



General Assembly

February Session, 2010

**Raised Bill No. 377**

LCO No. 1916

\*01916\_\_\_\_\_ED\_\*

Referred to Committee on Education

Introduced by:  
(ED)

**AN ACT CONCERNING SCHOOL CONSTRUCTION PROJECTS.**

Be it enacted by the Senate and House of Representatives in General Assembly convened:

1 Section 1. Section 16a-38 of the general statutes is repealed and the  
2 following is substituted in lieu thereof (*Effective July 1, 2010*):

3 (a) As used in this section, subsection (e) of section 4b-23, sections  
4 16a-38a and 16a-38b, unless the context otherwise requires: (1) "Major  
5 capital project" means the construction or renovation of a major  
6 facility; (2) "major facility" means any building owned by the state or  
7 constructed or renovated wholly or partly with state funds, including a  
8 state-financed housing project, which is used or intended to be used as  
9 a school or which has ten thousand or more gross square feet, or any  
10 other building so owned, constructed or renovated which is  
11 designated a major facility by the Commissioner of Public Works; (3)  
12 "renovation" means additions, alterations or repairs to a major facility  
13 which the Commissioner of Public Works finds will have a substantial  
14 effect upon the energy consumption of the facility; (4) "life-cycle cost"  
15 means the cost, as determined by the methodology identified in the  
16 National Institute of Standards and Technology's special publication

17 544 and interagency report 80-2040, available as set forth in the Code of  
18 Federal Regulations, Title 15, Part 230, of a major facility including the  
19 initial cost of its construction or renovation, the marginal cost of future  
20 energy capacity, the cost of the energy consumed by the facility over  
21 its expected useful life or, in the case of a leased facility, over the  
22 remaining term of the lease, and the cost of operating and maintaining  
23 the facility as such cost affects energy consumption; (5) "energy  
24 performance standard" means a rate of energy consumption which is  
25 the minimum practically achievable, on a life-cycle cost basis, by  
26 adjusting maintenance or operating procedures, modifying a  
27 building's equipment or structure and utilizing renewable sources of  
28 energy; (6) "energy audit" means an evaluation of, recommendations  
29 for and improvements of the energy consumption characteristics of all  
30 passive, active and operational energy systems and components by  
31 demand and type of energy used including the internal energy load  
32 imposed on a building by its occupants, equipment and components,  
33 and the external energy load imposed on a building by the climatic  
34 conditions at its location; (7) "renewable sources of energy" means  
35 energy from direct solar radiation, wind, water, geothermal sources,  
36 wood and other forms of biomass; (8) "cost effective" means that  
37 savings exceed cost over a ten-year period; (9) "state agency" means  
38 any department, board, commission, institution, or other agency of this  
39 state; and (10) "covered products" means the consumer products set  
40 forth as covered products in the Energy Policy and Conservation Act,  
41 42 USC 6292.

42 (b) (1) Except as provided in subsection (f) of this section, the  
43 Commissioner of Public Works and the Secretary of the Office of  
44 Policy and Management shall jointly establish and publish standards  
45 for life-cycle cost analyses required by this section for buildings owned  
46 or leased by the state. Such life-cycle cost analyses for buildings shall  
47 provide, but shall not be limited to, information on the estimated  
48 initial cost of each energy-consuming system being compared and  
49 evaluated, annual operating and maintenance costs of all energy-  
50 consuming systems over the useful life of the building, cost of energy,

51 salvage value and the estimated replacement cost for each energy-  
52 consuming system or component expressed in annual terms for the  
53 useful life of the building.

54 (2) Except as provided in subsection (f) of this section, the  
55 Commissioner of Administrative Services and the Secretary of the  
56 Office of Policy and Management may jointly establish and publish  
57 standards for life-cycle cost analyses required by this section for  
58 equipment and appliances owned or leased by the state which are not  
59 covered products, and for such equipment and appliances which are  
60 covered products. In establishing such standards, the commissioner  
61 and secretary shall consider the criteria set forth in subsection (j) of this  
62 section.

63 (c) No state agency shall obtain preliminary design approval for a  
64 major capital project unless the Commissioner of Public Works makes  
65 a written determination that the design is cost effective on a life-cycle  
66 cost basis. To make such a determination, the commissioner (1) shall  
67 require documentation that the design meets or exceeds the standards  
68 set forth in the National Bureau of Standards Handbook 135, or  
69 subsequent corresponding handbook of the United States Department  
70 of Commerce and the State Building Code, and (2) may require  
71 additional documentation, including, but not limited to, a life-cycle  
72 cost analysis that complies with the standards established pursuant to  
73 subdivision (1) of subsection (b) of this section.

74 (d) All design proposals for major capital projects shall include at  
75 least two differing energy systems for space heating, cooling and hot  
76 water to supplement the passive features designed into the building.  
77 Such proposals may include computer or other analytical modeling or  
78 simulation but shall not be construed to require the development of  
79 architectural or mechanical design plans for each such system. All cost  
80 evaluations of the competing energy systems shall be based on life-  
81 cycle costs. A life-cycle cost analysis for each competing energy system  
82 determined by the Commissioner of Public Works to meet the

83 standards of subsection (b) of this section shall be included as part of  
84 the design proposal for all projects. No major capital project shall be  
85 approved by the Commissioner of Public Works or by the State  
86 Properties Review Board pursuant to section 4b-23, after June 30, 1980,  
87 unless the proposed project achieves to the maximum extent  
88 practicable the energy performance standards established in  
89 accordance with subsection (b) or (g) of this section.

90 (e) All applications for state funding of major capital projects and  
91 school building projects, as defined in section 10-282, shall be  
92 accompanied by a life-cycle cost analysis which the Commissioner of  
93 Public Works has determined complies with the standards established  
94 pursuant to subsection (b) of this section. The Commissioner of Public  
95 Works or the Secretary of the Office of Policy and Management may  
96 require such a life-cycle cost analysis for projects other than major  
97 capital projects or school building projects.

98 (f) The Commissioner of Economic and Community Development  
99 and the Secretary of the Office of Policy and Management shall jointly  
100 establish and publish energy performance standards for buildings  
101 constructed as part of state-owned and state-financed housing projects  
102 and establish standards for life-cycle cost analyses for such projects. In  
103 establishing such standards, the commissioner and secretary shall  
104 consider (1) the coordination, positioning and solar orientation of the  
105 project on its situs, (2) the amount of glazing, degree of sun shading  
106 and direction of exposure, (3) the levels of insulation incorporated into  
107 the design, (4) the variable occupancy and operating conditions of the  
108 facility, (5) all architectural features which affect energy consumption,  
109 and (6) the design and location of all heating, cooling, hot water and  
110 electrical systems.

111 (g) Notwithstanding any provision in this section concerning the  
112 review of life-cycle cost analyses by the Commissioner of Public  
113 Works, a life-cycle cost analysis of a major capital project prepared for  
114 the Department of Housing shall be reviewed by the Commissioner of

115 Economic and Community Development and the Secretary of the  
116 Office of Policy and Management to determine if such analysis is in  
117 compliance with the life-cycle cost analyses standards established for  
118 such project under subsection (f) of this section.

119 (h) Each state agency preparing a life-cycle cost analysis under this  
120 section shall submit a summary of the analysis to the Secretary of the  
121 Office of Policy and Management.

122 (i) Except as provided in subsection (f) of this section, the  
123 Commissioner of Public Works and the Secretary of the Office of  
124 Policy and Management shall jointly establish and publish energy  
125 performance standards for existing and new buildings owned or  
126 leased by the state. Such standards shall require maximum efficiency  
127 in energy use in all such buildings and maximum practicable use of  
128 renewable sources of energy in all such buildings. In establishing such  
129 standards, the commissioner and secretary shall consider (1) the  
130 coordination, positioning and solar orientation of the project on its  
131 situs, (2) the amount of glazing, degree of sun shading and direction of  
132 exposure, (3) the levels of insulation incorporated into the design, (4)  
133 the variable occupancy and operating conditions of the facility, (5) all  
134 architectural features which affect energy consumption, and (6) the  
135 design and location of all heating, cooling, hot water and electrical  
136 systems.

137 (j) Except as provided in subsection (f) of this section, the  
138 Commissioner of Administrative Services and the Secretary of the  
139 Office of Policy and Management may jointly establish and publish  
140 energy performance standards for equipment and appliances owned  
141 or leased by the state which are not covered products, and for such  
142 equipment and appliances which are covered products. Any such  
143 standards shall require maximum energy efficiency for all such  
144 equipment and appliances and, for equipment and appliances owned  
145 or leased by the state which are covered products, shall be more  
146 stringent than the corresponding federal energy conservation

147 standards set forth in the Energy Policy and Conservation Act, 42 USC  
148 6295, or federal regulations adopted thereunder. In establishing such  
149 standards, the commissioner and secretary shall consider, without  
150 limitation, (1) the initial cost of the equipment or appliance, (2) the  
151 projected useful lifetime of the equipment or appliance, (3) the  
152 projected cost of the energy that the equipment or appliance will  
153 consume over its projected useful lifetime, (4) the estimated operating  
154 costs for maintenance and repair, over the projected useful lifetime of  
155 the equipment or appliance, and (5) the positive or negative salvage  
156 value of the equipment or appliance upon disposal at the conclusion of  
157 its projected useful lifetime.

158 (k) Any life-cycle cost analysis standards established pursuant to  
159 subdivision (2) of subsection (b) of this section and any energy  
160 performance standards established pursuant to subsection (j) of this  
161 section shall be implemented in accordance with the purchasing  
162 requirements set forth in chapter 58, and any regulations adopted  
163 thereunder, and the provisions of this section and section 16a-38j.

164 Sec. 2. Subdivision (1) of subsection (a) of section 10-283 of the 2010  
165 supplement to the general statutes is repealed and the following is  
166 substituted in lieu thereof (*Effective July 1, 2010*):

167 (a) (1) Each town or regional school district shall be eligible to apply  
168 for and accept grants for a school building project as provided in this  
169 chapter. Any town desiring a grant for a public school building project  
170 may, by vote of its legislative body, authorize the board of education of  
171 such town to apply to the Commissioner of Education and to accept or  
172 reject such grant for the town. Any regional school board may vote to  
173 authorize the supervising agent of the regional school district to apply  
174 to the Commissioner of Education for and to accept or reject such grant  
175 for the district. Applications for such grants under this chapter shall be  
176 made by the superintendent of schools of such town or regional school  
177 district on the form provided and in the manner prescribed by the  
178 Commissioner of Education. The application form shall require the

179 superintendent of schools to affirm that the school district considered  
180 the maximization of natural light and the use and feasibility of wireless  
181 connectivity technology in projects for new construction and alteration  
182 or renovation of a school building. Grant applications shall be  
183 accompanied by a life-cycle cost analysis, pursuant to section 16a-38, as  
184 amended by this act. Grant applications for school building projects  
185 shall be reviewed by the Commissioner of Education on the basis of  
186 categories for building projects and standards for school construction  
187 established by the State Board of Education in accordance with this  
188 section, provided grant applications submitted for purposes of  
189 subsection (a) of section 10-65 or section 10-76e shall be reviewed  
190 annually by the commissioner on the basis of the educational needs of  
191 the applicant. Notwithstanding the provisions of this chapter, the  
192 Board of Trustees of the Community-Technical Colleges on behalf of  
193 Quinebaug Valley Community College and the following entities that  
194 will operate an interdistrict magnet school that will assist the state in  
195 meeting the goals of the 2008 stipulation and order for Milo Sheff, et al.  
196 v. William A. O'Neill, et al., as determined by the commissioner, may  
197 apply for and shall be eligible to receive grants for school building  
198 projects pursuant to section 10-264h for such a school: (A) The Board of  
199 Trustees of the Community-Technical Colleges on behalf of a regional  
200 community-technical college, (B) the Board of Trustees of the  
201 Connecticut State University System on behalf of a state university, (C)  
202 the Board of Trustees for The University of Connecticut on behalf of  
203 the university, (D) the board of governors for an independent college  
204 or university, as defined in section 10a-37, or the equivalent of such a  
205 board, on behalf of the independent college or university, (D)  
206 cooperative arrangements pursuant to section 10-158a, and (E) any  
207 other third-party not-for-profit corporation approved by the  
208 commissioner.

This act shall take effect as follows and shall amend the following sections:		
Section 1	July 1, 2010	16a-38

Sec. 2	July 1, 2010	10-283(a)(1)
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**Statement of Purpose:**

To require that all applications for school building projects contain a life-cycle cost analysis.

*[Proposed deletions are enclosed in brackets. Proposed additions are indicated by underline, except that when the entire text of a bill or resolution or a section of a bill or resolution is new, it is not underlined.]*