

TOWN OF HARWINTON

Subdivision Regulations

Adopted by The Harwinton Planning Commission

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SECTION I - GENERAL PROVISIONS

- 1.1 Regulations:** These Regulations shall apply to the subdivision and resubdivision of land within the Town of Harwinton, Connecticut. Any subdivision or resubdivision of land within the Town of Harwinton shall conform to the requirements of these regulations. No subdivision or resubdivision of land shall be made by any person, firm or corporation until an application for such subdivision or resubdivision has been submitted to and approved by the Harwinton Planning Commission and a map thereof has been endorsed by the Commission as approved and filed by the applicant in the office of the Harwinton Town Clerk.
- 1.2 Previous Regulations:** These Regulations are the amended Subdivision Regulations of the Town of Harwinton, adopted by the Harwinton Planning Commission under the provisions of Chapter 126 of the Connecticut General Statutes. These regulations supersede regulations previously in effect and adopted effective September 30, 1961 and last amended **January 1, 2012**.
- 1.3 Definitions:** Certain words used in these regulations are defined and explained as follows:
- 1.3.1 Applicant:** The term "applicant" refers to the person, firm or corporation proposing a subdivision or resubdivision.
- 1.3.2 Commission:** The term "Commission" refers to the Harwinton Planning Commission.
- 1.3.3 Subdivision and Resubdivision:** "Subdivision" means the division of a tract or parcel of land into three or more parts or lots made subsequent to the adoption of subdivision regulations by the Commission, for the purpose, whether immediate or future, of sale or building development expressly excluding development for municipal, conservation or agricultural purposes, and includes resubdivision. "Resubdivision" means a change in a map of an approved or recorded subdivision or resubdivision if such change (a) affects any street layout shown on such map, (b) affects any area reserved thereon for public use or (c) diminishes the size of any lot shown thereon and creates an additional building lot if any of the lots shown thereon have been conveyed after the approval or recording of such map. Requirements applicable to subdivisions shall also apply to resubdivisions.
- (a)** For the purpose of the definition of "subdivision," any lot, parcel, tract or acreage owned separately from any adjoining lot, parcel, tract or acreage on September 30, 1961, as evidenced by deed or deeds recorded in the Office of the Harwinton Town Clerk, is considered to be a "tract".
- (b)** Any division of such tracts by recording of conveyance or filing of map in the Office of the Harwinton Town Clerk is an act of subdivision.

- (c) When the total of such divisions of a tract equals three (3) in number, from and after September 30, 1961, and occurring over any length of time and in any sequence, a subdivision has been made, within the meaning of Chapter 126 of the Connecticut General Statutes.
- (d) For the purpose of applying this policy, the initial division of a tract into two (2) parts for the purpose, whether immediate or future, of sale or building development is not a subdivision under Chapter 126 and the Subdivision Regulations, but any additional division of either of such two (2) parts results in a subdivision that is subject to the Subdivision Regulations.
- (e) Any change in a map of an approved or recorded subdivision or resubdivision prior to the time that any lots shown thereon have been conveyed, constitutes a "revision" of a subdivision, and is subject to the approval of the Commission, but is not considered a resubdivision.

1.3.4 Watercourses: The term "watercourses" as used in these Regulations is as defined in Section 22a-38 of the Connecticut General Statutes, as amended,

1.3.5 Wetlands: The term "wetlands" as used in these regulations is as defined in Section 22a-38 of the Connecticut General Statutes, as amended.

1.4 Procedure: The Commission, in reviewing any subdivision or resubdivision, and the applicant proposing a subdivision or resubdivision, shall follow the procedures hereinafter specified. The Commission shall not approve any subdivision or resubdivision unless it conforms to the standards hereinafter specified.

1.5.1 Waiver: The Commission may waive certain requirements of these regulations, by a three-quarters affirmative vote of all of its members, in order to accommodate (1) existing conditions which adversely affect the subject property and which are not generally applicable to other property in the area or (2) a plan of development shown to be in conformance with Addendum I "Energy Conservation In Subdivisions" in which conformance with the Addendum results in non-compliance with other provisions of these regulations. In order to grant a waiver, the commission shall find that all of the following conditions have been satisfied:

- (a) The waiver has been specifically requested in writing by the applicant identifying specific sections of these regulations to be waived;
- (b) In the absence of a waiver, one or more requirements of these Regulations cannot be satisfied;
- (c) The requested waiver is the minimum deviation necessary from these Regulations to permit the subdivision of the subject property;
- (d) The granting of the waiver shall be consistent with the Plan of Development;
- (e) The granting of the waiver shall not have a significant adverse effect on adjacent property or on the public health, safety and welfare.

The Commission shall state upon the record its reasons for granting a waiver.

1.6 Authorization of Construction: Construction and installation of roads, drainage or other improvements on any tract of land proposed for subdivision or resubdivision shall not be

deemed authorized and shall not be commenced for the purpose of compliance with these Regulations until (a) an application for such subdivision or resubdivision has been approved by the Commission, (b) any conditions of approval precedent to such construction and installation have been met, (c) the construction and installation are authorized by resolution of the Commission and (d) the time for taking an appeal from the action of approval by the Commission has elapsed, and in the event of an appeal, the termination of such appeal by dismissal, withdrawal or judgment in favor of the applicant.

1.7 Maps and Plan Approvals: All applications, maps, plans, documents and data required by these Regulations in connection with a proposed subdivision or resubdivision shall be subject to the approval of the Commission.

1.8 Other Laws: These Regulations are in addition to and do not supersede other laws, ordinances or regulations governing the development of land and buildings.

1.9 Penalties: Any person, firm or corporation making any subdivision or resubdivision of land from and after September 30, 1961 without the approval of the Commission is subject to penalties provided in the General Statutes of the State of Connecticut.

1.10 Fees: The schedule of fees to be charged for applications shall be as set forth in Addendum 2 to these regulations. In addition, estimated fees for outside consultant services required to review and inspect a project shall be paid at the time application is received. If the appropriate fee is not paid when due, the application shall be deemed incomplete and may be denied for that reason.

SECTION 2 - APPLICATION REQUIREMENTS AND PROCEDURE

- 2.1 Presentations:** All applications for approval of a subdivision, and the accompanying maps, plans, documents and data required by these Regulations shall be submitted by mail or by hand to the Harwinton Planning Commission at the office of the Commission in the Town Offices. Such materials shall be considered received on the day of the next regular meeting of the Commission immediately following the day of submission at the office of the Commission, or 35 days after such submission, whichever is sooner. The Commission strongly recommends that submissions be made at least 10 days prior to a regular meeting. An application submitted at or on the day of the Regular Meeting is not considered received until the next Regular Meeting.
- 2.2 Informal Consideration:** The Commission recommends that, prior to submission of a formal application for approval of a subdivision or resubdivision, the applicant prepare an informal plan of the subdivision or resubdivision for informal review by the Commission. Review of an informal plan is recommended to facilitate general consideration of factors and problems affecting development of the land to be subdivided or resubdivided before the applicant proceeds with formal application and the preparation of final maps, plans and documents required for formal consideration by the Commission. If the plan is presented in preliminary rather than final form, any alterations or changes recommended by the Commission may be made more readily and economically by the applicant. Neither the informal plan nor the informal review by the Commission, however, shall be deemed to constitute any portion of the official and formal procedure or record of applying for and approving subdivisions or resubdivisions of land under the provisions of the Connecticut General Statutes; neither the informal plan nor the informal review by the Commission shall be deemed, to constitute part of the official procedure described in Chapter 126, Section 8-26, et seq. of the Connecticut General Statutes, as amended.
- 2.2.1 Informal Plan:** The informal plan should show sufficient information to allow the Commission to make a general planning review under the standards of these Regulations. The Commission recommends that the informal plan meet all of the standards for a Site Development Plan under Paragraph 3.2.
- 2.2.2 Review:** The Commission will hold an informal discussion with the applicant and will discuss any changes or improvements in the plan in order to guide the applicant in preparing maps and plans for formal application.
- 2.3 Application:** In order to make formal application for approval of a subdivision or resubdivision, the applicant shall submit the following:
- 2.3.1 Application:** Application for approval of a subdivision or resubdivision shall be made to the Commission in writing on forms prescribed by the Commission and signed by the applicant or his lawful agent. If the applicant is not the owner of the land to be subdivided or resubdivided, the application shall also be signed by the owner or his lawful agent.

- 2.3.2 Application Fee:** An application fee in the amount set forth in Addendum 2 shall accompany the application. All application fees shall be made payable to the Town of Harwinton. The Commission may waive the application fee requirement for (a) the resubmission of an application disapproved by the Commission within the previous 90 days, or (b) submission of a revision of a previously approved subdivision when such revision does not constitute a resubdivision.
- 2.3.3 Site Development Plan:** A Site Development Plan, meeting the standards of Paragraph 3.2, shall be submitted with the application. Six (6) blue line or black line prints shall be submitted. No Site Development Plan, however, is required in the case of a resubdivision unless requested by resolution of the Commission.
- 2.3.4 Subdivision Map:** Six (6) blue line or black line prints of a Subdivision Map, meeting the standards of Paragraph 3.3, shall be submitted with the application. Six (6) such prints of any Subdivision Map subsequently revised shall be submitted.
- 2.3.5 Construction Plans:** Six (6) blue line or black line prints of construction plans, as applicable to the application and meeting the standards of Paragraph .3.4, shall be submitted with the application. Six (6) such prints of any construction plans subsequently revised shall be submitted.
- 2.3.6 Grading Plan:** In the event that any major regrading, cuts, fills, or soil or rock removal is proposed in the subdivision, six (6) blue line or black line prints of a grading plan, meeting the standards of Paragraph 3.5, shall be submitted. Six (6) such prints of any grading plan subsequently revised shall be submitted.
- 2.3.7 Soil Erosion And Sediment Control Plan:** A Soil Erosion And Sediment Control Plan, meeting the standards of Paragraph 3.6, shall be submitted in connection with subdivisions involving the construction of new streets and, in other cases when the disturbed area of such development is cumulatively more than one-half acre. Six (6) blue line or black line prints of such plans shall be submitted.
- 2.3.8 Hydrological Report:** Documentation of the design of the storm drainage system, including special structures, prepared by a professional engineer, registered and licensed in the State of Connecticut, shall be submitted. At a minimum, the report shall contain:
- 2.3.8.1** The base map used to determine the watershed and drainage patterns including downstream runoff areas affected by the storm water runoff from the subdivision.
 - 2.3.8.2** The methodology used to compute runoff and pipe sizes.
 - 2.3.8.3** A plan for the perpetual maintenance and care of any permanent storm water control structures such as detention ponds, retention ponds, dams, drainage ditches, storm water drains or similar structures.

2.3.9 State Highway Connection: Where a proposed street or storm drainage system joins a State Highway, the applicant shall present a copy of a letter or other document giving evidence that the construction plans have been approved by the Connecticut Department of Transportation, with an application for a permit for such connection in accordance with the Connecticut General Statutes.

2.3.10 Wetlands and Watercourses: If an application involves land regulated as an inland wetlands or watercourse under the provisions of the Connecticut General Statutes, the applicant shall submit an application to the Inland Wetlands And Watercourses Commission of the Town of Harwinton, no later than the day the application is filed for the subdivision or resubdivision.

2.3.11 Torrington Area Health District: Where proposed lots are to be served by means of on-site sewage disposal and/or water supply systems, the applicant shall present a copy of a letter or other document giving evidence that the proposed lots have been approved by the Torrington Area Health District for on-site systems.

2.3.12 Report: Six (6) copies of a report shall be submitted with the application providing the following information:

2.3.12.1 Proposed method of providing sewage disposal and water supply,

2.3.12.2 Any off site easements or drainage rights needed for storm drainage;

2.3.12.3 If in the planning and design of the subdivision, consideration has been given to using passive solar energy techniques and the cost implications thereof, demonstration of (i) potential building orientation on proposed lots, (ii) vegetation, natural and man-made topographic features and (iii) protection of solar access within the subdivision; and

2.3.12.4 Any additional information the applicant deems appropriate to assist the Commission in making a decision on the application.

2.3.13 Bond Estimate: An estimate of the amount of the performance agreement and financial guarantee to be required under Paragraph 2.7, itemizing the unit cost of each element of the public improvements to be covered by the performance agreement and financial guarantee. The cost of such improvements shall be estimated by the applicant using all available data to give a true and reasonable estimate and shall include a 10% allowance for contingencies. The estimate shall be referred to the Town Engineer for review. (amended 5/20/13)

2.3.14 Design Data: Pertinent survey data, including all control points and benchmarks, and pertinent construction design computations shall be presented for review by the Commission.

2.4 Additional Evidence: If required by the Commission, additional evidence shall be submitted to establish the following to the satisfaction of the Commission:

2.4.1 That the land to be subdivided is of such character that it can be used for building purposes without danger to health or the public safety;

- 2.4.2 That proper provision will be made for water, drainage and sewerage;
- 2.4.3 That proper provision will be made for protective flood control measures in areas contiguous to brooks, rivers or other bodies of water subject to flooding;
- 2.4.4 That open spaces for parks and playgrounds will be established in places deemed proper by the Commission; and
- 2.4.5 That any proposed street shown on the subdivision plan is in harmony with existing or proposed thoroughfares shown on the Plan of Development, especially in regard to safe intersections with such thoroughfares.
- 2.4.6 Written evidence shall be submitted by the applicant demonstrating that the construction plans specified in Paragraph 2.3.5 have been presented to and approved by the Board of Selectmen as required under the Ordinances of the Town of Harwinton; such evidence may consist of endorsement of the plans by the Board of Selectmen.
- 2.5 **Formal Consideration:** After the above application requirements have been met to the satisfaction of the Commission, the following procedures shall be followed by the Commission in its formal consideration of the application:
- 2.5.1 **Submission Review:** The Commission shall determine that the application submitted under Paragraph 2.3 is complete. Failure to submit a complete application will be cause for disapproval of the application.
- 2.5.2 **Hearing:** The Commission shall hold a public hearing on any application for a subdivision or resubdivision. The hearing shall take place within 65 days after the date of receipt of the application. The hearing may be continued to another date, but shall be completed within 35 days after the hearing commences. Notice of any public hearing on an application shall be given by the Commission by publication in a newspaper of general circulation in the Town at least twice at intervals of not less than two (2) days, the first not more than 15 days, nor less than 10 days, and the last not less than two (2) days before the date of such hearing and by sending a copy thereof by certified mail to the applicant. Notice of public hearing shall be sent by the applicant at least 10 days prior, by certified mail, return receipt requested, to all owners of property within 200 feet of the proposed subdivision, or as otherwise instructed by the Commission, and the applicant shall produce either valid signed receipts or proof of mailing at the public hearing. (amended 1-1-12)
- 2.5.3 **Review by Others:** The Commission may transmit copies of the maps and plans to other Town, State or Federal agencies for their review and recommendations. Whenever a subdivision of land is planned, the area of which will abut or include land in the Town of Harwinton and another municipality within a region having a regional planning agency, the Commission shall, before approving the plan, submit it to the Litchfield Hills Regional Planning Agency and to any other regional planning agency of the region in which the other municipality is located. The other regional planning agencies are Central Connecticut Regional Planning Agency and Central Naugatuck Valley Regional Planning Agency, as applicable

to the particular case. The Commission will expect a report from any such regional planning agency within 30 days and will not act on the plan until such report is received or the 30 day period has expired, whichever occurs first. The Commission may refer maps, plans and documents to other officials and agencies, such as the following, for advisory reports and consultation, or for approval, as may be required by law:

Board of Selectmen: maps and plans, with particular regard to street design, storm drainage and other utility systems.

Town Counsel: bonds, easements, deeds and agreements.

Torrington Area Health District: maps and plans, with particular regard to on-site water supply or sewage disposal systems.

State Department of Transportation: maps and plans, with particular regard to street and utility connections with state highways.

Zoning Commission: maps, with particular regard to lots and zoning requirements.

Conservation Commission: maps and plans, with particular regard to natural features of the site, including conservation elements, water resources and soils.

Recreation Commission: maps, with particular regard to open spaces for parks and playgrounds.

Harwinton Inland Wetlands and Watercourses Commission: maps and plans showing wetlands and watercourses, with particular regard to indicated activities that may be regulated under inland wetlands regulations.

USDA Soil Conservation Service: maps and plans, with particular regard to erosion and sedimentation control problems and plans.

- 2.5.4 Decision**: After the public hearing, the Commission shall approve the subdivision application if it shall find that the Subdivision Map and accompanying plans, certificates, documents and data conform to the requirements of these Regulations. All applications shall be approved by majority vote of those commissioners present. Approval may be granted by the Commission, subject to conditions and safeguards necessary to carry out the letter and the purpose and intent of these Regulations and to protect the public health, safety and welfare and property values. The Commission may impose only those conditions which are in the control of the applicant to fulfill or which are otherwise required by law. If an application involves land regulated as an inland wetlands and watercourse under the provisions of the Connecticut General Statutes, the Commission shall not render a decision until the Inland Wetlands and Watercourses Commission has submitted a report with its final decision to the Commission. In making its decision, the Commission shall give due consideration to the report of the Inland Wetlands and Watercourses Commission. It shall be the intent of the Commission to achieve (a) the preservation of natural features, including inland wetlands and watercourses, as provided in Section 4.7; (b) avoidance of the approval of streets, drainage, regrading or other construction not approved by the Inland Wetlands and Watercourses Commission; and (c) avoidance of approval of building lots incapable of subsequent use due to physical restrictions or due to the application of the Inland Wetlands and Watercourses Regulations of the Town of Harwinton. The application shall be modified and approval shall be conditioned upon the following actions, if applicable to the particular subdivision:

- 2.5.4.1 completion of any required streets, drainage and other subdivision improvements, in accordance with plans as approved, and execution of an agreement and filing of a bond to guarantee such completion in the manner required by Section 2.7;
- 2.5.4.2 presentation of evidence that final arrangements have been made for provision of central water supply by a public utility company or the Town of Harwinton;
- 2.5.4.3 presentation of conveyances to the Town for easements and open spaces in the manner required by Section 2.6;
- 2.5.4.4 presentation of a copy of a permit from the Connecticut Department of Transportation for construction of any proposed street or storm drainage system which joins with a State Highway; and
- 2.5.4.5 presentation of one (1) recordable copy of each of the approved Subdivision Map, the construction plans and grading plan, for required signatures, incorporating all modifications and conditions specified by the Commission; if such map and plans have been modified since submission of the application, six (6) blue line or black line prints-
thereof-shall also be presented.

2.5.5 Time of Decision: The Commission shall render its decision on the application within 65 days after completion of the public hearing. If the Commission requests the submission of additional information, such as under Section 2.4 of the Regulations, the information should be submitted in a timely manner within the time periods available for hearing and decision; otherwise, failure to submit the requested information will be grounds for disapproval of the application. The applicant may consent, in writing, to one or more extensions of the time period for hearing, completion of hearing and decision after the hearing, provided the total extension of any such period shall not be longer than the original period specified.

2.5.6 Notice of Decision: Notice of the decision of the Commission shall be published in a newspaper having a substantial circulation in the Town and addressed by certified mail to the applicant by the Commission within 15 days after such decision has been rendered. Such notice shall be a simple statement that the application has been approved, modified and approved or disapproved, together with the date of such action.

2.6 Easements and Deeds: Deeds for any open spaces, parks and playgrounds to be dedicated to the Town and any easements for storm drainage, sanitary services or public right-of-way shall be confirmed by written conveyance describing the land involved and privileges and warranties to the Town of Harwinton. When received by the Commission, these and other legal documents will be referred to the Town Counsel for review and advice. The conveyance shall be accompanied by:

- 2.6.1 an appropriate map delineating the land involved, in accordance with the standards of Paragraph 3.3, unless such land is shown on the Subdivision Map.
- 2.6.2 a title certificate or policy of title insurance certifying that the interest conveyed to the Town is free from all encumbrances except those approved by the Commission.
- 2.6.3 a waiver of mechanics liens or an affidavit of no lien rights, in form acceptable to the Commission.
- 2.6.4 a letter from the Tax Collector certifying that any taxes due the Town of Harwinton, related to the parcel or interest being conveyed, have been paid.

2.7 Performance Agreement and Security: The applicant shall execute and submit a performance agreement and financial guarantee in a form and amount satisfactory to the Commission to guarantee the completion of construction and installation of the approved subdivision improvements and utilities, including streets, drainage systems, retention or detention basins, low impact development measures for drainage control, the conveyance of any approved open space, easements or other rights, and the installation and maintenance of any required soil erosion and sedimentation control measures. "Improvements" shall not be deemed to include the maintenance of such improvements for more than one (1) year after their acceptance by the Town or the establishment of a homeowner's association or the placement of a permanent deed restriction, easement or similar burden on property for maintenance of approved public site improvements to be owned, operated or maintained by the Town, except that such prohibition shall not apply to the placement of a permanent deed restriction, easement or similar burden necessary to grant the Town access to such approved site improvements. The amount shall include a 10% allowance for contingencies. The Commission may refer the performance agreement and financial guarantee to the Town Attorney and to the Town Engineer for approval or comment. The performance agreement and financial guarantee shall secure to the Town the completion of the improvements and conveyances within two (2) years or such other period as the Commission may establish. The Commission may extend the completion date for additional periods, as permitted by the General Statutes and, as a condition of any such extension, may require that the performance agreement and financial guarantee be increased or altered. (amended 5/20/13)

2.7.1 Definition: For purposes of this section, "financial guarantee" shall mean one of the following:

- (a) a passbook or statement savings account, (b) a certificate of deposit, (c) an irrevocable letter of credit, (d) a surety bond or (e) any other form of security approved by the Commission. (amended 5/20/13)

2.7.2 Form: The performance agreement and financial guarantee shall be duly executed on forms provided or approved by the Town, with proper reference to all maps and plans showing the approved improvements, as follows: (amended 5/20/13)

2.7.2.1 Passbook or Statement Savings Account or Certificate of Deposit: The account shall be established in the name of the subdivider "for the benefit of the Town of Harwinton," having the subdivider's taxpayer identification number for reporting interest for tax purposes. The

account shall be established at a bank acceptable to the Commission and authorized to transact banking business, and with offices within the State of Connecticut. The account shall be federally insured to the maximum extent permitted by law. The authorized signatures on the account shall be those of the Treasurer and the Chair of the Planning Commission of the Town of Harwinton, and one or more designated by the subdivider; two of such signatures, one of which shall in every case be that of the Treasurer, shall be required for withdrawal of funds. If the account is a passbook account, the passbook shall be delivered to the Treasurer. If the account is a statement account, statements shall be addressed to the Treasurer.

2.7.2.2 Letter of Credit: An irrevocable letter of credit from a bank acceptable to the Commission and authorized to transact banking business, and with offices within the State of Connecticut. The term of the letter of credit shall be not less than ninety (90) days after the earlier of either such time as the Town of Harwinton has accepted the required improvements or such time as is provided by Section 8-26c or 8-26g of the Connecticut General Statutes for the completion of the required improvements as stated in the maps, plans or approval or any extension thereof. The Treasurer shall hold the original letter of credit.

2.7.2.3 Surety Bond: The Commission may accept a surety bond as a financial guarantee provided it is issued by an insurance company licensed to sell bonds by the State of Connecticut Department of Insurance, and holds the highest rating from A.M. Best and the Town Attorney has approved the form of the surety bond. (amended 5/20/13)

2.7.3 Term: Such performance agreement and financial guarantee shall remain in full force and effect until the approved improvements have been accepted for public use and maintenance by the Town, or, if not offered for acceptance by the Town, such improvements have been inspected and approved as completed by the Board of Selectmen or their authorized agent, and, in either case, a maintenance guarantee has been posted as specified in Paragraph 2.10(c). (amended 5/20/13)

2.8 Filing and Recording: The endorsed Subdivision Map, showing any modifications upon which final approval of the subdivision was contingent, shall constitute the approved Subdivision Map. The date of endorsement of the Subdivision Map shall be noted on the Subdivision Map by the Chairman of the Commission as well as the date, five (5) years hence, when approval may expire as provided in Section 8-26c of the Connecticut General Statutes. Within 90 days after delivery of the endorsed Map to the applicant, the applicant shall file and record the Subdivision Map in the Office of the Harwinton Town Clerk, except that the Commission may, by resolution, extend the time for such filing and recording for two (2) additional periods of 90 days and the Subdivision Map shall remain valid until the expiration of such extended time. Filing and recording fees shall be paid by the applicant. No map of a subdivision or resubdivision shall be endorsed by the Commission to permit filing in the Office of the Harwinton Town Clerk until (a) all conditions of approval have been met, and (b) the time for taking an appeal from the action of approval by the Commission has elapsed, and, in the event of an appeal, the termination of such appeal by dismissal, withdrawal or judgment in favor of the

applicant, and (c) all deeds for the transfer of land for public use or benefit, including easements, rights of way, drainage rights and conveyances of open space have been delivered to and approved by the Commission. All maps, so endorsed, shall be delivered promptly to the applicant.

2.9 Effective Date and Filing: The date of endorsement of the map of a subdivision or resubdivision shall be considered the effective date of approval. The date of endorsement is also the date for determining the 90 day period, specified in Section 8-25 of the Connecticut General Statutes, within which the endorsed map shall have been filed in the Office of the Harwinton Town Clerk.

2.10 Release of Bond: Before release of any subdivision completion bond:

- (a) the applicant shall demonstrate to the satisfaction of the Commission that the required street, drainage and other subdivision improvements required by the approval have been completed in conformance with these regulations and other ordinance specifications of the Town of Harwinton; (amended 5/20/13)
- (b) the applicant shall present one (1) recordable mylar plan and six (6) blue line or black line as built prints of Construction Plans, meeting the standards of Section 3.4, showing the streets, drainage utilities and other subdivision improvements as actually built; and (amended 5/20/13)
- (c) the applicant shall execute an maintenance agreement and file a financial guarantee with the Board of Selectmen to guarantee the remedy of unforeseen deficiencies in the required street, drainage and other subdivision improvements. The maintenance agreement and financial guarantee shall be in an amount and form, and for a term not to exceed one (1) year, as established and approved by the Board of Selectmen; and (amended 5/20/13)
- (d) the applicant may request a release of all or a portion of the financial guarantee upon completion of the above requirements; and the Commission shall, within sixty-five (65) days after receiving such request either: (A) release or authorize release of the financial guarantee or portion thereof provided that the Commission and the Board of Selectmen, acting by its Highway Supervisor, are reasonably satisfied that the subdivision improvements for which the financial guarantee or portion thereof was posted, have been satisfactorily completed, or (B) provide the applicant posting such financial guarantee with a written explanation as to the additional or corrective improvements that must be completed before such financial guarantee or portion thereof may be released. (amended (new) 5/20/13)

2.11 Other Permits: Nothing in these regulations shall relieve the applicant from the requirement to obtain any other permits, approvals or licenses required by local, state or federal law or regulation, including, but not limited to those required by the Connecticut Departments of Health, Environmental Protection, or Transportation, or by the United States Environmental Protection Agency or Army Corps of Engineers.

SECTION 3 - STANDARDS FOR MAPS AND PLANS

- 3.1 General:** The maps and plans required by these Regulations shall show the information and shall be prepared in accordance with the standards hereinafter specified. All such maps and plans shall be prepared by and bear the name and seal of a land surveyor or professional engineer, or both, as required by law and licensed by the State Board of Registration for Professional Engineers and Land Surveyors of the State of Connecticut. Pertinent survey data and computations may be required by the Commission upon request.

All plans and drawings submitted as part of an application shall be based upon a Property Survey and shall be prepared to a minimum accuracy of Class A-2 in accordance with the "Minimum Standards of Accuracy, Content and Certification for Surveys and Maps" Sections 20-300b-I through 20-300b-20 of the Regulations of Connecticut State Agencies.

Maps and plans will contain notes constituting references and restrictions. When applicable to a particular subdivision, the wording hereinafter specified shall be used for notes, except as otherwise approved by the Commission.

- 3.1.1 Water Supply:** When to be provided by a public utility company: "Lots on this map are approved on condition that each lot be provided with public water supply. No structures on the lots shall be occupied until such public water supply is available."
- 3.1.2 On-Site Utilities:** "Lots on this map are approved based on the provision of individual on-site sewage disposal (and/or water supply) facilities. The location, design and construction of each facility is subject to the approval of the Torrington Area Health District in accordance with applicable law prior to issuance of any building permit and prior to occupancy of any building or structure."
- 3.1.3 Turnaround Easements:** "Easement for temporary turnabout and general highway purposes, which easement shall automatically terminate upon acceptance by the Town of Harwinton of any extension of the street."
- 3.1.4 Construction Easements:** "A temporary easement, to the owner of each street on this map, for grading of slopes shall exist over all land in the subdivision within 25 feet of the right-of-way line of such streets, which easement shall expire one year after the date of acceptance of the street by the Town of Harwinton."
- 3.1.5 Sight Easements:** Pertaining to areas delineated over lots at street corners: "The sight easements shown hereon establish the perpetual right of the owner of the abutting street or highway, or his authorized agents, to clear, regrade and maintain the area within these easements at such elevation that there is a clear line of sight anywhere across the easement area between an observer's eye at an elevation of three and one half (3.5) feet above the pavement edge and an object one foot above the pavement edge."
- 3.1.6 Encroachment Lines:** "Within the area bounded by the encroachment line delineated on this map, no building or other structure shall be located or constructed and there shall be no filling or excavation or dumping of materials."

3.2 Site Development Plan: The Site Development Plan should be drawn to a scale of 1" = 40' but in no case at a scale of less than 1" = 100'. The plan shall indicate existing conditions and the layout of lots, streets and improvements for the proposed subdivision and all contiguous land of the applicant that may be subdivided in the future, in order to allow the Commission to complete a general review of the proposed subdivision, including its relationship to the future subdivision of contiguous land of the applicant. The plan shall show at least the following information:

- 3.2.1** Title of the subdivision, which shall not duplicate the title of any previous subdivision-in-the Town of Harwinton.
- 3.2.2** Name and address of the owner of the land to be subdivided- name and address of the applicant, if different from the owner.
- 3.2.3** Date, scale, magnetic north point, town and state.
- 3.2.4** Existing and proposed property and street lines; indication of adjoining property lines and street lines for a distance of 200 feet; and the names of all adjacent subdivisions and the names of property owners of land within 200 feet.
- 3.2.5** Existing and proposed watercourses as defined in Section 1.3.4, are to be located on the Site Development Plan by means of a field survey. Soil types under the National Cooperative Soils Survey are to be shown on the Site Development Plan submitted for informal review and/or with the formal application. Particular types constituting wetlands, as identified by the U.S. Soil Conservation Service, are to be specifically noted on the Site Development Plan with the category of poorly drained, very poorly drained, alluvial and flood plain indicated. In all cases where any subdivision encompasses wetlands, the Commission will require that the location of wetlands be confirmed by competent soil tests and survey in the field. The Plan shall also show existing and proposed easements, rights-of way, encroachment lines and reservation areas for drainage, conservation areas, and flood plains and other land subject to potential flooding. (It is noted that there may be lands subject to potential flooding which do not consist of flood plain soils.)
- 3.2.6** Existing contours at an interval not exceeding two (2) feet based on field or aerial survey and using official Town, State, or U.S. bench marks, which shall be noted on the Plan.
- 3.2.7** Proposed lots and lot numbers; existing and proposed open spaces for parks, playgrounds, stream protection, and other open spaces.
- 3.2.8** Existing permanent buildings and structures; a location for a proposed dwelling or other principal building on each lot, and the proposed driveway access thereto.
- 3.2.9** Principal wooded areas and the approximate location of any large isolated trees.
- 3.2.10** Any ledge outcrops and existing stone walls and fences within the subdivision.

- 3.2.11 Approximate dimension of all proposed property and street lines, -approximate lot area and the total acreage of land included in the subdivision.
 - 3.2.12 Proposed width of all streets, rights-of-way and easements; the proposed width of all pavement; and proposed street names.
 - 3.2.13 Existing and proposed monuments; any municipal boundary line; and zoning district and any district boundary line.
 - 3.2.14 Existing and proposed storm drains, catch basins, manholes, ditches, watercourses, headwalls, sidewalks, gutters, curbs and other structures; and existing and proposed water mains, sanitary sewers and related facilities.
 - 3.2.15 Spot elevations on both existing and proposed roads to indicate tentative grading of the roads.
 - 3.2.16 The approximate location of any seepage test holes, test pits, and borings; locations proposed for water supply well sites; and the location and dimensions of the area suitable for leaching fields for on-site sewage disposal systems and the reserve area for future fields.
 - 3.2.17 The limits of any areas proposed for regrading by excavation or filling; and the limits of any areas proposed to be reserved and protected from excavation or filling.
- 3.3 **Subdivision Map**: The Subdivision Map shall be clearly and legibly drawn on sheets 24" x 36". The map should be drawn to scale of 1" = 40' but in no case at a scale of less than 1" = 100'. The Subdivision Map shall show the following:
- 3.3.1 Title of the subdivision, which shall not duplicate the title of any previous subdivision in the Town of Harwinton.
 - 3.3.2 Name and address of the owner of the land to be subdivided; name and address of the applicant, if different than the owner.
 - 3.3.3 Date, scale, magnetic north point, Town, and State.
 - 3.3.4 Existing and proposed property and street lines; indication of adjoining property lines and street lines for a distance of 200 feet; and the names of all adjacent subdivisions and the names of property owners of land within 200 feet.
 - 3.3.5 Existing and proposed watercourses, including ponds and swamps; any wetlands; existing and proposed easements, rights-of-way, encroachment lines and reservation areas for drainage, watercourses, wetlands, conservation areas, and other land subject to potential flooding; and the limits of any areas to be reserved or protected from excavation or filling. Conveyance of easement or development rights may be required.

- 3.3.6** Proposed lots and lot numbers; existing and proposed open spaces for parks, stream protection, and other open spaces; the square footage or acreage of all lots and open spaces, and the total acreage of land included in the subdivision.
- 3.3.7** Existing permanent buildings and structures.
- 3.3.8** Dimensions on all lines to the hundredth of a foot-, all bearings or deflection angles on all straight lines, and the central angle, tangent distance and radius of all arcs.
- 3.3.9** The width of all streets, rights-of-way, and easements; street names.
- 3.3.10** Existing and proposed monuments; any municipal boundary line.
- 3.3.11** A location map showing the location of the subdivision in relation to existing streets in the Town at a scale of not less than 1" = 1000'.
- 3.3.12** An index map, if the proposed subdivision is divided into sections or is of such a size that more than one sheet is required, showing the entire subdivision with lots, lot numbers, street, street names, and delineation of areas covered by the section or sheet.
- 3.3.13** The survey relationship of proposed streets to nearby monumented Town streets or State Highways where practical.
- 3.3.14** The words "Approved by the Harwinton Planning Commission" with a designated place for the signature of the Chairperson and date of signing, and the words "Expiration Date per Sec. 8-26c, Connecticut General Statutes" with a designated place for such date.

3.4 Construction Plans: Plan and profile drawings shall be prepared for all proposed streets, storm drains, gutters, catch basins, manholes, ditches, watercourses, headwalls, sidewalks, curbs, water mains, sanitary sewers, and other structures and underground utilities and shall be drawn on a sheet size of 24" x 36", and shall be drawn to a horizontal scale of 1" = 40' and a vertical scale of 1" = 4'. Profile drawings and elevations shall be based on official Town, State, or U.S. benchmarks; the benchmarks used shall be noted on the Plan. Construction drawings shall show at least the following information in accordance with good engineering practice and as appropriate for the particular subdivision:

- 3.4.1** Title of the subdivision, date, scale, north point, Town and State.
- 3.4.2** For streets, existing grades at the center line and at both street lines, and the proposed grade at the center line; street lines and edge and width of pavement; street cross sections at all cross culverts, and a typical street cross section.
- 3.4.3** Depth, invert, slope and size of all pipes, ditches, culverts, manholes, catch basins, headwalls and watercourses; ditch and watercourse sections.
- 3.4.4** Approximate location of lot lines intersecting the street line; lot numbers and street names.

- 3.4.5 Sidewalks, curbs, gutters, water mains, sanitary sewers, traffic control devices, street name signs and other structures and underground utilities.
- 3.4.6 Detail drawings of any bridges, box culverts, deep manholes, and other special structures.
- 3.4.7 The words "Approved by the Harwinton Planning Commission with a designated place for the signature of the Chairman and date of signing.
- 3.4.8 The words "Approved by the Board of Selectmen, Town of Harwinton" with a designated place for the signature of the First Selectman and date of signing.

3.5 **Grading Plan:** The area shown on the grading plan may be limited to the portion of the subdivision affected by the proposed major regrading, cuts, fills or soils or rock removal. The Grading Plan shall be drawn to the same scale as the Subdivision Map. Contours and elevations shall be based on the same bench marks as provided in Paragraph 3.4. The Grading Plan shall show at least the following information:

- 3.5.1 Title of the subdivision, date, scale, north point, Town and State.
- 3.5.2 Name and address of the owner of the land to be subdivided- name and address of the applicant, if different than the owner.
- 3.5.3 Layout of existing and proposed lot lines and street lines; the boundary of the area to be regraded, cut or filled.
- 3.5.4 Existing and proposed contours at an interval not exceeding two (2) feet based on field or aerial survey; if requested by the Commission, cross section drawings of the area to be regraded.
- 3.5.5 Existing and proposed drainage and watercourses.
- 3.5.6 Existing and proposed buildings and structures.
- 3.5.7 Location of all test holes, test pits and borings.
- 3.5.8 A note stating: "Plan must be utilized in conjunction with the approved Soil Erosion and Sediment Control Plan."

3.6 **Soil Erosion and Sediment Control Plan:** A soil erosion and sediment control plan minimizes soil erosion and sedimentation resulting from development and includes, but is not limited to a map and a narrative. A Soil Erosion And Sediment Control Plan shall be submitted in connection with subdivisions involving the construction of new streets and in other cases when the disturbed area of such development is cumulatively more than one-half acre. To be eligible for approval, the Soil Erosion And Sediment Control Plan shall be prepared and certified by a professional engineer registered and licensed to practice in the State of Connecticut. For methods and practices necessary for certification, the "Connecticut Guidelines for Soil Erosion and Sediment Control (2002)" as amended, published by the Connecticut Council on Soil and Water Conservation shall

be utilized. However, alternative principles, methods, and practices may be used with the prior approval of the Commission. The Soil Erosion And Sediment Control Plan shall result in a development that (a) minimizes erosion and sedimentation during construction; (b) is stabilized and protected from erosion when completed; and (c) does not cause off-site erosion and/or sedimentation. Said plan shall contain, but is not limited to:

3.6.1 A narrative describing the development and the schedule for grading and construction activities, including:

- (a) Start and completion dates.
- (b) Sequence of grading and construction activities.
- (c) Sequence for installation and/or application of soil erosion and sediment control measures.
- (d) Sequence for final stabilization of the project site.

3.6.2 A site plan map at a sufficient scale to show:

- (a) The existing and proposed topography, including soil types, wetlands, watercourses and water bodies.
- (b) The proposed area alterations, including cleared, excavated, filled or graded area and proposed structures utilities, roads, and, if applicable, new property line.
- (c) The location of and design details for all proposed soil erosion and sediment control measures and storm water management facilities.
- (d) The sequence of grading and construction activities.
- (e) The sequence for installation and/or application of soil erosion and sediment control measures.
- (f) The sequence for final stabilization of the development site.
- (g) The words "Approved by the Harwinton Planning Commission with a designated place for the signature of the Chairman and date of signing.
- (h) Any other information deemed necessary and appropriate by the applicant or requested by the Commission or its designated agent.

3.6.3 The Commission shall determine whether the Soil Erosion and Sediment Control Plan, as filed, complies with the requirements and objectives of this section. If the development proposal does not comply with this section, the Commission may either deny the application or condition the approval thereof upon compliance with this section. Site improvements shall not begin until the Soil Erosion and Sediment Control Plan is approved, and those control measures and facilities in the plan scheduled for installation prior to site development are installed and functional. All control measures and facilities shall be continuously maintained in effective condition to insure the compliance of the approved plan.

SECTION 4 - DESIGN AND CONSTRUCTION STANDARDS

- 4.1 General:** Subdivisions and resubdivisions, including related streets, drainage and other improvements required by these Regulations, shall be planned, designed and constructed in accordance with the standards hereinafter specified. Construction plans shall be prepared in accordance with good engineering practice. Construction of improvements shall be carried out in a workmanlike manner and in a logical sequence. The design and construction of improvements shall conform to all applicable ordinances of the Town of Harwinton and all state and federal requirements.
- 4.2 Selectmen and Permits:** The construction plans for streets, drainage and other subdivision improvements required by these Regulations shall be approved in writing by the Board of Selectmen as a condition of subdivision approval. All construction shall be carried out subject to supervision and inspection by the Board of Selectmen or their authorized agent. Construction and installation of streets, drainage and other improvements shall not be commenced until a Road Construction Permit has been issued by the Board of Selectmen.
- 4.3 Plan of Development:** Subdivisions shall be planned and designed in general conformity with any Plan of Development adopted by the Commission under Chapter 126 of the Connecticut General Statutes for the Town or the neighborhood encompassing the subdivision, particularly with regard to (a) location and classification of streets, (b) sanitary sewer, water supply and drainage systems and service areas and (c) reservation of land for parks, recreation and open space.
- 4.4 Inspection:** The construction of streets, drainage and other subdivision improvements shall be subject to inspection and approval by the Board of Selectmen or their authorized agent. The Board of Selectmen and the Commission, or their authorized agent, shall have free access to the construction work at all times and shall be deemed authorized to take material samples, cores and other tests as deemed necessary to determine compliance with the standards of these Regulations. They may require the applicant, at his own expense, to have such tests made and certified by a Connecticut licensed professional engineer. Inspections shall be made by the Soil Erosion and Sediment Control Officer during development to ensure compliance with the approved plan and that control measures and facilities are properly performed or installed and maintained. The Commission or Erosion Control Officer may require the developer to verify through progress reports that soil erosion and sediment control measures and facilities have been performed or installed according to the certified plan and are being operated and maintained.
- 4.5 Notification:** The applicant or contractor for the street, drainage or other subdivision improvements shall notify the Board of Selectmen, in writing, of his intention to start any construction at least three (3) days prior to starting the work. In addition, the applicant or such contractor shall give timely written notice to the Board of Selectmen for inspection purposes at least 48 hours before commencing the following stages of work:

4.5.1 prior to backfilling structures and drainage pipes and facilities;

4.5.2 prior to placement of the base course on the subgrade of a road; and

4.5.3 prior to commencing construction of the paved surface of the road.

No work shall be started on succeeding stages of construction until required inspection has been made and approval given by the Board of Selectmen or their authorized agent.

4.6 **Natural Features**: The planning and design of the subdivision, including streets, driveways, drainage and other improvements and the layout of lots, shall provide for retention of the natural features of the tract, where practical (a) by avoiding excessive cuts, fills and regrading which result in potential soil erosion, tree and other vegetation removal and disturbance to water resources, (b) by maintenance of water courses, including ponds and swamps, in their natural location and avoiding relocation of and encroachment thereon, (c) by protection of wetlands, flood plains excavation and pollution and (d) by retention and protection of large isolated trees, desirable woods, unique rock formations, glacial boulders and ledge outcrops and (e) by retention or repair of existing stone walls or salvageable remnants of stone walls along existing highway lines and along existing property boundaries. Water courses, flood plains and other areas subject to potential flooding, shall be protected by easements, rights-of-way or encroachment lines; wetlands (unless authorized to be disturbed by the Harwinton Inland Wetlands and Watercourses Commission) and conservation areas. (amended 1-1-12)

4.7 **Building Lots**: Proposed building lots shall be of such shape, size, location, topography, access and character as to be occupied and used for building purposes, whether dwelling, business or industrial as permitted by law, without danger to the health and safety of the occupants, the neighborhood or the public. Any proposed lot which is found unsuitable for occupancy or building, such as by reason of water or flooding conditions, topography, unsuitable soils or other conditions, shall be combined with another contiguous lot that is suitable, until necessary improvements to the lot have been made and approved by the Commission and a revised Subdivision Map has been submitted to and approved by the Commission. Proposed building lots shall also conform to the following additional standards:

4.7.1 **Lot Configuration**: Each lot shall conform to the requirements of the Zoning Regulations for the Town of Harwinton and, in addition, shall be capable of accommodating buildings permitted by the Zoning Regulations together with driveway access, parking spaces and suitable sites for on-site sewage disposal and water supply facilities without utilizing areas containing slopes in excess of 25% grade or containing wetlands or watercourses except as approved by the Harwinton Inland Wetlands And Watercourses Commission. Lots shall be laid out to make best use of the natural terrain and to preserve natural features as described in Section 4.6. Lots shall be capable of use without extensive regrading which would result in potential erosion and sedimentation and excessive vegetation removal or which would adversely affect the ability of the lot to accommodate on-site sewage disposal and water supply facilities.

4.7.2 **Access**: Each lot shall have access on an existing public street or a street in a subdivision for which a Subdivision Map has been approved by the Commission. Each lot shall be capable of accommodating automobile access from such street to a parking space or spaces on the lot by means of a driveway not exceeding 4%

gradient for the first 30 feet in length, having safe alignment and sight distances and meeting the street in a manner that maintains the standard cross section for the street.

4.7.3 Lot Numbers: All lots in the subdivision shall be numbered consecutively beginning with the numeral "1". Sections of subdivisions under the same name shall have consecutive lot numbers.

4.7.4 Lot Lines: It shall be within the discretion of the Commission to disapprove any lot crossed by a municipal boundary line, and in the event of such disapproval, such boundary line shall be made to constitute one of the lot lines.

4.7.5 Rear Lots: In any subdivision, no more than 20% of all of the lots may be interior or rear lots. The Commission may permit an increase in the number of rear lots to a maximum of 50% of all lots in the subdivision upon request of the applicant and demonstration by the applicant that all of the following conditions are met:

- (a) The increased number of rear lots will result in a permanent preservation of a natural resource feature or other significant natural or cultural feature or view that would not be protected without the increase;
- (b) Such resource, feature or view shall be as recommended in the Plan of Development and Conservation, or shall be documented, in writing, in the application by a qualified expert;
- (c) Such resource, feature or view shall be clearly delineated on the Site Development Plan;
- (d) The application shall include appropriate legal documentation assuring the permanent protection of such feature, where appropriate.

4.8 Sewer and Water: Each lot shall be provided with adequate and safe means of sewage disposal and water supply on a continuous, long term basis to meet the requirements of uses permitted on the lot under the Zoning Regulations for the Town of Harwinton, Connecticut. Provision shall be made for sewage disposal and water supply by one of the following two methods:

4.8.1 On-Site: The Commission may approve provision for sewage disposal and water supply by means of on-site facilities for and on each lot when all of the following conditions are met:

- (a) a seepage test has been made on each lot and the applicant has submitted a report, prepared by and bearing the seal of a professional engineer licensed by the State Board of Registration for Professional Engineers and Land Surveyors of the State of Connecticut and incorporating such tests, either (i) certifying that each lot is satisfactory for on-site sewage disposal and water supply facilities constructed in accordance with the standards of the Torrington Area Health District and the State of Connecticut, or (ii) specifying the location or conditions under which the facilities would meet such standards;

- (b) each lot has a sufficient area, which may be larger than required by the Zoning Regulations, and has a location and soil conditions suitable for on-site sewage disposal and water supply facilities as indicated in the report required in Section 4.8.1(a);
- (c) the lot is approved by the Torrington Area Health District; and
- (d) a note is placed on the Subdivision Map specifying that the design and construction of on-site sewage disposal and water supply facilities are subject to approval by municipal or other authorities having jurisdiction.

4.8.2 Systems: The Commission may approve provision for a curb connection to a public sanitary sewer system owned or to be owned by the Town of Harwinton; the Commission may approve provision for a service connection to a public water supply system owned by a public utility company, or owned, or to be owned, by the Town of Harwinton. Such systems shall meet all of the applicable sanitation and administrative requirements of the Torrington Area Health District, The Harwinton Water Pollution Control Authority and the State of Connecticut.

4.9 Street Planning and Design: Streets shall be planned and designed in a manner capable of acceptance for public use and maintenance by the Town of Harwinton. Streets shall be designed and constructed in accordance with the ordinances of the Town of Harwinton and the standards set forth in these regulations.

4.9.1 Street Planning: Proposed streets and rights of way shall be planned in accordance with the following criteria:

- 4.9.1.1** Streets shall provide safe and convenient circulation for both present and prospective traffic within the subdivision and within the neighborhood where the subdivision is located.
- 4.9.1.2** Each street shall connect to an existing paved public street or to another street in the subdivision which so connects. No street shall connect to a street designated as a Permanent Cul-de-Sac, as described in Section 4.9.4.1, unless such connection is approved by the Commission and is secondary to the required connection. (amended 1-1-12)
- 4.9.1.3** Streets should in general follow the contour of the land and should have a location which (1) accomplishes an attractive layout and development of the land, (2) preserves natural terrain, large isolated trees, desirable woods and other vegetation, and (3) will enhance property values in the subdivision.
- 4.9.1.4** Permanent cul-de-sacs should be avoided unless natural obstacles or other circumstances preclude any future extension of the street into adjoining property. No reserve strips to block access to a street shall be provided unless specifically approved by the Commission as necessary for safety on the street. Proposed streets which may be extended into adjoining property be shown on the maps as extending to the property line. The Site Development Plan and Construction Plans shall show

and include sloping or grading rights on lots abutting the proposed street extension which are required for its construction.

4.9.1.5 Unless otherwise approved by the Commission, proposed streets shall provide for the continuation of existing streets which terminated at the boundary of the subdivision. When a street is to be extended from an existing cul-de-sac, the developer shall be responsible for extending the pavement, removing existing cul-de-sac pavement beyond the standard pavement width, installing curbs and loaming and seeding such area. Where a proposed street connects to an unimproved portion of an existing street left for future extension into the subdivision, the Site Development Plan and Construction Plans shall show and include all work required to connect and complete the improvements and utilities between the existing street and the proposed street.

4.9.2 Street Design: Proposed streets and rights of way shall be designed in accordance with the following criteria:

4.9.2.1 Right-Of-Way: A right-of-way, not less than 50 feet in width, shall be dedicated for high way purposes together with all rights-of-way and easements, not less than 40 feet in width, that may be necessary for the proper drainage thereof.

4.9.2.2 Grade and Alignment: The minimum grade for any street or highway shall be 1% and the maximum grade shall not exceed 10%, except where approved by the Town of Harwinton Planning Commission in cases where topography warrants and safety will not be adversely affected. The minimum radius of curvature at the centerline of streets shall be 200 feet. Appropriate vertical curves for transition shall be established on any street and at street intersections to ensure adequate sight distance.

4.9.2.3 Intersections:

- (a) The centerline of all streets entering an intersection shall:
 - (1) pass through a single point with no more than two intersecting streets meeting the main road at any one point, or
 - (2) shall be spaced a minimum of 800 feet apart on a collector street, and 200 feet apart on a local street as measured from the intersection of the centerline;
- (b) Proposed streets shall intersect other streets at right angles radially, or as approved by the HPC provided that, in no case shall the angle of intersection between adjoining street lines be less than 60 degrees;
- (c) Proposed streets shall intersect other streets such that the pavement slope on the proposed street averages no more than 3 percent within 200 feet of the intersection. The HPC can increase the average slopes to 4 percent if deemed prudent;
- (d) Street lines at intersections shall be connected by a curve having a minimum radius of 25 feet;

- (e) Proposed streets shall intersect other streets such that the horizontal centerline of the proposed street shall be a straight line of at least 100 feet from the intersecting street lines unless otherwise approved by the HPC;
- (f) Intersections shall have unobstructed vision from a driver's eye (located at a height of 3.5 feet above the surface of the proposed road and a location 20 feet back from the edge of the travel way of the intersected road) along both directions of the intersected road that is in conformance with current CTDOT and AASHTO standards for the 85th percentile speed. The "desirable" sight distance shall be provided whenever possible and no road shall be approved that does not provide for the "minimum" sight distance;
- (g) Such sight distance shall not be impaired by curvature or grade, except in extreme conditions, in which adequate alternative safety measures shall be designated. At a street intersection, no obstruction to sight over three (3) feet in height from street grade shall be allowed within 25 feet of the lot line intersection.

4.9.2.4 Turnarounds: A turnaround shall be provided at the closed end of a cul-de-sac. The turnaround shall be in a teardrop or circular shape with a paved radius of 50 feet, and shall have a minimum of a six-inch crown in the center and be pitched so the surface water flows to the perimeter. The cul-de-sac perimeter shall be constructed so gutter flow grades exceed 1% to drainage structures, either at each side of the entrance to the cul-de-sac or a drainage structure at the rear if the elevations require the cul-de-sac to be lower at the far end than at the entrance, or a combination of both. Additional catch basins may be required based on topography and planned driveway flows as recommended by the Town Engineer and the Highway Supervisor who must review and approve the ultimate design. The minimum radius for curvature for the right-of-way for turns shall be not less than 100 feet. A sufficient right-of-way for a turnaround on a temporary cul-de-sac, which may, at some future date, be projected into adjoining property, shall be provided by means of a temporary easement providing for automatic termination of the easement upon extension of the street.

4.9.2.5 Pavement and Cross Section: Streets shall be designed with the pavement centered in the right-of-way. The right-of-way adjacent to the curb and for a width of six (6) feet shall be graded to the top of the curb, if any, or to the edge of the pavement at a slope of ½ inch per foot; grading beyond the six (6) foot width shall not exceed one (1) foot of rise or fall for each two (2) feet of horizontal distance, or such lesser slope as is necessary to maintain the stability of the slope. A typical cross section drawing shall be shown on the Construction Plan and shall indicate a standard location for water mains, storm drains, sanitary sewers, gas mains, and underground electric, telephone and CATV lines. A 24 foot width of pavement inside to inside of the curb line shall be provided for all types of streets.

- 4.9.2.6 Traffic Control Devices and Street Name Signs:** Traffic control devices and street name signs shall be installed at all street intersections in locations designated by the Town. Such signs shall be in accordance with the latest revision of the Uniform Manual of Traffic Control Devices.
- 4.9.2.7 Street Lighting:** Street lighting shall be provided, if deemed necessary the Town. Such lighting shall be of the type approved by the Town. Power consumption at a fixed rate per luminaire shall be paid in advance to the Town by the applicant for a period not to exceed two (2) years.
- 4.9.2.8 Base Course:** A base course not less than 16 inches in depth and for the full width of the pavement and curb bases shall be constructed in two layers. The bottom layer shall consist of ten (10) inches of Granular Fill (Item M.02.01) and a top layer of six (6) inches of Processed Aggregate Base (Item M.05.01) in accordance with latest Connecticut Department of Transportation specifications. Construction methods, tolerances and standards shall be in accordance with Section 2.12 Subbase, of the latest Connecticut Department of Transportation specifications. Material Certificates shall be submitted for all subbase and base material in accordance with Section 1.06.07 of the latest Connecticut Department of Transportation Specification.
- 4.9.2.9 Surface Course:** The paved surface shall have a total thickness of 3 ½ inches, and shall have a cross slope of ½ inch per foot from the center line and shall be constructed of two (2) courses of bituminous concrete, a two (2) inch binder course, and a 1 ½ inch surface course (Class 2), after compaction. Construction methods shall conform to the latest Connecticut Department of Transportation specifications. No paving is to take place until all underground utility work within the right of way has been completed. The Board of Selectmen or their representative may ask for the completed pavement course to have the mat and longitudinal joints tested at the applicant's expense to verify field compaction of the pavement. Each course placed at a depth of one and one-half inches or greater shall have the mat and longitudinal joints compacted to a minimum of 92 percent and no more than 97 percent density as determined by AASHTO T209 (modified) standard, using the Nuclear Density Method by means of a nuclear gauge. Prior to Planning Commission recommendation to the Board of Selectmen for road acceptance, the applicant must provide acceptable written documentation of all testing to the Planning Commission and Town Highway Supervisor.
- 4.9.2.10 Curbing:** All streets shall be curbed along their entire length with Bituminous Concrete LIP curbing conforming to Section 8.15 of the latest Connecticut Department of Transportation specifications.
- 4.9.2.11 Shoulders and Embankments:** Rough grade to 6 inches below the finished surface elevation and spread topsoil to a six inch minimum depth. Fine grade, fertilize, seed and mulch in accordance with Section

M.13 of the latest Connecticut Department of Transportation specifications.

- 4.9.3 Existing Streets:** Proposed subdivisions abutting an existing street which does not conform to the right of way width required by the Ordinances of the Town of Harwinton shall provide for proper or proportionate widening of the right of way. Proposed subdivisions abutting an existing street which does not conform to the pavement or other construction standards required by the Ordinances of the Town of Harwinton shall provide for proper or proportionate improvements to that portion of the street on which the subdivision has frontage, including, but not limited to, grading, widening and installation of drainage.
- 4.9.4 Cul-de-Sacs:** A permanent cul-de-sac is a street which is not to be extended into adjoining property. A temporary cul-de-sac is a street which may be extended into adjoining property.
- 4.9.4.1 Permanent Cul-de-Sacs:** Permanent cul-de-sacs shall not exceed a length of 1,200 feet and shall not be less than 500 feet in length. The paved portion of the street shall be extended a distance sufficient to provide the minimum frontage required for the abutting lots. Permanent cul-de-sacs will only be allowed if the proposed street cannot be extended beyond 1,200 feet because of wetlands, topography or other natural conditions.
- 4.9.4.2 Temporary Cul-de-Sacs:** Temporary cul-de-sacs shall not be less than 500 feet in length, however, temporary cul-de-sacs may exceed a length of 1,200 feet but shall not exceed a reasonable interim length for safe and convenient vehicular access, including emergency vehicles, as determined by the Commission. The paved portion of the street shall be extended a distance sufficient to provide the minimum frontage required for the abutting lots. The section reserved for future access to the adjoining property need not be improved; however, the developer shall rough grade the reserved section and shall prepare and stabilize all slopes made necessary by the extension of the street. In approving such temporary cul-de-sac, the Planning Commission shall base its decision on the possibility of an extension of the cul-de-sac to an existing town approved road by development of adjacent properties, thereby eliminating the cul-de-sac and providing a through street. Where such extension does not appear feasible, to temporary cul-de-sac shall be constructed.
- 4.9.4.3 Measurement**
The length of any cul-de-sac shall be measured along the center line of the street to the center point of the cul-de-sac. The measurement shall be made from the nearest center line of an intersecting street, which is either a through street or a temporary cul-de-sac. All measurements are calculated at the center of all streets. (amended 1-1-12)

- 4.9.5 Street Names:** Streets shall bear names which are appropriate to the character of the Town and which do not duplicate or too closely approximate in spelling or sound existing names in the Town or any adjoining municipality. All street names shall be subject to the approval of the Commission.
- 4.9.6 Monuments:** Monuments shall be provided on both sides of the street right-of-way and shall be set at the beginning and termination of each street and at each point of deflection, curvature and tangency. Monuments shall be of stone or reinforced concrete 30 inches in length and four (4) inches square at the top, with a cross or other measuring feature in the top center. Monuments shall be set 28 inches in the ground after all project grading is complete. If ledge is encountered, a brass plug 1/2 inch by three (3) inches shall be set in the ledge and secured with a portland-type cement mortar.
- 4.9.7 Underground Utility Lines:** New electric, communication and other wires shall be installed underground unless the Commission determines, based on a written report submitted by the applicant, that such underground installation is inappropriate or unfeasible for all or part of the subdivision. In making such determination, the Commission shall take into account; the type of service existing in the area adjacent to the subdivision, topographic and construction conditions, and the size of the subdivision. Whenever possible, such underground utilities shall not be located under the street pavement.
- 4.9.8 Maintenance of Unaccepted Subdivision Improvements:** The developer shall be responsible for the complete maintenance of all subdivision improvements, including snow removal, street sweeping and drainage management until such improvements are accepted by the Town. The Performance Agreement and Financial Guarantee shall authorize the Town, at the expense of the developer and without constituting an act of acceptance, to undertake emergency or other maintenance in the event that the developer fails to do so. (amended 5/20/13)
- 4.10 Storm Drainage Planning and Design:** Storm drainage shall be planned and designed in a manner capable of acceptance for public use and maintenance by the Town of Harwinton. Storm drainage shall be designed and constructed in accordance with the ordinances of the Town of Harwinton and the standards set forth in these regulations.
- 4.10.1 General:** A storm drainage system is a closed system which conveys storm runoff from the entire area of the subdivision. The design must take into account any land which would normally drain across the subdivision and the effect upon downstream drainage systems.
- (a) The design should minimize any adverse effects on adjacent property.
- (b) The design shall be in compliance with all governmental codes and regulations including the following:
- (1) Section 404 Army Corps of Engineers, Federal law (33 USCA 404) that requires that all construction activity involving navigable waters be reviewed and approved.
 - (2) Federal Emergency Management Agency (FEMA), which approves all modifications to flood ways and flood plains.

- (c) The design shall implement the following provisions of Chapter 7 of the Connecticut Stormwater Quality Manual (2004), as amended:
 - (1) Pollutant Reduction (CSQ Manual Section 7.4).
 - (2) Groundwater Recharge and Runoff Volume Reduction (CSQ Manual Section 7.5).
 - (3) Peak Flow Control (CSQ Manual Section 7.6).

- (d) In the design of a stormwater management system, design professionals may utilize low impact development techniques as contained in:
 - (1) The Harwinton “Recommended Low Impact Development Techniques” Manual.
 - (2) The Connecticut Stormwater Quality Manual (2004), as amended (may be found on-line at http://www.ct.gov/dep/lib/dep/water_regulating_and_discharges/stormwater/manual/chapter7.pdf - link active as of December 2010).

- (e) In accordance with the provisions of Section 1.5.12 of these Regulations, the Planning Commission may waive the requirement to implement the provisions of Chapter 7 of the Connecticut Stormwater Quality Manual (2004), as amended, provided that adequate information has been submitted by the applicant to evaluate the request and, at the applicant’s expense:
 - (1) The Town Engineer has provided a positive recommendation regarding the request, or
 - (2) The Commission has received a report from an independent (third party) professional engineer licensed in the State of Connecticut:
 - a. Hired by the Planning Commission, and
 - b. With significant expertise in low impact development.
 - c.

(Section 4.10 revised 3-1-11 for LID)

4.10.2 Provisions: Catch basins, gutter inlets, manholes, collector pipes, and the main trunk line of the storm drainage system must provide for:

- (a) adequate drainage of proposed streets, accounting also for future extensions thereof into adjoining property, by means of pipes, culverts, catch basins, and appurtenances.
- (b) interception or management of channeled drainage coming from any adjoining property or street.
- (c) protection of locations necessary for on-site sewage disposal and water supply facilities and driveways and building sites.
- (d) prevention of soil erosion, sedimentation, and flooding, by provision of silt basins, storm water detention facilities or other construction and control measures.

- (e) improvement of existing drainage systems to accommodate additional flowage generated by the subdivision, when completed.
- (f) drainage facilities shall be located within the street right of way where feasible, or in perpetual unobstructed easements where necessary.

4.10.3 Storm Drainage Design: The design of storm drainage facilities shall be based upon the maximum ultimate development of the watershed permitted under the current Zoning Regulations.

4.10.3.1 Drainage shall be designed under the "Rational Formula" whereby $Q=CiA$.

4.10.3.2 Runoff factors must be approved by the Town Engineer.

4.10.3.3 Design flood frequency shall be:

- (a) Pipe drainage systems; 10 year flood,
- (b) Channels and trunk lines; 25 year flood,
- (c) Culverts; 25 year flood, and
- (d) Channels and encroachment lines along streams; 50 year flood.

4.10.3.4 The pipe system should flow full for the calculated total flow.

4.10.3.5 The system should operate under pressure with a free outfall. However, a system operating under surcharge with a submerged outflow would be considered.

4.10.3.6 The HGL (Hydraulic Grade Line) should not rise to within two (2) feet of any manhole cover or top of any inlet at the design discharge.

4.10.3.7 The HGL should not rise to a level that would flood any subdrain outfalling into the storm drain system.

4.10.3.8 Minimum slope of all pipes shall be 0.4%.

4.10.3.9 Energy dissipaters, stilling basins, or other approved devices must be incorporated when design slopes exceed 8.0%.

4.10.3.10 The minimum cover over the top of the pipe shall be three (3) feet.

4.10.3.11 Manholes shall be provided at all deflection points and/or the junction of two or more lines.

4.10.3.12 Catch basins should be spaced to the following standards:

- (a) 300 feet on a tangent, or closer as required for intersections,
- (b) 200-250 feet on the inside of superelevated curves,
- (c) 250 feet on highway grades over 6.0%,

- (d) on the uphill side of intersections,
- (e) 250 feet from roadway high points, and
- (f) center of cul-de-sacs.

4.11 Discharge: The discharge of all storm water that has been collected or otherwise artificially channeled shall be into suitable natural streams or into Town or State drainage systems with adequate capacity to carry the discharge. There shall be no discharge onto or over private property within or adjoining the subdivision unless (a) proper easements and discharge rights have been secured by the applicant, (b) such easements and rights are transferable to the Town in the event that the discharge includes storm water from any street, and (c) proper provisions are made to safeguard against soil erosion and flood danger. No storm water shall be diverted from one watershed to another. Discharge shall be made in a manner that protects streams, ponds and swamps from pollution.

4.12 Encroachment Lines: Each stream that functions as part of the drainage system, and any related swamp or flood plain, shall be provided with channel, building or other encroachment lines to prevent encroachment, constriction or diversion by building, filling or excavation. The encroachment lines shall be shown on the Subdivision Map accompanied by a note specifying the restrictions in a manner approved by the Commission.

4.13 Drainage Construction:

4.13.1 Pipe Materials: Corrugated Metal Pipe (CMP), Corrugated Polyethylene Pipe (HDPE) or Reinforced Concrete Pipe (RCP), joint sealants and bedding material shall conform to Article M-08 -01 of the latest revision of the Connecticut Department of Transportation's "Standard Specifications for Roads, Bridges, and Incidental Construction."

4.13.2 Methods: Corrugated Metal Pipe (CMP), Corrugated Polyethylene Pipe (HDPE) or Reinforced Concrete Pipe (RCP), joint sealants and bedding installation shall conform to Section 6.51 of the latest revision of the Connecticut Department of Transportation's "Standard Specifications for Roads, Bridges, and Incidental Construction."

4.13.3 Appurtenances: Catch basins, manholes, drop inlets, end walls, and other appurtenances to the storm drainage system shall be constructed in accordance with Section 5.07 and Article M.08.02 of the latest revision of the Connecticut Department of Transportation's "Standard Specifications for Roads, Bridges, and Incidental Construction."

4.13.4 Underdrains: At the base of uphill shoulder embankments and as elsewhere ordered by the HPC, a minimum 6 inch diameter perforated pipe continuous underdrain shall be installed behind the curbing in accordance with Section 7.51 of the latest Connecticut Department of Transportation specifications, except that the aggregate shall be limited to Broken Stone or Screened Gravel conforming to Article M.01.01 for 3/8 inch stone.

- 4.14 Special Structures:** Bridges, box culverts, and other special structures shall be designed and constructed in accordance with sound engineering practice and the latest revision of the Connecticut Department of Transportation's "Standard Specifications for Roads, Bridges, and Incidental Construction." Bridges shall be designed in accordance with latest revision of the Standard Specifications for Highway Bridges as adopted by the American Association of State Highway and Transportation Officials (AASHTO).
- 4.15 Fire Ponds/Dry Hydrants:** Fire ponds and dry hydrants shall be provided and reserved in each subdivision as determined necessary by the Commission as follows:
- 4.15.1 Existing Ponds:** When the property to be subdivided contains a natural body of water which is suitable for use as a fire pond, the developer may be required by the Commission to install a dry hydrant to the pond and make provision, by easement granted to the Town of Harwinton, for permanent, continuous and unobstructed access to the dry hydrant.
- 4.15.2 Proposed Ponds:** When a body of water which is suitable for use as a fire pond is proposed to be constructed on the property to be subdivided, the developer shall install a dry hydrant to the pond and make provision, by easement granted to the Town of Harwinton, for permanent, continuous and unobstructed access to the dry hydrant.
- 4.15.3 Design:** Fire ponds may be required when the capacity and location of the fire pond has been found acceptable by the Commission based upon recommendations from the fire departments. Fire pond construction and the installation of dry hydrants shall be in accordance with the water supply standards set forth in NFPA 1231 *Standard on Water Supplies for Suburban and Rural Firefighting* including Appendix B.
- 4.16 Easements:** Easements for access to, and use of, land outside of a street right-of-way shall be provided as required or approved by the Commission and shall be shown on the Subdivision Map with adequate survey information so that the land subject to easement may be accurately located by field survey. Easements shall be provided in at least the following cases:
- 4.16.1** for access to bridges and culverts with construction and maintenance equipment;
- 4.16.2** for storm water pipes, water mains and sanitary sewers and appurtenances, which easements shall be not less than 20 feet in width;
- 4.16.3** easements for temporary turnarounds;
- 4.16.4** temporary construction easements for grading and other construction work in the front 25 feet of each lot along a proposed street;
- 4.16.5** sight easements across comers of lots at intersections to assure safe line of sight on the street; and
- 4.16.6** easements at least ten (10) feet in width for pedestrian ways to parks, playgrounds, schools and other public or semi-public places where the street system does not conform to a convenient pattern of pedestrian circulation.

4.17 Open Spaces, Parks and Playgrounds: Open spaces, parks and playgrounds shall be provided and reserved in each subdivision for residential purposes as determined necessary by the Commission as follows:

4.17.1 Character and Access: The location, size, shape, topography and general character of the land to be reserved shall be subject to the approval of the Commission, taking into account the needs determined by the Commission. Proper pedestrian and vehicular access shall be provided to each such reservation.

4.17.2 Plan of Development: The reservation of land shall also conform to any Plan of Development pertaining to parks, playgrounds, recreation areas and open spaces.

4.17.3 Acresage: Not more than 10% of the total area of the subdivision shall be required to be so reserved, and lesser areas should be determined sufficient or no such reservation shall be required because of one or more of the following:

- (a) there are adequate existing parks, playgrounds, recreation areas and open spaces available in the neighborhood to serve the subdivision;
- (b) there is no land in the subdivision suitable for such reservation; and/or
- (c) the minimum reservation area would be less than one (1) acre.

4.17.4 Preservation of Site: Land so reserved shall not be used for the storage of equipment or the deposit of debris. The land so reserved shall not be excavated, filled or regraded and trees shall not be removed therefrom, except in accordance with a grading plan submitted under Section 2.4. 1.

4.17.5 Provisions for Ownership and Maintenance: Proper provision shall be made by the developer and approved by the Commission for the permanent disposition, reservation and management of such land, including but not limited to one or more of the following options:

- (a) Establishment of suitable restrictive covenants.
- (b) Establishment of a homeowners' association.
- (c) Conveyance to a land trust or similar non-profit conservation organization.
- (e) Conveyance to the Town.

4.18 Payment in Lieu of Open Space

The term “payment in lieu of open space” shall mean a fee paid to the municipality in lieu of (or in combination with) any requirement to provide open space within a subdivision, pursuant to subdivision regulation amendments, which may be adopted by the Harwinton Planning Commission. Such fee shall not exceed ten percent (10%) of the fair market value of the land to be subdivided prior to approval of the subdivision, as determined by an appraiser jointly selected by the Planning Commission and the applicant, and shall be reduced by the appraised value of any land dedicated or donated “in kind”, as determined in the sole discretion of the Planning Commission, acting pursuant to the subdivision regulations.

A fraction of the payment, the numerator of which is one and the denominator of which is the number of approved parcels in the subdivision, shall be made at the time of sale of each approved parcel of land in the subdivision and deposited in the Harwinton Open Space, Recreational and Agricultural Land Fund.

The payment in lieu of open space shall not apply if the transfer of all land in a subdivision of less than five (5) parcels is to a parent, child, brother, sister, grandparent, grandchild, aunt, uncle or first cousin for no consideration, or if the subdivision is to contain affordable housing, as defined in Connecticut General Statutes, §8-39a, equal to twenty percent (20%) or more of the total housing constructed in the subdivision.

Refer to Ordinance 116, adopted at Town Meeting 11/30/04, effective 12/17/04 or as amended in its current state.

SECTION 5 - VALIDITY

5.1 If any section, paragraph, sentence, clause or phrase of these Regulations shall for any reason be held to be invalid or unconstitutional by a decree or decision of any court of competent jurisdiction, such decree or decision shall not affect or impair the validity of any other section or remaining portion of these Regulations.

5.2 If any section, paragraph, sentence, clause or phrase of these Regulations shall for any reason be held to be invalid or unconstitutional, as applied to a particular subdivision or subdivision application, by a decree or decision of any court of competent jurisdiction, such decree or decision shall be limited to the particular subdivision or subdivision application and the general applicability of these Regulations to other subdivisions and subdivision applications shall not be affected.

SECTION 6 - EFFECTIVE DATE

6.1 These Regulations and any amendments hereto shall be in full force and effect from the date of adoption by the Harwinton Planning Commission or from a date subsequent to adoption that the Commission may establish as the effective date.

Effective Date: May 20, 2013

ADDENDUM 1

ENERGY CONSERVATION IN SUBDIVISIONS

A. General: Sec. 8-25 of the Connecticut General Statutes, as amended by PA 81-334, Provides that subdivision regulations may encourage energy-efficient patterns of development and land use, the use of solar and other renewable forms of energy, and energy conservation. Sec. 8-25, however, mandates that the subdivision regulations require each applicant to demonstrate that he has considered, in developing the subdivision plan, using “passive solar energy techniques” which would not significantly increase the cost of the housing to the buyer, after tax credits, subsidies and exemptions.

A-1. “Passive solar energy techniques” mean site design techniques which maximize solar heat gain, minimize heat loss and provide thermal storage within a building during the heating season and minimize heat gain and provide for natural ventilation during the cooling season.

A-2. Site design techniques include but are not limited to (a) house orientation, (b) street and lot layout, (c) vegetation, (d) natural and man-made topographical features and (e) protection of solar access within the development.

B. Policy: It is the policy of the Subdivision Regulations to encourage energy-efficient patterns of development and land use and the use of solar energy systems in residential and non-residential subdivisions. As used in this policy - -

a. The primary application of a solar energy system is the conversion of solar radiation to thermal energy to meet all or a significant part of the heating or domestic hot water requirements of a building. This conversion is accomplished when solar radiation is absorbed by a collector, placed in storage as required (with or without use of a transport medium) and distributed to the point of use. The performance of each operation is maintained by automatic, manual or architectural controls. An auxiliary energy system is usually available both to supplement the output of the solar energy system and to provide for the total energy demand should the solar energy system be insufficient or inoperable.

b. A passive solar energy system is a system where solar collector and thermal storage components are integrated (usually as architectural components for heating a building).

B-1. **Adequate Solar Access:** All new lots created by the act of subdivision should have adequate solar access to the maximum extent practicable. Not all lots, however, will have sufficient solar access to make effective use of solar energy systems, whether passive or active, due to such factors as (a) the configuration or orientation of the tract, (b) the nature of surrounding development, (c) existing physical features of the tract such as topography,

soils, vegetation, and (d) road circulation patterns. However, in many instances, great solar access can be achieved simply by considering solar access objectives at the initial planning stage. By providing a high degree of solar access on a lot, energy conservation purposes are served since the potential for immediate or future usage of solar energy is increased.

- B-2. **Use of Passive Solar Energy Systems:** As many lots as possible should be capable of effectively using passive solar energy systems. This requires protection of the south-facing walls of the building from shadow-producing objects. If “south wall” access is protected, “rooftop” access is also guaranteed, enabling the use of solar collectors attached to the roof and active solar energy systems. It is not intended to require protection for “south lot” or detached collector access. (see Par. D-1 for definitions).
- B-3. **Solar Access Easements:** Each lot should have control over its own “south wall” access. The need for solar access easements on adjoining lots or other tracts of land should be minimized.
- B-4. **Individual Choice:** By taking into account solar access requirements of proposed building lots in the planning stage, energy conservation will be encouraged by enabling the use of solar energy systems on as many lots as possible, should the owner so desire. However, it is not intended to require the use of solar energy systems on all buildings in new subdivisions. The choice is left to the individual lot owner.

C. **Providing for Adequate Solar Access:** As a guide for providing for adequate solar access, the following actors should be considered:

- C-1. **Proposed Street Layout:** Streets should have a true east-west orientation whenever possible, with acceptable variations of 10 south of west and 25 north of west. Due to topographic or soil conditions, or existing street layouts, such an orientation may not be desirable or acceptable to the Commission or the applicant since excessive grading or disturbance of wetlands or an undesirable pattern of circulation may result. Each subdivision must be reviewed individually as to conflicts between the provision of adequate solar access, the preservation of existing natural features on the tract, and desirable circulation patterns.
- C-2. **Lot Orientation:** Lots should be arranged so as to take advantage of south-facing slopes on the tract. The longer axis of all minimum-sized lots should be oriented north-south whenever possible in order to minimize the shading of solar collectors from off-site development, vegetation or other natural features. On large lots, lot orientation may not be a critical factor, depending on other characteristics of the tract of land.
- C-3. **Building Location:** Proposed development on the lots should enable the use of solar energy systems by (a) locating buildings on south-facing slopes and as far north on the lot as is necessary to minimize the shading of solar collectors from on-site and off-site development, vegetation or other natural features and (b) orienting buildings so that the longest axis is east to west.

Such an orientation may vary from the typical pattern where the longest building axis parallels the street. The Commission realizes that other orientations may be possible depending on architectural type and type of solar energy systems; in most instances the east-west orientation will achieve optimum solar access.

- C-4. **Sewage Disposal Location:** Sewage disposal leaching fields should be located to the south of proposed building locations, unless soil conditions are not suitable or unless such a location would compel the use of a pumped septic system. Such a location will aid the use of solar energy systems, since regrading and tree removal associated with the construction of leaching fields will reduce potential shading problems caused by existing vegetation.
- C-5. **Limits of Vegetation Control:** Most subdivisions are located on land that is at least partially forested. Therefore, one of the major problems in obtaining adequate solar access is the extent of tree removal and/or pruning necessary to keep the “south wall” of a building free from shadows. It will not be necessary to cut down every tree to the south of a building in order to obtain adequate solar access; trees further to the south may require only selective pruning. But the necessary area of tree removal and/or pruning may be quite large, depending on orientation and degree of slope, and may be too large to enable the effective use of solar energy systems without designating solar easements. As a guide in determining whether or not the use of solar energy systems is feasible on proposed lots without designating a solar easement, Par. 3.2.18 of the Regulations requires that the area of tree removal and/or pruning be shown on the site development plan. The Planning Commission encourages the applicant to designate solar access easements whenever necessary. It is not intended, however, that any necessary tree removal be done by the applicant or developer or that it be considered part of the work in the subdivision which is normally bonded.
- C-6. **Street Trees:** The species and location of street trees that may be planted should be selected to take into account solar access objectives. The size, length and intensity of shadows caused by street trees depends on such things as mature height, mature canopy size, the capacity of the tree without its leaves, and the times of the year when new leaves come out and old leaves fall. The species of street trees selected should take into account those shadow-producing characteristics so that the adverse effects of street trees on the solar access of surrounding development will be minimized.
- C-7. **Open Space in Subdivisions:** Par. 4.16 Open Spaces, Park and Playgrounds Requires that at least 10% of the total area of subdivision be reserved for open Space, park or playground purposed. In certain instances, the location of such Reservation can aid energy conservation purposes as follows:
1. If the reservation is to be used for active park or playground purposes, the reservation would be land which is relatively flat and without significant vegetative growth. In those instances, such a reservation would be using an area of the tract which is also well suited for the use of solar energy systems. The Commission, in conjunction with other town

officials, should determine which goal has greater priority in individual instances, providing for energy conservation or providing for parks and playgrounds. The two goals may not be in conflict on land which is relatively flat but with trees suitable for firewood.

2. If the reservation is to be used only for open space conservation purposes, Its location can serve energy conservation in two different ways. First, open space which is reserved on steep northerly slopes with a substantial tree cover would preclude creation of lots with inadequate solar access. Even if the open space reservation is a conservation easement on one or more proposed lots, it should be located so that building is restricted from areas with inadequate solar access. Secondly, open space land can serve as a location for community solar energy systems. In those instances when few proposed lots have adequate solar access, the open space land should be located on a portion of the tract which does have adequate solar access, in order to provide for the present and future use of community solar energy systems. When such a reservation is made, the conveyance of land should recognizes the use of community solar energy systems as a permitted activity.

C-8. Conflicts with Other Design Standards: Measures for providing for adequate solar access may be in conflict with other design standards. For example, a street layout which fosters good solar access may not provide a suitable circulation pattern or may have unacceptable effects on the environment. The applicant should choose those alternatives which appear most acceptable to him; however, the Commission will make the final determination regarding suitable resolutions of priorities.

D. The Basics of Solar Access: As an aid in determining whether or not proposed lots have adequate solar access, the following information should be used:

D-1. Levels of Solar Access: There are four types of solar access, namely rooftop, south-wall, south-lot and detached collector access. Each type refers to the location of the solar collector and is shown in the figure below.

Source: "Site Planning for Solar Access, A guidebook for Residential Developers and Site Planners", published by the U.S. Department of Housing and Urban Development, Contract Number: H-2573 and prepared by the American Planning Association.

D-2. Shadow Lengths: The length of a shadow cast by an object depends on the following characteristics of the land on which the object is located:
(a) orientation of slope, (b) degree of slope and (c) time of day.
For determining shadow lengths in the Town of Harwinton, Table A (attached) may be used.

1. To calculate the shadow length of an object, multiply the height of the object by the factor in the table. For example, a tree which is 50 feet tall, located on 10% slope oriented to the east, will produce a shadow 200 feet long at 9:00 a.m., 110 feet long at noon, and 470 feet long at 3:00 p.m.

D-3. Solar Skyspace: It is not necessary for a solar collector to be unobstructed by Shadows from sunrise to sunset. That portion of the sky which must remain Unobstructed for a solar collector to operate efficiently is defined as “skyspace” And is partially determined by the sun’s position on December 21, the day of the year when shadows are longest. Approximately 86% of the sun’s energy Is received between the hours of 9:00 a.m. and 3:00 p.m. at north latitude 40 on December 21. (Harwinton’s north latitude is approximately 41 46’). On that date at 9:00 a.m. the sun is located 45 east of south and at 3:00 p.m. the sun is located 45 west of south, measured on the horizon. Therefore, the eastern and western boundaries of the solar skyspace for heating purposes are defined by 45 east and west of south. The upper and lower skyspace boundaries are determined by the altitude (distance above the horizon) of the sun on December 21 and June 21. (See figures below.) In determining what areas of tree removal and/or pruning are needed and in determining what solar easements might be necessary, the angles of 45 east and west of a solar collector should be used. (For a more detailed discussion of solar skyspace, see the source, “Site Planning for Solar Access, A Guidebook for Residential Developers and Site Planners”, published by the U.S. Department of Housing and Urban Development, Contract Number: H-2573 and prepared by the American Planning Association.

ADDENDUM 2

FEE SCHEDULE

1. Subdivision Applications	FEE
a. For 1 or 2 lots subdivision both having direct access by driveway to a state road or existing town road	\$150.00 per lot
b. For 3 to 10 lots all having direct access by driveway to a state road or existing town road	\$250.00 per lot
c. For over 10 lots all having direct access by driveway to a state road or existing town road, first 10 lots will be \$2,500, thereafter	\$200.00 per lot
d. For 1 to 10 lots with any lot having direct access by driveway to a proposed subdivision road	\$300.00 per lot
e. For over 10 lots with any lot having direct access by driveway to a proposed subdivision road, first 10 lots will be \$3,000, thereafter	\$250.00 per lot

Additional State fee to be collected under State Statute 22a-27j currently \$60.00

2. Exemption: Boards, Commissions, Councils and departments of the Town of Harwinton shall be exempt from the fee requirements of this ordinance.

No application shall be deemed filed unless accompanied by the application fee. In accordance with Ordinance 102, Base Application Fees shall be considered the minimum application fee required for a routine application. When the anticipated cost of processing an application exceeds the base application fee due to the need for additional outside consultant services beyond the standard fees, the Planning Commission may charge the applicant an additional surcharge fee to cover the estimated reasonable cost of such consultant services. Any portion of the estimated surcharge fee not expended by the Town on such services shall be refunded to the applicant. In addition, the Planning Commission may charge the applicant an additional surcharge fee to cover the actual, reasonable cost of outside consultant services required to review and inspect a project with approval contingent upon final payment of those fees once an approval has been issued in order to ensure compliance with the regulations and conditions of approval.