Date: 5-17-22, submitted in person at the Settlement Hearing and via email on 5-17-22

To: Ms. Donna Marie Collins, Lee County Hearing Examiner

From: John Cassani, Calusa Waterkeeper

Re: Corkscrew Grove Limited Partnership v. Lee County, Case No. 19-CA-8183

Calusa Waterkeeper (CWK) has several concerns with the apparently incomplete information advertised in a legal ad for this case on May 6, 2022. Consistent with our mission to protect and restore waters within our project area including but not limited to Lee County, Estero Bay and its tributaries.

Our concerns can be summarized accordingly:

1. Environmental impacts of non-point source water pollution from motor vehicles and associated costs for water restoration is well documented in the U.S (note referenced excerpts below). Pollutants originating from the operation of motor vehicles and roadway maintenance are conveyed by stormwater runoff and include heavy metals, suspended solids, nutrients, and hydrocarbons among others. Additional motor vehicle trips at build out is estimated by the applicant at 95,198 daily two-way trips. The estimated additional motor vehicle traffic, stemming from this planned project would transform the existing rural setting to a highly urbanized landscape, and create a significant additional pollutant source within the Estero Bay watershed. A conservative estimate of 10 miles per two-way daily trip within the Estero Bay Watershed, coming and going from the Kingston planned development, would yield 951,980 vehicle miles traveled per day. At a 2008 estimate of $0.011 (excluding costs associated with oil spills and road salting) per vehicle mile for water runoff impacts attributed to state highways (FHWA 2008), the additional vehicle miles would create a cost of $10,471 (2008 dollars) per day in water quality impacts within the Estero Bay Watershed. Such an unmitigated cost would be an unreasonable burden to residents of the Lee County Estero Bay Watershed and contrary to the public interest.

2. The downstream receiving water from Kingston planned project is the Imperial River which is currently verified impaired by the Florida Department of Environmental

Protection (2020 FDEP Comprehensive Statewide Verified List) for iron, copper, nutrients, dissolved oxygen and fecal indicator bacteria. The Imperial River discharges to Estero Bay which is an Outstanding Florida Water that was verified impaired for nutrient pollution by FDEP in 2019. Adding additional pollutants stemming from a massive increase in motor vehicle traffic as just one potential source is also contrary to the public interest.

3. Non-motor vehicle sourced pollutants common to residential and commercial developments that will discharge from the Kingston development project into the Corkscrew Regional Ecosystem Watershed and ultimately to the Imperial River and Estero Bay will further degrade downstream water resources. Stormwater runoff discharged from this development and proposed to be permitted through Lee County's MS4 stormwater program gives no assurance that state water quality standards will be met. The rate of water quality impairment has increased by 36 percent in Lee County between 2018 and 2020 based on FDEP's 2020 statewide list of verified impaired waters. Most of the water quality impairments described here stemmed primarily from widespread residential and commercial development in coastal areas over the past 20+ years in Lee County. Extending the water quality impacts of residential and commercial development inland to existing rural areas and upstream of already impaired waters will further exacerbate water quality decline as retrofitting existing urban stormwater treatment systems is unlikely to occur.

4. In addition to the reasons stated above, the public's interest is not protected by the proposed density of residential units and commercial properties proposed in a remote area of rural Lee County and within the Density Reduction Groundwater Resources land use catogory. The public is entitled to an appropriate review of such an impactful change to our community. The acreage included in the mining permit application and the additional 2,474 acres not originally included should be separated from the settlement agreement and be required to obtain any development permits according to the County's adopted Comprehensive Plan and Zoning process.

For the probable water quality impacts, associated costs and outcomes of the proposed development, CWK ask that you advise the Lee Board of County Commissioners that this proposed settlement agreement is not in the public interest.

Environmental Impacts of Non-point Source Water Pollution from Motor Vehicles:

Substantial evidence suggests that residues from the operation of motor vehicles contribute heavily to non-point source and groundwater pollution (Davis et al. 2001; Kayhanian et al. 2003).

Pollutants from motor vehicles or from transportation infrastructure include sediments (from construction or erosion), oils and grease (from leaks or improperly discarded used oil), heavy metals (from car exhaust, worn tires and engine parts, brake pads, rust, or used antifreeze, road salts, as well as fertilizers, pesticide, and herbicides (used alongside roads or on adjacent land); (Hill and Horner 2005).

EPA (1997) estimates that up to 1/2 of suspended solids and 1/6 of hydrocarbons reaching streams originate from freeways. Vehicle-related particulates in highway runoff come mostly from tire and pavement wear (~ 1/3 each), engine and brake wear (~ 20%), and exhaust (~ 8%) (EPA 1996).

Heavy metals in highway stormwater runoff are of particular concern because of their toxicity, pervasiveness, and persistence. In an early study, Ellis et al. (1987) find that heavy metals can make highway runoff chronically toxic to receiving waters.

Davis et al., (2001) reported that pollutant loads typically follow the pattern: Zn (20-5,000 ⌠g/l) > Cu H Pb (5-200 ⌠g/l) > Cd (< 12 ⌠g/l). Their empirical study reveals that brake wear is the largest contributor to copper loading (47%) in urban runoff while tire wear contribute 25% of zinc loading, the second largest after buildings.

Kayhanian et al. (2003) specifically study the impact of VMT on highway runoff pollutant concentrations. As expected, pollutant concentrations are higher (two to ten times) for urban than for non-urban highways.

Highway stormwater runoff has also generated significant concerns for public health. Gaffield et al. (2003) examined the public health impacts from heavy metal in stormwater, which can often be traced to motor vehicle sources.

According to Van Metre et al. (2000), vehicles are a significant source of polycyclic aromatic hydrocarbons (PAHs) in water bodies.

Driscoll et al. (1990) report detectable levels of zinc, lead, copper, and nitrate/nitrite in road runoff, with urban levels two to five times those of rural levels.

Disc brakes, however, are open to the environment, so each time semi-metallic brake pads squeeze against the wheels' rotors, tiny amounts of metal dust, often copper but sometimes also zinc and lead, are deposited along the roadway and washed to water bodies by rain or snow (Nixon and Saphores 2007). Runoff from roads and parking lots has a high concentration of toxic metals, suspended solids, and hydrocarbons, which originate largely from automobiles. Highway runoff is toxic to many aquatic species.4 Table 5.15.3-1 shows pollution measured in roadway runoff (Bannerman et al. 1993).

Table 5.15.3-1 **Pollution Levels in Road Runoff Waters** (micrograms per litre)[5]

Pollutant	Urban	Rural	Pollutant	Urban	Rural
Total suspended solids	142.0	41.0	Nitrate + Nitrite	0.76	0.46
Volatile suspended solids	39.0	12.0	Total copper	0.054	0.022
Total organic carbon	25.0	8.0	Total lead	0.400	0.080
Chemical oxygen demand	114.0	49.0	Total zinc	0.329	0.080

From Bannerman et al. 1993.

Published excerpts of costs associated with motor vehicle sources of pollutants to surface waters through non-point source runoff.

Combining the above estimates for groundwater and highway runoff pollution control gives a present value of costs ranging from $51.8 billion to $268.5 billion with BMPs for principal arterials only, and of $74.8 billion to $394.5 billion with BMPs along all arterials. These estimates are driven by highway runoff control costs, which dominate groundwater pollution costs almost by an order of magnitude (Delucchi (1998; 2000).

These large costs reflect the reach of the US transportation system, but also the need to protect water quality although most of the current infrastructure was not designed to address this problem. Under our scenarios, these estimated control costs would represent a large drag on public budgets over many years, but cleanups are mandated by law and they are consistent with the "polluters pay" principle. It is therefore essential to carefully weigh policy options (Nixon and Saphores 2007).

Our inquiry shows that the costs of controlling the impacts of motor vehicles on water quality are Substantial (Nixon and Saphores 2007).

Transport 2021 estimates external water pollution costs from automobile use to be 0.2¢ Canadian per km, or 0.25¢ U.S. per VMT, based on a review of studies (KMPG 1993).

Motor vehicle emissions increase levels of PAHs (polycyclic aromatic hydrocarbons) in urban surface waters as much as 100 times higher than pre-urban conditions, poisoning aquatic wildlife and disturbing ecological systems (Van Metre et al. 2000).

State highways account for approximately 5% of U.S. road miles, 10% of lane miles, and carry about 50% of VMT (FHWA 1993). An estimated 300 million off-street parking spaces increase road surface area 30%, and 50% in urban areas (Commercial parking estimate from Douglass Lee (1993). This indicates that *state* highway runoff impacts can be conservatively estimated at one-third of *total* roadway impacts, so the middle value of WSDOT highway runoff mitigation cost estimates ($218) is tripled to include other roads, parking, and residual impacts ($218 x 3 = $655 million), and scaled to the U.S. road system ($655 x 50) for total annual national runoff costs of $33 billion.

A total of $33 billion (conservatively excluding the cost of oil spill $2.7 billion and road salting $6.7 billion) per year; divided by the approximately 3,000 billion miles driven annually in the US (2008) gives 1.1¢ per automobile mile (base formula from FHWA 2008).

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