NATIONAL GRID NH

DG 10-139
Cast Iron/Bare Steel Replacement Program

Response to Record Request

Date of Request: June 18, 2010 Date of Response: June 21, 2010
Exhibit No.: Exhibit 3

REQUEST: Please provide a copy of the Massachusetts Supreme Judicial Court decision referred to by Mr. Finneral in his testimony. Please also provide a copy of the pavement restoration standards issued by the Massachusetts Department of Public Utilities or its predecessor agency.

RESPONSE: There are two Massachusetts Supreme Judicial Court decisions of the type that Mr. Finneral referred to. The orders are attached to this response as Attachment RR Ex. 5(a) and Attachment RR Ex. 5(b). The pavement restoration standards referred to are attached as Attachment RR Ex. 5(c).

1 of 2 DOCUMENTS

BOSTON GAS COMPANY vs. CITY OF SOMERVILLE.

[NO NUMBER IN ORIGINAL]

SUPREME JUDICIAL COURT OF MASSACHUSETTS

420 Mass. 702*; *652 N.E.2d 132*; *1995 Mass. LEXIS 313

May 2, 1995, Argued
June 28, 1995, Decided

PRIOR HISTORY: [***1] Suffolk. CIVIL ACTION commenced in the Superior Court Department on February 4, 1994. The case was heard by Margaret R. Hinkle, J., on motions for summary judgment. The Supreme Judicial Court granted an application for direct appellate review.

DISPOSITION: Judgment vacated, case remanded.

HEADNOTES

Constitutional Law, Home Rule Amendment. Municipal Corporations, Home rule, By-laws and ordinances. Public Utilities, Energy company. Gas Company.

COUNSEL: Steven W. Phillips for the plaintiff.

Charles F. Haverty, III, Assistant City Solicitor, for the defendant.

The following submitted briefs for amici curiae: Scott Harshbarger, Attorney General, Edmund J. Sullivan, Assistant Attorney General, & Dorian C. Mead, for Department of Public Utilities.

Patrick W. Hanifin & Stephen S. Ostrach, for New England Legal Foundation.

Paul K. Connolly, Jr., & Eileen M. Fava, for Massachusetts Natural Gas Council.

JUDGES: Present: LIACOS, C.J., LYNCH, O'CONNOR, & GREANEY, JJ.

OPINION BY: LYNCH

OPINION

[*702] **[**133]** LYNCH, J. The plaintiff's complaint for declaratory relief pursuant to G. L. c. 231A (1992 ed.), challenges the constitutionality **[*703]** of § 12-20 of the Somerville Code of Ordinances (ordinance). 1 After a judge in the Superior Court denied the plaintiff's **[***2]** request for a preliminary injunction prohibiting enforcement of the ordinance, the parties filed cross motions for summary judgment. The judge allowed the city of Somerville's (defendant's) motion for summary judgment, and the plaintiff appealed. A single justice of the Appeals Court, pursuant to *G. L. c. 231, § 118* (1992 ed.), enjoined the defendant from enforcing the ordinance pending appeal. We granted the plaintiff's application for direct appellate review.

1 This ordinance is entitled "Asphalt street and sidewalk openings" and governs all aspects of street excavations in Somerville including: (1) applicable fees, deposits, performance bonds and fines required for each street opening permit granted; (2) the required highway department notification procedures; (3) the required procedures for excavating, backfilling, patching, paving and barricading of excavation sites; and (4) the financial responsibilities and billing

procedures required for permittees.

The plaintiff contends that the ordinance is invalid **[***3]** under § 6 of *art. 89 of the Amendments to the Massachusetts Constitution* (Home Rule Amendment), because it is inconsistent with G. L. c. 164 (1992 ed.), the State's regulatory scheme for public utilities. [2] We agree. Municipalities may not adopt by-laws or ordinances that are inconsistent with State laws. See *American Motorcyclist Ass'n v. Park Comm'n of Brockton, 412 Mass. 753, 756, 592 N.E.2d 1314 (1992)* (invalidating local regulation banning use of motorcycles because regulation inconsistent with statute giving person right to operate motor vehicle); *New England Tel. & Tel. Co. v. Lowell, 369 Mass. 831, 834-835, 343 N.E.2d 405 (1976)* (invalidating ordinance requiring registered land **[*704]** surveyors and professional engineers contrary to statute exempting engineers subject to Department of Public Utilities regulations from registration requirements); *Del Duca v. Town Adm'r of Methuen, 368 Mass. 1, 9, 329 N.E.2d 748 (1975)* (holding ordinance facially inconsistent with statute and therefore void). See also art. 89, § 6; *G. L. c. 43B, § 13* (1992 ed.). To determine whether a local ordinance is inconsistent with a statute, this court has looked to see whether there was **[***4]** either an express legislative intent to forbid local activity on the same subject or whether the local regulation would somehow frustrate the purpose of the statute so as to warrant an inference that the Legislature intended to preempt the subject. *Bloom v. Worcester, 363 Mass. 136, 155-156, 293 N.E.2d 268 (1973)*. Moreover, in some circumstances we can infer that the Legislature intended to preempt the field because legislation on the subject is so comprehensive that any local enactment would frustrate the statute's purpose. *Wendell v. Attorney Gen., 394 Mass. 518, 527-528, 476 N.E.2d 585 (1985)*. See also *New England Tel. & Tel. Co. v. Lowell, supra* (intent to preempt inferred from comprehensive legislative scheme).

2 The Home Rule Amendment states "any city or town may, by the adoption, amendment, or repeal of local ordinances or by-laws, exercise any power or function which the general court has power to confer upon it, *which is not inconsistent with the constitution or law enacted by the general court . . .*" (emphasis added). Art. 89, § 6, of the Amendments to the Massachusetts Constitution. The plaintiff also contends that this ordinance violates § 7 of the Home Rule Amendment because it imposes a tax on the plaintiff. However, this contention was not raised below and may not be raised for the first time on appeal. *Guardianship of Doe, 411 Mass. 512, 513 n.2, 583 N.E.2d 1263*, cert. denied sub nom. *Doe v. Gross, 503 U.S. 950, 117 L. Ed. 2d 649, 112 S. Ct. 1512 (1992)*. Moreover, because we conclude the ordinance to be invalid for other reasons, we need not address this argument.

[*5]** **[**134]** The manufacture and sale of gas and electricity by public utilities is governed by G. L. c. 164. Given the comprehensive nature of this statute, we conclude that the Legislature intended to preempt local entities from enacting legislation in this area. See *Boston Edison Co. v. Boston, 390 Mass. 772, 774, 459 N.E.2d 1231 (1984)* (recognizing comprehensiveness of G. L. c. 164). Furthermore, the ordinance is inconsistent with particular provisions of the statute and the regulations of the Department of Public Utilities (department).

When the plaintiff excavates a street to work on its underground gas distribution facilities or to provide gas service to the general public, the department mandates that the plaintiff utilize a "least-cost" strategy to repair the excavation site including the use of competitive bidding procedures. See D.P.U. 93-60 at 232-233 (1993). See also D.P.U. 92-210 at 196 (1993). However, because of the ordinance the plaintiff must hire a "city contract representative," selected by the defendant, to provide patching, paving, and repair services at **[*705]** specified rates which, the plaintiff contends, exceed the rates it previously obtained with competitive bidding. **[***6]** [3] The ordinance also requires the plaintiff to use certain materials and paving techniques, such as infrared paving methods. [4] Moreover, under the ordinance, the plaintiff's responsibility for the excavation site continues for three years beyond the final infrared treatment, even though *G. L. c. 164, § 70*, does not require the plaintiff to maintain the street after the excavation site has been repaired. [5] *General Laws c. 164, § 70*, on the other hand, only requires the plaintiff to return an excavation site back to its original condition. See *Wendell v. Attorney Gen., supra* at 528 (holding by-law inconsistent because imposed conditions beyond those established by statute and exceeded town board of health authority). Because the ordinance conflicts with the statutory scheme for regulating public utilities, we conclude that it is inconsistent with c. 164 and therefore invalid. See *New England Tel. & Tel. Co. v. Lowell, supra at 834*

(discussing desirability of uniform utility regulation).

3 It appears that, at the present time, only one paving contractor has the "qualifications" necessary to provide paving services under the ordinance. It is also noteworthy that this same contractor was involved in drafting the ordinance.

[*7]**

4 Regardless, § 8 of the ordinance states that, "after a proper settling period, the excavating shall be infra-red heat treated by the contract representative of the city. This work shall be the financial obligation of the permittee." Moreover, § 10 of the ordinance provides that "all street excavations shall be made permanent by the infra-red heat process and will be the financial responsibility of the permittee."

5 *General Laws c. 164, § 70*, provides in pertinent part that "[a] gas company may, with the written consent of the aldermen or the selectmen, dig up and open the ground in any of the streets, lanes and highways of a town. . . . It shall put all such streets, lanes and highways in as good repair as they were in when opened." However, § 11 of the ordinance provides that "the installation of permanent patch does not alleviate the permittee from the responsibility for trench settlement for a period of three (3) years from the date of the final infra-red permanent repair . . . ."

Finally, although the defendant argues that G. L. c. § 164, *§ 75*, [6] gives it the authority **[***8]** to regulate in this area, we conclude **[*706]** that the defendant cannot use its limited authority enact an ordinance which has the practical effect of frustrating the fundamental State policy of ensuring uniform and efficient utility services to the public. See *New England Tel. Tel. Co. v. Lowell, supra at 833, 835* (holding ordinance invalid despite city's statutory authority to establish reasonable regulations for welfare of citizens).

6 *General Laws c. 164, § 75*, provides: "The aldermen or selectmen may regulate, restrict and control all acts and doings of a corporation subject to this chapter which may in any manner affect the health, safety, convenience or property of the inhabitants of their towns."

The judgment of the Superior Court is vacated. The case is remanded for the entry of a judgment declaring that § 12-20 of the Somerville Code of Ordinances is invalid.

[*9]** So ordered.

1 of 2 DOCUMENTS

BOSTON GAS COMPANY vs. CITY OF NEWTON.

SJC-06987

SUPREME JUDICIAL COURT OF MASSACHUSETTS

425 Mass. 697; 682 N.E.2d 1336; 1997 Mass. LEXIS 229

April 7, 1997, Argued
August 14, 1997, Decided

PRIOR HISTORY: [***1] Suffolk. Civil action commenced in the Superior Court Department on September 11, 1992. The case was heard by Gordon L. Doerfer, J., on motions for summary judgment. The Supreme Judicial Court granted an application for direct appellate review.

DISPOSITION: Judgment of Superior Court reversed in part and affirmed in part; case remanded for entry of judgment in favor of plaintiff with respect to portion of ordinance imposing maintenance and inspection fees.

HEADNOTES

Constitutional Law, Home Rule Amendment. *Municipal Corporations,* Home rule, By-laws and ordinances, Fees. *Public Utilities,* Energy company. *Gas Company.*

COUNSEL: Steven W. Phillips (Michael I. Joachim with him) for the plaintiff.

Frances E. Balin, Assistant City Solicitor, for the defendant.

The following submitted briefs for amici curiae:

Scott Harshbarger, Attorney General, & Thomas A. Barnico, Assistant Attorney General, for the Department of Public Utilities.

Paul K. Connolly, Jr., & Eileen M. Fava for the Massachusetts Natural Gas Council.

Albert S. Robinson, Town Counsel, & James A. Goodhue for the Town of Wellesley.

David M. Moore for the Massachusetts Municipal Association.

JUDGES: Present: [***2] Wilkins, C.J., Abrams, Lynch, Greaney, & Fried, JJ.

OPINION BY: LYNCH

OPINION

[*698] [**1338] LYNCH, J. The plaintiff filed an action for declaratory relief pursuant to G. L. c. 231A, arguing that § 26-11 of the Revised Ordinances of Newton, as amended by Newton Ordinance No. T-161, was preempted by State law and constituted an improper tax. On cross motions for summary judgment, a Superior Court judge allowed the city of Newton's (city) motion. The plaintiff appealed. We granted the city's application for direct appellate review.

The following facts are undisputed. The ordinance at issue imposes a monetary cost on public utility companies such as the Boston Gas Company as a prerequisite to acquiring a permit to excavate public ways and sidewalks in the city. Under the ordinance, a party seeking a permit to excavate a public way is charged an

application fee of $ 25. In addition, for an excavation of one hundred square feet or less, an "Inspection and Maintenance" fee of $ 150 is imposed. For each additional one hundred square feet or portion thereof, an additional $ 50 is charged. The ordinance also imposes an inspection and maintenance fee of $ 50 for "shut-off holes" and a fee of $ 10 each for "corings." **[***3]** [1] The city based the charges on the costs it incurs in issuing permits and in inspecting the excavations. The city maintains that the fee structure also takes into account the reduction in the useful life of streets and sidewalks caused by openings into their surfaces. [2] [3]

1 Shut-off holes are openings of approximately one square foot. Corings are small, deep openings of approximately two inches in diameter.

2 According to the city, the life expectancy of a street is reduced by twenty-five per cent by street openings. The city therefore calculated that the reduced life expectancy added $ 15.25 per year per one hundred square feet to the city's cost of maintaining its roadways.

3 The city also points out that inspection and maintenance fees for street openings are waived if a particular street is scheduled for reconstruction or resurfacing later in that calendar year or if the street is under construction at the time of the permit request.

The plaintiff contends that the ordinance is invalid **[***4]** under § 6 of *art. 89 of the Amendments to the Massachusetts Constitution* **[*699]** (Home Rule Amendment) because it is inconsistent with G. L. c. 164, the State's regulatory scheme for public utilities, including gas companies, and regulations of the Department of Public Utilities (department). [4] We agree that the portion of the ordinance charging inspection and maintenance fees is invalid; we conclude, however, that the city is entitled to charge a fee based on its administrative **[**1339]** costs incurred in the issuance of permits.

4 The Home Rule Amendment states "any city or town may, by the adoption, amendment, or repeal of local ordinances or by-laws, exercise any power or function which the general court has power to confer upon it, which is not inconsistent with the constitution or laws enacted by the general court . . . ." Art. 89, § 6, of the Amendments to the Massachusetts Constitution.

Discussion. Municipalities may not adopt by-laws or ordinances that are inconsistent with State law. *Boston Gas Co. v.* **[***5]** *Somerville, 420 Mass. 702, 703, 652 N.E.2d 132 (1995)*, and cases cited. "To determine whether a local ordinance is inconsistent with a statute, this court has looked to see whether there was either an express legislative intent to forbid local activity on the same subject or whether the local regulation would somehow frustrate the purpose of the statute so as to warrant an inference that the Legislature intended to preempt the subject." *Id. at 704.* Accord *Bloom v. Worcester, 363 Mass. 136, 155, 293 N.E.2d 268 (1973).* "Moreover, in some circumstances we can infer that the Legislature intended to preempt the field because legislation on the subject is so comprehensive that any local enactment would frustrate the statute's purpose." *Boston Gas Co. v. Somerville, supra.* Accord *Wendell v. Attorney Gen., 394 Mass. 518, 527-528, 476 N.E.2d 585 (1985)*; *New England Tel. & Tel. Co. v. Lowell, 369 Mass. 831, 834-835, 343 N.E.2d 405 (1976).* We have stated that the purpose of G. L. c. 164 is to ensure uniform and efficient utility services to the public. *Boston Gas Co. v. Somerville, supra at 706.* See also *New England Tel. & Tel. Co. v. Lowell, supra at 834* (emphasizing **[***6]** "the desirability of uniformity of standards applicable to utilities regulated by the Department of Public Utilities"). We consider, therefore, whether the ordinance, which imposes a fee based on three separate considerations, is inconsistent with G. L. c. 164, such that it interferes with uniform and efficient utility services.

Maintenance. General Laws c. 164, § 70, imposes an affirmative obligation on the plaintiff to restore all streets, lanes, and highways to the condition they were in prior to being **[*700]** opened. [5] The ordinance, however, assesses a fee based on the city's calculation that street life is reduced twenty-five per cent by excavations. While the city argues that it is entitled to recover such future costs as property damage under *G. L. c. 164, § 75*, [6] the logical corollary of the city's argument is that it is all but impossible for the plaintiff to restore a street that has been the site of an excavation to its former condition and the plaintiff must therefore be made to pay for the diminished value. This assumption is contrary to that of the Legislature because the statute assumes that a street can and should be restored to its former condition. See *G. L. c.* **[***7]** *164, § 70.* Therefore, imposing a cost on the plaintiff based on the reduction in street life caused by the excavation is inconsistent with the statute. See *Boston*

Gas Co. v. Somerville, supra at 705 (requirement of ordinance that plaintiff maintain excavation site for three years inconsistent with statute); *Seltzer v. Amesbury & Salisbury Gas Co., 188 Mass. 242, 244, 74 N.E. 339 (1905)* (construing predecessor to *G. L. c. 164, § 70*, and stating that "the statute has reference simply to a temporary condition of things, existing while the work is going on, and extending only so long as may be reasonably necessary to put the road in its former condition"). Indeed, despite the fact that this charge must be paid at the time the permit is sought, it is inescapable that the cost the city seeks to impose will be incurred in the future. [7] By demanding that the plaintiff, **[**1340]** through an upfront fee, in effect pay for the long-term **[*701]** maintenance of the street, the ordinance mandates something not required by the statute and is, therefore, inconsistent with, and preempted by, G. L. c. 164. [8] See *Wendell v. Attorney Gen., 394 Mass. at 528-529* (holding by-law inconsistent because imposed **[***8]** conditions beyond those established by statute and exceeded authority of town's board of health); *New England Tel. & Tel. Co. v. Lowell, supra.*

5 *General Laws c. 164, § 70*, provides: "A gas company may, with the written consent of the aldermen or the selectmen, dig up and open the ground in any of the streets, lanes, and highways of a town, so far as necessary to accomplish the objects of said corporation; but such consent shall not affect the right or remedy to recover damages for an injury caused to persons or property by the acts of such corporation. It shall put all such streets, lanes and highways in as good repair as they were in when opened, and upon failure to do so within a reasonable time, shall be guilty of a nuisance."

6 *General Laws c. 164, § 75*, provides: "The aldermen or selectmen may regulate, restrict and control all acts and doings of a corporation subject to this chapter which may in any manner affect the health, safety, convenience or property of the inhabitants of their towns."

7 The city argues that the plaintiff did not raise below the argument that the ordinance mandates the plaintiff to perform duties in excess of those defined by *G. L. c. 164, § 70*, by requiring the plaintiff to become involved in the long-term maintenance of roadways and has moved to strike this portion of the plaintiff's brief. We conclude that the plaintiff did properly raise this argument. Indeed, in the plaintiff's memorandum of law in support of summary judgment and its opposition to the city's cross motion for summary judgment, the plaintiff pointed out that a gas company need only put its street openings in as good repair as they were in when opened and argued that the ordinance impermissibly sought to shift maintenance costs to the plaintiff. Accordingly, the city's motion to strike this portion of the brief is denied.

[*9]**

8 To the extent that the city may suggest that the Legislature was incorrect in its assumption that a street, once excavated, can be restored to its former condition, any such arguments should be addressed to the Legislature.

Inspection. The city also argues that, even if the portion of the fee attributable to the reduction in street life is eliminated, costs incurred by the city in inspecting the excavation sites justify the fee. Thus, according to the city, the fees are reasonable regardless of whether the city permissibly may charge the plaintiff for the reduction in street life and are impliedly authorized by the statutory and regulatory scheme. We disagree.

In mandating that public utilities restore a street or highway to the condition it was in prior to any excavation, we believe that the statute can be fairly read as placing the burden of fulfilling such statutory duties squarely on the shoulders of the public utility. See *G. L. c. 164, § 70*. The statute implies, therefore, that the plaintiff, not the city, has the obligation to inspect excavation sites after the necessary repairs **[***10]** have been made. Moreover, the statute vests with the department, not the city, the authority to oversee the plaintiff and to ensure the safe and efficient distribution of gas. Where excavation is necessary in order to ensure the safe and efficient distribution of such gas to consumers and compliance with numerous Federal and State regulations, such excavation is inextricably linked with the distribution of gas. [9] See *G. L. c. 164, § 105A*. [10] See also *New England LNG Co. v. Fall River, 368 Mass. 259, 265, 331 N.E.2d 536 (1975)* **[*702]** (establishing "supremacy" of *G. L. c. 164, § 105A*, over *G. L. c. 164, § 75*); *Pereira v. New England LNG Co., 364 Mass. 109, 120, 301 N.E.2d 441 (1973)* (*G. L. c. 164, § 105A*, indicates that Legislature "intended to give, and did give . . . paramount power to the Department" to regulate and control storage, transportation, and distribution of gas).

9 Indeed, it appears to be undisputed that the distribution system used by Boston Gas consists of fifty million linear feet of pipes and mains, 99.9% of which is underground. In Newton, Boston Gas owns 1,512,247 linear feet of gas mains, 99.8% of which is underground. Moreover, according to information contained in the record which the city does not appear to dispute, between February 3, 1992, and July 15, 1994, the plaintiff applied for 551 permits from the city, all of which were granted. Of these, approximately sixty per cent were obtained to perform work necessary to the safe maintenance of gas service and to ensure compliance with department regulations, which, in many cases, requires compliance with Federal standards. See *220 Code Mass. Regs. § 69.12* (1995), requiring compliance with 49 C.F.R. Part 192, Transportation of Natural and Other Gas by Pipeline: Minimum Safety Standards.

[*11]**

10 *General Laws c. 164, § 105A*, provides in pertinent part: "Authority to regulate and control the storage, transportation and distribution of gas and the pressure under which these operations may respectively be carried on is hereby vested in the department."

In addition, *G. L. c. 164, § 76*, provides: "The department shall have the general supervision of all gas and electric companies and shall make all necessary examination and inquiries and keep itself informed as to the conditions of the respective properties owned by such corporations and the manner in which they are conducted with reference to the safety and convenience of the public, and as to their compliance with the provisions of law and the orders, directions and requirements of the department . . . ."

It is true, as the city argues, that the statute does not expressly forbid the inspection process established by the city here. What the statute does prohibit is the imposition of the city's inspection costs on the plaintiff and its customers. We reiterate our conclusion in *Boston Gas Co. v. Somerville,* **[**1341]** *420 Mass. at 704*, however, **[***12]** that "the manufacture and sale of gas and electricity by public utilities is governed by G. L. c. 164. Given [its] comprehensive nature . . . the Legislature intended to preempt local entities from enacting legislation in this area." See *Boston Edison Co. v. Boston, 390 Mass. 772, 774, 459 N.E.2d 1231 (1984)* (recognizing comprehensiveness of G. L. c. 164). [11] The city, of course, attempts to distinguish *Boston Gas Co. v. Somerville, supra,* and argues that this language in *Somerville* cannot be read so broadly as to encompass the situation now before us; to the extent that the language was meant to encompass a situation like the one before us, the city argues that it is dictum and incorrect. We disagree. Concededly, the ordinance at issue in *Somerville* was **[*703]** more onerous in some respects. [12] However, it too regulated street and sidewalk openings, and we concluded that that ordinance was invalid. *420 Mass. at 704-705*. Thus, in the instant case, the portion of the ordinance attributable to inspection costs, which in essence attempts to exert more control over the plaintiff than exercised by the department, may not stand.

11 Given our conclusion that the statute requires the plaintiff to inspect excavation sites, it is likely that the ordinance, by imposing a fee for a second inspection by city officials, is inconsistent with department regulations mandating that the plaintiff pursue a "least-cost" approach to providing gas service to its customers. See *Boston Gas Co. v. Somerville, 420 Mass. 702, 704-705, 652 N.E.2d 132 (1995)*. We need not consider this issue, however, as it is not necessary to the disposition of this case.

[*13]**

12 In that case, the ordinance required the plaintiff to hire particular contractors, selected by the city, to provide patching, paving, and repair services at specified rates. *Boston Gas Co. v. Somerville, supra.* In addition, the ordinance required the plaintiff to use certain materials and paving techniques to repair the streets and mandated that the plaintiff's responsibility for the excavation site continue for three years beyond the final infrared treatment. *Id. at 705.*

In rejecting the city's argument that imposition of such fees is consistent with *§ 75*, we do not agree with its contention that we have "effectively repealed *§ 75*." We have recognized that *§ 75* provides limited authority to a municipality and must yield at times to the broader grant of authority given to the department. See *Boston Gas Co. v. Somerville, 420 Mass. at 705-706*; *New England LNG Co. v. Fall River, supra.* Allowing the city to use *§ 75* to assess fees not authorized by, and indeed, inconsistent

with, the statute, however, would impose an additional burden on the plaintiff, a burden which undermines **[***14]** the "fundamental State policy of ensuring uniform and efficient utility services to the public." *Boston Gas Co. v. Somerville, supra at 706.* See *New England Tel. & Tel. Co. v. Lowell, supra at 834* (ordinance imposing additional burden on plaintiff which forced plaintiff to expend in particular district sums it was not required to expend elsewhere interfered with uniformity desirable in regulation of utilities throughout Commonwealth and was preempted). [13] We emphasize, however, that our conclusion **[*704]** that the inspection and maintenance fees charged by the city in this case are inconsistent with *G. L. c. 164, § 70*, and are, therefore, preempted is not based merely on the fact that the ordinance **[**1342]** requires the plaintiff to expend sums of money. [14] Rather, it is based on the fact that the ordinance requires the plaintiff to expend money in a manner not authorized by, and indeed inconsistent with, particular provisions of the statute.

13 By comparing the city's ordinance with a by-law enacted by the town of Wellesley that also regulates street excavation, the interference with a uniform and efficient system of gas distribution presented by these regulations becomes clear. Indeed, according to information contained in its amicus brief, Wellesley charges an inspection and maintenance fee of $ 140 for street openings 150 square feet or less, and $ 25 for each additional 150 square feet. In addition, Wellesley charges an extended maintenance fee for excavations into streets which are less than three years old. The Wellesley by-law provides that no newly constructed or reconstructed pavement less than three years old may be cut into except in an emergency; if such cuts must be made in pavement less than one year old, the fee assessed is four times standard cost. Moreover, it appears that, since the city enacted its ordinance, more than forty municipalities have also adopted permit fees; at least five of those municipalities expressly charge fees denoted as inspection and maintenance fees. Clearly, the differences between the municipalities in assessing costs impedes the uniformity of gas distribution; moreover, where the system becomes less uniform, such balkanization is likely to lead to less efficient services. See *Pereira v. New England LNG Co., 364 Mass. 109, 121, 301 N.E.2d 441 (1973)* (recognizing "the absolute interdependence of all parts of the Commonwealth and of all of its inhabitants in the matter of availability of public utility services").

[*15]**

14 From February 3, 1992, through July 15, 1994, inspection and maintenance fees charged by the city to the plaintiff totaled $ 102,230.

That *§ 70* requires the city's consent before excavating a street does not mandate the conclusion that an inspection fee is permitted. See *Wendell v. Attorney Gen., 394 Mass. 518, 524, 476 N.E.2d 585 (1985)* (in considering whether by-law is inconsistent with statute, question is whether Legislature intended to deny municipality right to legislate on subject). The plaintiff has the statutory obligation to restore the street to its preexcavation condition but preexcavation or postexcavation inspection by the city at the expense of the plaintiff is not specifically or impliedly a statutory requirement. [15] Given the comprehensiveness of the statute and the remedies provided therein, we conclude that the statute does not permit a municipality to charge the fees **[*705]** in question. [16] [17]

15 *General Laws c. 164, § 70*, also contemplates that an action for nuisance will lie against a gas company that fails to put all streets in as good repair as they were in prior to being opened.

Moreover, the statute also contains other remedies that may be pursued if the utility company fails to fulfil its statutory obligations. *General Laws c. 164, § 105A*, provides in part: "Upon the filing with the department of a written complaint of the mayor of the city or selectmen of the town where a gas company is operating, or of twenty of its consumers, either as to the manner in which or pressure at which gas is being or shall be stored, transported or distributed, the department shall . . . give a public hearing . . . and after said hearing may make such order, if any, as it may deem necessary."

In addition, *G. L. c. 164, § 78*, provides: "If any corporation engaged in the manufacture and sale or distribution and sale of gas or electricity violates or fails to comply with the provisions of law, or violates or fails to comply with any lawful order of the department, [the department] shall give written notice thereof to such corporation

and to the attorney general."

[*16]**

16 We recognize, as the city points out, that a city may need to inspect a site in order to determine whether it should proceed with a remedy contemplated by the statute. That the city decides to take such a step does not, however, give the city the right to pass on these costs to the plaintiff. Indeed, the city has an independent obligation under G. L. c. 84 to ensure that all its ways are in good repair. Arguments that the remedies provided by the statute are inadequate should be made to the Legislature.

17 The city also argues that the plaintiff did not raise below its argument that the city had a statutory remedy under *G. L. c. 164, § 105A*, that allows the city to bring a complaint to the department regarding street openings and has moved to strike portions of the plaintiff's brief regarding this argument. We agree that the plaintiff did not expressly argue that an administrative remedy existed under *G. L. c. 164, § 105A*. The plaintiff did argue, however, that the ordinance "interferes with a comprehensive, unified, and exclusive statutory scheme, created by the Legislature governing the obligation of a gas company to repair street excavations" and that "the Department exercises its statutory authority over gas company operations under *G. L. c. 164, § 105A*, in a manner that leaves no role for further local action." Moreover, the plaintiff argued that *G. L. c. 164, §§ 70* and *74*, provided a municipality with remedies in the event that the plaintiff did not fulfil its statutory duties. Thus, we decline to strike portions of the brief where the plaintiff argues that the city did not utilize any statutory remedies before imposing the fees at issue particularly where, as here, the important fact is not that the city did not pursue any potential statutory remedies prior to enacting the ordinance but the fact that the statute itself establishes a comprehensive scheme.

[*17]** Finally, the city argues that the department has enacted regulations which consider municipal inspection and permit fees as legitimate costs for gas companies which may then be recovered by the plaintiff by passing on such costs to its customers. [18] According to the city, these regulations indicate that the fees imposed by it are consistent with, and not preempted by, G. L. c. 164. The department, in its amicus brief, contends that these regulations do not indicate approval of such costs but deal with the accounting system **[**1343]** and are only intended to provide the department with information on the operations of gas companies and to aid its review of company costs. Where the allowance of **[*706]** inspection fees assessed by individual municipalities is inconsistent with the statutory purpose of uniform and efficient distribution of utility services, we would be reluctant to conclude that a regulation approving such fees was valid. See generally *American Family Life Assur. Co. v. Commissioner of Ins., 388 Mass. 468, 477, 446 N.E.2d 1061*, cert. denied, *464 U.S. 850, 78 L. Ed. 2d 147, 104 S. Ct. 160 (1983)*. However, we accept the department's interpretation of its own accounting regulations **[***18]** as not constituting tacit approval of the fees in question. See *Boston Police Superior Officers Fed'n v. Boston, 414 Mass. 458, 462, 608 N.E.2d 1023 (1993)*, quoting *Northbridge v. Natick, 394 Mass. 70, 74, 474 N.E.2d 551 (1985)* ("an agency's construction of its own rules and regulations 'is one to which considerable deference is due'").

18 The city points to numerous provisions in the Uniform System of Accounts for Gas Companies. For our purposes, the most relevant of these are account 367 of the gas plant accounts, which deals with an account called "Mains" and provides that municipal inspections may be included as a cost in this account, 220 Code Mass. Regs. § 50.00, gas plant accounts, account 367, item 16 (1993); and account 380, which deals with an account called "Services" and provides that municipal inspections may be included as a cost in this account, 220 Code Mass. Regs. § 50.00, gas plant accounts, § 380, item 4 (1993).

Administrative costs. Finally, we consider whether a fee **[***19]** to reimburse the city for its costs in processing permit applications is within the contemplation of the statute. We have long held that a municipality required by statute to participate in a scheme established by statute is entitled to "cover reasonable expenses incident to the enforcement of the rules." *Southview Coop. Hous. Corp. v. Rent Control Bd. of Cambridge, 396 Mass. 395, 400, 486 N.E.2d 700 (1985)*, quoting *Commonwealth v. Plaisted, 148 Mass. 375, 382, 19 N.E. 224 (1889)*. While in the instant case the authority of a municipality is severely circumscribed, it is clear that a utility desiring to perform excavation work

must seek the written consent of a municipality's governing body. *G. L. c. 164, § 70.* Thus, costs incurred by the municipality in granting that written permission are recoverable expenses. The plaintiff has not contested the portion of the summary judgment materials demonstrating that the $ 25 fee attributed to such administrative costs is reasonable. [19] The judgment of the Superior Court is reversed in part and affirmed in part; the case is remanded for **[*707]** the entry of a judgment in favor of the plaintiff with respect to the portion of the ordinance **[***20]** imposing maintenance and inspection fees.

19 The plaintiff also argues that the fees imposed by the ordinance constitute an unlawful tax on the plaintiff; to the extent this portion of the fee is attributable to a permit, the plaintiff does receive a benefit in the form of a written permission to dig. *Emerson College v. Boston, 391 Mass. 415, 424, 462 N.E.2d 1098 (1984).* To the extent that the plaintiff argues that it is required to dig and cannot be deemed to pay the tax voluntarily, we point out that, where this portion of the assessment is a classic regulatory fee necessary in order to ensure that the plaintiff complies with statutory requirements regarding written permission to dig, "the element of choice is not a compelling consideration which can be used to invalidate an otherwise legitimate charge." *Nuclear Metals, Inc. v. Low-Level Radioactive Waste Mgt. Bd., 421 Mass. 196, 207, 656 N.E.2d 563 (1995).* Thus, at least with respect to this portion of the charge imposed by the ordinance, it is a permissible fee, not an unlawful tax.

[*21]** *So ordered.*

Standards To Be Employed by Public Utility Operators When Restoring any of the Streets, Lanes and Highways in Municipalities

Section

1.0 Purpose and Scope

1.1 The purpose of these standards is to ensure that a Utility, after excavating in any municipal street, lane and highway ("public ways"), restores such street, lane and highway to the same condition in which they were found before the excavation.

1.2 Nothing in these standards may be construed to restrict the Constitutional or statutory authority of cities or towns ("Municipalities") with respect to public ways. Nothing in these standards is intended to prevent a utility and a municipality from mutually agreeing to exceptions to these standards.

1.3 Nothing in these standards is intended to be inconsistent with any ordinance or by-law and the constitution and laws of the Commonwealth.

1.4 Nothing in these standards is intended to create a contractor relationship between a Municipality and the Utilities regulated by the DTE.

1.5 Nothing in these standards is intended to be inconsistent with the Department's regulations concerning the Design, Construction, Operation, and Maintenance of Intrastate Pipelines Operating in Excess of 200 PSIG, 220 C.M.R. §§ 109.00 et seq. Inasmuch as the cover and backfill requirements in these standards are more stringent than those included in 220 C.M.R. § 109.09, these standards shall apply.
See 220 C.M.R. § 109.05(2).

1.6 The Utility is responsible for insuring compliance, for itself and its contractors, with these standards. However, Utility work may be inspected by the Municipality to assure that proper procedures are being followed. In the event a Utility fails to comply with these standards a Utility shall, at its own expense, correct such failures.

1.7 A Utility's performance in following these standards shall be considered by the Department when a Utility seeks recovery of costs related to these standards in a rate proceeding.

2.0 Definitions

AASHTO means The American Association of State Highway and Transportation Officials.

Clay means very finely textured soil which, when moist, forms a cast which can be handled freely without crumbling/breaking; that exhibits plasticity; and when dried, breaks into very hard lumps (i.e., high dry strength) and is difficult to pulverize into a soft, flour-like powder.

Cold Patch means a bituminous concrete made with slow curing asphalts and used primarily as a temporary patching material when hot mix plants are closed.

Compaction means compressing of suitable material and gravel that has been used to backfill an excavation by means of mechanical tamping to within 95% of maximum dry density as determined by the modified Proctor test in accordance with AASHTO T180.

Controlled Density Fill ("CDF"), meeting MHD Specification M4.08.0 Type 2E (flowable, excavatable), also called flowable fill means a mixture of portland cement, fly ash, sand and water. High air (25% plus) may be used instead of fly ash with an adjustment in sand content. CDF is hand-tool excavatable.

Department means the Department of Telecommunications and Energy.

Emergency Repair Work means street opening work which must be commenced immediately to correct a hazardous condition whose continuation would unreasonably risk injury, loss of life or property damage.

Gravel means coarse to very coarse-grained soil ranging from approximately 0.1 inch to 3.0 inches. Gravel exhibits no plasticity.

Infrared Process means a recycling procedure whereby an infrared heater plasticizes the surface of an asphalt pavement, preparatory to the introduction of additional compatible paving materials uniformly re-worked and compacted to achieve a density and profile consistent and thoroughly integrated with the adjacent pavement.

MHD means the Massachusetts Highway Department.

Mass. Highway Standards means the "Commonwealth of Massachusetts Department of Public Works Standard Specifications for Highways and Bridges, 1988 edition."

Municipality means any Massachusetts city or town having subordinate and local powers of legislation.

Newly Paved Road means a road whose re-paving is less than five years old.

Organic Soil means soil high in organic content, usually dark (brown or black) in color. When considerable fibrous material is the principal constituent, it is generally classified as "peat." Plant remains or a woody structure may be recognized and the soil usually has a distinct odor. Organic soil may exhibit little (or a trace of) plasticity.

Permanent Patch means a final repair of street opening work to be performed in accordance with these standards and intended to permanently return the opened portion of the roadway to as good a condition as it was prior to the performance of the street opening work.

Permit means a permit granted by a Municipality to a Utility for permission to do street opening work in a public way.

Plasticity means that property of soil that allows it to be deformed or molded without crumbling (e.g., like dough or soft rubber). This property reflects the capacity of soil to absorb moisture.

Poorly Graded Soil means soil that contains a large percentage of its constituent particles within a relatively narrow range; also referred to as "uniform" soil.

Sand means coarse grained soil in which the individual grains can be visually detected. When moist it forms a cast which will crumble when lightly touched; when dry, it will not form a cast and will fall apart when confining pressure is released. Sand exhibits no plasticity.

Silt means finely-textured soil. When moist, it forms a cast which can be freely handled; when wet, it readily puddles; when dry, it may be cloddy and readily pulverizes into powder with a soft flour-like feel (i.e., low dry strength). Silt exhibits little or no plasticity.

Street Opening Work means any cutting, excavating, compacting, construction, repair or other disturbance in or under a public way together with restoration of the public way in accordance with these standards, municipal ordinances and any other applicable law following such disturbance.

Temporary Patch means the application of either cold patch or Type I bituminous concrete compacted to achieve a density equal to that of the surrounding pavement.

Utility means any corporation, city, town or other governmental subdivision, partnership or other organization or any individual engaged within the Commonwealth in any business which is, or the persons engaged in which are, in any respect made subject to the supervision or regulation by the Department of Telecommunications and Energy. For the purposes of these Standards, a Utility shall also mean any person or entity engaged by or on behalf of a Utility to perform Street Opening Work.

Well Graded Soil means soil having its constituent particles within a wide range, also referred to as "non-uniform" soil.

3.0 Permit Requirements

Each Municipality may incorporate in its permit procedures the portions of these standards that shall apply to Utility excavations within its jurisdiction. A permit may be issued with the stipulation that it may be modified or revoked with just cause at any time at the discretion of the Municipality without rendering the Municipality liable in any way. It is recognized that each Municipality shall have the authority to inspect work in progress and the Utility shall correct any deficiencies identified during said inspections. The following are the requirements that a Municipality may require of a Utility when granting Permits.

3.1 The work shall be performed in accordance with plans on file with the Municipality.

3.2 The Utility shall notify the Municipality two (2) days prior to the start of work. No work shall be authorized or proceed (except Emergency Repair Work) without said notification.

3.3 The Utility shall notify Dig Safe, in accordance with G.L. c. 82 § 40, at least 72 hours prior to the start of work for the purpose of identifying the location of underground utilities.

3.4 The Utility shall be responsible to contact the Municipality regarding the field location of any underground traffic control devices on this project.

3.5 A copy of the Permit must be on the job site at all times for inspection (except for emergency repair work). Failure to have the permit available could result in suspension of the rights granted by the Permit.

3.6 Work, day, and time constraints shall be conditions of the Permit.

3.7 If it becomes necessary to open the roadway surface in a larger area than specified in the

Permit, the Utility shall apply for an additional Permit to cover the project.

3.8 The Utility shall notify the Municipality within 14 days after completion of the physical work.

4.0 Work Standards

4.1 All work shall be in compliance with the Mass. Highway Standards as it pertains to utility street excavations and repairs unless modified by these standards.

4.2 The Utility shall be responsible for any settlement that may occur as a result of the work done in accordance with the Permit.

4.3 The Utility shall be responsible for the ponding of water that may develop within the roadway which was caused by this work.

4.4 In the event a street opening failure presents a nuisance or a public safety problem, the Utility shall respond to all trench restoration requests by the Municipality within 48 hours. Non-response within the specified time will result in the required restoration work being done by the Municipality, with all expenses to be paid by the Utility. The Utility shall reimburse the Municipality for the invoiced amount within thirty (30) days.

4.5 Failure to respond to trench restoration requests may result in denial of future Permit requests.

5.0 Safety

5.1 Provisions shall be made for the safety and protection of pedestrian traffic during the construction period.

5.2 The Utility shall be responsible to furnish and erect all required signs and traffic safety devices.

5.3 Cones and non-reflecting warning devices shall not be left in operating position on the highway when the daytime operations have ceased. If it becomes necessary for the Municipality to remove any construction warning devices or the appurtenances from the project due to negligence by the Utility, all cost for this work will be charged to the Utility.

5.4 Flashing arrow boards will be used as directed when operations occupy the roadway and shall be available for use at all times.

5.5 All signs and devices shall conform to the 1988 edition, Revision 3, or subsequent current edition, of the Manual on Uniform Traffic Control Devices (MUTCD).

5.6 Efforts shall be made to maintain normal traffic flow, but interruptions or obstructions to traffic shall be defined by conditions of the Permit.

5.7 When, in the opinion of the Municipality, the work constitutes a hazard to traffic in any area the Utility may be required to suspend operations during certain hours and to remove any equipment from the roadway.

5.8 When a snow or ice condition exists during the progress of this work, the Utility shall keep the area affected by the work safe for travel. The Municipality may restrict work during snow, sleet, or ice storms and subsequent snow removal operations.

5.9 The highway surface shall be kept clean of debris at all times and shall be thoroughly cleaned at the completion of the work.

5.10 At the completion of the work done in accordance with the Permit, all disturbed areas shall be restored to a condition equal in kind to that which existed prior to the work.

5.11 Blasting, if necessary, shall be done in accordance with state law and local ordinance.

5.12 The Utility shall supply copies of all log data and analyses collected from groundwater monitoring wells as required by state law and local ordinance.

5.13 Massachusetts Highway Department Standards for Line Clearance will conform to the National Electric Safety Code Standard Clearance for Highway Crossings.

6.0 Protection of Adjoining Facilities

6.1 If directed by the Municipality, photographs shall be taken prior to the start of work to insure restoration of designated areas to their former conditions within the limits of the work areas. Copies of the photographs shall be delivered to a place designated by the Municipality.

6.2 Care must be taken to not interfere with underground structures that exist in the area.

6.3 Care shall be exercised not to disturb any existing traffic duct systems. Any such system, if disturbed, shall be restored immediately to its original condition.

6.4 The Utility shall be responsible to replace all pavement markings in kind which have been disturbed as a result of work done in accordance with the permit. These pavement

markings shall be restored within ten (10) days after this work is performed or as deemed necessary by the Municipality.

6.5 Existing guardrail that may be removed or damaged shall be reset or replaced to Mass. Highway Standards.

6.6 The Utility will be responsible for any damage caused by its operation to curbing, structures, roadway, etc.

6.7 No trees shall be cut or removed under this Permit.

6.8 Hand digging shall be required around roots of trees.

6.9 Tree Removal

6.9.1 The Utility shall obtain written permission from the tree warden of the Municipality if it becomes necessary to remove any tree. Replacement trees must be obtained from an established nursery in accordance with "USA Standard for Nursery Stock". The trees will be replaced in size and specie as directed by said tree warden.

6.9.2 The tree stump shall be removed a minimum of six inches below the surrounding surface and all debris shall be disposed of outside the right-of-way line.

6.9.3 The tree shall be removed under the supervision of a qualified tree surgeon.

6.10 Every effort shall be made to protect bound markers. However, if it becomes necessary to remove and reset any bound marker, the Utility shall hire a registered professional land surveyor to perform this work. It shall be the responsibility of this land surveyor to submit to the Municipality a statement in writing and a plan containing his stamp and signature showing that said work has been performed.

6.13 These standards do not cover the installation of any utility poles.

7.0 Excavations

7.1 The surface of a roadway to be excavated for utility work shall be cut in reasonably straight and parallel lines using a jack hammer, saw or other accepted method to insure the least amount of damage to the roadway surface. The pavement, including reinforcing steel on concrete roadways, shall be cut the full depth of surfacing. The excavation shall only be between these lines. The cutting operation shall not be done with a backhoe, gradall or any type of ripping equipment.

7.2 Steel plates used by a Utility to protect an excavation shall be of sufficient thickness to resist bending, vibration, etc., under traffic loads and shall be anchored securely to prevent movement. If these conditions are not met, the Utility will be required to backfill and pave the excavations daily. No open trench shall be left unattended overnight.

7.3 Steel sheeting, shoring or bracing shall be driven or placed for all depths over five (5) feet. At the discretion of the Municipality, said sheeting shall be left in place and cut off two (2) feet below the surface.

7.4 When a Utility installs a service lateral to a customer an opening may be made over the common supply line to make the proper connection, but the service should be bored or driven the remainder of the way wherever possible.

7.5 Water jetting of the trench area is prohibited.

8.0 Backfill And Compaction

In restoring municipal streets, lanes and highways, Utilities may utilize approved backfill material compacted to achieve soil density values of 95% modified Proctor density (as described in AASHTO T180), which may include, as the conditions warrant, the use of Controlled Density Fill ("CDF")

8.1 If CDF is the selected option of the Utility, when backfilling excavations made for the installation or maintenance of a natural gas line, the Utility may backfill with sand and compact to a level six inches over the gas line before adding CDF to the trench.

8.2 If CDF is the selected option of the Utility, excluding the exception granted in 8.1, CDF shall flow under and around the pipe, conduit, or bedding material providing uniform support without leaving voids. CDF shall be discharged from the mixer by a reasonable means into the trench area to be filled. Filling operations shall proceed simultaneously on both sides of the pipe or conduit so that the two fills are kept at approximately the same elevation at all times. An external load shall be applied to the pipe or conduit, sufficient to hold it in place before filling.

8.3 The trench in all cases shall be filled to the bottom of the existing pavement to provide room for the pavement restoration.

8.4 CDF shall be utilized for those excavations where compaction cannot be readily accomplished with normal compaction methods (i.e. vacuum holes, utility clusters).

8.5 The following subsections provide general guidelines and criteria to determine whether a soil is suitable as backfill for Utility excavations in roadways. They prescribe proper

procedures for backfilling and compaction to achieve soil density values of 95% modified Proctor density. The ultimate objective is to obtain a finished road surface repair which will undergo settlements only within acceptable performance limits as defined within these standards for the functional life of the existing road. The guidelines are based on good engineering practice and testing of both materials and equipment.

8.6 Compliance with these standards will insure satisfactory compaction. These standards are to be used in the field when there is an absence of sieve analysis of materials, Proctor values of the soils and the corresponding inability to utilize a nuclear density gauge or sand cone field density test. The Utility shall not be required to use other accepted testing methods. However, the Municipality reserves the right, at its own expense, to utilize other accepted testing methods to verify compaction. In the event of test failure the Utility shall be responsible for re-compacting the excavation to meet the required standards.

8.7 Suitability Of Backfill Material

8.7.1 This section addresses suitability of materials to obtain an adequate level of compaction.

8.7.2 Suitable backfill material is free of stones larger than half the size of the compacted lift as provided for in Mass. Highway Standards, construction debris, trash, frozen soil and other foreign material. It consists of the following:

a. Well graded gravel and sand;
b. Poorly graded gravel and sand;
c. Gravel-sand mixtures with a small amount of silt;
d. Gravel-sand mixtures with a small amount of silt and trace amounts of clay.

8.7.3 Unsuitable backfill materials consist of the following:

a. Inorganic silts and clays;
b. Organic silts;
c. Organic soils including peat, humus, topsoil, swamp soils, mulch, and soils containing leaves, grass, branches, and other fibrous vegetable matter.

8.8 Evaluation Of Excavated Soil

8.8.1 The soil excavated from a trench shall be evaluated by trained personnel to determine whether or not it is suitable as a backfill in accordance with Subsection 8.7.

8.8.2 An excavated soil that has been evaluated as suitable for backfill shall be reused provided its moisture content has been determined to be "suitable" in accordance with Subsection 8.9.

8.8.3 An excavated soil that has been evaluated as unsuitable for backfill shall be removed from

the site and disposed of properly.

8.8.4 New material, which meets the requirements of Subsection 8.7, shall be brought in to replace excavated soil found to be unsuitable.

8.9 Proper Moisture Content for Backfill Material

Proper moisture content (i.e., ratio of moisture to mineral solid by weight in a soil) in a backfill is essential for effective compaction. Soils with too much moisture (wet) or too little moisture (dry) would not yield an adequate level of compaction. All material used as backfill shall be examined by testing a sample prior to backfilling. This requirement applies to excavated soil to be reused as backfill and to new replacement material.

8.10 Field Determination of Moisture Content

8.10.1 Trained personnel will conduct the following field test of moisture content, also referred to as a "soil ball" test.

8.10.2 The personnel conducting the soil ball test must do the following:

a. first take a handful of the particular soil from beneath the surface of a stockpile (i.e., excavated from a trench or obtained from a borrow area) and then;
b. squeeze the sample firmly making a closed fist;
c. open the hand and observe the condition of the soil ball;
d. if the soil ball is loose and crumbly, the soil is too dry for compaction;
e. if the soil ball drips water, the soil is too wet for compaction;
f. if the soil ball holds together firmly or breaks into large chunks, the soil has suitable moisture content for compaction.

8.11 Corrective Treatment When Moisture Content is Not Suitable:

a. if the soil is too dry, small amounts of water may be added by sprinkling;
b. if the soil is too wet, the soil may be dried out by spreading it out and exposing it to the atmosphere;
c. after the remedial treatment, the soil shall be tested again (Subsection 8.10.2);
d. if the corrective treatment is not effective, the soil shall be removed from the site and disposed of properly.

8.12 Backfill And Compaction Of Excavations

8.12.1 Backfill and compaction shall be performed in accordance with Subsections 8.12.2 through 8.12.6, or Subsections 8.12.7 and 8.12.8. All utility lines shall be properly bedded with materials and in depths as specified by the appropriate utility prior to backfilling to obtain compaction values of 95% modified Proctor density.

8.12.2 Compaction equipment which may be used is specified in Table A. Compactors shall be operated in approximately the vertical position.

8.12.3 Care should be exercised when compacting near a buried facility to avoid damage to the facility.

8.12.4 The bottom of the excavation shall be level, free of stones and compacted in accordance with Subsection 8.12.5 prior to commencement of backfilling.

8.12.5 Compaction shall be performed by making a minimum of four (4) passes per lift with the compactor. The passes shall start around the perimeter of the excavation and move toward the center in an inward spiral.

8.12.6 Backfill material shall be placed in lifts with the loose thickness (i.e., prior to compaction) as specified in Table A.

8.12.7 The effectiveness of any compaction method used other than that specified in this Section, including Table A, shall be determined by testing to establish the precompacted or loose thickness of lifts, the number of passes with the compactor required to obtain the desired results, the type of compacting tool used and the soil type.

8.12.8 All maintenance work shall be compacted in 6" lifts. Construction work shall, based on the specific compaction equipment used, utilize Table A to determine appropriate lifts. Construction work shall be defined as the installation of new or replacement facilities.

TABLE A

Tool	Thickness of Lifts
Pneumatic Air Tamper	6"
Percussive Wacker Rammer	6" – 12"
Vibratory Compactor (7000lb)	6" – 12"
Pavement Breaker Tamping Foot	6"

8.12.9 Well graded gravel that may exist immediately under the paved surface shall be replaced in like-compacted depth.

8.12.10 All leak detection holes (i.e., bar holes) shall be filled in lifts with an appropriate mineral filler and compacted to the bottom of the pavement.

8.13 Compaction Verification

8.13.1 Compaction verification shall be performed in accordance with the following to assure that 95% modified Proctor density has been achieved:

a. The compaction of each lift shall be verified using a Dynamic Cone Penetrometer (DCP), or equivalent as approved by the Municipality. For standard maintenance excavations, each lift shall be verified at one location. For longer excavations (e.g., trenches), a DCP test shall be made approximately every 25 feet for each lift.

b. A DCP test shall be considered acceptable if, after 15 drops, the pass/fail reference line on the DCP is above the soil surface.

c. An unacceptable DCP test shall require that corrective measures be taken until an acceptable DCP test is achieved. This may include making additional passes with the compactor or, in some cases, removing the backfill material and starting over.

8.14 Training

Field personnel performing backfill and compaction operations shall be trained in the implementation of this procedure. Personnel shall receive retraining every two years. The Utility shall certify with the submission of a Permit application that all personnel are properly trained.

9.0 Pavement Restoration

9.1 The Utility shall be responsible to replace all pavement disturbed by work under the Permit with homogeneous and in-kind pavement, unless otherwise stipulated, to the original strength and condition.

9.2 Single gradation (Type I, surface course) bituminous concrete patches may be used when the existing pavement depth is less than three inches, provided that the new patch is installed to a depth 1 inch greater than the surrounding pavement.

9.3 Single gradation (Type I, binder course) bituminous concrete may be used where post grind and inlay method is a condition of the Permit. Minimum allowable depth of pavement shall be four inches when utilizing the grind and inlay method. When the grind and inlay method is performed, the surface of the pavement shall be uniformly ground and removed to a minimum depth of 1.5 inches for subsequent pavement replacement The grinding procedure shall provide a cutback into existing undisturbed pavement and shall encompass all disturbed pavement areas of the excavation. Grinding shall be done in reasonably straight lines.

9.4 All non-emergency pavement excavations shall be repaired with same day permanent patches unless specifically exempted in the permit.

9.5 Same day patches installed in conformance with these standards will not require re-excavation and may utilize the infrared method or the grind and inlay method to correct subsequent settlements. However, the restoration of single patches up to five feet by seven feet in area shall be by the infrared method, unless another method is agreed to by the Municipality.

9.6 Immediately following the procedures outlined in the section for Backfill and Compaction, the adjacent pavement shall be cut back, full depth, to encompass all disturbed pavement areas and underlying cavities associated with the excavation. All cutbacks shall be done in reasonably straight and parallel lines.

9.7 All existing pavement surfaces shall be swept clean of dirt, dust, and debris prior to patching. The existing vertical pavement surfaces shall be tack coated with an appropriate asphalt tacking material prior to patching and subsequent to cleaning.

9.8 Pavement repair depths shall equal or exceed adjoining pavement depths. When existing pavement depths are greater than 2 inches, pavement repairs shall be made utilizing Type I, binder course in the underlying patch courses. The wearing surface shall be a minimum 1.5 inches of Type I, surface course. Pavement courses shall not exceed two inches. All pavement courses shall be thoroughly compacted prior to placement of subsequent courses.

9.9 When the pavement remaining between an excavation and the edge of the roadway is less than two feet, the remaining area shall be removed and replaced in conjunction with the permanent pavement repair.

9.10 All leak detection holes (i.e. bar holes) shall be filled to refusal with an appropriate asphalt filler to a depth equal to the surrounding pavement depth.

9.11 Temporary pavement repairs shall be permitted under the following conditions:

a. Emergency Repair Work completed outside normal Monday through Friday working hours.
b. Work performed between December 1 and March 30 when bituminous concrete is not available on a daily basis.
c. Excavations which shall be reopened within five (5) working days.

9.12 The Utility shall make every effort to limit excavations conducted under the aforementioned conditions.

9.13 All excavation, back fill, and compaction work associated with temporary patches shall be performed in accordance with these standards.

9.14 Temporary patches shall be made with high-performance cold patch or Type I, bituminous concrete to a minimum depth of 4 inches. Temporary patches made between December 1 and March 30 shall be removed and replaced with a permanent patch as outlined above within five (5) working days. Temporary patches made between April 1 and November 30 shall be removed and replaced with a permanent patch as outlined above within two (2) working days.

9.15 The Utility shall be responsible to maintain temporary patches in a safe condition for all types of travel until a permanent pavement repair has been made.

9.16 The Municipality shall have jurisdiction to determine the pavement repair method to be utilized on all pavements which have been installed for less than five years.

9.17 Completed pavement repairs shall not deviate more than 0.25 inches from the existing street surface.

9.18 No less than thirty (30) days and no more than sixty (60) days from the completion of the permanent pavement repair, the Utility shall inspect the excavation for settlements, cracking and other pavement defects. Any such excavation which has required repair shall then be reinspected no less than thirty (30) days and no more than sixty (60) days from the completion of the subsequent repair. The Utility shall further inspect all excavations after a one-year time period. Pavements that deviate more than 0.25 inches from the existing street surface shall be repaired by the infrared or grind and inlay methods. Surface or joint cracking 0.25 inches wide or greater shall be repaired utilizing a modified asphalt pavement sealant.

9.19 The Utility shall prepare, document and maintain records of these inspections and make them available to the Municipality and the Department upon request.

9.20 All excavations made within concrete roadways shall be repaired with concrete in depths

equal to the existing concrete .

9.21 Concrete used for repairs shall conform to the requirements of Mass. Highway Standards for concrete roadway construction.

10.0 Sidewalks and Driveways

10.1 All work shall be performed in accordance with 521 CMR Rules and Regulations of the Architectural Access Board (AAB) and Americans with Disabilities Act (ADA).

10.2 A sidewalk area that is disturbed shall be restored, full width, in kind a minimum of one foot beyond the disturbed area for bituminous concrete and to the next joint line for concrete.

10.3 After the subgrade has been prepared, a foundation of gravel shall be placed upon it. After thorough mechanical compaction, the foundation shall be at least 8 inches thick and parallel to the proposed surface of the walk.

10.4 If applicable, the bituminous concrete sidewalk surface shall be laid in 2 courses to a depth after rolling of 3 inches. The bottom course shall be 1½ inches thick and its surface after rolling shall be 1½ inches below the parallel to the proposed grade of the finished surface. The top course shall be 1½ inches thick after rolling.

10.5 If applicable, the concrete sidewalk shall be placed in alternate slabs 30 feet in length. The slabs shall be separated by transverse preformed expansion joint filler ½ inch thick (shall conform to AASHTO- M153). Preformed expansion joint filler shall also be placed adjacent to or around existing structures.

10.6 On the foundation as specified above, the concrete (Air-Entrained 4000 psi, 3/4" 610) shall be placed in such quantity that after being thoroughly consolidated in place it shall be 4 inches in depth. At driveways, the sidewalk shall be 6 inches in depth.

10.7 Driveways shall be surfaced with Bituminous Concrete, Type I and shall be laid in two courses to a depth of three inches, after rolling, with a foundation of at least six inches of compacted gravel. The finished surface shall butt into and not overlap the existing highway grade at the road edge.

10.8 Driveways shall be so graded that no water shall enter the layout, pond or collect thereon, including the roadway.

11.0 Compliance with these Standards

11.1 Utilities shall file with the Department, by May 1 of each year, written statements or policies designed to insure that managers, supervisors and other distribution personnel are aware of, and held accountable to, these Standards.

11.2 Utilities shall track the success and failures of their programs to include the restorations and the inspections of such restorations. Utilities shall specify the number of failed restorations compared to the total number of restorations made during the preceding calendar year, the number of failures reported by a party other than a utility inspector and the age of the failed restoration.

11.3 Utilities shall record the number of failed restorations encountered during the inspections required in Section 9.19. They shall also document the cause of the failure and their policy changes to prevent the recurrence of a similar failure.

11.4 Utilities shall record the number of failed restorations and cost incurred when Municipalities perform the corrective action in accordance with Section 4.4.