To: Guilderland Planning Board

From: Guilderland Conservation Advisory Council

Date: January 24, 2017

Re.: Kuehnert Subdivision, 6732 Dunnsville Rd., Altamont, NY 12009

APPLICATION

Applicant(s): Scott Carroll, 3 Thatcher Dr., Altamont, NY 12009

Proposal: A proposed _two_ lot subdivision of _58.5_ acres.

Location: The property is north of the Village of Altamont, about midway between the edge of the village and the Schenectady boundary line. A large portion of the property runs along the north side of Becker Road.

Zoning: RA 3.

Site Inspection Summary:

Site Inspection Date: January 14, 2017.

Meeting Attendees: (January 9, 2017) Presenter Joseph Hammond, Owner John Kuehnert, Purchaser Scott Carroll; GCAC Members Stephen Albert, Laura Barry, Martha Harausz, Martin Gnacik, and John Wemple, Chair.

Inspected by: Presenter Joseph Hammond, Purchaser Scott Carroll; GCAC Members Stephen Albert, Laura Barry, Martin Gnacik, and John Wemple, Chair.

Conclusions: GCAC feels that the development of this 7.37 acre lot should have little if any negative environmental impact on the area since it relatively isolated and will be a single family residence with it's own water supply and an apparently sufficient area to accommodate the planned raised septic system provided the limitation of the Nunda silt loam, 8 to 15 percent slopes soils are taken into consideration when constructing the absorption field. Testing of the well still need to be completed by the Health Department as well as approval of the septic system. Care will be needed in construction of the driveway due to the slope as well as the nature of the soil. See limitations of the soil under the Soil Section of this report. The final plan should incorporate provision for stormwater management in an effort to avoid pollution to the drainage ditch, which may actually be an intermittent watercourse, especially from the absorption field since the ditch leads to the property on the east side which will be part of a separate lot once the subdivision is approved.

Submitted by: _____

John G. Wemple, Jr. - Chair

INSPECTION DETAILS

Applicant(s): Scott Carroll, 3 Thatcher Dr., Altamont, NY 12009

Address: 6732 Dunnsville Road. Altamont, NY 12009

Background: According to the owner, the property was willed to his family in the mid 1990's and he lives in the house at the south portion near Becker Road on the east side of Dunnsville Road. While he plans on selling the proposed 7.3 acre lot to Scott Carroll, the owner (John Kuehnert) stated that he doesn't plan on selling any more. He emphasized this by saying “I don't sell land”. He further noted that the total acres is 58.5 acres not the 88 acres noted

on the Guilderland Conservation Advisory Council meeting notice. Plan of purchaser is to most likely have a ranch style house on the new lot.

Topography: The acreage slopes generally to the east and south east, with that of the new smaller lot sloping to the east and also to the north north east. The contour lines on the site drawing show the elevation along the west boundary of the new lot at 442 feet Above Mean Sea Level (AMSL), and at 446 Ft AMSL further to the south of the acreage along the west boundary. The area on the proposed new lot where the house is planned is at approximately 414 to 418 ft. AMSL. Based on the shaded area on the site map, which indicates areas of 12% or greater slopes, there may be a need for the north east corner of the planned house to be relocated slightly toward the west in order to stay away from the edge of the slope of this shaded area. Based on the contour lines and the distance involved, GCAC determined the angle of the slope from the corner of the house directly down to the bottom of this shaded area to be approximately 14% . Using a scientific calculator, this in turn was determined to be a angle of 7.69º which is less than the 12º used in the code related to protected slopes and setbacks. Since the slope is relatively steep at the northeast corner of the planned house, the angle of slope for that small area should be determined to see if it is 12º or more and thus requires a thirty foot setback called for under Sec. 247-31 of the Town Code. If this is the case, it would be wise to relocate the site of the house for safety sake thus avoiding possible slippage in the future as well as during construction. The elevation of the new lot is approximately between 366 and 370 ft. AMSL along the east side as it abuts the Road. There is a drainage ditch along the Road which will require a culvert for the planned driveway. The area on which the house is planned is relatively level; but the driveway leading up to it will need consideration in its design due to the question as to its steepness. On the west side of the Road the remainder of the property sloped toward the south corner where there is a pond and a horse stable. This downslope continues to the corner of the property on the east side of the Road where the owner's residence is located adjacent to Becker Road. Other than at this corner area, the downward slope on the west side of Dunnsville Road is to the east until it reaches the area belonging to NiMo. To the east of the NiMo area the direction of the slopes vary with a relatively flat area at the far east corner.

Vegetation/Trees: The front portion of the proposed small lot has grass or hay beyond which is a treed area of both deciduous and evergreen trees. As noted on the site drawing, the front third of that lot is open, followed by the middle third which is treed and then followed by the rear third which is generally open. The area for the proposed driveway is already cleared as is much of the rear area. Besides pine, some of the trees noted on this area are hemlock, beach and oak. The remainder of the acreage is hay fields with some hedgerows or stands of trees which appear to serve as windblocks. On the area east of the NiMo property, there is a more heavily wooded area which may be on the owner's property.

Soil: According to Presenter, the soil is clay and topsoil. In order to determine the soils on the property, GCAC used the County of Albany Interactive Mapping system as well as reviewing

information from the web soil survey map on the USDA Natural Resources Conservation Service, resulting in GCAC finding that there are twelve soils on the property. The soils on the eighty-eight acre parcel is as follows; Starting at the west, there is a relatively narrow strip of BuC soil along the west border. To the east of this is a large wedge shaped area of AnB soil which goes across about half of the lower area of the portion west of Dunnsville Road. Below this AnB area (to the south) is a wide area of BuB soil which covers most of the remaining part of the lower portion other than a small knob of BuA along the south border, the east side of which is about one hundred feet from Dunnsville Road. The BuB soil runs up the east side of this part of the lot between the Road and a long finger of NuC soil which is to the east of the AnB area already noted and extends to within 265 to 270 feet of the south east corner of this western part of the parcel west of Dunnsville Road. To the east of Dunnsville Road, the upper part of the acreage between Dunnsville Road and the NiMo area is BuB soil with a finger of BuA extending from the north about 245 feet. The BuB soil also runs along the east edge of Dunnsville Road and widens as it approaches the south border where it is about 300 feet wide. Most of this lower half of the area is covered by NuC soil in the shape of a light bulb. To the west of the lower part of this NuC area is a wedge of NuB soil and on the east is a wedge shaped area of BuA. Along the east border, next to the NuC area, is a narrow area of HuC below which are small areas of RhA, RhB and another RhA at the southeast corner. To the east of the NiMo area is a large wedge shaped area which has strips of various soils – Te soil along the northeast border, to the west of this is a wide strip of HuD and to the west and south is an area of HuC at the mid section. South of this is a strip of RhB and to the south of this RhB area is a wedge shaped area of RhA. The lower (south) portion of this part of the acreage has a relatively large area of HuB soil, to the south of which is a smaller area of HuC. At the south corner is a small wedge of BuA soil. Looking closer at the proposed 7+ acre lot, it was determined that the soil on this area is as follows. Along the west border of the lot is a relatively narrow area about 90 feet wide at the south end and about 35 feet wide at the north on which there is BuC soil. East of this is an area about 375 feet wide along the south side and

about 210 feet wide along the north side on which there is AnB soil. The proposed house is located on this area close to the east border of this AnB soil. To the east is a strip about 200 feet wide along the south side and about 290 feet wide along the north where there is NuC soil. The remaining area of this proposed lot, about 290 feet at the south and 265+ feet wide at the north, has BuB soil. A brief description of these soils as found in "Soil Survey of Albany County, New York" -1992 – James H. Brow and some of the limitations of the particular soils are as follows: **AnB - Angola silt loam, 3 to 8 percent slopes** - This gently sloping soil is moderately deep and somewhat poorly drained. It is in slightly concave positions in bedrock-controlled areas on uplands. The seasonal high water table in this Angola soil is at a depth of ½ foot to 1 ½ feet from December to May. The water table is perched above the bedrock. Depth to bedrock is 20 to 40 inches. Permeability is moderate in the surface layer and slow in the subsoil. Available water capacity is moderate. Surface runoff is slow. The surface layer ranges from moderately acid to mildly alkaline. The moderate depth to bedrock restricts root penetration. Northern red oak, sugar maple, and white ash are common on this soil. The main limitation of this soil on sites for dwellings with basements is the seasonal high water table. The moderate depth to bedrock is also a limitation. On construction sites, erosion is a limitation where the soil is bare of vegetation. Installing foundation drains and applying protective coatings to basement walls will help prevent wet basements. A backhoe can easily rip away the soft shale bedrock when digging the basement. The harder sandstone bedrock is more difficult to remove. Restoring vegetation or applying mulch on the surface helps to control erosion. The main limitations for local roads and streets on this soil are the seasonal high water table and the frost-action potential. This soil is soft when wet and causes the pavement to crack under heavy traffic. Constructing roads on raised fill material helps prevent the road damage that the seasonal high water table causes. The main

limitations affecting the use of this soil as a site for septic tank absorption fields are the seasonal high water table, the slow percolation in the subsoil, and the depth to bedrock. A specially designed septic tank absorption field or an alternative system will properly filter effluent if located in areas of the deep included soils. A drainage system around the filter field and diversion ditches to intercept water from the higher areas will reduce wetness. Revegetating or mulching disturbed areas of this soil helps to control erosion. **BuA - Burdett silt loam, 0 to 3 percent slopes** - This very deep soil is nearly level and somewhat poorly drained. The seasonal high water table in the Burdett soil is perched on the clayey subsoil at a depth of ½ foot to 1 ½ feet from December to May in most years. Permeability is moderate in the surface and subsurface layers and slow in the subsoil and substratum. Available water capacity is high, and surface runoff is slow. County soil survey notes that most of the acreage of this soil is used as hayland, pasture, or woodland. The main limitation of this soil on sites for dwellings with basements is the seasonal high water table. Installing foundation drains and applying protective coatings to basement walls help prevent wet basements. Grading the land surface to divert runoff from the higher areas also helps reduce wetness. The main limitations for local roads and streets on this soil are the seasonal high water table and the frost-action potential. When wet this soil is soft and causes the pavement to crack under heavy traffic. Constructing the road on raised fill material will reduce wetness and prevent the road damage that the seasonal high water table causes. Providing a coarse textured subgrade or base material and installing surface or subsurface drainage will reduce the frost-action potential and enhance soil strength. The main limitations affecting the use of this soil as a site for septic tank absorption fields are the seasonal high water table and the slow percolation in the subsoil. A specially designed septic tank absorption field or an alternative system will properly filter effluent. An alternate system will include a drainage system around the filter to lower the water table, diversion ditches to intercept water from the higher areas, and an enlarged trench below the distribution lines to improve percolation. **BuB – Burdett silt loam, 3 to 8 percent slopes** - This gently sloping soil is very deep and somewhat poorly drained. The seasonal high water table in this Burdett soil is perched on the clayey subsoil at a depth of ½ foot to 1 ½ feet from December to May in most years. Permeability is moderate in the surface and subsurface layers and slow in the subsoil and substratum. Available water capacity is high. Surface runoff is medium. County soil survey notes that most of the acreage of this soil is used as hayland, pasture, or woodland. The main limitation of this soil on sites for dwellings with basements is the seasonal high water table. Installing foundation drains and applying protective coatings to basement walls help prevent wet basements. Land grading and properly placed diversions will remove surface water. The main limitations for local roads and streets on this soil are the seasonal high water table and frost-action potential. This soil is soft when wet and causes the pavement to crack under heavy traffic. Constructing roads on raised fill material will reduce wetness and prevent the road damage that the seasonal high water table causes. Providing a coarse textured subgrade or base material and providing surface or subsurface drainage will reduce the frost-action potential and enhance soil strength. The main limitations affecting the use of this soil as a site for septic tank absorption fields are the seasonal high water table and the slow percolation in the subsoil. A specially designed septic tank absorption field or an alternative system will properly filter effluent. An alternate system will include a drainage system around the filter field to lower the water table, diversion ditches to intercept water from the higher areas, and an enlarged trench below the distribution line to improve percolation.

BuC -Burdett silt loam, 8 to 15 percent slopes (BuC). This strongly sloping soil is very deep and somewhat poorly

drained. Typically, the surface layer is very dark grayish brown silt loam about 8 inches thick. The seasonal high water table in this Burdett soil is perched on the clayey subsoil at a depth of 6 to 18 inches from November to May in most years. Permeability is

moderate in the surface and subsurface layers and slow in the subsoil and substratum. Available water capacity is high, and surface runoff is medium. Northern red oak, sugar maple, beech, and hemlock are common to the soil. The main limitation of this soil on sites for dwellings with basements is the seasonal high water table. Erosion is a hazard during construction. Installing foundation drains and applying protective coatings to basement walls help prevent wet basements. Land grading and properly placed diversions will remove surface water. Restoring vegetation, applying mulch, and using temporary waterways and diversions during construction help prevent erosion. The main limitations for roads and streets on this soil are the seasonal high water table and the frost-action potential. The main limitations affecting the use of this soil as a site for septic tank absorption fields are the seasonal high water table and the slow percolation in the subsoil. A specially designed septic tank absorption field or an alternative system will properly filter effluent. An alternate system includes a drainage system around the filter field to lower the water table, diversion ditches to intercept water from higher areas, and an enlarged trench below the distribution line to improve percolation. **HuB – Hudson silt loam, 3 to 8 percent slopes** – This gently slopping soil is very deep and moderately well drained. The seasonal high water table in this soil is perched above the clayey subsoil at a depth of 1 ½ to 2 feet between November and April. Depth to bedrock is more than 60 inches. Permeability is moderate or moderately slow in the surface and subsurface layers and slow or very slow below. The available water capacity is high. The main limitation of this soil on sites for dwellings with basements is the seasonal high water table. Landscaping around the building and using diversion ditches above it help remove excess surface water. Foundation drains and protective coatings on basement walls help prevent wet basements. The main limitations of this soil for local roads and streets are the frost-action potential and low strength. Providing a coarse textured subgrade or base material to the frost depth and adequate drainage in areas of the wetter included soils reduce frost action and improve soil strength. The main limitations affecting the use of this soil as a site for septic tank absorption fields are the season high water table and slow percolation. A drainage system around the filter field and interceptor drains to divert water from higher areas will lower the water table. Enlarging the trench below the distribution lines will improve the percolation of effluent.

HuC – Hudson silt loam, 8 to 15 percent slopes – This strongly slopping soil is very deep and moderately well drained. The seasonal high water table in this soil is perched above the clayey subsoil at a depth of 1 ½ to 2 feet between November and April. Depth to bedrock is more than 60 inches. Permeability is moderate or moderately slow in the surface and subsurface layers and slow or very slow below. The available water capacity is high. The main limitation of this soil on sites for dwellings with basements is the seasonal high water table. Landscaping around the building and using diversion ditches above it help remove excess surface water. Foundation drains and protective coatings on basement walls help prevent wet basements. Erosion is a hazard during construction. Maintaining vegetative cover adjacent to the construction site and diverting runoff help control erosion during construction. The main limitations of this soil for local roads and streets are the frost-action potential and low strength. Coarse textured subgrade or base material to frost depth and adequate drainage in areas of the wetter included soils reduce frost action and increase soil strength. Mulching and seeding of graded roadbanks help control erosion. The main limitations affecting the use of this soil as a site for septic tank absorption fields are the season high water table and slow percolation. A drainage system around the filter field and diversions to intercept runoff from higher areas will lower the water table. Enlarging the trench below the distribution lines will improve the percolation of effluent. **HuD, Hudson silt loam, hilly.** This soil is very deep and moderately well drained. Slopes range from 15 to 25 percent. The seasonal high water table in this soil is perched above the clayey subsoil at a depth of 1 ½ to 2 feet between November and April. Depth to bedrock is more than 60 inches. Permeability is moderate or moderately slow in the surface and subsurface layers and

slow or very slow below. The available water capacity is high. The main limitations on sites for dwellings with basements are the seasonal high water table and slope. Diversion ditches above the building, foundation drains, and protective coatings on basement walls help prevent wet basements. Designing buildings to conform to the natural slope and landscaping around buildings help overcome the slope limitation. Erosion is a hazard during construction. Maintaining a vegetative cover adjacent to the construction site and diverting runoff help control erosion during construction. The main limitations for local roads and streets are the frost-action potential, the low strength, and the slope. Coarse textured subgrade or base material to frost depth and adequate drainage in areas of the wetter included soils will reduce frost action and increase soil strength. Building roads on the contour to the extent possible and carefully landscaping and seeding the site will avoid costly construction practices and stabilize roadbanks, respectively. The main limitations affecting the use of this soil as a site for septic tank absorption fields are the seasonal high water table, the slow percolation, and the slope. A drainage system

around the filter field and diversions to intercept runoff from the higher areas will lower the water table. Enlarging the trench below the distribution lines will improve the percolation of effluent. Installing distribution lines on the contour and using drop boxes or other structures to distribute the effluent evenly will enable the system to function more effectively. **NuB - Nunda silt loam, 3 to 8 percent slopes–** This gently sloping soil is very deep and moderately well drained. The seasonal high water table is at a depth of 18 to 24 inches from March to May. Depth to bedrock is more than 60 inches. Permeability is moderate in the surface layer and in the upper part of the subsoil and slow to very slow below. The available water capacity is high, and runoff is medium. The main limitation of this soil on sites for dwellings with basements is the seasonal high water table. Foundation drains and interceptor drains upslope from construction sites divert runoff and lower the water table. The main limitation of this soil for local roads and streets is the frost-action potential. Constructing roads on coarse textured fill material provides drainage away from the roadway. The main limitation affecting the use of this soil as a site for septic tank absorption fields are the seasonal high water table and the slow percolation in the subsoil and substratum. Installing a drainage system around the absorption field and diversions to intercept runoff from the higher areas will reduce wetness. Enlarging the absorption field or the trench below the distribution lines will improve percolation.
NuC – Nunda silt loam, 8 to 15 percent slopes– This strongly sloping soil is very deep and moderately well drained. The seasonal high water table is at a depth of 18 to 24 inches from March to May. Depth to bedrock is more than 60 inches. Permeability is moderate in the surface layer and in the upper part of the subsoil and slow or very slow below. The available water capacity is high, and runoff is medium or rapid. The main limitation of this soil on sites for dwellings with basements is the seasonal high water table. Foundation drains and interceptor drains upslope from construction sites divert runoff and reduce wetness. Erosion is a hazard during construction. Maintaining the vegetative cover adjacent to the site and diverting runoff from the higher areas help control erosion. The main limitation of this soil for local roads and streets is the frost-action potential. Constructing roads on coarse textured fill material provides drainage away from the roadway. Erosion is a hazard if these sloping soils are left unprotected. The main limitations affecting the use of this soil as a site for septic tank absorption fields are the seasonal high water table and the slow percolation in the subsoil and substratum. A drainage system around the absorption field and diversions to intercept runoff from the higher areas will reduce wetness. Enlarging the absorption field or the trench below the distribution lines will improve percolation.
RhA – Rhinebeck silty clay loam, 0 to 3 percent slopes. -This nearly level soil is very deep and somewhat poorly drained. The seasonal high water table in this Rhinebeck soil is at a depth of ½ foot to 1 ½ feet. Depth to bedrock is more than 60 inches. Permeability is moderately slow in the surface and subsurface layers and slow below. The available water capacity is moderate,

and runoff is slow. The county soil survey noted that most of the acreage is used as cropland, hayland, or pasture. The main limitation of this soil on sites for dwellings with basements is the seasonal high water table. Foundation drains and interceptor drains upslope from construction sites will divert runoff and help prevent wet basements. The main limitations of this soil for local roads and streets are the seasonal high water table, the low strength, and the frost-action potential. Constructing roads on raised, coarse textured fill material will reduce the frost-action potential and improve soil strength. Raising the level of fill material will reduce wetness. The main limitations affecting the use of this soil as a site for septic tank absorption fields are the seasonal high water table and slow percolation. Installing a drainage system around the absorption field and intercepting runoff from the higher areas will reduce wetness. Enlarging the absorption field or the trenches below the distribution lines will improve percolation. This soil, especially when wet, has low bearing capacity. Excavations and cutbacks will cave or slough. **RhB – Rhinebeck silty clay loam, 3 to 8 percent slopes.** – This gently sloping soil is very deep and somewhat poorly drained. The seasonal high water table in this Rhinebeck soil is at a depth of 6 to 18 inches from January to May. Depth to bedrock is more than 60 inches. The seasonal high water table limits the rooting depth. Permeability is moderately slow in the surface layer and subsurface layer and slow below. The available water capacity is moderate, and runoff is slow. The County survey notes that most of the acreage is used as cropland, hayland, or pasture. The main limitation of this soil on sites for dwellings with basements is the seasonal high water table. Foundation drains and interceptor drains upslope from construction sites will divert runoff and help prevent wet basements. The main limitations of this soil for local roads and streets are the seasonal high water table, low strength, and the frost-action potential. Constructing roads on raised, coarse textured fill material will reduce the frost-action potential and improve soil strength. Raising the level of fill material will reduce wetness. The main limitations affecting the use of this soil as a site for septic tank absorption fields are the seasonal high water table and slow percolation. Installing a drainage system around the absorption field and intercepting runoff from the higher areas will reduce wetness. Enlarging the absorption field or the trenches below the distribution lines will improve percolation. This soil has a low bearing capacity, especially when it is wet. Excavations and cutbacks will cave or slough. **Te - Teel silt loam.** This nearly level soil is very deep and moderately well drained. The seasonal high water table in this Teel soil is at a depth of 1 ½ to 2 feet from February to April. The soil is subject to occasional flooding for brief periods from November to May. Depth to bedrock is more than 60 inches. Permeability is moderate. Surface run off is slow. The available water capacity is high. The

main limitations of this soil on sites for dwelling with basements are flooding and the seasonal high water table. The main limitations for local roads and streets are flooding and the frost-action potential. Constructing roads on coarse textured fill material may reduce flood damage and frost heave. Laying out roads around the flood plain will reduce construction costs.

Drainage/Wetlands: While the Application form indicates there is a stream, explanation by the Presenter is that it is more of a ditch with run off rather than a stream and drainage is to the east to a culvert under Dunnsville Road with flow to the east side. At time of site visit, GCAC noted that the ditch is also set up to take drainage from the adjacent Patricia Carroll property near her garage. It was further noted that the ditch continues along the south side of the lot belonging to owner's father, Horst Kuehnert, which is along the east side of the Road. GCAC also noted another culvert along the Road to the south. There is a drainage ditch along Dunnsville Road which will necessitate a culvert where that planned driveway for the new lot enters the property. There are no wetlands claimed by the Applicant and none were noted by GCAC on the area observed at time of January 14th site visit. As noted above, there is a pond near the south corner of the west portion of the property. The pond is fairly large, and the origin is not known but the

purchaser thinks it might be man made.

Septic/Wells: For the proposed new lot, the plan is to have well water and septic system. Plan is to have a raised bed septic system to the east of the treeline This raised absorption field would be about 200+ feet from the proposed house. Presenter explained the procedure for determining the size of the raised bed and noted that the size depends on the tests related to absorption. Test are yet to be done related to the well water which is to the rear of the planned location of the house. Site of the drilled well, which went down about 300 of 400 feet, was seen by GCAC. GCAC did not find it necessary to inspect the source of water and sanitary system of the house on the large lot since the owner's residence appears to be well established with a residence, barns and out buildings for that part of the existing farm which includes a silo, about a dozen or more horses, cows and according to purchaser also sheep.

Visual Impact: Due to the planned location of the house, it will have not be very visible from the Road since there will be a stand of trees to its east creating a sight barrier.

Endangered Species: According to Presenter, there are no Karner Blues, Indiana Bats or any endangered species on the property and none were observed by GCAC at time of site visit.

Historical Considerations: According to Presenter, there is no cemetery or old barn or anything of historical significance; and none were observed by GCAC at time of site visit. Residence of neighbor to the north, the mother of purchaser, dates back to 1848 according to list of old properties obtained from Assessor's office.

Submitted by: _____

John G. Wemple, Jr. - Chair