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To: **Chairman and Members of Bernards Township Planning Board**

Subject: **Quarry Park and Lakeview Village; A Proposal for Block 6001, Lot 6**

**Introduction:** The subject land is Block 6001, Lot 6. It is owned by MQI, is operated as a quarry by Tilcon, and is known as the Tilcon Millington Quarry. All the accessible and valuable basalt rock has been mined. A transition period has begun in which some less valuable rock will be mined, stocks of material will be sold off, and the land will be rehabilitated in accordance with an approved plan. A recent concept plan shows subdivision of buildable land for single family houses and ownership of what is left by a homeowners association.

An alternative proposal follows. It includes a community of townhouses with bulk and separation like Amherst Mews in The Hills; this is Lakeview Village. The village is surrounded on three sides by public land; this is Quarry Park. The park will have a lake and will support many kinds of active and passive recreation.

I first submitted this proposal to the Planning Board on August 17, 2004. This was at the end of my comments on the plan for rehabilitation of the quarry after operations cease. There was no discussion of the proposal at that time.

The first proposal was described in a drawing dated May 2, 2004. Some conditions have changed and I have made some minor revisions. The current drawing or "map" is dated May 12, 2009. References below are to it.

The principal change from 2004 is the importation and deposit of fill in the northwest corner of the property. There are still unresolved questions regarding harmful substances that may be in this fill material. The premise as I write here is that these questions will be resolved satisfactorily.

The features displayed on the map are those projected in 2025 when the lake is full and young trees cover the reforested area. To avoid clutter many features shown on the map and mentioned below are not labeled.

**Topography and Physical Features:** The plan builds on topographic data and other data and testimony provided for the quarry rehab plans of 2003 and 2008.

- Elevations in feet relative to mean sea level [msl] are on the map as 3-digit numbers.
- Exposed slopes will be no steeper than 3:1 or 18 degrees.
- All berms will be removed to improve visibility. The tops of the west and north walls will be graded to accommodate trails for walking and biking.
- West Canyon has already been carved out. Its floor is roughly flat with a tilt down to the north.
- Land under Lakeview Village slopes down to the north following the grade of the shale that underlay the basalt that was removed.
- Little Aspen also follows the top of the shale layer, but is modified for snow sports.
- East Canyon will be formed as quarry operations wind down. The walls will be left as stepped rock to enhance acoustics. The floor shaded light green will be graded flat with a small gradient to drain water south. The area shaded yellow is a sand covered beach. The rock floor under the sand will slope down gradually to the west and out under the swimming area a distance of about 200 feet.
- Two dark green oval areas are water quality basins that will be dug out of the shale.
- Green pound signs on a beige background are young trees in constructed woodlands.

**Lake Bernards:** Lake is shaded blue and shown at full size.

- It will have a surface area of 30-40 acres when full. [For reference, Watchung Lake is 15 acres, Speedwell Lake in Morristown is 23 acres, and Mt Kimball Lake in Harding is 13 acres.]
- It will fill from precipitation in 5-10 years and stabilize at the level of the surrounding ground water, about 220 feet msl.
- It will be used for non-motorized water craft, such as canoes, kayaks, row boats, and small sail boats. Use will be free and unsupervised. Life jackets will be required.
- When frozen the east section will be used for ice skating.
- Fishing will be permitted from boats and a trail along the water's edge.
- Land on the west and north will be slopes of 18 degrees or less. These will ultimately become woodland.
- At east end will be a beach for swimming and a boat ramp.
- South edge will be a low rock wall with a walking path and railing on top.
- There will be shrubs south of the path on the south edge to serve as a goose barrier. These appear as green spots on the map.
- There will specimen trees along the south edge of the lake for shade and appearance, but not so many that the view from the south will be blocked.
- Because the lake is almost a closed system, it will be very important to minimize the flow of pollutants into it.

**Lakeview Village:** Townhouses are shaded brown. The area around them with ground cover and shrubbery is light green.

- Bulk and spacing is comparable to Amherst Mews in The Hills. The plan shows 4 rows of 17 units each, 68 total. This rests on an estimate of 34 potential detached houses with current zoning and a ratio of 2:1 for substitution of townhouse units for detached units. I believe this ratio is fair for the developer. The total units may be negotiated.
- They will be on a slope and each can have a view of the lake.
- There is a clubhouse and grounds just north of the extension of Overlook Ave.

- Shrubbery and ground cover will be selected for minimum use of fertilizer and pesticides.

**Roads and Parking:** These are shaded gray. Widths shown are the paved widths.

- Lakeshore Dr will start at Stonehouse Rd near south boundary of Lot 6. Here elevation of Stonehouse Rd is about the same as floor of West Canyon. It will bend north and descend, then bend east and level off and continue along south shore of lake to East Canyon. Imported fill has expanded the area west of lake. If developed this area can be serviced by a spur from bend of Lakeview Dr that will run north along the west edge of lake.
- East Canyon Rd starts at intersection with Lakeshore Dr, rises to southeast, and connects to Tall Timbers Ln. It winds to increase length and decrease grade to an acceptable value.
- Upper and Lower Village Lane will each go west from East Canyon Rd, curve slightly to the south and down, and end in a cul-de-sac. They will serve the townhouses.
- Overlook Ave will be extended north and over the ridge to Upper Village Lane.
- All roads will be curbed to control runoff.
- Lakeshore Dr, East Canyon Rd, Overlook Extension, and the east end of Upper Village Lane will be public roads and 24 feet wide. Upper and Lower Village Lane will be private in the village and be 20 feet wide.
- The east-west segment of Lakeshore Dr will be flat at an elevation of about 240 feet msl. It will be high enough to block overland flow from the developed area to the south.
- There will be a parking area at the end of Lakeshore Dr and the entrance to East Canyon.
- There will be a parking area west of Pond Hill Rd. It will serve users of North and South Rim Trail, visitors to East Canyon who will walk down Puffer Path, and visitors to Schmidt Park which lies between Pond Hill Rd and the Passaic River.

**Trails:** Trails for walking and biking are shown as red lines. These will be constructed as support grows and funds become available.

- North Rim Trail will start at Stonehouse Rd near 360 elevation marker, go north to railroad and then east to Pond Hill Rd. It will parallel the railroad and be almost level. Along railroad there will be places to stop and look south out over the lake. Priority should be high.
- West Rim Trail will start at 360 elevation marker and go south to Lakeshore Dr. Because there is already an asphalt path on the west side of Stonehouse Rd, priority for this new trail may be low.
- South Rim Trail will start at the intersection of West Rim Trail and Lakeshore Dr and go east and north to an intersection with Puffer Path. This trail will have some steep sections. Because Lakeshore Dr will also be a route thru the park, this trail may have low priority.
- Puffer Path is a trail shaped like a fishhook that links East Canyon with Pond Hill Rd and parking lot. It rises steeply with a switchback from 240 feet to about 300 feet and then descends again to 280 feet. Priority should be high.
- Lake Trail goes around the edge of the entire lake from East Canyon. There will be places to stop and fish, commune with nature, or just daydream. Some or all of it should be made handicap accessible, at least the section along the south edge. Bikes should not be permitted. Priority should be high.

**Sunrise Point:** This is the gray area, shaped like the head of a golf club, that is just east of Stonehouse Rd at the 360 foot marker. It is the current location of a quarry office building. It will provide an excellent public view east over the lake. It will have a small parking lot with vehicle access from Stonehouse Rd. North and West Rim Trails will start here.

**Canyon Park:** This area is shaded light green. Buildings are brown.

- It is in East Canyon and shaped roughly like a triangle with a blunt east end. It will be bounded on the north, east and south by stepped rock walls rising 40 feet or more. The rock walls are shaded beige. Park will open to the west and lake.
- Park floor will be flat with a small gradient to drain water south. It will have a grass field [aka lawn panel] for informal games.
- At minimum there will be a picnic shelter and public rest rooms combined with a utility building. As interest develops a bandstand can be constructed near the east wall. Also possible are concession stand, tot lot with playground equipment, and building for rental boats.
- Short gray line just south of beach is a boat put-in ramp. It will be close to parking and convenient for boat trailers.
- The orientation of East Canyon is advantageous for afternoon sun. The canyon walls will provide shielding from wind. Activities will be possible there later in the fall, or earlier in the spring, than at more exposed locations.

**Canyon Beach:** Beach is shaded yellow and swimming area is outlined in the lake.

- Beach front will open for swimming when lake is full or nearly full, circa 2020.
- Beach will be covered with imported sand.
- Because the elevation of the beach will be midway between the lake surface and the park floor, there will be a low wall on three sides. This will confine the sand to the beach, and prevent park surface runoff from reaching the lake. There will be ramps or steps to reach the beach.
- There will be a building for life guards, equipment, and showers.
- The swimming area will be defined by floating ropes. The bottom will be flat and covered with very fine gravel [aka quarry fines]. This will provide comfortable footing and should be stable.
- There will be floats for life guards and the public.
- The swimming facilities and operation will be managed and financed like Pleasant Valley Pool. There should be no impact on local taxes. It will take time to sign up members, so organizing and planning should start about 2015.
- Swimming will be on scheduled days and hours and restricted to paying members of the beach association and visitors. It will be supervised.
- Beach will provide access to lake for ice skating when lake is frozen.

**Little Aspen:** This is a grass slope for snow sports. It is shaded light green.

- Slope will be graded to provide suitable surfaces for sledding, skiing, and snow boarding.
- Because this slope faces north, it will catch little winter sun and will hold snow longer than most locations. With winters like some recent ones, it can be used for many weeks.

- Use will be by the general public and will be unsupervised.

**Storm Water Management:** Because the lake will be almost a closed system and have extremely slow turnover, we need to minimize the pollutants that flow into it.

- Oval dark green areas represent a system of water quality basins. Two basins shown are schematic, not exact. They could be larger or smaller or linked together in a chain. Water in these basins will percolate into the ground or flow north to the lake thru a pipe under Lakeshore Dr.
- Storm water from Lakeview Village and Canyon Park will flow to these basins via curbed roads, storm sewers, and swales. Lakeshore Dr will be a barrier to overland flow to the lake.
- Water on Upper and Lower Village Drive will drain west to the cul-de-sacs. Sand filters can be installed there to supplement the water quality basins. Same for water from East Canyon and the parking lot.
- Runoff from the railroad may contain pollutants. If so, the runoff on the south side of the tracks should be drained east to a water quality basin or further to the Passaic River.

**Sewerage:** Townhouses and public restrooms will be connected to the system operated by the Bernards Township Sewerage Authority. Piped sewerage will run down hill to a pump station, and then be pumped up and out to an existing trunk line.

**Reforestation:** Beige areas with green pound symbols are young constructed woodlands.

- Thousands of seedlings will be planted as soon as possible after the surface is prepared in accord with a comprehensive and professionally guided plan for reforestation.
- They will be protected from deer by a continuous 8-foot chain link fence around the entire tract. Openings will be limited to cattle grates for access by vehicles and gates for pedestrians. At the location of a scenic lookout, the fence will be installed at a lower elevation and not obstruct the view.
- Local police will get permission in advance to remove or kill immediately any deer that get into the tract.

**Costs and Sources of Funds:** I do not know the total cost for this proposal. I do expect the funds will come from several sources, and the cost to local taxpayers should not be large. Examples follow.

Some cost allocation decisions are straightforward.

- The park land will be donated to the township. The quarry owner has already signaled his willingness to do this, so long as sufficient development rights are granted in the remainder of the property and other issues are resolved amicably.
- Reshaping the slopes to be safe will be paid for by the quarry owner as part of his rehab responsibility.
- Lakeview Village will be constructed by a private developer, and he will construct most or all of the road system.
- Startup costs for lake management will be included with rehab, and ongoing costs will be shared by the township and the Village homeowners.

- Canyon Park facilities and operations, except for swimming, will be paid for by township government.
- Swimming facilities and operations at Canyon Beach will be paid for by members of a beach association like Pleasant Valley Pool.

The allocations of costs for other things are less clear.

- Reforestation is not a requirement of rehab. It will benefit the Lakeview Village homeowners, but I doubt that land use law will allow the township to make the developer pay the full cost. I expect there are funds available from higher levels of government and from private sources. We need to design a plan that uses several public and private funding sources.
- The grading required for the walls and floor of Canyon Park and Canyon Beach [and associated swimming area] will be more precise and costly than that required for simple rehab, but the grading work should be done in conjunction with rehab. The quarry and township engineers should agree on the cost for the extra work for the park and beach. The township will pay for the extra work out of the capital improvement fund. If the beach grading cost is significant, the township might bill it back to the beach association when it is formed many years later.

I expect hard bargaining. With good will I am sure the parties can reach agreement on the allocations of these costs.

**Wrapup:** The above plan for Quarry Park and Lakeview Village has several features that make it much superior to development under current zoning. Some general comments follow.

- The park with lake and adjacent land will serve the general public and support many kinds of active and passive recreation.
- The lake will be part of the public park and be managed by the township. This will remove the uncertainties associated with management by a private association.
- The park will be a valuable amenity for the residents of Lakeview Village. The Village will probably become the premier townhouse community in the township.
- The fiscal impact of the substitution of townhouse units for detached units will be positive, because the property tax revenue per public school student will be higher. [I demonstrated this in letters to the board this past June.]
- **This can be a case of win-win for the quarry owner and for township residents.**

(s) Bill Allen

attachment: Drawing entitled "Quarry Park and Lakeview Village in 2025" and dated May 12, 2009