



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

July 27, 2011

Kimberly Callahan
Project Manager
Building Design Branch, PDD
12000 Government Center Pkwy., Ste. 449
Fairfax, VA 22035

RE: Proffered Condition Amendment Application PCA 87-P-038-05

Dear Ms. Callahan:

Enclosed you will find a copy of an Ordinance adopted by the Board of Supervisors at a regular meeting held on July 26, 2011, approving Proffered Condition Amendment Application PCA 87-P-038-05 in the name of the Fairfax County Board of Supervisors (Contract Purchaser). The Board's action amends the proffers for Rezoning Application RZ 87-9-038, previously approved for office and/or public uses with an overall FAR of 0.70. The application retains the previously approved development options and adds a fifth option (alternate layout) for Building G (Fairfax County Mid-County building) and Building F (INOVA Medical Office) on the INOVA Willow Oaks site with no change to the previously approved FAR. The subject property is located, in the southeast quadrant of the intersection of Route 50 (Arlington Blvd.) and Williams Drive on Tax Map Parcel 49-3 ((1)) 141, zoned C-3, in the Providence District and is subject to the proffers dated June 20, 2011.

The Board also:

- Reaffirmed a modification of transitional screening and waiver of the barrier requirements along the south and east property lines in favor of that shown on the GDP.

Office of the Clerk to the Board of Supervisors
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Fairfax, Virginia 22035

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- Reaffirmed a waiver of the service drive requirement along Route 50 (Arlington Boulevard).
- Modified the loading space requirement for office uses to permit a maximum of three loading spaces per building shown on the GDP.

Sincerely,



Nancy Vehrs
Clerk to the Board of Supervisors
NV/ph

Cc: Chairman Sharon Bulova
Supervisor Lynda Smyth, Providence District
Janet Coldsmith, Director, Real Estate Division, Dept. of Tax Administration
Barbara C. Berlin, Director, Zoning Evaluation Division, DPZ
Diane Johnson-Quinn, Deputy Zoning Administrator, Dept. of Planning and Zoning
Angela K. Rodeheaver, Section Chief, Transportation Planning Division
Ken Williams, Plans & Document Control, ESRD, DPWES
Department of Highways-VDOT
Sandy Stallman, Park Planning Branch Manager, FCPA
Charlene Fuhrman-Schulz, Development Officer, DHCD/Design Development Division
District Planning Commissioner
Denise James, Office of Capital Facilities/Fairfax County Public Schools
Karyn Moreland, Chief Capital Projects Sections, Dept. of Transportation

At a regular meeting of the Board of Supervisors of Fairfax County, Virginia, held in the Board Auditorium in the Government Center at Fairfax, Virginia, on the 26th day of July, 2011, the following ordinance was adopted.

**AN ORDINANCE AMENDING THE ZONING ORDINANCE
PROFFERED CONDITION AMENDMENT APPLICATION PCA-87-P-038-05**

WHEREAS, the Board of Supervisors, filed in the proper form an application to amend the proffers for RZ 87-P-038 hereinafter described, by amending conditions proffered and accepted pursuant to Virginia Code Ann. 15.2-2303(a), and

WHEREAS, at a duly called public hearing the Planning Commission considered the application and the propriety of amending the Zoning Ordinance in accordance therewith, and thereafter did submit to this Board its recommendation, and

WHEREAS, this Board has today held a duly called public hearing and after due consideration of the reports, recommendation, testimony and facts pertinent to the proposed amendment, the Board is of the opinion that the Ordinance should be amended,

NOW, THEREFORE, BE IT ORDAINED, that that certain parcel of land situated in the Providence District, and more particularly described as follows (see attached legal description):

Be, and hereby is further restricted by the amended conditions proffered and accepted pursuant to Virginia Code Ann., 15.2-2303(a), which conditions are incorporated into the Zoning Ordinance as it affects said parcel, and

BE IT FURTHER ENACTED, that the boundaries of the Zoning Map heretofore adopted as a part of the Zoning Ordinance be, and they hereby are, amended in accordance with this enactment, and that said zoning map shall annotate and incorporate by reference the additional conditions governing said parcels.

GIVEN under my hand this 26th day of July, 2011.



Nancy Vears
Clerk to the Board of Supervisors



INOVA WILLOW OAKS

PROFFERS

PCA 87-P-038-05

June 20, 2011

Pursuant to Section 15.2-2303(A) of the Code of Virginia (1950, as amended) and Section 18-204 of the Zoning Ordinance of Fairfax County (1978, as amended), INOVA HEALTH CARE SERVICES (“Inova”), for themselves and their successors and/or assigns (hereinafter collectively referred to as the “Applicant”), hereby proffer that the development of the parcel under consideration and shown on the 2011 Fairfax County tax maps as Tax Map 49-3 ((1)) 141 (the “Application Property”) shall be in accordance with the following conditions if, and only if, proffered condition amendment application PCA 87-P-038-05 is approved by the Board of Supervisors. In the event PCA 87-P-038-05 is approved, then all previous proffers for the Application Property are hereby deemed null and void and hereafter shall have no effect on the Application Property.

DEVELOPMENT PLAN

1. Partial Generalized Development Plan Amendment. The Application Property shall be developed in substantial conformance with the Inova Willow Oaks Partial Generalized Development Plan Amendment dated April 14, 2008 and revised through April 27, 2011, prepared by Dewberry & Davis LLC and VIKI, Inc. (the “GDPA”), consisting of Sheets 1 through 20.
2. Minor Modifications. Pursuant to Paragraph 5 of Section 18-204 of the Zoning Ordinance, minor modifications to the GDPA and these proffers may be permitted as determined by the Zoning Administrator.

GENERAL

3. Proposed Development. Development on the Application Property shall include a maximum of 487,804 square feet of gross floor area (“GFA”). This does not include cellar area as defined in the Zoning Ordinance. The anticipated allocation of GFA among the various buildings to be constructed on the Application Property is represented on the GDPA. The Applicant reserves the right to reallocate GFA among the buildings and parking spaces within the garages depicted on the GDPA without requiring a proffered condition amendment (“PCA”) so long as (1) the total maximum of 487,804 square feet of GFA is not exceeded; (2) the maximum building heights as set forth in Proffer 21.C. and as shown on the GDPA are not exceeded; and (3) any changes to the footprint or configuration of individual buildings or garages are deemed to be allowable minor modifications as determined by the Zoning Administrator.

4. Uses. The Application Property may include the following uses, subject to special exception or special permit approval as may be required:
- A. Offices, including for example offices used for outpatient medical services;
 - B. Public Uses, which may include, without limitation, a Mid-County Community Service Center providing programs and services operated by Fairfax County, the Fairfax – Falls Church Community Services Board (CSB) or other social, health or human services providers;
 - C. Medical Care Facilities;
 - D. Schools of Special Education;
 - E. Colleges and Universities;
 - F. Conference Centers;
 - G. Eating Establishments, limited by the provisions of Section 4-305;
 - H. Financial Institutions;
 - I. Health Clubs;
 - J. Mobile and land based telecommunications facilities, subject to the provisions of Sect. 2-514;
 - K. Telecommunications facilities;
 - L. Child care centers; and
 - M. Accessory uses and accessory service uses.

Helistops shall not be permitted on the Application Property.

5. Cellar Use. Notwithstanding anything in Note 24 on the GDPA to the contrary, cellar floor area within Buildings F, G, H, I and J shall not be occupied by uses that generate independent peak hour single occupancy vehicle trips to the Application Property. For purposes of this Proffer 5, the relevant peak hour(s) shall be 7:30 – 8:30 AM and 5:00 – 6:00 PM or as otherwise determined by the most recent analysis conducted pursuant to Proffer 12.A.(ii).

6. Parking

Parking shall be provided in a combination of garage structures and surface areas as shown on the GDPA and shall be provided in accordance with the parking requirements of Article 11 of the Fairfax County Zoning Ordinance, as determined by the Department of Public Works and Environmental Services (“DPWES”), for the uses within the

Application Property. Temporary surface parking areas may be provided within the building envelope areas formed by the proposed office buildings, parking garages and related travelways and impervious areas to support construction activities on-site and in support of new development proposed at the adjacent Inova Fairfax Hospital Campus as reflected in RZ 2008-PR-009, as it may be amended. The Applicant reserves the right to relocate above grade parking shown on the GDPA to a subsurface location provided that the building heights and footprints of Buildings F, G, H, I and J remain in substantial conformance with those shown on the GDPA. The Applicant reserves the right to request a parking reduction or shared parking agreement pursuant to Article 11 of the Zoning Ordinance. Any modification of the required parking as approved by such parking reduction or shared parking agreement may be accommodated without requiring a PCA provided that the parking structure footprint remains in substantial conformance with that depicted on the GDPA.

TRANSPORTATION IMPROVEMENTS

7. Road Improvements

- A. Dedication. The Applicant shall dedicate to the Board of Supervisors fee simple right-of-way and/or easements necessary to allow for the construction of the improvements required in Proffers 7.B., 7.C., 7.D., and 7.G. If not sooner, such dedication shall occur consistent with the timing requirements of Proffer 7.F. and as part of the respective site plan approval that proposes such improvements. Should a road widening project in general conformance with these proffered improvements be constructed by others in advance of the improvements described herein, the Applicant shall dedicate fee simple right-of-way and/or easements from the Application Property necessary for the project upon demand of the County and/or VDOT.
- B. Arlington Boulevard. The Applicant shall improve Arlington Boulevard to provide a fourth eastbound through lane from Williams Drive to the existing ramp to Gallows Road; a right-turn deceleration lane from eastbound Route 50 onto Williams Drive; and an extension of the left turn bay on westbound Route 50 for left turns onto Williams Drive. Such improvements are shown on Sheet 9 of the GDPA. The final design of such improvement shall be subject to Virginia Department of Transportation ("VDOT") and Fairfax County Department of Public Works and Environmental Services ("DPWES") approval.
- C. Williams Drive. The Applicant shall improve Williams Drive adjacent to the Application Property frontage to provide two southbound lanes (consisting of a left and a through lane), two northbound left turn lanes, a through lane and two right turn lanes at the Arlington Boulevard intersection. The Applicant shall also restripe the southbound Williams Drive approach to Arlington Boulevard to provide for an exclusive southbound left-turn lane and a shared through-right turn lane. This improvement is shown on Sheets 9 and 10 of the GDPA. The Applicant shall provide pavement markings in the reconstructed Williams Drive south of Arlington Boulevard to discourage vehicles from blocking the Willow

Oaks Corporate Drive/Williams Drive intersection. The final design of such improvement shall be subject to VDOT and DPWES approval.

- D. Willow Oaks Corporate Drive. The Applicant shall extend Willow Oaks Corporate Drive through the Application Property to intersect Williams Drive in the location and with a road section as shown on the GDPA. The final design of Willow Oaks Corporate Drive extended shall be subject to VDOT and DPWES approval. Willow Oaks Corporate Drive Extended shall be dedicated as a public street.
- E. Connector Travelway to Inova Fairfax Hospital. The Applicant shall construct a new connector travelway and bicycle/pedestrian trail intersecting Willow Oaks Corporate Drive extended and continuing south through the Application Property and onto and across the adjacent site to the south identified as 2011 Tax Map 49-3 ((1)) 136C ("Parcel 136C") to connect into the existing travelway network on the Inova Fairfax Hospital campus. The final design of the Connector Travelway shall be subject to DPWES approval. Although not a public street, the Connector Travelway shall be constructed with materials and depth of pavement consistent with public street standards, in conformance with the Public Facilities Manual ("PFM"). The Applicant shall design and construct minimum intersection curb return radii for the Connector Road to allow single unit trucks (as defined by AASHTO) to make the turns without their wheelbases crossing into opposing lanes. The Applicant shall maintain the Connector Travelway. Prior to issuance of the first Non-RUP, exclusive of core and shell, for the first building constructed on the Application Property, the Applicant shall grant ingress and egress easements for public access and for public emergency and maintenance vehicles over the Connector Travelway and the bicycle/pedestrian trail.
- F. Timing of Construction. Each of the road/travelway improvements set forth in Proffers 7.B., 7.C., 7.D., and 7.E. shall be substantially completed prior to issuance of the first Non-Residential Use Permit ("Non-RUP"), exclusive of shell and core, for the first building to be constructed on the Application Property. For purposes of this Proffer, "substantially completed" shall mean open and available for use by the public but not necessarily accepted by VDOT for maintenance purposes, where applicable. Final bond release for the last building constructed on the Application Property shall not occur until the improvements have been accepted into the State system, where applicable.
- G. Traffic Signal Modifications.
- (i) The Applicant shall modify or reconstruct the existing traffic signal at Route 50/Williams Drive as necessary to implement the street improvements as required by these proffers. Such improvements shall be made concurrent with the requirements of the adjoining street improvements and shall be subject to the approval of VDOT.

- (ii) Arlington Boulevard. The Applicant shall request VDOT to determine if a corridor evaluation of signal timings is needed. This request shall be submitted in writing with a copy submitted to FCDOT. This request shall be submitted between 180 and 365 days after the road/travelway improvements set forth in Proffers 7.B., 7.C., 7.D., and 7.E. are substantially completed. If VDOT determines that a corridor evaluation is necessary, the Applicant shall conduct a corridor evaluation of existing signal timings along Arlington Boulevard from Cedar Lane to Williams Drive to determine appropriate signal timing modifications along such corridor. Such signal timing study shall be subject to review and approval by VDOT and shall provide for sufficient pedestrian crossing times in accordance with established standards as determined by VDOT. The Applicant shall coordinate with VDOT to implement such signal timing modifications as may be approved by VDOT based on the findings of the evaluation. If required, this proffer shall be completed prior to final bond release for the last building constructed on the Application Property.

H. Off-Site Right-of-Way/Easements. In the event the Applicant is unable to obtain the necessary right-of-way or easements required to construct the improvements described in these Proffers, the Applicant shall proceed as follows:

- (i) The Applicant shall request the County to acquire the right-of-way or easements by means of its condemnation powers, at the Applicant's expense. The Applicant's request will not be considered until it has forwarded, in writing, to the appropriate County agency accompanied by: (1) plans and profiles showing the necessary right-of-way or easements to be acquired, including all associated details of the proposed transportation improvements to be located on said property; (2) an independent appraisal of the value of the right-of-way or easements to be acquired and of all damages and benefits to the residue of the affected property; (3) a sixty (60) year title search certificate of the right-of-way or easements to be acquired; and (4) a Letter of Credit or cash (at the Applicant's discretion) in an amount equal to the appraised value of the right-of-way or easements to be acquired and of all damages to the residue, which Letter of Credit can be drawn upon by the County.
- (ii) In the event the property owner of the right-of-way or easements to be acquired is awarded more than the appraised value of same and of the damages to the residue in a condemnation suit, the amount of the award in excess of the Letter of Credit or cash posted amount shall be paid to the County by the Applicant within fifteen (15) days of said award. All other costs incurred by the County in acquiring the right-of-way shall be paid to the County by the Applicant on demand.
- (iii) In the event the County does not acquire the aforesaid right-of-way or easements by means of its condemnation powers, the Applicant is relieved of its responsibility to construct the off-site portion of the aforesaid

improvements specifically affected by the unavailability of the right-of-way or easements. The Applicant shall complete the proffered improvements for which acquisition of right-of-way or easements is not necessary. In the event the Applicant is required to obtain necessary right-of-way or easements to implement the provisions of this proffer, then the timing requirements of these proffers as they relate to the improvements that necessitate such right-of-way or easements shall be automatically hereby adjusted to reflect the delays incurred by such proceedings, but in any event such improvements shall be completed prior to final bond release for the respective building.

- I. Zoning Administrator Consideration. Upon demonstration by the Applicant that, despite diligent efforts and due to factors beyond the Applicant's control, any of the improvements proffered in this Proffer 7 (or an improvement in any other Proffer the timing of which is associated with an improvement proffered in this Proffer 7) have been delayed (due to, but not limited to an inability to secure necessary permission for utility relocations, and/or VDOT approval) beyond the timeframes provided by these proffers, the Zoning Administrator may approve a later date for completion of the improvement(s) without requiring a PCA.
8. Pedestrian Circulation Improvements. The Applicant shall construct a comprehensive pedestrian circulation system throughout the Application Property as shown on the GDPA. Such improvements shall be constructed concurrent with the development adjacent thereto.
9. Crosswalks.
 - A. Williams Drive. Concurrent with the construction of the Williams Drive improvements, and subject to the approval of VDOT, the Applicant shall install a painted crosswalk crossing Williams Drive at the south side of the Route 50 intersection. In addition the Applicant shall install a pedestrian countdown signal at such location and make modifications to the existing signal in such location as may be necessary, subject to the approval of VDOT.
 - B. Arlington Boulevard. There is an existing crosswalk and pedestrian countdown signal crossing Route 50 on the west side of the Williams Drive intersection. Upon submission of a site plan for the Arlington Boulevard improvements, the Applicant shall submit a design for a crosswalk and pedestrian countdown signal crossing Route 50 on the east side of the Williams Drive intersection for a determination by FCDOT and VDOT as to whether the pedestrian crossing of Route 50 should most appropriately occur on the east or west side of Williams Drive, or on both sides, in light of signal timing considerations. The Applicant shall install the new crosswalk and countdown signal on the east side of Williams Drive if approved by FCDOT, VDOT and DPWES concurrent with construction of the Arlington Boulevard improvements.

10. Bus Facilities. The Applicant shall install a standard concrete bus pad at any bus stop(s) located along the Application Property's frontage on Willow Oaks Corporate Drive in final locations as approved by FCDOT. The bus pads shall be installed prior to the issuance of the first Non-RUP for the first building to be constructed on the Application Property. In the event bus service along Willow Oaks Corporate Drive has not been established by such time, then in lieu of such construction, the Applicant shall escrow the cost of such improvements for the benefit of Fairfax County, upon the issuance of the first Non-RUP, exclusive of core and shell, for the first building to be constructed. In addition, the Applicant shall install a standard concrete bus pad at the bus stop located on the north side of Arlington Boulevard, west of Williams Drive within existing right of way, if it is available. If such right-of-way is available, then the bus pad will be constructed concurrent with the construction of the Arlington Boulevard improvements. If such right-of-way is not available then there shall be no requirement to install the off-site bus pad.

11. Bicycle Facilities. The Applicant shall provide indoor and/or outdoor bicycle racks in locations convenient to the main building entrances to each of Buildings F, G, H, I and J. The Applicant shall also provide for indoor bicycle racks/storage within parking garages A and B to serve employees of Buildings F, G, H, I and J. In total, the Applicant shall provide a minimum of one (1) bicycle parking space for every 7,500 square feet or portion thereof of office GFA in the each building and one (1) visitor bicycle parking space for every 20,000 square feet or portion thereof of office GFA in each building. As part of this requirement, the Applicant shall provide lockers or cages for at least six (6) bicycles among Garages A and B. The Applicant shall prepare a sign plan for designating locations for "share the road" signs for areas on the Application Property where bicycles will share the road with other vehicles, subject to VDOT approval if necessary. This sign plan will also designate locations for signs to be located on the Application Property directing bicyclists to the bicycle parking. Subject to necessary approvals, if any, the Applicant shall install such signs prior to issuance of the first Non-RUP for the first of Buildings G, F, H, I or J, exclusive of shell and core. Both Building G and at least one of Buildings F, H, I and J shall include shower and changing room facilities for employees. If any of Buildings F, H, I or J does not include shower and changing room facilities, the employees of such Building shall be provided access to the shower and changing room facilities in at least one of such Building(s) that does have such facilities. Such improvements shall be provided prior to issuance of the first Non-RUP, exclusive of core and shell, for whichever building(s) provide such services. The final location and design of the signage, bike racks and bike lockers/cages shall be shown on the site plan for the respective buildings, and shall be subject to review by FCDOT.

TRANSPORTATION DEMAND MANAGEMENT

12. Transportation Demand Management.
 - A. The Applicant shall implement transportation demand management ("TDM") measures at the Application Property consistent with the following criteria.

- (i) Employee Mode Split Goal. Mass transit, ride-sharing and other transportation strategies for the employees of the Application Property shall be utilized to achieve a minimum 15% mode split for employee trips to and from the Application Property during weekday Peak Hours, following full occupancy of the first building constructed on the Application Property. The Employee Mode Split Goal shall increase to 18% following full occupancy of the second building constructed on the Application Property, and the Employee Mode Split Goal shall increase to 20% following full occupancy of the last building constructed on the Application Property. For purposes of this Proffer 12, "full occupancy" shall be deemed to be the time upon which Non-RUPs have been issued for 80% or more of the floor area within the respective building.
- (ii) Peak Hours Defined. For purposes of this Proffer 12, the relevant weekday "Peak Hours" shall be that 60-minute period during which the highest weekday volume of mainline trips occurs between 6:00 to 9:00 AM and 4:00 to 7:00 PM, as determined by mechanical and/or manual traffic counts conducted at two select locations along Arlington Boulevard between Prosperity Avenue and Gallows Road as approved in consultation with the Fairfax County Department of Transportation ("FCDOT"). To determine the Peak Hour, such counts shall be collected beginning on a Monday at 2400 hours and continuing to the following Thursday at 2400 hours at a time of year that reflects typical travel demand conditions (e.g. September to May, not during a holiday week or when area public schools are not in session). The relevant Peak Hours shall be defined in conjunction with each of the Employee Trip Counts (as defined below) required pursuant to this Proffer. The methodology for determining the Peak Hours may be modified subject to approval of FCDOT, but without requiring a PCA, in order to respond to technological and/or other improvements in trip counting.
- (iii) TDM Components. In order to meet the applicable Employee Mode Split Goal, the Applicant shall implement a program of TDM strategies in coordination with FCDOT to include, without limitation, those items listed below. Such items may be adjusted from time to time as approved by FCDOT, without requiring a PCA, to reflect the ever-changing dynamic of transportation opportunities and constraints within the greater community.
- (a) Participate in a shuttle service established by Inova Fairfax Hospital between the Dunn Loring Metro Station, Inova Fairfax Hospital and the Application Property;
- (b) Provide a TDM Program Manager ("PM") to oversee all TDM elements and act as the liaison between the Applicant and FCDOT. The PM may be employed directly by the Applicant or be an independent contractor to the Applicant. The PM position may be part of other duties assigned to the individual;

- (c) Participate in the Fairfax County Ride Source Program, including registering with the Guaranteed Ride Home (GRH) program offered in connection with the Metropolitan Washington Council of Governments;
 - (d) Display in the building common areas transportation-related information for employees;
 - (e) Encourage employers to distribute an employee benefits package to all new employees, including site-specific transit-related information referencing the nearest Metro station and bus routes, and encouraging all employees to use Metrorail, bus service, shuttle service, carpool/vanpool, bicycling or walking;
 - (f) Encourage employer occupants to provide alternative work schedules, including staggered work hour programs, flex-time and telework programs, and to provide information to new employees on housing opportunities in the surrounding area;
 - (g) Provide reserved spaces for employee carpoolers and vanpoolers located proximate to building entrances;
 - (h) Provide for on-site bicycle storage, showers and changing facilities (See Proffer 11 above);
 - (i) Provide a sidewalk system designed to encourage/facilitate pedestrian circulation (See Proffer 8 above);
 - (j) Provide bus facilities (See Proffer 10 above); and
 - (k) Coordinate with TDM programs in place on the Inova Fairfax Hospital Campus that is subject to RZ 2008-PR-009.
- (iv) Employee Surveys. Between September and November beginning with the year following issuance of the first Non-RUP for the first building on the Application Property, exclusive of shell and core, the PM shall conduct a survey of building employees (the "Employee Survey") designed to evaluate the effectiveness of the TDM measures in meeting the applicable Employee Mode Split Goal and to evaluate the need for changes, if any, to the TDM measures then in place. The PM shall coordinate the draft Employee Survey materials and the methodology for validating survey results with FCDOT at least thirty (30) days prior to each year's Employee Survey. The PM shall submit as part of each County Report (defined below) an analysis of the Employee Surveys to FCDOT. Such analysis shall include at a minimum:
- (1) A description of the TDM measures in effect for the survey period and a description of how such measures have been implemented;

- (2) The number of people surveyed and the number of people who responded;
 - (3) The results of the surveys taken during the survey period;
 - (4) The number of employees participating in the TDM programs, displayed by category and mode of use;
 - (5) An evaluation of the effectiveness of the TDM program elements in place, including their effectiveness at achieving the applicable Employee Mode Split Goal, and, if necessary, proposed modifications; and
 - (6) A description of the uses constructed and occupied on the Application Property at the time the survey was conducted.
- (v) County Report. The PM shall report annually to FCDOT on the TDM measures (the "County Report") no later than January 31st of the respective calendar year (beginning with the year following issuance of the first Non-RUP for the first of the buildings on the Application Property, exclusive of shell and core) after completion of the Employee Survey. The County Report shall include (a) a description of the prior year's TDM strategic efforts, including, as applicable, sample marketing materials; (b) a financial statement that includes the budget for the TDM measures and an accounting of TDM revenues and expenditures for the preceding year; (c) an analysis of the Employee Survey for the preceding year, (d) discussion of any changes to the TDM measures for the upcoming year; and (e) the budget for TDM implementation for the upcoming year.
- (vi) Adjustments to Calendar and Due Dates. Upon mutual agreement between FCDOT and the PM, the due dates for the Employee Survey and/or delivery of the County Report may be extended by up to sixty (60) days.
- (vii) Meetings with FCDOT. The PM shall meet with FCDOT annually, as applicable, or as mutually agreed, to discuss the results of the Employee Survey, the County Report and the TDM measures.
- (viii) Trip Counts. If the Employee Survey reveals either: (a) an Employee Mode Split that is two (2) or more percentage points lower than the applicable Employee Mode Split Goal; or (b) a survey response rate that is less than 20%, then the PM shall conduct an Employee Trip Count to further evaluate the effectiveness of the TDM program. Such Employee Trip Counts shall be measured on three (3) days over a maximum two-week period (but not including a week containing a county/state/federal holiday or when area public schools are not in session) during the weekday Peak Hours (as defined in Proffer 12.A.ii.). At least thirty (30) days prior to conducting the Employee Trip Counts, the PM shall meet with FCDOT to review and reach agreement on the dates and methodology for the Employee Trip Counts and the analyses to be done

after the Employee Trip Counts are complete. The Employee Trip Counts shall include traffic counts at employee parking areas, employee vehicle occupancy counts, shuttle bus passenger counts, on-site Metro bus boarding and alighting counts, and pedestrian and bicycle counts. The Employee Trip Counts shall be conducted so that only trips generated by the employees on the Application Property shall be accounted for (i.e. visitor and cut-through trips, etc., shall be excluded).

- (ix) Evaluation/Revisions to TDM Measures. In the event Employee Surveys and/or Trip Counts reveal that the applicable Employee Mode Split Goal is met, then the Applicant shall continue to administer the TDM measures in accordance with this Proffer. In the event Employee Surveys and Trip Counts reveal that the applicable Employee Mode Split Goal is not met, then the PM shall convene a meeting with FCDOT within thirty (30) days of the completion of the Employee Surveys and Trip Count to review the results of the Employee Surveys and Trip Count and the TDM measures then in place and to develop modifications to the TDM measures and/or additional TDM measures that may be implemented. Examples of such additional strategies may include the following:
- (a) Provide one-time transit/vanpool/bike-to-work subsidies to employees through SmartBenefits or otherwise;
 - (b) Establish a program for individualized employee TDM marketing to educate and encourage employees with respect to commuting alternatives;
 - (c) Provide free parking for carpools/vanpools if paid parking is instituted;
 - (d) Coordination with Inova Fairfax Hospital with respect to the possible shared use by employees of the Application Property of bicycles purchased for the use of employees of Inova Fairfax Hospital, if any, and/or increase the amount of on site bicycle facilities as an analysis of demand for such facilities may warrant; and
 - (e) Coordination with Inova Fairfax Hospital with respect to the shared use of services of an independent provider for car-sharing services to be located at Inova Fairfax Hospital, if any.

The PM shall submit any such revisions to FCDOT within thirty (30) days following this meeting and request in writing FCDOT's review and concurrence. If no written response is provided by FCDOT within sixty (60) days, the PM's revisions shall be deemed approved. Following approval of the revisions, the PM shall implement the TDM provisions as developed in consultation with FCDOT.

- (x) Financial Incentives. In the event Employee Surveys and/or Trip Counts conducted following full occupancy of the last building constructed on the Application Property reveal that the applicable Employee Mode Split Goal is not met for two consecutive years, then the Applicant shall contribute according to the following schedule:
- (a) \$1,000 for each one-tenth (1/10) of a percentage point less than the applicable Employee Mode Split Goal (which would be 20% at such time) but greater than or equal to a 15% mode split. For example a mode split of 16.3% would result in a contribution of \$37,000. $(20.0 - 16.3 \times 10 \times \$1,000)$; plus
 - (b) \$1,500 for each one-tenth (1/10) of a percentage point less than a 15% mode split but greater than or equal to a 10% mode split. For example a mode split of 12.5% would result in a contribution of \$87,500. $[(20.0 - 15.0 \times 10 \times \$1,000) + (15.0 - 12.5 \times 10 \times \$1,500)]$; plus
 - (c) \$2,000 for each one-tenth (1/10) of a percentage point less than a 10% mode split. For example a mode split of 7.5% would result in a contribution of \$175,000. $[(20.0 - 15.0 \times 10 \times \$1,000) + (15.0 - 10.0 \times 10 \times \$1,500) + (10.0 - 7.5 \times 10 \times \$2,000)]$.

This penalty provision shall remain in effect for so long as Proffer 12.A.(xi) requires the Survey and Reporting Requirements to be met; provided, however, that there shall be a cap of \$200,000 on the aggregate of all contributions required to be paid hereunder. Any contribution payments made pursuant to this Proffer 12.A.(x) shall be utilized as follows: one-half (1/2) of any contribution payment shall be used by the Applicant to provide additional TDM measures on the Application Property such as those described in Proffer 12.A.(ix); and the other one-half (1/2) of any contribution payment shall be paid to Fairfax County for use in supporting TDM/transportation enhancements in the Merrifield area.

- (xi) Continuation of Survey and Reporting Requirements. The PM shall continue the Employee Surveys, County Reports and, if applicable, the Trip Counts on an annual basis until such time as two (2) consecutive Employee Surveys conducted starting at least one (1) full calendar year after the last building on the Application Property has been fully occupied show that the applicable Employee Mode Split Goal has been met. Following such time, the PM shall conduct additional Employee Surveys and make County Reports at three (3) year intervals. If it is reasonably determined through any of the tri-annual surveys/reports that the applicable Employee Mode Split Goal is no longer being met, the Applicant shall revert to the process of annual Employee Surveys and County Reports, as well as implementation of additional strategies and

penalties if applicable, until such time as two (2) consecutive Employee Surveys show that the applicable Employee Mode Split Goal has been met, whereupon the process of tri-annual surveys/reports shall be resumed. Upon such time that three (3) consecutive tri-annual surveys/reports show that the applicable Employee Mode Split Goal continues to be met, no additional surveys/reports shall be required. Beyond such time, however, if FCDOT has reason to believe there are problems with the TDM program, the Applicant shall cooperate with FCDOT to review and reasonably address the concerns.

- (xii) Enforcement. If the PM fails to timely submit the County Report for the Application Property to FCDOT as required by this Proffer, or as the requirement may be extended, the County may thereafter issue the PM a notice stating that the PM has violated the terms of this Proffer and providing the PM sixty (60) days within which to cure such violation. If after such sixty (60) day period the PM has not submitted the delinquent County Report, then the Applicant shall be subject to a penalty of \$100 per day payable to Fairfax County to be used for transit or transportation related improvements in the vicinity of the Application Property until such time as the report is submitted to FCDOT.

- B. Mid-County Community Services Center. In the event Fairfax County develops Building G as shown on the GDPA as a Mid-County Community Services Center, then Proffer 12.A. shall not apply to Building G. In such event, Fairfax County, as the Building G owner, shall implement an independent TDM program that substantially conforms with the goals; definitions; survey, trip counting, and reporting mechanisms; financial incentives; and enforcement mechanisms as set forth in Proffer 12.A.(i), (ii), (iv) – (viii), and (x) – (xii), but which adjusts the TDM Components and FCDOT coordination provisions as set forth in Proffer 12.A.(iii) and (ix), as approved by FCDOT, given the County ownership of the building.

SITE DESIGN

13. Limits of Clearing and Grading. The Applicant shall conform to the limits of clearing and grading as shown on the GDPA, subject to allowances for the installation of fences, utilities, and/or trails, which shall be located in the least disruptive manner necessary as determined by the Urban Forest Management Division of DPWES (“UFMD”). A replanting plan shall be developed and implemented, subject to approval by UFMD for any areas protected by the limits of clearing and grading that must be disturbed.
14. Tree Preservation.
- A. The Applicant shall submit a tree preservation plan as part of the site plan(s) for development that includes Parking Garage B, the Willow Oaks SWM/BMP Pond

as described in Proffer 22.A. below and/or the Connector Travelway as described in Proffer 7.E. above.

- B. The tree preservation plan(s) shall be prepared by a professional with experience in the preparation of tree preservation plans, such as a certified arborist or landscape architect, and shall be subject to the review and approval of UFMD. The tree preservation plan shall consist of a tree survey that includes the location, species, size, crown spread and condition rating percentage of all trees 8 inches in diameter and greater, located on the Application Property and on Parcel 136C, that are located up to 25 feet to either side of the limits of clearing and grading shown on the GDPA and as approved for Parcel 136C. The condition analysis ratings shall be prepared using methods outlined in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, and others as necessary, shall be included in the plan.
- C. All tree preservation-related work occurring in or adjacent to tree preservation areas shall be accomplished in a manner that minimizes damage to vegetation to be preserved, including any woody, herbaceous or vine plant species that occurs in the lower canopy environment, and to the existing top soil and leaf litter layers that provide nourishment and protection to that vegetation. Removal of any vegetation, if any, or soil disturbance in tree preservation areas, including the removal of plant species that may be perceived as noxious or invasive, such as poison ivy, greenbrier, multi-floral rose, etc. shall be subject to the review and approval of UFMD.
- D. The Applicant shall retain the services of a certified arborist or landscape architect, and shall have the limits of clearing and grading in the areas of tree preservation marked with a continuous line of flagging prior to a walk-through meeting with the UFMD to be held prior to any clearing and grading. The Applicant shall invite the owners of Tax Map Parcels 49-3 ((10)) 6 and 59-1 ((27)) 161A to the tree preservation walk through meeting via written notice provided at least five (5) days in advance of the scheduled meeting. During the tree preservation walk-through meeting, the Applicant's certified arborist or landscape architect shall walk such limits of clearing and grading with an UFMD representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and to evaluate the opportunity for additional tree save in the view shed of Parking Garage B as seen from Tax Map Parcel 49-3 ((10)) 6, and such adjustment shall be implemented; provided, however, that no adjustment shall be required that would affect the location and/or design of the southern parking garage or the improved regional stormwater pond or Connector Travelway including a requirement for additional retaining walls. Trees within the preservation areas that are identified specifically by UFMD in writing as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and

such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner causing as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions.

- E. All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees, shall be erected at the limits of clearing and grading adjacent to the tree preservation areas as shown on the phase I & II erosion and sediment control sheets. All tree protection fencing shall be installed after the tree preservation walk-through meeting described in Proffer 14.D. above but prior to any clearing and grading activities. The installation of all tree protection fencing shall be performed under the direct supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. At least ten (10) days prior to the commencement of any clearing or grading activities adjacent to the tree preservation areas, but subsequent to the installation of the tree protection devices, the UFMD shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by UFMD.
- F. The Applicant shall root prune, as needed to comply with the tree preservation requirements of these proffers. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the respective public improvement/site plan submission. The details for these treatments shall be reviewed and approved by UFMD, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following: (1) root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches; (2) root pruning shall take place prior to any clearing and grading; (3) root pruning shall be conducted with the supervision of a certified arborist; and (4) a UFMD representative shall be informed when all root pruning and tree protection fence installation is complete.
- G. During any clearing or tree/vegetation removal in the areas adjacent to the tree preservation areas, a representative of the Applicant shall be present to monitor the process and ensure that the activities are conducted as proffered and as approved by UFMD. The Applicant shall retain the services of a certified arborist or landscape architect to monitor on-site all construction and demolition work and tree preservation efforts in order to ensure conformance with all tree preservation proffers, and UFMD approvals. The monitoring schedule shall be described and detailed in the Tree Preservation Plan, and reviewed and approved by UFMD.

- H. The Applicant shall retain a professional arborist with experience in plant appraisal, to determine the replacement value of all trees that are 8 inches in diameter or greater that are located on the Application Property that are shown to be saved on the Tree Preservation Plan. These trees and their value shall be identified on the Tree Preservation Plan at the time of the first submission of the respective site plan(s). The replacement value shall take into consideration the age, size and condition of these trees and shall be determined by the so-called "Trunk Formula Method" contained in the latest edition of the Guide for Plan Appraisal published by the International Society of Arboriculture, subject to review and approval by UFMD.
- I. At the time of the respective site plan approvals, the Applicant shall post a cash bond or a letter of credit payable to the County of Fairfax to ensure preservation and/or replacement of the trees for which a tree value has been determined in accordance with subparagraph H. above (the "Bonded Trees") that die or are dying due to unauthorized construction activities. The letter of credit or cash deposit shall be equal to 50% of the replacement value of the Bonded Trees. At any time prior to final bond release for the improvements on the Application Property constructed adjacent to the respective tree save areas, should any Bonded Trees die, be removed, or are determined to be dying by UFMD due to unauthorized construction activities, the Applicant shall replace such trees at its expense. The replacement trees shall be of equivalent size (at full growth), species and/or canopy cover as approved by UFMD. In addition to this replacement obligation, the Applicant shall also make a payment equal to the value (as defined in accordance with subparagraph H above) of any Bonded Tree that is dead or dying or improperly removed due to unauthorized construction activity. This payment shall be made to a fund established by the County for furtherance of tree preservation objectives in the Providence District. Upon release of the bond for the improvements on the Application Property constructed adjacent to the respective tree save areas, any amount remaining in the tree bonds required by this proffer shall be returned/released to the Applicant
- J. The Applicant shall demonstrate compliance with the Tree Conservation During Land Development provisions of Article 2 of Chapter 122 of the Fairfax County Code prior to the first site plan approval for the Application Property.
15. Landscaping. Landscaping shall be provided as shown on the GDPA. Adjustments to the type and location of vegetation and the landscape design shall be permitted as may be approved by UFMD. Streetscape shall be provided as shown on the GDPA. Street furnishings and lighting shall be in conformance with the Merrifield Streetscape Design Manual.
- A. As part of each site plan submission, the Applicant shall submit to UFMD for review and approval a detailed landscape and tree cover plan, which shall include, among other things:

- (i) Design details for tree wells and other similar planting areas above structures and along streets;
 - (ii) Composition of the planting materials and/or structural soils used where plantings are to be located within or on top of structures and other methods to be used to ensure the viability of the proposed plantings;
 - (iii) Other information that may be requested by the UFMD
 - B. Following the clearing and grading of the Application Property in the area of Parking Garage B, the Applicant shall meet on site with the owner of Tax Map 49-3 ((10)) 6 and develop a plan for supplemental landscaping to be installed by the Applicant within the "tree save" area as shown on the GDPA adjacent to such parcel and elsewhere in the view shed of Parking Garage B as seen from such parcel. Such landscaping plan shall be subject to approval by UFMD.
- 16. Building Setback. A 100 foot setback will be provided between Tax Map 49-3 ((10)) 6 and the southern parking structure. This setback shall consist of existing vegetation, with the exception of clearing and grading shown on the GDPA as required to construct the parking garage, access to the parking garage and to install and maintain utilities. A minimum 14 degree view angle will be provided from Tax Map 49-3 ((10)) 6 and the boundary of the Pine Ridge subdivision to Buildings F and G and Parking Garage B.
- 17. Fence. Prior to final bond release for the Willow Oaks SWM/BMP Pond site plan, the Applicant shall install a wooden fence in the area west of the pond as shown on the GDPA; provided, however, that, notwithstanding the fence as it is depicted on the GDPA, the following adjustments shall be made: (i) the section of such fence shown on the GDPA south of the spillway shall not be installed at the request of the owner of Tax Map Parcel 59-1 ((27)) 161A; and (ii) instead of the approximately 160 foot section of six (6) foot tall wooden fence shown on the GDPA running eastward from Williams Drive, the Applicant shall install a section of eight (8) foot tall wooden fence that runs from the western terminus of the fence in a northeasterly direction before turning southeasterly to cross the storm drainage easement and rejoin the course of the six (6) foot fence as it is shown on the GDPA. The purpose redirecting this section of fence is to locate the fence within the landscaped buffer area shown on the GDPA to provide for landscaping on both sides of the fence. The final location of the eight (8) foot portion of fence shall be field located and coordinated with DPWES and the owner of Tax Map Parcels 49-3 ((10)) 6.
- 18. Lighting. Outdoor lighting shall comply with the Outdoor Lighting Standards of Part 9 of Article 14 of the Zoning Ordinance. Building mounted security lighting shall utilize full cut-off fixtures with shielding such that the lamp surface is not directly visible. All outdoor lighting fixtures associated with Parking Garage B shall be of a low intensity design and shall utilize full cut off fixtures which shall focus directly on the garage. Lighting within such parking structure shall be of low intensity and recessed design in order to mitigate the impact on adjacent residences. Lighting within the stair towers of such garage shall be fully shielded with full cut-off fixtures in order to mitigate the impact on adjacent residences. Parapet walls on each level of the southern and western

walls of such parking garage shall be a minimum of 42 inches in height to provide adequate shielding of vehicle headlights. All new exterior pole mounted lighting fixtures on the Application Property shall be a maximum height of 12 feet, with fixtures directed away from, or otherwise shielded from view from, the Pine Ridge Community to the southwest. Light poles on top of Parking Garage B shall be no higher and no greater in number than the minimum required to provide adequate security lighting. The Applicant shall install a device to lower lighting levels for lights in and on Parking Garage B between the hours of 11 p.m. and 6 a.m. while maintaining reasonable and adequate security lighting.

19. Signage. Signage for the Application Property shall be provided in accordance with the requirements of Article 12 of the Zoning Ordinance.

20. Construction Hours/Trash Service.

A. Construction Hours. All outdoor construction activity related to Building G and Parking Garage B shall be limited to the hours of 7:00 a.m. to 6:00 p.m. Mondays through Fridays; and 9:00 a.m. to 6:00 p.m. on Saturdays. Sunday construction hours shall be limited to interior construction only from 10:00 a.m. to 6:00 p.m. The hours of construction shall be posted at the construction site in both Spanish and English. The Applicant shall designate a contact person for issues related to construction and provide the name and telephone number of this person to the Pine Ridge Civic Association, the Prosperity Heights Homeowners Association and the owner of Tax Map 49-3 ((10)) 6 prior to issuance of a site permit for Building G and or Parking Garage B whichever is first.

B. Trash Service. The use of the Building G loading area for trash/recycling services shall be restricted to the hours of 7:00 AM – 4:00 PM Mondays through Fridays or to such hours of use as may otherwise be agreed to by the Applicant and the owner of Tax Map 49-3 ((10)) 6.

ARCHITECTURAL DESIGN AND BUILDING MATERIALS

21. Building Design.

A. Architecture and Materials. Building architecture shall be of Class-A quality and shall be well-articulated and incorporate a series of vertical elements to break any long horizontal walls. The façade treatment of buildings shall include a combination of building materials which may include glass, brick and/or precast concrete. Other materials, which may include (but not necessarily be limited to) stone, metal, and exterior insulation finish system, may be used to provide architectural detail and fenestration to the building façade.

B. Garage Facade. An architectural surface treatment that is consistent with the theme of the associated building architecture shall be used on exposed areas on the north, south and west elevations of Parking Garage B. For example, a mix of

stone aggregate, special forming or scoring, a special mix of textures or polymer painted materials, brick, landscape screening materials, pre-cast concrete, architectural embellishment, and/or other treatments that are compatible with and complement the building architectural material shall be provided in such areas.

- C. Building Height. Maximum building heights shall be as shown on the GDPA. Specifically, Buildings F and G, located south of Willow Oaks Corporate Drive extended, shall not exceed four (4) stories or sixty (60) feet above grade. Parking Garage B, located south of Willow Oaks Corporate Drive extended, shall not exceed six (6) levels or sixty (60) feet above grade. In accordance with the provisions set forth in Section 2-506 of the Zoning Ordinance, the Applicant reserves the right to install solar panels having a maximum height of fifteen (15) feet on top of any of the buildings and/or parking garages in excess of the maximum building heights proffered herein. Building rooftops will be designed so as to screen rooftop mechanical equipment from view from the public right of way.
- D. Building G and F Entrances. If feasible given final grades and building security and operations issues, the Applicant shall provide building entrances on the north side of Buildings G and F with pedestrian links that connect to the sidewalk along Willow Oaks Corporate Drive. In the event that the Applicant develops Optional Layout 5 as shown on the GDPA then this Proffer 21.D. shall be deemed to have been met.
- E. Alternate Energy/Utility Data.
- (i) Alternate Energy. Each of the buildings shall be designed so as not to preclude the installation of solar panels or other alternate energy sources either on the buildings' exterior walls, rooftop or elsewhere on the respective sites. The Applicant shall identify a target alternate energy source and demonstrate the buildings' respective design capacity not to preclude the alternate energy source at the time of building permit approval. The Applicant shall either install such an alternate energy technology concurrent with the construction of the building, or, at the Applicant's discretion, the Applicant shall, at the time of building permit submission, submit to Environment and Development Review Branch of DPZ a return on investment (ROI) analysis of the alternate energy technology. Subsequently, the Applicant shall prepare and submit to Environment and Development Review Branch of DPZ an updated ROI on an annual basis starting on July 1 of each year following the first full year after the initial ROI is submitted and continuing for a period of three (3) years. With each ROI submission, the Applicant shall include an analysis of external sources of funds, if any, that may be available to implement the alternate energy technology. If and when the ROI shows that implementation of the alternate energy technology is economically viable but the Applicant elects, at its discretion, not to implement the alternate energy technology, the Applicant shall issue a report to the

Environment and Development Review Branch of DPZ explaining its reasoning. In the event the Applicant proceeds, at its discretion, to implement alternate energy technology, the Applicant shall report annually to Environment and Development Review Branch of DPZ for a period of three (3) years on the impact of the alternate energy source on the level of energy consumption at the building and provide an estimate of green house gas reductions resulting from the technology.

- (ii) Utility Data. If requested by the Chief of the Environment and Development Review Branch of Department of Planning and Zoning, utility data for Building G will be made available for energy and water consumption by Fairfax County Facilities Management Department. The data shall be aggregated by building and site, and performance of individual units and tenants will not be reported. The data will be in the format of gallons of water used and kWh used for Building G only and gallons of water used and kWh used for the Building G site.

This data will not be shared in dis-aggregated form with non-DPZ staff or Planning Commissioners without the written consent of the Director of Facilities Management Department. The information obtained shall be for information purposes only and provision of the information will not result in any negative consequences to the Applicant.

This Proffer 21.E.ii. may be modified related to the amount, type, format, frequency, and scope of data provided and the duration of the data provision requirement upon the mutual agreement of DPZ and the Applicant without requiring a PCA. Additionally, if the required data cannot be obtained by the Applicant from utility providers or tenants because of applicable law, the utility provider's policy, privacy issues, legal precedence or collection of the data is administratively burdensome to the Applicant or the County, then the Applicant or the County, as applicable, shall provide written notice to the Chief of the Environment and Development Review Branch of DPZ or the Applicant, as applicable, describing why the data cannot be obtained and/or why provision of that data is administratively burdensome. The Applicant and DPZ shall thereafter meet to discuss possible modifications to this Proffer 21.E.ii. If, after the meeting between the Applicant and DPZ, the Applicant or DPZ determines that provision of the data, as provided herein or as modified, is not practicable, then they shall provide notice of the same and the Applicant shall be relieved of the obligation to provide the data required under this Proffer 21.E.ii

- F. Smart Building. The Applicant shall design the buildings to include conduit to provide for the installation of information and communications technology that can operate throughout the building and that can connect to remote locations and networks. The Applicant shall demonstrate compliance with the design

requirements of this Proffer prior to building permit approval for the respective building. This proffer shall not require the Applicant to equip the building with any particular application.

G. Green Building Practices.

- (i) The Applicant will include, as part of the site plan submission and building plan submission for each of the buildings, a list of specific credits within the most current version of the U.S. Green Building Council's Leadership in Energy and Environmental Design—Core and Shell (LEED®-CS) rating system, or other LEED rating system determined to be applicable to the building by the U.S. Green Building Council (USGBC), that the Applicant anticipates attaining. At least one principal participant of the Applicant's project team shall be a LEED Accredited Professional, and such professional will provide certification statements at both the time of site plan review and the time of building plan review confirming that the items on the list are expected to meet at least the minimum number of credits necessary to attain LEED Silver certification for the buildings.
- (ii) In addition, prior to site plan approval, the Applicant will designate the Chief of the Environment and Development Review Branch of the Department of Planning and Zoning as a team member in the USGBC's LEED Online system. This team member will have privileges to review the project status and monitor the progress of all documents submitted by the project team, but will not be assigned responsibility for any LEED credits and will not be provided with the authority to modify any documentation or paperwork.
- (iii) Prior to building plan approval for the buildings, the Applicant will submit, to the Environment and Development Review Branch of DPZ, documentation from the U.S. Green Building Council demonstrating that LEED Silver precertification under the Core and Shell program has been attained for that building. Prior to release of the bond for that building, the Applicant shall provide documentation to the Environment and Development Review Branch of DPZ demonstrating the status of attainment of LEED Certification from the U.S. Green Building Council for the building.
- (iv) As an alternative to and in lieu of the requirements of paragraphs i - iii above, or if the Applicant fails to attain LEED Silver precertification prior to building plan approval, the Applicant will, prior to building permit approval, execute a separate agreement and post a "green building escrow," in the form of cash or a letter of credit from a financial institute acceptable to DPWES as defined in the Public Facilities Manual, in the amount of \$2.00 per gross square foot of building. This escrow will be in addition to and separate from other bond requirements and will be released upon demonstration of attainment of certification, by the U.S. Green

Building Council, under the most current version of the LEED-CS rating system or other LEED rating system determined, by the U.S. Green Building Council, to be applicable to the building. The provision to the Environment and Development Review Branch of DPZ of documentation from the U.S. Green Building Council that the building has attained LEED certification will be sufficient to satisfy this commitment. If the applicant fails to provide documentation to the Environment and Development Review Branch of DPZ demonstrating attainment of LEED certification within two years (or such longer time if the Applicant provides documentation to the satisfaction of the Environment and Development Review Branch of DPZ that USGBC review of the LEED certification has been delayed through no fault of the Applicant) of issuance of the first Non-RUP, exclusive of core and shell, for the building, the escrow will be released to Fairfax County and will be posted to a fund within the county budget supporting implementation of county environmental initiatives.

- (v) In the event that Building G is developed by Fairfax County as a public use, then, in accordance with the Fairfax County policy for sustainable public facilities greater than 10,000 square feet, such building will be designed and built with green building measures to attain at a minimum the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Silver certification rating and the provisions of paragraphs i. – iv. above shall not apply.

ENVIRONMENT

22. Stormwater Management Facilities.

- A. Willow Oaks SWM/BMP Pond. The GDPA depicts a Stormwater Management Facility referred to as the Willow Oaks SWM/BMP pond that has been designed and approved pursuant to SP # 5544-SP-010 to provide both stormwater management (SWM) and Best Management Practices (BMPs) for its entire contributing watershed (approximately 130.1 acres), including the Application Property. In addition, the Willow Oaks SWM/BMP pond will provide for BMPs for the southern portion of the Inova Fairfax Hospital Campus, the Woodburn Site and the Woodburn Place Site as described in RZ 2008- PR-009. The Willow Oaks SWM/BMP pond is located partially on the Application Property and partially off-site, on Parcel 136C, as further described in Proffer 28 associated with RZ 2008-PR-009. The Willow Oaks SWM/BMP pond is designed as an enhanced extended detention pond with high and low marshes, sediment forebays, and a permanent micro pool. Post-development condition release rates from the Willow Oaks SWM/BMP pond will not exceed pre-development conditions for the 2-year and 10-year storms. Pre-development conditions assume that the entire watershed upstream of the Willow Oaks SWM/BMP pond is equivalent to woods in good condition. The Applicant reserves the right to commence construction of the Willow Oaks SWM/BMP pond under a separate site plan in advance of development on the Application Property or concurrently with it. If not sooner,

the Applicant shall construct the Willow Oaks SWM/BMP pond concurrently with the construction of the first of the buildings to be constructed on the Application Property. The Applicant reserves the right to seek reimbursement from property owners who utilize the Willow Oaks SWM/BMP pond. There is a temporary conservation easement that has been recorded on the Application Property for the purpose of providing an interim BMP for an adjacent property to the west. This conservation easement will be vacated with the approval of DPWES when it can be demonstrated that the BMP requirement is otherwise accommodated or will be deferred for an interim period during construction of the Willow Oaks SWM/BMP pond. Notwithstanding anything in Note 27 on the GDPA to the contrary, the Applicant shall not construct a gazebo on any portion of the Willow Oaks SWM/BMP pond or its related facilities.

- B. Maintenance. The Applicant shall maintain the Willow Oaks SWM/BMP pond, and in the event the 3-Bay option for Parking Garage B is provided, the Applicant shall also maintain that portion of on-site storm sewer running generally eastward from the south end of Williams Drive to the western side of the Willow Oaks SWM/BMP pond. If required, prior to initial site plan approval, the Applicant shall execute an agreement with Fairfax County in a form satisfactory to the County Attorney (the "SWM Agreement") providing for the perpetual maintenance of the Willow Oaks SWM/BMP pond. The SWM Agreement shall address the following issues to the satisfaction of DPWES: (a) future maintenance/repair of the facility, when and as warranted; (b) requirement for liability insurance in an amount reasonably acceptable to DPWES; (c) agreement by owners and successors not to petition the County to take future maintenance responsibility for the facility; and (d) establishment of procedures to facilitate County inspection.
23. Low Impact Development. The Applicant shall install Fairfax County accepted Low Impact Development (LID) facilities, on the Application Property in Property in at least one of the locations shown on the GDPA as "Possible LID Location". The LID facilities (pervious pavement or other) shall treat a total of 20,000 square feet of impervious surface and shall have a minimum phosphorous removal efficiency of 40 percent. The LID facilities will be designed in accordance with the PFM. These LID facilities are intended as demonstration facilities and shall not factor into the requisite calculations for stormwater management and BMPs.

PUBLIC FACILITIES

24. Parks and Public Schools. The Applicant shall make a contribution to the Board of Supervisors to be used for improvements in Pine Ridge Park, and also for athletic facilities and/or fields in the general vicinity of the Application Property as determined by the Providence District Supervisor in consultation with the Providence District Athletic Fields Task Force. Such contribution shall be calculated at a rate of \$0.27 per square foot of GFA proposed for the respective building. One-half of the total contribution for the buildings approved on the Application Property shall be paid at the

time of site plan approval for the second of the buildings to be constructed; the other one-half of the total contribution shall be paid at the time of site plan approval for the third of the buildings to be constructed.

MISCELLANEOUS

25. Advanced Density/Intensity Credit. Advanced density/intensity credit is reserved consistent with the provisions of Par. 4 of Section 2-308 of the Fairfax County Zoning Ordinance for all eligible dedications described herein or as may be required by Fairfax County or VDOT pursuant to the PFM, at the time of site plan approval for the Application Property.
26. Site Plan Copies to Supervisor and Planning Commissioner. The Applicant shall deliver copies of public improvement plans, site plans, landscape plans and tree preservation plans to the Providence District Supervisor and Planning Commissioner for review and comment upon submission of such plans to DPWES.
27. Compliance with Federal, State, and Other Local Laws/Severability. If it is found by a court of competent jurisdiction, that any portion of these Proffers violates any Federal, State or other local law, then the offending portion of these Proffers shall be deemed null and void and no longer in effect. All remaining conditions of these proffers shall remain in full force and effect.
28. Severability. Pursuant to Section 18-204 of the Zoning Ordinance, any portion of the Application Property may be the subject of a future proffered condition amendment ("PCA"), Special Exception ("SE"), or Special Permit ("SP") application without joinder and/or consent of the owner(s) of the other portion(s) of the Application Property.
29. Successors and Assigns. These Proffers will bind and inure to the benefit of the Applicant, the owners and their successors and assigns.
30. Counterparts. These Proffers may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, and all of which taken together shall constitute one and the same instrument.

[SIGNATURES BEGIN ON THE NEXT PAGE]

APPLICANT/TITLE OWNER OF TAX MAP 49-3 ((1)) 141

INOVA HEALTH CARE SERVICES

By: Inova Health System Foundation, its Sole Member

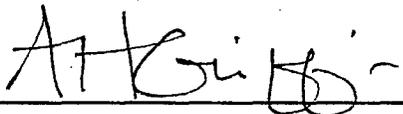


By: Richard C. Magenheimer
Its: Chief Financial Officer

[SIGNATURES CONTINUE]

CONTRACT PURCHASER OF TAX MAP 49-3 ((1)) 141 pt.

FAIRFAX COUNTY BOARD OF SUPERVISORS



By: Anthony H. Griffin

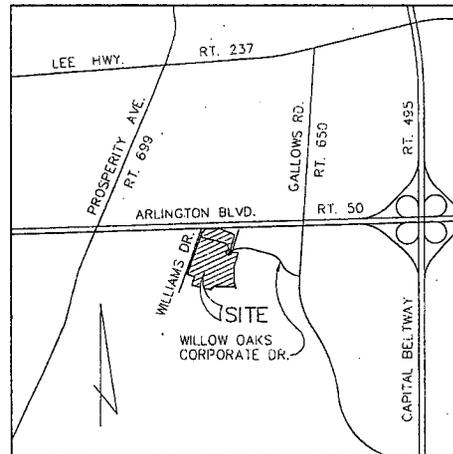
Its: County Executive

[SIGNATURES END]

INOVA WILLOW OAKS

Providence District Fairfax County, Virginia

Partial Generalized Development Plan Amendment - PCA 87-P-038-05



VICINITY MAP
SCALE: 1" = 1,000'

Sheet Index

1. COVER SHEET (UPDATED WITH PCA)
2. PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT - OVERALL (UNCHANGED)
3. PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT (UNCHANGED)
4. PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT - OPTIONAL LAYOUTS (UNCHANGED)
- 4A. PARTIAL GENERALIZED DEVELOPMENT PLAN AMENDMENT - OPTIONAL LAYOUT 2 (NEW WITH PCA)
- 4B. DETAIL ENLARGEMENTS - OPTIONAL LAYOUT 2 (NEW WITH PCA)
5. PEDESTRIAN CIRCULATION PLAN / SITE FURNITURE DETAILS (UNCHANGED)
6. CROSS SECTIONS (UNCHANGED)
- 6A. CROSS SECTIONS (NEW WITH PCA)
- 6B. 3D DETAIL ENLARGEMENTS (NEW WITH PCA)
7. DETAIL ENLARGEMENTS (UNCHANGED)
8. ROAD IMPROVEMENTS DETAIL (UNCHANGED)
9. ROAD IMPROVEMENTS DETAIL (UNCHANGED)
10. ROAD IMPROVEMENTS DETAIL (UNCHANGED)
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12. STORMWATER MANAGEMENT - GRADING PLAN - POND OPTIONS 1,2,3 (UNCHANGED)
13. STORMWATER MANAGEMENT - GRADING PLAN - POND OPTION 4 (UNCHANGED)
14. STORMWATER MANAGEMENT - LANDSCAPE PLAN - POND OPTION 1,2,3,4 (UNCHANGED)
15. STORMWATER MANAGEMENT AND OUTFALL NARRATIVES (UNCHANGED)
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17. OUTFALL PLAN AND CROSS SECTIONS (UNCHANGED)
18. BMP COMPUTATIONS AND RATING CURVES (UNCHANGED)
19. HEC-1 MODELS (UNCHANGED)
20. HEC-1 MODELS (UNCHANGED)

OWNER:
Inova Health Care Services
3300 Gallows Road
Falls Church, VA 22042

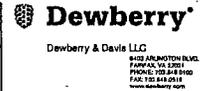
APPLICANT:
Fairfax County Planning & Design Division
Department of Public Works &
Environmental Services
1200 Government Center Parkway, Suite 449
Fairfax, VA 22035-0052

Inova Willow Oaks
Partial Generalized Development
Plan Amendment
PCA 87-P-038-05

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APR 27 2011

Zoning Evaluation Division



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- Revised April 27, 2011
- Revised March 4, 2011
- Revised June 10, 2009
- Revised June 5, 2009
- Revised May 20, 2009
- Revised April 20, 2009
- Revised March 26, 2009
- Revised February 19, 2009
- Revised January 23, 2009
- Revised October 9, 2008
- Revised August 28, 2008
- Revised July 31, 2008
- April 14, 2008

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**INOVA
 WILLOW OAKS**
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 PRINCEDEN DISTRICT
 FAIRFAX COUNTY, VIRGINIA



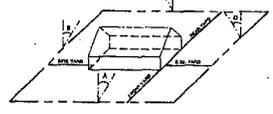
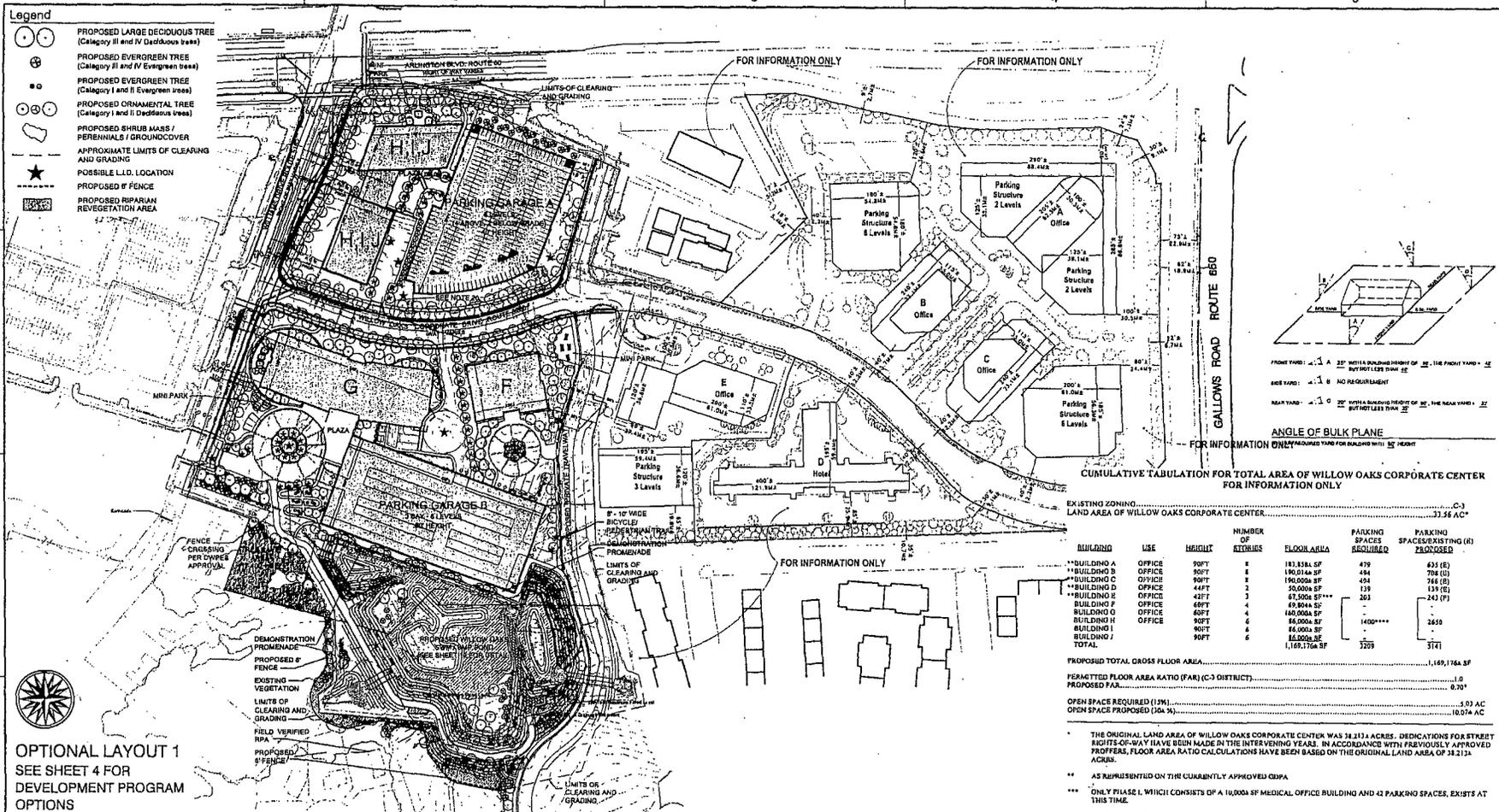
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4	01.23.08	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS
 DRAWN BY: JMC
 APPROVED BY: [Signature]
 CHECKED BY: PCY
 DATE: April 14, 2008

TITLE
**Inova
 Willow Oaks**
 Partial Generalized Development
 Plan Amendment
 Overall

PROJECT NO.
2
 SHEET NO. 2 of 20
 M-10660



FRONT YARD: 1 A 20' WITH BUILDING THROAT OF 20' THE FRONT YARD 22' BUT NOT LESS THAN 22'
 SIDE YARD: 1 B NO REQUIREMENT
 REAR YARD: 1 C 20' WITH BUILDING THROAT OF 20' THE REAR YARD 22' BUT NOT LESS THAN 22'

ANGLE OF BULK PLANE
 FOR INFORMATION ONLY (UNIMPAVED YARD FOR BULKED WITH 10' HEIGHT)

CUMULATIVE TABULATION FOR TOTAL AREA OF WILLOW OAKS CORPORATE CENTER FOR INFORMATION ONLY

BUILDING	USE	HEIGHT	NUMBER OF STORIES	FLOOR AREA	PARKING SPACES REQUIRED	PARKING SPACES EXISTING (R)
**BUILDING A	OFFICE	90FT	8	183,838 SF	479	633 (E)
**BUILDING B	OFFICE	90FT	8	180,048 SF	464	706 (E)
**BUILDING C	OFFICE	90FT	8	190,008 SF	474	746 (E)
**BUILDING D	OFFICE	44FT	2	50,000 SF	139	139 (E)
BUILDING E	OFFICE	42FT	1	47,500 SF	303	343 (P)
BUILDING F	OFFICE	60FT	4	69,804 SF	-	-
BUILDING G	OFFICE	60FT	4	160,000 SF	-	-
BUILDING H	OFFICE	60FT	4	85,000 SF	-	-
BUILDING I	OFFICE	90FT	6	86,000 SF	-	-
BUILDING J	OFFICE	90FT	6	85,000 SF	-	-
TOTAL				1,169,176 SF	1209	374

PROPOSED TOTAL GROSS FLOOR AREA.....1,149,176 SF
 PERMITTED FLOOR AREA RATIO (FAR) (C-3 DISTRICT).....0.0
 PROPOSED FAR.....0.70*

OPEN SPACE REQUIRED (15%).....5.03 AC
 OPEN SPACE PROPOSED (10%).....10.07 AC

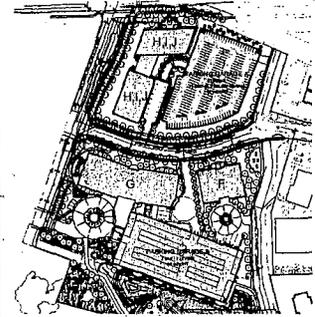
* THE ORIGINAL LAND AREA OF WILLOW OAKS CORPORATE CENTER WAS 38.2133 ACRES. DEDICATIONS FOR STREET RIGHTS-OF-WAY HAVE BEEN MADE IN THE INTERVENING YEARS. IN ACCORDANCE WITH PREVIOUSLY APPROVED PROFFERS, FLOOR AREA RATIO CALCULATIONS HAVE BEEN BASED ON THE ORIGINAL LAND AREA OF 38.2133 ACRES.
 ** AS REPRESENTED ON THE CURRENTLY APPROVED ODDPA
 *** ONLY PHASE I, WHICH CONSISTS OF A 10,000 SF MEDICAL OFFICE BUILDING AND 42 PARKING SPACES, EXISTS AT THIS TIME
 **** PLUS SPACES FOR USES IN CELLARS

TABLE 12.3 TREE PRESERVATION TARGET CALCULATION

	REQUIREMENTS	RESULTS
A	PRE-DEVELOPMENT AREA OF EXISTING TREE CANOPY (FROM EXISTING VEGETATION MAP) =	378,188.13 SF CR 8.88 AC
B	PERCENTAGE OF GROSS SITE AREA COVERED BY EXISTING TREE CANOPY =	53.79%
C	PERCENTAGE OF 10-YEAR TREE CANOPY REQUIRED FOR SITE (SEE LEFT) =	10% OF 628,842 SF = 62,884 SF
D	PERCENTAGE OF THE 10-YEAR CANOPY REQUIREMENT THAT SHOULD BE MET THROUGH TREE PRESERVATION =	53.79% = 33,718 SF
E	PROPOSED PERCENTAGE OF CANOPY REQUIREMENT THAT WILL BE MET THROUGH TREE PRESERVATION (SEE LEFT) =	27.78% = 17,409 SF
F	HAS THE TREE PRESERVATION TARGET MINIMUM BEEN MET?	NO
G	IF NO FOR LINE F, THEN REQUEST A DEVIATE FROM THE TREE PRESERVATION TARGET SHALL BE PROVIDED ON THE PLAN THAT STATES ONE OF MORE OF THE JUSTIFICATIONS LISTING IN 12-0507.3 ALONG WITH A NARRATIVE THAT PROVIDES A SITE-SPECIFIC EXPLANATION OF WHY THE TREE PRESERVATION TARGET CANNOT BE MET. PROVIDE A SHEET NUMBER WHERE THE DEVIATION REQUEST IS LOCATED.	
H	IF STEP G REQUIRES A NARRATIVE, IT SHALL BE PREPARED IN ACCORDANCE WITH 12-0507.4	
I	PLACE THIS INFORMATION PRIOR TO THE 10-YEAR TREE CANOPY CALCULATIONS AS PER INSTRUCTIONS IN TABLE 12.12	

- Legend**
- PROPOSED LARGE DECIDUOUS TREE (Category III and IV Deciduous trees)
 - PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
 - PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
 - PROPOSED ORNAMENTAL TREE (Category I and II Deciduous trees)
 - PROPOSED SHRUB MASS / PERENNIALS / GROUND COVER
 - APPROXIMATE LIMITS OF CLEARING AND GRADING
 - POSSIBLE L.I.D. LOCATION
 - PROPOSED FENCE
 - PROPOSED RIPARIAN VEGETATION AREA

OPTIONAL LAYOUT 1
 SEE SHEET 4 FOR
 DEVELOPMENT PROGRAM
 OPTIONS



Interior Parking Lot Landscaping Graphic
 Not to Scale

Parking Lot Landscaping Tabulation

PARKING LOT AREA	170,825 SF
PARKING LOT LANDSCAPING REQUIRED (5%)	8,541 SF
PARKING LOT LANDSCAPING PROPOSED (6.2%)	10,100 SF
(34 PROPOSED TREES @ AVG. 175 SF EA)	

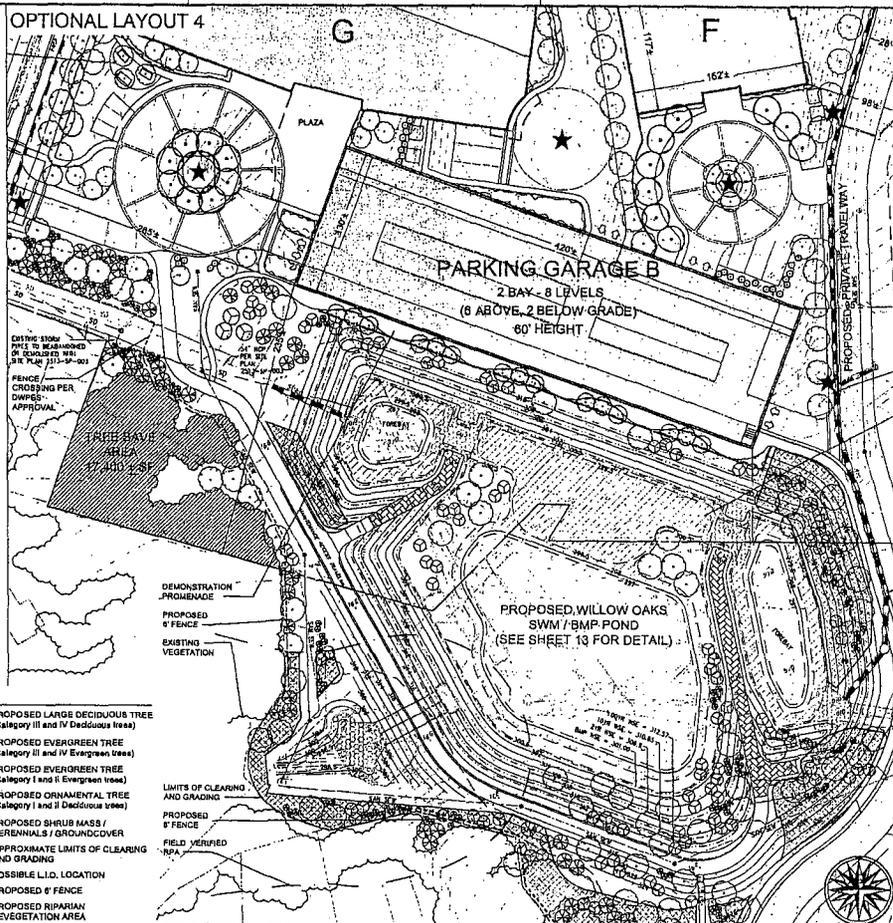
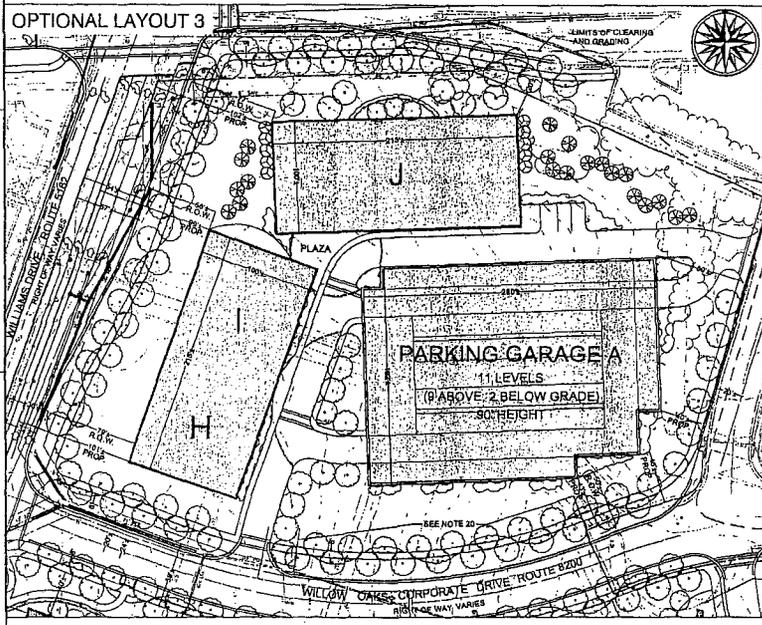
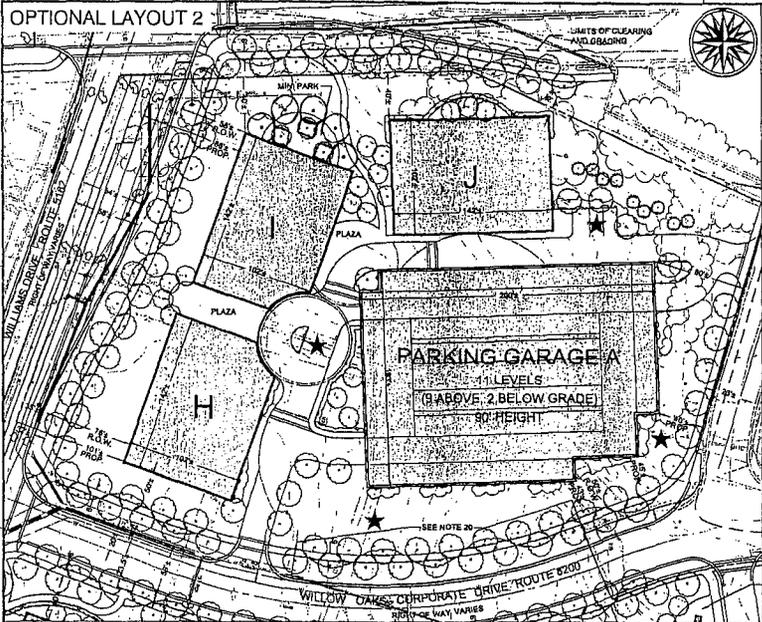
TREE COUNTED TOWARD PARKING LOT LANDSCAPING REQUIREMENT

Tree Canopy Tabulation

SITE AREA	702,058 SF
POND WATER SURFACE ELEVATION (ON WILLOW OAKS)	18,849 SF
ADJUSTED SITE AREA	683,209 SF
TREE CANOPY REQUIRED (10%)	68,321 SF
AREA OF EXISTING TREES (17,400 AT 25')	31,750 SF
AREA OF TREES PLANTED ON SITE:	
162 TREES @ AVG. 175 SF EA = 28,350	
34 TREES @ AVG. 188 SF EA = 4,250	
101 TREES @ AVG. 78 SF EA = 7,875	
109 TREES @ AVG. 97 SF EA = 10,540	
AREA OF PROPOSED LANDSCAPING	48,880 SF
TOTAL TREE CANOPY PROVIDED (10%)	86,640 SF

NOTE:
 THE PARKING LOT LANDSCAPING AND TREE CANOPY TABULATIONS ARE PRELIMINARY. THE TABULATIONS ARE INTENDED TO REFLECT THE MINIMAL LANDSCAPE AND CANOPY REQUIREMENTS FOR THE PROPOSED DEVELOPMENT PROGRAM. FINAL CALCULATIONS WILL BE PROVIDED WITH THE BENEFIT OF SURVEYS AND FINAL ENGINEERING AT TIME OF SITE PLAN PREPARATION. AT TIME OF SITE PLAN, INDIVIDUAL TREES IDENTIFIED MAY VARY AND/OR ADDITIONAL TREES MAY BE IDENTIFIED AS CONTRIBUTING TOWARDS MEETING THE LANDSCAPE REQUIREMENT AND/OR ADDITIONAL TREE CANOPY MAY BE CLAIMED FOR EXISTING TREES WITH LARGER CALIPER/TREE COVERAGE.

RPA Revegetation
 DISTURBED RPA AREA.....34,472.53 SF = (79 ACRES)
 REQUIRED DENSITY OF DECIDUOUS TREES.....100 PER ACRE
 REQUIRED DENSITY OF UNDERSTORY TREES.....200 PER ACRE
 REQUIRED DENSITY OF SHRUBS.....1000 PER ACRE
 PROPOSED DENSITY OF DECIDUOUS TREES AT SITE PLAN: 79
 PROPOSED DENSITY OF UNDERSTORY TREES AT SITE PLAN: 158
 PROPOSED DENSITY OF SHRUBS AT SITE PLAN: 860



- Legend**
- PROPOSED LARGE DECIDUOUS TREE (Category III and IV Evergreen trees)
 - ⊙ PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
 - PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
 - ⊗ PROPOSED ORNAMENTAL TREE (Category I and II Evergreen trees)
 - PROPOSED SHRUB MASS, PERENNIALS / GROUND COVER
 - APPROXIMATE LIMITS OF CLEARING AND GRADING
 - ★ POSSIBLE L.L.O. LOCATION
 - PROPOSED FENCE
 - PROPOSED RIPARIAN REVEGETATION AREA

OPTIONAL LAYOUT 2

TABLE 1: TABULATION FOR AREA OF PARTIAL GDPA OPTION 2

EXISTING PROPOSED ZONING	OS
LAND AREA OF PARTIAL GDPA	18.14 AC
PROPOSED USE	OFFICE/EDUCATIONAL/PUBLIC
PROPOSED GROSS FLOOR AREA (GFA)	487,804 SF
PROPOSED FLOOR AREA RATIO (FAR)	26.9
MAINTENANCE HEIGHT OF BUILDINGS	
BUILDING F	4 STORIES / 50 FT
BUILDING D	4 STORIES / 50 FT
BUILDING H	4 STORIES / 50 FT
BUILDING J	4 STORIES / 50 FT
PARKING SPACES REQUIRED	1,407
PARKING SPACES PROPOSED	2,350
PARKING GARAGE A	11 LEVELS ABOVE GRADE / 2 LEVELS BELOW GRADE = TOTAL 13 LEVELS
PARKING GARAGE B	11 LEVELS
OPEN SPACE REQUIRED (1% OF NET LAND AREA)	2.30 AC
OPEN SPACE PROVIDED (1% OF NET LAND AREA)	8.7 AC

OPTIONAL LAYOUT 4

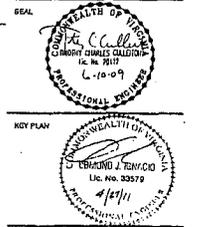
TABLE 2: TABULATION FOR AREA OF PARTIAL GDPA OPTION 4

EXISTING PROPOSED ZONING	OS
LAND AREA OF PARTIAL GDPA	18.14 AC
PROPOSED USE	OFFICE/EDUCATIONAL/PUBLIC
PROPOSED GROSS FLOOR AREA (GFA)	487,804 SF
PROPOSED FLOOR AREA RATIO (FAR)	26.8
MAINTENANCE HEIGHT OF BUILDINGS	
BUILDING F	4 STORIES / 50 FT
BUILDING D	4 STORIES / 50 FT
BUILDING H	4 STORIES / 50 FT
BUILDING J	4 STORIES / 50 FT
PARKING SPACES REQUIRED	1,339
PARKING SPACES PROPOSED	2,650
PARKING GARAGE A	11 LEVELS ABOVE GRADE / 2 LEVELS BELOW GRADE = TOTAL 13 LEVELS
PARKING GARAGE B	11 LEVELS
OPEN SPACE REQUIRED (1% OF NET LAND AREA)	2.30 AC
OPEN SPACE PROVIDED (1% OF NET LAND AREA)	8.7 AC



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**INOVA
WILLOW OAKS**
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 PRINCEDEN DISTRICT
 FARMAX COUNTY, VIRGINIA



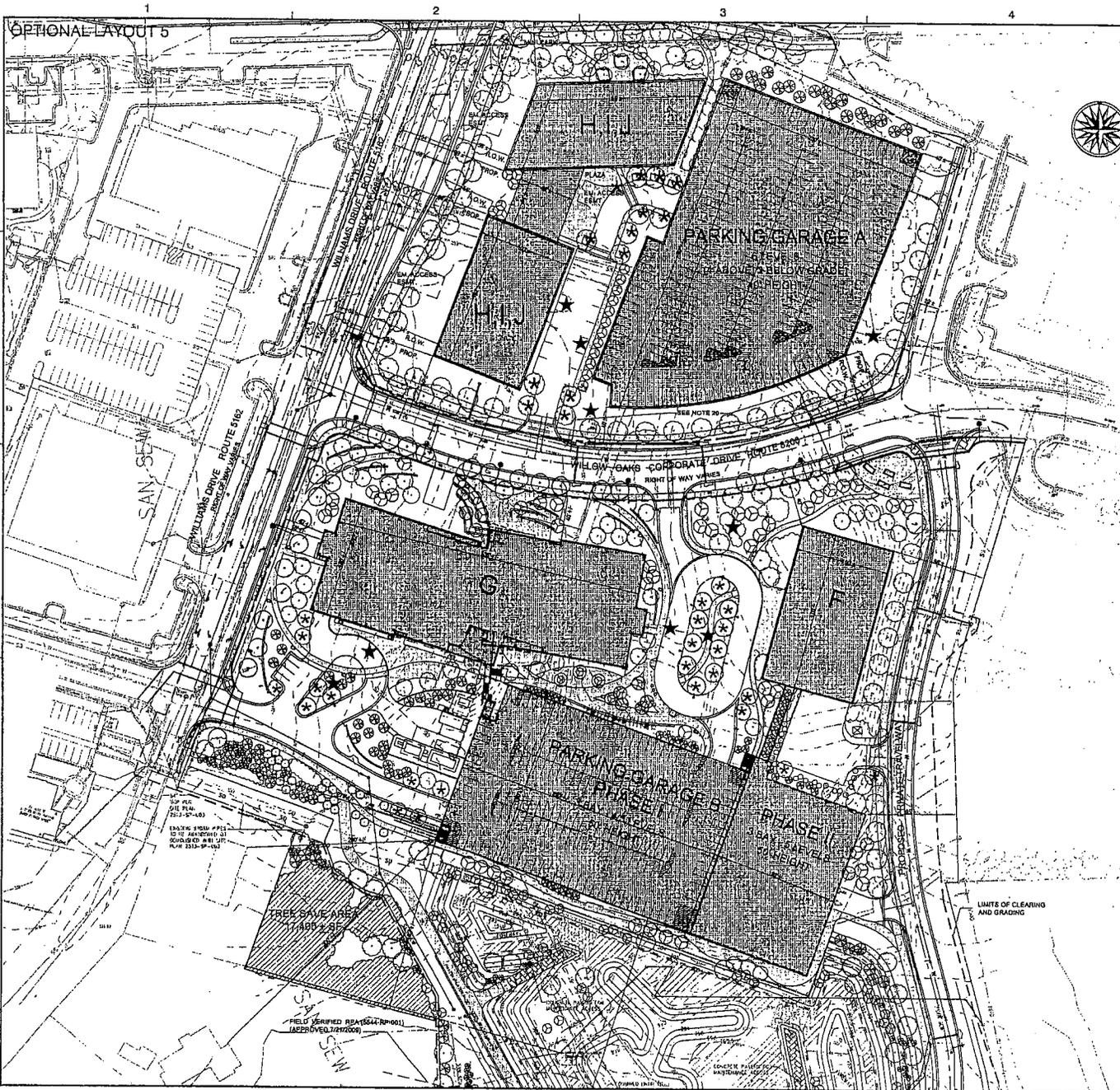
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4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

DESIGNED BY: JMC
 DRAWN BY: JMC
 APPROVED BY: PCY
 CHECKED BY: PCY
 DATE: April 14, 2008
 TITLE: Inova Willow Oaks Partial Generalized Development Plan Amendment Optional Layouts

PROJECT NO:
 4
 SHEET NO. 4 OF 20
 M-10690

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009



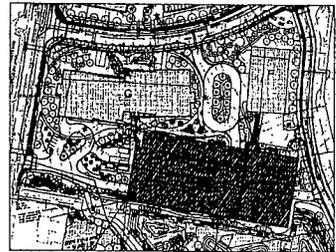
- Legend**
- PROPOSED LARGE DECIDUOUS TREE (Category III and IV Deciduous trees)
 - PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
 - PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
 - PROPOSED ORNAMENTAL TREE (Category I and II Deciduous trees)
 - PROPOSED SHRUB MASS / PERENNIALS / GROUND COVER
 - APPROXIMATE LIMITS OF CLEARING AND GRADING
 - POSSIBLE L.I.D. LOCATION
 - PROPOSED FENCE
 - PROPOSED RIPARIAN VEGETATION AREA

- NOTES:**
- IN ADDITION TO THE INFORMATION PROVIDED IN NOTE 1 ON SHEET 3, IT IS HEREBY NOTED THAT A FOURTH PCA TO RE 87-028 WAS APPROVED ON JULY 13, 2009. THE PURPOSE OF THIS FIFTH PCA IS TO PROVIDE FOR AN ADDITIONAL "OPTIONAL LAYOUT 5" AS SHOWN ON NEW SHEETS 4A AND 4B. ACCORDINGLY, NOTWITHSTANDING PAR. 4 OF NOTE 2 ON SHEET 3, THERE ARE NOW THREE (3) "OPTIONAL DEVELOPMENT PROGRAMS" PROPOSED FOR THE SOUTHERN LARBY. FURTHER, NOTWITHSTANDING THAT THE GOPA CALLS OUT "CONCRETE PAVERS" FOR THE POND MAINTENANCE ACCESS AREAS ON SHEETS 8 AND 10-14, THE ODPA IS HEREBY AMENDED TO ALLOW GRASS CRESTS TO BE PROVIDED IN SUCH AREAS INSTEAD OF CONCRETE PAVERS. NO OTHER CHANGES TO THE GOPA APPROVED PURSUANT TO PCA-4 ARE PROPOSED.
 - AT TIME OF FINAL SITE PLAN ADJUSTMENTS TO THE PLANTINGS AS SHOWN SHALL BE MADE TO ENSURE THE MINIMUM WIDTH OF ANY PLANTING AREA IS 6' AND TREES ARE NOT PLANTED CLOSER THAN 4' TO ANY RESTRICTIVE BARRIER, UNLESS AN ACCEPTABLE ALTERNATE PLANTING PRACTICE IN CONFORMANCE WITH THE PFM IS USED. MANUAL PLANTING AREAS SHALL BE PROVIDED IN ACCORDANCE WITH PFM SECTIONS 12-0510.4(E) AND 12-0601.18 FOR ALL PLANTINGS ASSOCIATED WITH OPTIONAL LAYOUT 5, UNLESS AN ACCEPTABLE ALTERNATE PLANTING PRACTICE IN CONFORMANCE WITH THE PFM IS USED. THE EMERGENCY ACCESS ELEMENTS SHOWN FOR BUILDINGS H, I, & J ARE ALSO THE SAME FOR THE BASE BUILDING OPTION AS SHOWN ON SHEET 2 AS THE LAYOUT FOR H, I, J IS THE SAME.

Parking Lot Landscaping Tabulation - South of Willow Oaks Corporate Dr

PARKING LOT AREA	78,200 SF
PARKING LOT LANDSCAPING REQUIRED (5%)	3,910 SF
PARKING LOT LANDSCAPING PROPOSED (5.2%)	4,069 SF
(#) PROPOSED TREES @ 175' OF GFA	23

★ TREE COUNTED TOWARD PARKING LOT LANDSCAPING REQUIREMENT



- Interior Parking Lot Landscaping Graphic**
Not to Scale
- Area Counted Towards Interior Parking Lot
 - * Interior parking lot landscaping north of Willow Oaks Corporate Drive (Buildings H, J and Parking Garage A) is unchanged from the base option, see sheet 2 for calculations

TABULATION FOR AREA OF PARTIAL GOPA OPTION:

EXISTING PROPOSED 20090	11.5 AC
LAND AREA OF PARTIAL GOPA	11.6 AC
PROPOSED USE	OFFICE/EDUCATIONAL/PUBLIC
PROPOSED GROSS FLOOR AREA (GFA)	417,812 SF

BUILDING F	67,811 SF
BUILDING G	16,981 SF
BUILDING H, I, J	331,020 SF

PROPOSED FLOOR AREA ADJ (FAR) 3.81

MANUW. HEIGHT OF BUILDING	
BUILDING F	4 STORIES - 48 FT
BUILDING G	4 STORIES - 48 FT
BUILDING H, I, J	4 STORIES - 48 FT

PARKING SPACES REQUIRED 1287

BUILDING F	28 SPACES @ 150 SF OF GFA = 4,200
BUILDING G	23 SPACES @ 150 SF OF GFA = 3,450
BUILDING H, I, J	23 SPACES @ 150 SF OF GFA = 3,450

PARKING SPACES PROPOSED 3430

PARKING GARAGE A	1940
PARKING GARAGE B	1490

OFFICE SPACE REQUIRED (10% OF NET LAND AREA) 42.9 AC

OFFICE SPACE PROVIDED (15% OF NET LAND AREA) 44.4 AC

* FLOOR SPACE FOR TREES IN COLLAR SEE NOTE 5



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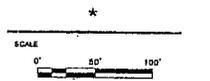


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INOVA
WILLOW OAKS
PARTIAL GENERALIZED
DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA



KEY PLAN



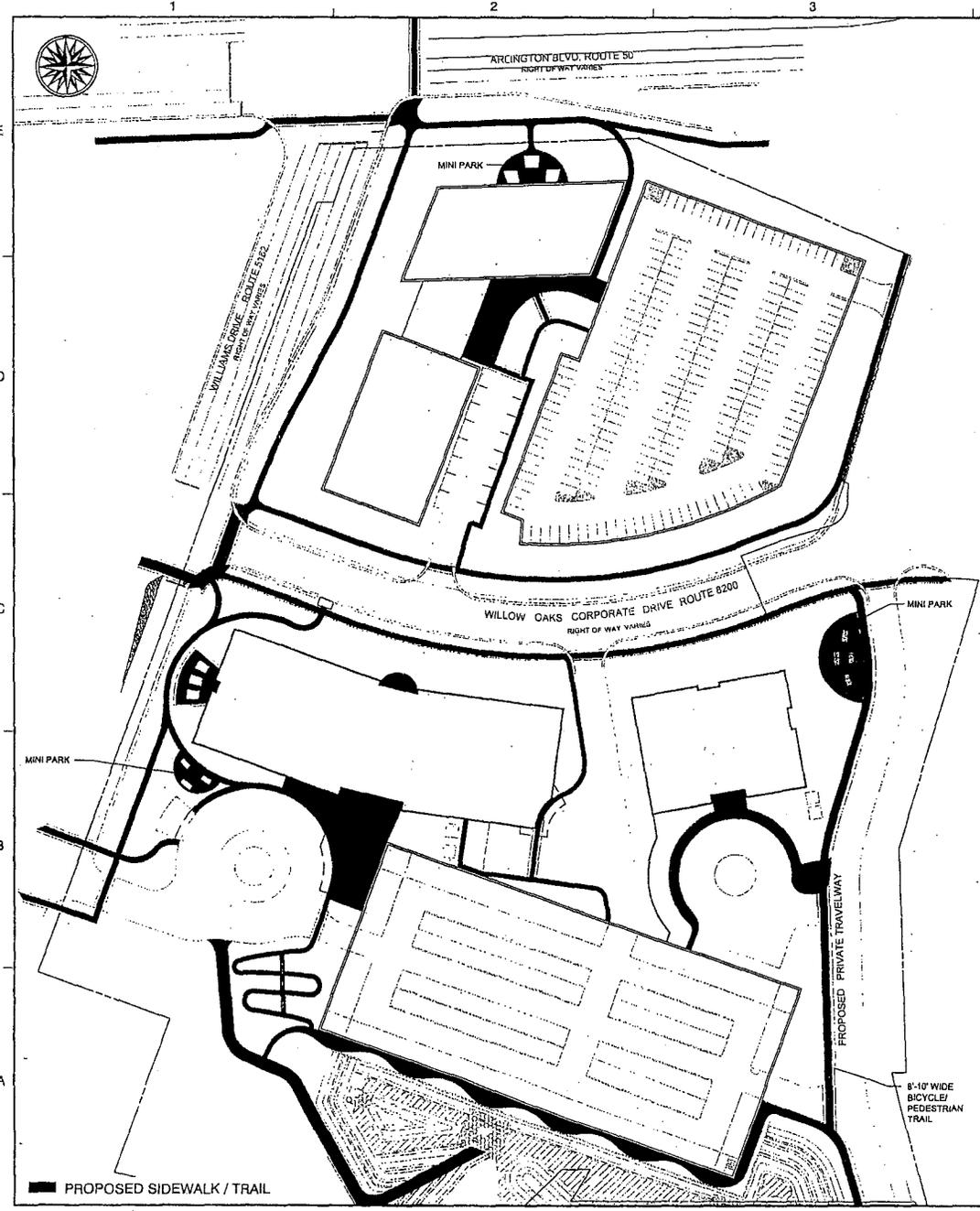
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DESIGNED BY
APPROVED BY
CHECKED BY
DATE

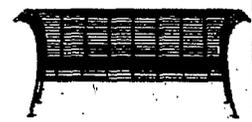
TITLE
Inova Willow Oaks
Partial Generalized Development
Plan Amendment
Optional Layouts

PROJECT NO.

4A



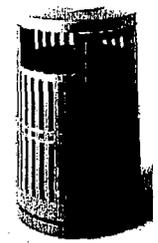
NOTE: The typical site furniture presented on this sheet are shown to illustrate the general theme and character of the proposed development. They are subject to minor modification with final engineering and architectural design.



TYPICAL BENCH



TYPICAL DECORATIVE LIGHT

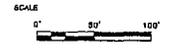
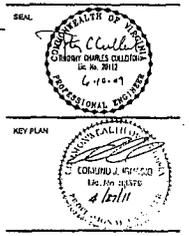


TYPICAL TRASH RECEPTACLE



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INOVA
 WILLOW OAKS
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 PROVIDENCE DISTRICT
 PARTIAL COUNTY, VIRGINIA



No.	DATE	BY	Description
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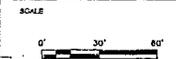
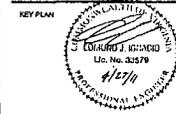
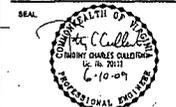
DRAWN BY: JHC
 APPROVED BY: PDY
 CHECKED BY: PDY
 DATE: April 14, 2008

TITLE
 Inova
 Willow Oaks
 Partial Generalized Development
 Pedestrian Circulation Plan /
 Site Furniture Details

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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**INOVA
 WILLOW OAKS**
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 FARMACOUNTY, VIRGINIA



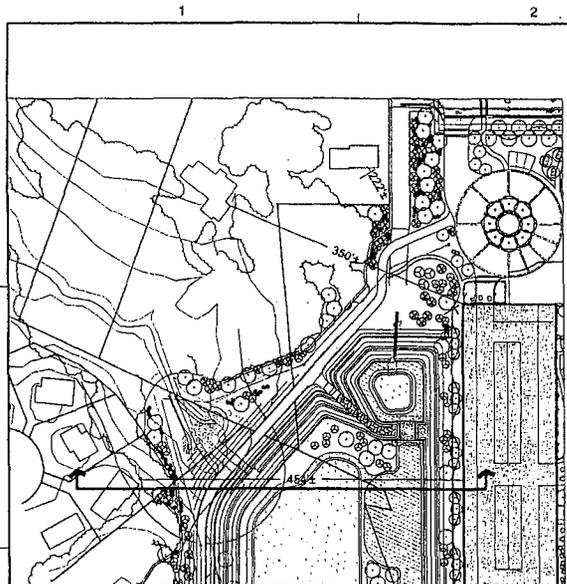
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6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

REVISIONS

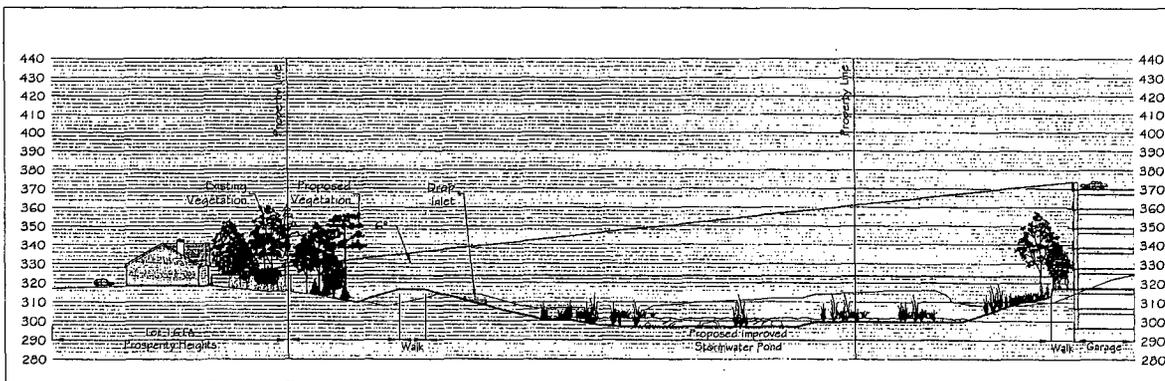
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 APPROVED BY: _____
 CHECKED BY: PDR
 DATE: April 14, 2009

TITLE
**Inova
 Willow Oaks**
 Partial Generalized Development
 Plan Amendment
 Cross Sections

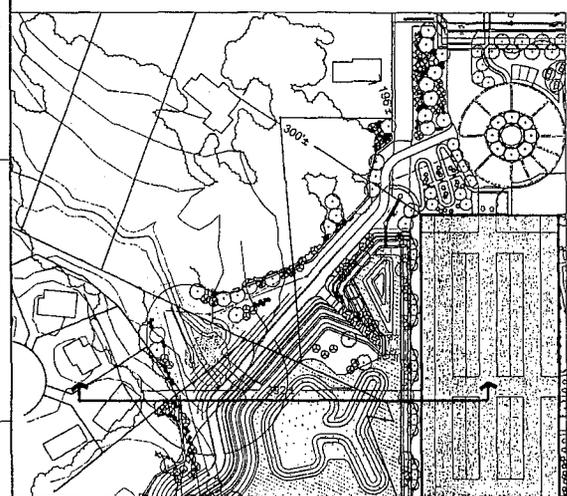
PROJECT NO. _____



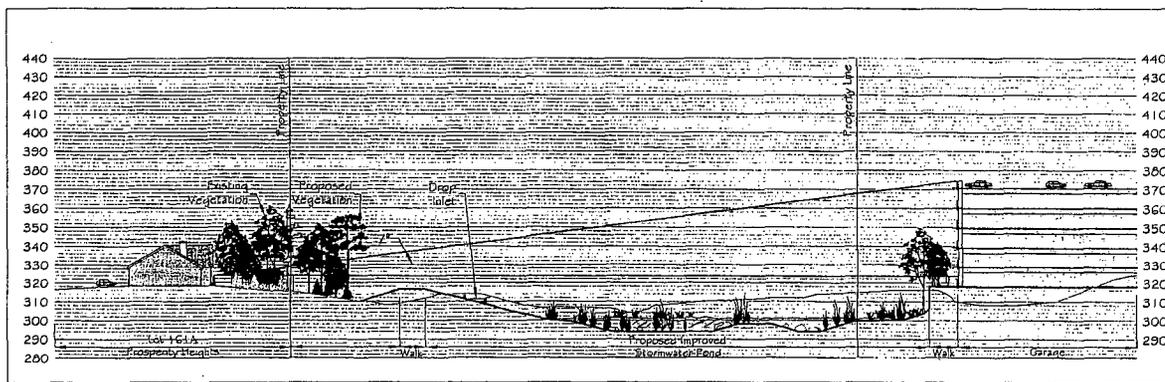
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A 2 BAY GARAGE A'



SECTION B-B' 0' 80' 160'

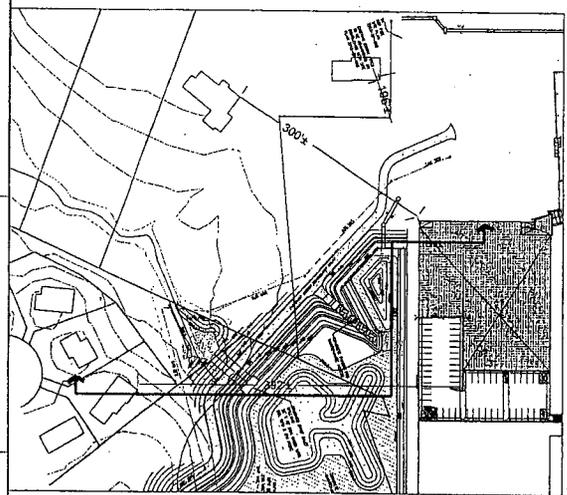


B 3 BAY GARAGE B'

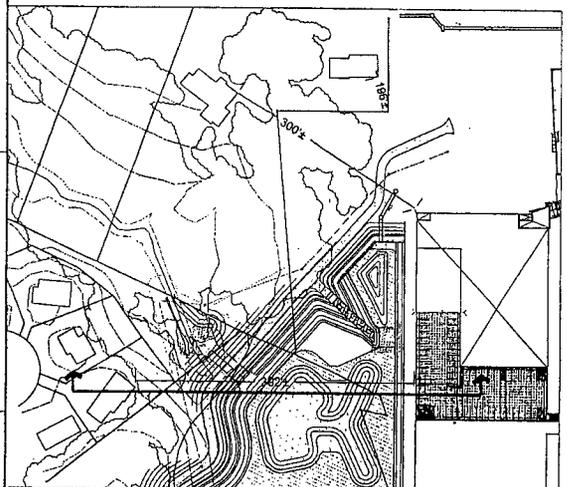


AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

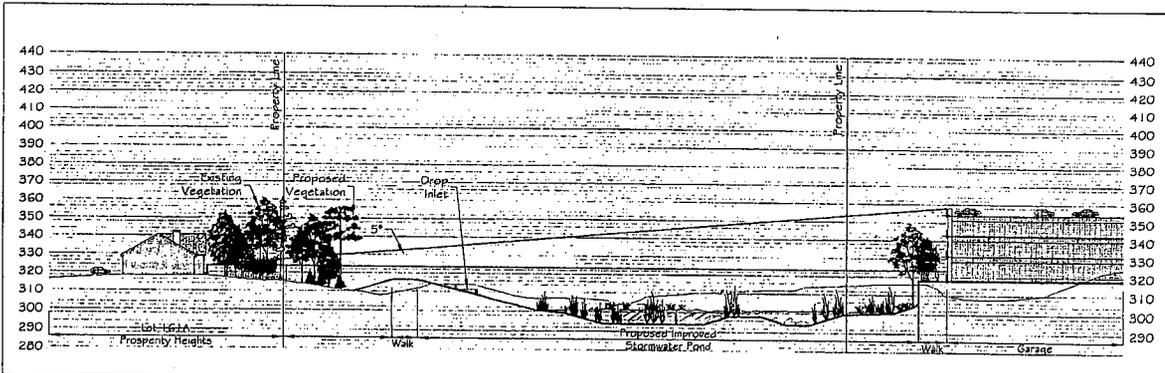
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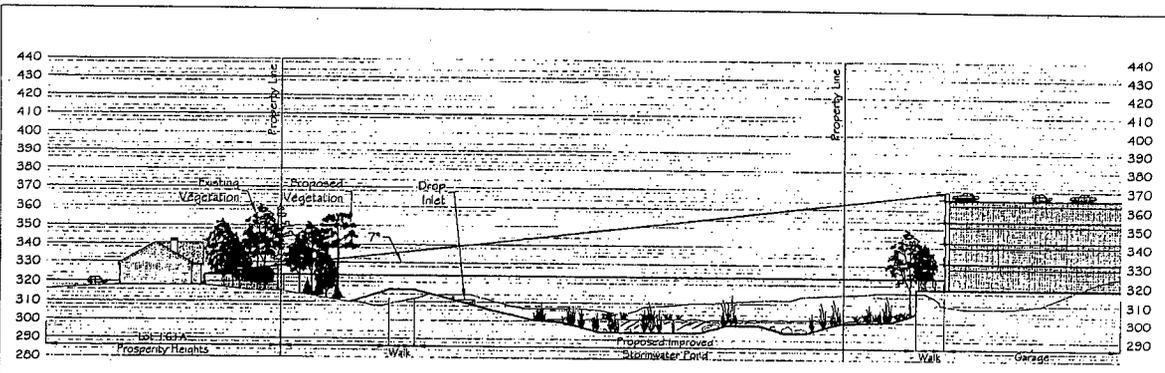
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SECTION B-B' 0' 30' 60' 120'



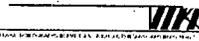
A 4 TIER GARAGE A'



B 5 TIER GARAGE B'



Dewberry & Davis LLC
 2400 WASHINGTON BLVD
 FAIRFAX, VA 22031
 PHONE: 703 841 5100
 FAX: 703 841 5410
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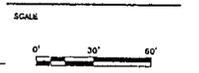


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INOVA
 WILLOW OAKS
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VIRGINIA



AS7 PLAN



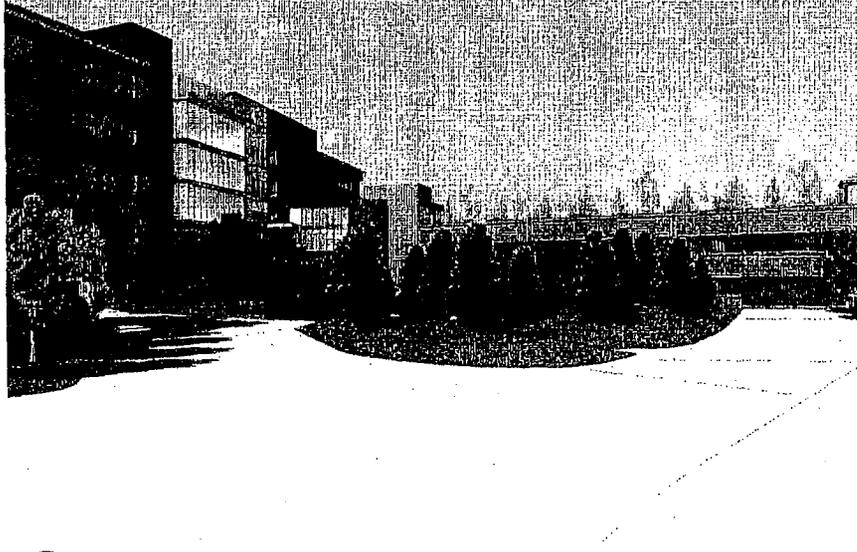
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4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	
No.	DATE	BY	Description

REVISIONS
 DRAWN BY JMC
 APPROVED BY
 CHECKED BY PSY
 DATE Apr 14, 2008

TITLE
 Inova
 Willow Oaks
 Partial Generalized Development
 Plan Amendment
 Cross Sections Option 5
 PROJECT NO.

6A

OPTIONAL LAYOUT 5



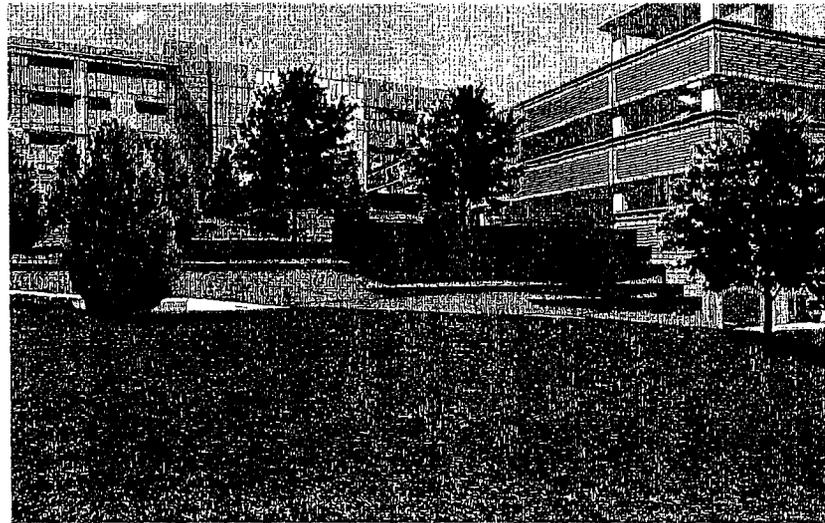
WOODBURN HUMAN SERVICES BUILDING
8221 WILLOW OAKS DRIVE, MEADOWFIELD, VIRGINIA

NORITAKE
CROSS COUNTRY



WOODBURN HUMAN SERVICES BUILDING
8221 WILLOW OAKS DRIVE, MEADOWFIELD, VIRGINIA

NORITAKE
CROSS COUNTRY



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DEVELOPMENT PLAN AMENDMENT
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA



KEY PLAN

SCALE

No.	DATE	BY	Description
12	04.27.11		

DRAWN BY _____
APPROVED BY _____
CHECKED BY _____
DATE _____

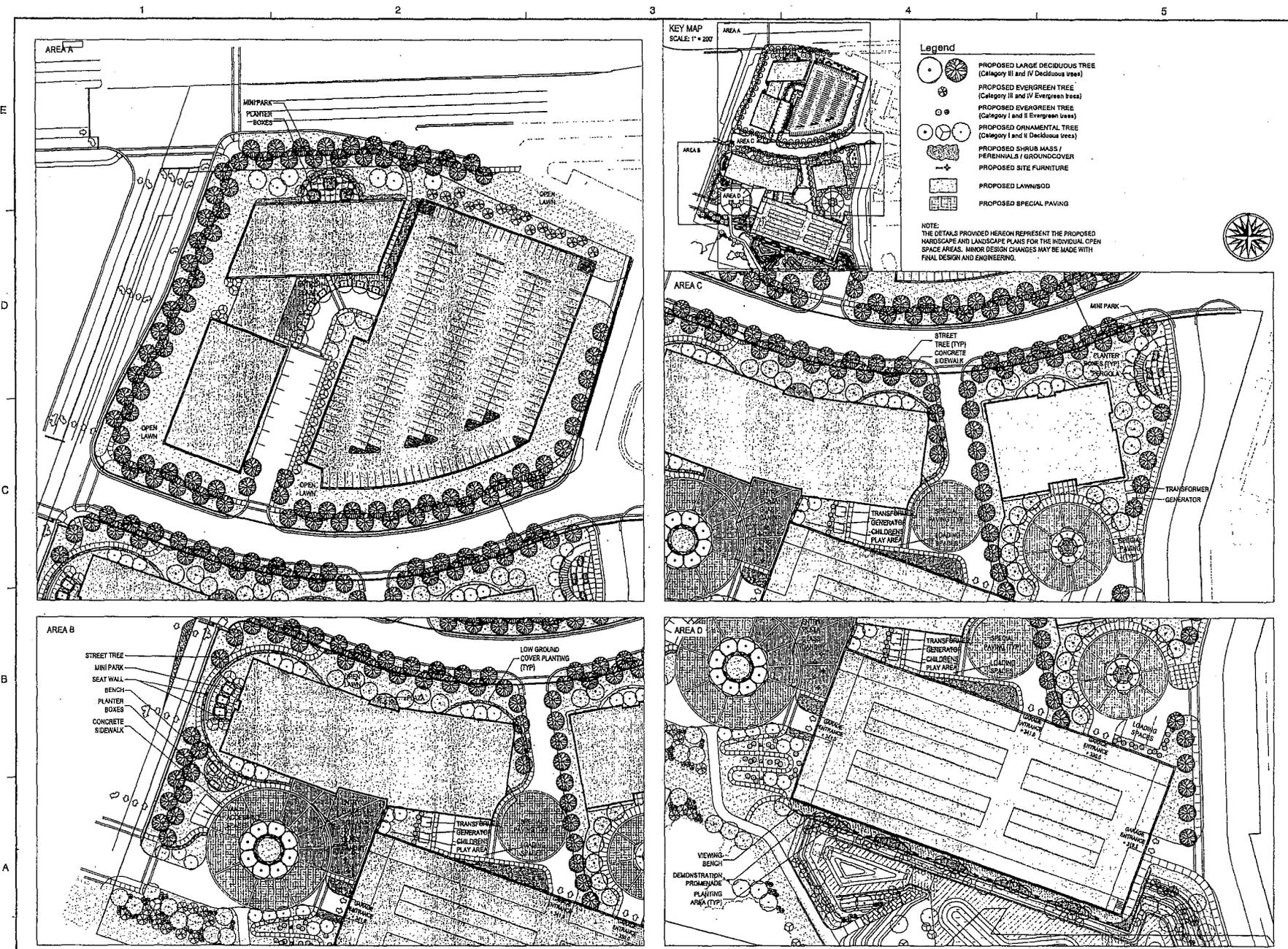
TITLE
Inova
Willow Oaks
Partial Generalized Development
Plan Amendment
3D Detail Enlargements Option 5

PROJECT NO. _____

6B

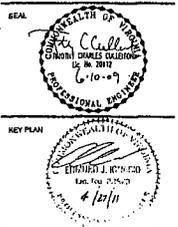
SHEET NO. 6B OF 20
M-10690

NOTE:
THESE 3D DETAIL ENLARGEMENTS ARE FOR OPTIONAL LAYOUT
5 AND ARE A VIEW FROM THE SOUTHWEST TOWARDS BUILDING
3 AND PARKING GARAGE 8.



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**INOVA
 WILLOW OAKS**
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VIRGINIA



SCALE
 0' 50' 100'

No.	DATE	BY	Description
10	08.10.09	ARW	
9	05.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.28.09	ARW	
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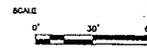
DESIGNED BY: JMC
 APPROVED BY: PCT
 CHECKED BY: PCT
 DATE: APR 14, 2008
 TITLE: Inova Willow Oaks
 Partial Generalized Development
 Plan Amendment
 Detail Enlargements
 PROJECT NO. _____

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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**INOVA
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 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VIRGINIA



No.	DATE	BY	Description
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DRAWN BY: JMC
 APPROVED BY: POY
 CHECKED BY: POY
 DATE: April 14, 2009

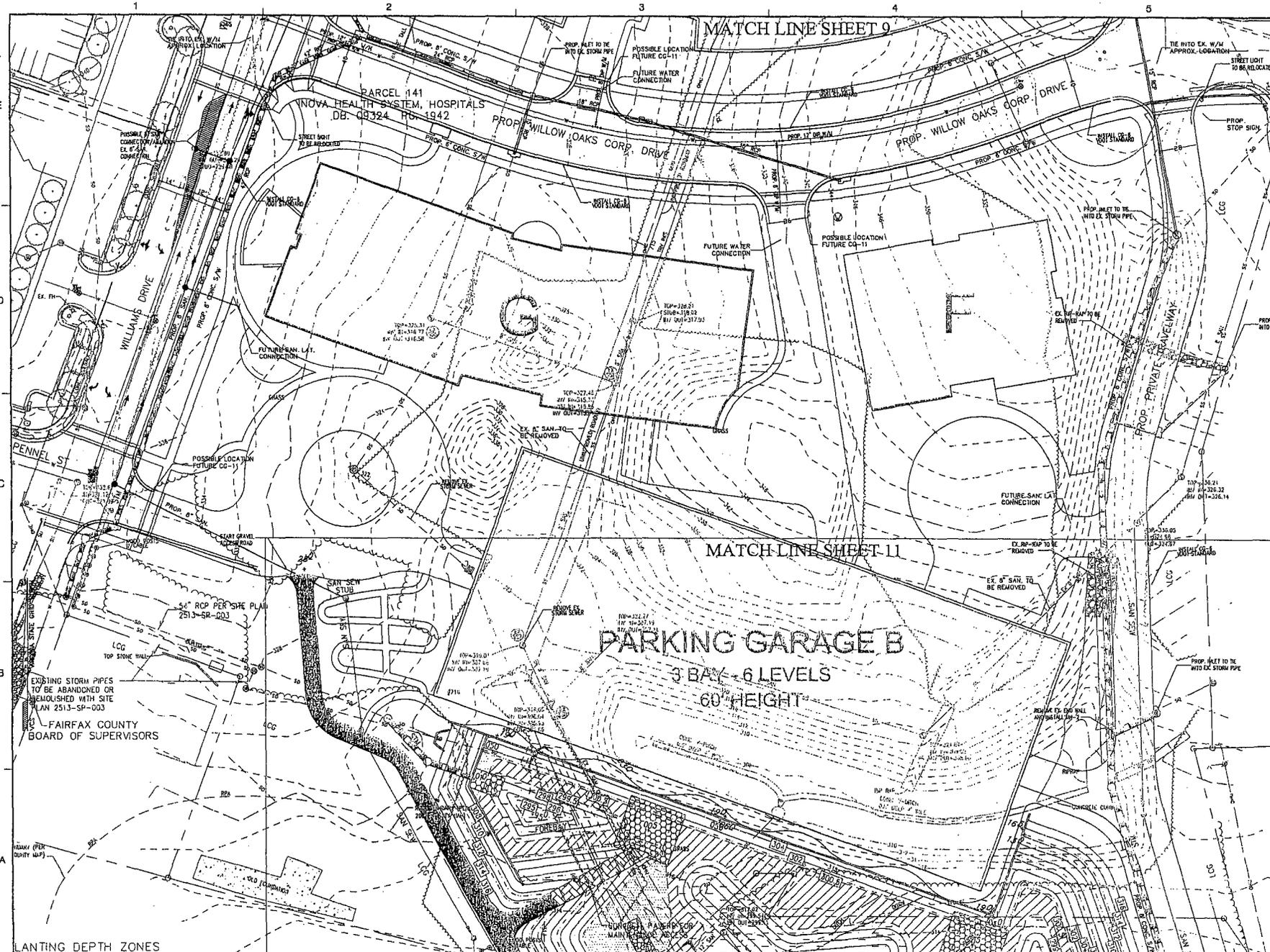
TITLE: Inova Willow Oaks
 Partial Generalized Development
 Plan Amendment
 Road Improvements Detail

PROJECT NO. _____

10

SHEET NO. 10 OF 20

M-10690

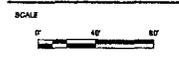
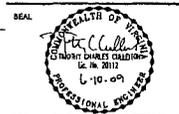


D:\PROJECTS\2009\Inova Willow Oaks\Development\PartialGeneralizedDevelopmentPlanAmendment\ROAD IMPROVEMENT\Task_01\2009 11\15231.dwg (10/24/09) [Drawing] [Plot]

AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

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**INOVA
 WILLOW OAKS**
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 PROVIDENCE DISTRICT
 HANNAH COUNTY, MISSISSIPPI



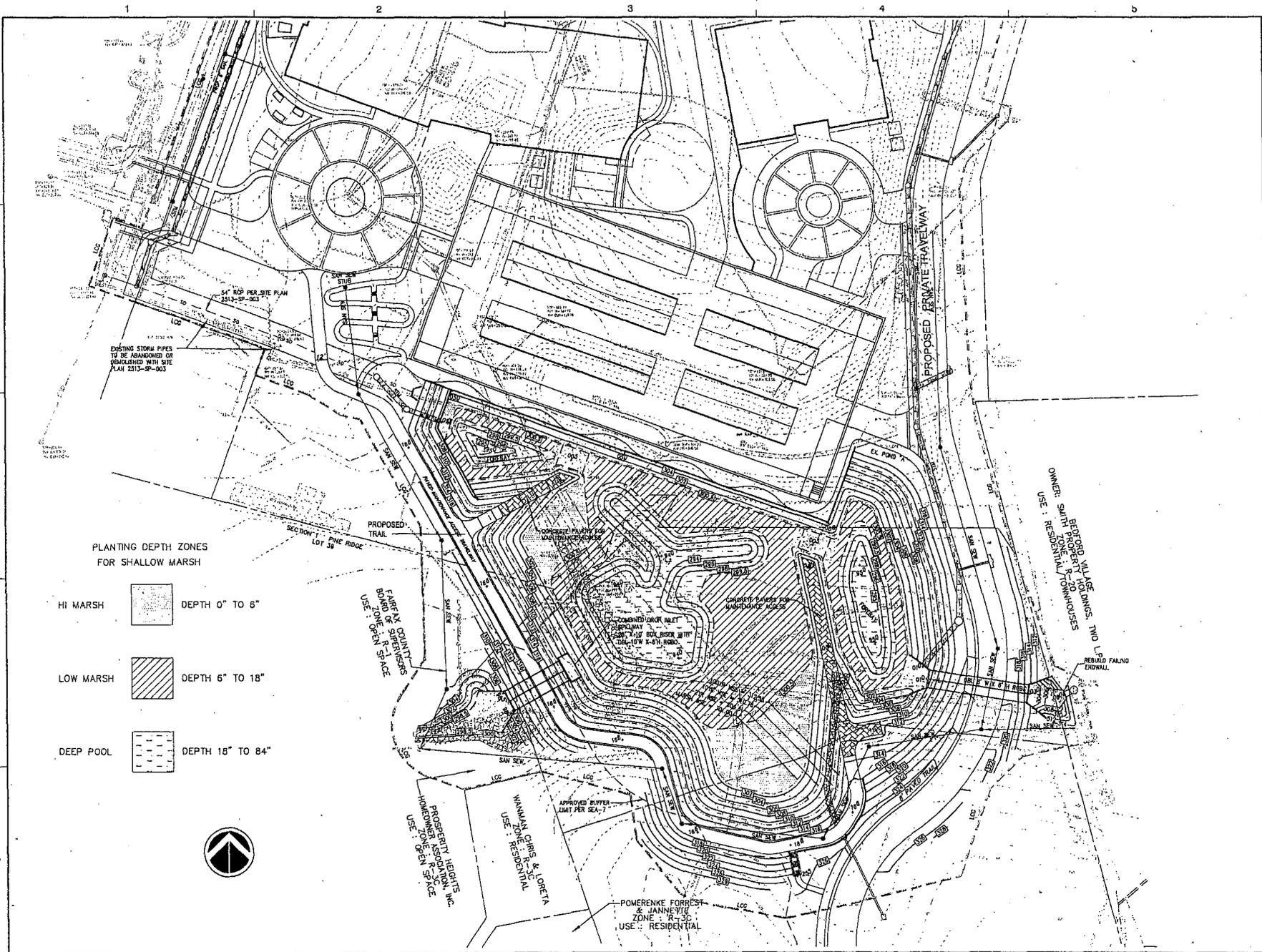
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7	31.23.09	ARW	
8	10.09.09	ARW	
9	08.28.09	ARW	
10	07.31.09	ARW	

REVISIONS
 DRAWN BY: SCC
 APPROVED BY: PBY
 CHECKED BY: TCC
 DATE: April 14, 2009

TITLE
**inova
 Willow Oaks**
 Partial Generalized Development
 Stormwater Management
 Grading Plan - Pond Options 1,2,3
 PROJECT NO.

12

SHEET NO. 12 of 20
 M-10690



PLANTING DEPTH ZONES
 FOR SHALLOW MARSH

- HI MARSH DEPTH 0" TO 5"
- LOW MARSH DEPTH 6" TO 18"
- DEEP POOL DEPTH 18" TO 84"



AS APPROVED BY THE BOARD OF SUPERVISORS ON JULY 13, 2009

\\P010127\NOVA\Willow Oaks\Administrative\Developmental Plans\Dewberry\11-01\12-POND Concept 1-2.dwg, 6/10/2009 10:38:43 AM, 113342.dwg Plotting.pdf

Dewberry & Davis LLC
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**INOVA
 WILLOW OAKS**
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 POWERSOURCE DISTRICT
 FAIRFAX COUNTY, VIRGINIA

SEAL


KEY PLAN


SCALE

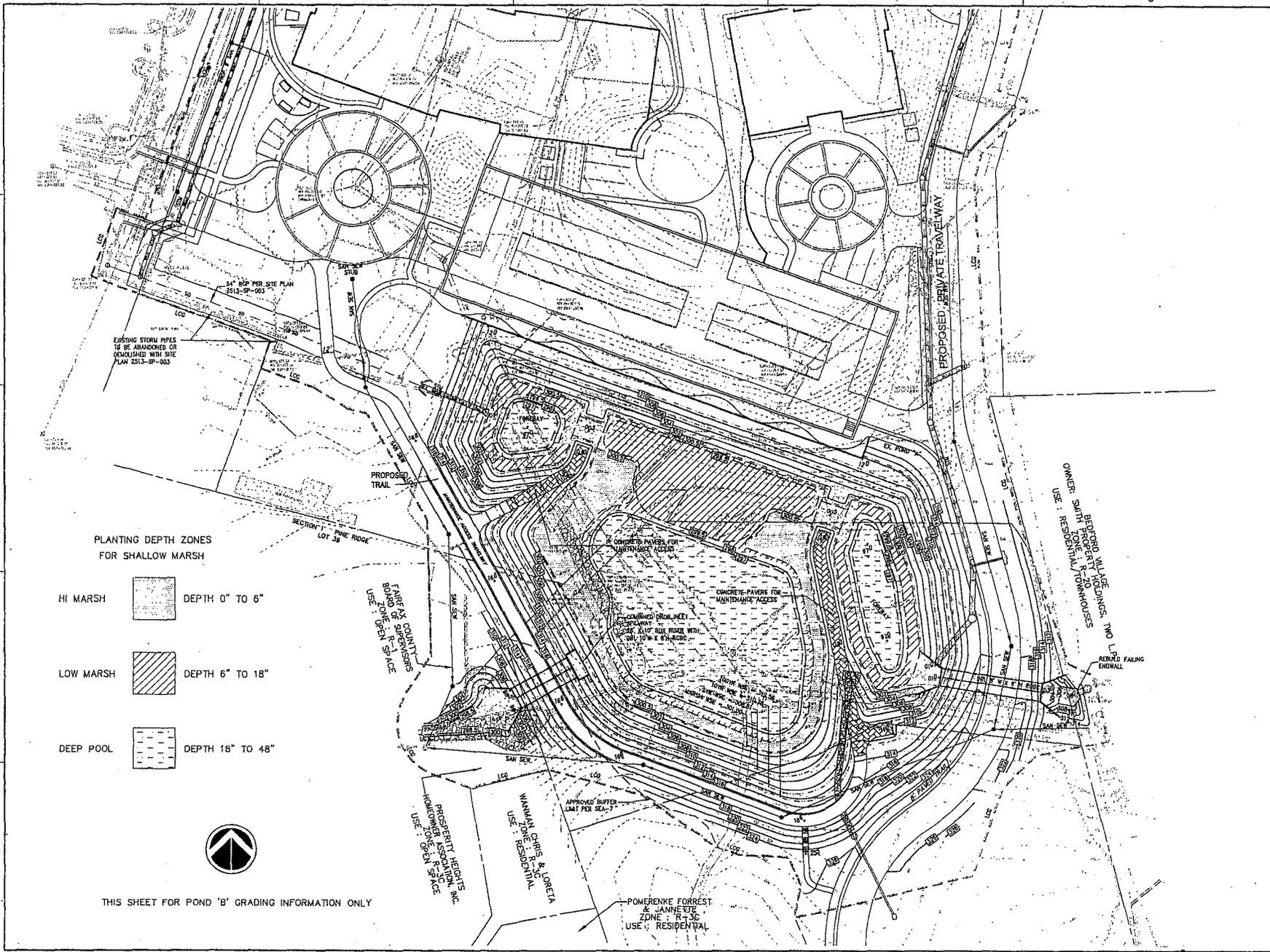

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1	07.31.08	ARW	

NO. DATE BY Description
 REVISIONS

DRAWN BY: SCC
 APPROVED BY: PDY
 CHECKED BY: TUC
 DATE: April 14, 2008

TITLE
**Inova
 Willow Oaks**
 Partial Generalized Development
 Stormwater Management
 Grading Plan - Pond Option 4

PROJECT NO.
13
 SHEET NO. 13 OF 20
 M-10690



PLANTING DEPTH ZONES
 FOR SHALLOW MARSH

HI MARSH DEPTH 0" TO 6"

LOW MARSH DEPTH 6" TO 18"

DEEP POOL DEPTH 18" TO 48"

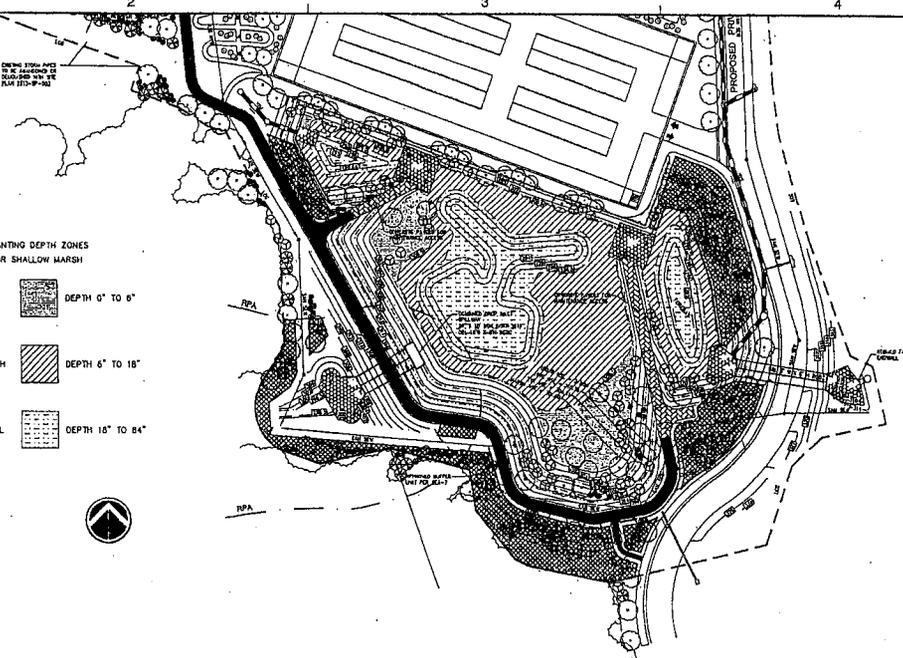


THIS SHEET FOR POND 'B' GRADING INFORMATION ONLY

Option 1,2,3 - 3 Bay Garage

- Legend**
- ○ ○ ○ PROPOSED LARGE DECIDUOUS TREE (Category III and IV Deciduous trees)
 - ⊕ PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
 - ○ ○ ○ PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
 - ○ ○ ○ PROPOSED ORNAMENTAL TREE (Category I and II Deciduous trees)
 - - - - APPROXIMATE LIMITS OF CLEARING AND GRADING
 - ▨ PROPOSED RIPARIAN REVEGETATION AREA

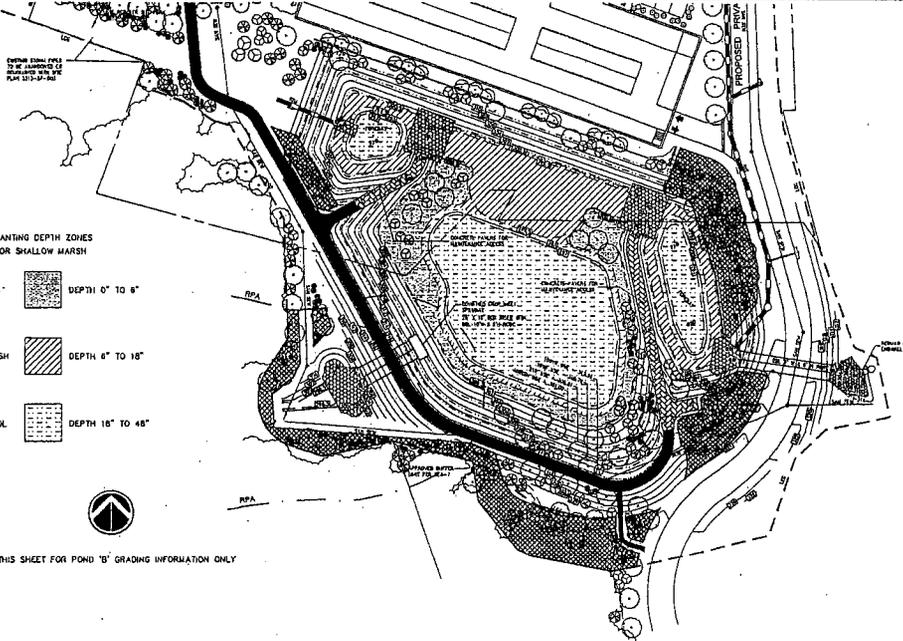
- PLANTING DEPTH ZONES FOR SHALLOW MARSH**
- HI MARSH DEPTH 0" TO 6"
 - LOW MARSH DEPTH 6" TO 18"
 - DEEP POOL DEPTH 18" TO 84"



Option 4 - 2 Bay Garage

- Legend**
- ○ ○ ○ PROPOSED LARGE DECIDUOUS TREE (Category III and IV Deciduous trees)
 - ⊕ PROPOSED EVERGREEN TREE (Category III and IV Evergreen trees)
 - ○ ○ ○ PROPOSED EVERGREEN TREE (Category I and II Evergreen trees)
 - ○ ○ ○ PROPOSED ORNAMENTAL TREE (Category I and II Deciduous trees)
 - - - - APPROXIMATE LIMITS OF CLEARING AND GRADING
 - ▨ PROPOSED RIPARIAN REVEGETATION AREA

- PLANTING DEPTH ZONES FOR SHALLOW MARSH**
- HI MARSH DEPTH 0" TO 6"
 - LOW MARSH DEPTH 6" TO 18"
 - DEEP POOL DEPTH 18" TO 48"

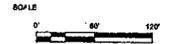


THIS SHEET FOR POND 'B' GRADING INFORMATION ONLY



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INOVA
 WILLOW OAKS
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 PROVIDENCE DISTRICT
 PARKWAY COUNTY, VIRGINIA



No.	DATE	BY	Description
10	08.10.08	ARW	
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4	01.22.08	ARW	
3	10.08.04	ARW	
2	08.28.06	ARW	
1	07.21.06	ARW	

REVISIONS

DRAWN BY: BCD
 APPROVED BY: PST
 CHECKED BY: YDD
 DATE: APR 14, 2008

TITLE
 Inova
 Willow Oaks
 Partial Generalized Development
 Landscape Plan -
 Pond Option 1,2,3,4

PROJECT NO.

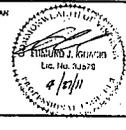
14

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 815 ANTHONY BLVD.
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INOVA
 WILLOW OAKS
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 PRINCEDALE DISTRICT
 FAIRFAX COUNTY, VIRGINIA

SEAL

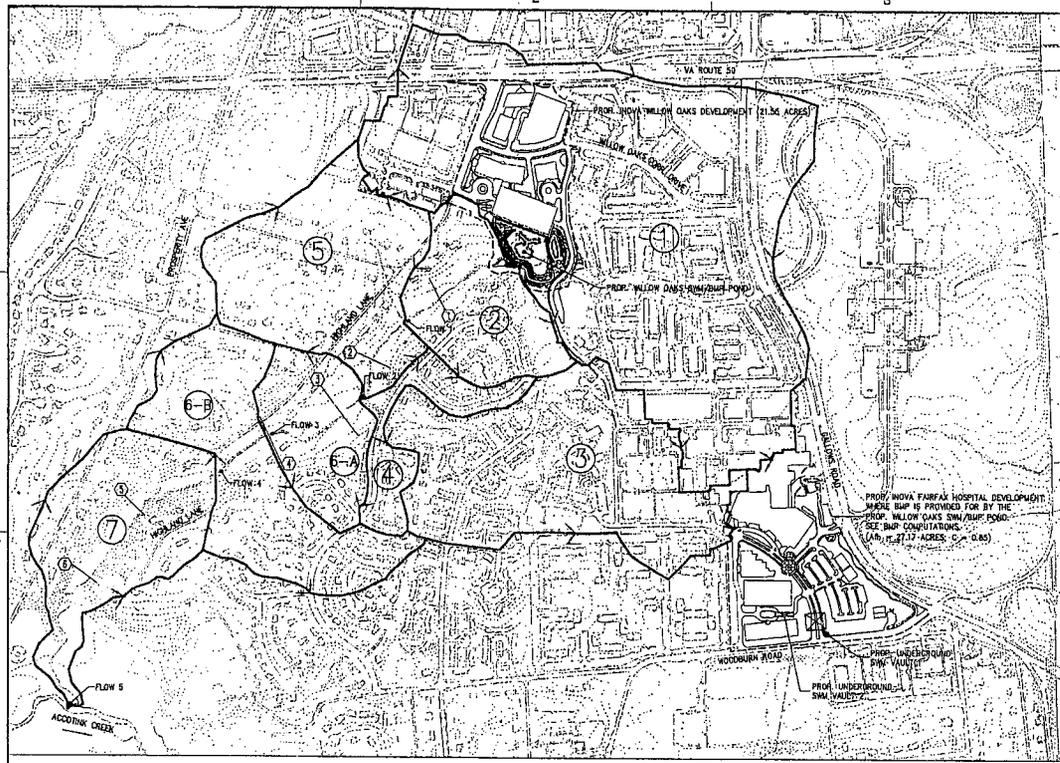
 ROBERT CHARLES O'CONNEL
 License No. 61049
 PROFESSIONAL ENGINEER

KEY PLAN

 RICHARD J. KEENAN
 License No. 70570
 PROFESSIONAL ENGINEER

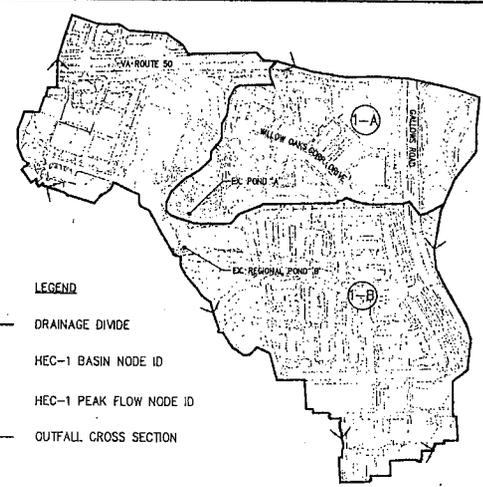
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 AS SHOWN

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2	09.28.08	ARW	
1	07.31.08	ARW	

DRAWN BY: LNR
 APPROVED BY: PCY
 CHECKED BY: TCC
 DATE: April 14, 2009
 TITLE:
 Inova
 Willow Oaks
 Partial Generalized Development
 Drainage Divides
 and Hydrologic Data
 PROJECT NO.:



 DEVELOPED CONDITIONS TO PROPOSED WILLOW OAKS SWM/BMP POND AND OUTFALL TO ACCOITINK CREEK
 SCALE: 1" = 400'



- LEGEND
-  DRAINAGE DIVIDE
 -  HEC-1 BASIN NODE ID
 -  HEC-1 PEAK FLOW NODE ID
 -  OUTFALL CROSS SECTION

 EXISTING CONDITIONS TO EXISTING REGIONAL POND 'B'
 SCALE: 1" = 400'

HYDROLOGIC DATA

HEC-1 BASIN NODE ID	ACRES	RCH	Tc (min)
1-A	37.1	84	10
1-B	83.0	87	10
1 (FORESTED)	130.1	62	25
1 (DEVELOPED)	130.1	89	10
2	21.7	75	10
3	51.1	82	10
4	16.2	73	10
5	37.3	77	15
6-A	12.0	77	10
6-B	33.8	71	15
7	30.7	73	10

NRCS 24-HOUR PEAK FLOW SUMMARY ALONG WILLOW OAKS OUTFALL TO ACCOITINK CREEK

LOCATION **	2-YEAR		10-YEAR		100-YEAR	
	PRE-DEV	POST-DEV	PRE-DEV	POST-DEV	PRE-DEV	POST-DEV
FLOW-1	88	48	278	136	889	600
FLOW-2	145	98	362	251	877	769
FLOW-3	234	187	568	459	1185	1078
FLOW-4	257	209	624	584	1355	1145
FLOW-5	283	216	628	558	1330	1145

** LOCATIONS SHOWN ON MAP THIS SHEET, ALSO REFER TO EXISTING AND ULTIMATE CONDITIONS HEC-1 MODELS PROVIDED IN THIS APPLICATION.

DEVELOPED CONDITIONS C-FACTOR TO PROJ. WILLOW OAKS SWM/BMP POND

LAND USE	IMP (%)	ACRES	IMP * ACRES
COMMERCIAL	85	70.40	5984.0
OPEN SPACE	15	14.96	224.4
TOWNHOMES	70	34.57	2419.9
MAJOR ROADS	100	10.17	1017.0
		130.1	9845.3 (IMP = 74 %)

$C = 0.05 + 0.009 (IMP) = 0.05 + 0.009 (74) = 0.72$

WILLOW OAKS OUTFALL ANALYSIS - CROSS SECTION COMPUTATION SUMMARY

Label	Discharge (ft ³ /s)	Channel Slope (ft/ft)	Roughness Coefficient	Normal Depth (ft)	Water Surface Elevation (ft)	Velocity (ft/s)
Cross Section 1: MAX Q	862.45	0.01000	0.045	4.18	297.83	6.72
Cross Section 1: 21R	49.00	0.01000	0.045	1.11	294.76	2.80
Cross Section 1: 100YR	800.00	0.01000	0.067	5.71	299.36	2.64
Cross Section 2: MAX Q	373.55	0.00770	0.045	4.10	291.73	5.49
Cross Section 2: 21R	58.00	0.00770	0.045	2.10	286.73	3.64
Cross Section 2: 100YR	788.00	0.00770	0.075	5.96	294.48	3.41
Cross Section 3: MAX Q	225.59	0.00850	0.045	3.12	287.15	4.20
Cross Section 3: 21R	187.00	0.00850	0.045	2.85	288.36	3.08
Cross Section 3: 100YR	1078.00	0.00850	0.083	5.91	289.54	3.51
Cross Section 4: MAX Q	307.44	0.01040	0.037	3.85	282.80	7.28
Cross Section 4: 21R	187.00	0.01040	0.038	3.01	281.66	4.21
Cross Section 4: 10YR	489.00	0.01040	0.030	5.09	283.74	5.42
Cross Section 4: 100YR	1078.00	0.01040	0.048	6.27	284.92	4.39
Cross Section 5: MAX Q	248.33	0.00800	0.058	3.50	273.01	4.22
Cross Section 5: 21R	216.00	0.00800	0.058	3.08	272.77	4.05
Cross Section 5: 100YR	1145.00	0.00800	0.078	5.35	274.88	3.38
Cross Section 6: MAX Q	268.73	0.00800	0.058	3.35	287.12	3.88
Cross Section 6: 21R	216.00	0.00800	0.058	3.01	286.78	3.89
Cross Section 6: 100YR	1145.00	0.00800	0.087	5.31	288.08	3.41

HY-8 Culvert Analysis Report for Highland Lane

Site Data - 3-4X8 BOX AT HIGHLAND LANE

Site Data Option: Culvert Invert Data

Inlet Station: 0+00.0
 Inlet Elevation: 274.71 ft
 Outlet Station: 42+00.0
 Outlet Elevation: 274.50 ft
 Number of Barrels: 3

Culvert Data Summary - 3-4X8 BOX AT HIGHLAND LANE

Barrel Shape: Concrete Box
 Barrel Spans: 8.00 ft
 Barrel Rise: 8.00 ft
 Barrel Material: Concrete
 Barrel Manning's n: 0.0130
 Inlet Type: Conventional
 Inlet Edge Condition: 1:1 Barrel (45°) Area Wingwall
 Inlet Depression: None

Roadway Data for Crossing: EX HIGHLAND LANE

Roadway Profile Shape: Irregular Roadway Slope (coordinates)

Irregular Roadway Cross-Section:

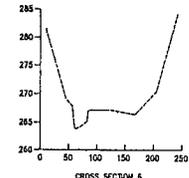
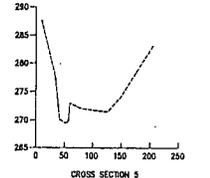
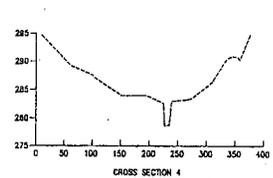
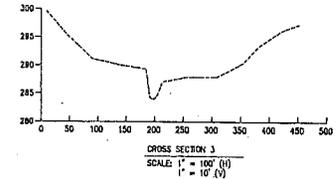
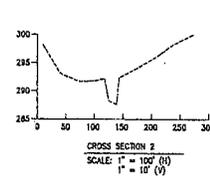
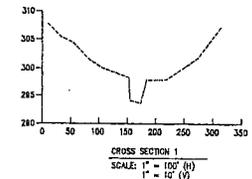
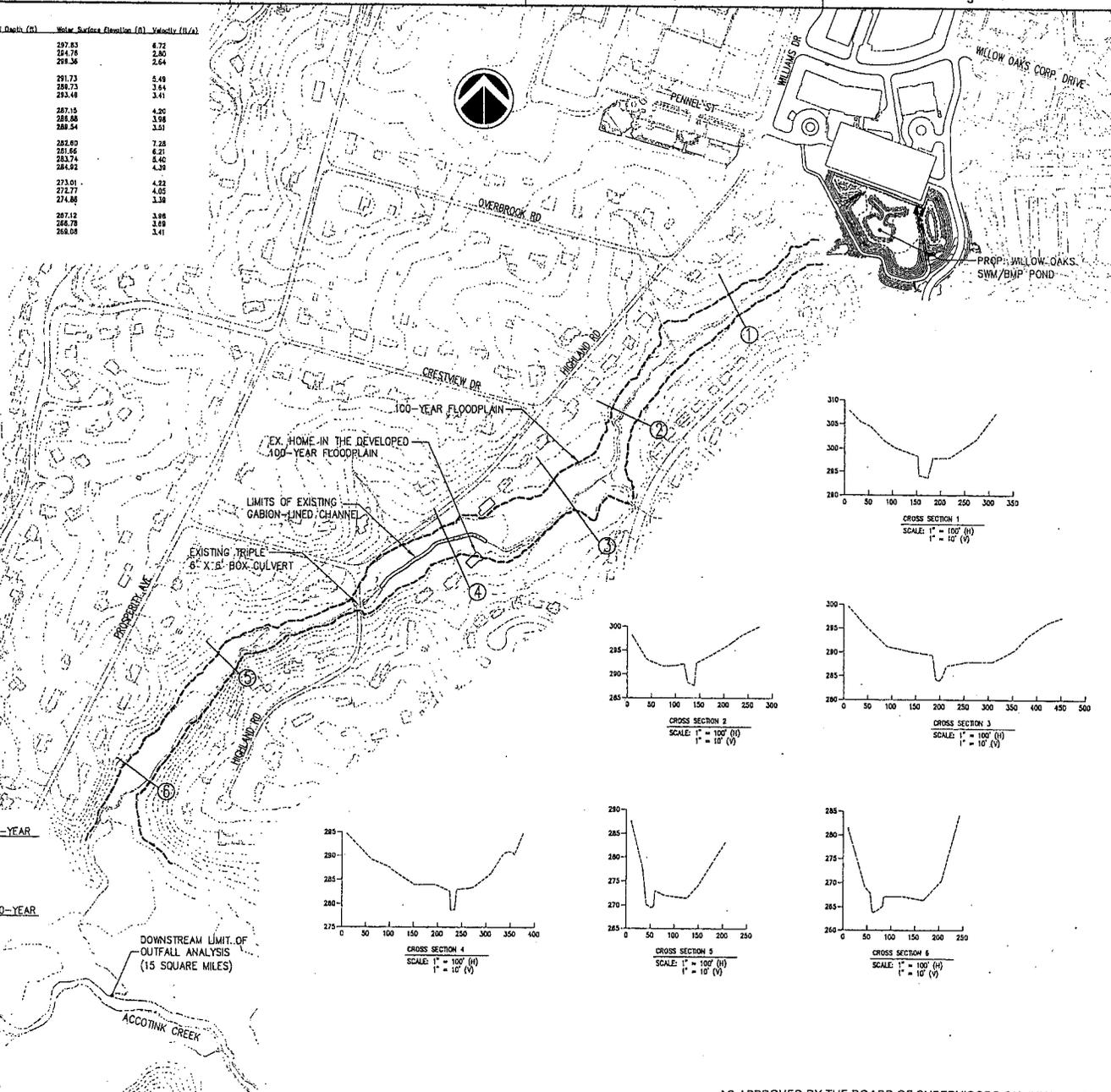
Coord No.	Station (ft)	Elevation (ft)
1	0.00	289.81
2	7.50	291.06
3	45.00	290.31
4	84.00	289.22
5	124.00	283.64
6	184.00	282.51
7	252.00	282.78
8	249.00	283.86
9	277.00	286.06
10	287.00	286.52
11	321.00	287.63
12	357.00	290.10
13	384.00	293.19
14	425.00	298.78

Roadway Surface: Paved
 Roadway Top Width: 15.00 ft

Culvert Summary Table: 3-4X8 BOX AT HIGHLAND LANE

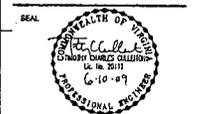
Flow	Discharge	Channel Slope	Roughness	Normal Depth	Water Surface Elevation	Velocity	Channel Slope	Roughness	Normal Depth	Water Surface Elevation	Velocity
100YR	800.00	0.01000	0.067	5.71	299.36	2.64	0.01000	0.067	5.71	299.36	2.64
21R	49.00	0.01000	0.045	1.11	294.76	2.80	0.01000	0.045	1.11	294.76	2.80
MAX Q	862.45	0.01000	0.045	4.18	297.83	6.72	0.01000	0.045	4.18	297.83	6.72

10-YEAR
 100-YEAR

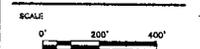


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**INOVA
 WILLOW OAKS**
 PARTIAL GENERALIZED
 DEVELOPMENT PLAN AMENDMENT
 PROVIDENCE DISTRICT
 PAMPAN COUNTY, VIRGINIA



KEY PLAN
 4/17/11



No.	DATE	BY	Description
10	08.10.07	ARW	
9	06.05.09	ARW	
8	05.20.09	ARW	
7	04.20.09	ARW	
6	03.28.09	ARW	
5	02.18.06	ARW	
4	01.23.09	ARW	
3	10.09.08	ARW	
2	08.28.08	ARW	
1	07.31.08	ARW	

DRAWN BY: JMC
 APPROVED BY: _____
 CHECKED BY: PGY
 DATE: April 14, 2008
 TITLE:

Inova
 Willow Oaks
 Partial Generalized Development
 Plan Amendment
 Outfall Plan and Cross Sections

PROJECT NO.

G:\PROJECTS\Willow Oaks\Submittal\Development Plan\Outfall\17-2164-01\17-2164-01.dwg, 8/19/2009 1:58:34 PM, 1366CA/Placing.plt



SCALE

NO.	DATE	BY	DESCRIPTION
10	04.10.08	ARW	
9	04.05.08	ARW	
8	05.20.09	ARW	
7	04.26.09	ARW	
6	03.26.09	ARW	
5	02.19.09	ARW	
4	01.23.09	ARW	
3	10.08.08	ARW	
2	08.26.08	ARW	
1	02.21.08	ARW	

DRAWN BY JMC
 APPROVED BY
 CHECKED BY Pdy
 DATE April 14, 2008

TITLE
 Inova
 Willow Oaks
 Partial Generalized Development
 BMP Computations and
 Rating Curves

PROJECT NO.

18

SHEET NO. 18 OF 20

Part E: Determine the Storage Required for the Proposed BMP Facility
 $C = 0.72$ (weighted "C" for area draining to Pond)
 Chart A8-10 (Appendix A-3) for BMP storage per acre:
 $(4275 \times C) \times A = 2278.0 \text{ cu ft}$

Design 1 Hour Downflow
 Effective Draining Area to Pond = 130.10 ac
 Storage Volume Required = 292,975 cu ft
 = 8.50 ac-ft

Storage Volume Provided = 483,932 cu ft - 181,863 cu ft = 302,069 cu ft
 = 8.71 ac-ft
 A) Storage Elevation = 304.52 ft

WILLOW OAKS SWM/BMP POND STORAGE

Elev. (ft)	Area	Volume (ac-ft)	Incremental Contribution
294.0	0.19	0.0000	0.0000
294.0	0.26	0.2335	0.2335
296.0	0.36	0.2110	0.8550
298.0	0.63	0.6800	1.4900
298.0	0.47	0.8000	2.3000
300.0	1.43	1.6600	3.9600
301.0	1.76	0.7850	4.7500
302.0	1.96	1.8100	6.5600
304.0	2.15	4.0000	10.6000
304.5	2.21	1.0900	11.7100
306.0	2.33	2.4000	14.6100
306.0	2.49	4.4200	19.3500
310.0	2.6	6.0900	24.4200
310.0	2.77	8.3700	32.7900
314.0	2.93	5.7200	38.5100
316.0	3.12	6.0700	44.5800
316.0	3.16	1.5700	46.1500

(Marsh WSE) 301.0 1.76 0.7850 4.7500 101,863 cu ft
 (BMP WSE) 304.0 2.15 4.0000 10,600 cu ft
 483,932 cu ft

Part 4: Determine Compliance with Phosphorus Removal

Select Requirement:
 Water Supply Overlay District (Cocopee Watershed) = 50% (Fairfax County and Prince William County)
 Chesapeake Bay Preservation Area (River Development) = 40% (Fairfax County) / 60% (Prince William County)
 Chesapeake Bay Preservation Area (Trade Development) = 1-0.8(T_{max})/T_{max} x 100 = _____ %

If Line 3(a) < 40.23 >= Line 4(a) < 46.96 >, then Phosphorus removal requirement is satisfied
 Requirement (a) = 40.00 %

BMP Storage Calculations (Part 7 - 8)

Part 7: Compute the Weighted Average "C" Factor for the Proposed BMP Facility

Subarea Designation and Description (1)	"C" (2)	Acres (3)	Product (4)
AW DEVELOPED W/IMPAS (RD) TO IMPROVED WILLOW OAKS SWM/BMP POND (DOW)	0.72	130.10	93.67
AW UNCONTROLLED (RURAL) DEVELOPMENT (RDA)	0.95	27.17	25.81
(b) Total			119.48
(b) / (a)			0.74

(c) Weighted average "C" factor = (b) / (a) = 0.74

BMP Outlet Computations

Part 8: Determine the Required Office Size for the Proposed BMP Facility

- (A) BMP storage requirement from Part 8: (a) 258973 cu ft
- (B) Maximum head (h) at the required BMP storage from the Storage Storage curve for the facility: (b) 3.5 ft
- (C) Peak Outflow Rate (Q) at the maximum head for a drawdown time of 48 hrs (Q_{max} = (A) / (B) x 0.000018): (c) 2.4227 cfs
- (D) Required Office Area (A) = (Q) x (0.8) x (4.5) x (1.5) = 3.5 P² = (d) 0.3803 ac
- (E) Diameter of a circular office: (e) 0.686 ft
 2.0 x (Line 9)(e) = 0.2802 (2.1418) FT² = (f) 0.007 ac
 USC = 6.0 ft

Watershed Description
 Part 1: List all of the Subareas and "C" Factors used in the BMP Computations

Subarea Designation and Description (1)	"C" (2)	Acres (3)	Product (4)
AW DEVELOPED W/IMPAS (RD) TO IMPROVED WILLOW OAKS SWM/BMP POND (DOW)	0.72	130.10	93.67
AW UNCONTROLLED (RURAL) DEVELOPMENT (RDA)	0.95	27.17	25.81
(b) Total			119.48
(b) / (a)			0.74

Phosphorus Removal Calculations (Part 2 - 4)

Part 2: Compute the Weighted Average "C" Factor for the Site

Subarea Designation and Description (1)	"C" (2)	Acres (3)	Product (4)
AW DEVELOPED W/IMPAS (RD) TO IMPROVED WILLOW OAKS SWM/BMP POND (DOW)	0.72	130.10	93.67
AW UNCONTROLLED (RURAL) DEVELOPMENT (RDA)	0.95	27.17	25.81
(b) Total			119.48
(b) / (a)			0.74

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea	BMP Type	Removal Eff (%)	"C" Factor	Acres	Area Ratio	C Factor	Product (%)
AW	SWM/BMP POND	80	0.72	130.10	0.827	0.673	40.23
AW	RDA	0	0.95	27.17	1.149	0.000	0.00
(a)	Total						40.23

WILLOW OAKS SWM/BMP POND SPILLWAY RATING CURVE (UNLOGGED CONDITION)

ORIFICE NO.	CENTROID ELEV.	AREA	C	DESCRIPTION	ELEV. (DISCHARGE)	ORIFICE NO.	CENTROID ELEV.	AREA	C	DESCRIPTION	ELEV. (DISCHARGE)
1	301.50	0.549	0.6	0.6 FT EXT'D ORIFICE AT RW=301.50	301.50	1	307.99	3.142	0.6	0.6 FT ORIFICE AT RW=307.99	310.66
2 (top)	310.76	260	0.4	0.4 FT TOP OF 2' X 10' RISER	302.80	2 (top)	318.27	80	0.6	0.6 FT DIA RISER AT TOP = 318.00	318.27
RISER SPILLWAY FLOW											
WEIR NO.	CREST ELEV.	LENGTH	C	CREST ELEV. =	WEIR NO.	CREST ELEV.	LENGTH	C	CREST ELEV. =	WEIR NO.	CREST ELEV.
1	307	3	3	307	1	318.8	150	3	318.8	2	318.8
2 (top)	310.76	44	3	310.76	2	318.8	150	3	318.8	3	318.8
3 (down)	312.5	36	3	312.5	3	318.8	150	3	318.8	4	318.8

WILLOW OAKS SWM/BMP POND SPILLWAY RATING CURVE (CLOGGED CONDITION)

ELEV.	ORIFICE Q1	ORIFICE Q2	ORIFICE Q3	WEIR Q1	WEIR Q2	WEIR Q3	RISER FLOW CAPACITY	G.P.S.W. (Control)	G.E.S.W.	TOTAL FLOW	COMMENTS
301	0.0	0.0	0.0	0.0	0.0	0.0	21.3	0.0	0.0	0.0	
302	1.4	2.0	3.0	0.0	0.0	0.0	32.0	1.4	0.0	1.4	
306	3.9	23.7	61.0	0.0	0.0	0.0	81.3	26.3	0.0	26.3	
308	4.3	37.5	97.0	0.0	0.0	0.0	154.3	47.8	0.0	47.8	
316.75	8.2	82.4	209.0	0.0	43.4	0.0	100.7	189.0	0.0	100.7	
318	8.9	97.8	239.7	0.7	184.4	0.0	114.4	374.4	0.0	114.4	
318	8.0	86.0	220.9	1.11	173.4	143.3	100.9	237.4	100.9	100.9	
318	8.4	71.9	188.4	18.0	187.0	510.7	238.9	238.9	0.0	238.9	
318.5	8.1	74.5	201.9	17.5	182.0	624.0	286.7	287.8	0.0	287.8	culvert control

EXISTING POND 'A' SPILLWAY RATING CURVE

ORIFICE NO.	CENTROID ELEV.	AREA	C	DESCRIPTION	ELEV. (DISCHARGE)	ORIFICE NO.	CENTROID ELEV.	AREA	C	DESCRIPTION	ELEV. (DISCHARGE)
1	307.99	3.142	0.6	0.6 FT ORIFICE AT RW=307.99	310.66	1	307.99	3.142	0.6	0.6 FT ORIFICE AT RW=307.99	310.66
2 (Mar top)	318.27	80	0.6	0.6 FT DIA RISER AT TOP = 318.00	318.27	2 (Mar top)	318.27	80	0.6	0.6 FT DIA RISER AT TOP = 318.00	318.27
WEIR FLOW											
WEIR NO.	CREST ELEV.	LENGTH	C	CREST ELEV. =	WEIR NO.	CREST ELEV.	LENGTH	C	CREST ELEV. =	WEIR NO.	CREST ELEV.
1	318.8	150	3	318.8	1	318.8	150	3	318.8	2	318.8
2 (Mar top)	318.27	80	3	318.27	2	318.8	150	3	318.8	3	318.8
3 (Mar top)	318.27	80	3	318.27	3	318.8	150	3	318.8	4	318.8

EXISTING POND 'A' STORAGE

Elev. (ft)	Area	Volume (ac-ft)	Incremental Contribution
306.0	0.0	0.0000	0.0000
306.0	0.03	0.0166	0.0166
310.0	0.46	0.4900	0.8066
312.0	0.68	1.0400	1.5666
314.0	0.88	1.2700	2.8166
316.0	0.81	1.8000	4.3166
316.0	0.81	1.8000	6.1166

EXISTING REGIONAL POND 'B' STORAGE

Elev. (ft)	Area	Volume (ac-ft)	Incremental Contribution
299.22	0.0	0.0000	0.0000
302.0	0.03	0.0417	0.0417
304.0	0.13	0.1600	0.2017
306.0	0.63	0.7600	0.9617
308.0	0.83	1.4600	2.4217
310.0	1.11	2.1400	4.0617
312.0	1.82	3.1300	7.8917
314.0	2.44	4.2600	11.5517
316.0	2.44	2.4900	14.3817

EXISTING REGIONAL POND 'B' SPILLWAY RATING CURVE

ORIFICE NO.	CENTROID ELEV.	AREA	C	DESCRIPTION	ELEV. (DISCHARGE)	ORIFICE NO.	CENTROID ELEV.	AREA	C	DESCRIPTION	ELEV. (DISCHARGE)
1	303.47	4.502	0.6	0.6 FT ORIFICE AT RW=303.47	306.22	1	303.47	4.502	0.6	0.6 FT ORIFICE AT RW=303.47	306.22
2 (Mar top)	311.02	18.628	0.6	0.6 FT DIA RISER AT TOP = 311.00	311.02	2 (Mar top)	311.02	18.628	0.6	0.6 FT DIA RISER AT TOP = 311.00	311.02
WEIR FLOW											
WEIR NO.	CREST ELEV.	LENGTH	C	CREST ELEV. =	WEIR NO.	CREST ELEV.	LENGTH	C	CREST ELEV. =	WEIR NO.	CREST ELEV.
1	312.8	90	3	312.8	1	312.8	90	3	312.8	2	312.8
2 (Mar top)	311.02	18.728	3	311.02	2	312.8	90	3	312.8	3	312.8
3 (Mar top)	311.02	18.728	3	311.02	3	312.8	90	3	312.8	4	312.8

