controlled by the use of blasting or scaling, the use of safety benches, the use of flatter slopes or reduced face heights, or the use of benching near the top of the face or rounding the edge of the face.
- B. Exposed overburden or soil is to be stabilized to minimize erosion and promote sedimentation control. Slopes are to be graded to minimize run-off and exposed soil may be mulched or otherwise covered until a vegetative cover is established.
- C. A vegetative cover is to be established by seeding affected land except for quarry walls and flooded areas. Vegetative cover used in reclamation may consist of grasses, legumes, herbaceous or woody plants, shrubs, trees or a mixture of these.
- D. Unusable structures are to be removed and unusable access roads, haul roads and other support roads are to be reclaimed.
- E. Affected lands are to be reclaimed within 2 years after final operational grading has been reached.

'DRAFT' – Protocol for Complaints, Damage Claims & Resolution
(Revised 5/25/01)

- On an annual basis, Dragon shall provide neighbors of the Ocean Avenue quarry a list of contact names, addresses and telephone numbers of Dragon personnel to be notified in the event of a complaint regarding the quarry operation. This list will include the supervisor of the quarry, Dragon's environmental manager and Dragon's divisional vice-president. This list will be updated annually and provided to the City and neighbors at the time of the annual review meeting prior to a new season of blasting.
- Dragon shall contact any individual registering a complaint within 48 hours to discuss the nature of the complaint and an appropriate manner in which to address the specific issue, and depending on the nature and magnitude of the complaint, determine if it is necessary to schedule a meeting to further discuss. If necessary, such a meeting may include representatives from M.D.E.P., City of Portland, drilling and blasting contractor, project engineering firms, insurance and legal.
- Dragon shall investigate all complaints and respond, in writing, within 10 days of the registering of the complaint. While the written response may not resolve the complaint, it shall include the history of the complaint, status to date and any follow-up planned, with a copy being provided to the City upon request and/or as part of Dragon's annual report to the City.
- Dragon shall acknowledge receipt of any written claim of damage within 2 business days of receipt. Dragon shall inspect alleged damage with the property owner within 5 business days of receipt of the claim assuming the claimant provides Dragon with reasonable access to area of alleged damage. Dragon shall respond within 10 business days of this inspection in one of the following ways; a) provide prompt restitution on damages below \$2,500.00 with clear evidence as to cause, b) claims greater than \$2,500.00 will be given to insurance carrier to investigate and if clear evidence of cause, shall be instructed by Dragon to offer prompt settlement, or 3) provide written explanation of why Dragon will not offer restitution. Section 14 'Liability and Claims' in the proposed contract provides additional detail of this process.
- Dragon shall provide the City, on an annual basis, a summary report of all complaints, damage claims and resolutions from the previous year of quarry operation. Dragon shall maintain all records regarding complaints for a minimum of 5 years, with the records available to the City upon request.

**'DRAFT' – Dragon's Annual Quarry Report to the City of Portland
(Revised 5/31/01)**

- On or before February 1 of each year, Dragon shall provide an annual summary report to the City of Portland regarding the operation of the Ocean Avenue quarry during the previous year, with all supporting data to this summary available upon request. This report shall include, but not be limited to the following:
 - a) Neighborhood pre-blast survey summary
 - b) Ocean Avenue landfill monitoring summary
 - c) Quarry blast event data – including blast monitoring summary
 - d) Complaints, Claims and Resolution summary
 - e) Tentative blast event schedule for the upcoming year
- Dragon shall, upon request, provide a copy of this annual quarry report to Ocean Avenue neighbors.
- On or before April 1 of each year, prior to blasting activities in the new year, and at the City's convenience, Dragon shall schedule an annual 'neighborhood meeting', to allow for public discussion of the previous year's quarry activities. Dragon representatives, including sub-contracted blasting and engineering, will be in attendance to provide a review of the previous year and discuss plans for the upcoming quarry season.
- Dragon shall provide the City of Portland such an annual summary report until termination of quarry activities at the Ocean Avenue site, with copies of this annual report available to neighbors upon request. All supporting data for this annual summary report shall be available for review upon request and shall be maintained for a minimum of 5 years upon termination of quarry activities.
- Upon request, at any time during the year, Dragon shall provide the City a summary of available quarry data year-to-date, with the supporting detail available for review upon request.



**Jacques Whitford
Company, Inc.**

75 Peart Street, Suite 201, Portland, Maine, U.S.A. 04101
Tel 207 781 7790 Fax 207 772 0385

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Environmental Scientists
Risk Consultants

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Maine • New Hampshire • Vermont • New York • Trinidad • Russia • Argentina
Nova Scotia • New Brunswick • Prince Edward Island • Newfoundland & Labrador • Quebec • Ontario • Saskatchewan • Alberta • British Columbia • Northwest Territories

July 18, 2001

Mr. Dave Grinnell
Dragon Products Company
38 Preble Street
P.O. Box 1521
Portland, Maine 04104

Re: Follow-up Report on Geologic Assessment of Proposed Quarry Expansion, Ocean Avenue Quarry, Portland, Maine

Dear Mr. Grinnell:

Jacques Whitford Company, Inc. (JWC) is pleased to provide this report regarding Dragon Products Company's proposed quarry expansion project in Portland, Maine. This report addresses additional concerns raised during public meetings and in other correspondence directed to the City of Portland. The City of Portland's technical consultant, Mr. Mark Peterson of Peterson-Rabasca, requested that Dragon provide additional details to the Planning Staff. Our findings regarding each concern are detailed below.

1. Potential Hazards Posed by Methane Gas Generated at the former City of Portland Landfill

A letter from the City of Portland's consultant, Sebago Technics to the Maine Department of Environmental Protection (MDEP), dated June 11, 1996 states: "George Flaherty noted that the City had hired an independent firm to evaluate the potential to extract methane gas from the landfill. Apparently, field evaluations suggested there was little or no methane gas within the landfill, possible due to the frequent burning." These observations, combined with the age and closure history of the landfill, suggests that the blasting will not contribute to increased methane generation from the landfill.

2. Potential for Groundwater Impacts Similar to those that Occurred in the Town of Gorham near a Site where Blasting Occurred.

JWC contacted Brad Hahn, a project geologist with MDEP, regarding details on the Wyman's Autobody shop site on April 23, 2001. According to Mr. Hahn, the autobody shop is located in the Town of Gorham about 150 feet from an area of roadside blasting. A residential water supply well is located about 300 feet from the area of blasting, with the autobody shop located between the well and the blast area. Mr. Hahn indicated that MDEP initially linked blasting near the site to contamination of the residential well with solvents reportedly originating at the autobody shop. MDEP presently believes that the well may have been contaminated prior to blasting. Mr. Hahn added that MDEP conducted bedrock



blasting to put in a replacement water line to the impacted residence. Following blasting to put in the line, the water levels in the contaminated well dropped, and follow-up testing of the well detected no contamination.

These findings are consistent with blasting literature that indicates a very limited zone of bedrock fracture around blast sites (about 20 to 40 blasthole diameters)¹. For a 6-in. hole, this is 10 to 20 feet. As such, there is no widespread creation of fractures to transport potential contaminants to off-site receptors, such as water wells. Research indicates that water levels in wells sometimes drop after a blast event, but recover over time¹. This observation is related to the localized increase in aquifer storage capacity due to localized blast-induced fracturing. In these instances, water is actually moving *into* the newly created storage within the blast zone.

At the proposed Dragon Products quarry site, the zone of bedrock fracture will be limited to about 13 feet; the closest boundary of the landfill to the area of blasting is 100 feet. Furthermore, there are no water supply wells located within at least 2000 feet of the blast site. As concluded in our earlier report (dated November 8, 2000), the risk that blasting at the proposed quarry expansion will significantly impact water quality at the former landfill, or at properties in the former landfill vicinity, is low.

3. The Probability of Damage Associated with Blasting at the Quarry

Based on US Bureau of Mines research^{1,2}, a peak particle velocity of 1 inch/sec (the MDEP standard proposed for the Dragon quarry expansion) corresponds to a probability of damage on the order of 1 percent. Therefore, the estimated 400 blast events proposed for the quarry could result in up to 4 incidents of damage where residences are subjected to peak particle velocities of 1 ips. At the relatively low particle velocities allowed by MDEP, the probability of damage from each blast event is independent (*i.e.*, not cumulative) because research has shown that damage associated with long-term fatigue is likely to occur only at vibration levels greater than 2 ips.¹

In the context of this research, the threshold of damage was defined as "cosmetic damage of the most superficial type, of interior cracking that develops in all homes, independent of blasting."¹ Thus, even if 4 incidents of damage should occur over the 20 to 30 year period of quarry operations, the type of damage is likely to be very minor, and cosmetic in nature.

Furthermore, based on the blast design plan prepared by Maine Drilling and Blasting for the proposed quarry expansion, the highest particle velocity anticipated at the closest residence is 0.52 inches per second (ips). Based on studies of blasting by the US Bureau of Mines, no blast-induced damage (*i.e.*, zero percent probability) was observed at particle velocities

¹ Calvin I. Konya and Edward J. Walter, "Subsurface Blast Design," Prentice Hall, Englewood Cliffs, New Jersey, 1990.



Mr. Dave Grinnell
July 18, 2001
Page 3

below 0.75 ips^2 . It is reasonable to conclude that if blast events are managed as anticipated, no damage to homes in the vicinity of the quarry would occur.

Please let us know if there are concerns other than those discussed above that you would like us to evaluate. JWC appreciates the opportunity to assist Dragon Products Company.

Sincerely,
Jacques Whitford Company, Inc.



D. Todd Coffin, C.G.
Senior Environmental Geologist

MEP00123\rept2

² Charles H. Dowding, "Blast Vibration Monitoring and Control," Northwestern University, 1985.



OCEAN AVENUE QUARRY SITE SUMMARY HISTORY

- 1932** Joe Cook (Cook & Company) acquires original 12.5 +/- acres for mining stone and manufacturing concrete at the Ocean Avenue site
- 1937** Cook & Company acquires 150 foot by 100 foot parcel abutting the 1932 purchase to better accommodate growing business
- 1958** Paul Merrill (Merrill Transportation) purchased Cook & Company, including all operations at the Ocean Avenue site, continuing the mining and concrete manufacturing that begun in 1932
- 1962** Cook & Company (Merrill Transportation) purchased an additional 10 +/- acres adjacent to the original 12.5 +/- acres at the Ocean Avenue site, continuing mining and concrete manufacturing
- 1968** Boston Sand & Gravel purchased Cook & Company's (Merrill Transportation) Ocean Avenue quarry and concrete operations, changing the name to The Cook Concrete Company, and continued mining stone and manufacturing concrete
- 1985** The Cook Concrete Company (Boston Sand & Gravel) purchased an additional 16 +/- acres adjacent to the quarries 22.5 +/- acres on Ocean Avenue, continuing mining and concrete manufacturing
- 1991** Dragon Products Company purchased the 38.5 +/- acre Ocean Avenue quarry and concrete operation of The Cook Concrete Company from Boston Sand & Gravel, with Dragon Products Company continuing mining and producing concrete at the site
- 1994** Dragon Products Company recognized that to continue the mining process that had operated continually at this site for approximately 60 years would require a D.E.P. permit and City rezoning, thus Dragon voluntarily ceased mining operations until necessary City and State permits were in place

Quoted by neighbor at 4/12/01 'Neighborhood Meeting':

"...Mark Stebbins of D.E.P. said that damage was caused 7,000 feet from a blast..."

On April 19, 2001 at 2:49 PM, Dragon's environmental manager Ann Thayer contacted Mark Stebbins of D.E.P. with the following e-mail:

"Last week at our neighborhood meeting in Portland, one of the residents attributed a comment to you from your attendance at the Portland Planning Board mtg. According to the resident, you said something to the effect that it was not unheard of to experience airblast damage up to 7,000 feet away. Although I was at the same meeting, I don't recall this and am hoping that you can clarify the situation. Please give me a call when you have an opportunity."

Mark Stebbins responded to Ann Thayer at 4:28 PM on April 19, 2001, with the following e-mail:

"Well, the resident only got half the story right (7000-foot part). After the meeting, I spoke to some abutters in the hallway. They asked me some general questions concerning blasting. I told them that most of the complaints received by the Department relate to airblasts. They asked me how far away from the quarry could be impacted by blasting. I stated that the Department has received complaints from residences that were located 7000 feet from a blast site (MacQuinn Quarry, Hancock). The homeowner in this case said that their home was structurally damaged. The Department investigated the allegations and cleared the operator of any wrongdoing. Any questions, please call me."

'DRAFT' – Portland Quarry Life & Annual Production (5/24/01)

- A Portland quarry survey done in 1990 suggests an estimated 2,000,000 ton of ledge rock available for mining.
- Dragon has estimated very conservative size blasts, approximately 5,000 ton, in order to comply with the proposed blast vibration limits.
- With approximately 2,000,000 ton to be mined in blasts of approximately 5,000 ton, we are estimating approximately 400 blasts over the life of the quarry, with a maximum of 20 per year.
- Should the average annual need be 100,000 ton, at 5,000 ton per blast, Dragon would blast the maximum limit of 20 times per year, for approximately 20 years, for a total of approximately 400 blasts.
- Should the average annual need be 80,000 ton, at 5,000 ton per blast, Dragon would blast approximately 16 times per year, for approximately 25 years, **BUT** the total blasts remain at approximately 400.
- Should the average annual need be 60,000 ton, at 5,000 ton per blast, Dragon would blast approximately 12 times per year, for approximately 33 years, **BUT** the total blasts remain approximately 400.
- As the annual tonnage requirement is driven by economic factors, it is likely that annual consumption will fluctuate, thus it is likely that the life expectancy of the quarry will be somewhere between 20 and 30 years. However, as demonstrated, while the life of the quarry might be extended due to lack of demand for the stone, the total blasts remain approximately 400 over the quarry life.
- It may be determined in the 'test blast program' and in early blast events that Dragon can exceed 5,000 ton on individual blasts without exceeding vibration limits. If so, this would reduce the number of total blasts over the life of the quarry. As example, if 6,000 ton average blast a total of approximately 333 blast events over the quarry life; if 7,000 ton average blast a total of 285 blast events over the quarry life; if 8,000 ton average blast a total of 250 blast events over the life of the quarry; if 9,000 ton average blast a total of 222 blast events over the life of the quarry and if 10,000 ton average blast a total of 200 blast events over the life of the quarry. In short, any increase over the estimated 5,000 ton average blast will reduce both the number of annual blast events and the total number of blast events over the quarry life.
- Dragon will include annual number of blast events and tons produced in the annual report to the City, with projection for the next year.

DRAFT – Coastal Bluff Stability

During the evaluation of Dragon's proposal to expand the Ocean Ave Quarry, the issue was raised about the effect of blasting on coastal bluffs. We understand that the slopes identified as sensitive are those identified on Coastal Bluffs Maps of the Portland West Quadrangle prepared by Maine Geological Survey. The following summarizes our comments with regard to this issue.

- The two identified slopes in question are located adjacent to the Presumpscot River and are 6,000 feet and 7,000 feet from the Ocean Ave Quarry, respectively. The surficial geology is mapped as the Presumpscot Formation, which is a glacio-marine silty clay.
- According to Stephen Dickson, Marine Geologist for the Maine Geological Survey and Coordinator for the mapping project, classification and mapping for the Coastal Bluff Maps was based on remote sensing, and field mapping and reflects surficial processes that are acting on the face of the slope. These processes may include river scouring of the toe of the slope, wave action in tidal areas, ice movement, etc. The processes cause over steepening of the bank and may lead to bluff erosion.
- The slopes immediately adjacent to the following vibration sources: 1) Middle Road (Route 9) bridge, 2) a railroad bridge and 3) the north and south bridges of Interstate 295. These sources of ground vibration are significantly higher at the bluff location than vibrations that may reach the area from the comparatively low volume production blasts at the Ocean Avenue Quarry.
- Coastal bluffs identified more proximal to the site are mapped as stable and the bluffs closest to the Ocean Avenue Quarry are, in fact, armored. The Interstate 295 is immediately proximal to this coastal bluff area and is a much more consistent and higher vibration source than that that would be generated from Dragon's operation.
- In addition to coastal bluff stability, Dragon also evaluated landslide potential based on maps prepared by the Maine Geological Survey. These maps have not been published yet and were made available to us by Stephen Dickson. The maps indicate where landslides have occurred in the past, several categories of shoreline where landslides may occur and areas where landslides are unlikely to occur due to the geology and configuration of the slope. Again, slopes are identified as unstable along the Presumpscot Rivers. This unstable rating is because of the geology (Presumpscot Formation) the height of the slope (over 20 feet in height) and weathering by the river and tidal action. Coastal areas closer to the Ocean Avenue Quarry are listed as stable with the exception of one are located southeast of the quarry project. This slope is listed as a Potential landslide area based on photo and map data. This may be due to the relief of the slope of greater than 20 feet and poor surface drainage. In this case, Interstate 295 is immediately adjacent to the mapped area and provides a significantly higher and continuous ground vibration than that that may be generated at the area by production blasting at the quarry.

TYPICAL SOUND LEVELS FOR VARIOUS SOURCES ARE LISTED BELOW:

Humans Cannot Detect	0 to 3 db
Rustling Leaves	10 db
Whisper	30 db
Mosquito Buzzing	40 db
Normal Conversation	50 db
Vacuum Cleaner	70 db
Heavy Traffic	80 db
Power Mower	100 db
Rock Concert	120 db
Jackhammer	130 db
Nearby Jet Airplane	150 db
Rocket Blastoff	180 db

Data furnished by Jacques Whitford Engineering, source - Serway & Faughn, College Physics, Saunders College Publishing, 1985.

TYPICAL OVERPRESSURE CRITERIA

180 db	possible structural damage
171 db	general window breakage
151 db	occasional window breakage
140 db	long-term history of application as a safe project specification
134 db	U.S. Bureau of Mines recommendation following a study of large-scale surface mine blasting

source - Oriard, Lewis L., The Effects of Vibrations and Environmental Forces, International Society of Explosives Engineers, Ohio, 1999.

129 db	M.D.E.P. recommended quarry limits
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APR 2 2001

CHRISTOPHER NEAGLE
PARTNER
cneagle@verrilldana.com
Direct: 207-253-4506

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

March 29, 2001

Penny Latell
Corporation Counsel's Office
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Industrial Zone

Dear Penny:

I enclose another redraft of the Agreement, addressing the points we discussed last week, including the new indemnity for damage to the City landfill which is now at the end of section 13. I also enclose Dragon's preliminary response to your concerns about the blasting process in general, which will be worked into the exhibits if the terms are acceptable to the City. I assume you can get copies to other interested parties in City Hall.

I will be out of the office until Tuesday, April 3, 2001. Call me when I get back if there are issues we need to address before our meeting on Thursday with the Mayor.

Sincerely,

A handwritten signature in black ink, appearing to be "Chris Neagle".

Chris Neagle

CSN/eb
enclosures
cc: David S. Grinnell, Dragon Products Company
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March 25, 2001

Response to Penny Littell's 2/28/01 Questions Regarding Pre-blast Surveys

1. A list of all homeowners will be developed from the Portland tax rolls that are within the limits of 'pre-blast survey zone'. These homeowners will be contacted both by certified and regular mail, informing them of the available pre-blast survey and of tentative schedule dates available for this survey. This correspondence will include a survey acceptance / rejection form and a self-addressed, stamped envelope for returning to Dragon. If within a reasonable period (10 business days?), we have not received these forms back, we will attempt to contact again, both by mail and telephone. In the case of direct abutters, we will knock on their door to explain the pre-blast survey offer. All of these contacts will be documented and available for City review upon request and submitted with our annual report to the City.
2. We will discuss with the homeowner the purpose of the survey and the areas of detail to be covered. It will be explained that the homeowner is welcome to accompany the technician on the survey and that the homeowner may request a copy of the survey / have access to the survey upon request. The homeowner will also be furnished a package containing the tentative blast event schedule, the protocol that will be followed with each blast event and the complaint protocol including appropriate telephone numbers and contact names.
3. Dragon's intent is to offer a pre-blast survey to residences within the 2000' radius, as defined by Portland / Falmouth tax maps, with two levels of detail. One for those residences that directly abut the Ocean Avenue site, perhaps those within 1,000', and a second survey level for those residences that do not directly abut / beyond 1,000'.
4. The surveys will be a mix of video recording, still pictures, and drawings with written comments. The survey will focus on areas of existing defects and record the current condition of any suspected sensitive areas. It is anticipated that the level of detail in the survey may be greater within 1,000' than beyond 1,000'. As we contract with an engineering firm to conduct the surveys we will furnish more detail.
5. The 3rd party engineering firm and Dragon shall control the pre-blast surveys. The City shall have access to view these surveys as deemed necessary, with homeowners provided a copy upon request. These surveys shall remain the property of Dragon and shall not be shared with others unless required in litigation.
6. This information has been provided and language proposed for the contract. The details will be furnished with the pre-blast survey information to residents.
7. Preliminary plans call for monitoring of vibration and noise levels at Dragon property lines and at a number of residences that are closest to the site. Final numbers of monitors and locations are not yet finalized, but will be provided with the final blast plan. We anticipate our drilling and blasting company monitoring every blast event, with a 3rd party engineering firm verifying from time-to-time.

8. While often provided by the drilling and blasting contractor, Dragon's intent is to contract a 3rd party, independent of the blasting contractor for the pre-blast survey. Both the blasting contractor and an independent 3rd party shall provide the blast event survey monitoring.
9. The pre-blast survey shall include a physical tour of each residence that requests a survey. The technician shall focus on areas that exhibit potential for problems and document the current conditions through a combination of videos, still pictures, drawings and written comments. If a homeowner has an area of particular concern, the technician will attempt to include detail comments on that specific area. If there are areas or items that the homeowner wishes are not recorded, a note will be included to document that request.
10. Dragon shall be responsible for providing the City with the initial list of residents to be contacted, documentation of certified mailing, documentation of necessary follow-up telephone calls, documentation of knocking on door as necessary and finally, a list corresponding to the original list showing those who accepted / rejected pre-blast survey.
11. Dragon, in conjunction with contracted 3rd party, shall coordinate all aspects of the pre-blast survey, with details to be provided to the City prior to blasting activity and included in annual report to the City.



CHRISTOPHER S. NEAGLE
PARTNER
cneagle@verrilldana.com
direct dial: 253-4506

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

February 8, 2001

Sarah Hopkins
Planning Office
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Contract Zone

Dear Sarah:

There were two major additions to the contract suggested at the meetings held last year with the neighbors. One was to have a clear statement of Dragon's liability for damages and a streamlined process to handle relatively minor claims. The second was to provide for a process of annual review by the City.

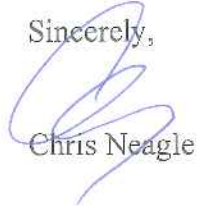
I have enclosed a copy of the proposed zoning contract with new paragraphs 13 and 14 to address these two issues. The underlined language shows the changes from the proposed contract discussed last July.

I understand that the Planning Board may consider this request again at its March 27, 2001 workshop meeting. Since the last workshop in June of 2000, we have also provided the City with the July, 2000 one page summary of issues requested by some members of the public and the November, 2000 engineering report done for Dragon. I know that the City has also hired an independent engineer to review this information. If you need anything else from Dragon prior to the workshop, please let me know. Dragon very much wants to get back into the process seeking a final recommendation from the Planning Board, so the issue can be presented to the City Council for possible action.

Sarah Hopkins
February 8, 2001
Page: 2

Call me with any questions or comments about these proposed new paragraphs.

Sincerely,

A handwritten signature in blue ink, appearing to read "Chris Neagle", is written over the word "Sincerely,".

Chris Neagle

CSN/eb

Enclosures

cc: David S. Grinnell, Dragon Products Company
Mayor Cheryl Leeman
Mark Peterson, Engineer for the City
11 Portland Residents who attended June 29, 2000 meeting
John S. Rudd, Esq., Falmouth neighbor

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VERRILL
&
DANA^{LLP}
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direct dial: 253-4506

ONE PORTLAND SQUARE
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207-774-4000 • FAX 207-774-7499

January 3, 2001

Sarah Hopkins
Planning Office, Basement
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Contract Zone

Dear Sarah:

I enclose the colored plans from the engineering report given to the City's engineer late last year. I am also sending a copy of the report and plans to the neighborhood leaders, as it addresses many of the issues raised at our meetings in 2000.

We hope the City's engineer will be getting his report to the City soon, so that we can get back on the Planning Board agenda seeking a recommendation on the proposed contract zone.

Call me with any questions.

Sincerely,



Chris Neagle

CSN/eb

Enclosures

cc: David S. Grinnell, Dragon Products Company
Mayor Cheryl Leeman
11 Portland Residents who attended June 29, 2000 meeting
John S. Rudd, Esq., Falmouth neighbor

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ONE PORTLAND SQUARE
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November 20, 2000

Mark Peterson
Peterson-Rabasca Geotechnical Engineers
317 Main Street
Yarmouth, ME 04096

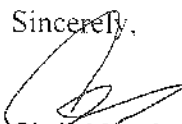
Re: Proposed Dragon Industrial Zone

Dear Mark:

I enclose a copy of an engineering report Dragon had done to address four of the issues that have come out of the public process. I understand you want to review it before your scheduled inspection of the site next Thursday, November 30th.

I also enclose the MeDEP's videotape of a sample blast, and would ask that you view it and/or copy it so that I can have it back in my office by December 1st.

I assume you will let us know if we can provide any more information at this time, and will let Sarah Hopkins know when you have completed your review so this application can be put back on the Planning Board agenda for possible action soon.

Sincerely,

Chris Neagle

CSN/eb
Enclosure

cc: David S. Grinnell, Dragon Products Company
Sarah Hopkins, City of Portland (with enclosure)

P:\CSN\DRAGON\peterson.letter.wpd

VERRILL
&
DANA^{LLP}
Attorneys at Law

CHRISTOPHER S. NEAGLE
PARTNER
direct dial: 253-4506
e-mail: cneagle@verrilldana.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

Hand Delivered

August 8, 2000

Sarah Hopkins
Planning Office, Basement
Portland City Hall
389 Congress Street
Portland, ME 04101

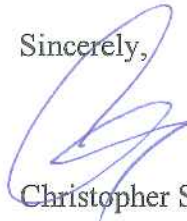
Re: Proposed Dragon Contract Zone

Dear Sarah:

As you requested, here are three sets of copies of the material we had available at the public meeting last month.

I will be on vacation from August 14th - August 25th, and hope we can resume the process soon after I return.

Sincerely,



Christopher S. Neagle

CSN/csn
Enclosures
cc: David S. Grinnell, Dragon Products Company

P:\CSN\DRAGON\Hopkins letter.wpd

880/week.

\$50/week.

5.5.

929
45,700
48,000

2,300.

VERRILL
&
DANA^{LLP}
Attorneys at Law

CHRISTOPHER S. NEAGLE
PARTNER
direct dial: 253-4506
e-mail: cncagle@verrilldana.com

ONE PORTLAND SQUARE
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207-774-4000 • FAX 207-774-7499

July 26, 2000

Sarah Hopkins
Planning Office, Basement
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Contract Zone

Dear Sarah:

I understand that the City is planning on hiring a geologist very soon. Dragon has also hired an engineer to review the possible effects of blasting on radon gas, the closed city dump and the gas utility lines in the area. Hopefully, the engineers can exchange information during August. Although Dragon declined to fund the engineering studies for the neighbors, Dragon is willing to give the City \$2,500 to offset the cost of any peer review now or in the future, provided the engineers are hired by the City Planning Staff and take direction only from the City. Let me know if the City wants to accept this offer.

I have enclosed a list of neighborhood issues and how we see them affected by the Dragon proposal, which was a suggestion made at the public meeting last week. Dragon is having its blasting contractor design a specific blasting plan for its quarry, so if the Planning Board wants another workshop with its geologist, the neighbor's engineer and Dragon's blasting contractor, and/or you feel that another public meeting outside of City Hall to focus on blasting with the engineers present would be helpful, I am sure we can arrange it.

We are also working on some revisions to the contract to address the issues of liability and small claims and an annual review of the operations by the City. I should have something ready for your review by next week.

Sincerely,


Christopher S. Neagle

CSN/csn
Enclosures

cc: David S. Grinnell, Dragon Products Company
Mayor Cheryl Leeman
11 Portland Residents who attended June 29th meeting
John S. Rudd, Esq., Falmouth neighbor

P:\CSNDRAGON\Hopkins letter.wpd



CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csn@verdan.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-8586
207-774-4000 • FAX 207-774-7499

Fax: 756-8258

July 11, 2000

Sarah Hopkins
Planning Department, Basement
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Dragon Products Company, Ocean Avenue
Contract Zoning Proposal

Dear Sarah:

I enclose a proposed Notice that I have prepared for your review. My only question is whether you want your name and/or your phone number in it and/or possibly Brad Kaufmann's name and phone number as someone to contact ahead of time with any questions. As it is currently drafted, that information is not readily available. I have a call in to Brad to see if he wants his name involved or not.

Dave Grinnell has not yet seen this draft so he may have some suggestions, too. As soon as I hear from you Brad, and Dave, I will put the Notice in the mail with the labels you provided to me today. I want to send it out on Wednesday.

Thanks for all of you help.

Sincerely,

A handwritten signature in black ink, appearing to be "C. Neagle", written over a large, stylized "C" that loops around the name.

Christopher S. Neagle

CSN/csn

Enclosure

cc: David S. Grinnell, Dragon Products Company (fax)

P:\CSNDRAGONHOPKINS.fax\LTR.wpd

Notice of Public Meeting

To: Portland taxpayers within 2,400 feet of Dragon Products Company Site

From: Dragon Products Company, Inc.

Re: Public Meeting from 7:00 p.m. - 9:00 p.m. on July 19, 2000
School Gym at the Presumpscot Elementary School
69 Presumpscot Street, Portland

Dragon Products Company is attempting to have a Contract Zone approved by the City of Portland for its site on Ocean Avenue in Portland. This proposed contract would allow Dragon to conduct mining operations on the site as part of its concrete manufacturing operation, and would include the right to conduct blasting of the stone on its site in accordance with Maine DEP quarry standards and other standards that may be imposed by the City of Portland.

No mature trees visible from Ocean Avenue or adjacent properties will be cut, as the area of the proposed mining was cleared and fenced many years ago. The existing concrete production plant and related equipment near Ocean Avenue will be relocated to the middle of the site, will no longer be visible from the public street, and will generate far less noise at the property line. The area of the site adjacent to Ocean Avenue will be redeveloped into a landscaped berm with a new entrance at the bottom of the hill. Allowing blasting will mean that many of the trucks which currently haul stone to the site will no longer need to use the public streets in the area, as long as there is an adequate supply of stone on the site. Further details of this contract zoning proposal will be available at the public meeting.

Dragon has already had several workshop meetings with the Portland Planning Board to discuss this proposal, and has hosted a similar meeting with representatives from area neighborhoods, Mayor Leeman and Sarah Hopkins from the Portland Planning Staff in late June. The neighborhood representatives have requested that Dragon host a meeting for all area property owners and residents, to allow Dragon to describe its proposal in more detail and to allow area residents to voice their concerns. The Planning Board will hold its own public hearing on this proposal on August 1, 2000, and it is hoped that this July public meeting will allow for more information to be given to the public prior to the more formal public hearing.

The City has provided Dragon with a list of all taxpayers who own properties within 2,400 feet of Dragon's site who are receiving this notice.

VERRILL
&
DANA^{LLP}
Attorneys at Law

CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csn@verdan.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

Fax: 756-8258

July 11, 2000

Sarah Hopkins
Planning Department, Basement
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Dragon Products Company, Ocean Avenue
Contract Zoning Proposal

Dear Sarah:

I enclose a proposed Notice that I have prepared for your review. My only question is whether you want your name and/or your phone number in it and/or possibly Brad Kaufmann's name and phone number as someone to contact ahead of time with any questions. As it is currently drafted, that information is not readily available. I have a call in to Brad to see if he wants his name involved or not.

Dave Grinnell has not yet seen this draft so he may have some suggestions, too. As soon as I hear from you Brad, and Dave, I will put the Notice in the mail with the labels you provided to me today. I want to send it out on Wednesday.

Thanks for all of you help.

Sincerely,



Christopher S. Neagle

CSN/csn
Enclosure

cc: David S. Grinnell, Dragon Products Company (fax)

P:\CSN\DRAGON\HOPKINS.faxLTR.wpd

Notice of Public Meeting

To: Portland taxpayers within 2,400 feet of Dragon Products Company Site

From: Dragon Products Company, Inc.

Re: Public Meeting from 7:00 p.m. - 9:00 p.m. on July 19, 2000
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69 Presumpscot Street, Portland

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Dragon has already had several workshop meetings with the Portland Planning Board to discuss this proposal, and has hosted a similar meeting with representatives from area neighborhoods, Mayor Leeman and Sarah Hopkins from the Portland Planning Staff in late June. The neighborhood representatives have requested that Dragon host a meeting for all area property owners and residents, to allow Dragon to describe its proposal in more detail and to allow area residents to voice their concerns. The Planning Board will hold its own public hearing on this proposal on August 1, 2000, and it is hoped that this July public meeting will allow for more information to be given to the public prior to the more formal public hearing.

The City has provided Dragon with a list of all taxpayers who own properties within 2,400 feet of Dragon's site who are receiving this notice.

VERRILL
&
DANA^{LLP}
Attorneys at Law

CHRISTOPHER S. NEAGLE
PARTNER
direct dial: 253-4506
e-mail: cneagle@verrilldana.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

June 30, 2000

To: All individuals who attended Dragon Products Company meeting on June 29, 2000

Re: Dragon Products Company

Greetings:

I had the list of the people who attended our meeting typed up, and looked up addresses and phone numbers to get the most complete information readily available. I assume that John McGorrill can contact Howard Skillings at Ledgewood as necessary.

The preliminary word from City Hall today is that the larger neighborhood meeting we discussed will be pushed back a week until July 19th, and will be held somewhere in the neighborhood. Look for a notice coming from City Hall to everyone who owns property within 2,000 feet of the Dragon Products Company site.

Thank you all for keeping an open mind and listening to the information about the planned changes on Ocean Avenue. We do hope the neighborhood will be improved for everyone's benefit in the long run.

Sincerely,



Chris Neagle

CSN/csn
Enclosure

cc: David S. Grinnell, Vice President, Dragon Products Company
P:\CSN\DRAGON\neighborhood.ltr.wpd

VERRILL
&
DANA^{LLP}
Attorneys at Law

CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csn@verdan.com

ONE PORTLAND SQUARE
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207-774-4000 • FAX 207-774-7499

Hand Delivered

June 22, 2000

Sarah Hopkins
Planning Office, Basement
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Contract Zone

Dear Sarah:

I enclose 10 sets of reduced and colored plans as you requested. Please send me a copy of your memo to the Planning Board for its workshop as soon as it is prepared.

I understand that the Planning Board workshop on June 27th will focus on the language of the proposed contract, so Dave and I do not plan to bring any engineers to that meeting.

Sincerely,



Christopher S. Neagle

CSN/csn
Enclosures
cc: David S. Grinnell, Dragon Products Company
P:\CSN\DRAGON\Hopkins letter.wpd

VERRILL
&
DANA^{LLP}
Attorneys at Law

CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csn@verdan.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

Hand Delivered

June 20, 2000

Sarah Hopkins
Planning Office, Basement
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Industrial Zone

Dear Sarah:

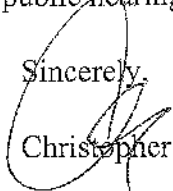
I enclose a copy of the proposed Agreement, after making the changes we talked about at the meeting in City Hall in late May. I have also made the changes to the legal terms recommended by Penny Lattel after she saw my first redraft yesterday. It also has all the relevant Attachments marked.

Attachments 2-4 are the revised plans. I enclose 6 reduced sets of plans, all colored for easier viewing. I also enclose 3 sets of full sized plans. I had intended to get you 6 sets of full sized plans, too, but the copy center only made me 3 when I asked for 6. If you need more sets of full sized plans, let me know and I can get them to you in a day or two.

If you or other members of the Planning Staff want to discuss more changes before the Agreement is sent to the Planning Board members before the June 27th workshop, I will be available all week to respond to your concerns.

For your information, we are hosting a meeting with a representative of all area neighborhoods next Thursday, June 29th at 5:00 p.m. at my office, to discuss the project and plan a second larger meeting at which all area residents will be invited before the Planning Board's public hearing. You or anyone else from the City are welcome to attend either or both meetings. We hope to give out as much information as possible and answer as many neighborhood questions as possible at these meetings, so that the public hearing at the Planning Board will not be a long, drawn out affair.

Sincerely,


Christopher S. Neagle

CSN/csn

Enclosures

cc: David S. Grinnell, Dragon Products Company

P:\CSN\DRAGON\Hopkins letter.wpd

VERRILL
DANA^{LLP}
Attorneys at Law

CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csn@verdan.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

May 18, 2000

Sarah Hopkins
Planning Office
Portland City Hall
389 Congress Street
Portland, ME 04101

Penny Littell
Corporation Counsel
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Industrial Zone

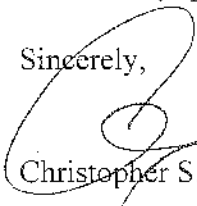
Dear Sarah and Penny:

Pursuant to the comments of the Planning Board and Penny at the last workshop meeting, I have enclosed a new draft of the proposed agreement between the City of Portland and Dragon Products Company, Inc. I have tried my best to incorporate all of the questions and issues that were contained in my notes, but I suspect that either or both of you may have other comments on the planning terms or legal terms of this agreement.

Dragon Products has not yet had a chance to review this text so I reserve the right to suggest other changes after it has had a chance to do so. Note that based on a discussion with the Devitos immediately after the hearing, Dragon agreed to eliminate any blasting on Saturday, limiting its blasting operations to Monday through Friday.

Thanks for all of your help on this file. Call me with any questions.

Sincerely,



Christopher S. Neagle

CSN/csn
Enclosure

cc: David S. Grinnell, Dragon Products Company

P:\CSN\Dragon\Hopkins - Littell letter.wpd

COPY

AGREEMENT BETWEEN

CITY OF PORTLAND

AND

DRAGON PRODUCTS COMPANY, INC.

AGREEMENT made this ____ day of _____, 2000 by and between the CITY OF PORTLAND, a body corporate and politic, located in Cumberland County and State of Maine (hereinafter the "CITY") and DRAGON PRODUCTS COMPANY, INC., a corporation with a business address of 38 Preble Street, P.O. Box 1521, Portland, Maine 04104 (hereinafter "DRAGON").

WITNESSETH:

WHEREAS, DRAGON requested a rezoning of its property located at Ocean Avenue, in Portland, in order to permit the expansion of its existing legally nonconforming mining operation on the site of its legally nonconforming concrete plant; and

WHEREAS, DRAGON'S property is shown on City of Portland Assessor's Parcels: Map 416-A, Block A, Lot 2; Map 417, Block A, Lots 4, 5, 10 and 11; and Map 418, Block A, Lots 1, 3, 4, 5, 6, 9 and 10 ("Property"); and

WHEREAS, the Planning Board of the City of Portland, pursuant to 30-A M.R.S.A. §4352(8), and after notice and hearing and due deliberation thereon, recommended the rezoning of the Property, subject, however, to certain conditions; and

WHEREAS, the CITY by and through its City Council has determined that the rezoning would be pursuant to and consistent with the CITY'S comprehensive land use plan and consistent with the existing and permitted uses within the original R-3 zone; and

WHEREAS, the CITY has determined that because of the unusual nature of the proposed development it is necessary or appropriate to impose by agreement the following conditions or restrictions in order to insure that the rezoning is consistent with the CITY's comprehensive land use plan; and

WHEREAS, the following plans and documents are attached to this Agreement:

Attachment 1: Proposed Dragon Contract Zone Details, revised through _____, 2000.

Attachment 2: Plan View of Proposed Berm, revised through _____, 2000.

Attachment 3: Quarry Entrance with Berm and Merging Lane, revised through _____, 2000.

Attachment 4: Ocean Avenue Longitudal and Cross Sections

Attachment 5: Reclamation Standards for Portland Quarry.

WHEREAS, the CITY authorized the execution of this Agreement on _____, 2000;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The CITY shall amend the Zoning Map of the City of Portland, dated March 1958, as amended and on file in the Department of Planning and Urban Development, and incorporated by reference into the Zoning Ordinance by §14-49 of the Portland City Code, by showing that this contract zone applies to the parcels making up the Property.

2. The Property shall be developed substantially in accordance with the site plans and elevations shown on Attachment 2. DRAGON shall:

a. Relocate the concrete plant, storage silos and related operations away from Ocean Avenue generally as shown on Attachment 2;

b. Locate any rock crusher no closer to Ocean Avenue than the operations area shown on Attachment 2, and enclose any rock crushing operations with a building;

remove be exist
convey belt, diesel depot
from the property
Establish new outdoor storage to crusher area
site/operation area
concrete production facility
stage site
enclosed

c. The existing rock crusher and wall visible from Ocean Avenue shall be removed from the Property;

d. A landscaped berm and fence will be developed on Ocean Avenue as shown on Attachments 2, 3 and 4; and

e. DRAGON shall relocate the entrance driveway to the premises, and shall create a slip lane for slow-moving traffic along Ocean Avenue as indicated on Attachments 2 and 3.

Provided, however, that such development shall be subject to full site plan review and approval by the Planning Board, which may approve modifications to these plans as part of the review process.

3. DRAGON shall only be authorized to establish and maintain the following uses or any combination of the uses on the Property:

a. Mining and crushing of stone for use in manufacture of concrete on the site, provided that such operations are limited to the areas shown on Attachment 2 and further provided that such operations meet the standards set forth in this agreement and established by State and Federal law.

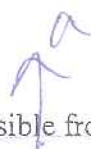
b. Concrete manufacture and processing.

c. Outdoor storage of materials, including rock piles, utilized in the concrete manufacturing, material manufactured on the site (including concrete blocks produced as an incidental part of its operations) and related machinery and equipment, provided that such storage is limited to the areas shown on Attachment 2.

4. Prior to the commencement of any blasting and/or mining, Dragon shall obtain from the City a Certificate of Occupancy, verifying that the site alterations of the project as approved by the Planning Board described in Paragraph 2 have been completed in accordance with this Agreement.

5. If the Certificate of occupancy is not issued within five (5) years of the date of final site plan approval by the Planning Board, this rezoning agreement shall automatically terminate and the land shall automatically revert to the R-3 or any successor zone classification.

6. The existing trees and other natural vegetation in the Permanent Buffer Zone shown on Attachment 1 shall remain in their natural state. This area, or any portion of it, may not be separately conveyed apart from the Property as a whole, while any blasting, mining, concrete manufacturing, or other uses not consistent with the underlying R-3 zone are being conducted on the Property.



more detail on size, plants



stack piles convey extension

f - stormwater mgmt plan for entire site shall be dev.

w/ Ocean + natural



described in PZ + as oth.

app. remaining completed

7. DRAGON shall limit the total number of blasts on the site to a maximum of twenty (20) individual blasts per year. In no event shall more than four (4) individual blasts per month be permitted. All blasting on the site shall occur on Monday through Friday between the hours of 7:00 a.m. and 4:00 p.m. and between the months of March and November.

8. DRAGON agrees to comply with all requirements of the Maine Department of Environmental Protection regarding mining operations on its site, as set forth in 38 M.R.S.A. §§490-W to 490EE, attached hereto and incorporated herein, except, where municipal standards adopted by the CITY which are not otherwise described in this Agreement are more restrictive, the CITY standards shall apply. The MeDEP standards shall include, but not be limited to:

- a. Blasting standards described in §490-Z (14), including preblast surveys as described in subsection (F), sound standards described in subsection (H), vibration standards described in subsections (I) - (K), and blasting records described in subsection (L).
- b. Dust standards described §490-Z (12)
- c. Reclamation standards described in §490-Z (13)

9. Reclamation shall be completed substantially in accordance with the reclamation plan described in Attachment 5; provided, however, that such plan shall be subject to full review and approval by the Planning Board by the Planning Board before being implemented.

10. DRAGON shall hose down its trucks before exiting the site to reduce the amount of debris and residue tracked on the street.

11. DRAGON shall meet all standards contained in sections 14-265, 14-266, and 14-267 of the Portland City Code, except as follows:

- a. No new fence shall be required pursuant to 14-266(6) except as shown on Attachments 2 and 3 and as may be required by the Planning Board during final site plan review.
- b. Outside storage of stone shall not be required to meet the standards of §14-266(10).
- c. Vibration standards in 14-267(3) shall not apply to blasting.
- d. Noise standards in §14-267(2) shall not apply to blasting.
- e. The existing concrete plant shall be allowed to generate 78 decibels along the Ocean Avenue frontage until it is relocated, but shall be limited to 65 decibels of noise as measured at property lines in accordance with the procedures set forth in §14-267(2).

12. Until it has relocated the existing concrete plant, DRAGON shall maintain ownership of the parcels owned by DRAGON east of Ocean Avenue across from the Property, more particularly described as Tax Map 418-A, Block A, Lots 5 and 12 in the records of the Assessor of the City of Portland.

13. If DRAGON sells or transfers the Property to any new owner in the future which wants to continue the blasting, mining and concrete manufacturing operations, then any prospective new owner must receive written approval from the City of Portland Planning Department as to that owners' technical and financial abilities to comply with the terms of this contract.

The above stated restrictions, provisions and conditions are an essential part of the rezoning, shall run with and bind the subject premises, shall bind DRAGON, its successors and assigns, as owner of the Property or any part thereof or interest therein, and any party in possession or occupancy of said Property or any part thereof, and shall inure to the benefit of and be enforceable by the CITY, by and through its duly authorized representatives.

If any of the restrictions, provisions, conditions, or portions thereof set forth herein is for any reason held invalid or unconstitutional by any Court of competent jurisdiction, such portion shall be deemed as a separate, distinct and independent provision and such determination shall not affect the validity of the remaining portions hereof.

Except as expressly modified herein, the use and occupancy of the subject premises shall be governed by and comply with the provisions of the Land Use Code of the City of Portland and any applicable amendments thereto or replacement thereof.

In the event that the CITY claims that DRAGON or any successor has failed to utilize the Property in accordance with this Agreement, or otherwise breached any conditions set forth in this Agreement, the Planning Board shall have the authority, after giving DRAGON a hearing and opportunity to be heard, to determine whether any breach has occurred, before the CITY brings any judicial enforcement action for the breach of this agreement. If it is determined in such judicial enforcement action that DRAGON has breached this Agreement, and DRAGON fails to comply with the Agreement in a timely manner after such judicial determination, then the Planning Board may also make a recommendation to the City Council that this Agreement be terminated, requiring a cessation of the blasting and mining use permitted under this terms of this Agreement; provided that the termination of the contract will not require cessation of the concrete manufacturing and processing uses located on the site prior to the date of execution of this contract, or as relocated pursuant to this Agreement.

WITNESS:

CITY OF PORTLAND

By: _____
Robert B. Ganley
Its City Manager

STATE OF MAINE
CUMBERLAND, ss.

Date: _____, 2000

Personally appeared the above-named Robert B. Ganley, in his capacity as City Manager, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of the City of Portland.

Before me,

Notary Public/Attorney at Law

WITNESS:

DRAGON PRODUCTS COMPANY, INC.

By: _____
Its _____

STATE OF MAINE
CUMBERLAND, ss.

Date: _____, 2000

Personally appeared the above-named _____, in his/her said capacity and acknowledged the foregoing instrument to be his/her free act and deed and the free act and deed of Dragon Products, Inc.

Before me,

Notary Public/Attorney at Law

VERRILL
&
DANA^{LLP}
Attorneys at Law

CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csn@verdan.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

Hand Delivered

April 26, 2000

Sarah Hopkins
Planning Department
Basement
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Dragon Products Company, Ocean Avenue
Contract Zoning Proposal

Dear Sarah:

To supplement the material that I delivered last month, I enclose a copy of an engineer's explanation of the difference between the City and MeDEP vibration standards. As it has been explained to me by the engineer, the simple model to illustrate the difference is the ripples caused by a stone being thrown into a pond.

If you imagine a cork bobbing on the water in the ripples, the displacement (City standard) is the distance that the cork moves up and down, and the peak particle velocity (MeDEP) standard) is the speed by which it moves up and down.

By staying within the MeDEP vibration standards for blasting, the neighbors can be assured that there will be no damage to their homes. Please call me if you have any questions.

Sincerely,


Christopher S. Neagle

CSN/csn
Enclosures

cc: David S. Grinnell, Dragon Products Company

P:\CSN\DRAGON\HOPKINS.LTR

VERRILL
DANA^{LLP}
Attorneys at Law

CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csn@verdan.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

Hand Delivered

April 14, 1998

Sarah Hopkins
Planning Office, Fourth Floor
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Industrial Zone

Dear Sarah:

I have enclosed two copies of the following material for your review:

1. A full sized site plan
2. An aerial photo with property and quarry expansion lines shown
3. A history of ownership of the site as requested by the Planning Board

By tomorrow, I hope to get you an engineers report which measured the noise and vibrations at the Summer Place property line when pre-blast drilling was done and when trucks went by on Ocean Avenue, showing that none of the City limits were exceeded by any of these operations.

I will get you 8 more copies of these documents by next Friday. The revision to the proposed Contract looked great. Call me if you have any questions before the workshop meeting now set for April 28th.

Sincerely,


Christopher S. Neagle

CSN/csn
Enclosure
cc: David S. Grinnell, Dragon Products Company

P:\CSN\DRAGON\HOPKINS.LTR



CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csng@verdan.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

Hand Delivered

March 31, 2000

Sarah Hopkins
Planning Department
Basement
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Dragon Products Company, Ocean Avenue
Contract Zoning Proposal

Dear Sarah:

You asked that I assemble all relevant material in one place, and I have enclosed four copies of each of the following documents:

1. October 29, 1997 Application for Contract Zoning Amendment;
2. Maine DEP Performance Standards for Quarries;
3. 1997 noise study done of the site (with a reduced site plan showing the monitoring locations);
4. Written history of the ownership of the Ocean Avenue site;

All of the above materials have previously been submitted to City Hall. I also enclose the following new documents, and note that there are full sized and reduced copies of each plan:

5. Plan labeled Proposed Dragon Contract Zone Details (Sheet P-1) showing the overall Dragon site to be rezoned with all existing improvements, the general area of the proposed quarry expansion and the proposed permanent buffer zone.

6. Plan labeled Plan of View of Proposed Berm (Sheet 1) showing the general area of the relocated concrete plant and the new berm to be developed on Ocean Avenue;

7. Plan labeled Ocean Avenue Longitudinal and Cross Sections (Sheet 2) showing a proposed elevation of the Ocean Avenue berm and how site lines will make it impossible to see the relocated concrete plant;

8. Plan labeled Quarry Entrance with Berm and Merging Lane (Sheet 3) done to Site Plan Review standards, showing exactly how the area adjacent to Ocean Avenue will be redeveloped.

9. A January 26, 2000 reclamation plan in a text format, together with the credentials of the engineer who designed the reclamation plan.

10. The history of this application showing the significant events of the last four years.

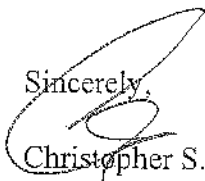
11. A revised draft of the proposed contract. Most of the changes simply reorganize and update the information. As we have discussed, Dragon cannot accept a condition that would terminate the contract zone when Dragon sells the property, as any new owner would not be able to continue with the operations. Given the size of the investment Dragon will be making to relocate its concrete plant, this request from the City seemed unfair. Also, Dragon cannot have the contract zone terminated based on a Planning Board determination of a default, and instead we suggest an arbitration process. I have enclosed the contract in both a "redline" format, showing the changes from the last draft by the City, and also a "clean" format, showing the final text. My client has not yet reviewed this text, so I reserve the right to suggest other changes. I am happy to work with you and the Corporation Counsel's office prior to the Planning Board workshop to address any issues that you may see in this proposal.

On or before Friday April 14, 2000, I will get you an engineering report explaining the differences in the City's vibration standards from those contained in the Maine DEP mining regulations. This report is being worked on right now, and I am confident that it will finally answer this question in a manner that will be easily understood by all.

I understand that Dragon's request is currently on the agenda for the Planning Board workshop on Tuesday, April 25, 2000. We intend to continue forward with no further delays in the process if at all possible.

Please call me if you have any questions.

Sincerely,


Christopher S. Neagle

CSN/csn

Enclosures

cc: David S. Grinnell, Dragon Products Company

VERRILL
&
DANA^{LLP}
Attorneys at Law

CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csn@verdan.com

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499

fax: 756-8258

March 25, 1998

Sarah Hopkins
Planning Office, Fourth Floor
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Industrial Zone

Dear Sarah:

I have enclosed a marked up copy of the first three pages of proposed Contract drafted by Natalie Burns with our comments.

The relocation of the conveyor belts turns out to be a much bigger project that originally anticipated, so Dragon would like 5 years to make that change. We do not feel that Dragon should commit to a specific traffic direction, unless this issue is raised by the neighbors or the Planning Board. If you want to incorporate certain specific sections from the Maine DEP quarry standards, you can simply add the appropriate section numbers. Finally, the exceptions added to section 10 are consistent with our application. A new fence will not add any visual screening given the topography of the site.

Please have Natalie redraft the Contract this week, so we can agree on its text before next Tuesday, March 31st, when we will be submitting a revised site plan and the other material we have discussed.

Call me if you have any questions or comments.

Sincerely,


Christopher S. Neagle

CSN/csn
Enclosure

cc: David S. Grinnell, Dragon Products Company

P:\CSN\DRAGON\HOPKINS.LTR

VERRILL & DANA, LLP

ATTORNEYS AT LAW
ONE PORTLAND SQUARE
P.O. BOX 586
PORTLAND, MAINE 04112-0586
(207) 774-4000
FACSIMILE (207) 774-7499

OFFICES IN:
AUGUSTA, MAINE
KENNEBUNK, MAINE
WASHINGTON, D.C.

CHRISTOPHER S. NEAGLE
PARTNER

February 4, 1998

Sarah Hopkins
Planning Office, Fourth Floor
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: Proposed Dragon Industrial Zone

Dear Sarah:

I have enclosed ten copies of the corrected site plan showing the sound study locations and 10 copies of the corrected area map and site plan, which now accurately reflect the location of the Summer Place project.

I understand we will be heard at the Planning Board workshop scheduled for Tuesday, February 10th, at 3:30 p.m., and again on Tuesday, February 24th at 3:30 p.m.

Call me if you have any questions.

Sincerely,


Christopher S. Neagle

CSN/sab
Enclosures
cc: David S. Grinnell, Dragon Products Company

P:\CSN\DRAGON\HOPKINS.LTR



CHRISTOPHER S. NEAGLE
PARTNER
e-mail: csne@verdan.com

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207-774-4000 • FAX 207-774-7499

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March 25, 1998

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Sincerely,

Christopher S. Neagle

CSN/csn
Enclosure

cc: David S. Grinnell, Dragon Products Company

P:\CSN\DRAGON\HOPKINS.LTR

Post-it® Fax Note	7871	Date	3/2/98
To:	Chris Neagle	From:	Natalie Burns
Co./Dept:	Dennell + Stone	Ct:	City of Portland
Phone #		Phone #	874-8480
Fax #	774-7498	Fax #	

OCEANAV.REZ.COM
02.19.98

3/2/98

NOT YET
REVIEWED
BY STAFF

AGREEMENT BETWEEN
CITY OF PORTLAND

AND

DRAGON PRODUCTS, INC.

AGREEMENT made this day of , 1998 by and between the CITY OF PORTLAND, a body corporate and politic, located in Cumberland County and State of Maine (hereinafter the "CITY") and DRAGON PRODUCTS, INC., a corporation with a business address of 38 Preble Street, P.O. Box 1521, Portland, Maine 04104 (hereinafter "DRAGON").

W I T N E S S E T H:

WHEREAS, DRAGON did request a rezoning of property located at Ocean Avenue, in Portland, in order to permit the expansion of its existing legally nonconforming mining operation and on the site of its legally nonconforming cement plant; and

WHEREAS, the Planning Board of the City of Portland, pursuant to 30-A M.R.S.A. §4352(8), and after notice and hearing and due deliberation thereon, recommended the rezoning of the property as aforesaid, subject, however, to certain conditions; and

WHEREAS, the CITY by and through its City Council has determined that said rezoning would be pursuant to and consistent with the CITY'S comprehensive land use plan and consistent with the existing and permitted uses within the original zone; and

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02.19.98

WHEREAS, the CITY has determined that because of the unusual nature of the proposed development it is necessary or appropriate to impose by agreement the following conditions or restrictions in order to insure that the rezoning is consistent with the CITY's comprehensive land use plan; and

WHEREAS, the CITY authorized the execution of this Agreement on _____, 1998;

NOW, THEREFORE, in consideration of the mutual promises made by each party to the other, the parties covenant and agree as follows:

1. The CITY shall amend the Zoning Map of the City of Portland, dated March 1958, as amended and on file in the Department of Planning and Urban Development, and incorporated by reference into the Zoning Ordinance by §14-49 of the Portland City Code, by adopting the map change amendment shown on Attachment 1. *(what is this?)*

Dragon site plan?

2. The property shall be developed substantially in accordance with the site plan and elevations shown on Attachment 2; provided, however, that such plan and elevations shall be subject to full site plan review by the Planning Board. *if required by City ordinances.*

mining of stone for use in manufacture of concrete on the site

3. DRAGON shall be authorized to establish and maintain only those uses or any combination of the uses listed below:

a. ~~mining operations~~, provided that such operations are limited to the areas shown on Attachment 2 and further provided that such operations meet the standards set forth herein and established by State and Federal law.

b. ~~concrete~~ concrete manufacture and processing.

c. Storage of materials utilized in the manufacturing allowed on the site, material manufactured on the site and related machinery and equipment, provided that such storage is limited to the areas shown on Attachment 2. Rock storage shall be relocated from

d. noise standards in §267(2) shall not apply to blasting.
e. The concrete plant shall be allowed to generate upto 70 decibels along Ocean Avenue. Otherwise, only 65 decibels of noise shall be allowed at property lines.

The Buffer strip shall remain in its existing natural condition.

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02.19.98

its current site to the areas shown on Attachment 2.

- 4. DRAGON shall relocate the rock crusher from its current location to the rear of the site, as indicated on Attachment 2.
- 5. DRAGON shall relocate the conveyor belt to the concrete plant to the rear of the site, as indicated on Attachment 2, within 5 years of this Agreement.
- 6. DRAGON shall limit the total number of blasts on the site to a maximum of twenty (20) individual blasts per year. All blasting on the site shall occur between the hours of 7:00 a.m. and 4:00 p.m., ~~and~~ between ~~March~~ and November, ~~those days~~ ^{March}.
- 7. DRAGON shall ~~wash trucks~~ on the site to reduce the amount of debris and residue tracked on the street.
- 8. DRAGON shall route all trucks exiting the site and traveling inbound to Portland to Presumpscot Street, unless such trucks are making deliveries to sites located between this site and Washington Avenue, or unless Presumpscot Street is unavailable for truck traffic due to road maintenance or construction.
- 9. DRAGON agrees to comply with all requirements of the Maine Department of Environmental Protection regarding mining operations on its site, including but not limited to blasting, as set forth in 38 MRSA §§490-W to 490EE.
- 10. DRAGON shall meet all standards contained in sections 14-265, 14-266, and 14-267, unless such standards are explicitly amended herein.
- 11. DRAGON shall maintain ownership of all property currently owned by it at this site and also the parcel owned by Dragon and located across Ocean Avenue from this site.

delete

(do you want to add specifics from noise vibration blasting + reclamation?)

The above stated restrictions, provisions and conditions are an essential part of the zoning, shall run with the subject premises, shall bind DRAGON, its successors and assigns, as permitted by this Agreement, of said property or any part thereof or interest therein, and any party in possession or occupancy of

map 415r
Block A
Lots 5
+ 12)

- except as follows: a. No new fence shall be required pursuant to §266(6).
- b. Outside storage of stone shall not be required to meet the standards of §266(10).
- c. Vibration standards in §267(3) shall not apply to blasting

APPLICATION FOR ZONING AMENDMENT
CITY OF PORTLAND, MAINE

Attachment 2

DATE October 29, 1997

TO THE CITY PLANNING BOARD, CITY HALL, PORTLAND, MAINE 04101:

The undersigned hereby requests that you consider whether it would be consistent with the comprehensive plan of the City of Portland, Maine, and make appropriate recommendation for action by the City Council concerning the following proposed amendments to the Zoning Ordinance of the City of Portland, Maine:

A. ZONING MAP AMENDMENT:

FROM R-3 ZONE TO Contract ZONE

The property situated on Ocean ~~Street~~/Avenue
between Presumpscot ~~Street~~/Avenue and Washington ~~Street~~/Avenue
on West side(s).

Assessor's Reference (Chart, Block and Lot) for the property is as follows:

415-A-4, 8, 9; 416A-A-2; 417-A-4,5,10,11; and 418-A-1, 3, 4, 5, 6, 9,
10

1. What original deed restrictions, if any, concerning the type of improvements and class of uses permitted were placed on the property involved? Give date restrictions expire:

None

2. Description of the existing use of property: stone quarry and
concrete manufacturing facility

3. Description of the proposed use of property: stone quarry and
concrete manufacturing facility

4. Area of Lot(s): 38.4 acres

Total Floor Area: N/A

5. Street Address of Property Involved	Property Owner and/or Name of Option Holder	Date of Acquisition
<u>960 Ocean Avenue</u>	<u>Dragon Products, Inc.</u>	<u>1991</u>

6. Submission of a site plan, as required in Article V of the Municipal Code.
7. Submission of plans and addresses of property owners abutting the subject property.

B. ZONING TEXT AMENDMENT:

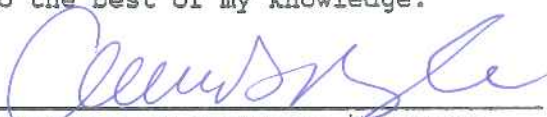
1. Section of Ordinance to be amended: _____
2. Proposed text amendment - Attach on separate sheet the exact language being proposed, including existing relevant text, in which language to be deleted is depicted as crossed out (example), and language to be added is depicted with underlined (example).
3. Brief statement of the purpose of the proposed amendment.
4. If the amendment is intended to facilitate a development, reuse, alteration, addition or modification to a specific property, fill out the sections above under ZONING MAP AMENDMENT.

A fee for this application for a zoning amendment will be charged in accordance with Section 14-54 of the Municipal Code (see copy attached). The applicant also agrees to pay all costs of publication (or advertising) of the Public Hearing Notice as required for this application. Such amount will be billed to the applicant following the appearance of the advertisement.

The above information and the attached lists of property -- owners in the vicinity are true and accurate to the best of my knowledge.

October 29, 1997

Date of Filing



 Signature of Applicant/Attorney

Dragon Products Company

 Address of Applicant

38 Preble Street, P.O. Box 1521
 Portland, ME 04104

 City State ZIP

WITHDRAWAL: In the event of withdrawal of the zoning amendment application by the applicant prior to the submission of the advertisement copy to the newspaper to announce the public hearing, a refund of two-thirds of the amount of the zone change fee will be made to the applicant by the City of Portland.

Portland Planning Board
 Portland, Maine

Effective: April 11, 1988

PROPOSED DRAGON PRODUCTS INDUSTRIAL ZONE

LIST OF ABUTTING PROPERTY OWNERS

(according to City Assessor's records)

<u>OWNER</u>	<u>TAX MAP and LOT NUMBER</u>
City of Portland 389 Congress Street Portland, ME 04101	417-A-9
Cook Concrete 169 Portland Street Boston, MA 02114	417-A-6 418-A-8 415-A-3 415-A-11
Patricia M. J. O'Rourke 852 Ocean Avenue Portland, ME 04103	416A-A-1 (848-858 Ocean)
Federal Deposit Insurance Corp. P. O. Box 1416 Portland, ME 04104	416A-A-3 (840-846 Ocean)

PROPERTIES ACROSS OCEAN AVENUE

Linwood Farnsworth Mildred Farnsworth 903 Ocean Avenue Portland, ME 04103	418A-A-1,11
Vincent G. Devito Ethel H. Devito 474 Presumpscot Street Portland, ME 04103	418A-A-2
Dragon Products Company (applicant) 38 Preble Street, P. O. Box 1521 Portland, ME 04104	418A-A-5, 12

APPLICATION FOR ZONING AMENDMENT
CITY OF PORTLAND, MAINE

DATE October 29, 1997

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|--|---|---------------------|
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The above information and the attached lists of property -- owners in the vicinity are true and accurate to the best of my knowledge.

October 29, 1997

Date of Filing



 Signature of Applicant/Attorney

Dragon Products Company

 Address of Applicant

38 Preble Street, P.O. Box 1521
 Portland, ME 04104

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Portland Planning Board
 Portland, Maine

Effective: April 11, 1988

DRAGON INDUSTRIAL ZONE

1. **Site History:** Dragon Products Company owns approximately 38 acres west of Ocean Avenue adjacent to the old City dump. This property appears on sections of Tax Maps 415, 416A, 417 and 418.

The Dragon Products Company site consists of a stone quarry and a concrete manufacturing facility, which have been operated continuously on the Ocean Avenue site since at least 1934. The site has been known as the Cook's Concrete Plant, and was purchased by Dragon in 1991. The manufacture of concrete is a process of mixing stone, cement and water.

The facility is assessed by the City Assessor at more than \$1,300,000 and generates about \$33,500 in annual real estate tax revenues for the City.

2. **City Zoning:** The site has been zoned R-3 since the City first adopted zoning, as shown on the 1958 zoning map attached. The facility has operated continuously as a non-conforming use since that time.

The City of Portland Comprehensive Plan, originally written in 1974, states that "Cook's Quarry, an extractive use, is presently located in the R-3 Residential Zone adjacent to the dump, and should be included in the expanded Industrial Zone."

The 1993 City Industry and Commerce Plan Advisory Committee (ICPAC) recommended that the City provide a number of incentives "to promote growth of the industry and commerce sector in Portland". The City followed up on the ICPAC report with a review and revision of its industrial zoning. Dragon Products participated in that process and presented proposals for a rezoning of its property as part of the overall industrial rezoning. However, the Planning Board decided that the issues surrounding this site were too complex to be dealt with as part of the overall industrial rezoning, and encouraged Dragon to make a separate application. The only opposition that surfaced during that process was opposition from the Summer Place residents. The Summer Place site is diagonally across the street on Ocean Avenue, and was rezoned from industrial to residential in 1995. At the time, everyone was fully aware of the adjacent industrial use on the Dragon site.

3. **Proposed Contract Zone:** Dragon's only goal in this application is to clarify that it may mine stone from its site to use in its concrete manufacturing process. An argument exists that it may mine this stone as a continuation of the operation of its non-conforming use, but Dragon would prefer to be in a zone where it is a permitted use. No change in its concrete manufacturing operations is planned.

As shown on the attached site plan, Dragon Products proposes rezoning most of its site from R-3 to what is described as a "Dragon Industrial Zone". Dragon proposes to leave some of its site zoned R-3, establishing a 275 foot strip of land along Ocean Avenue, a 200 foot wide strip along its neighbor to the southwest and a 100 foot wide strip adjacent to the former City dump property. The proposed zone would incorporate all standards of the existing IH Industrial Zone with the following exceptions:

a. Use: The new permitted use would be for "concrete plants, including mining of stone for use of manufacture of concrete on the site".

b. Maine DEP Standards: All provisions of the attached 1996 Maine DEP Performance Standards for Quarries would be incorporated into the new zone, replacing particular sections of the City of Portland IH Zone, including:

(1) Vibration limits would be as set forth in the Maine DEP quarry standards.

(2) Noise limits for the concrete manufacturing plant would be 78 decibels along Ocean Avenue and 65 decibels at other property lines. Noise limits for blasting would be as set forth in Maine DEP quarry standards.

These standards provide many protections for the neighborhood, including groundwater protection, natural resources protection, reclamation standards, and detailed requirements for blasting, including pre-blast surveys of nearby buildings. Dragon intends to comply with these MeDEP standards in all respects.

4. Technical Information: Dragon has obtained the following technical information to assist in the process:

Noise Study. A noise study conducted during 1997 is attached to this application. It is important to note that when the first noise measurements were taken, at a time when the plant was shut down, there was 66 decibels of noise measured directly across the street from plant and 62 decibels of noise at the nearest neighbor. The noise was generated almost exclusively by the road traffic on Ocean Avenue, also known as Route 9, a busy street even on weekends.

When the concrete manufacturing plant was in full operation, measurements were generally 65 decibels or less at all property lines. The only exception was on Ocean Avenue near the plant, where the decibels measured up to 76 when the plant was in full operation. Note that even when the plant was in full operation, the highest noise level at the Summer Place property was 63 decibels, less than even the IL industrial standards adopted by the City.

Truck Traffic: The primary source of noise and vibrations for neighbors in this operation is probably the trucks which go to and from the facility along Ocean Avenue. Generally speaking, there are trucks that deliver cement, trucks that deliver stone, and trucks that take the manufactured concrete from the plant to various job sites.

Allowing Dragon to continue mining its stone will reduce the traffic by reducing the number of trucks that need to haul stone to the site. During a typical concrete production season from April through November, an average of 13 to 26 trucks haul stone on a daily basis. That means a total of 26 to 52 daily trips on Ocean Avenue since its truck needs to deliver the stone and then leave. Allowing Dragon to mine stone from its site will eliminate these truck trips from Ocean Avenue while the mining operations are in progress, reducing noise and vibrations in the neighborhood at large.

5. Summary: The portion of the facility that manufactures concrete has been a continuous operation since the 1930's and will continue operating indefinitely into the future. Whether Dragon mines more stone from its site or not, this manufacturing facility will continue operating as long as there is a demand for concrete in the Greater Portland area. The rezoning will allow the facility to continue operating as a permitted use (as opposed to a non-conforming use) and will also allow Dragon to mine stone from its site in accordance with Maine DEP guidelines.

P:\CSN\DRAGON\CONTRACT.ZNE

PROPOSED DRAGON PRODUCTS INDUSTRIAL ZONE

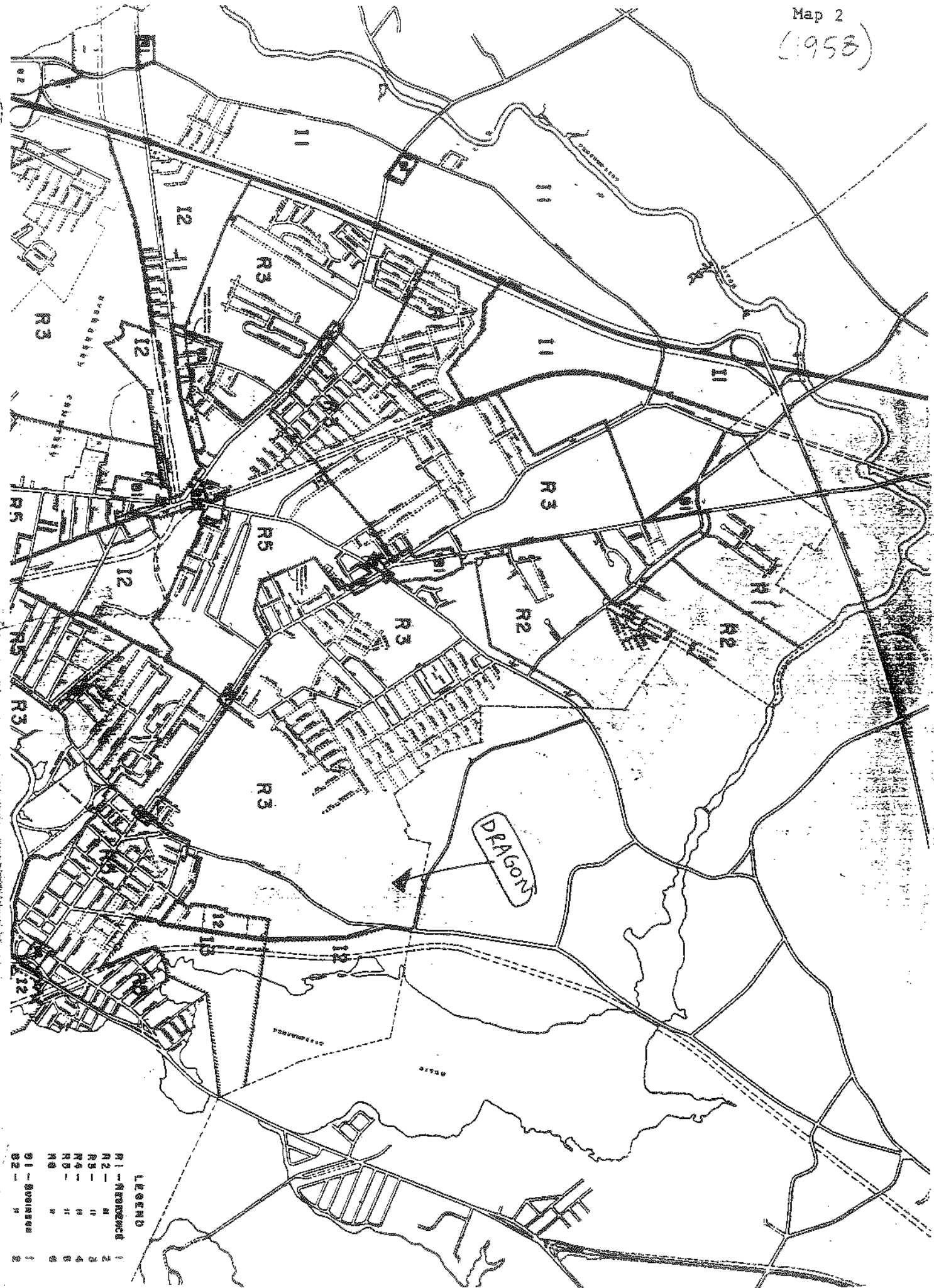
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Dragon Products Company (applicant) 38 Preble Street, P. O. Box 1521 Portland, ME 04104	418A-A-5, 12



LEGEND

R1 - Residential Single-Family	1
R2 - Residential Medium-Density	2
R3 - Residential Medium-Density	3
R4 - Residential Medium-Density	4
R5 - Residential Medium-Density	5
I1 - Industrial	6
I2 - Industrial	7
01 - Business	1
02 - " "	2

City of Portland Planning Department

389 Congress Street, 4th Floor
Portland, ME 04101
(207)874-8721 or (207)874-8719
Fax: (207)756-8258

FAX TRANSMISSION COVER SHEET

Date: _____

To: Chris Neagle

Company: Verrill & Dana

Fax #: 774 7499

From: Sarah Hopkins

RE: _____

YOU SHOULD RECEIVE 51 PAGE(S),
INCLUDING THIS COVER SHEET.
IF YOU DO NOT RECEIVE ALL THE PAGES,
PLEASE CALL (207)874-8721 OR (207)874-8719.

Attachment 3

Chapter 85 BLASTING

- | | |
|--|--|
| <p>§ 85-1. Purpose.</p> <p>§ 85-2. Statutory authority; administration; effect on other regulations.</p> <p>§ 85-3. Definitions.</p> <p>§ 85-4. Permit required; applications; hearings; fees; bond and insurance.</p> <p>§ 85-5. Performance standards.</p> | <p>§ 85-6. Notices.</p> <p>§ 85-7. Instrumentation.</p> <p>§ 85-8. Inspection and monitoring.</p> <p>§ 85-9. Records.</p> <p>§ 85-10. Compliance schedule.</p> <p>§ 85-11. Exceptions based on undue hardship.</p> <p>§ 85-12. Violations and penalties.</p> <p>§ 85-13. Severability.</p> |
|--|--|

[HISTORY: Adopted 1-23-1991 by the Special Town Meeting of the Town of Topsham, Art. 3, as Ch. 18 of the Topsham Code. Amendments noted where applicable.]

GENERAL REFERENCES

Building construction — See Ch. 91.

§ 85-1. Purpose.

- A. Unregulated blasting may cause undue psychological, physical or nuisance damage to the people and environment of the community. Blasting is an activity essential to the economic viability of Topsham.
- B. Through the establishment of standards, notice requirements and instrument monitoring of blasting operations it is intended to minimize the effects of airblast overpressure, ground vibration, dust and noise associated with blasting which may be detrimental to individuals and the community in the enjoyment of life, property and the conduct of business.
- C. It is intended to prevent permanent damage to the geologic, hydrogeologic and wildlife resources and ecological balance in the region, and to have a chapter which can be effectively and efficiently administered without causing undue financial and administrative hardship to blasting operators.

§ 85-2. Statutory authority; administration; effect on other regulations.

- A. This chapter is enacted pursuant to 30-A M.R.S.A. § 3001 and shall be administered by the Codes Enforcement Officer, Town Planner and the Planning Board of the Town of Topsham.

§ 85-2

TOPSHAM CODE

§ 85-3

- B. The requirements of this chapter are in addition to any other ordinances, regulations and statutes, and where different standards are contained elsewhere, the more restrictive standards shall apply.
- C. This chapter in no way replaces or negates the requirements pertaining to explosives as contained in the Fire Prevention Code of the American Insurance Association, 1970 Edition, as the same may be amended, or any rule or regulation of any governmental agency.

§ 85-3. Definitions.

As used in this chapter, the following terms shall have the meanings indicated:

AIRBLAST — An airborne shock wave resulting from detonation of explosives. "Airblast" may be caused by burden movement or the release of expanding gas into the air. "Airblast" may or may not be audible.

APPLICANT — The person, company or corporation responsible for managing and conducting blasting operations.

BLASTING — Any activity entailing the use of explosives for the purpose of producing an explosion to demolish structures or to fragment rock for mining, quarrying, excavation and construction.

BLASTING OPERATIONS — Herein defined to mean drilling and site preparation for blasting, and detonation itself.

DECIBEL — The unit of sound pressure commonly used to measure airblast from explosives. The decibel scale is logarithmic.

EXPLOSIVES — Any substance, chemical compound or mechanical mixture that is commonly used for the purpose of producing an explosion to fragment rock for mining, quarrying, excavation and construction. Initiating devices (detonators, detonating cords, etc.) are also included under this definition.

FLYROCK — Rock that is propelled through the air or along the ground as a result of the detonation of explosives.

GROUND VIBRATIONS — A shaking of the ground caused by the blast wave emanating from a blast.

HERTZ — A term used to express the frequency of ground vibrations and airblast. One (1) "hertz" is one (1) cycle per second.

PARTICLE VELOCITY — A measure of ground vibration. "Particle velocity" describes the velocity at which a particle of ground vibrates when excited by a seismic wave. It is measured in inches per second.

SEISMOGRAPH — An instrument that measures and may supply a permanent record of earthborn vibration induced by blasting.

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§ 85-4. Permit required; applications; hearings; fees; bond and insurance.

A permit shall be obtained prior to any blasting with explosive devices or materials for any purpose within the boundaries of the Town of Topsham.

- A. Applications for a permit may be obtained in the Planning Office. Permits shall be issued by the Codes Enforcement Office. Permits for removal of a total of 300 cubic yards or less of material per project will be issued by the Codes Enforcement Officer following review and approval by the Town Planner. Applications for blasting and removal of more than 300 cubic yards of material total per project must be reviewed by the Planning Board. For the purposes of this chapter, the "project" shall include all blasting anticipated to be undertaken during the completion of a contract or series of contracts, for demolition, excavation or construction, or during the anticipated life of a quarry operation. Applications for the Planning Board shall be transmitted to the Board for review at the next available meeting.
- B. Applications shall contain the following information:
- (1) The name of the applicant.
 - (2) The name of the property owner.
 - (3) The general contractor.
 - (4) The locations of the proposed blasting activity.
 - (5) The total number of cubic yards of material to be removed by blasting.
 - (6) An estimate of the number of blasts required to remove the specified amount of material.
 - (7) A description of the project for which the blasting is being undertaken.
 - (8) Adjacent land uses.
 - (9) The location of adjacent structures and distance to those structures.
 - (10) The projected dates work is to be undertaken.
 - (11) Any other studies or information deemed necessary by the Codes Enforcement Officer, Planner or the Board, which may include but not limited to:
 - (a) Preblast assessment.
 - (b) Hydrological studies.
 - (c) Geological studies.
 - (d) Test wells.
 - (e) Hours of blasting.
 - (f) Seismographs.
- C. Upon receipt of a completed application, the Planner and the Codes Enforcement Officer shall review and act upon the application within 10 calendar days or forward the

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application to the Planning Board within 10 calendar days as appropriate under § 85-4A of this chapter.

- (1) If the application is forwarded to the Planning Board, the Board shall review and act upon the application within 30 days of transmittal of a completed application.
- (2) The Board may approve, approve with conditions or deny the application based on the performance standards contained herein and in Chapter 225, Zoning. The applicant must be notified in writing by first class mail within 10 days of the decision.

D. Public hearing. A public hearing shall be held on the application.

- (1) All abutting property owners and/or those property owners within 250 feet of the property line of the property for which the permit is requested shall be notified by first class mail at least 10 days prior to the date of the hearing. A list of names and mailing addresses shall be provided as part of the application. Such notification shall be the responsibility of the applicant, and evidence of such notification shall be provided to the Planning Board.
- (2) Notification of the public hearing shall be given in a newspaper of local publication twice, the first time being at least seven days prior to the date of the hearing. Cost of this publication will be paid by the applicant.

E. Fees. The application fee shall be \$10 for each application involving less than 50 total cubic yards, \$50 for each application involving 50 to 300 total cubic yards and \$100 for each application for blasting and removal of more than 300 total cubic yards. [Amended 1-30-1997 STM, Art. 10]

F. Bond and proof of insurance.

- (1) The applicant and/or the blaster may be required to post a bond in an amount to be determined by the Planning Board for those cases reviewed by the Board.
- (2) The applicant and/or the blaster shall present proof of liability insurance in a minimum amount of \$1,000,000 combined single limit per occurrence, except for agricultural purposes by an individual on his own property using binary explosives.

G. Effective period. Permits shall be effective for no more than 365 days from the date of approval. For blasting operations the scope of which exceeds one year, renewal of the permit shall be accomplished by reapplying in accordance with the procedure for a new permit, except that a public hearing may be held to review past compliance with the standards contained herein and any effects on existing uses and property owners in the vicinity of such blasting operations.

§ 85-5. Performance standards.

- A. Hours of detonation. Hours of detonation shall be limited to daylight hours, no earlier than 7:00 a.m. or later than 7:00 p.m. Monday through Friday inclusive, except by special exception as in § 85-11 of this chapter, excluding the following legal holidays: New Year's, Memorial Day, Fourth of July, Labor Day, Thanksgiving and Christmas.

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- B. Water quality protection. Water is a precious resource and measures shall be taken to protect groundwater quality. Water quality shall be as found in the nearest nonowned well within 250 feet from the property line or as determined by the Town Planner or Planning Board and from post-blast testing results. Post-blast testing shall be done no sooner than 24 hours or no later than 48 hours following a blast. Turbidity in wells tested shall be no greater than that which existed prior to the blasting as established in the preblast survey if such survey has been completed.
- C. Ground vibration.
- (1) [Amended 1-30-1997 STM, Art. 10] Peak particle velocity limits (inches per second) not to be exceeded at any time:
 - (a) Quarries:
 - [1] Up to 30 Hertz: 0.5 inches per second.
 - [2] More than 30 Hertz: 1.0 inches per second.
 - (b) Other:
 - [1] Up to 30 Hertz: 0.5 inches per second.
 - [2] Thirty-one to 40 Hertz: 1.0 inches per second.
 - [3] More than 40 Hertz: 2.0 inches per second.
 - (2) Ground vibration shall be measured as particle velocity. Particle velocity shall be recorded in three mutually perpendicular directions. The maximum allowable peak particle velocity shall apply to each of the three measurements. [Amended 5-20-1998 STM, Art. 29]
 - (3) A seismographic record shall be provided for each blast as required by the Codes Enforcement Officer, Town Planner and/or the Town of Topsham Planning Board. The applicant shall be responsible for such record and for providing proper instrumentation as specified in this chapter. Personnel conducting such monitoring shall be properly trained in the operation of the equipment being used. [Amended 1-30-1997 STM, Art. 10]
- D. Airblast overpressure. [Amended 1-30-1997 STM, Art. 10]
- (1) Level not to be exceeded at any time: 133 peak dB (linear) two Hertz high-pass system.
- E. The requirements established herein apply to any property of concern as determined by the Town Planner or Planning Board but no closer than the property line of property under the control, through ownership or lease or other contractual arrangement, or persons having blasting operations performed. [Added 1-30-1997 STM, Art. 10¹]
- F. The applicant shall also comply with all standards and conditions contained in other permits issued for such projects and local, state and federal statutes and regulations. The requirements established herein shall be measured at the property line of the applicant or at

¹ Editor's Note: This article also provided for the relettering of former Subsection E as Subsection F.

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the closest building(s) on abutting properties as determined by the Code Enforcement Officer, Town Planner and/or Planning Board. [Amended 5-21-1997 STM, Art. 23]

§ 85-6. Notices.

- A. All blasting operations greater than 300 total cubic yards shall have notice of such blasting published in a newspaper of local publication and mailed by first class mail to all property owners within 250 feet of the blasting property 10 days prior to the intended date of the commencement of blasting. Notice shall include the description of the blasting signals to be used during the operation and an address and telephone number where property owners may request further information and notification. Any property owner requesting further notification shall do so in writing to the person conducting the blasting operation. [Amended 1-30-1997 STM, Art. 10]
- B. [Amended 5-21-1997 STM, Art. 24] Any person intending to detonate explosives shall first notify the Codes Enforcement Officer or his duly authorized representative that a blast is planned. Such notification shall be received at least 24 hours prior to the planned detonation and shall give the time (within two hours), location where the blasting is to be done, the amount of explosives to be used and the name and business address of the person responsible for the blasting operation. Additional notification shall be received at least one hour prior to the planned detonation and shall give the time (within ± 30 minutes). The notification may be given orally over the telephone; however, the burden of proof as to whether the notification was in fact received rests with the person responsible for the blasting operation.
- (1) Prior to any blast, the person responsible for the blast shall inform all property owners, who have requested in writing to be so informed, of the impending blast. Such notification shall be given by telephone 24 hours prior to the blast stating the time of the blast \pm one hour. The burden of proof as to whether the notification was in fact received rests with the person responsible for the blasting operation.
 - (2) Notification requirements for blasting operations of less than 300 total cubic yards shall be determined by the Town Planner.

§ 85-7. Instrumentation.

All seismographs used for compliance with this chapter shall meet the following minimum specifications:

- A. Seismic frequency range: two to 200 Hz (\pm three \pm Hz).
- B. Acoustic frequency range: two to 200 Hz (\pm one \pm db).
- C. Velocity range: 0.02 to 4.0 inches per second.
- D. Sound range: 110 to 140 dB linear.
- E. Transducers: three mutually perpendicular axes.
- F. Recording: provide time-history of waveform.

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- G. Calibration: be laboratory calibrated as often as necessary, but at least once every 12 months according to manufacturer's recommendations.

§ 85-8. Inspection and monitoring.

The Codes Enforcement Officer or his authorized representative may conduct tests and observe any authorized blasting operations, and may also order that additional ground vibration and airblast overpressure measurements using approved instrumentation be made by persons responsible for blasting operations to ensure that the limits specified in § 85-5 are not exceeded.

§ 85-9. Records.

Persons responsible for blast operations shall maintain a record of each blast. All records shall be retained at least three years following cessation of the blasting operation, and shall be available for inspection by the Codes Enforcement Officer and shall contain the following minimum data:

- A. The name of person responsible for the blasting operation.
- B. The location, date and time of blast.
- C. The names of blaster in charge.
- D. The type of material blasted.
- E. The number of holes, burden and spacing.
- F. The diameter and depth of holes.
- G. The types of explosives used.
- H. The amount of explosives used.
- I. The maximum amount of explosives per delay period of eight milliseconds or greater.
- J. The maximum number of holes per delay period of eight milliseconds or greater.
- K. The method of firing and type of circuit.
- L. The weather conditions (including such factors as wind direction, cloud cover, etc.).
- M. The height or length of stemming.
- N. If mats or other protections were used.
- O. The type of detonators used and delay periods used.
- P. Seismograph and airblast readings when measured and from where measured.

§ 85-10. Compliance schedule.

- A. For blasting operations existing at the time of adoption of this chapter where this chapter is more restrictive, a grace period of six months will be granted wherein such operations will

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be "grandfathered" in order to bring existing operations in line with this chapter. Six months after the adoption of this chapter all preexisting blasting operations shall also be brought under the provisions of this chapter.

- B. A complete review of all activities under this chapter shall be undertaken by the Codes Enforcement Officer and the Town Planner 12 months after adoption of this chapter to determine if the levels are adequate and reasonable to achieve the purpose for which this chapter is intended. The results of this review shall be reported to the Chairman of the Board of Selectmen of the Town of Topsham and the Chairman of the Planning Board of the Town of Topsham.

§ 85-11. Exceptions based on undue hardship.

Applications for a permit for exception from the performance standards designated in this chapter may, on the basis of hardship, be made to the Codes Enforcement Officer. Any permit granted hereunder shall contain all conditions upon which said permit has been granted and shall specify a reasonable time that the permit shall be effective.

- A. The Codes Enforcement Officer may grant the exception as applied for only if:

- (1) The activity or operation will be of a temporary duration, i.e., a limited number of blasts at a specific site, and cannot be done in a manner that would comply with this chapter;
- (2) No other reasonable alternative is available to the applicants; and
- (3) The applicants represent, and the Codes Enforcement Officer finds, that blasting as permitted will not violate recognized safety standards.

- B. Upon the issuance of any exception permit, the Codes Enforcement Officer may prescribe any reasonable conditions or requirements he deems necessary to minimize adverse effects upon the community.

§ 85-12. Violations and penalties.

The submission of false information required by this chapter or the violation of this chapter or the violation of any condition attached to a permit granted under this chapter shall constitute a land use violation and be penalized in accordance with 30-A M.R.S.A. § 4452.

§ 85-13. Severability.

If any provision of this chapter is declared unconstitutional or held invalid, it shall not affect any other section, clause or provision thereof, but the same shall remain in full force and effect.

ATT 4

October 15, 2001

Mr. Jaimey Caron
Chair, Portland Planning Board
City of Portland
City Hall
389 Congress Street
Portland, ME 04101

Dear Mr. Caron:

On May 29, 2000, the residents of Summer Place wrote to express our opposition to Dragon's Contract Zoning Agreement. A copy of that letter is attached hereto by way of reference. In the intervening time, our representatives have attended various neighborhood meetings and workshops concerning this proposed change. Our representatives have reviewed the various engineering reports and other data made available to us along with contract changes proposed by Dragon and the Portland Planning Board.

Notwithstanding your board's efforts to make this proposal attractive and acceptable to the neighborhoods by imposing certain requirements, restrictions, limitations and other conditions on Dragon, we steadfastly maintain our view that the improvements proposed in the plant appearance, plant location and operations and traffic, to mention a few key requirements, do not compensate for the degradation in the quality of our lives which would occur if the Contract Zoning Agreement is approved and Dragon is permitted to commence blasting and mining operations. Therefore, we urge the board to reject and deny this proposal based on the following:

The property is currently zoned R-3

The property was acquired on speculation in 1962 and 1985

Expansion of a non-conforming use should be prohibited

The proposed use is incompatible with the residential developments and subdivisions approved in the 1980's and 1990's

The proposed use is inconsistent with Portland's Comprehensive Plan

Portland needs to "protect neighboring residential zones" and "promote compatible development"

The proposed use would not be permitted in a heavy impact industrial zone, much less a residential zone

Dragon cannot meet existing performance standards with respect to vibration or noise

Structural damage to some neighborhood homes will almost certainly occur over the blast period for 20 to 30 years

The proposal is inconsistent with our vision of Portland, and Portland's vision of Portland

There are numerous other reasons (legal, political and moral) why this proposal should be rejected and denied, but the above certainly represent sufficient grounds for the Portland Planning Board to do so, in our collective opinion. Please do so forthwith.

Thank you for your consideration of our position on this matter.

David Seaman

A handwritten signature in black ink, appearing to read "David T. Seaman", with a long horizontal flourish extending to the right.

President
Summer Place Association
37 Summer Place
Portland, Maine 04103

cc: The Honorable Cheryl Leeman, Mayor
Alexander Jaegerman, Chief Planner

10/9/01

Ms. Sarah Hopkins,

Cheverus High School built a parking lot & they had blasting. I do not have the finances to get a lawyer, but my sewer collapsed costing me \$3500. my neighbor had his garage floor cracked from the blasting.

The insurance company for the blasting company hired 6 engineers to say this was not their fault.

My house shook I thought it was collapsing. I cannot afford to get my own group of engineers to check this out & I cannot get a lawyer.

I bet if you checked in the Back Cove area other homeowners had their property damaged. My other neighbor Mrs. Fallowitch had his sewer pipe collapse. He lives right on the Blvd.

I am just so frustrated, I should get my \$3500 back but I cannot put out another \$2500 for a lawyer.

10/9/01

Ms. Sarah Hopkins,

Cheverus High School built a parking lot & they had blasting. I do not have the finances to get a lawyer, but my sewer collapsed costing me \$500. my neighbor had his garage floor cracked from the blasting.

The insurance company for the blasting company hired "engineers" to say this was not their fault.

My house shook I thought it was collapsing. I cannot afford to get my own group of engineers to check this out & I cannot get a lawyer.

I bet if you checked in the Back Cove area other homeowners had their property damaged. My other neighbor Mr. Fallowitch had his sewer pipe collapse. He lives right on the Blvd.

I am just so frustrated, I should get my \$500 back but I cannot put out another \$2,500 for a lawyer.

I think the people near Drayon
should be aware of the damage
they will received.

I think I will call John Gutwien
& let him know what happened
to us.

Thank you,

Andrea Nesulitova
51 George St
Portland, Me 04103

Bradley L. Kauffman
776 Ocean Avenue
Portland, ME 04103

Jaimey Caron
Chair, Portland Planning Board
City Hall
389 Congress Street
Portland, ME 04101

October 9, 2001

Dear Mr. Caron,

My wife and I live at 776 Ocean Avenue, just down the road from Dragon Products. I am writing in regard to Dragon's proposal to resume blasting and mining at its Ocean Avenue facility. This letter expands upon the remarks that I offered at the workshop on September 25th.

Though the facts of this case are complex, the bottom line is simple: Dragon's proposal fails to meet two specific legal requirements for the creation of a contract zone. Accordingly, I urge the Planning Board to reject Dragon's proposal at the upcoming public hearing on October 23rd.

A. 30-A M.R.S.A. Section 4352(8):

Section 4352(8) of Title 30-A authorizes the creation of contract zones. However, Section 4352(8)(B) requires that contract rezoning: "Establish rezoned areas that are *consistent* with the existing and permitted uses within the original zones." (Emphasis added). Obviously, it is the intention of Section 4352(8) to allow the flexibility afforded by contract zoning but to place constraints on that flexibility by requiring consistency with the original zone.

The question before the Planning Board, therefore, is whether Dragon's proposal satisfies the constraints imposed by Section 4352(8)(B) by maintaining consistency with the original zone. As you consider the answer to this question, please keep five important facts in mind.

1. Dragon's proposal contravenes the express purpose of the original zone.

The original zone in this case is R-3 residential. Section 14-86 of the Portland Zoning Ordinance describes the purpose of the R-3 residential zone as follows:

To provide for medium density residential development characterized by single family homes on individual lots and also to provide for planned residential unit developments on substantially sized parcels. Such development shall respond to the physical qualities of a site and *complement* the scale, character, and style of the surrounding neighborhood. (Emphasis added).

2. Dragon's proposed use would not be permitted in any zone in the city of Portland.

Obviously, Dragon's proposed use would not be permitted in any residential zone. But neither would Dragon's proposed use be permitted in any of the industrial zones in the city of Portland. The I-L and I-M zones specifically prohibit mining and drilling and the I-H zone specifically prohibits extraction of raw materials.

3. Dragon's proposal is without precedent in the city of Portland.

Contract zoning has never been used by the city of Portland to extend the permitted use so far beyond the express purpose of the original zone. Moreover, to the best of my knowledge, contract rezoning has never been utilized to convert residential property to industrial use. I'd suggest that it has never been done because change of such magnitude can't meet the consistency requirement.

4. Physical damage to surrounding structures is a near certainty.

Dragon has recently revised its estimate of the per-blast risk of physical damage to surrounding homes to 1%. Dragon, however, is not proposing to blast once. Instead, Dragon proposes to blast 400 to 600 times. As my prior letter (dated June 9, 2001) explains, the risk created by a single blast and the risk created by the series of blasts are two very different things.

This conclusion was confirmed by Dr. Muhammad El-Taha, the Chair of the Math & Statistics Department at USM. In fact, at 400 blasts the probability of escaping damage altogether is less than 2% and the likely outcome is damage on 4 occasions. At 600 blasts, the probability of escaping damage is less than .25% and the likely outcome is damage on 6 occasions. The laws of probability require the Planning Board to assume that approval of Dragon's proposal will result in damage to surrounding homes on at least one occasion.*

The same analysis applies to the adjacent landfill. Dragon has not specified the per blast risk to the landfill, but there is no reason to expect that the risk is any smaller than the risk to surrounding homes. If the per-blast risk of damage to the landfill is 1%, then the risk created by the series of blasts is as described above: at 400 blasts the probability of avoiding damage is less than 2% and damage is likely on 4 occasions; at 600 blasts the probability of avoiding damage is less than .25% and damage is likely on 6 occasions.

The Planning Board must also assume, therefore, that approval of Dragon's proposal will result in damage to the landfill on at least one occasion. Unlike damage to existing homes, however, the damage from escaped toxins may not be correctable.

5. Dragon effectively concedes that its proposal does not meet the requirements of Section 4352(8)(B).

Section 5 of Dragon's proposed contract reads as follows: "These areas, or any portions of them, may not be separately conveyed apart from the property as a whole, while any blasting, mining, concrete manufacturing, or other uses *not consistent* with the underlying R-3 or successor zone are being conducted on the Property." (Emphasis added). Dragon, in other words, effectively concedes that its proposal does not meet the requirements of Section 4352(8)(B).

* I am not mollified by Dragon's claim that any physical damage is likely to be cosmetic rather than structural. My property rights protect the *physical integrity* of my home. Certainly, no one would expect me to turn the other way while Dragon painted my home orange, though that damage, too, would be merely cosmetic.

Given these facts, I think the answer to the question posed above is obvious: Dragon's proposal fails to meet the requirements of Section 4352(8)(B). How could it be otherwise? Surely, neither the Planning Board nor the City Council can look the neighbors in the eye and tell us that the consistency requirements of Section 4352 have been met when:

- Contract rezoning has never been used in Portland to convert residential property to industrial use;
- Dragon's proposal contravenes the express purpose of the original R-3 zone;
- No zone in the city permits the use proposed by Dragon;
- Damage to surrounding homes and the adjacent landfill is a near certainty; and
- Dragon effectively concedes that its proposal does not meet the consistency requirements.

Indeed, to find that this set of facts satisfies the consistency requirement of Section 4352(8)(B) would be to render the section wholly devoid of meaning, certainly not the outcome that the legislature intended. No matter how attractive "the deal" offered by Dragon might appear to some, if the proposal fails to meet the requirements of Section 4352(8)(B) then the Planning Board and the City Council have no choice but to reject it.

B. Section 14-264 of the Portland Zoning Ordinance:

Among the requirements of Section 14-264 is the following: the applicant for contract rezoning must carry the burden of proof to show that the proposed development will not substantially diminish the value or utility of neighboring structures.

Since Section 14-264 is found in Division 15, I-H and I-Hb Industrial Zones, its provisions must apply to a contract rezoning that calls for more intense use than would be permitted in an I-H or I-Hb zone. Of course, that's exactly what Dragon has proposed; even in an I-H zone, extraction of raw materials is a prohibited use.

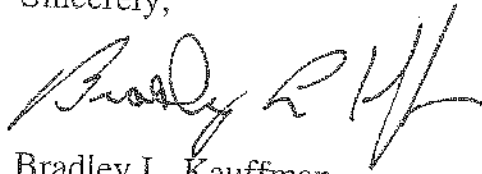
Accordingly, the Planning Board must require Dragon to meet the burden of proof regarding surrounding property values imposed by Section 14-264. Any other result would be absurd. Certainly, Dragon should not be exempt from Section 14-264 because the original zone is an R-3 zone; if anything, the bar should be set higher because the original zone is R-3. Neither should Dragon be exempt because it has decided to describe the resulting zone as I-L; whatever label Dragon prefers, the uses proposed by Dragon go beyond those permitted in an I-H zone.

Accordingly, unless and until Dragon satisfies the burden of proof imposed upon it by Section 14-264, the Planning Board and the City Council have no choice but to reject Dragon's proposal.

In conclusion, I respectfully submit that Dragon has failed to meet two specific legal requirements for the establishment of the proposed contract zone. As a result, I urge the Planning Board to fulfill its legal obligation and reject Dragon's proposal at the public hearing on October 23rd.

Thank you for taking the time to consider my thoughts.

Sincerely,



Bradley L. Kauffman

cc: Honorable Cheryl Leeman
Sarah Hopkins, Planning & Urban Development

Wednesday
19th September, 2001

410 Pownall Street
Portland,

ME 04103

Dear Sarah!

Unfortunately, I shall be out of the country on Tuesday, 25th September when a Dragon Cement comes before the Planning Board for review.

As you know I am very much opposed to their new demands for expansion. Seems each time they appear they have added new bits & pieces to their request, and not for the better.

I have in front of me copies of several letters dated February 1998, from the residents of Summer Place voicing their concerns regarding the resumption of blasting by Dragon Cement. I certainly have the same concerns.

My house is quite small & sits on a ledge. It shook before when rocks used to blast. Imagine the results now.

Actually, I don't think any member of the Planning Board is fully qualified to assess the damage to people's homes. I have read the reports from the engineers etc. (mostly hired by Dragon).

Dragon Cement knew the zoning in 1991 but yet continued to buy up the surrounding land which was R-3.

Ocean Avenue in front of their business is a downright disgrace. They ought to take a page out of Blue Rock's book.

there is absolutely no comparison.

Well I could go on but my comments are too many to mention.

I just keep hoping that someone at Liberty Hall will listen + pay attention to the concerned residents.

Thank you.

Yours truly,
Margaret Brown
(Mrs.)

P.S. Wouldn't like a repeat.
Many years ago the land next door was re-zoned Industrial, without my knowledge, as I was out of the country then also.

Bradley L. Kauffman
776 Ocean Avenue
Portland, ME 04103

Jaimy Caron
Chair, Portland Planning Board
City Hall
389 Congress Street
Portland, ME 04101

June 9, 2001

Dear Mr. Caron,

My wife and I live at 776 Ocean Avenue, just down the road from Dragon Products. I am writing in regard to Dragon's proposal to resume blasting and mining at its Ocean Avenue facility.

Over the past two years, I have invested a great deal of time and energy in learning about Dragon's proposal. I have talked with the staff of the Planning Board, attended a workshop, met with representatives from Dragon, discussed the proposal with Mayor Leeman, reviewed the draft contract, and attended the two neighborhood meetings at the Presumpscot School.

I must commend Dragon on its willingness to engage the neighborhood in dialogue and to make information available. I must also say that I would like to see a reduction in truck traffic on Ocean Avenue and the relocation of Dragon's facility away from the street. Nevertheless, I have grave concerns about the risks that would be created by the blasting and must oppose the proposed contract zone.

Dragon has assured the neighbors that the risk of damage to surrounding homes from blasting is only 5%. It's important to keep in mind, however, that Dragon proposes to blast not once but 400 to 600 times over a 20 to 30 year period and that *each of the blasts* creates a 5% risk of damage to surrounding homes.

One of the very few things I remember from college statistics is that the risk associated with a series of events is not the same as the risk associated with each event in the series. To help quantify the risk associated with the series of blasts, I turned to Muhammad El-Taha, the Chair of the Department of Mathematics and Statistics at the University of Southern Maine. I sent Dr. El-Taha an email and posed the following question:

If each blast creates a 5% risk of damage to surrounding homes, what is the risk of damage created by 400 to 600 blasts?

Dr. El-Taha responded that it is "almost certain" that damage to surrounding homes will occur on at least one occasion. In fact, he concluded that the chance of escaping damage altogether is only 1 in 10 trillion if Dragon blasts a total of 600 times and 1 in 100 million if Dragon blasts 400 times. Moreover, Dr. El-Taha concludes that the likely outcome is damage on 30 separate occasions if Dragon blasts 600 times and damage on 20 separate occasions if Dragon blasts 400 times. For your reference, both my email to Dr. El-Taha and his response are attached.*

Despite Dragon's assurances, the risk of damage to surrounding homes is *not* 5%. Instead, damage on at least one occasion to surrounding homes is a virtual certainty and damage on multiple occasions is likely. In assessing Dragon's proposal, therefore, the Planning Board and the City Council must assume that approval will result in damage to surrounding homes on at least one occasion and that damage is likely to occur on 20 to 30 separate occasions.

Though Dragon has never quantified the risk of damage to the adjacent landfill from a single blast, the same type of logic applies. Even if the risk of damage from a single blast is quite low, the risk of damage from 400 to 600 blasts is -- as Dr. El-Taha's reply demonstrates -- orders of magnitude greater. Please keep in mind that while the landfill itself might be repaired if damage occurs, the damage from toxins that escape into the environment cannot.

The first page of the proposed contract includes the following paragraph:

"WHEREAS, the CITY, by and through its City Council, has determined that the rezoning would be pursuant to and consistent with the CITY's comprehensive land use plan and *consistent with* the existing and permitted uses within the original R-3 zone." (Emphasis added).

This paragraph is not mere contract boilerplate. In fact, it describes a key legal requirement for the establishment of a contract zone. As the paragraph suggests, the City Council must determine that the blasting and mining proposed by Dragon would be *consistent with* the existing and permitted uses within the original R-3 zone.

* I should underscore the fact that Dr. El-Taha is not an expert on the subject of blasting and his response is not about blasting per se. Dr. El Taha's response assumes the accuracy of the facts as I presented them and merely quantifies the risk associated with repeated occurrences of an event based upon the risk associated with a single occurrence.

It's hard to believe that a series of 400 to 600 blasts, a use that we must assume will cause damage on multiple occasions to surrounding homes, could be consistent with the existing and permitted uses within the original R-3 zone. Even Dragon doesn't believe it to be so. Section 5 of the contract draft distributed at the last neighborhood meeting describes both blasting and mining as uses *not* consistent with the underlying R-3 zone.

I realize that the Planning Board is trying to balance the competing interests of adjacent landowners and do the right thing for the neighborhood. I also understand the allure of the deal proposed by Dragon: in exchange for 20 blasts per year, Dragon will remove a terrible eyesore and eliminate a large volume of truck traffic. But the neighbors should not be asked to pay for these benefits by shouldering the burden of almost certain damage to their homes and significant risk of damage to the adjacent landfill.

Moreover, the law protects the neighbors from just this sort of "bargain." Regardless of the benefits offered, the law requires that the proposed use be consistent with the uses permitted by the underlying R-3 zone. Surely, neither the Planning Board nor the City Council can look the neighbors in the eye and tell us that Dragon's proposal -- which we must presume will result in damage to our homes and to the landfill -- meets this requirement.

Thank you for taking the time to consider my thoughts on this matter.

Sincerely,



Bradley L. Kauffman

cc: Members of the Portland Planning Board
Members of the Portland City Council
Sarah Hopkins, Planning & Urban Development
David Grinnell, Dragon Products
Chris Neagle, Verrill & Dana
Charles M. Yandell, Summer Place
Muhammad El-Taha, University of Southern Maine

From: "Muhammad El-Taha" <eltaha@usm.maine.edu>
To: <BLKJLA@aol.com>
Date: Mon, Apr 16, 2001 9:50 AM
Subject: Re: Question Regarding Probability

Your figures, based on 400 and 600 blasts, are quite accurate. They however, represent the "expected number of blasts that will cause damage to the soundings". However, if your concern whether will be damage at all the picture is more gloomy. At 600 blasts the chances that none will result in damage is less than one in 10 trillion. At 400 blasts the chances that non will result in damage is less than one in 100 million. You are almost certain that there will be damage during 400-600 blasts.

The extent of the damage is already computed by you correctly. That is it is expected to happen on 20 occasions for 400, and 30 occasions for 600 blasts. The cost depends on what will be damaged.

Note : My numbers (and yours) are based on the data and problem description you provided and on the assumption of independence which means if one blast causes damage that does not affect whether a future blast will/will not cause damage. Because the damage can be cumulative (not independent), these figures are quite conservative which means if the 5% figure is accurate the situation could be much worse than the figures indicate.

Good Luck,
Muhammad

On 15 Apr 2001, at 16:35, BLKJLA@aol.com <BLKJLA@aol.com> wrote:

- > Dear Dr. El-Taha,
- >
- > My name is Brad Kauffman and I live at 776 Ocean Avenue in
- > Portland, just down the street from the Dragon Concrete Plant. I need
- > an expert opinion regarding the probable outcome of a proposal that
- > Dragon has before the Portland Planning Board and I was hoping that
- > you might be able to help.
- >
- > Dragon has proposed that it be allowed to resume blasting at its Ocean
- > Avenue site. In exchange, Dragon has offered to move the plant 300
- > feet from the road, landscape the frontage along Ocean Avenue, and
- > reduce truck traffic to and from the site.
- >
- > The neighborhood is, of course, concerned about the potential impact
- > on our homes from the blasting. The blasting experts have told us
- > that the blasting is "safe" in the sense that there is only a 5%
- > chance that a blast might cause damage to surrounding homes.
- >
- > The proposal, however, is not for a single blast but for 20 blasts a
- > year for 20 to 30 years, or a total of 400 to 600 blasts. Drawing on
- > what little I remember from college statistics, and assuming the

- > accuracy of the 5% probability provided by the experts, I come to the
- > following conclusions regarding the risk associated with the series of
- > blasts proposed by Dragon:
- >
- > * At a total of 400 blasts, the odds are 20 to 1 that there will be
- > damage to surrounding homes on at least one occasion. At 600 blasts,
- > the odds are 30 to 1.
- >
- > * At a total of 400 blasts, we should expect damage on 20 separate
- > occasions. At 600 blasts, we should expect damage on 30 separate
- > occasions.
- >
- > I realize that laymen (a group in which I include myself) are
- > notoriously bad at assessing the probability of real world events. So
- > I don't want to jump to conclusions. The benefits that Dragon is
- > offering in exchange for the right to blast are significant. I want
- > to make sure that I am weighing the benefits against the risk of
- > damage as accurately as I can. Are my conclusions above valid? Can
- > you offer any guidance about how to assess the risk associated with
- > the series of blasts that Dragon proposes?
- >
- > I hope I am not imposing with this request. I thought that you, as
- > the chair of the math and statistics department at USM, would be in a
- > good position to offer objective advice about the risk associated with
- > a series of events based on information about the risk associated with
- > a single event.
- >
- > Thank you for taking the time to consider my request.
- >
- > Sincerely,
- >
- > Brad Kauffman
- > 776 Ocean Avenue
- > Portland, ME 04103
- > (207) 773-5286

Muhammad El-Taha, Professor, Chair and
Graduate Program Director
Department of Mathematics and Statistics
University of Southern Maine

Email: elitaha@usm.maine.edu
<http://www.usm.maine.edu/~elitaha>
Phone: (207)780-4564
FAX: (207)780-5607

CC: <blkjla@aol.com>

22 Wildwood Circle
Portland, ME 04103
July 24, 2000

Honorable Cheryl Leeman
37 Savoy Street
Portland, ME 04103

Subject: Dragon Cement Project

Dear Mayor Leeman:

It was a pleasure talking with you last Wednesday night. I am a resident of Alden's Walk Condominium and a member of the Board of Directors. My unit is approximately 1300 feet from the proposed Dragon Company blasting area.

Initially I was not concerned about Dragon's plan but, after attending two informational meetings in which the issues outlined below were discussed, I am now worried and opposed to it.

1. Any gains from the Dragon expansion will be enjoyed by the Company, not the taxpaying homeowners. Apparently all we get is industrial noise, pollution and the chance of damage to our homes.
2. We have found Dragon's answers to questions vague and/or demonstrating a lack of knowledge and technical expertise, perhaps intentionally.
3. The Company has no knowledge of the long term effects of the proposed blasting. Will there be hidden cumulative damage which will suddenly manifest itself in a disastrous failure?
4. Why hasn't a seismic study of this area been made by a qualified independent engineering company?
5. What effect will the vibration from blasting have on radon release?
6. Dragon has offered to survey our homes to prove or disprove damage claims.
 - a. Who will monitor the survey work and maintain the records. Are we to trust the Company?
 - b. There is no written guarantee that they will pay *in full* for damages. They could deny the claim or tie the plaintiffs up in litigation indefinitely.
 - c. A damage escrow account has not been established. Wouldn't that be a first step in establishing trust?
 - d. There is no mention of an independent arbitrator for damage claims.

Unless Dragon Cement Company can eliminate the source of these concerns and demonstrate why the homeowners should trust them I strongly recommend that the Planning Board and City Council reject the plan.

Thank you.

Very truly yours,



Robert R. Peck

CC:

Mr. Christopher Neagle
Verrill & Dana
One Portland Square
Portland, ME 04112-0586

Mr. John M. McGorrill
6 Fieldstone Court
Portland, ME 04103

Mr. Bruce Campbell
17 Graystone Lane
Portland, ME 04103

Planning Board
City of Portland
City Hall - 389 Congress Street
Portland, ME 04101

Mr. Chris Brigham
31 Summer Place
Portland, ME 04103

July 10, 2000
974 Presumpscot St.
Portland, ME 04103-5219

Portland Planning Department
Att. Sarah Hopkins
389 Congress St.
Portland, ME 04101

Sarah:

Regarding Dragon Products Co. request to mine rock at their Ocean Ave. plant, I would like to suggest that they not sound the warning whistle, or blast, at the times that school children in the area are going to, or returning home from school, if permission is granted to them.

I spoke to Mr. Grey of the Planning Dept. and Mr. Grinnel of Dragon Products about this idea and both were very receptive of my suggestion.

Thank you for considering it.

Yours Truly
~~Ethel H. DeVito~~

Ethel H. DeVito

SCOTT ASSOCIATES
CERTIFIED PUBLIC ACCOUNTANTS

BARRY E. SCOTT, CPA
STEVEN D. SCOTT, CPA

12 REVERE STREET
PORTLAND, MAINE 04103
TEL: (207) 772-0441
FAX: (207) 772-2636

July 20, 2000

Planning Board
City of Portland
389 Congress Street
Portland, Maine 04101

Re: Dragon Cement

To Board Members:

Unfortunately, I was unable to attend the meeting relative to Dragon Cement resuming blasting.

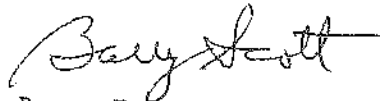
I do not have any axe to grind for either side, but it appears that the opponents object strenuously to Dragon's proposal.

My wife and I live on Byfield Road in Portland, approximately five hundred (500) feet from the construction of The Atrium at Cedars. Very extensive blasting was necessary for that construction. The technicians handled it beautifully and we, as residents, had absolutely no problem with it.

It would appear that Dragon's blasting would be a much greater distance from residents of the area than we were.

I am assuming that most of the objection may come from the new development across the street from Dragon. May I point out, needlessly of course, that the Quarry was operating at this location many decades before the construction of that development.

Yours truly,



Barry E. Scott

Richard and Mary Perkins
794 Ocean Avenue
Portland, Maine

July 18, 2000

HAND DELIVERED

Joseph E. Gray, Jr.
Director of Planning & Urban Development
City Hall
389 Congress Street
Portland, ME 04101

Re: Dragon Products Company
Contract Zone Request

Dear Mr. Gray:

My wife and I have been residents at 790-794 Ocean Avenue, Portland, Maine, since January 1995. We wish to raise objections to Dragon's request to rezone their property under a proposed contract zoning agreement with the City allowing expansion of their mining, blasting and processing operation at their quarry site.

Our home may be the oldest surviving house in the Greater Portland area, having been built c. 1728. Prior to moving into the house in 1995, we spent over two years extensively renovating and expanding the house and adjacent carriage house. We spent a substantial sum in renovations, and although we knew of Dragon Products' operation, we never dreamed that the City in the future would consider allowing their rock mining and blasting operation to expand into adjacent R-3 zoned land. From conversations and neighborhood meetings, we can tell you that many neighbors are surprised that this expansion is even being considered!

We will outline our objections and reasoning as follows:

1. Comprehensive Land Use Plan - Inconsistency (See excerpts below)

a. Dragon Products Company, Inc., Agreement

WHEREAS, the CITY, by and through its City Council, has determined that the rezoning would be pursuant to and consistent with the CITY's comprehensive land use plan and consistent with the existing and permitted uses within the original R-3 zone; and

WHEREAS, the CITY has determined that because of the unusual nature of the proposed development it is necessary or appropriate to impose the following conditions or restrictions in order to insure that the rezoning is consistent with the CITY's comprehensive land use plan; and...

b. The above wording states that the rezoning is consistent with the City's comprehensive land use plan and consistent with existing and permitted uses within the original R-3 zone. This is simply untrue and inaccurate. Expansion of a non-conforming use (mining) is inconsistent with this neighborhood's residential zoning. Furthermore, mining certainly isn't permitted in an R-3 zone.

c. The City changed the industrial zoning to residential a few years ago at the site that is now Summer Place, which lies diagonally across the street from the Dragon site. Several hundred yards below Summer Place, Ocean Woods Condos were developed, and the City recently permitted Phase 2. Pheasant Run and Ledgewood development are further residential projects approved and completed and are adjacent to the power line running between Dragon's property and them. Wellstone I and II and Briarwoods also are in this Ocean Avenue neighborhood.

d. The very fact that the Planning Department has even considered this inconsistent, industrial, and mining operation is hard to understand. The fact that it has momentum gives a healthy distrust of our publicly elected officials. The question ought to be: "Who stands to gain here, and how much, if this contract zoning is approved"?

2. Blasting

a. Our home is within 1,000 feet of the Dragon site. In July 1998, after they blasted at Phase 2 of Ocean Woods, we noticed two of the cross support beams in our atrium had moved (*see photos attached*). One beam moved approximately one inch after the blasting occurred across the street. We have had difficulty getting any satisfaction with the builder or his insurance company, some two years later. This was surface blasting for foundations. Our house, as do most houses along this stretch of Ocean Avenue, sits on ledge. We cannot get access to Natural Gas in this section because, as we were told at the time by Northern Utilities, there was too much ledge along Ocean Avenue. They stopped their pipeline where Wellstone ended.

b. The land adjacent to our home and the Dragon Products sites (CBL #416-A-21 and 6 and 7) has been considered for residential development several times in recent years but never seriously because it is almost all ledge.

c. Our house sits on ledge. We know it because when we expanded the house we had to shorten one room by two feet because we ran into the foot of

the ledge outcropping. In another room we had to lower the ceiling height because we couldn't dig down any further after hitting ledge.

d. There is a granite ledge hill barely covered with topsoil and vegetation (with exposed ledge outcropping) between our site and the Dragon quarry.

e. We believe that an independent engineer representing our neighborhood should be consulted (at Dragon's expense) to evaluate on our behalf what the complications might be if that 90 foot high quarry wall is blasted continuously, 20 times a year for the next 20 years. The City would be wise, in our opinion, to consider an independent engineering opinion as to what the likely impact will be to homes from drilling and blasting. It does not appear from attending the City Workshop that the Planning Board has taken into consideration the effects of blasting on this granite hill.

3. Traffic Concerns

Dragon has said that a few years ago they were mining 40,000 yards a year at the Ocean Avenue site and now are at 100,000 yards a year. In an expansionary economy, and since they desire to expand, it doesn't seem logical that the truck traffic that will be reduced to go and get the raw product won't more than be offset by the larger volume of truck traffic that will deliver more finished product. Is there a good reason why Dragon cannot be made to traffic over Presumpscot Street, which is an industrial zoned area already? It is actually a shorter route to I295.

4. Appearance

The Planning Board feels that the changes Dragon plans to make along its frontage will be an improvement. That is easy enough to represent, but historically the breakdown has been maintenance as they do let things run down (*see attached photos*). Concrete block barriers, corrugated metal walls, unkempt frontage has made for ugly frontage, and in time, will probably be ugly again.

5. Real Estate Taxes


Dragon currently pays under \$37,000 a year in real estate taxes to the City of Portland (\$36,998). Ocean Woods Phase I and II pays approximately \$62,000, and Summer Place pays approximately \$75,000. Add to these, Wellstone, Briarwoods, Pheasant Run, Ledgewood and individual owners along Ocean Avenue and you'll easily hear the voices of an estimated \$400,000 tax paying people who don't like this idea.

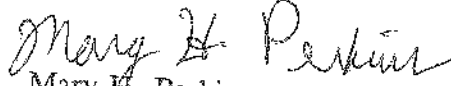
Joseph E. Gray, Jr.
July 18, 2000
Page 4

In closing, please listen to the local neighborhood. Why has a Spanish-owned, European publicly-traded, multi-national corporation gotten so far along with a contract zone request that should never have even been considered??

We respectfully request that after listening to this neighborhood and upon further review the Planning Department recommend this contract zone request be disapproved.

Sincerely yours,


Richard M. Perkins


Mary H. Perkins

RMP/MHP:lmh

- Enclosures:
1. Photos - beam movement from blasting at 794 Ocean Avenue
 2. Photos - of the present Dragon Products frontage

KELLY, REMMEL & ZIMMERMAN
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53 EXCHANGE STREET
P.O. BOX 597
PORTLAND, MAINE 04112-0597

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U. CHARLES REMMEL, II
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June 27, 2000

Hand Delivered

Mr. Joseph Gray, Jr.
Portland Planning Board
Portland City Hall
389 Congress Street
Portland, Maine 04101

Re: Dragon Products

Dear Mr. Gray:

On behalf of our client, Scott Cohen, I write to advise that our client is supportive of Dragon's proposal being considered this afternoon. I enclose a copy of the letter Mr. Cohen wrote to Dragon in August of 1998. The underground water issue is no longer of concern. Thank you for bringing my client's support of this proposal to the Board.

Sincerely yours,


Barry Zimmerman

BZ/pp
cc: Scott Cohen

Scott Cohen
P. O. Box 9715-350
Portland, Maine 04104-5015

August 7, 1998

Dragon Products Co., Inc.
38 Preble Street
Portland, ME 04101

Re: Blasting Near Pheasant Hill, Portland, Maine

Dear Sir or Madam:

My name is Scott Cohen and I am the owner of Lots 23, 24 and 25 in the Pheasant Hill subdivision in Portland near your Ocean Avenue facility. It is my understanding that you are seeking approval of local and state officials for an extension of your blasting program for that facility. As one of the owners of the largest tract of land near your site (approximately 12 acres) I wanted to share with you my thoughts and comments regarding your proposed blasting.

As a general matter, I would support blasting as I do any reasonable effort at responsible commercial activity and I plan to publicly support your project. As I have reviewed the scope of the intended blasting, several matters have arisen which are of concern to me. First, it would be my hope to limit blasting to the time period of 9:00 a.m. to 5:00 p.m. on week days. Second, I am concerned with the possibility of structural damage to my house from the blasting and I wonder if it would be wise to obtain a structural survey of my house to give a benchmark to insure that the blasting does not result in any structural damage to the building. Finally, I am concerned about the issue of underground water. I would like to have this issue addressed by appropriate pre-blast testing. Since it is my intention to have my home serviced by an underground private well, the testing would necessarily involve both quantity and quality of water. I would welcome your input as to ways we can insure that the water quality and quantity will not be adversely effected by the blasting.

It may be that as you proceed, I can be of some assistance in demonstrating some public support by abutting land owners for your proposed project. If that is the case, please let me know. I would also appreciate it if you could have someone contact me to discuss my concerns and to inform me as to your present plans related to blasting.

I look forward to hearing from you.

Sincerely,


Scott Cohen

May 29, 2000

Joseph E. Gray, Jr.
Director of Planning and Urban Development
City Hall, 389 Congress Street
Portland, Maine 04101

Dear Mr. Gray:

As residents of Summer Place, a 20 lot subdivision across the street from Dragon Product's Plant on Ocean Avenue, we are writing to object to their request to rezone their property under a contract zoning agreement to allow expansion of the area permitted for mining and processing operations. When we built our homes, we all understood their current operation to be a non-conforming use. Further, we all recognize they have a legal right to continue processing operations and we all understood and accepted that at the time our neighborhood was permitted and developed. We are strongly opposed, however, to any expansion of this facility and any resumption of mining operations, which ceased many years ago, for the following reasons:

1. The parcels acquired in 1962 and 1985 were known to be zoned R3 and purchased on speculation.
2. Expansion of a non-conforming use is, and should be, prohibited.
3. Mining in an urban setting is incompatible with high residential density.
4. The proposed use exceeds industrial zoning performance standards (noise, vibration, etc.) in a heavy impact industrial zone, which is exacerbated in a residential setting.
5. The proposed rezoning is inconsistent with the planning board approval of high density residential developments in the past decade, including two recently approved Phase II Expansions at Ocean Woods and Wellstone:

Summer Place
Ocean Woods Phase I and II
Wellstone Phase I and II
Briarwood

6. Property Owners in these neighborhoods as well as other homeowners along Ocean Avenue in both directions will suffer adversely in many respects:
 - a. The quality of life in these city neighborhoods (due to noise, vibrations, drilling, blasts, expanded extraction operations and the like) will deteriorate significantly and measurably.
 - b. Property values will decline significantly resulting in an enormous aggregate loss to property owners (and, ultimately, the City of Portland in terms of valuation for tax purposes).

In summary, we do not believe the Planning Board of the City of Portland should allow the expansion of this non-conforming use with such an intensely industrial impact in such close proximity to residential subdivisions permitted and approved by the same Planning Board within recent years. We strongly believe the negative impacts of the proposed rezoning far outweigh and exceed any proposed benefits in the proposed agreement. We, therefore, urge the Planning Board to deny this requested zoning change.

Sincerely,

Charles W. Gandel
Susan G. Gandel
51 Summer Place

H. L. Williams
Susan L. Taylor
5 Summer Place

John Schiff
45 Summer Pl
Michael Frumhi
Laura Dobrowski
91 Summer Place

Chris Fogh
31 Summer Place

Claude Catano
17 Summer Place

Joanne Hale
67 Summer Place

708
77 Summer Place
Hayden S. Tully
Kerwin Tully

69 Summer Place

Stephen J. Mon
Denise J. Nordman
89 Summer Place

John Futum
Lemon Futum

21 Summer Place

Jean K. P. Brown
61 Summer Place

Elyabeth H. Foley
73 Summer Place

Mical J. Donohue
25 Summer Place

Feb. 21, 1978
474 Presumpscot St.
Portland, ME 04103

John Carroll, Chair
Planning Board of the City of Portland
4th Floor Planning Office
389 Congress St.
Portland, ME 04101

Dear Mr. Carroll:

This letter is in regard to the request of Dragon Products Co. to have the property they own on Ocean Ave. rezoned from R3 to a contract zone to be known as Dragon Industrial Zone.

Although this letter is too late for the workshop discussion I would like it to be a part of the package for your deliberation at the public hearing that is sure to be scheduled in the future.

Dragon Products Co's Ocean Ave. business is a non-conforming use in a R3 zone. Being a heavy industry type of operation are they obliged to adhere to the cities IH zone requirements. If so have they been in compliance with them? Who has been monitoring the situation for the city? What have been the conclusions of the monitoring reports, if any? These are important questions to be answered if you grant their request for a change of zone because they will then come under the requirements of the MDEP plus the cities IH, and the rules will be more stringent.

The few trucks that haul in material for the manufacture of concrete are certainly far less of an annoyance to the neighborhood than the drilling, blasting and crushing of rock will ever be. We are well aware of the noise, vibration and dust created by this process.

It is easy to promise that there will not be a problem with this process due to the new innovations of equipment and methods used in performing these three functions plus the strict regulations of the MDEP. Without diligent and strict monitoring of the whole operation promises are easily forgotten and left far behind.

Regarding the measurement of noise, Portland's IH guidelines call for the meter to be located 4' above the ground. The one time I saw the companies sound engineers take a reading they had the meter on the ground. Would the ground muffle the sound so they got a false, low, measurement? Did they take all their readings in this manner? Probably. So were all their readings lower than the actual noise level? Probably.

There is also the problem of the frontend loader working, occasionally at 5:00 to 5:30 in the morning loading the conveyor belt system that carries material up into the building. Portland's noise level for this early hour is 50dB. I am sure this machine makes much more noise than that.

The idea of Dragon Co. wanting to expand operations into the area that was never a part of the original non-conforming use area is unacceptable to the neighborhood.

We strongly object to this zone change request.

Sincerely



Vincent G. DeVito

Chris and Cathy Brigham

31 Summer Place, Portland, ME 04103
207-879-5400, FAX: 207-874-9896

John Carroll, Chair
Planning Board of the City of Portland
4th Floor Planning Office
389 Congress Street
Portland, Maine 04101

RE: Request by Dragon Products for Rezoning

Dear Mr. Carroll:

This letter is in regards to the request by Dragon Products Company to rezone property designated R-3 as a contract zone. Their request is not in the best interests of the City of Portland or the surrounding community. Dragon Products Company was knowledgeable of the zoning issues when they purchased the property. It is unfair to the surrounding community for them to want to change the situation because it would be more economical for them to blast gravel then transport gravel in.

We live off of Ocean Avenue in the vicinity of Dragon Products. Therefore, we are both residents and tax payers. In addition, I (Chris) serve as President of the Summer Place Homeowners Association. When we moved to the area we recognized that Dragon Products Company was our neighbor and accepted this as reality. We understood that they were permitted to utilize certain property zoned as R-3 for a non-conforming use. We also understood that they had not blasted for several years and there were no intentions to blast in the future. The mining portion of their business was inactive, and the original property had been quarried. We also recognized that only a portion of the R-3 property which Dragon Products had purchased from Cook was permitted to be used for non-conforming purposes.

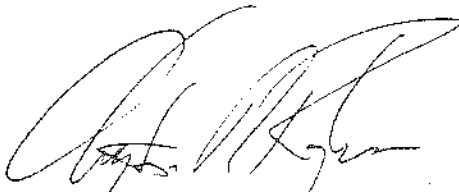
Our "eyes were open" when we moved to the area. However, we have been concerned by other issues, including: extended hours of operation, noise levels (which at their property boundaries is in excess of the levels established for medium intensity Industrial Zone), the frequent travel of concrete trucks down Ocean Avenue (resulting in both noise and road damage), and the frequent blockage of Ocean Avenue (Route 9) by large transport trucks (at the turn in the road near their entrance). We certainly are not asking them to leave, although we do have these concerns.

A major concern at that this time is their desire to change the situation. Although they articulate a position that this would ultimately benefit the surrounding community, we strongly disagree. In reviewing their application, we note major concerns:


- Their request would expand the use of the “non-conforming” property, even though it would be redefined as a “contract zone.” This is inconsistent with an intent to reduce the extent of “non-conforming” property.
- It is inconsistent with the best interests of the City of Portland and the surrounding community. It also appears to be inconsistent with your long term planning for business development within the City and the potential for recreational use of the land which previously served as the City of Portland landfill.
- It would appear that the operation would need to expand beyond its current scope in all phases for it to be economically viable.
- Processing of blasted rock into usable sized gravel alone would greatly increase noise and dust from the operation.
- As outlined above there are concerns about their existing operation.

We hope that the Dragon Products Company realizes the realities of its current situation as we recognize the realities of ours. We accept them as a neighbor, however as with all neighbors want them to be a “good neighbor.” We do not them to “change the rules,” which we had all accepted, merely because it would be to their financial advantage to do so. Their requested changes would not benefit the surrounding community nor the City of Portland. We would welcome the opportunity to meet with the Planning Board and to express our concerns.

Sincerely,



Christopher R. Brigham



Cathy V. Brigham

cc: Sara Hopkins, City Planner
John Bannon

Elizabeth Foley
Klaus-Peter Voss
73 Summer Place
Portland, ME 04103
February 3, 1998

John Carroll, Chair
Planning Board of the City of Portland
4th Floor Planning Office
389 Congress Street
Portland, ME 04101

Re: Dragon Products Company's Request for Re-zoning

Dear Mr. Carroll:

We are writing this letter with reference to the plan of the Dragon Products Company to re-zone property that is presently defined as R-3 and are taking this route to express our concerns and adamant opposition. As immediate neighbors of the quarry we will be directly effected by the proposed changes in - as we believe - negative ways. To expect us to simply live with the environmental impact that the planned blasting operation will have on our property in terms of noise development and air quality for example is unreasonable. In addition to that there are still a lot of unanswered questions - despite Dragon's positive PR efforts and willingness to listen to us - in regards to the longterm seismic impact of the blasting operation on the foundation of our house.

When we bought the property and then moved into our house about a year and a half ago, we were fully aware of the presence and close vicinity of the Dragon quarry and accepted that as fact and reality. It was our understanding, however, that the Dragon Products Company had not blasted for a number of years and that it did not have the intention to do so in the future. The mining parcel of the business appeared to be inactive and the original property had been quarried.

We urge you to take our concerns into consideration and deny the Dragon Products Company's request for re-zoning.

Sincerely,

Elizabeth Foley
Klaus-Peter Voss

cc: Sara Hopkins, City Planner

John and Lenora Gutwin

Sunday, February 22, 1998

John Carroll, Chair
Planning Board of the City of Portland
389 Congress Street
Portland, ME 04101

RE: Dragon Cement application for Zoning Amendment.

Dear Mr. Carroll;

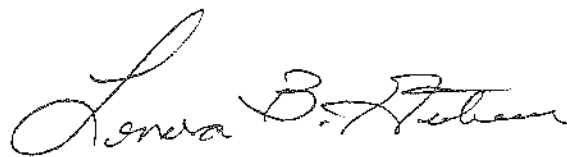
We are opposed to the proposal to rezone the R-3 property across the street from us. The activities planned for the proposed contract zone would most likely increase noise, dust and vibrations beyond acceptable limits. Even if Dragon Cement claims they will not, it is still likely that they will through negligence or accident. This expectation of noise, dust, and vibrations beyond acceptable limits is what is sure to diminish our property value in the adjacent residential zone.

Of course we agree that continuing a legal non-conforming use is fair. Expanding a non-conforming use is unfair and is counter one of the greatest benefits of zoning; planned, predictable development.

Sincerely,



John D. Gutwin



Lenora B. Gutwin

Attachment 10

Novotny and Monn

29 Summer Place

Portland, Maine 04103

February 14, 1998

Mr. John Carroll, Chairman
Planning Board of the City of Portland
4th Floor Planning Office
389 Congress Street
Portland, Maine 04101

Dear Mr. Carroll:

We are writing in response to Dragon Cement's Application for Zoning Amendment.

We are new residents of Summer Place, a neighborhood community of 19 homes (20 home sites) situated diagonally across the street from Dragon Cement. Previously we were home owners and tax payers in the town of Freeport. We made a decision to relocate and make a home purchase in Portland, in spite of the fact that property taxes were considerably higher than in Freeport. Prior to purchasing our property we were aware that Summer place was rezoned in 1995 and the adjacent industrial use of the Dragon site. We were informed of this grandfathered non-conforming use, and did not object to it when we made our residential purchase. We do, however very strongly object to their request to commence mining (blasting) operations on R-3 zoned property. This property, to the best of our knowledge, has never been used as part of the manufacturing or mining operations of Dragon Cement and its predecessor. According to Dragon's own Plan Manager, Dave Grinnell, "Dragon knew there was some question as to this property's use" when they acquired the site in 1991. It appears that there may even be some question as to whether Dragon would be permitted to resume mining operations at its present quarry.

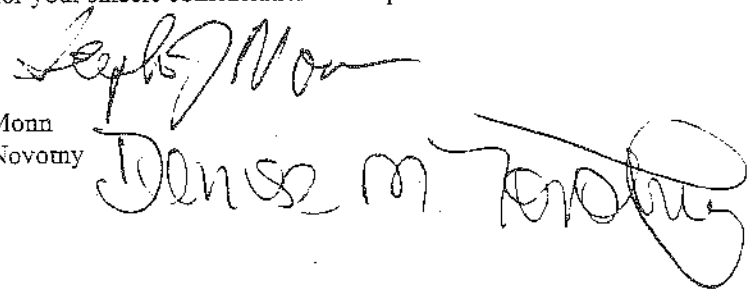
As a point of clarification, the Application states in Paragraph 3 that "Dragon's only goal in this application is to clarify that it may mine stone from its site to use in its concrete manufacturing process," but the application seeks much more than that with respect to noise levels and the like. In fact, by its own admission the company is currently in violation of zoning standards for noise levels (76 decibels versus the highest allowable standard of 75 decibels for IH). Another misrepresentation in the application is the assertion in Paragraph 2 that the only opposition that "surfaced during that process was opposition from Summer Place residents." In fact, other abutting neighbors opposed this application too, as the record will clearly show.

In summary, we understand Dragon's right to continue their manufacturing operation on the present site as a legitimately grandfathered, non-conforming use - we made a decision to purchase our home and relocate in spite of their operation. We do not believe that gives them the right to rezone the adjacent property from R-3 to Contract Zoning, which would permit blasting and all that entails in terms of safety, noise, vibrations, dust, etc. We strongly oppose this proposition.

Thank you for your sincere consideration of our position.

Sincerely,

Stephen J. Monn
Denise M. Novotny



MAINE MEDICAL CENTER

RADIATION ONCOLOGY DIVISIONS:

*Southern Maine
Radiation Therapy Institute*

22 Bramhall Street
Portland, Maine 04102-3175
(207) 871-2276
FAX (207) 871-6069

*MMC - Scarborough Campus
Radiation Therapy*

Unit 101
100 U.S. Route. 1
Scarborough, Maine 04074-9308
(207) 885-7500
FAX (207) 885-7525

*Coastal Cancer
Treatment Center*

205 Congress Avenue
Bath, Maine 04530-1531
(207) 443-5866
FAX (207) 871-6770

February 5, 1998

John Carroll, Chair
Planning Board of the City of Portland
4th Floor Planning Office
389 Congress Street
Portland, Maine 04101

Dear Mr. Carroll,

I am writing this letter in response to the Dragon Cement Company's request to change the current status of the R3 zone that the company owns.

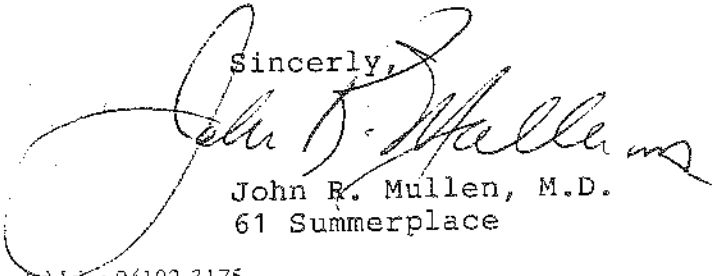
I reside in Summerplace, which is a pleasant neighborhood of 79 families. It is directly across from the area that Dragon now wants to blast in. Although all of us knew prior to purchasing our homes that Dragon Concrete had a grandfathered non-conforming use for their current mining site, we were not prepared to accept further extension of that non-conforming zone to land obtained by Dragon in the 1980's. I strongly object to any change in the current status of the land in question.

Noise levels and dust levels will increase, not decrease as a spokesman from Dragon claims. The company is already in violation of current noise levels by their own admission. Furthermore to make their operation economically feasible, Dragon would have to expand all aspects of their operation. This would further increase dust and noise levels.

I hope that the Planning Board in their review of the proposed change can see the difficulties and ambiguities in the plan proposed by Dragon. If the change is approved it will only make the community worse more than better.

Thank you in advance for your consideration of our position.

Sincerely,


John R. Mullen, M.D.
61 Summerplace

22 Bramhall Street, Portland, Maine 04102-3175

A member of the Maine-Health family

A Teaching Hospital of the University of Vermont College of Medicine

Tuesday

3th February 1997

4110 Presumpscot Street

Portland

ME 04103

Dear Mrs. Gray:

Re: Dragon Cement

As it appears the Public may not be allowed to voice their comments at the meeting, I should like to make mine known on paper.

The DeNittos + I have worked long + hard to retain this area as a R-3 Zone + we are very concerned that Dragon Cement should rear their head again to try change things.

It is not stated exactly what they have in mind, however, I would vehemently oppose any change that might create a health hazard, or even jeopardize ^{part of} my home in future, if necessary.

So I would say to the Planning Board, please give some thought to the long term residents + the owners of the beautiful new homes on Ocean Avenue a not to the mighty Dragon.

Margaret Kelly
Margaret Brown (200)

Mike and Sue Yandell
51 Summer Place
Portland, Maine 04103
Tel. 207-761-4678

January 20, 1998

Mr. John Carroll, Chairman
Planning Board of the City of Portland
4th Floor Planning Office
389 Congress Street
Portland, Maine 04101

Dear Mr. Carroll:

We are writing in response to Dragon Cement's Application for Zoning Amendment.

We reside in Summer Place, a neighborhood community of 19 homes (20 home sites) situated diagonally across the street from Dragon Cement. As noted in the application, Summer Place was rezoned in 1995 and "at the time, everyone was fully aware of the adjacent industrial use on the Dragon site." Yes, we were aware of this grandfathered non-conforming use, we did not find it objectionable then and we do not object to it at present. We do, however, strongly object to their request to commence mining (blasting) operations on R-3 zoned property acquired in the 1980's, which is not part of the property grandfathered as a non-conforming use. This property, to the best of my knowledge, has never been used as part of the manufacturing or mining operations of Dragon Cement or its predecessor. According to Dragon's own Plant Manager, Dave Grinnell, "Dragon knew there was some question as to this property's use" when they acquired the site in 1991. At least this is what he said at a meeting with abutters in December 1997. (There may even be some question as to whether Dragon would be permitted to resume mining operations at its present quarry, but then we are not lawyers.)

As a point of clarification, the Application states in Paragraph 3 that "Dragon's only goal in this application is to clarify that it may mine stone from its site to use in its concrete manufacturing process," but the application seeks much more than that with respect to noise levels and the like. In fact, by its own admission the company is currently in violation of zoning standards for noise levels (76 decibels versus the highest allowable standard of 75 decibels for IH). Another misrepresentation in the application is the assertion in Paragraph 2 that the only opposition that "surfaced during that process was opposition from . . . Summer Place residents." In fact, other abutting neighbors opposed this application too, as the record will clearly show.

In summary, we understand and respect Dragon's right to continue their manufacturing operation on the present site as a legitimately grandfathered, non-conforming use. We do not believe that gives them the right to rezone the adjacent property from R-3 to Contract Zoning, which would permit blasting and all that entails in terms of safety, noise, vibrations, dust, etc.

Thank you for your earnest consideration of our position.

Sincerely,

Howard Handell

Mike Yandell

In summary, we understand and respect Dragon's right to continue their manufacturing operation on the present site as a legitimately grandfathered, non-conforming use. We do not believe that gives them the right to rezone the adjacent property from R-3 to Contract Zoning, which would permit blasting and all that entails in terms of safety, noise, vibrations, dust, etc.

Thank you for your earnest consideration of our position.

Sincerely,

Howard Yandell

Mike Yandell

In summary, we understand and respect Dragon's right to continue their manufacturing operation on the present site as a legitimately grandfathered, non-conforming use. We do not believe that gives them the right to rezone the adjacent property from R-3 to Contract Zoning, which would permit blasting and all that entails in terms of safety, noise, vibrations, dust, etc.

Thank you for your earnest consideration of our position.

Sincerely,

Andrew Handell

Mike Yandell

October 15, 2001

Mr. Jaimey Caron
Chair, Portland Planning Board
City of Portland
City Hall
389 Congress Street
Portland, ME 04101

Dear Mr. Caron:

On May 29, 2000, the residents of Summer Place wrote to express our opposition to Dragon's Contract Zoning Agreement. A copy of that letter is attached hereto by way of reference. In the intervening time, our representatives have attended various neighborhood meetings and workshops concerning this proposed change. Our representatives have reviewed the various engineering reports and other data made available to us along with contract changes proposed by Dragon and the Portland Planning Board.

Notwithstanding your board's efforts to make this proposal attractive and acceptable to the neighborhoods by imposing certain requirements, restrictions, limitations and other conditions on Dragon, we steadfastly maintain our view that the improvements proposed in the plant appearance, plant location and operations and traffic, to mention a few key requirements, do not compensate for the degradation in the quality of our lives which would occur if the Contract Zoning Agreement is approved and Dragon is permitted to commence blasting and mining operations. Therefore, we urge the board to reject and deny this proposal based on the following:

The property is currently zoned R-3

The property was acquired on speculation in 1962 and 1985

Expansion of a non-conforming use should be prohibited

The proposed use is incompatible with the residential developments and subdivisions approved in the 1980's and 1990's

The proposed use is inconsistent with Portland's Comprehensive Plan

Portland needs to "protect neighboring residential zones" and "promote compatible development"

The proposed use would not be permitted in a heavy impact industrial zone, much less a residential zone

Dragon cannot meet existing performance standards with respect to vibration or noise

Structural damage to some neighborhood homes will almost certainly occur over the blast period for 20 to 30 years

The proposal is inconsistent with our vision of Portland, and Portland's vision of Portland

There are numerous other reasons (legal, political and moral) why this proposal should be rejected and denied, but the above certainly represent sufficient grounds for the Portland Planning Board to do so, in our collective opinion. Please do so forthwith.

Thank you for your consideration of our position on this matter.

David Seaman

A handwritten signature in black ink, appearing to read "David Seaman", with a long horizontal flourish extending to the right.

President
Summer Place Association
37 Summer Place
Portland, Maine 04103

cc: The Honorable Cheryl Leeman, Mayor
Alexander Jaegerman, Chief Planner