APPENDIX A

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GUTSCHICK, LITTLE & WEBER, P.A.

DEPARTMENT OF PERMITTING SERVICES

Douglas M. Duncan
County Executive

Robert C. Hubbard
Director

March 5, 2002

Mr. Seth C. Churchill, P.E.
Gutschick, Little and Weber, P.A.
3909 National Drive, Suite 250
Burtonsville Office Park
Burtonsville, Maryland 20866

Re: **Preliminary** Water Quality Plan for Manekin Property
SM File #: 204115
Tract Size/Zone: 102.9 Ac/R-200/TDR-4
Tax Plate: EV 43 & 562
Parcels: 888 & 617
Liber/Folio: 3172/365
Montg. Co Grid: 9E7&8
Watershed: Little Seneca Creek

SPECIAL PROTECTION AREA

Dear Mr. Churchill:

Based on a review by the Department of Permitting Services, the Preliminary Water Quality Plan (PWQP) for the above mentioned site is conditionally approved.

Site Description: The site consists of 102.9 acres located west of the intersection of MD Route 355 and Newcut Road. The proposed zoning of the site is R-200/TDR-4 and will consist of single-family detached units and townhouses with the associated infrastructure. This site is located in the Clarksburg Special Protection Area (SPA) of the Little Seneca Creek Watershed.

Stormwater Management: Water quantity control for this site will be provided via four extended detention dry ponds. These structures will provide control of the one-year storm with a maximum detention time of 12 hours per the new state standards. Quality control will be provided via a treatment train that consists of bioretention structures and infiltration structures (where feasible) for small drainage areas and upland surface sand filters that outlet to surface sand filters lower in the subwatershed. It appears that open section roads will not be feasible therefore, additional water quality measures are required to offset the lost benefits that open section roadways provide. These offsetting measures may include the additional water quality volume that is proposed in the upland structures along with the porous bottom storm drain structures (recharge storm drains) that are proposed for each storm drain structure (if approved by DPWT). Areas that are intended for vehicular use are to be pretreated prior to entering any water quality structures. The water quality structures must be sized to treat a minimum of one-inch over the proposed impervious area.

Sediment Control: Redundant sediment control structures are to be used throughout the site. These are to include upland sediment traps that drain to secondary traps down grade, or where this is not feasible sediment traps with forebays will be acceptable. All sediment trapping structures are to be equipped with dewatering devices. The following features are to be incorporated into the sediment control concept for the final water quality plan:

1. The earth dikes that feed the sediment traps are to be constructed using trapezoidal channels to reduce flow rates.

2. The site grading shall be phased, whenever possible, to limit disturbance and immediate stabilization is to be emphasized.

3. Silt fence alone will not be allowed as a perimeter control. The use of super silt fence will be acceptable for small areas of disturbance.

Performance Goals: The performance goals that were established at the pre-application meeting are to be met as specified in the Preliminary Water Quality Plan and further refined in the Final Water Quality Plan. They are as follows:

1. Protect the streams and aquatic habitat.

2. Maintain the natural on-site stream channels.

3. Minimize storm flow run off increases.

4. Identify and protect stream banks prone to erosion and slumping.

5. Minimize increases to ambient water temperatures.

6. Minimize sediment loading.

7. Maintain stream base flows.

8. Protect springs, seeps, and wetlands.

9. Minimize nutrient loading.

10. Control insecticides, pesticides and toxic substances.

Monitoring: The monitoring must be in accordance with the BMP monitoring protocols which have been established by the Department of Permitting Services (DPS) and Department of Environmental Protection (DEP). The following is a list of the monitoring requirements that were established at the pre-application meeting:

Pre-Construction Monitoring

- Groundwater monitoring wells are to be installed as per a previous meeting with representatives of DEP. This monitoring is to be continuous and last through the post development monitoring phase.

- Water temperature is to be monitored in Little Seneca Creek so that the proposed development impact will be bracketed (above and below the site). This monitoring is to be continuous and last through the post development monitoring phase. This monitoring is to occur from June through September of each year.

Construction Monitoring

- Total suspended solids are to be sampled (composite samples) for two sediment traps, at the discharge into the sediment trap forebay, the outlet from the sediment trap forebay and at the outlet of

the sediment trap. This sampling is to be done three times a year, during storm events, throughout the construction phase on the two largest active sediment traps.

Post-Construction Monitoring

- Chemical and nutrient monitoring is to be done for one of the linked stormwater management (SWM) systems (to be determined in the Final Water Quality Plan). Monitoring is to be done at the outfall into each cell of the structure and at the proposed quantity cell outfall. Testing is to be done four times per year for five years using composite samples. Water chemistry monitoring parameters are to include nitrogen (nitrate, nitrite and TKN), phosphorus (total and ortho) metals, (lead, zinc, copper and cadmium) and total suspended solids.

Prior to the start of any monitoring activity, a meeting is to be held on site with DEP, DPS and those responsible for conducting the monitoring to establish the monitoring parameters. Monitoring is to begin one-year prior to the start of construction, lasting through the construction phase of the development, and for up to five years after construction is complete. **One year of pre-construction monitoring must be completed prior to the issuance of a sediment control permit.** These monitoring requirements are based on the information currently available and may change based on information received during the preliminary and site plan phases.

Conditions of Approval: The following conditions must be addressed in the submission of the Final Water Quality Plan (FWQP). This list may not be all inclusive and may change based on available information at the time of the review:

1. Due to the loss of use of open section roads, and the fact that the recharge storm drains may not be approved, every opportunity to provide additional groundwater recharge throughout the site must be explored in the FWQP. If sufficient recharge can not be provided, lots may have to be deleted.

2. The drainage areas are too large for bioretention structures (as shown) therefore, either break up the drainage areas by adding structures or convert the structures to surface sand filters.

3. Provide clear access to all stormwater management structures from a public right-of-way.

4. Water quality structures that are to be used for sediment control must have a minimum undisturbed buffer of two feet from the bottom of the sediment trap to the bottom of the stormwater structure.

5. At a minimum, one foot of stone (dead storage) is to be provided below the outlet pipe of all of the proposed surface sand filters to provide additional groundwater recharge.

6. Minimize the use of insecticides and fertilizers via a residential Integrated Pest Management Plan as part of the Homeowners Association (HOA) documents. A draft of this plan/document is to be submitted at the detailed sediment control plan stage, and the final document is to be submitted prior to bond release.

7. The stream channels on-site are to be walked to determine if channel restoration is necessary.

8. Percolation tests must be performed to determine the feasibility of providing infiltration structures for water quality and ground water recharge.

9. Stormwater structures are not to be located on residential lots.

10. The 100-year floodplain and dam breach (from the adjacent subdivision) limits are to be shown on the Preliminary and the Water Quality plans.

11. All stream valley buffer encroachments must be approved by the Maryland-National Capital Park and Planning Commission (this may cause some movement of stormwater management structures).

12. MCDPS reserves the right to require the developer to provide full-time, third-party, on-site, sediment control inspection if the department decides the goals of the Water Quality Plan are not being met.

Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended Water Quality Plan requirements.

If you have any questions regarding these actions, please feel free to contact Leo Galanko at (240) 777-6242.

Sincerely,

Richard R. Brush, Manager
Water Resources Section
Division of Land Development Services

RRB:enm:CN204115

cc: M. Shaneman
M. Pfefferle
L. Galanko
SM File # 204115

Qn: on-site 102.9 ac
Ql: on-site 102.9 ac.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Department of Park & Planning, Montgomery County, Maryland
8787Georgia Avenue, Silver Spring, Maryland 20910

MEMORANDUM

TO: Robert Kronenberg, Development Review

FROM: Mark Pfefferle, Environmental Planning MP

DATE: April 22, 2003

SUBJECT: Final Water Quality Plan for Meadows at Hurley Ridge (Martens Phase II) (Site Plan # 8-03011)

STAFF RECOMMENDATION

Environmental Planning staff recommends approval of the Special Protection Area (SPA) final water quality plan subject to the following conditions:

- Afforestation/reforestation to occur in the first planting season after completion of the eight-foot wide Greenway Trail.
- Conformance to the conditions as stated in the Montgomery County Department of Permitting Services (DPS) letter, dated March 19, 2003, approving the elements of the SPA water quality plan under its purview (Attachment 1).

DISCUSSION

This memorandum contains staff's review and recommendation on the final water quality plan for the Meadows at Hurley Ridge (Martens phase II) subdivision in Clarksburg, site plan number 8-03011. The subject property is the second site plan resulting from preliminary plan 1-02011. The Planning Board approved the preliminary plan in April 2002 and first site plan (8-02039) in July 2002.

The Planning Board must act on the SPA water quality plan before taking action on the site plan application.

Site Description

The Meadows at Hurley Ridge property is located on the northwest side of the intersection of MD Route 355 and Newcut Road. Future Little Seneca Parkway will run the entire length of the lower portion of the site. Immediately to the east of the residential development is the Rocky Hills Middle School, which is currently under construction. To the south is a broad flood plain

and further south is the Martens phase I development (8-02039). West of the subject property is the Linthicum property and the Comsat property.

This 50.2-acre portion of the Martens property drains to Little Seneca Creek, a use IV-P (recreational trout waters and public water supply) stream. The subject property is entirely within the Clarksburg SPA. There is 1.56 acres of stream buffer within the phase II site plan. The majority of the stream valley buffer in the Martens property was included in the phase I project. The subject property includes agricultural land and 6.43 acres of forest. The agricultural land was previously planted with soybeans. The forest is primarily located along the property line except for a 4.92-acre forest on the northern portion of the property.

Proposed Project

The proposed onsite project work consists of constructing 31 single-family detached homes and 219 townhouse units with associated infrastructure. The property is zoned R-200/TDR-4.

REVIEW FOR CONFORMANCE TO THE SPECIAL PROTECTION AREA REQUIREMENTS

The SPA regulations require development applications to prepare and submit preliminary and final water quality plans to M-NCPPC and DPS for review. This review is for a final water quality plan. Under the SPA law, DPS and the Planning Board have different responsibilities in the review of the water quality plan. DPS reviewed and conditionally approved the elements of the final water quality plan under their purview on March 19, 2003. The Planning Board's responsibility is to determine if the environmental buffer protection, SPA forest conservation and planting requirements, and applicable site imperviousness limits are satisfied.

Environmental Buffers

There is approximately 1.56 acres of environmental buffer on the subject property. The environmental buffers are being protected by this plan. Grading into environmental buffers includes necessary utility connections and tie outs for future Little Seneca Parkway and stormwater management facilities. No stormwater management facilities are located within the environmental buffers. When grading must occur in the environmental buffers the areas are currently unforested and will be reforested as part of the forest conservation plan.

Forest Conservation

Phases I and II of the Martens property covers 102.8 acres and includes 10.06 acres of forest. The phase II project area includes 6.43 acres of forest. Since the applicant is utilizing an optional method of development, the forest conservation law requires the applicant to preserve existing forests. Under the optional method of development, the applicant must preserve forest equal to either the conservation threshold or the afforestation threshold. In this particular development application, the amount of existing forest is less than both thresholds. Therefore, the applicant must preserve all existing forest on-site and replant forest to achieve the afforestation threshold. The applicant is proposing to remove 0.93 acres of forest as part of the phase II development application. The forest removal is necessary for the continuation of

Brickhaven Way to the future high school and for the construction of proposed Little Seneca Parkway.

The Environmental Guidelines require applicants in SPAs to establish forest in all stream valley buffers. As part of the forest conservation plan for phase I, the applicant will reforest the entire stream valley buffer. Any forest planting requirements resulting from the development of phase II will occur within the phase I stream valley buffer.

All existing forested areas outside of the stream valley buffer and areas not proposed for dedication to M-NCPPC will be placed into a Category I forest conservation easement. A five-year maintenance period for planted forest is required per the environmental guidelines.

As part of the phase I approval the eight-foot wide Greenway Trail is to be completed prior to the issuance of the 85 percent of the building permits for phase I units or 20 percent of the building permits for units in phase II. Environmental Planning is requesting reforestation be completed in the first planting season after completion of the Greenway Trail.

Site Imperviousness

There is no impervious limitation on this property. The impervious amount proposed for the Phase II 50.2-acre site is approximately 35.8 percent. Data is not available to compare the imperviousness for this development to others with R-200/TDR-4 development standards. When the impervious surfaces for phase I and phase II are combined, the imperviousness for the entire Martens property is 25.1 percent. This is comparable to R-200 subdivisions in the County developed under the standard method.

Site Performance Goals

As part of the pre-application water quality plan meeting, several site performance goals were established for the project. These include:

- Protect the streams and aquatic habitat
- Maintain the natural on-site stream channels
- Minimize any increase in stormwater runoff
- Identify and protect stream banks prone to erosion and slumping
- Minimize increases to ambient water temperatures
- Minimize sediment loading
- Maintain stream base flows
- Protect springs, seeps, and wetlands
- Minimize nutrient loadings
- Control insecticides, pesticides and toxic substances.

Stormwater Management

To help meet these performance goals, the stormwater management plan requires water quality control and quantity control to be provided through an extensive system of linked best management practices (BMPs). Water quantity control will the provided via four extended

detention dry ponds. These structures will provide channel protection volume for the one-year storm with a maximum detention time of 12 hours.

Sediment and Erosion Control

DPS is requiring the use sediment control structures throughout the site including upland sediment traps that drain into secondary traps downgrade. Super silt fence and temporary berms are required around the perimeter of the disturbed areas to prevent the off-site transport of untreated stormwater. The site grading is to be phased with emphasis on immediate stabilization.

Monitoring of Best Management Practices

Monitoring of stormwater best management practices (BMP) must be in accordance with BMP monitoring protocols established by DPS and the Department of Environmental Protection.

Attachment 1

DEPARTMENT OF PERMITTING SERVICES

Douglas M. Duncan
County Executive

March 19, 2003

Robert C. Hubbard
Director

Mr. Mark A. Coughlin
Gutschick, Little and Weber, P.A.
3909 National Drive, Suite 250
Burtonsville Office Park
Burtonsville, Maryland 20866

Re: **Final** Water Quality Plan for Martens Property
Phase II
SM File #: 204115
Tract Size/Zone: 50.2 Ac/R-200/TDR-4
Tax Plate: EV 43 & 562
Parcels: 888 & 617
Liber/Folio: 3172/365
Montg. Co. Grid: 9E7&F7
Watershed: Little Seneca Creek

SPECIAL PROTECTION AREA

Dear Mr. Coughlin:

Based on a review by the Department of Permitting Services, the Final Water Quality Plan (FWQP) for the above mentioned site is conditionally approved. This approval is for the elements of the Final Water Quality Plan of which DPS has lead agency responsibility. It does not include limits on imperviousness or stream buffer encroachments.

Site Description: Phase II of this development will consists of 50.2 acres located northwest of the intersection of MD Route 355 and Newcut Road. The proposed zoning of the site is R-200/TDR-4. It consists of 31 single-family detached units and 219 townhouse units with the associated infrastructure. This site is located in the Clarksburg Special Protection Area (SPA) of the Little Seneca Creek Watershed.

Stormwater Management: Water quantity control for this site will be provided via four extended detention dry ponds. These structures will provide channel protection volume for the one-year storm with a maximum detention time of 12 hours per state standards. Quality control will be provided via a treatment train that consists of recharge structures, surface sand filters in series, water quality inlets (both filtering and flow through) and vegetated buffer filtering. Since open section roads are not feasible other than for Little Seneca Parkway, additional water quality volume will be provided in the proposed surface sand filters to offset the lost benefits that open section roadways provide. The additional volume will be one half of an inch for all vehicular use areas not draining to an open road section. Areas that are intended for vehicular use are to be pretreated prior to entering any water quality structures. The primary water quality structures must be sized to treat a minimum of one-inch over the proposed impervious area with additional volume provided for open section offset.

Sediment Control: Redundant sediment control structures are to be used throughout the site. These are to include upland sediment traps that drain to secondary traps down grade. When this is not feasible, sediment traps with forebays will be acceptable. The total storage volume is to be 125% to150% of the normally required volume as specified in the FWQP. All sediment trapping structures are to be equipped with dewatering devices. Also, due to the sensitive nature of the watershed and coupled with

the large amount of proposed development in the watershed, the use of flocculants will be required in the detailed sediment control plan. The following features are to be incorporated into the detailed sediment control plan:

1. The earth dikes that feed the sediment traps are to be constructed using trapezoidal channels to reduce flow rates.

2. The site grading shall be phased whenever possible to limit disturbance and immediate stabilization is to be emphasized. The details of the phasing sequence will be worked out during the detailed plan review.

3. Silt fence alone will not be allowed as a perimeter control. The use of super silt fence will be acceptable for small areas of disturbance.

Performance Goals: The performance goals that were established at the pre-application meeting are to be met as specified in the Final Water Quality Plan. They are as follows:

1. Protect the streams and aquatic habitat.

2. Maintain the natural on-site stream channels.

3. Minimize storm flow run off increases.

4. Identify and protect stream banks prone to erosion and slumping.

5. Minimize increases to ambient water temperatures.

6. Minimize sediment loading.

7. Maintain stream base flows.

8. Protect springs, seeps, and wetlands.

9. Minimize nutrient loading.

10. Control insecticides, pesticides and toxic substances.

Monitoring: The monitoring must be in accordance with the BMP monitoring protocols which have been established by the Department of Permitting Services (DPS) and Department of Environmental Protection (DEP). Prior to the start of any monitoring activity, a meeting is to be held on site with DEP, DPS and those responsible for conducting the monitoring to establish the monitoring parameters. **The pre-construction monitoring must be completed prior to the issuance of a sediment control permit.** See the attachment to this approval letter for Phase I titled "Description of Monitoring Requirements" for the detailed monitoring requirements.

Conditions of Approval: The following conditions must be addressed in the initial submission of the detailed sediment control/stormwater management plan. This list may not be all inclusive and may change based on available information at the time of the review:

1. Provide clear access to all stormwater management structures from a public right-of-way.

2. Water quality structures that are to be used for sediment control must have a minimum undisturbed buffer of two feet from the bottom of the sediment trap to the bottom of the stormwater structure.

(2)

3. At a minimum, one foot of stone (dead storage) is to be provided below the outlet pipe of all of the proposed surface sand filters to provide additional groundwater recharge. Additional volume may be required to meet the recharge requirements.

4. Additional pretreatment (other than vegetated buffers), such as water quality inlets, will be required for surface sand filters that are treating large drainage areas (greater that 5 acres).

5. Provide safe conveyance of runoff to the proposed stormwater management structures. As shown, grassed channels and/or additional storm drain inlets will be required for the rear lot areas along Fair Garden Lane.

6. The surface sand filter footprints and layouts are to be revised to lengthen flow paths, maximize sand filter surface area (especially for large drainage areas) and reduce velocities. This can be achieved by providing level spreaders (with the inflow pipe entering the structure below grade as previously discussed) or providing sinuous inflow channels prior to flow entering the filter area.

7. Provide level spreaders at all of the quantity pond outfalls.

8. The areas shown as rooftop disconnect credits do not qualify for this credit due to lot size (only credited for residential lot sizes greater than 6000 square feet). However, these areas may qualify for the grass channel credit. If this credit is to be requested, it needs to be shown that this area meets all of the credit requirements of the MDE manual prior to submitting the detailed sediment control/stormwater management plan.

9. Additional recharge volume needs to be provided in the western portion of the site (area draining to SWM 1 and SWM 2). This may be achieved by maximizing the surface sand filter footprint as required in condition #6 and providing additional recharge volume below these structures. Please note that as in the past, recharge volume is not credited toward the required quality volume in Special Protection Areas.

10. Minimize the use of insecticides and fertilizers via a residential Integrated Pest Management Plan as part of the Homeowners Association (HOA) documents. The draft of this plan/document that was submitted as part of the Final Water Quality Plan appears to be adequate. The final document is to be submitted prior to bond release.

11. Prior to permanent vegetative stabilization, all disturbed areas must be topsoiled per the latest Montgomery County Standards and Specifications for Topsoiling.

12. The stream channels on-site are to be walked to determine if channel restoration is necessary.

13. Stormwater structures are not to be located on residential lots.

14. All stream valley buffer (SVB) encroachments must be approved by the Maryland-National Capital Park and Planning Commission. Additionally, the details for the proposed nature trail shown in the stream valley buffer (sheet flow to buffer credit areas and infiltration/level spreader areas) need to be submitted for review and approval prior to submitting the detailed sediment control/stormwater management plan.

15. MCDPS reserves the right to require the developer to provide full-time, third-party, on-site, sediment control inspection if the department decides the goals of the Water Quality Plan are not being met.

Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended Water Quality Plan requirements.

If you have any questions regarding these actions, please feel free to contact Leo Galanko at (240) 777-6242.

Sincerely,

Richard R. Brush, Manager
Water Resources Section
Division of Land Development Services

RRB:dpm:CN204115

cc: R. Kronenberg (MNCPPC-DR)
M. Pfefferle (MNCPPC-ED)
D. Marshall (MCDEP)
L. Galanko
SM File # 204115

Qn: on-site 50.2 ac
Ql: on-site 50.2 ac.