

TOWNSHIP OF RARITAN
COUNTY OF HUNTERDON, NEW JERSEY
ORDINANCE #12-5

AN ORDINANCE OF THE TOWNSHIP OF RARITAN, COUNTY OF HUNTERDON, STATE OF NEW JERSEY, TO AMEND AN ORDINANCE ENTITLED REVISED GENERAL ORDINANCES OF THE TOWNSHIP OF RARITAN, AND MORE SPECIFICALLY CHAPTER 16.02, CHAPTER 16.28A, CHAPTER 16.28B AND CHAPTER 16.20 TO PERMIT SOLAR OR PHOTOVOLTAIC ENERGY FACILITIES AS PRINCIPAL PERMITTED USES IN THE I-1 AND I-2 INDUSTRIAL ZONES IN THE TOWNSHIP OF RARITAN.

BE IT ORDAINED by the Mayor and Township Committee of the Township of Raritan as follows:

Section I - Intent

It is the intent of this amendment to the Development Ordinance to permit solar or photovoltaic energy facility or structure as principal uses in the I-1 and I-2 Industrial Zones of the Township.

Section II

Section 16.02.030 Definitions is hereby amended and supplemented as follows:

The definition for solar or photovoltaic energy facility or structure shall mean a facility or structure for the purpose of supplying electrical energy produced from solar or photovoltaic technologies, whether such a facility or structure is a principal use, a part of the principal use, or an accessory use or structure.

Section III

Section 16.28A.020 (Restricted Industrial I-1 Zone) is hereby amended and supplemented as follows:

H. Solar or photovoltaic energy facility

Section IV

Section 16.28B.020 (Major Industrial I-2 Zone) is hereby amended and supplemented as follows:

G. Solar or photovoltaic energy facility

Section V

Section 16.28A.060 (Solar or Photovoltaic Standards) is hereby created as follows:

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1. The following bulk requirements shall apply to solar or photovoltaic energy facilities where they are permitted uses.
 - a. Minimum lot size shall be 20 contiguous acres.
 - b. No more than 50% of the lot shall be covered by the solar or photovoltaic energy facility.
 - c. The following setbacks shall apply to ground mounted systems:
 - (i) Front Yard: 100 feet.
 - (ii) Side Yard: 100 feet, or not less than 200 feet where a lot abuts a residential district or use.
 - (iii) Rear Yard: 75 feet, or not less than 150 feet where a lot abuts a residential district or use.
 - d. Maximum height of arrays and inverters: 10 feet
 - e. Substations shall be setback a minimum of 150 feet from a property line. Any noise generated from the site must meet state noise requirements (less than 65 dB at the property lines) in compliance with the New Jersey Department of Environmental Protection Noise Code. An acoustical test shall be performed by a qualified acoustical engineer to verify that there are no negative acoustical impacts along any of the property lines and the test results shall be submitted for review and approval by the Township Engineer prior to the issuance of a Certificate of Occupancy.
 - f. The applicant shall demonstrate, to the satisfaction of the approving Board, that the proposed screening at the time of planting provides a year round visual screen of the facility from residential neighboring properties. Additional screening may be needed to meet this requirement and also address any negative impact seen from the first and second floor from residential neighboring properties or the design and location of the solar or photovoltaic energy facility shall be revised to mitigate the visual impact upon the neighboring residential properties. If construction occurs during a non-planting season, the applicant shall demonstrate sufficient buffering exists for both the array field and construction staging area. At the discretion of the Board, a temporary screening may be required during construction to help mitigate any negative visual impact.
 - g. Neighboring residential properties shall be defined for this purpose as those properties within 200 feet from the property line of the subject site.
 - h. The proposal shall comply with the Landscape Buffer Requirements in Section 16.20.040 of the Zoning Ordinance, with the following exceptions:
 - (i) Solar or photovoltaic energy facilities shall be considered an industrial use.

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- (ii) Where the solar or photovoltaic energy facilities abut a residential use or district, the buffer requirements and depths as set forth in Table I and II in Section 16.20.040.E shall be doubled.
- (iii) Where the solar or photovoltaic energy facilities abut a public uses or zone, there is a minimum buffer requirement of 100 feet.
- i. Substations and other associated transmission structures shall be screened with a double row of evergreen plantings with a minimum height of eight feet.
- j. Existing hedgerows or vegetated windbreaks that provide screening of the subject site from neighboring properties shall be retained and augmented unless waived by the approving Board. Wooded areas may not be clear cut to construct or install the solar or photovoltaic energy facility.
- k. All landscaping, as installed, shall conform to and be in accordance with the plan approved and/or signed by the Board. The use of native landscape species is strongly encouraged. Prior to the issuance of a permanent Certificate of Occupancy, Completion or Compliance (whichever is applicable) and prior to the release of any performance guarantee, the landscaping shall be installed and a two (2) year maintenance guarantee in the form approved by the Department of Community Affairs for bonds and in an amount acceptable to the Board landscape architectural expert, shall be posted with the Township. If the applicant applies for a Certificate of Occupancy during a non-planting season, the applicant may obtain a temporary Certificate of Occupancy without installation of the landscaping but if and only if the applicant posts a performance guarantee in the form approved by the Department of Community Affairs for bonds and in an amount acceptable to the Township Engineer guaranteeing installation of the landscaping during the next planting season and further guaranteeing the subsequent posting of a two (2) year maintenance guarantee. The applicant shall have a continuing obligation to maintain all landscaping for its intended purpose (i.e., for screening if planted for buffering purposes or for aesthetics if planted for enhancement purposes), which shall include but not be limited to repairing and/or replanting to the satisfaction of the Township Planning / Engineering Department any and all landscaping that becomes damaged and/or dies. (This continuing maintenance obligation is in addition to, and notwithstanding, the fact that a maintenance guarantee may or may not be required in any particular application.) In the event that Township Zoning Officer determines that utilization of an outside expert (e.g. Board landscape architectural expert) is necessary to fulfill the intent of this section, all costs and expenses of such outside experts shall be reimbursed to the Township by the applicant.
- l. Applicant shall submit an affidavit agreeing that any approval for the solar or photovoltaic energy facility shall be subject to site plan approval for any necessary new substations or modifications to existing substations.

Section VI

Section 16.28B.060 (Solar or Photovoltaic Standards) is hereby created as follows:

1. The following bulk requirements shall apply to solar or photovoltaic energy facilities where they are permitted uses.
 - a. Minimum lot size shall be 20 contiguous acres.
 - b. No more than 50% of the lot shall be covered by the renewable solar or photovoltaic energy facility.
 - c. The following setbacks shall apply to ground mounted systems:
 - (i) Front Yard: 100 feet.
 - (ii) Side Yard: 100 feet, or not less than 200 feet where a lot abuts a residential district or use.
 - (iii) Rear Yard: 75 feet, or not less than 150 feet where a lot abuts a residential district or use.
 - d. Maximum height of arrays and inverters: 10 feet
 - e. Substations shall be setback a minimum of 150 feet from a property line.. Any noise generated from the site must meet state noise requirements (less than 65 dB at the property lines) in compliance with the New Jersey Department of Environmental Protection Noise Code. An acoustical test shall be performed by a qualified acoustical engineer to verify that there are no negative acoustical impacts along any of the property lines and the test results shall be submitted for review and approval by the Township Engineer prior to the issuance of a Certificate of Occupancy.
 - f. The applicant shall demonstrate, to the satisfaction of the approving Board, that the proposed screening at the time of planting provides a year round visual screen of the facility from residential neighboring properties. Additional screening may be needed to meet this requirement and also address any negative impact seen from the first and second floor from residential neighboring properties or the design and location of the solar or photovoltaic energy facility shall be revised to mitigate the visual impact upon the neighboring residential properties. If construction occurs during a non-planting season, the applicant shall demonstrate sufficient buffering exists for both the array field and construction staging area. At the discretion of the Board, a temporary screening may be required during construction to help mitigate any negative visual impact.
 - g. Neighboring residential properties shall be defined for this purpose as those properties within 200 feet from the property line of the subject site.

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- h. The proposal shall comply with the Landscape Buffer Requirements in Section 16.20.040 of the Zoning Ordinance, with the following exceptions:
 - (i) Solar or photovoltaic energy facilities shall be considered an industrial use.
 - (ii) Where the solar or photovoltaic energy facilities abut a residential use or district, the buffer requirements and depths as set forth in Table I and II in Section 16.20.040.E shall be doubled.
 - (iii) Where the solar or photovoltaic energy facilities abut a public uses or zone, there is a minimum buffer requirement of 100 feet.
- i. Substations and other associated transmission structures shall be screened with a double row of evergreen plantings with a minimum height of eight feet.
- j. Existing hedgerows or vegetated windbreaks that provide screening of the subject site from neighboring properties shall be retained and augmented unless waived by the approving Board. Wooded areas may not be clear cut to construct or install the solar or photovoltaic energy facility.
- k. All landscaping, as installed, shall conform to and be in accordance with the plan approved and/or signed by the Board. The use of native landscape species is strongly encouraged. Prior to the issuance of a permanent Certificate of Occupancy, Completion or Compliance (whichever is applicable) and prior to the release of any performance guarantee, the landscaping shall be installed and a two (2) year maintenance guarantee in the form approved by the Department of Community Affairs for bonds and in an amount acceptable to the Board landscape architectural expert, shall be posted with the Township. If the applicant applies for a Certificate of Occupancy during a non-planting season, the applicant may obtain a temporary Certificate of Occupancy without installation of the landscaping but if and only if the applicant posts a performance guarantee in the form approved by the Department of Community Affairs for bonds and in an amount acceptable to the Township Engineer guaranteeing installation of the landscaping during the next planting season and further guaranteeing the subsequent posting of a two (2) year maintenance guarantee. The applicant shall have a continuing obligation to maintain all landscaping for its intended purpose (i.e., for screening if planted for buffering purposes or for aesthetics if planted for enhancement purposes), which shall include but not be limited to repairing and/or replanting to the satisfaction of the Township Planning / Engineering Department any and all landscaping that becomes damaged and/or dies. (This continuing maintenance obligation is in addition to, and notwithstanding, the fact that a maintenance guarantee may or may not be required in any particular application.) In the event that Township Zoning Officer determines that utilization of an outside expert (e.g. Board landscape architectural expert) is necessary to fulfill the intent of this section, all costs and expenses of such outside experts shall be reimbursed to the Township by the applicant.

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1. Applicant shall submit an affidavit agreeing that any approval for the solar or photovoltaic energy facility shall be subject to site plan approval for any necessary new substations or modifications to existing substations.

Section 16.20.040 (Site Development Design Standards) is hereby amended to include a new Section 16.20.040.S entitled Solar or Photovoltaic Energy Facility Design Standards:

1. General Requirements. The following general requirements shall apply to solar or photovoltaic energy facilities as permitted uses.
 - a. Facilities shall not be counted in the calculation of maximum impervious cover, unless the area under the system (excluding the footings) consists of an impervious material, such as pavement. The design of the systems shall comply with all Township stormwater, grading, and soil disturbance regulations and the applicant shall take appropriate measures to prevent a concentrated flow of runoff.
 - b. The solar or photovoltaic energy facility be encompassed with a 8 foot high chain link fence with all fencing and related fence components being black vinyl coated or black powder coated.
 - c. Ground systems greater than 1,000 square feet shall provide one or more of the following beneath the structures: meadow grasses or agricultural area for crops or grazing farm animals.
 - d. Site disturbance including but not limited to, grading, soil removal, excavation, and soil compaction, including beneath a ground mounted system, shall be minimized to the extent practical, and shall be in accordance with the Township's Soil Compaction Protocol for Solar Energy Generating Facilities, as follows
 - (i) Promote Viability of Vegetation - The contractor shall employ means and methods to maintain and promote the viability of the existing and proposed vegetation cover.
 - (ii) Heavy Construction Traffic - Heavy construction traffic shall be limited to main access drives as shown on the construction and parking plan. Construction traffic within panel array areas (i.e. at racking locations and between arrays) shall be limited to low pressure construction equipment and lightweight vehicles in order to minimize soil compaction.
 - (iii) Wet Conditions - Construction traffic shall be prohibited when surface soils are excessively wet. No construction shall be performed for a period of 24 hours immediately following a significant rain event (i.e. 1 inch or greater).

- (iv) Determination of Compaction - Should there be visual evidence of compaction by the absence of vegetation, wheel rutting, tracking, construction during wet or saturated conditions, or should the Township Engineer believe that there has been compaction, a cone penetrometer which measures soil resistance or other suitable device, shall be used to compare the compacted areas with nearby undisturbed areas. If necessary, soil bulk density shall be measured as an alternative at the discretion of the township engineer.
 - (v) Limited Soil Compaction - For areas where it is determined that compaction is limited to the topsoil or surface layer, the surface should be scarified, seed bed prepared and reseeded following the agronomic standards per the Soil Conservation District.
 - (vi) Subsoil Compaction - Where compaction extends to depths greater than 6", sub-soiling or soil plowing shall be performed. Sub-soiling or soil plowing shall be performed with agricultural sub-soilers or rippers with narrow straight shanks and coulters designed for minimal disturbance of the surface.
 - (vii) Significant Soil Compaction - In the event of significant compaction, sub-soiling or soil planting shall be performed as described above for "Subsoil Compaction" and the topsoil shall be amended by the addition of 1" to 3" of an approved compost material. If there are areas that are inaccessible (i.e. under installed panels) the compost layer may be used as a seed bed. In areas which are accessible by equipment, the compost should be incorporated into the soil as part of the seed bed preparation standards of the Soil Conservation District.
 - (vii) Site Inspections - Site inspections may be performed periodically by the Township Engineer and/or Township Landscape Architect but shall be performed prior to the issuance of a Certificate of Occupancy, Approval or Use and, if required by the Township Engineer and/or Township Landscape Architect, the appropriate soil compaction measures set forth in the within protocol shall be performed by the applicant. In no event shall a Certificate of Occupancy, Approval or Use be issued unless and until the Township Engineer and Township Landscape Architect have inspected the property and issued their written approval of the soil compaction conditions.
- e. Mounting of the solar structures shall be accomplished without the use of footings, concrete, or other impervious surfaces, except that up to 10% of the total number of foundation posts may be encased in concrete footings at the discretion of the Township Engineer, and shall be in accordance with the Township's Soil, Water and Post Testing Protocol for Solar Energy Generating Facilities.

- f. To the maximum extent possible, all foundation posts for the racking system which will support the solar panels shall be installed through the driven vibrating method of installation (the hammering method of driving the posts is strictly prohibited) and/or through helical screw-in posts.
- g. All new on-site roadway surfaces (excluding the inverter pads) site shall be constructed of pervious materials and shall be designed to minimize the extent of roadways constructed and associated soil compaction. Wooded areas may not be clear cut to construct or install the solar or photovoltaic energy facility.
- h. All electrical and control equipment shall be labeled and secured to prevent unauthorized access.
- i. There shall be no signs that are visible from any public road posted on a solar or photovoltaic energy system or any associated building or structure, except for the manufacturer's or installer's identification, appropriate warning signs, owner identification, and as required for fire and emergency identification.
- j. No new lighting other than motion sensor lighting for security purposes.
- k. Emergency response training to the Township Fire Department, mutual aid fire companies, and other emergency and rescue personnel must be provided.
- l. Video surveillance camera monitoring must be installed, at the discretion of the Township, so that all solar panels, inverters, transformers, switching equipment and the connection to the grid are viewed in real time.
- m. No portion the energy facilities or structure shall occupy any areas of land designated and regulated by New Jersey Department of Environmental Protection as floodplains, flood hazard areas, wetlands, wetland transition areas or riparian corridors. An applicability determination from the New Jersey Department of Environmental Protection shall be provided to document the presence and/or absence of these regulated areas.
- n. No soil containing prime farmland and farmlands of statewide significance as identified by the United States Department of Agriculture Natural Resources Conservation Service shall be removed from any site.
- o. Any and all cleaning of the solar panels shall be done with water only to the maximum extent feasible. In the event a cleaning solution is necessary, only biodegradable non-environmentally harmful cleaning products may be used.
- p. Only dry or vegetable oil transformers shall be used on the property. And, in the event that vegetable oil transformers are used, the applicant shall provide containment for each such transformer even if not required by the Uniform Construction Code.
- q. In addition to those items required for an application to be deemed complete, a site plan application shall depict the following:

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- (i) Location of proposed and existing underground or overhead utility or transmission lines.
 - (ii) Location of any proposed or existing substation, inverter or transformer.
 - (iii) Description of any necessary upgrades or modifications to existing substations or the necessity for a new substation.
 - (iv) Description of how the energy generated by the facility will be connected to the electrical distribution or transmission system or the electrical system of the intended energy user.
 - (v) For projects over 2MW, the location and elevations of all transmission lines, support structures and attachments to a substation(s).
 - (vi) If there are no fire hydrants on the property, the site plan must include a 15,000 gallon underground water storage tank ("UST"). Perimeter and internal emergency access drives, no less than 20-feet wide, access gates, "Knox" boxes as found appropriate by the Fire Marshal and Fire Department.
- r. In addition to those items required for an application to be deemed complete, the application shall include the following:
- (i) Shading Impact Plan – a study to evaluate conditions of over shadowing or shading from trees or other obstacles on the solar array system.
 - (ii) Geotechnical Report – a study to assess the site's soils, bedrock and geotechnical conditions and what types of infrastructure/foundation design would be needed to support the solar panel facility.
 - (iii) An Interconnection Feasibility Study - a plan to determine the approximate costs and construction time estimates to connect the subject property to the grid operating electric transmission system (PJM Interconnection network). The study must also describe the requirements for interconnection, and any network or infrastructure upgrades needed.
 - (iv) Land and Surface Maintenance Plan – a plan showing the methods to maintain and promote the viability of existing and proposed vegetation cover, the areas devoted to construction phasing and heavy construction traffic, a soil compaction prevention protocol and plan,
 - (v) Visual Impact Analysis and photo simulations depicting the site's existing conditions; and the proposed application with and without buffering. The intent of the Visual Impact Analysis is to show how the proposed landscaping and buffer achieves maximum screening and buffering at the time of installation. Height of planting material at planting, at 5 years, 10 years and 20 years.

(vi) Glint and Glare analysis – a report to determine if the glint and glare off the surface of the proposed solar or photovoltaic energy facility will be visible to offsite viewers, what the duration and intensity of the glint and glare would be and what mitigation methods are needed and/or could be implemented to mitigate the glint and glare.

(vii) Soil, Water and Post Testing Protocol

- (a) Prior to the issuance of a zoning permit, the applicant shall submit manufacturer's specifications and product literature for the proposed posts to the Township Engineer and Planner as well as to a New Jersey licensed professional engineer with a geotechnical specialty to be selected by the Township. The Township Engineer, Planner and New Jersey licensed professional engineer with a geotechnical specialty shall review and approve the specifications and product literature as the posts not containing hazardous substances.
- (b) Prior to the installation of the posts, 1% of the posts to be installed shall be tested against the manufacturer's specifications and product literature by a certified materials testing laboratory. The purpose of the tests is to confirm that the materials in the posts match the materials listed in the manufacturer's specifications and product literature, and a written report to that effect shall be submitted to the Township Engineer and Planner directly from the testing firm. The material content tests shall be performed in accordance with ASTM standards by the certified materials testing laboratory. If the test results show that the posts contain no hazardous substances and that they are composed of substantially similar substances to that contained in residential well casing, then the testing is concluded.
- (c) If the test results show that the posts contain no hazardous substances but that they are not composed of substances substantially similar as contained in residential well casings, then the following additional testing shall occur:
1. The applicant shall arrange for a New Jersey licensed professional land surveyor to establish a GIS grid with soil and water quality testing locations on the property to the satisfaction of a New Jersey licensed professional engineer with a geotechnical specialty to be selected by the Township. Prior to the installation of the posts, the applicant shall submit for review and approval by the Township Engineer and Planner, as well as the New Jersey licensed professional engineer with a geotechnical specialty to be selected by the Township, a sealed survey showing the GIS grid and testing locations.

2. Prior to the installation of the posts, soil testing and water testing shall be performed by a geotechnical engineer retained by the applicant to establish a baseline and a written report shall be submitted to the Township Engineer and Planner directly from the applicant's geotechnical engineer and the results shall be reviewed and approved by the New Jersey licensed professional engineer with a geotechnical specialty selected by the Township.
 3. Soil and water testing shall be performed by the applicant's geotechnical engineer at 5-year intervals, commencing 5-years from the date of the issuance of a Certificate of Occupancy, Approval or Use, at locations identified on the GIS grid. A written report shall be submitted to the Township Engineer and Planner directly from the applicant's geotechnical engineer and the results shall be reviewed and approved by the New Jersey licensed professional engineer with a geotechnical specialty to be selected by the Township.
 4. Failure to comply with the Soil, Water and Post Test Protocol will result in a violation of site plan approval.
 - (d) All soil testing and water testing shall comply with the NJDEP requirements set forth in the "Field Sampling Manual."
 - (e) All testing services shall be paid for out of the applicant's escrow account.
- (viii) Noise Study – a report describing the noise generated from the solar or photovoltaic energy facility, and showing consistency with the Township's performance standards and NJ DEP Noise Code.
- (ix) Abandonment and Decommissioning Plan.
 - (a) A solar or photovoltaic energy facility that is out-of-service for a continuous 12 -month period will be deemed to have been abandoned.
 - (b) The Township may issue a Notice of Abandonment to the applicant once the facility is deemed to have been abandoned. The notice shall be sent return receipt requested.
 - (c) The applicant shall have the right to respond to the Notice of Abandonment within 30 days from Notice receipt date.
 - (d) If the applicant provides information that demonstrates the solar or photovoltaic energy facility has not been abandoned, the Township shall withdraw the Notice of Abandonment and notify the applicant that the Notice has been withdrawn.

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- (e) If the designated Township Official determines that the solar or photovoltaic energy facility has been abandoned, the applicant shall remove the solar or photovoltaic energy facility and properly dispose of the components at the applicant's sole expense within 6 months (180 days) after the applicant receives the Notice of Abandonment, or as addressed in the Decommissioning Plan.
- (f) In the event that the applicant fails to remove the solar or photovoltaic energy facility, the Township and/or its employees and/or contractors may enter the property to remove the solar or photovoltaic energy facility (but shall not be obligated to remove same) and, in the event that the Township performs the removal, all costs and expenses of such removal shall be reimbursed to the Township by the applicant. In the event the applicant fails to reimburse the Township, the Township may place a lien on the property in the amount of the costs and expenses of said removal and, in the event that the Township incurs any additional costs and expenses in enforcing the lien and/or collecting the money owed, the applicant shall be obligated to reimburse the Township for the additional costs and expenses, including reasonable attorneys fees.
- (g) The applicant shall submit for review and approval to the Township Engineer and Township Attorney a financial security to be held by the Township to guaranty the decommissioning plan and the restoration of the property within 180 days of the cessation of use of the solar or photovoltaic energy facility. The Township requires that the developer have a bond in place for decommissioning the solar or photovoltaic energy facility and an insurance policy which covers all other unfunded aspects of the property. The bond and insurance are to be reviewed and approved by the Township Engineer and Township Attorney.
- (h) Failure to comply with the Abandonment and Decommissioning Plan would require Planning Board approval.

Section VII Severability

If the provision of any article, subsection, paragraph, subdivision or clause of this Chapter shall be judged invalid by any Court of competent jurisdiction, such Order or Judgment shall not effect or invalidate the remainder of any such article, section, subsection, paragraph or clause, and to this end, the provisions of this Ordinance are hereby declared to be severable.

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Section VIII

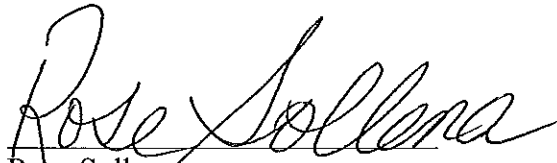
All other provisions of the said ordinance shall remain in full force and effect

Section IX

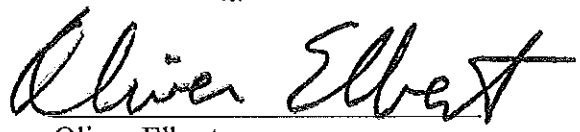
This ordinance shall take effect immediately upon (1) adoption; (2) publication in accordance with the laws of the State of New Jersey; and (3) filing with the Hunterdon County Planning Board.

Attest

Township Committee of
The Township Of Raritan



Rose Sollena
Township Clerk



Oliver Elbert
Mayor

NOTICE OF PENDING ORDINANCE

PLEASE TAKE NOTICE that the foregoing ordinance was adopted on first consideration by the Township Committee of the Township of Raritan at a meeting held June 19, 2012 and the same was then ordered to be published according to law, with a public hearing and a vote scheduled for the meeting of July 17, 2012 beginning at 7:00pm at the Municipal Building, One Municipal Drive, Raritan Township, NJ at which time all interested persons will be heard.



Rose Sollena, RMC/CMC
Township Clerk