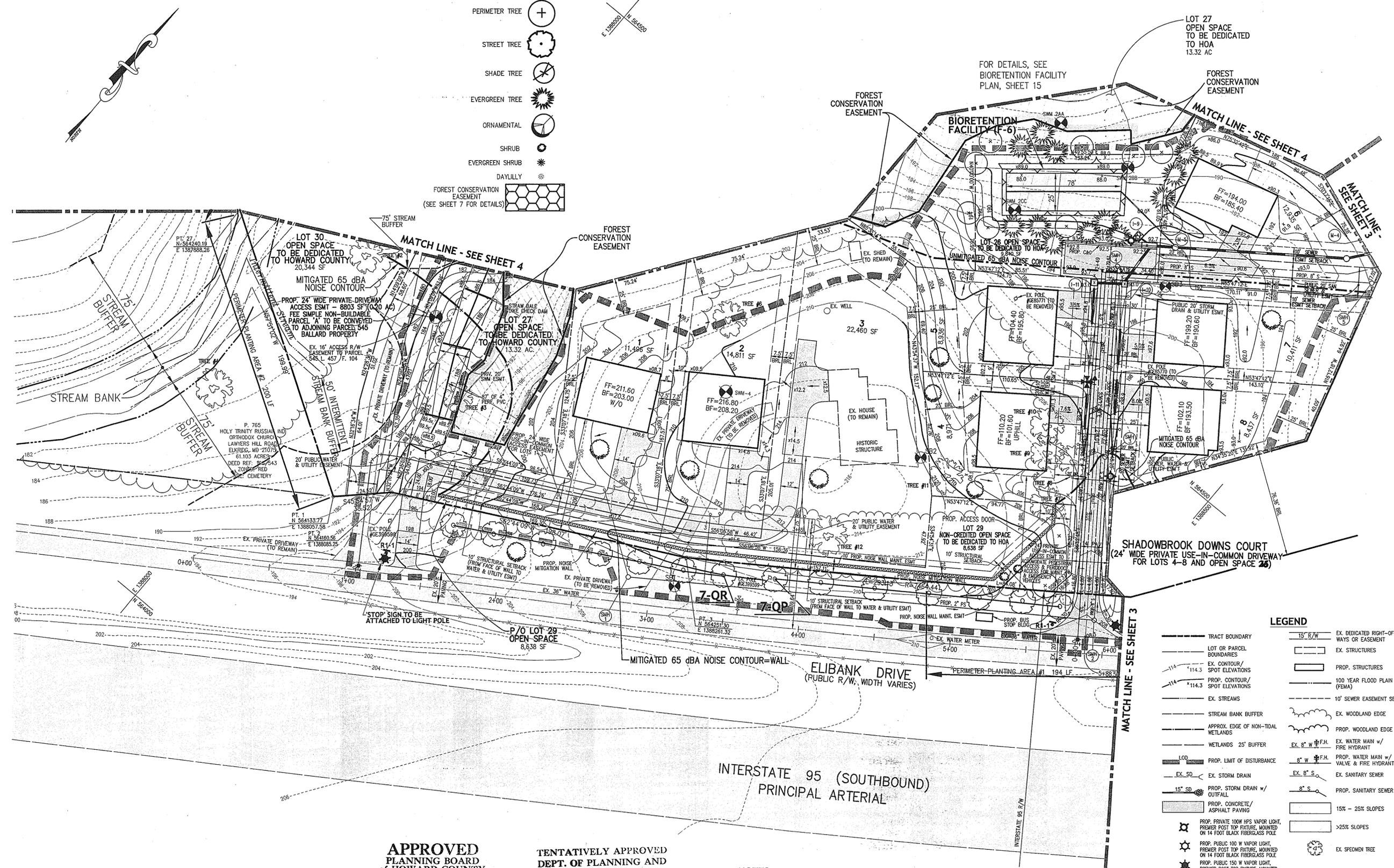


LEGEND

- PERIMETER TREE
- STREET TREE
- SHADE TREE
- EVERGREEN TREE
- ORNAMENTAL
- SHRUB
- EVERGREEN SHRUB
- DAYLILLY
- FOREST CONSERVATION EASEMENT (SEE SHEET 7 FOR DETAILS)



EXISTING DRIVEWAY NOTE:
THE EXISTING DRIVEWAY WILL REMAIN WITHIN THE 50' STREAM BUFFER AND THE AREA INSIDE THE LIMITS OF DISTURBANCE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 10/26/06

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY
Masha A. Taylor
PLANNING DIRECTOR DATE 10/26/06

NOTES:
THREE (3) STREET LIGHTS LOCATED ALONG ELIBANK DRIVE WILL BE 150 W HPS VAPOR PREMIERE POST TOP FIXTURE MOUNTED ON A 14 FOOT BLACK FIBERGLASS POLE.
THE OTHER FOUR (4) STREET LIGHTS WILL BE 100 WATT HPS VAPOR PREMIERE POST TOP FIXTURE MOUNTED ON A 14 FOOT BLACK FIBERGLASS POLE.
FOR ACOUSTIC WALL AND EASEMENT PLANS, SEE SHEETS 18-20.

- LEGEND**
- TRACT BOUNDARY
 - LOT OR PARCEL BOUNDARIES
 - EX. CONTOUR/ SPOT ELEVATIONS
 - PROP. CONTOUR/ SPOT ELEVATIONS
 - EX. STREAMS
 - STREAM BANK BUFFER
 - APPROX. EDGE OF NON-TIDAL WETLANDS
 - WETLANDS 25' BUFFER
 - PROP. LIMIT OF DISTURBANCE
 - EX. SD
 - 15" SD
 - PROP. CONCRETE/ ASPHALT PAVING
 - PROP. PRIVATE 100W HPS VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
 - PROP. PUBLIC 100 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
 - PROP. PUBLIC 150 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
 - 15' B/W EX. DEDICATED RIGHT-OF-WAYS OR EASEMENT
 - EX. STRUCTURES
 - PROP. STRUCTURES
 - 100 YEAR FLOOD PLAN (FEMA)
 - 10' SEWER EASEMENT SETBACK
 - EX. WOODLAND EDGE
 - PROP. WOODLAND EDGE
 - EX. WATER MAIN w/ FIRE HYDRANT
 - EX. 8" W.F.H.
 - EX. 8" S.S.
 - EX. 8" S.S.
 - PROP. WATER MAIN w/ VALVE & FIRE HYDRANT
 - EX. SANITARY SEWER
 - PROP. SANITARY SEWER
 - 15% - 25% SLOPES
 - >25% SLOPES
 - EX. SPECIMEN TREE

CALL "MISS UTILITY"
TELEPHONE: 1-800-257-7777 FOR UTILITY LOCATIONS AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.

DESIGNED	IG/DM	DATE	DATE	BY	DESCRIPTIONS	DATE	BY	DESCRIPTIONS
DRAWN	JLC	7-06	10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
CHECKED	KLM	7-06	7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
APPROVED	JBK	7-06	10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
			12-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04	7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
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			5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05			

THE TECH GROUP, INC.
ENGINEERS-PLANNERS-SURVEYORS
GEOLOGICAL & ENVIRONMENTAL
MATERIALS CONSULTANTS/FACILITIES

1111 Benfield Blvd
Suite 100
Millersville, Maryland 21108
Ph. (410) 987-3450
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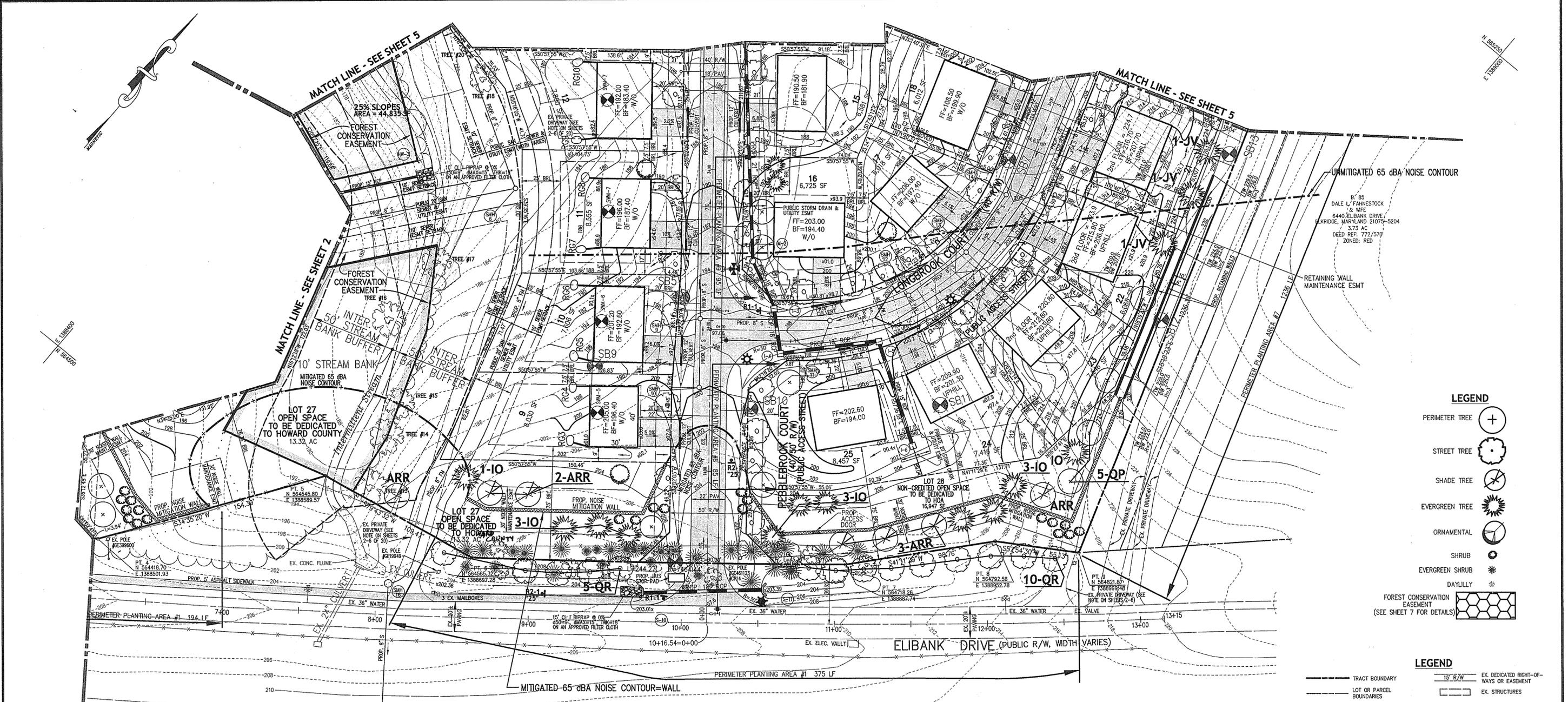
OWNER / DEVELOPER
SHADOWBROOK FARM, LLC.
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

**PRELIMINARY EQUIVALENT SKETCH PLAN and
PRELIMINARY STREET TREE & LANDSCAPE PLAN**

SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELKBRIDGE, MARYLAND (HOWARD COUNTY)

SCALE: 1" = 30'
DATE: JULY 2006
TTG PROJECT No. 502047
SHEET 2 OF 30

SP #04-08



UNMITIGATED 65 dBA NOISE CONTOUR

PT. 85
DALE L. FAHNESTOCK
& WIFE
8440 ELIBANK DRIVE
MILLERSVILLE, MARYLAND 21109-5204
3.73 AC
DEED REF: 772/519
ZONED: RED

RETAINING WALL
MAINTENANCE ESMT

LEGEND

- PERIMETER TREE
- STREET TREE
- SHADE TREE
- EVERGREEN TREE
- ORNAMENTAL
- SHRUB
- EVERGREEN SHRUB
- DAYLILLY
- FOREST CONSERVATION EASEMENT (SEE SHEET 7 FOR DETAILS)

LEGEND

- TRACT BOUNDARY
- LOT OR PARCEL BOUNDARIES
- EX. CONTOUR/ SPOT ELEVATIONS
- PROP. CONTOUR/ SPOT ELEVATIONS
- EX. STREAMS
- STREAM BANK BUFFER
- APPROX. EDGE OF NON-TIDAL WETLANDS
- WETLANDS 25' BUFFER
- PROP. LIMIT OF DISTURBANCE
- EX. STORM DRAIN
- PROP. STORM DRAIN W/ OUTFALL
- PROP. CONCRETE/ ASPHALT PAVING
- 15' B/W EX. DEDICATED RIGHT-OF-WAYS OR EASEMENTS
- EX. STRUCTURES
- PROP. STRUCTURES
- 100 YEAR FLOOD PLAIN (FEMA)
- 10' SEWER EASEMENT SETBACK
- EX. WOODLAND EDGE
- PROP. WOODLAND EDGE
- EX. WATER MAIN w/ FIRE HYDRANT
- PROP. WATER MAIN w/ VALVE & FIRE HYDRANT
- EX. SANITARY SEWER
- PROP. SANITARY SEWER
- 15% - 25% SLOPES
- >25% SLOPES
- EX. SPECIMEN TREE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY

DATE 10/26/06

TENTATIVELY APPROVED
DEPT. OF PLANNING AND ZONING
OF HOWARD COUNTY

Handwritten signature
PLANNING DIRECTOR DATE 11/13/06

INTERSTATE 95 (SOUTHBOUND)
PRINCIPAL ARTERIAL

EXISTING DRIVEWAY NOTE:
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DESIGNED	IG/DM	DATE	REVISIONS		REVISIONS			
			DATE	BY	DATE	BY		
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(800) 266-6202
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OWNER / DEVELOPER
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1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

PRELIMINARY EQUIVALENT SKETCH PLAN and PRELIMINARY STREET TREE & LANDSCAPE PLAN
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELKRIE, MARYLAND (HOWARD COUNTY)

SCALE: 1" = 30' DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 3 OF 30

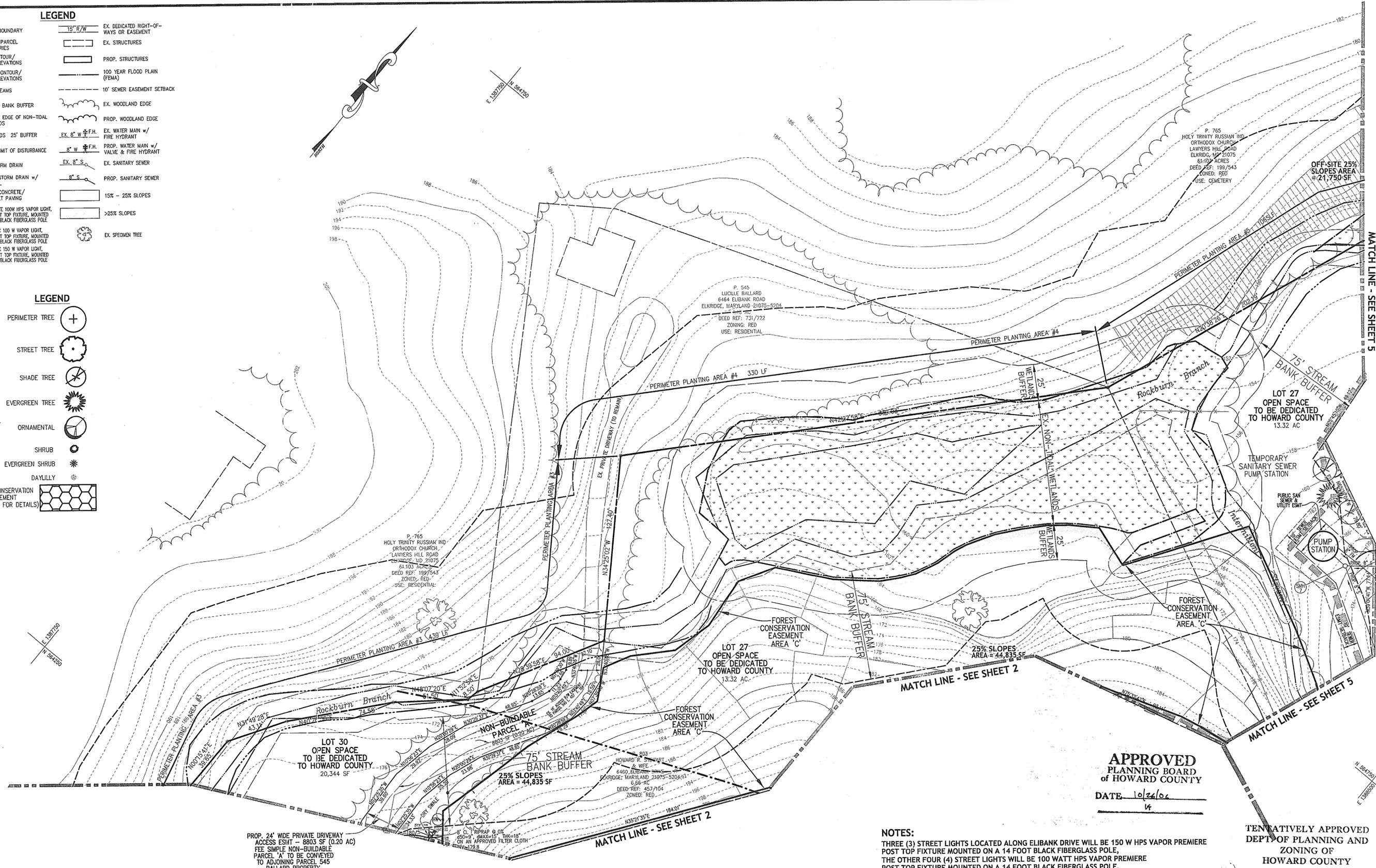
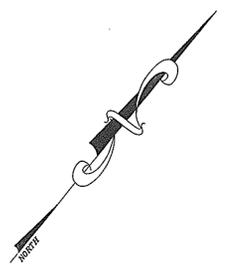
SP #04-08

LEGEND

- TRACT BOUNDARY
- LOT OR PARCEL BOUNDARIES
- EX. CONTOUR/ SPOT ELEVATIONS
- PROP. CONTOUR/ SPOT ELEVATIONS
- EX. STREAMS
- STREAM BANK BUFFER
- APPROX. EDGE OF NON-TIDAL WETLANDS
- WETLANDS 25' BUFFER
- LOD
- EX. SQ
- 15" SD
- PROP. PRIVATE 100W HPS VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
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- 15' R/W
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- PROP. STRUCTURES
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- PROP. WOODLAND EDGE
- EX. WATER MAIN w/ FIRE HYDRANT
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APPROVED
 PLANNING BOARD
 of HOWARD COUNTY
 DATE 10/26/06

TENTATIVELY APPROVED
 DEPT. OF PLANNING AND
 ZONING OF
 HOWARD COUNTY
 Planning Director

NOTES:
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PROP. 24' WIDE PRIVATE DRIVEWAY ACCESS ESIAT - 8803 SF (0.20 AC) FEE SIMPLE NON-BUILDABLE PARCEL 'A' TO BE CONVEYED TO ADJOINING PARCEL 545 BALLARD PROPERTY

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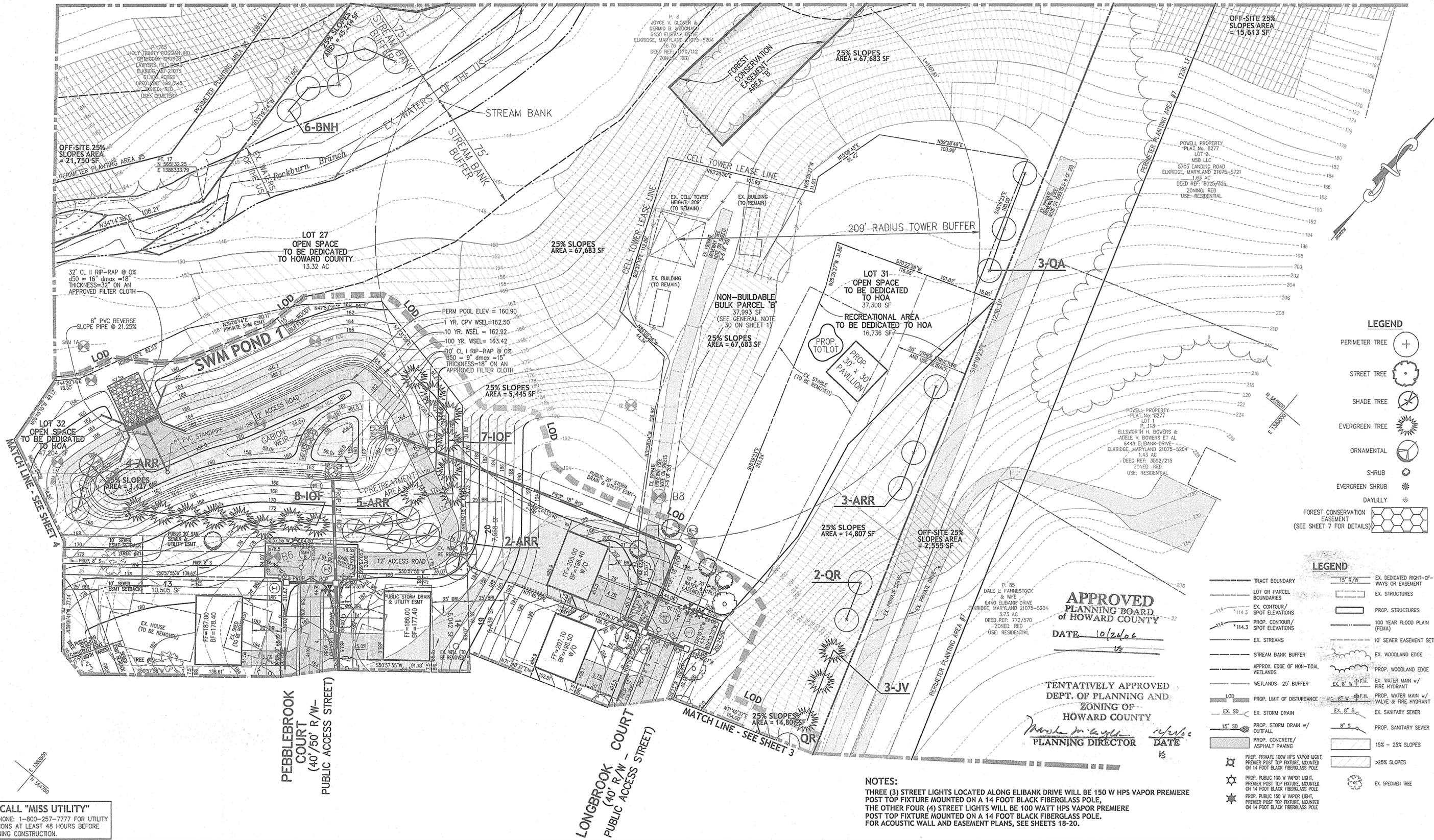


OWNER / DEVELOPER
 SHADOWBROOK FARM, LLC.
 1516 JABEZ RUN
 MILLERSVILLE, MARYLAND 21108
 PHONE: (410) 697-2000

PRELIMINARY EQUIVALENT SKETCH PLAN and
 PRELIMINARY STREET TREE & LANDSCAPE PLAN
SHADOWBROOK DOWNS
 LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
 TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
 ELKBRIDGE, MARYLAND (HOWARD COUNTY)
 SCALE: 1" = 30' DATE: JULY 2006 TIG PROJECT No. 502047 SHEET 4 OF 30

SP #04-08

MATCH LINE - SEE SHEET 6



- LEGEND**
- PERIMETER TREE
 - STREET TREE
 - SHADE TREE
 - EVERGREEN TREE
 - ORNAMENTAL
 - SHRUB
 - EVERGREEN SHRUB
 - DAYLILLY
 - FOREST CONSERVATION EASEMENT (SEE SHEET 7 FOR DETAILS)

- LEGEND**
- TRACT BOUNDARY
 - LOT OR PARCEL BOUNDARIES
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 - PROP. CONTOUR/ SPOT ELEVATIONS
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 - WETLANDS 25' BUFFER
 - PROP. LIMIT OF DISTURBANCE
 - EX. SD
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 - EX. WATER MAIN w/ FIRE HYDRANT
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 - EX. SANITARY SEWER
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 - 15% - 25% SLOPES
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APPROVED PLANNING BOARD of HOWARD COUNTY
 DATE 10/26/06

TENTATIVELY APPROVED
 DEPT. OF PLANNING AND ZONING OF
 HOWARD COUNTY
 PLANNING DIRECTOR DATE

NOTES:
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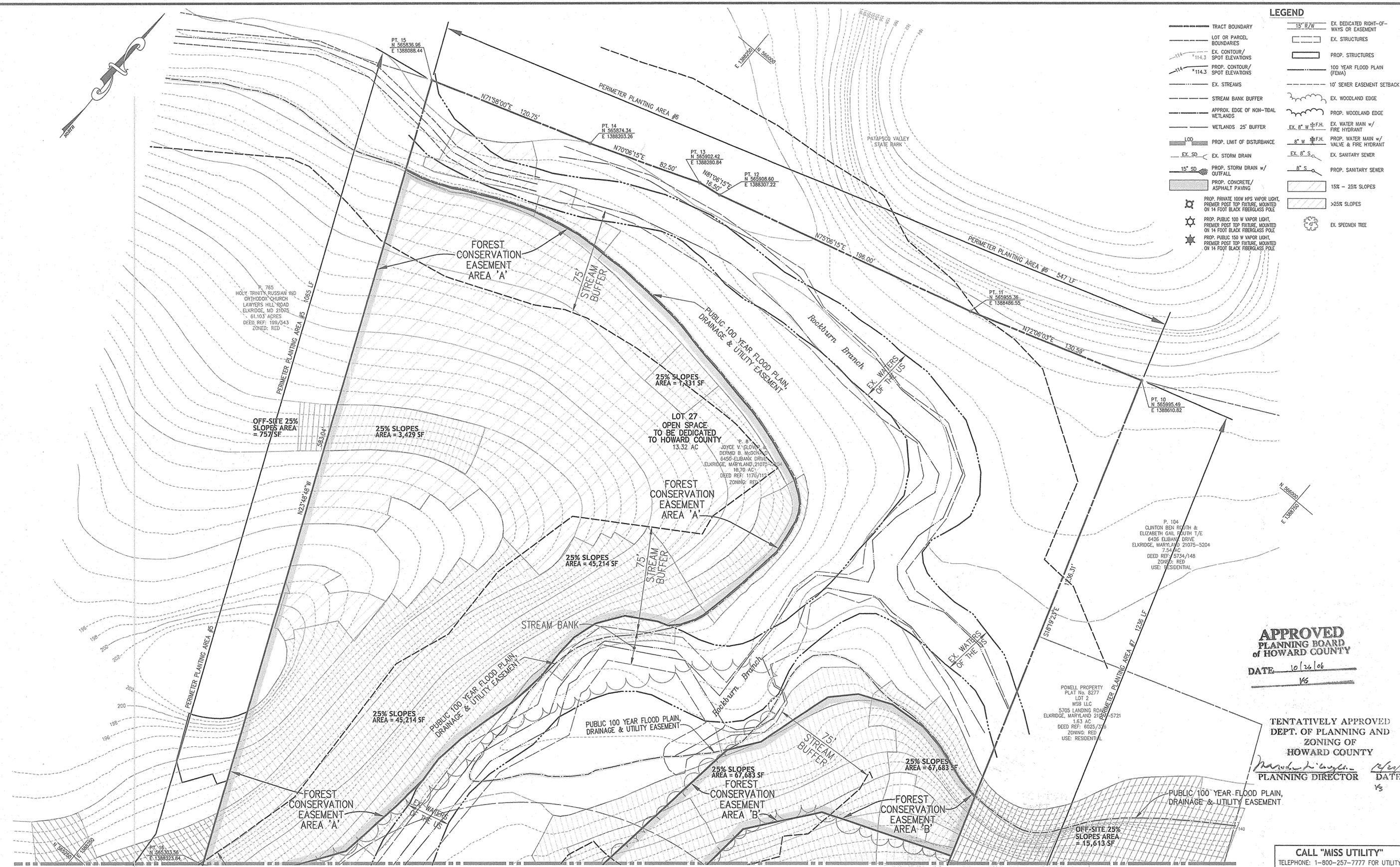
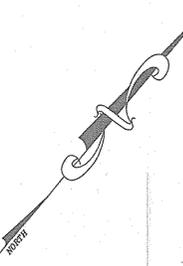
OWNER / DEVELOPER
 SHADOWBROOK FARM, LLC.
 1516 JABEZ RUN
 MILLERSVILLE, MARYLAND 21108
 PHONE: (410) 697-2000

PRELIMINARY EQUIVALENT SKETCH PLAN and PRELIMINARY STREET TREE & LANDSCAPE PLAN
SHADOWBROOK DOWNS
 LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
 TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
 ELECTION DISTRICT 1
 ELKBRIDGE, MARYLAND (HOWARD COUNTY)

SCALE: 1" = 30' DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 5 OF 30
 SP #04-08

LEGEND

- TRACT BOUNDARY
- LOT OR PARCEL BOUNDARIES
- - - EX. CONTOUR/ SPOT ELEVATIONS
- - - PROP. CONTOUR/ SPOT ELEVATIONS
- - - EX. STREAMS
- - - STREAM BANK BUFFER
- - - APPROX. EDGE OF NON-TIDAL WETLANDS
- - - WETLANDS 25' BUFFER
- - - PROP. LIMIT OF DISTURBANCE
- - - EX. SD
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- - - PROP. STRUCTURES
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APPROVED
PLANNING BOARD
of HOWARD COUNTY
 DATE 10/26/06
VS

TENTATIVELY APPROVED
 DEPT. OF PLANNING AND
 ZONING OF
 HOWARD COUNTY
Mark D. Anglen *VS*
 PLANNING DIRECTOR DATE

CALL "MISS UTILITY"
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 LOCATIONS AT LEAST 48 HOURS BEFORE
 BEGINNING CONSTRUCTION.

MATCH LINE - SEE SHEET 5

DESIGNED	IG/DM	DATE	REVISIONS		REVISIONS			
			DATE	BY	DATE	BY		
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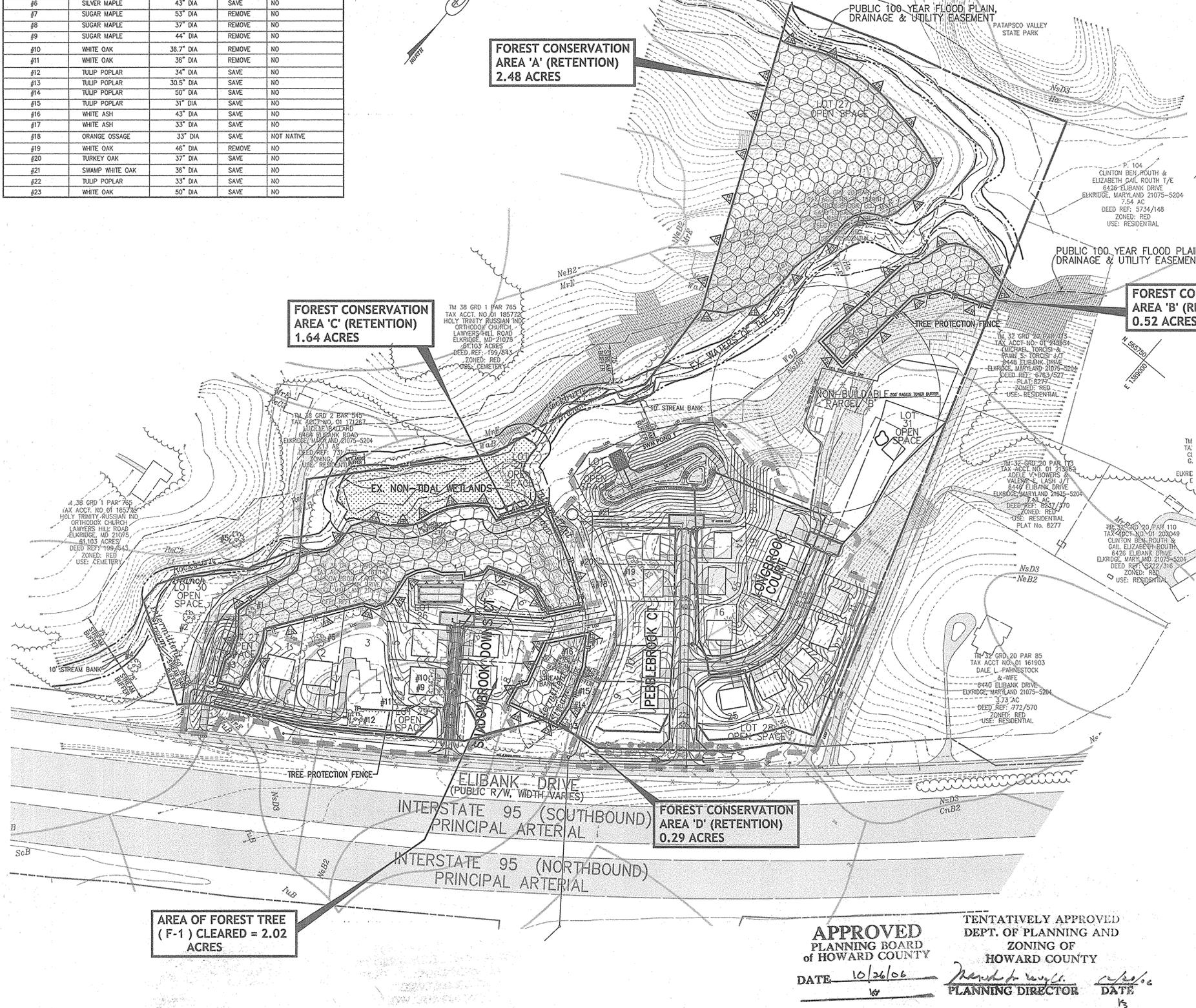
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 ELECTION DISTRICT 1
 ELKRIE, MARYLAND (HOWARD COUNTY)
 SCALE: 1" = 30' DATE: JULY 2006 TTT PROJECT No. 502047 SHEET 6 OF 30

SP #04-08

SIGNIFICANT TREE LIST				
TREE NUMBER	TREE TYPE	SIZE	PROPOSED STATUS	STATE CHAMPION TREE > 75% OF LARGEST TREE
#1	WHITE OAK	36.7" DIA	SAVE	NO
#2	WHITE OAK	36" DIA	SAVE	NO
#3	TULIP POPLAR	34" DIA	SAVE	NO
#4	CHESTNUT OAK	30.5" DIA	SAVE	NO
#5	TULIP POPLAR	50" DIA	SAVE	NO
#6	SILVER MAPLE	43" DIA	SAVE	NO
#7	SUGAR MAPLE	53" DIA	REMOVE	NO
#8	SUGAR MAPLE	37" DIA	REMOVE	NO
#9	SUGAR MAPLE	44" DIA	REMOVE	NO
#10	WHITE OAK	36.7" DIA	REMOVE	NO
#11	WHITE OAK	36" DIA	REMOVE	NO
#12	TULIP POPLAR	34" DIA	SAVE	NO
#13	TULIP POPLAR	30.5" DIA	SAVE	NO
#14	TULIP POPLAR	50" DIA	SAVE	NO
#15	TULIP POPLAR	31" DIA	SAVE	NO
#16	WHITE ASH	43" DIA	SAVE	NO
#17	WHITE ASH	33" DIA	SAVE	NO
#18	ORANGE OSSAGE	33" DIA	SAVE	NOT NATIVE
#19	WHITE OAK	46" DIA	REMOVE	NO
#20	TURKEY OAK	37" DIA	SAVE	NO
#21	SWAMP WHITE OAK	36" DIA	SAVE	NO
#22	TULIP POPLAR	33" DIA	SAVE	NO
#23	WHITE OAK	50" DIA	SAVE	NO

NOTE:
THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL WILL BE FULFILLED FOR THIS PROJECT BY THE RETENTION OF 4.93 ACRES OF CREDITED FOREST CONSERVATION EASEMENT WHICH MEET OR EXCEEDS THE BREAK-EVEN OBLIGATION OF 4.82 ACRES FOR THIS SUBDIVISION.
NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.



FOREST RETENTION TABULATION	
AREA "A" = 2.48 ACRES	
AREA "B" = 0.52 ACRES	
AREA "C" = 1.64 ACRES	
AREA "D" = 0.29 ACRES	
TOTAL AREA = 4.93 ACRES	

SITE DATA	
TOTAL AREA = 23.53 AC	
FLOODPLAIN AREA = 2.42 AC	
NET TRACT AREA = 21.11 AC	

LEGEND

	TRACT BOUNDARY		EX. DEDICATED RIGHT-OF-WAYS OR EASEMENT
	LOT OR PARCEL BOUNDARIES		EX. STRUCTURES
	EX. CONTOUR/SPOT ELEVATIONS		PROP. STRUCTURES
	PROP. CONTOUR/SPOT ELEVATIONS		100 YEAR FLOOD PLAIN (FEMA)
	EX. STREAMS		10' SEWER EASEMENT SETB
	STREAM BANK BUFFER		EX. WOODLAND EDGE
	APPROX. EDGE OF NON-TIDAL WETLANDS		PROP. WOODLAND EDGE
	WETLANDS 25' BUFFER		EX. WATER MAIN w/ FIRE HYDRANT
	PROP. LIMIT OF DISTURBANCE		PROP. WATER MAIN w/ VALVE & FIRE HYDRANT
	EX. STORM DRAIN		EX. SANITARY SEWER
	PROP. STORM DRAIN w/ OUTFALL		PROP. SANITARY SEWER
	PROP. CONCRETE/ ASPHALT PAVING		15% - 25% SLOPES
	PROP. PRIVATE 100W HPS VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		>25% SLOPES
	PROP. PUBLIC 100 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		EX. SPECIMEN TREE
	PROP. PUBLIC 150 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 10/26/06

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY
PLANNING DIRECTOR DATE: 10/26/06

DESIGNED	IG/DM	DATE	REVISIONS		REVISIONS			
			DATE	BY	DATE	BY		
DESIGNED	JLC	7-06	10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
DRAWN	JLC	7-06	7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
CHECKED	KLM	7-06	10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
APPROVED	JBK	7-06	12-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04	7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
			3-05	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 2-11-05	10-06	TTG	REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06
			5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05			

THE TECH GROUP, INC.
ENGINEERS • PLANNERS • SURVEYORS
GEOTECHNICAL • ENVIRONMENTAL
MATERIALS CONSULTANTS • FACILITIES

1111 Benfield Blvd
Suite 100
Millersville, Maryland 21108
Ph. (410) 987-3450
(800) 266-6202
Fax (410) 987-3457

STATE OF MARYLAND
PLANNING BOARD
DATE: 10/26/06

OWNER / DEVELOPER
SHADOWBROOK FARM, LLC.
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

PRELIMINARY FOREST CONSERVATION PLAN
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELECTION DISTRICT 1
ELKRIE, MARYLAND (HOWARD COUNTY)

SCALE: 1" = 100' DATE: JULY 2006 ITG PROJECT No. 502047 SHEET 7 OF 30

SP# 04-08

M:\projects\shadowbrook\DWG\SHEETS\FOP\FOP-1-0417.DWG The Oct 20 13:27:30 2006

CONSTRUCTION PERIOD PRACTICES

The construction period extends from final approval of the development proposal until the release of all required guarantees specified for forest conservation requirements in the developers agreement.

Construction Period Supervision

As part of the construction period management and planting program, the developer shall designate an individual or firm to be fully responsible for implementing the requirements of the approved forest conservation plan or requesting modifications of previously approved requirements concerning planting techniques, species or maintenance needs. Those responsible for implementation of the approved forest conservation plan during the construction period shall conform to the professional qualifications cited in Chapter VI of the manual.

Protecting and Managing Forest Retention Areas

Forest retention stands are extremely vulnerable to damage, long term decline, and death stemming from improper design and construction practices. Saving forests and specimen trees during the construction process requires site planning, engineering practices and construction methods that respect the biological needs of trees. A few fundamental horticultural principles are the basis of the protection guidelines and requirements cited in this manual:

- A tree's root system can be large, extending well beyond the dripline of the crown. Typically, root systems are very shallow, in most cases being only 12" - 18" deep.
- Trees generally do not have tap roots.
- There are about as many roots as there are twigs and branches. If roots die, branches will die to keep the tree in balance.
- Tree roots need a balance of water and air in the soil. Air only penetrates 12" - 18" into the soil. Stress and decline in tree health results when soil is piled on top of existing roots or roots are suddenly forced to sit in waterlogged soil or overly dry soils due to topography changes during construction.
- Soil compacted to bulk densities of 1.7 granular centimeters or greater cannot support root growth. Existing roots in heavily compacted soils usually die.

- Trees growing in disturbed or filled soils usually die back in proportion to the root area disturbed. Even minor disturbances such as tilling within the root zone for lawn installation will cause harm.
- Trees, especially large trees, may take a long time to show the effects of construction damage. Trees may die 5 or even 10 years after being weakened by construction activity. Secondary stresses such as insects, disease, or drought may kill weakened trees while the same stress would not have effected a healthy tree.

Soil Protection Zone

The soil protection zone must be protected from construction activity and other stresses (e.g. flooding) to protect the forest stand from damage. The forest retention practices for a development must address the specific needs and stresses the proposal may cause. Nevertheless, the need to define the soil protection zone (critical root area) for forest areas is the one factor common to all retention efforts.

The extent of the root system is quite large. The ratio of root expansion to crown spread can be 2:1 or larger on open grown specimen trees and can be significantly larger (up to 5:1) for trees growing in the interior of forest stands. Furthermore, the minimum requirement for root protection varies from species to species and from soil type to soil type. For open grown trees, it is generally accepted that protecting the soil within the dripline of the tree is adequate to save the tree in most cases. For trees that have been part of forest communities, however, the soil protection zone may have to be modified to reflect a more complex relationship between crown spread and root growth.

Techniques for management of the soil protection zone are described in detail in Appendix G.

Best Management Practices During Construction

Many of the construction period measures cited in the manual are for areas that should not be disturbed. The desire to protect areas within the limit of disturbance can be easily nullified by poor construction site management. The required construction period management program must therefore specify how construction activities will be managed to protect forest retention areas. The following should be depicted on site construction documents and/or forest conservation plans; they shall also be itemized in the developers agreement.

- storage of equipment and materials
- disposal of construction debris
- washing of equipment, disposal of wastewater from concrete operations, etc.
- employee parking
- temporary structures such as trailers, sanitary facilities, etc.

Unless specifically exempted by the approved forest conservation plan, any use of forest retention areas for these activities or other intrusions shall be a violation of the approved forest conservation plan.

Because reforestation and afforestation typically may involve disturbances greater than 5,000 square feet, proper sediment and erosion controls may be required. Developers should refer to the Howard County Soil Conservation District for current standards, specifications and requirements. It may be necessary to protect forest retention areas from erosion and sedimentation caused by implementation of reforestation or afforestation plantings.

Construction Period Planting Procedures

The measures to protect forest retention areas emphasize isolating them from development impacts. Reforestation or afforestation, in contrast, will often occur on land already disturbed by development activities or may be located on land which will require substantial preparation to enable forest plantings to survive and thrive. Reforestation and afforestation plantings may also require a great deal of management once they are installed. Appendix H provides guideline specifications for proper planting, including techniques for site preparation and management. The following issues are of particular concern.

- General site preparation for planting:** For undisturbed sites, disturbance of soils should be limited to the planting field for each plant. For disturbed areas, soils should be treated by incorporating natural mulch within the top 12 inches, or with needed amendments as determined by a soils analysis. Natural amendments such as organic mulch or leaf mold, compost are preferred.
- Stream buffer planting:** Borders of streams and other waterways may have been damaged before reforestation and afforestation and therefore may need more extensive restoration work before reforestation or afforestation can be successful. The following are guidelines for any work within a riparian zone.
 - Correct any erosion problems
 - Minimize or eliminate any chemical use
 - Maintain an undisturbed leaf layer and understorey
 - Eliminate exotics
- Steep slope planting:** In areas of steep slopes or erodible soils, the preferred method of reforestation or afforestation is the use of seedlings to minimize disturbance. Planting on open or disturbed steep slopes eventually will stabilize them. Until the roots become established, however, there may still be erosion problems. Monitoring the stability of the soil will be important to the survival of the trees.

- Post-planting Considerations:** For areas of large-scale disturbance, soils must be stabilized using a non-turf-building ground cover or engineering fabric. To protect against intrusion and to prevent damage of planted areas, all reforestation and afforestation sites must be posted with appropriate signs and fences.

Certification of Completion

At the end of the construction period, the designated qualified professional shall convey to the Department of Planning and Zoning certification that all forest retention areas have been preserved, all reforestation and afforestation plantings have been installed as required by the forest conservation plan, and that all protection measures required for the post-construction period have been put in place. Appendix J contains a sample format for such certification. Planting must occur before June 30th to be credited toward the current growing season.

Upon review of the certification document for completeness and accuracy, the Department will notify the developer of the beginning of the post-construction management period.

POST-CONSTRUCTION MANAGEMENT PRACTICES

Many of the protection and management practices for the construction period must be continued for at least 2 growing seasons following official notification of completion of the development (or a specific phase of the overall development if phasing has been approved). The responsibility to meet the survival standards requires adequate watering, staking, thinning or other appropriate measures. Also, inappropriate uses or intrusions must not occur, a responsibility that requires the knowledge and cooperation of the new occupants of the development.

Minimum Two Growing Season Post-Construction Management Program

A post-construction management program must be approved as part of the original forest conservation plan and remain in effect for a minimum of two growing seasons. A longer period may be required for specific strategies (e.g. natural regeneration near high-use areas whose long-term viability may take longer to confirm).

Implementation of the post-construction management program must be supervised by a qualified professional who should inspect the status of all forest retention, reforestation and afforestation areas at specified times during the life of the post construction agreement and who must certify that the required survival rates have been achieved in accordance with the agreement prior to release of bonds.

There are five primary components of the post-construction program: inspection, management of retained or new plantings, replacement of dead or damaged material when

necessary, education of new occupants of the development and final inspection and release of developer from additional responsibilities.

Inspection

Inspections should be carried out at the beginning and end of the growing season to pinpoint any problems, monitor survival rates, and specify remedial actions needed to correct existing problems. Appendix I has an example of an inspection report checklist.

Management of Forest Conservation Areas

Post construction management includes: maintenance of all fences, signs or other devices delineating forest conservation areas and other measures. Such other measures include: needed watering; removal of dead or damaged material and control of undesirable competing species; thinning or pruning to encourage proper growth; fertilizing, if necessary; and control of pests. Specific practices will depend on the weather prevailing during the post construction period, the types of plant material and planting methods used, and specific site conditions such as proximity to high use areas. It is the responsibility of the post-construction plan supervisor to take appropriate actions as needed. This manual, therefore, does not cite required measures. Survival success, not fulfillment of a given series of tasks, will be the measure of conformance to the needs of the post-construction program.

Newly planted trees, whether they are seedlings or 4" caliper transplants, have basic needs. Some of these needs can be met by nature alone; others may require human intervention. (The three most likely causes of death for newly planted trees are drought, competing vegetation and deer.) The basic maintenance regime should be determined by on-site environmental conditions, structure and nutrient content of soil, and rainfall. Understanding these factors and the specific needs of the species and size of plants used will result in a healthy forested area at the end of the maintenance period. Appendix I contains guideline specifications for maintenance of forest conservation areas and focuses on the following critical needs:

- watering
- fertilizing
- control of competing vegetation
- protection from pests, diseases and mechanical injury.

Replacement of Plant Material

An inspection shall take place at the end of year one or before the second growing season to evaluate survival rates with reference to the survival required at the end of the two year period. This is an opportunity to avoid the penalty for violating survival rate standards. This inspection should estimate survival potential based on the following:

- vigor and threat of competing vegetation (i.e. if seedlings are free to grow)
- structure
- growth rate
- crown development
- trunk health

If, after one year, the possibility exists that the original planting will not meet survival standards, the applicant may choose to establish replacement plantings. If plant mortality of reforestation or afforestation exceeds 10% of planted material at the end of the first growing season, such material should be replaced to bring the total number of trees to 90% of the original total. Such material shall be installed by the beginning of the second growing season. If at the end of the second growing season, survival rate drops below 75%, such material as needed to guarantee a 75% survival rate by the end of the third growing season shall be installed.

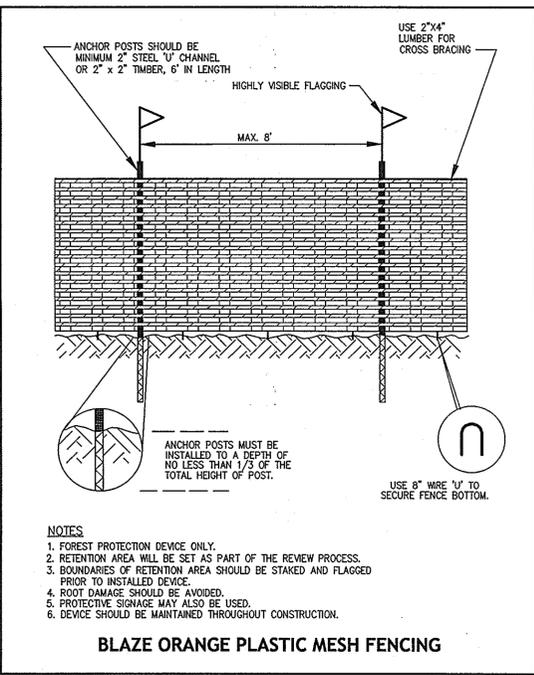
Education of New Occupants

The occupants of a new development, whether owners or tenants, must avoid activities that destroy or degrade protected forest resources. The post-construction management program must therefore include steps to educate the new occupants about the proper use of forest conservation areas, about the need for the developer to carry out the post-construction management program, and the eventual transfer of long-term responsibilities affecting such areas. Such educational material should include a plan locating all protected areas on the site and a description of permitted and prohibited activities within or near the protected areas. The format and method of conveying such information is left to the discretion of the developer.

Final Inspection and Release of Obligations

At the end of the post-construction management and protection period, the designated responsible professional shall convey to the Department of Planning and Zoning certification that all forest conservation areas have remained intact or have been restored to the appropriate condition, that the stipulated survival rates have been achieved, and that any permanent protection measures required by the plan are in place. Appendix J contains a sample format for such certification.

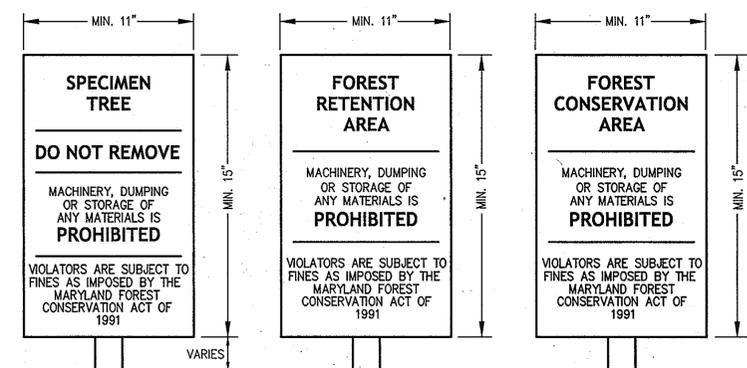
Upon review of the final certification document for completeness and accuracy, the County will notify the developer of release of surety and all future obligations. The developer's last official responsibility will be to transmit a copy of this notification to the owner(s) of the property. Such transmission will serve as official notice to owners of their assumption of full responsibility for all future forest conservation obligations.



- NOTES**
- FOREST PROTECTION DEVICE ONLY.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLED DEVICE.
 - ROOT DAMAGE SHOULD BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.
- BLAZE ORANGE PLASTIC MESH FENCING**

**FOREST CONSERVATION WORKSHEET
HOWARD COUNTY, MARYLAND**

NET TRACT AREA:		
A. TOTAL TRACT AREA	23.53 AC.	
B. AREA WITHIN 100 YEAR FLOODPLAIN	2.42 AC.	
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0	
D. NET TRACT AREA	21.11 AC.	
LAND USE CATEGORY: (FROM TABLE 3.21, PAGE 40, MANUAL)		
INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY		
ARA	MOR	IDA
0	0	0
0	1	0
0	0	0
E. AFFORESTATION THRESHOLD	0.15 X 21.11 =	3.17 AC.
F. CONSERVATION THRESHOLD	0.20 X 21.11 =	4.22 AC.
EXISTING FOREST COVER:		
G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)		7.22 AC.
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD		4.05 AC.
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD		3.00 AC.
BREAK EVEN POINT:		
J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION (3.00x0.20) = 0.60		0.60 AC.
K. CLEARING PERMITTED WITHOUT MITIGATION (4.22x.60) = 4.82 (7.22-4.82) = 2.40		2.40 AC.
PROPOSED FOREST CLEARING:		
L. TOTAL AREA OF FOREST TO BE CLEARED		2.29 AC.
M. TOTAL AREA OF FOREST TO BE RETAINED		4.93 AC.
PLANTING REQUIREMENTS:		
N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD (2.28 X .25) =		0.57 AC.
P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD		0
Q. CREDIT-FOR RETENTION ABOVE CONSERVATION THRESHOLD		0.71 AC.
R. TOTAL REFORESTATION REQUIRED		0
S. TOTAL AFFORESTATION REQUIRED		0
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED		0



- NOTES:**
- BOTTOM OF SIGNS TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
 - SIGNS TO BE PLACED APPROX. 50' APART. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
 - ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.

**SIGNAGE DETAIL
NOT TO SCALE**

**APPROVED
PLANNING BOARD
OF HOWARD COUNTY**
DATE 10/26/06

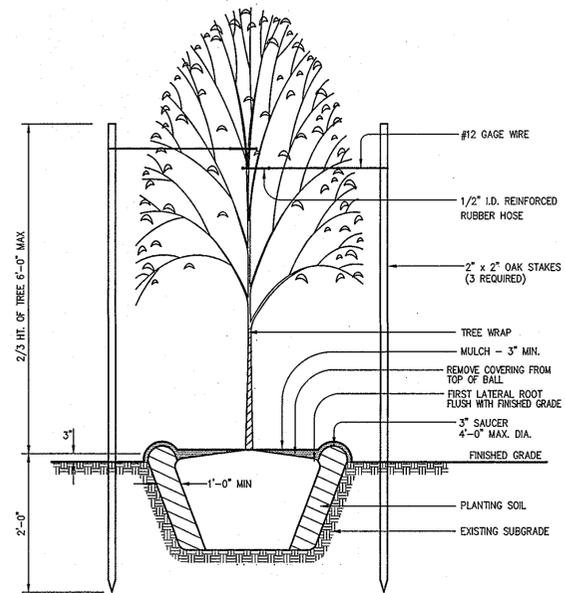
**TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY**
DATE 12/20/06

DESIGNED	IG/DM	DATE	REVISIONS			REVISIONS		
			DATE	BY	DESCRIPTIONS	DATE	BY	DESCRIPTIONS
DESIGNED	JLC	7-06	10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
DRAWN	JLC	7-06	7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
CHECKED	KLM	7-06	10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
APPROVED	JKK	7-06	12-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04	7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
			3-05	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 2-11-05	10-06	TTG	REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06
			5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05			

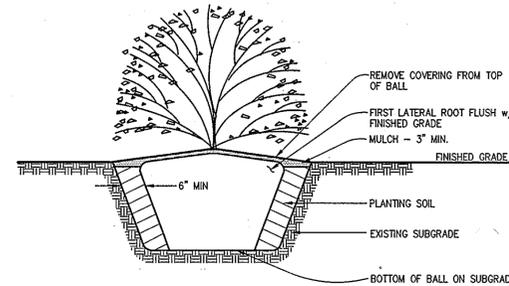


**OWNER / DEVELOPER
SHADOWBROOK FARM, LLC.**
1516 JABEZ RUM
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

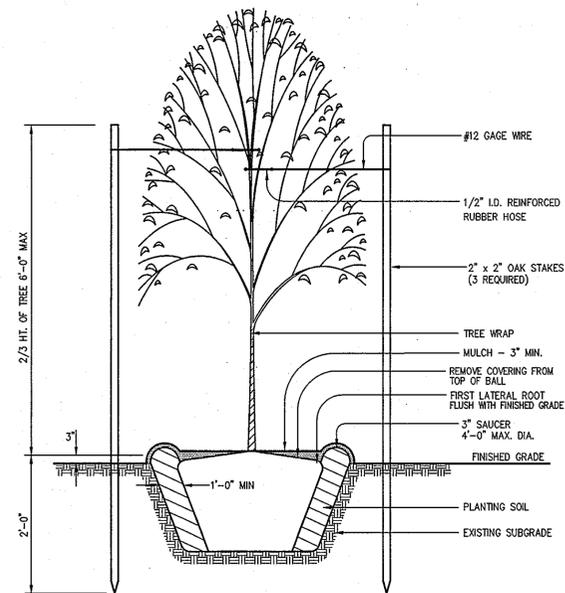
PRELIMINARY FOREST CONSERVATION DETAILS
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELECTION DISTRICT 1
ELKRUNGE, MARYLAND (HOWARD COUNTY)
SCALE: AS SHOWN DATE: JULY 2006 ITG PROJECT NO. 502047 SHEET 8 OF 30
SP#04-08



TREE PLANTING DETAIL - 3" CAL. MINIMUM
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE



TREE PLANTING DETAIL - LESS THAN 2 1/2" CAL.
NOT TO SCALE

STREET TREE TABULATIONS

PEBBLE BROOK COURT (1,051 LF)

NO SIDEWALKS
LARGE STREET TREES
40 FEET APART
IN 6 FOOT WIDE PLANTING STRIP
REQUIRED: 26
PROVIDED: 26

LONG BROOK COURT (822 LF)

NO SIDEWALKS
LARGE STREET TREES
40 FEET APART
IN 6 FOOT WIDE PLANTING STRIP
REQUIRED: 21
PROVIDED: 21

ELIBANK DRIVE (1189 LF)

9.3% OR 110 LF HAS EXISTING TREES
1189' - 110' OF EX. TREES = 1079 LF PLANTING PROVIDED
NO SIDEWALKS
LARGE DECIDUOUS TREES (NORTHERN RED OAK)
40 FEET APART
IN 10 FOOT WIDE STREET MAINTENANCE EASEMENT
REQUIRED: 27
PROVIDED: 27

LANDSCAPE NOTES

- ALL PLANTS TO BE NURSERY GROWN AND FURNISHED IN ACCORDANCE WITH "AMERICAN STANDARD FOR NURSERY STOCK" ANSI Z60.1-1973.
- ALL TREES MUST HAVE SYMMETRICALLY BALANCED BRANCHING AROUND A CENTRAL LEADER, ACCORDING TO THEIR NORMAL HABIT OF GROWTH. NO FORKED STOCK WILL BE ACCEPTED, UNLESS SPECIFIED.
- PLANT MATERIAL TYPES AND SIZES MAY VARY DUE TO MARKET AVAILABILITY AT THE TIME OF CONSTRUCTION. ANY SUBSTITUTIONS ARE TO BE OF EQUIVALENT TYPE AND SIZE, AND MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT AND HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. CONTAINERIZED SHRUB STOCK MAY BE SUBSTITUTED FOR B&B SHRUBS IF APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.
- ALL GRASS AREAS DISTURBED DURING CONSTRUCTION SHALL BE RAKED SMOOTH AND SEED UNLESS NOTED OTHERWISE.
- ALL PLANTS TO BE MULCHED WITH SHREDDED BARK AND/OR WOOD SHAVINGS AT A DEPTH OF 3" MINIMUM OVER TOPSOIL.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES FIVE (5) DAYS PRIOR TO BEGINNING WORK.
- ANY DAMAGE TO NEW PLANT MATERIALS OR THE EXISTING UTILITIES, BUILDING, PAVING, CURB, WALLS, FENCES, AND VEGETATION (NOT SO DESIGNATED FOR REMOVAL ON THESE PLANS) SHALL BE REPAIRED TO PREVIOUS CONDITION OR REPLACED BY THE CONTRACTOR AT HIS OR HER EXPENSE.
- ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR, FOR A TWELVE (12) MONTH PERIOD AFTER DATE OF ACCEPTANCE. THE CONTRACTOR SHALL REPLACE ALL DEAD MATERIALS AND ALL MATERIALS NOT IN A VIGOROUS, THRIVING CONDITION, AS SOON AS WEATHER PERMITS. PLANTS USED FOR REPLACEMENT SHALL BE OF THE SAME KIND AND SIZE AS THOSE ORIGINALLY PLANTED, AND SHALL BE PLANTED AS ORIGINALLY SPECIFIED. REPLACEMENTS SHALL CARRY A TWELVE (12) MONTH GUARANTEE FROM DATE OF REPLACEMENT.
- SALVAGED PLANTS SHALL BE VIGOROUS AND OF THE SPECIES AND SIZE SHOWN ON THE PLAN.
- ALL SHRUBS AND TREES SHALL BE PRUNED BACK BY ONE-THIRD, BALLED AND BURLAPPED PER ANSI STANDARDS, OR MOVED WITH A TREE SPADE.
- THE PLANT SHALL BE FED AND WATERED AFTER MOVING AND INSTALLED PER DETAIL SHOWN ON THIS DRAWING.
- ALL EXCESS PLANTS SALVAGED AND MOVED TO THE REPLANTING AREA SHOULD BE TREATED IN THE SAME MANNER.
- SALVAGED PLANTS USED AS REQUIRED PLANTING SHALL BE GUARANTEED FOR ONE FULL GROWING SEASON.
- LANDSCAPING FOR PERIMETER BUFFER PLANTINGS & STORMWATER MANAGEMENT AREA LANDSCAPING WILL BE THE RESPONSIBILITY OF THE OVERALL DEVELOPER, WITH THE EXCEPTION OF PERIMETER BUFFER PLANTINGS ON LOTS 21, 22 AND 23 WILL HAVE THEIR PERIMETER BUFFER PLANTED BY THE HOMEOWNER OF THE INDIVIDUAL LOTS.
- ALL STREET TREES WILL BE PROVIDED BY OVERALL PROJECT DEVELOPER.
- ALL RECREATION EQUIPMENT WILL BE PROVIDED BY OVERALL PROJECT DEVELOPER.
- ALL INTERIOR LOT PLANTINGS, WILL BE PROVIDED BY INDIVIDUAL HOME BUILDER FOR THE SPECIFIC LOT.
- LANDSCAPING FOR THIS SUBDIVISION TO BE PROVIDED WITH A CERTIFIED LANDSCAPE PLAN ON FILE IN ACCORDANCE WITH 16.124 OF HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED PLANTINGS WILL BE PROVIDED WITH THE DPW, DEVELOPERS AGREEMENT.

TOT LOT PLAY STRUCTURE DETAIL

RECREATIONAL EQUIPMENT LIST

QUAN	ITEM	UNIT	MANUFACTURER	COMMENTS
1	PLAYSTRUCTURE	EA	LITTLE TYKES COMMERCIAL PLAY SYSTEMS, INC.**	02 PAGE 48, PB 18
1,040	ASPHALT SITTING AREA	SF	N/A	02 PAGE 48, PB 18

* BCI BURKE COMPANY, LLC
660 VAN DYKE ROAD, P.O. BOX 549
FOND DU LAC, WI 54936-0549
WWW.BCBURKE.COM
PHONE: 800-356-2070

LOCAL REPRESENTATIVE:
RECREATION RESOURCE, INC.
P.O. BOX 371, KENNETT SQUARE, PA 19348
EMAIL: RECREATIONRESOURCE@NETT.NET
800-266-1250

** LITTLE TYKES COMMERCIAL PLAY SYSTEMS INC.
ONE IRON MOUNTAIN DRIVE
P.O. BOX 897
FARMINGTON, MO 63640
WWW.LITCP.COM
800-325-8828

** BCP SHELTERS, INC.
959 SE CENTRAL PARKWAY
STUART, FL 34994
INFO@BCPSHELTERS.COM
(772) 288-3600

APPROVED
PLANNING BOARD
OF HOWARD COUNTY

DATE: 10/26/06
KS

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY

PLANNING DIRECTOR: [Signature]
DATE: 10/26/06
KS

DESIGNED	IG/DM	DATE	REVISIONS			REVISIONS		
			DATE	BY	DESCRIPTIONS	DATE	BY	DESCRIPTIONS
DRAWN	JLC	7-06	10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
CHECKED	KLM	7-06	7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
APPROVED	JBK	7-06	10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
			12-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04	7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
			3-05	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 2-11-05	10-06	TTG	REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06
			5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05			

THE TECH GROUP, INC.
ENGINEERS*PLANNERS*SURVEYORS
GEOTECHNICAL*ENVIRONMENTAL
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Millersville, Maryland 21108
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Fax (410) 987-3457



OWNER / DEVELOPER
SHADOWBROOK FARM, LLC.
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

PRELIMINARY LANDSCAPE DETAILS AND NOTES
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELECTION DISTRICT 1
ELKRDGE, MARYLAND (HOWARD COUNTY)
SCALE: NOT TO SCALE DATE: JULY 2006 TIG PROJECT No. 502047 SHEET 9 OF 30

SP # 04-08

PERIMETER #1
SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	Single Family Side/Rear to Road	
Linear Feet of Roadway Frontage/Perimeter	194 + 375	569 LF
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	N/A	Single Family Front on Road and Existing Vegetation Yes, 200 LF
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	Yes, 569	NO
Number of Plants Required Shade Trees @ 1:50 Evergreen Trees Shrubs	569/60 = 10	N/A
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)	4 7 3 30	Existing Trees to Remain

Comments: A 20' vertical sound wall is located across the front of property.
This perimeter planting has been placed in areas where there is sufficient planting room. Optional treatment per pg 24 of landscape manual.

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

PERIMETER #2
SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	NO	Single Family - A
Linear Feet of Roadway Frontage/Perimeter		200
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)		Yes, 200 LF
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)		NO
Number of Plants Required Shade Trees Evergreen Trees Shrubs		N/A
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)		Existing Vegetation to remain

Comments:

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

PERIMETER #3
SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	NO	Cemetery - A
Linear Feet of Roadway Frontage/Perimeter		439
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)		Yes, 439 LF
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)		NO
Number of Plants Required Shade Trees Evergreen Trees Shrubs		N/A
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)		Existing Vegetation to remain

Comments:

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

PERIMETER #4
SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	NO	Residential - A
Linear Feet of Roadway Frontage/Perimeter		330
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)		Yes, 330 LF
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)		NO
Number of Plants Required Shade Trees Evergreen Trees Shrubs		N/A
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)		EXISTING TREES TO REMAIN

Comments:

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

PERIMETER #5
SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	NO	Cemetery - A
Linear Feet of Roadway Frontage/Perimeter		1065
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)		Yes, 735 LF if
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)		NO
Number of Plants Required Shade Trees @ 1:50 Evergreen Trees Shrubs		330/60 = 6 TREES
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)		6 Existing Trees to remain

Comments:

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

PERIMETER #6
SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	NO	State Park - A
Linear Feet of Roadway Frontage/Perimeter		547
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)		Yes, 547
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)		
Number of Plants Required Shade Trees @ 1:50 Evergreen Trees Shrubs		N/A
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)		EXISTING TREES TO REMAIN

Comments:

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

PERIMETER #7
SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type		Single Family - A
Linear Feet of Roadway Frontage/Perimeter	N/A	1236 LF
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)		370 LF
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)		Yes, 106 LF
Number of Plants Required Shade Trees @ 1:50 Evergreen Trees Shrubs		760/60 = 13
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)		14 8

Comments:

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

PERIMETER #8
SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	Single Family Side/Rear to Road	
Linear Feet of Roadway Frontage/Perimeter	Yes, 85 LF	
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	N/A	
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	N/A	
Number of Plants Required Shade Trees @ 1:50 Evergreen Trees @ 1:40 Shrubs N/A	85/50 = 2 85/40 = 2	
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)	2 2	

Comments:

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

PERIMETER #9
SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	Single Family Side/Rear to Road	
Linear Feet of Roadway Frontage/Perimeter	Yes, 95 LF	
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	N/A	
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	N/A	
Number of Plants Required Shade Trees @ 1:50 Evergreen Trees @ 1:40 Shrubs N/A	85/50 = 2 85/40 = 2.3	
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)	2 3	

Comments:

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

SWM-1
SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING

Linear Feet of Perimeter	610
Number of Trees Required Shade Trees @ 1:50 Evergreen Trees @ 1:40	12.2 15.25
Credit for Existing Vegetation (No, Yes and %)	NO
Credit for Other Landscaping (No, Yes and %)	NO
Number of Trees Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution)	13 16

SCHEDULE D
BIORETENTION FACILITY (F-6) LANDSCAPING

Linear Feet of Perimeter	370
Number of Trees Required Shade Trees @ 1:50 Evergreen Trees @ 1:40	8 10
Credit for Existing Vegetation (No, Yes and %)	NO
Credit for Other Landscaping (No, Yes and %)	NO
Number of Trees Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution)	9 12

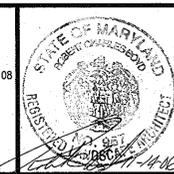
APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 10/26/06
KS

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY
PLANNING DIRECTOR DATE
12/20/06
KS

DESIGNED	IG/DM	DATE	REVISIONS		REVISIONS	
			DATE	BY	DATE	BY
DRAWN	JLC	7-06	10-03	TTG	10-05	TTG
CHECKED	KLM	7-06	7-04	TTG	1-06	TTG
APPROVED	JBK	7-06	10-04	TTG	5-06	TTG
			12-04	TTG	7-06	TTG
			3-05	TTG	10-06	TTG
			5-05	TTG		

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OWNER / DEVELOPER
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1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

PRELIMINARY LANDSCAPE DETAILS
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELECTION DISTRICT 1
ELKRIE, MARYLAND (HOWARD COUNTY)
SCALE: NOT TO SCALE DATE: JULY 2006 TIG PROJECT No. 502047 SHEET 10 OF 30

SP#04-08

LINE	LENGTH	BEARING
L1	10.99	S34°22'21"E
L2	12.81	S83°25'51"E
L3	12.72	S11°17'45"E
L4	13.02	N37°54'23"E
L5	3.35	N08°32'07"E
L6	4.73	N31°44'41"E
L7	4.73	N47°32'30"E
L8	9.10	N58°38'02"E
L9	11.20	N83°07'22"E
L10	17.71	N01°38'52"E
L11	24.44	N00°02'02"E
L12	20.35	N52°48'48"E
L13	11.87	N51°38'07"E
L14	12.44	N42°18'33"E
L15	12.29	N37°28'12"E
L16	16.17	N24°17'30"E
L17	17.30	N14°45'37"E
L18	12.08	N02°44'24"E
L19	20.23	N32°48'17"E
L20	16.82	N39°38'37"E
L21	16.22	N43°27'02"E
L22	13.00	N50°00'00"E
L23	14.03	N54°54'52"E
L24	12.26	N55°00'00"E
L25	10.59	N74°07'52"E
L26	10.77	S89°15'48"E
L27	4.09	N01°45'37"E
L28	9.24	N50°29'33"E
L29	11.12	N36°49'30"E
L30	11.91	N22°27'17"E
L31	9.29	N17°05'25"E
L32	12.50	N18°24'48"E
L33	6.81	N07°43'38"W
L34	7.41	N33°45'00"E
L35	15.24	N40°00'00"W
L36	26.25	N43°39'18"W
L37	20.14	N33°49'35"E
L38	20.28	N29°03'31"E
L39	17.78	N26°03'32"E
L40	14.53	N19°24'57"E
L41	19.84	N02°20'02"E
L42	27.84	N09°35'43"E
L43	22.13	N02°44'47"E
L44	12.61	N51°25'30"E
L45	14.57	N18°15'45"W
L46	15.89	N23°35'41"W
L47	15.44	N48°43'06"W
L48	17.35	N31°10'50"W
L49	16.06	N01°48'53"W
L50	16.07	N11°52'15"E
L51	19.79	N20°07'42"E
L52	14.89	N35°38'39"E
L53	19.94	N44°48'30"E
L54	17.17	N45°29'22"E
L55	15.98	N47°16'32"E
L56	14.69	N39°23'27"E
L57	18.05	N50°00'00"E
L58	16.64	N37°20'02"E
L59	10.98	N40°32'42"E
L60	12.92	N37°50'07"E
L61	13.31	N23°45'02"E
L62	16.57	N20°40'01"E
L63	15.53	N14°28'24"E
L64	18.61	N02°11'37"E
L65	19.44	N28°13'07"E
L66	12.67	N55°25'03"E
L67	31.80	N43°29'12"E
L68	19.49	N38°07'43"E
L69	14.69	N07°31'06"E
L70	15.01	N07°41'18"W
L71	12.10	N13°44'54"W
L72	18.59	N25°57'00"W
L73	18.83	N23°17'05"W
L74	25.87	N29°45'08"W
L75	20.17	N13°24'42"W
L76	11.76	N07°30'09"W
L77	16.84	N09°25'37"E
L78	11.42	N31°54'57"E
L79	11.87	N41°15'42"E
L80	12.31	N50°28'48"E
L81	15.40	N53°02'27"E
L82	17.96	N58°07'24"E
L83	16.78	N52°38'20"E
L84	13.30	N43°25'23"E

LINE	LENGTH	BEARING
L85	17.21	N41°10'02"E
L86	14.60	N35°26'55"E
L87	14.13	N36°35'32"E
L88	15.45	N43°17'49"E
L89	11.16	N35°36'39"E
L90	56.10	N44°50'38"E
L91	25.77	N36°19'31"E
L92	27.12	N28°03'17"E
L93	22.51	N20°11'11"E
L94	21.49	N11°15'21"E
L95	20.84	N06°28'47"E
L96	13.21	N58°32'37"E
L97	14.28	N00°16'40"W
L98	22.41	N00°07'46"E
L99	25.80	N20°46'33"E
L100	12.94	N19°48'58"E
L101	23.47	N27°24'03"E
L102	26.43	N42°49'16"E
L103	21.74	N41°24'28"E
L104	23.49	N47°47'59"E
L105	25.36	N39°36'38"E
L106	12.63	N19°54'25"E
L107	36.08	N28°14'31"E
L108	31.80	N24°54'27"E
L109	16.81	N27°11'31"E
L110	23.69	N19°24'03"E
L111	23.47	N27°24'03"E
L112	23.15	N22°47'47"E
L113	20.60	N17°42'49"E
L114	16.57	N20°40'01"E
L115	18.78	N14°28'24"E
L116	23.29	N17°05'25"E
L117	23.68	N09°35'43"E
L118	20.98	N14°20'51"W
L119	32.50	N30°03'48"W
L120	10.90	N15°03'03"W
L121	26.84	N03°24'24"W
L122	21.67	N17°26'38"E
L123	20.92	N13°13'24"E
L124	18.81	N15°28'18"E
L125	19.43	N11°09'02"E
L126	17.28	N07°41'18"W
L127	17.33	N01°18'43"W
L128	14.69	N02°21'21"E
L129	18.27	N17°05'25"E
L130	21.46	N19°32'21"E
L131	23.45	N04°44'08"E
L132	18.38	N71°30'28"E
L133	12.61	N77°44'47"E
L134	12.13	N69°33'54"E
L135	9.84	N54°24'54"E
L136	9.81	N37°54'07"E
L137	7.97	N27°32'02"E
L138	11.30	N17°24'28"E
L139	15.34	N21°20'08"E
L140	14.09	N19°32'21"E
L141	14.80	N12°27'34"E
L142	14.94	N03°01'44"E
L143	12.14	N37°00'58"E
L144	17.33	N01°18'43"W
L145	17.24	N02°24'28"E
L146	18.31	N02°45'09"W
L147	14.09	N06°05'57"W
L148	18.39	N28°40'44"W
L149	22.82	N44°24'43"W
L150	19.51	N13°41'01"W
L151	21.73	N88°23'43"W
L152	15.37	N89°47'32"W
L153	14.69	N82°22'22"W
L154	19.18	N88°50'54"W
L155	15.53	S85°30'37"W
L156	15.37	N84°32'36"W
L157	16.27	N82°04'48"W
L158	15.34	S78°02'54"W
L159	17.88	S80°06'31"W
L160	12.15	N89°17'48"W
L161	11.53	N80°23'05"W
L162	7.82	S88°28'14"W
L163	11.20	N81°54'57"E
L164	7.09	S79°43'38"W
L165	10.04	S73°11'01"W
L166	16.12	S60°28'48"W
L167	16.88	S59°27'46"W
L168	10.20	S57°28'54"W
L169	13.37	S59°27'40"W
L170	12.48	S56°00'00"W

LINE	LENGTH	BEARING
L209	6.31	N37°24'41"W
L210	18.16	N51°48'47"W
L211	20.38	N59°08'41"W
L212	28.38	N78°11'07"W
L213	17.83	N78°19'06"W
L214	23.27	S87°12'25"W
L215	11.61	N02°00'14"W
L216	23.43	S84°40'05"W
L217	14.71	N80°05'52"W
L218	28.88	S79°43'17"W
L219	13.66	N89°30'30"W
L220	22.79	S86°30'09"W
L221	15.03	S87°31'18"W
L222	14.07	S88°33'27"W
L223	14.51	S85°05'53"W
L224	13.57	S74°33'21"W
L225	11.60	S74°38'27"W
L226	10.04	S73°11'07"W
L227	32.84	S85°30'40"W
L228	9.32	S88°07'28"W
L229	18.11	S85°30'30"W
L230	21.39	S89°27'20"W
L231	12.51	S88°23'21"W
L232	23.13	S84°12'42"W
L233	11.46	S82°27'09"W
L234	17.09	N86°03'44"W
L235	16.82	N89°13'24"W
L236	21.33	N72°24'51"W
L237	14.73	N50°18'44"W
L238	14.28	S21°32'47"E
L239	10.78	S20°02'17"E
L240	13.88	S23°28'48"E
L241	13.71	S20°18'02"E
L242	23.82	S24°24'51"W
L243	13.28	S41°58'46"W
L244	13.46	S41°54'53"W
L245	16.86	S39°23'27"W
L246	19.88	S41°44'44"W
L247	12.09	S38°14'36"W
L248	11.72	S37°46'17"W
L249	11.68	S43°00'17"W
L250	13.28	S18°45'50"W
L251	17.48	S33°37'34"W
L252	17.28	S40°45'38"W
L253	14.57	S26°03'32"W
L254	10.95	S42°14'33"W
L255	11.93	S42°28'25"W
L256	18.36	S43°50'01"W
L257	16.36	S44°28'41"W
L258	20.81	S44°33'54"W
L259	19.68	S43°00'17"W
L260	14.61	S48°05'34"W
L261	12.34	S39°27'45"W
L262	16.64	S38°02'44"W
L263	15.45	S26°03'32"W
L264	10.95	S42°14'33"W
L265	11.93	S42°28'25"W
L266	18.36	S43°50'01"W
L267	16.36	S44°28'41"W
L268	20.81	S44°33'54"W
L269	19.68	S43°00'17"W
L270	14.61	S48°05'34"W
L271	12.34	S39°27'45"W
L272	16.64	S38°02'44"W
L273	15.45	S26°03'32"W
L274	10.95	S42°14'33"W
L275	11.93	S42°28'25"W
L276	18.36	S43°50'01"W
L277	16.36	S44°28'41"W
L278	20.81	S44°33'54"W
L279	19.68	S43°00'17"W
L280	14.61	S48°05'34"W
L281	12.34	S39°27'45"W
L282	16.64	S38°02'44"W
L283	15.45	S26°03'32"W
L284	10.95	S42°14'33"W
L285	11.93	S42°28'25"W
L286	18.36	S43°50'01"W
L287	16.36	S44°28'41"W
L288	20.81	S44°33'54"W
L289	19.68	S43°00'17"W
L290	14.61	S48°05'34"W
L291	12.34	S39°27'45"W
L292	16.64	S38°02'44"W
L293	15.45	S26°03'32"W
L294	10.95	S42°14'33"W
L295	11.93	S42°28'25"W
L296	18.36	S43°50'01"W
L297	16.36	S44°28'41"W
L298	20.81	S44°33'54"W
L299	19.68	S43°00'17"W
L300	14.61	S48°05'34"W
L301	12.34	S39°27'45"W
L302	16.64	S38°02'44"W
L303	15.45	S26°03'32"W
L304	10.95	S42°14'33"W
L305	11.93	S42°28'25"W
L306	18.36	S43°50'01"W
L307	16.36	S44°28'41"W
L308	20.81	S44°33'54"W
L309	19.68	S43°00'17"W
L310	14.61	S48°05'34"W
L311	12.34	S39°27'45"W
L312	16.64	S38°02'44"W
L313	15.45	S26°03'32"W
L314	10.95	S42°14'33"W
L315	11.93	S42°28'25"W
L316	18.36	S43°50'01"W
L317	16.36	S44°28'41"W
L318	20.81	S44°33'54"W
L319	19.68	S43°00'17"W
L320	14.61	S48°05'34"W
L321	12.34	S39°27'45"W
L322	16.64	S38°02'44"W
L323	15.45	S26°03'32"W
L324	10.95	S42°14'33"W
L325	11.93	S42°28'25"W
L326	18.36	S43°50'01"W
L327	16.36	S44°28'41"W
L328	20.81	S44°33'54"W
L329	19.68	S43°00'17"W
L330	14.61	S48°05'34"W
L331	12.34	S39°27'45"W
L332	16.64	S38°02'44"W
L333	15.45	S26°03'32"W
L334	10.95	S42°14'33"W
L335	11.93	S42°28'25"W
L336	18.36	S43°50'01"W
L337	16.36	S44°28'41"W
L338	20.81	S44°33'54"W
L339	19.68	S43°00'17"W
L340	14.61	S48°05'34"W
L341	12.34	S39°27'45"W
L342	16.64	S38°02'44"W
L343	15.45	S26°03'32"W
L344	10.95	S42°14'33"W
L345	11.93	S42°28'25"W
L346	18.36	S43°50'01"W

LINE	LENGTH	BEARING
L347	16.31	N37°24'41"W
L348	18.16	N51°48'47"W
L349	20.38	N59°08'41"W
L350	28.38	N78°11'07"W
L351	17.83	N78°19'06"W
L352	23.27	S87°12'25"W
L353	11.61	N02°00'14"W
L354	23.43	S84°40'05"W
L355	14.71	N80°05'52"W
L356	28.88	S79°43'17"W
L357	13.66	N89°30'30"W
L358	22.79	S86°30'09"W
L359	15.03	S87°31'18"W
L360	14.07	S88°33'27"W
L361	14.51	S85°05'53"W
L362	13.57	S74°33'21"W
L363	11.60	S74°38'27"W
L364	10.04	S73°11'07"W
L365	32.84	S85°30'40"W
L366	9.32	S88°07'28"W
L367	18.11	S85°30'30"W
L368	2	

LINE	LENGTH	BEARING
L1	10.99	S42°22'27"E
L2	12.91	S23°28'15"E
L3	12.72	S11°17'49"E
L4	1.32	N17°24'23"E
L5	3.35	N89°02'07"E
L6	4.73	N31°34'44"E
L7	6.73	N47°52'00"E
L8	8.10	N55°59'47"E
L9	11.20	N83°37'22"E
L10	17.71	N61°58'08"E
L11	24.44	N65°59'47"E
L12	20.35	N59°48'45"E
L13	11.87	N51°38'07"E
L14	12.44	N42°18'38"E
L15	12.29	N37°28'15"E
L16	18.17	N24°17'39"E
L17	17.30	N14°45'51"E
L18	12.08	N05°54'24"E
L19	20.23	N32°44'13"E
L20	16.82	N39°38'32"E
L21	18.22	N42°47'25"E
L22	13.00	N50°00'00"E
L23	14.03	N54°54'58"E
L24	17.28	N60°00'00"E
L25	10.99	N74°07'42"E
L26	10.77	S89°15'18"E
L27	6.96	N81°45'17"E
L28	4.24	N92°00'00"E
L29	11.12	N36°49'30"E
L30	11.91	N23°27'12"E
L31	5.29	N17°28'25"E
L32	12.50	N18°24'44"E
L33	6.81	N07°14'38"W
L34	7.41	N33°59'16"W
L35	19.24	N49°00'00"W
L36	26.25	N43°59'18"W
L37	29.14	N33°49'32"E
L38	20.28	N23°30'33"E
L39	17.78	N18°33'32"E
L40	14.53	N19°54'54"E
L41	18.64	N02°20'21"E
L42	23.94	N09°35'43"E
L43	22.13	N02°34'47"E
L44	12.91	N15°12'10"W
L45	14.57	N18°10'42"W
L46	15.98	N23°35'41"W
L47	15.44	N46°43'00"W
L48	17.33	N31°30'18"W
L49	18.06	N01°46'55"W
L50	16.07	N11°52'12"E
L51	19.79	N29°47'39"E
L52	14.89	N50°00'00"E
L53	19.94	N44°48'39"E
L54	17.17	N46°59'22"E
L55	18.98	N47°16'35"E
L56	14.69	N32°23'27"E
L57	18.05	N50°00'00"E
L58	18.64	N37°28'15"E
L59	10.98	N45°24'44"E
L60	12.92	N37°25'02"E
L61	13.33	N21°43'25"E
L62	18.27	N09°00'00"E
L63	15.53	N14°28'23"E
L64	18.61	N27°11'37"E
L65	19.44	N26°33'02"E
L66	12.67	N45°50'07"E
L67	31.80	N43°28'12"E
L68	19.49	N38°37'14"E
L69	14.69	N07°31'04"E
L70	15.01	N07°14'18"W
L71	12.10	N13°24'42"W
L72	18.99	N25°27'00"W
L73	18.83	N23°17'08"W
L74	20.87	N29°45'09"W
L75	20.17	N19°44'44"W
L76	11.76	N07°30'09"W
L77	18.64	N09°25'39"E
L78	11.42	N31°34'57"E
L79	11.87	N41°15'40"E
L80	12.31	N50°28'48"E
L81	15.40	N63°20'21"E
L82	17.96	N87°07'24"E
L83	16.78	N52°36'02"E
L84	13.30	N43°26'23"E

L85	17.21	N41°31'00"E
L86	14.60	N36°26'20"E
L87	14.13	N31°17'49"E
L88	15.45	N43°17'49"E
L89	11.16	N35°58'30"E
L90	8.61	N42°30'12"E
L91	25.77	N36°19'13"E
L92	27.12	N28°00'51"E
L93	13.00	N18°30'00"E
L94	21.49	N11°15'12"E
L95	20.84	N06°39'47"E
L96	13.22	N01°58'37"W
L97	14.26	N04°17'59"W
L98	22.41	N00°07'46"E
L99	25.86	N20°48'33"E
L100	13.00	N19°48'00"E
L101	23.47	N19°48'00"E
L102	26.43	N42°09'18"E
L103	21.74	N45°14'28"E
L104	23.49	N47°17'59"E
L105	25.36	N29°30'38"E
L106	12.63	N19°40'43"E
L107	36.08	N26°14'31"E
L108	31.90	N24°54'27"E
L109	18.61	N27°11'37"E
L110	25.98	N31°45'59"E
L111	23.47	N27°24'03"E
L112	23.13	N29°27'47"E
L113	20.60	N21°42'46"E
L114	18.57	N09°00'00"E
L115	18.78	N14°48'38"E
L116	23.29	N14°28'23"E
L117	23.81	N09°24'44"E
L118	20.98	N14°30'51"W
L119	32.30	N04°15'46"W
L120	18.00	N15°12'10"W
L121	26.64	N03°34'24"W
L122	21.67	N07°46'35"E
L123	20.51	N09°24'44"E
L124	18.81	N15°28'10"E
L125	19.43	N11°59'00"E
L126	17.24	N02°24'29"E
L127	17.33	N01°18'43"E
L128	14.69	N09°32'41"E
L129	18.27	N17°07'16"E
L130	23.46	N15°27'38"E
L131	23.45	N09°44'00"E
L132	19.38	N71°20'20"E
L133	12.61	N77°44'47"E
L134	12.13	N69°53'54"E
L135	9.94	N54°25'43"E
L136	9.81	N39°41'42"E
L137	7.97	N27°27'09"E
L138	11.30	N17°24'28"E
L139	15.34	N21°57'00"E
L140	14.09	N10°33'24"E
L141	14.80	N12°24'44"E
L142	14.04	N05°01'44"E
L143	12.14	N02°30'58"E
L144	17.33	N01°18'43"E
L145	17.24	N02°54'28"E
L146	19.31	N02°34'00"W
L147	14.91	N00°00'00"W
L148	18.39	N28°40'44"W
L149	22.62	N44°34'43"W
L150	19.51	N73°43'09"W
L151	21.73	N85°43'43"W
L152	15.37	N89°47'32"W
L153	14.69	N82°47'22"W
L154	19.18	N85°24'44"W
L155	15.53	S85°30'37"W
L156	15.37	N89°47'32"W
L157	16.27	S83°48'48"W
L158	15.34	S78°02'54"W
L159	17.86	S88°18'51"W
L160	12.15	N80°27'18"W
L161	11.53	N89°20'59"W
L162	7.82	S88°18'47"W
L163	11.20	N88°12'01"W
L164	7.91	S94°42'47"W
L165	10.04	S73°11'01"W
L166	16.12	S60°59'45"W
L167	16.80	S59°00'00"W
L168	10.20	S57°26'54"W
L169	13.37	S59°27'30"W
L170	12.49	S65°40'00"W

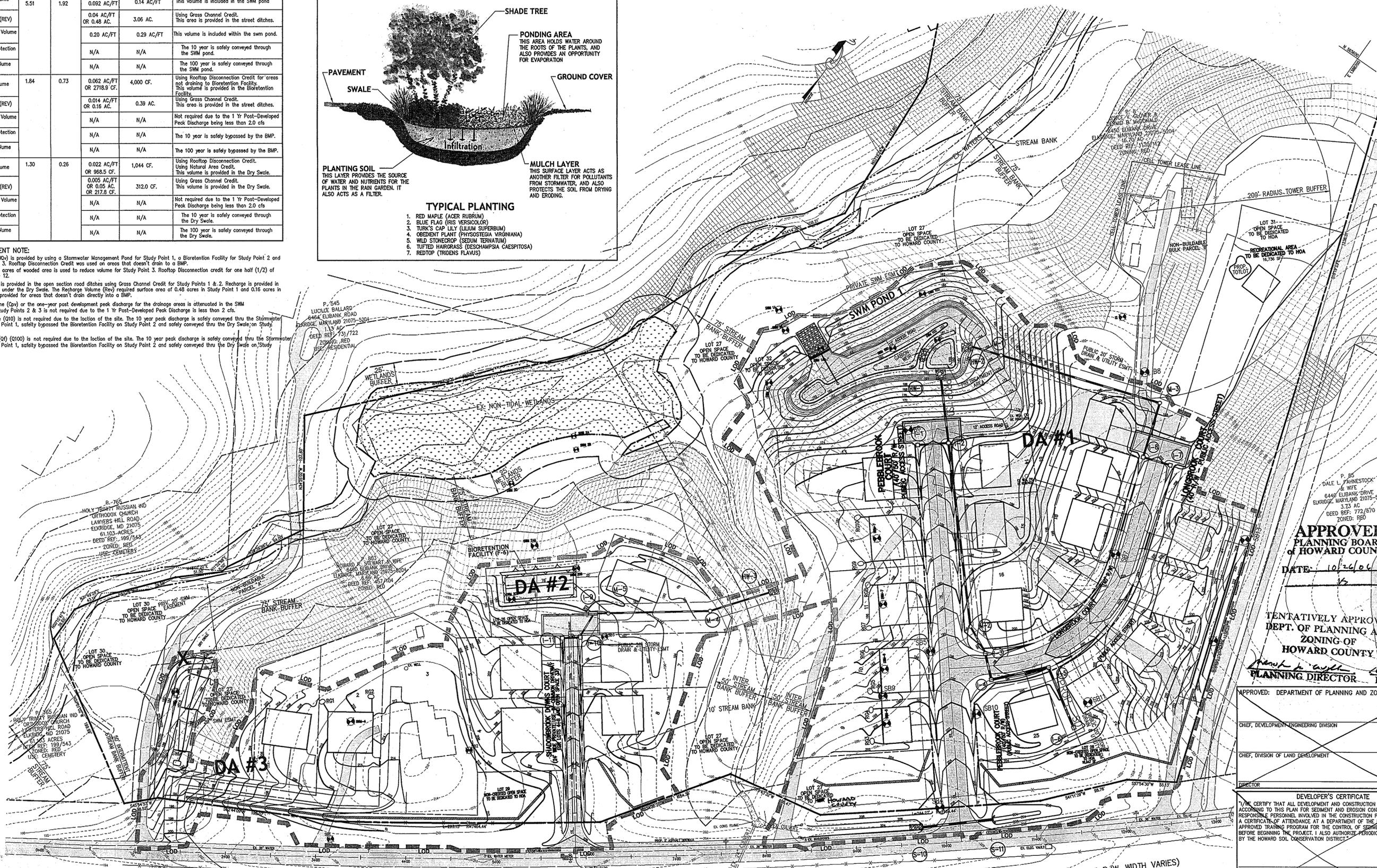
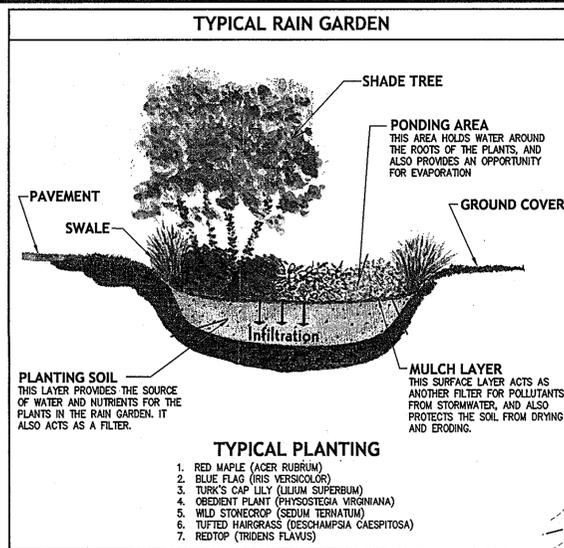
L269	16.31	N37°21'41"W
L270	18.16	N51°46'47"W
L271	20.38	N59°08'41"W
L272	29.38	N78°11'07"W
L273	17.83	N78°39'06"W
L274	23.27	S87°22'25"W
L275	15.20	N87°00'14"W
L276	23.43	S84°40'07"W
L277	14.71	N89°08'52"W
L278	28.88	S79°43'12"W
L279	22.51	S80°03'25"W
L280	22.78	S88°30'44"W
L281	15.03	S87°31'18"W
L282	14.07	S88°38'22"W
L283	14.50	S89°12'46"W
L284	13.57	S74°53'21"W
L285	11.60	S74°58'29"W
L286	12.54	S73°11'07"W
L287	32.84	S65°30'19"W
L288	9.32	S58°07'26"W
L289	16.11	S59°32'20"W
L290	21.39	S69°27'07"W
L291	12.51	S68°26'21"W
L292	23.13	S64°17'26"W
L293	11.46	S82°27'00"W
L294	17.09	N86°03'44"W
L295	16.82	N89°13'24"W
L296	21.33	N87°00'00"W
L297	14.73	N50°18'44"W
L298	12.28	S31°32'42"E
L299	10.78	S43°07'27"E
L300	13.88	S33°00'48"E
L301	13.71	S02°18'40"E
L302	7.97	S28°13'07"W
L303	13.98	S34°28'48"E
L304	13.46	S41°34'53"W
L305	16.08	S39°23'27"W
L306	12.98	N15°12'10"W
L307	12.09	S38°14'36"W
L308	11.72	S27°46'17"W
L309	11.68	S28°09'24"W
L310	13.28	S18°41'50"W
L311	17.48	S33°37'34"W
L312	11.25	S34°45'45"W
L313	15.97	S29°13'20"W
L314	10.95	S42°14'33"W
L315	11.93	S42°52'56"W
L316	23.46	S43°20'00"W
L317	15.36	S44°09'41"W
L318	20.81	S44°33'34"W
L319	16.06	S39°23'27"W
L320	14.81	S48°05'44"W
L321	12.34	S39°27'35"W
L322	16.84	S38°02'08"W
L323	15.48	S27°38'32"E
L324	10.12	S07°00'14"W
L325	8.72	S09°44'16"W
L326	14.09	S02°34'00"E
L327	12.17	S18°36'32"E
L328	15.78	S26°30'37"E
L329	22.72	S27°47'02"E
L330	0.99	S29°27'05"E
L331	18.84	S15°24'39"E
L332	15.09	S01°36'15"E
L333	14.40	S01°35'42"E
L334	21.03	S10°44'20"W
L335	20.82	S19°31'29"W
L336	17.65	S23°27'22"E
L337	18.91	S34°53'28"W
L338	16.54	S32°39'45"W
L339	16.54	S32°39'45"W
L340	15.36	S44°28'49"W
L341	34.21	S44°12'47"W
L342	45.95	S69°41'17"E
L343	16.88	S78°30'02"E
L344	13.27	N89°01'31"E
L345	7.59	N89°47'00"E
L346	5.48	S87°28'35"E
L347	6.03	S89°39'44"E
L348	3.75	S10°15'35"E
L349	4.98	S13°18'12"W
L350	4.88	S45°42'47"W
L351	5.10	S67°43'54"W
L352	4.13	N88°50'12"W
L353	11.47	N88°00'24"W
L354	15.55	N87°33'23"W
L355	15.65	N86°35'00"W
L356	18.48	N86°27'15"W

L171	12.55	S87°00'32"W
L172	14.63	S87°30'49"W
L173	13.21	S73°22'54"W
L174	15.71	S67°54'57"W
L175	17.31	S72°58'06"W
L176	18.48	S78°22'23"W
L177	14.40	S81°14'44"W
L178	23.43	S84°40'07"W
L179	21.53	N55°57'38"W
L180	16.05	N50°37'49"W
L181	13.02	N69°30'30"W
L182	13.28	N88°30'44"W
L183	15.09	S88°20'21"W
L184	18.14	N87°13'25"W
L185	14.53	N89°12'46"W
L186	17.10	S83°12'18"W
L187	11.47	S78°28'29"W
L188	11.84	S52°03'00"W
L189	14.78	S24°18'46"W
L190	18.25	S11°38'37"W
L191	20.65	S09°32'20"W
L192	11.78	S06°39'09"E
L193	17.87	S15°32'03"E
L194	15.34	S05°01'44"W
L195	16.16	S02°11'50"W
L196	12.42	S43°09'51"W
L197	14.83	S53°48'37"W
L198	13.88	S69°27'07"W
L199	13.87	S75°46'38"W
L200	14.72	S77°08'49"W
L201	10.78	S43°07'27"E
L202	10.97	S50°00'48"E
L203	8.96	S40°55'00"W
L204	23.10	S31°05'18"W
L205	26.04	S29°27'05"E
L206	28.87	S02°47'52"W
L207	37.18	S15°35'10"W
L208	15.42	S33°24'44"W
L209	15.88	S03°46'51"E
L210	9.98	S07°34'06"E
L211	11.68	S17°17'27"W
L212	17.31	S18°39'54"E
L213	21.64	S08°54'23"E
L214	17.06	S03°39'39"W
L215	16.99	N03°55'40"E
L216	17.72	S11°39'15"W
L217	16.18	S12°27'44"W
L218	23.89	S18°20'00"W
L219	26.46	S22°07'36"W
L220	30.78	S22°58'26"W
L221	16.09	S24°19'25"W
L222	27.90	S22°02'26"W
L223	13.28	S34°58'46"W
L224	15.20	S36°32'44"W
L225	13.42	S33°24'44"W
L226	13.92	S27°05'18"W
L227	15.48	S19°22'48"W
L228	16.42	S17°17'27"W
L229	18.72	S31°54'57"W
L230	10.92	S31°45'17"W
L231	13.78	S34°58'46"W
L232	14.72	S36°28'34"W
L233	16.46	S41°23'35"W
L234	18.80	S45°28'26"W
L235	22.81	S38°18'30"W
L236	14.98	S32°46'30"W
L237	16.74	S17°49'39"W
L238	13.64	S09°25'29"W
L239	24.36	S04°01'49"E
L240	17.00	S10°26'11"E
L241	14.40	S01°35'39"E
L242	15.99	S07°45'19"W
L243	15.98	N53°24'20"W
L244	21.08	N58°27'08"W
L245	12.42	N5

Step	Requirement/Category	Total Site Area (Acres)	Total Impervious Area (Acres)	Volume Required	WQV Provided	Remarks
STUDY POINT 1	1 Water Quality Volume (WQV)	5.51	1.92	0.092 AC/FT	0.14 AC/FT	This volume is included in the SWM pond
	2 Recharge Volume (REV)			0.04 AC/FT OR 0.48 AC	3.06 AC	Using Grass Channel Credit. This area is provided in the street ditches.
	3 Channel Protection Volume (CPV)			0.20 AC/FT	0.29 AC/FT	This volume is included within the swm pond.
	4 Overbank Flood Protection Volume (OP)			N/A	N/A	The 10 year is safely conveyed through the SWM pond.
	5 Extreme Flood Volume (EF)			N/A	N/A	The 100 year is safely conveyed through the SWM pond.
STUDY POINT 2	1 Water Quality Volume (WQV)	1.84	0.73	0.062 AC/FT OR 2718.9 CF	4,000 CF	Using Rooftop Disconnection Credit for areas not draining to Bioretention Facility. This volume is provided in the Bioretention Facility.
	2 Recharge Volume (REV)			0.014 AC/FT OR 0.16 AC	0.39 AC	Using Grass Channel Credit. This area is provided in the street ditches.
	3 Channel Protection Volume (CPV)			N/A	N/A	Not required due to the 1 Yr Post-Developed Peak Discharge being less than 2.0 cfs
	4 Overbank Flood Protection Volume (OP)			N/A	N/A	The 10 year is safely bypassed by the BMP.
	5 Extreme Flood Volume (EF)			N/A	N/A	The 100 year is safely bypassed by the BMP.
STUDY POINT 3	1 Water Quality Volume (WQV)	1.30	0.26	0.022 AC/FT OR 968.5 CF	1,044 CF	Using Rooftop Disconnection Credit. Using Natural Area Credit. This volume is provided in the Dry Swale.
	2 Recharge Volume (REV)			0.005 AC/FT OR 0.05 AC OR 217.8 CF	312.0 CF	Using Grass Channel Credit. This volume is provided in the Dry Swale.
	3 Channel Protection Volume (CPV)			N/A	N/A	Not required due to the 1 Yr Post-Developed Peak Discharge being less than 2.0 cfs
	4 Overbank Flood Protection Volume (OP)			N/A	N/A	The 10 year is safely conveyed through the Dry Swale.
	5 Extreme Flood Volume (EF)			N/A	N/A	The 100 year is safely conveyed through the Dry Swale.

STORMWATER MANAGEMENT NOTE:

- The Water Quality Volume (WQV) is provided by using a Stormwater Management Pond for Study Point 1, a Bioretention Facility for Study Point 2 and a Dry Swale for Study Point 3. Rooftop Disconnection Credit was used on areas that don't drain to a BMP. Natural Area Credit for 0.14 acres of wooded area is used to reduce volume for Study Point 3. Rooftop Disconnection credit for one half (1/2) of the roof line on lots 2, 9 - 12.
- The Recharge Volume (Rev) is provided in the open section road ditches using Grass Channel Credit for Study Points 1 & 2. Recharge is provided in stone filled reservoir located under the Dry Swale. The Recharge Volume (Rev) required surface area of 0.48 acres in Study Point 1 and 0.16 acres in Study Point 2. Drywells are provided for areas that don't drain directly into a BMP.
- The Channel Protection Volume (Cpv) or the one-year post development peak discharge for the drainage areas is attenuated in the SWM ponds on Study Point #1. Study Points 2 & 3 is not required due to the 1 Yr Post-Developed Peak Discharge is less than 2 cfs.
- The Flood Protection Volume (O10) is not required due to the location of the site. The 10 year peak discharge is safely conveyed thru the Stormwater Management Pond on Study Point 1, safely bypassed the Bioretention Facility on Study Point 2 and safely conveyed thru the Dry Swale on Study Point 3.
- The Extreme Flood Volume (O100) is not required due to the location of the site. The 100 year peak discharge is safely conveyed thru the Stormwater Management Pond on Study Point 1, safely bypassed the Bioretention Facility on Study Point 2 and safely conveyed thru the Dry Swale on Study Point 3.



APPROVED
PLANNING BOARD
OF HOWARD COUNTY

DATE: 10/26/06

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY

PLANNING DIRECTOR DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT/ENGINEERING DIVISION DATE

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DIRECTOR DATE

DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER DATE

PRINTED NAME OF DEVELOPER

DESIGNED	IG/DM	7-06
		DATE
DRAWN	JLC	7-06
		DATE
CHECKED	KLM	7-06
		DATE
APPROVED	JBK	7-06
		DATE

REVISIONS		
DATE	BY	DESCRIPTIONS
10-03	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-27-03
7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04
10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04
12-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04
3-05	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 2-11-05
5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05

REVISIONS		
DATE	BY	DESCRIPTIONS
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1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
10-06	TTG	REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06

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Fax (410) 987-3457

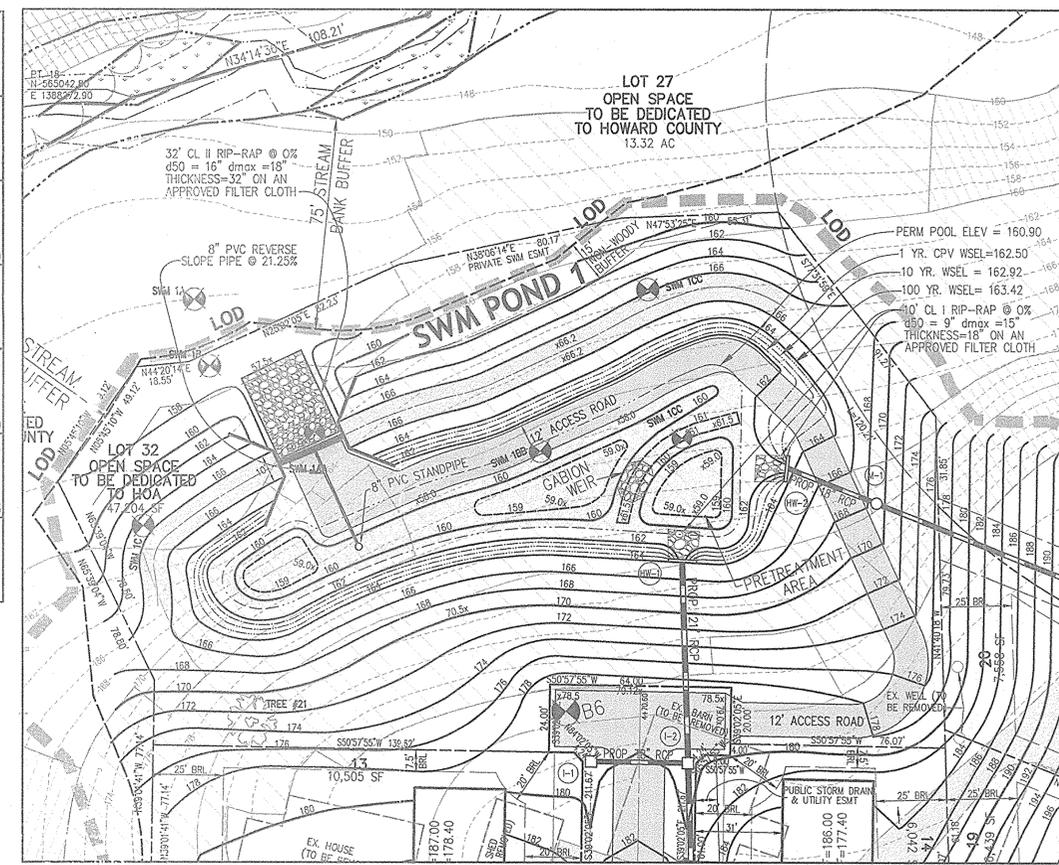
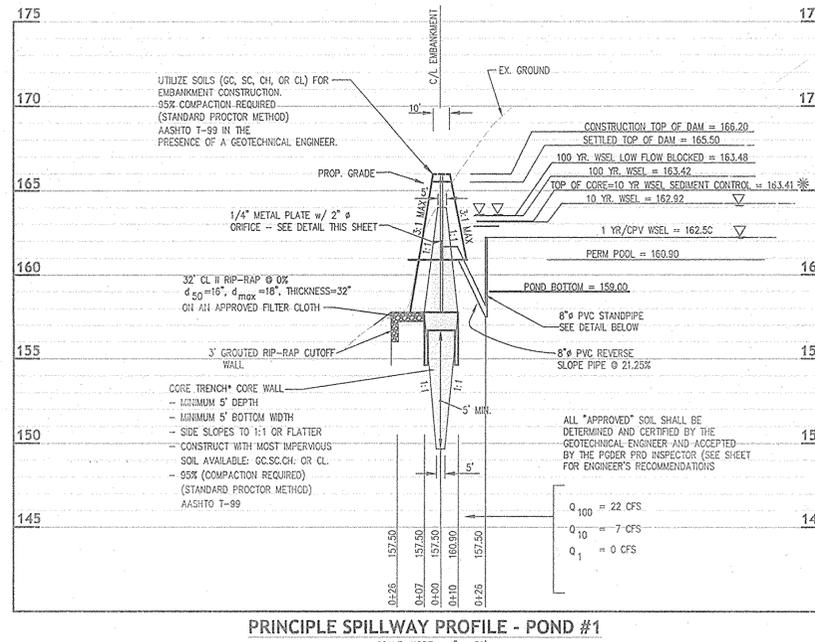
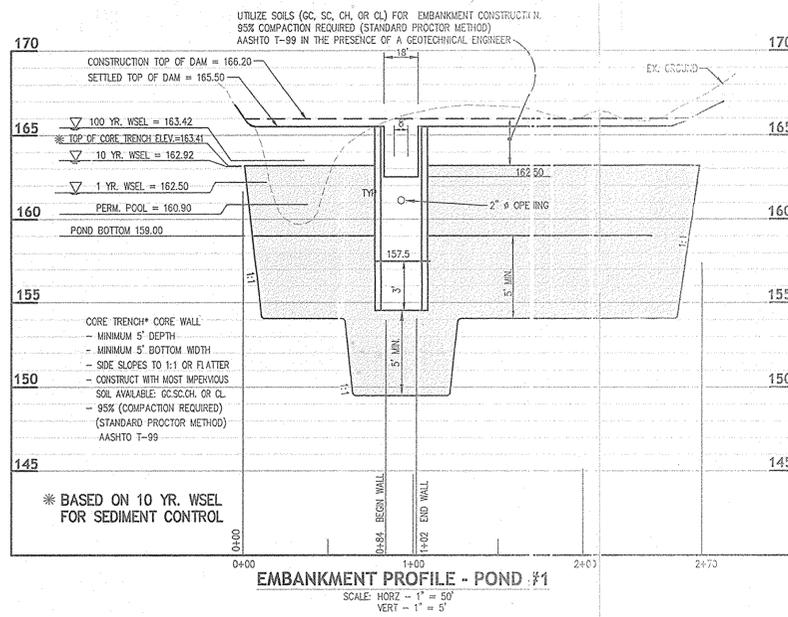


OWNER / DEVELOPER
SHADOWBROOK FARM, LLC
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

PRELIMINARY STORMWATER MANAGEMENT PLAN
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELKDRIDGE DISTRICT 1
ELKDRIDGE, MARYLAND (HOWARD COUNTY)

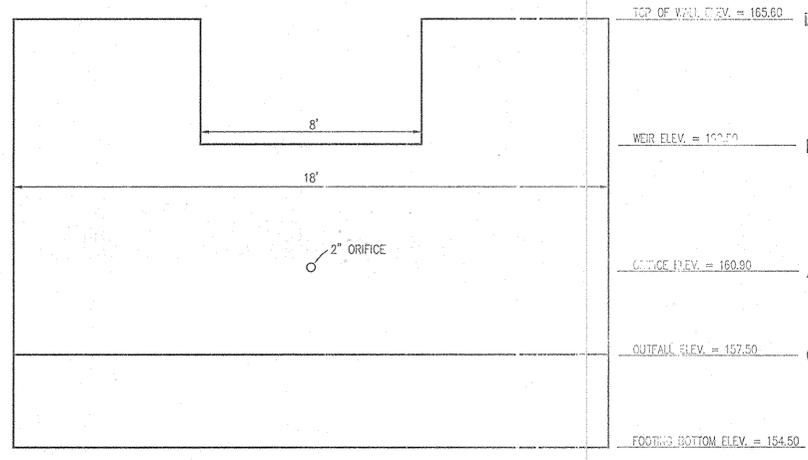
SCALE: 1" = 50' DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 13 OF 30

SP#04-08

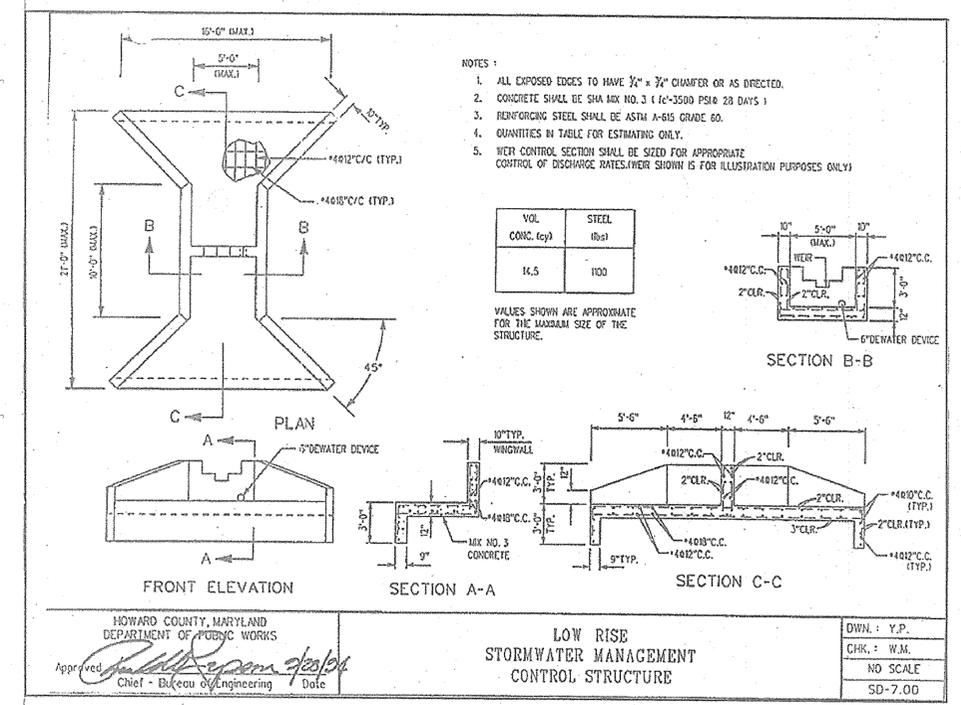
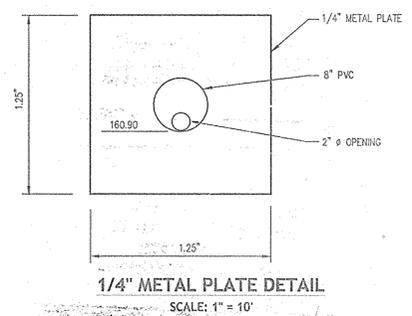
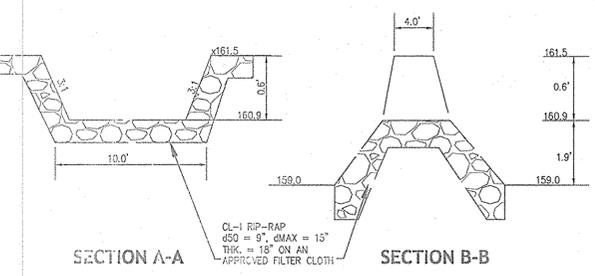
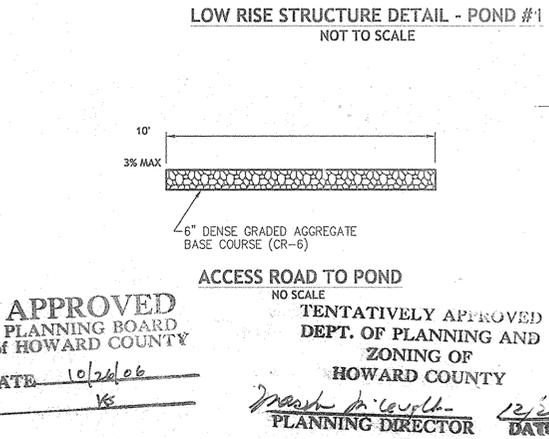
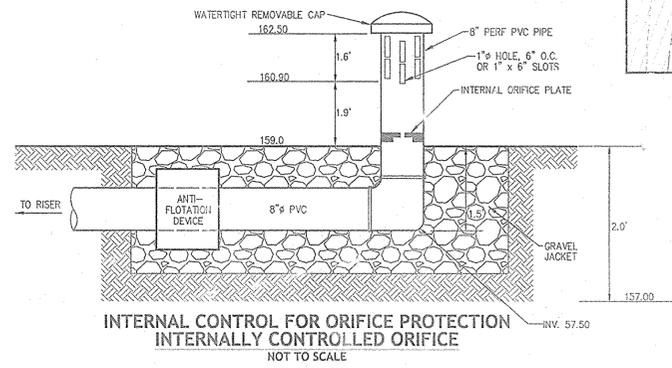


STUDY POINT 1 / POCKET POND 1

BASIN DESIGN
1 YR. CPV WSEL = 162.50
10 YR. WSEL = 162.92
100 YR. WSEL = 163.42
BOTTOM ELEV. = 159.00
TOP OF EMBANKMENT
SETTLED = 165.50
CONSTRUCTED = 166.20
PREDEVELOPMENT THRU POND POSTDEVELOPMENT THRU POND



ELEV.	POND 1
A	160.90
B	162.50
C	157.50
D	165.60
E	154.50



DESIGNED	IG/DM	7-06	DATE	REVISIONS	DATE	BY	DESCRIPTIONS	DATE	BY	DESCRIPTIONS
DRAWN	JLC	7-06	DATE	10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05	
CHECKED	KLM	7-06	DATE	7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05	
APPROVED	JBK	7-06	DATE	10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006	
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STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
111904

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MILLERSVILLE, MARYLAND 21108
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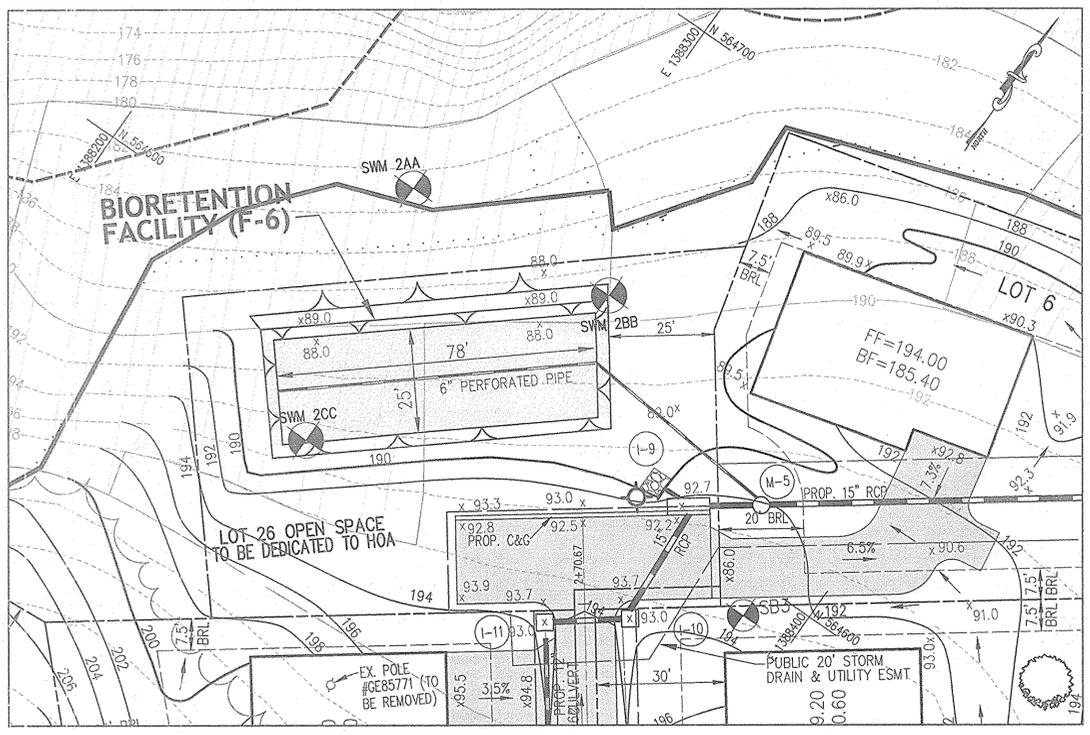
PRELIMINARY STORMWATER MANAGEMENT POND #1
PLAN, PROFILES AND DETAILS

SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELECTION DISTRICT 1
ELKRDGE, MARYLAND (HOWARD COUNTY)

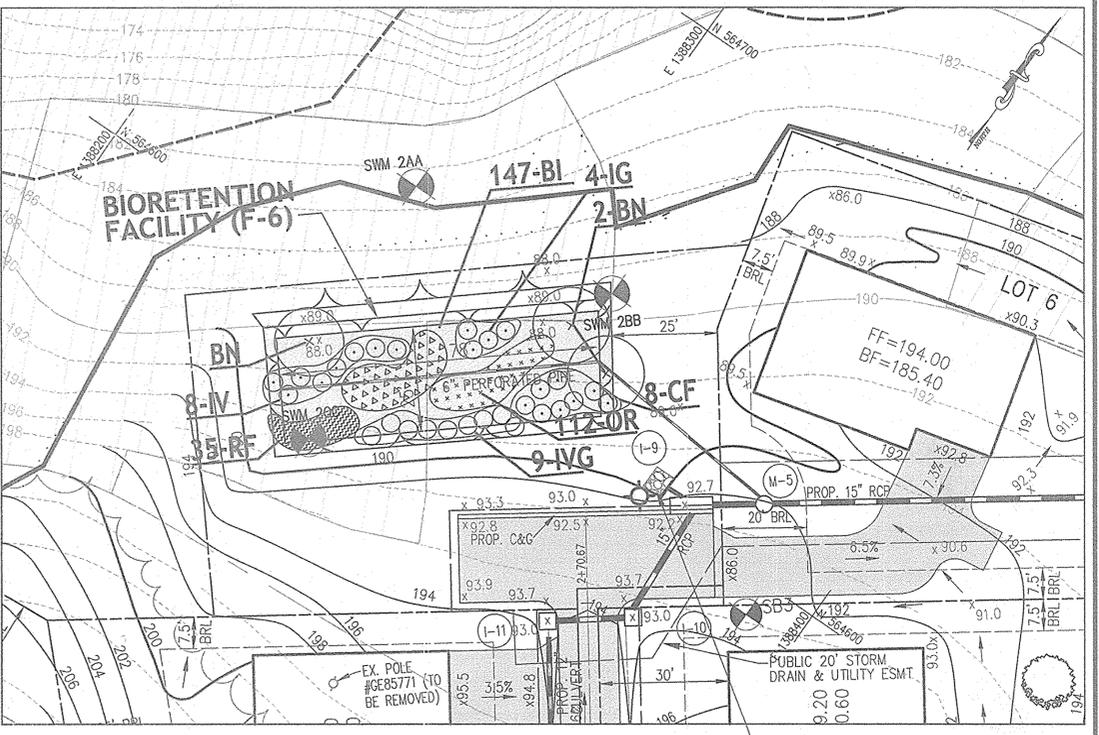
SCALE: AS SHOWN DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 14 OF 30
SP # 04-08

SPECIFICATIONS FOR BIORETENTION FACILITIES

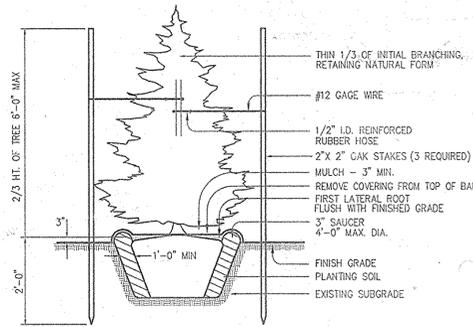
- MATERIAL SPECIFICATIONS FROM MDE 2000 SWM DESIGN MANUAL**
THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREA ARE DETAILED IN TABLE B.3.2.
- PLANTING SOIL**
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.06.01.05. THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
PH RANGE: 5.2-7.0
ORGANIC MATTER: 1.5-4% (BY WEIGHT)
MAGNESIUM: 35 lb/ac
PHOSPHORUS (PHOSPHATE - P₂O₅): 75 lb/ac
POTASSIUM (POTASH - K₂O): 185 lb/ac
SOLUBLE SALTS: NOT TO EXCEED 500 ppm
ALL BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE TOPSOIL WAS EXCAVATED.
SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY.
SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.
- COMPACTION**
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE. COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL, PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO FRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BACKFILLING THE OPTIONAL SAND FILTER LAYER. PUMP AWAY PONDING WATER BEFORE PREPARING (ROTOTILLING) BASE.
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.
- PLANT MATERIAL**
RECOMMENDED PLANT MATERIAL FOR BIORETENTION AREAS CAN BE FOUND IN APPENDIX 1, SECTION A.2.3.
- PLANT INSTALLATION**
MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8" OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.
TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS, OREGANES, OR AT MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.
- UNDERDRAINS**
UNDERDRAINS ARE TO BE PLACED ON A 3"-0" WIDE SECTION OF FILTER CLOTH. PIPE IS PLACED NEXT, FOLLOWED BY THE GRAVEL BEDDING. THE ENDS OF UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL SHALL BE CAPPED.
THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).
- MISCELLANEOUS**
THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.



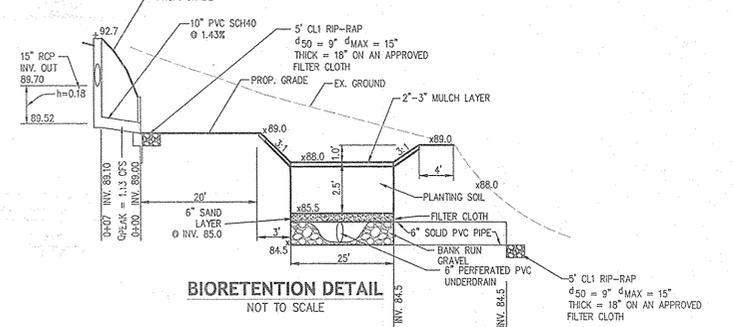
BIORETENTION PLAN
SCALE: 1" = 20'



BIORETENTION LANDSCAPE PLAN
SCALE: 1" = 20'



EVERGREEN PLANTING DETAIL
NOT TO SCALE



BIORETENTION DETAIL
NOT TO SCALE

APPROVED
PLANNING BOARD
of HOWARD COUNTY

DATE: 10/26/06
VS

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY

PLANNING DIRECTOR DATE: 10/20/06
VS

Shadowbrooke Downs BIO-RETENTION PLANT LIST

KEY	QUAN	BOTANICAL / COMMON NAME	ZONE	SIZE	SPACING	ROOT
ORNAMENTAL TREES						
3	BN	Betula nigra "Heritage" / "Heritage" River Birch	(2,3),4	6-8' HT	As Shown	B&B
SHRUBS						
8	CF	Cornus sericea f. baileyi / Bailey's Red-twig Dogwood	2,(3,4)	2-2 1/2' SP	7' o.c.	#3 CONT
4	IG	Ilex glabra "Nigra" / "Nigra" Inkberry	(2,3),4	2-2 1/2' SP	8' o.c.	#3 CONT
8	IV	Ilex verticillata "Southern Gentleman" / "Southern Gentleman Winterberry	1,2,3	2-2 1/2' SP	8' o.c.	#3 CONT
9	IVG	Ilex verticillata "Sparkberry" / "Sparkberry Winterberry	1,2,3	2-2 1/2' SP	8' o.c.	#3 CONT
HERBACEOUS SPECIES						
147	BI	Iris versicolor / Blue Water Iris	1,(2),3	18" o.c.	4" POT	
112	OR	Osmunda regalis / Royal Fern	(1,2),3	18" o.c.	4" POT	
35	RF	Rudbeckia fulgida speciosa "Goldlocks" / Black Eyed Susan	4,5,6	24" o.c.	#1 CONT	

- LEGEND**
- ORNAMENTAL STREET TREE
 - STREET TREE
 - SHADE TREE
 - EVERGREEN TREE
 - ORNAMENTAL SHRUB
 - EVERGREEN SHRUB
 - DAYLILLY
 - STREET LIGHT

DESIGNED IG/DM 7-06 DATE

DRAWN JLC 7-06 DATE

CHECKED KLM 7-06 DATE

APPROVED JBK 7-06 DATE

REVISIONS

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REVISIONS

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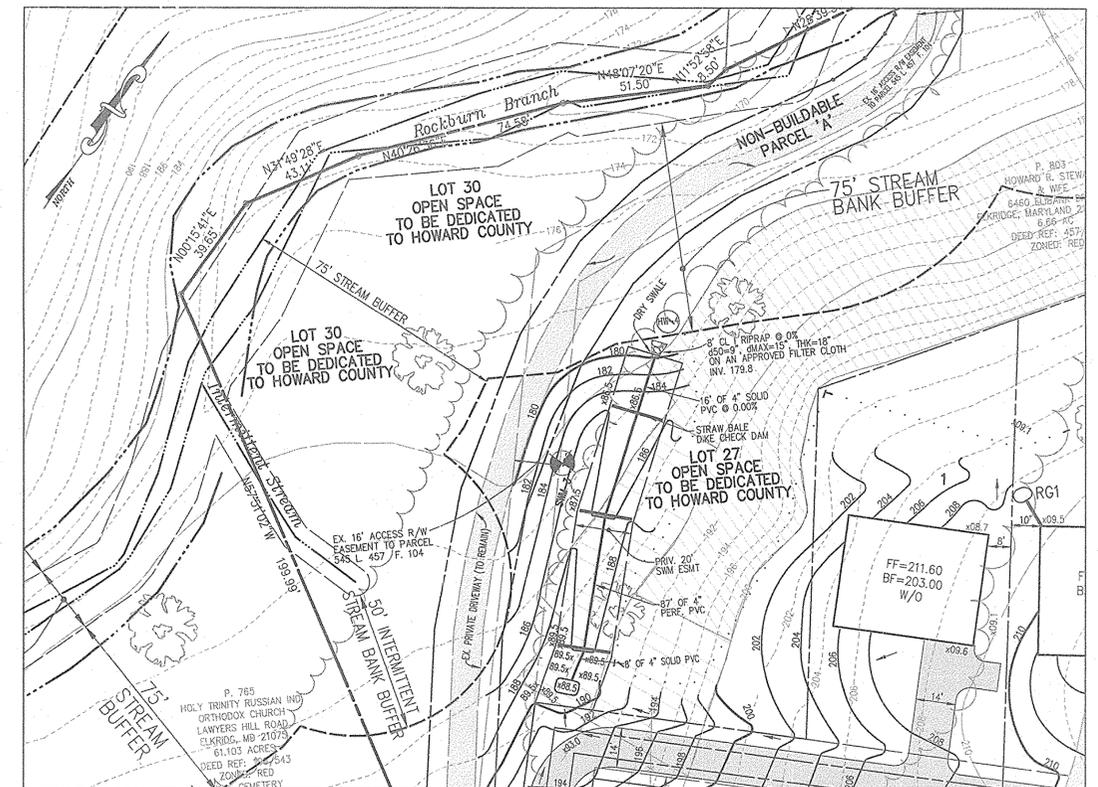
OWNER / DEVELOPER
SHADOWBROOK FARM, LLC.
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

STORMWATER BIORETENTION PLAN AND DETAILS

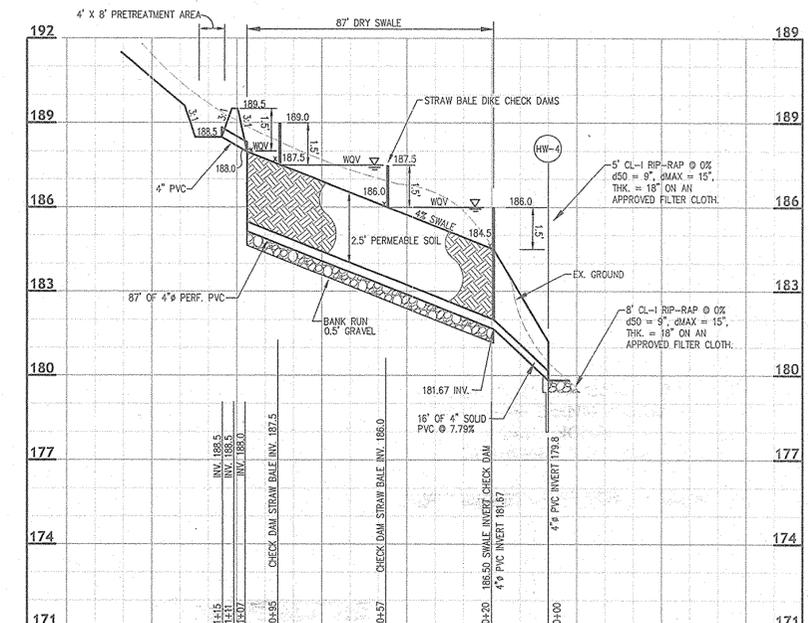
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TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELKRIE, MARYLAND (HOWARD COUNTY)

SCALE: AS SHOWN DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 15 OF 30

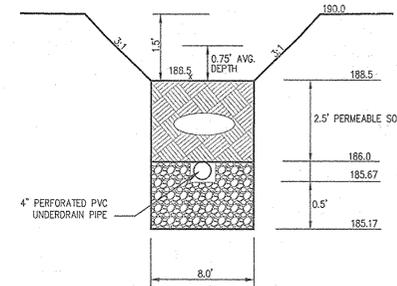
SP#04-08



DRY SWALE DETAIL PLAN
SCALE: 1" = 30'



STUDY POINT #3 - DRY SWALE PROFILE



UNDERDRAIN PIPE DETAIL
NOT TO SCALE

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY
PLANNING DIRECTOR

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 10/26/06

DESIGNED	IG/DM	DATE	REVISIONS			REVISIONS		
			DATE	BY	DESCRIPTIONS	DATE	BY	DESCRIPTIONS
DRAWN	JLC	7-06	10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
CHECKED	KLM	7-06	7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
APPROVED	JBK	7-06	10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
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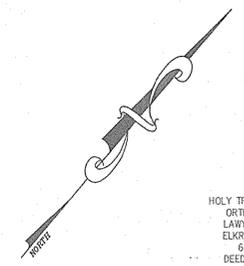
**PRELIMINARY STORMWATER MANAGEMENT
DRY SWALE PLAN, PROFILE AND DETAILS**
SHADOWBROOK DOWNS
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TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELECTION DISTRICT 1
ELKRDIDGE, MARYLAND (HOWARD COUNTY)

SCALE: 1" = 20' DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 16 OF 30

SP#04-08

LEGEND

- TRACT BOUNDARY
- LOT OR PARCEL BOUNDARIES
- EX. CONTOUR/ SPOT ELEVATIONS
- PROP. CONTOUR/ SPOT ELEVATIONS
- EX. STREAMS
- STREAM BANK BUFFER
- APPROX. EDGE OF NON-TIDAL WETLANDS
- WETLANDS 25' BUFFER
- PROP. LIMIT OF DISTURBANCE
- EX. SD
- 15" SD
- PROP. PRIVATE 100W HPS VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
- PROP. PUBLIC 100 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
- PROP. PUBLIC 150 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
- ROOFTOP DISCONNECTION CREDIT
- GRASS CHANNEL CREDIT
- EX. DEDICATED RIGHT-OF-WAYS OR EASEMENT
- EX. STRUCTURES
- PROP. STRUCTURES
- 100 YEAR FLOOD PLAN (FEMA)
- 10' SEWER EASEMENT SETBACK
- EX. WOODLAND EDGE
- PROP. WOODLAND EDGE
- EX. WATER MAIN W/ FIRE HYDRANT
- PROP. WATER MAIN W/ VALVE & FIRE HYDRANT
- EX. SANITARY SEWER
- PROP. SANITARY SEWER
- 15% - 25% SLOPES
- >25% SLOPES
- EX. SPECIMEN TREE



P. 765
 HOLY TRINITY RUSSIAN AND
 ORTHODOX CHURCH
 LAWYERS HILL ROAD
 ELKROGUE, MD 21078
 61.103 ACRES
 DEED REF: 199/543
 ZONING: RES.
 USE: CEMETERY

P. 545
 LULUJALE BALLARC
 5464 ELIBANK DRIVE
 ELKROGUE, MARYLAND 21075-5204
 1.1 AC
 DEED REF: 731/772
 ZONING: RES
 USE: RESIDENTIAL

P. 765
 HOLY TRINITY RUSSIAN AND
 ORTHODOX CHURCH
 LAWYERS HILL ROAD
 ELKROGUE, MD 21078
 61.103 ACRES
 DEED REF: 199/543
 ZONING: RES.
 USE: CEMETERY

P. 805
 HOWARD R. STEWART & WIFE
 6448 ELIBANK DRIVE
 ELKROGUE, MARYLAND 21075-5204
 1.4 AC
 DEED REF: 57/104
 ZONING: RES
 USE: RESIDENTIAL

P. 85
 DALE L. FARNESTOCK
 AS WIFE
 6448 ELIBANK DRIVE
 ELKROGUE, MARYLAND 21075-5204
 1.4 AC
 DEED REF: 172/570
 ZONING: RES

POWELL PROPERTY
 PLAN No. 0277
 LOT 13
 ELLSWORTH H. BOWERS &
 WIFE L. BOWERS ET AL
 6446 ELIBANK DRIVE
 ELKROGUE, MARYLAND 21075-5204
 1.4 AC
 DEED REF: 3592/210
 ZONING: RES
 USE: RESIDENTIAL



TENTATIVELY APPROVED
 DEPT. OF PLANNING AND
 ZONING OF
 HOWARD COUNTY
Franklin L. ...
 PLANNING DIRECTOR
 DATE: *10/2/06*

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE: *10/2/06*

DESIGNED	IG/DM	7-06
		DATE
DRAWN	JLC	7-06
		DATE
CHECKED	KLM	7-06
		DATE
APPROVED	JBK	7-06
		DATE

REVISIONS		
DATE	BY	DESCRIPTIONS
10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03
7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04
10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04
12-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04
3-05	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 2-11-05
5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-08-05

REVISIONS		
DATE	BY	DESCRIPTIONS
10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
10-06	TTG	REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06

THE TECH GROUP, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 GEOTECHNICAL • ENVIRONMENTAL
 MATERIALS CONSULTANTS • FACILITIES

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 Suite 100
 Millersville, Maryland 21108
 Ph. (410) 987-3450
 (800) 266-6202
 Fax (410) 987-3457



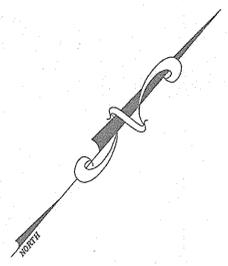
OWNER / DEVELOPER
 SHADOWBROOK FARM, LLC.
 1516 JABEZ RUN
 MILLERSVILLE, MARYLAND 21108
 PHONE: (410) 697-2000

PRELIMINARY STORMWATER MANAGEMENT CREDIT PLAN

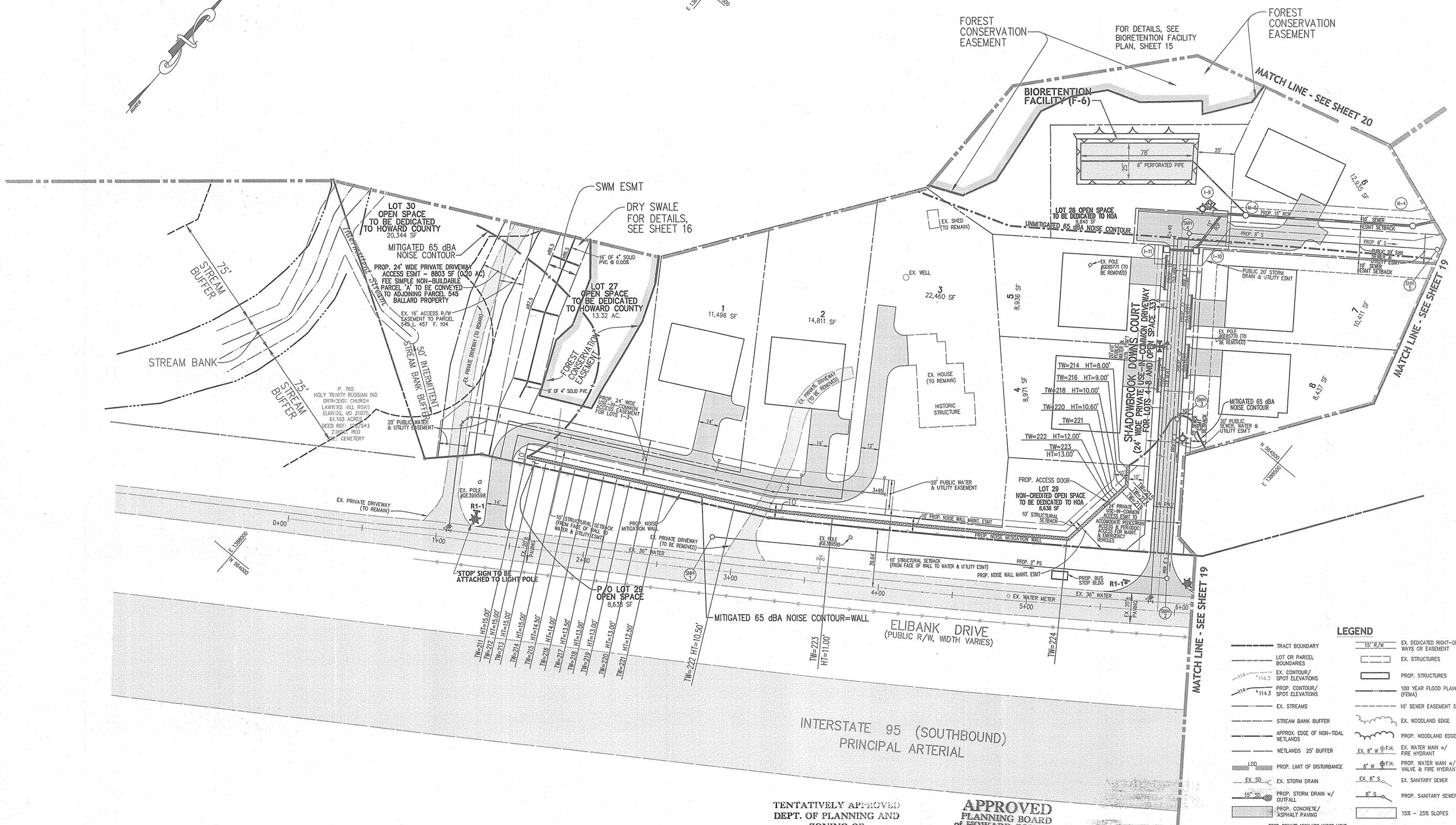
SHADOWBROOK DOWNS
 LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
 TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
 ELECTION DISTRICT 1
 ELKROGUE, MARYLAND (HOWARD COUNTY)

SCALE: 1" = 50'
 DATE: JULY 2006
 TTG PROJECT No. 532047
 SHEET 17 OF 30

SP# 04-06



E 1388000
N 564000



LEGEND

--- TRACT BOUNDARY	--- 15' R/W	--- EX. DEDICATED RIGHT-OF-WAYS OR EASEMENT
--- LOT OR PARCEL BOUNDARIES	--- EX. STRUCTURES	--- EX. STRUCTURES
--- EX. CONTOUR/ SPOT ELEVATIONS	--- PROP. STRUCTURES	--- PROP. STRUCTURES
--- PROP. CONTOUR/ SPOT ELEVATIONS	--- 100 YEAR FLOOD PLAN (FEMA)	--- 100 YEAR FLOOD PLAN (FEMA)
--- EX. STREAMS	--- 10' SEWER EASEMENT SETBACK	--- 10' SEWER EASEMENT SETBACK
--- STREAM BANK BUFFER	--- EX. WOODLAND EDGE	--- EX. WOODLAND EDGE
--- APPROX. EDGE OF NON-TIDAL WETLANDS	--- PROP. WOODLAND EDGE	--- PROP. WOODLAND EDGE
--- WETLANDS 25' BUFFER	--- EX. 8" W/F.H.	--- EX. WATER MAIN w/ FIRE HYDRANT
--- PROP. LIMIT OF DISTURBANCE	--- 8" W/F.H.	--- PROP. WATER MAIN w/ VALVE & FIRE HYDRANT
--- EX. SD	--- EX. STORM DRAIN	--- EX. SANITARY SEWER
--- 15" SD	--- PROP. STORM DRAIN w/ OUTFALL	--- PROP. SANITARY SEWER
--- PROP. CONCRETE/ ASPHALT PAVING	--- 15% - 25% SLOPES	--- 15% - 25% SLOPES
--- PROP. PRIVATE 100W HPS VAPOR LIGHT, PRIMER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE	--- >25% SLOPES	--- >25% SLOPES
--- PROP. PUBLIC 100 W VAPOR LIGHT, PRIMER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE	--- EX. SPECIMEN TREE	--- EX. SPECIMEN TREE
--- PROP. PUBLIC 150 W VAPOR LIGHT, PRIMER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY

APPROVED
PLANNING BOARD
OF HOWARD COUNTY

DATE 10/26/06
DATE 10/26/06

CALL "MISS UTILITY"
TELEPHONE: 1-800-257-7777 FOR UTILITY
LOCATIONS AT LEAST 48 HOURS BEFORE
BEGINNING CONSTRUCTION.

DESIGNED			REVISIONS			REVISIONS		
IG/DM	DATE	DATE	DATE	BY	DESCRIPTIONS	DATE	BY	DESCRIPTIONS
JLC	7-06	10-03	10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
KLM	7-06	7-04	7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
JBK	7-06	10-04	10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
		12-04	12-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04	7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
		3-05	3-05	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 2-11-05	10-06	TTG	REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06
		5-05	5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05			



1111 Benfield Blvd
Suite 100
Millersville, Maryland 21108
Ph. (410) 987-3450
(800) 266-6202
Fax (410) 987-3457



OWNER / DEVELOPER
SHADOWBROOK FARM, LLC.
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

ACOUSTIC WALL AND EASEMENTS PLAN

SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 36, PARCEL 803, GRID 2

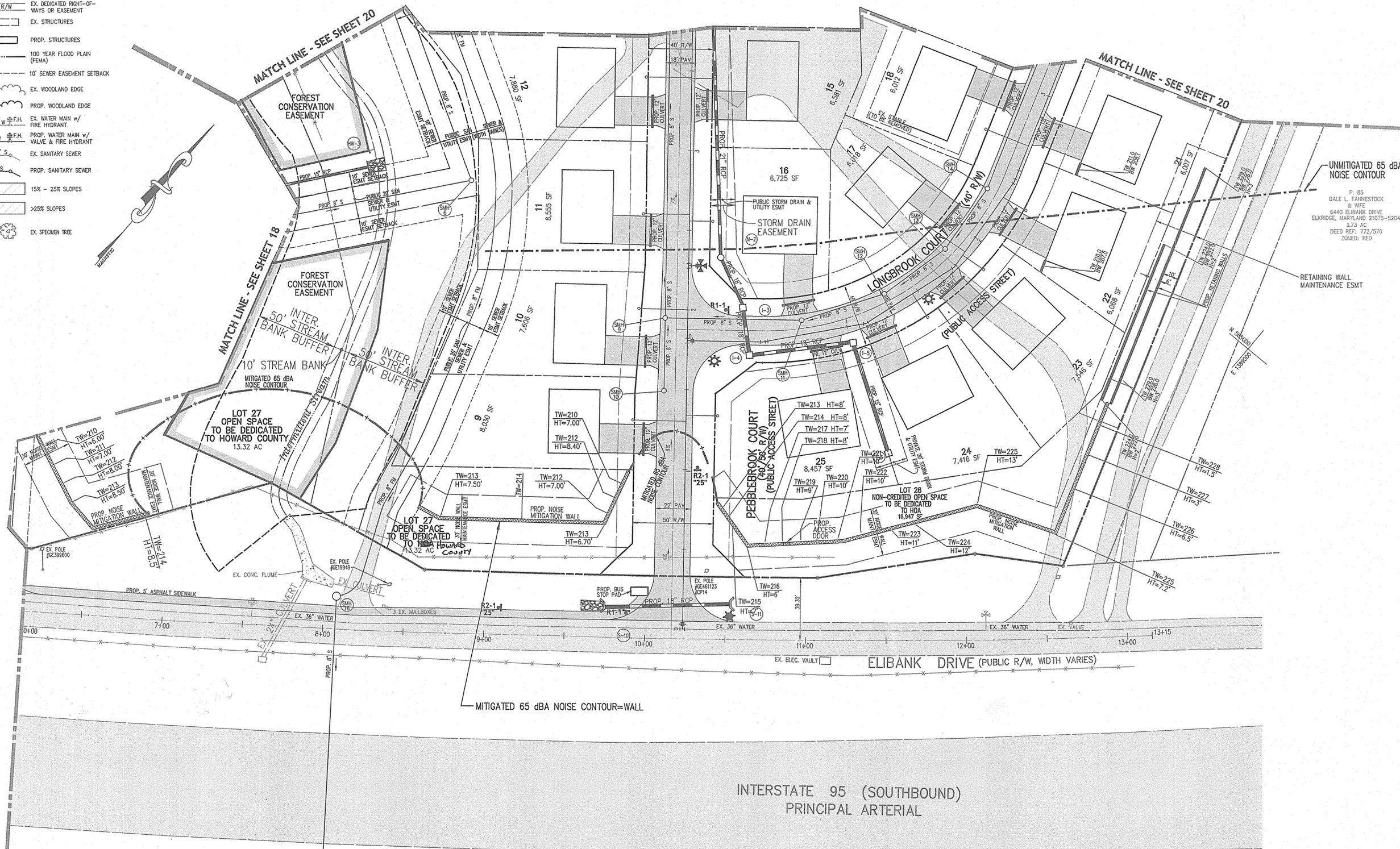
ELKRIE, MARYLAND (HOWARD COUNTY)

SCALE: 1" = 30'
DATE: JULY 2006
TTC PROJECT No. 502047
SHEET 18 OF 30

SP #04-08

LEGEND

- TRACT BOUNDARY
- LOT OR PARCEL BOUNDARIES
- - - EX. CONTOUR/ SPOT ELEVATIONS
- - - PROP. CONTOUR/ SPOT ELEVATIONS
- - - EX. STREAMS
- - - STREAM BANK BUFFER
- - - APPROX. EDGE OF NON-TIDAL WETLANDS
- - - WETLANDS 25' BUFFER
- - - PROP. LIMIT OF DISTURBANCE
- - - EX. SD
- - - 15' SD
- 15' R/W
- EX. DEDICATED RIGHT-OF-WAYS OR EASEMENT
- EX. STRUCTURES
- PROP. STRUCTURES
- 100 YEAR FLOOD PLAIN (FEMA)
- 10' SEWER EASEMENT SETBACK
- EX. WOODLAND EDGE
- PROP. WOODLAND EDGE
- EX. 8" W. F.H.
- PROP. WATER MAIN w/ VALVE & FIRE HYDRANT
- EX. 8" S.
- PROP. SANITARY SEWER
- EX. 8" S.
- PROP. SANITARY SEWER
- 15% - 25% SLOPES
- >25% SLOPES
- EX. SPECIMEN TREE
- PROP. PRIVATE 100W HPS VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
- PROP. PUBLIC 100 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
- PROP. PUBLIC 150 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE



P. 85
DALE L. FARNSTOCK
& WIFE
6440 ELIBANK DRIVE
ELKRODGE, MARYLAND 21075-5204
3.73 AC
DEED REF: 772/570
ZONED: RED

RETAINING WALL
MAINTENANCE ESMT

CALL "MISS UTILITY"
TELEPHONE: 1-800-257-7777 FOR UTILITY
LOCATIONS AT LEAST 48 HOURS BEFORE
BEGINNING CONSTRUCTION.

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 10/26/06
KS

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY
William D. ...
PLANNING DIRECTOR DATE 10/26/06
KS

DESIGNED	IG/DM	7-06	DATE	REVISIONS		REVISIONS			
DRAWN	JLC	7-06	DATE	DATE	BY	DESCRIPTIONS	DATE	BY	DESCRIPTIONS
CHECKED	KLM	7-06	DATE	10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
APPROVED	JBK	7-06	DATE	7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
				10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
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				5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05			

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MATERIALS CONSULTANTS • FACILITIES

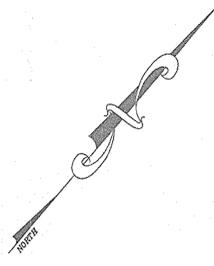
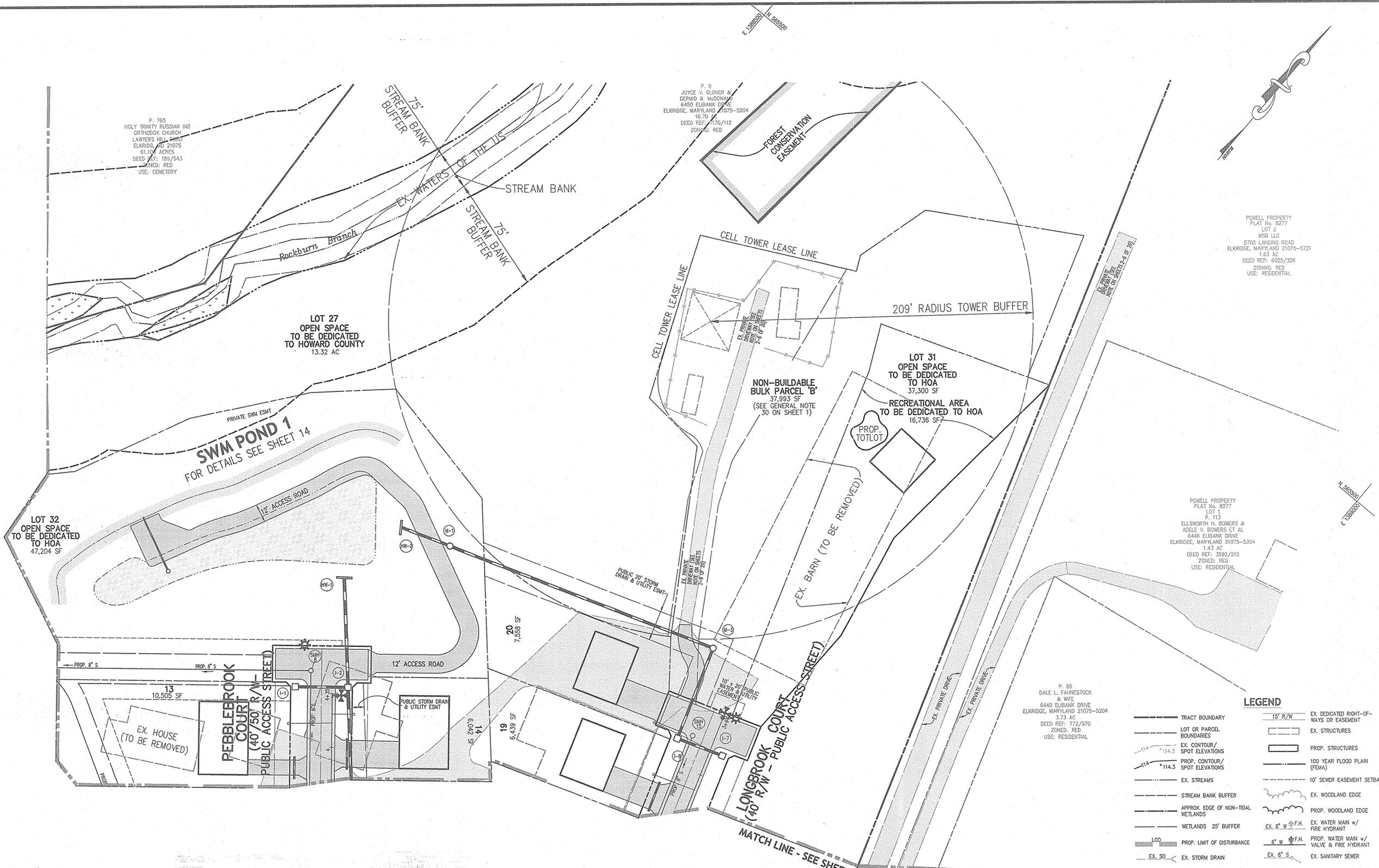
1111 Benfield Blvd
Suite 100
Millersville, Maryland 21108
Ph. (410) 987-3450
(800) 266-6202
Fax (410) 987-3457



OWNER / DEVELOPER
SHADOWBROOK FARM, LLC.
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

ACOUSTIC WALL AND EASEMENTS PLAN
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELECTION DISTRICT 1
ELKRODGE, MARYLAND (HOWARD COUNTY)
SCALE: 1" = 30' DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 19 OF 30

6P#04-08



P. 765
 HOLY TRINITY RUSSIAN IND
 ORTHODOX CHURCH
 LAWYERS HILL ROAD
 ELK RIDGE, MD 21075
 61.06 ACRES
 DEED REF: 189/543
 ZONED: RED
 USE: CEMETERY

P. 8
 JOYCE V. GLOVER &
 DENARD B. MCDONNELL
 6450 ELBANK DRIVE
 ELK RIDGE, MARYLAND 21075-5204
 16.70 AC
 DEED REF: 170/112
 ZONING: RED

POWELL PROPERTY
 PLAT No. 8277
 LOT 2
 MSB LLC
 5705 LANDING ROAD
 ELK RIDGE, MARYLAND 21075-5721
 1.63 AC
 DEED REF: 6025/326
 ZONING: RED
 USE: RESIDENTIAL

POWELL PROPERTY
 PLAT No. 8277
 LOT 1
 P. 113
 ELLSWORTH H. BOWERS &
 ADELE V. BOWERS ET AL
 6448 ELBANK DRIVE
 ELK RIDGE, MARYLAND 21075-5204
 1.43 AC
 DEED REF: 3592/215
 ZONED: RED
 USE: RESIDENTIAL

P. 85
 DALE L. FARNESTOCK
 & WIFE
 6440 ELBANK DRIVE
 ELK RIDGE, MARYLAND 21075-5204
 3.73 AC
 DEED REF: 772/570
 ZONED: RED
 USE: RESIDENTIAL

LEGEND

TRACT BOUNDARY	15' R/W	EX. DEDICATED RIGHT-OF-WAYS OR EASEMENT
LOT OR PARCEL BOUNDARIES		EX. STRUCTURES
EX. CONTOUR / SPOT ELEVATIONS		PROP. STRUCTURES
EX. CONTOUR / SPOT ELEVATIONS		100 YEAR FLOOD PLAN (FEMA)
EX. STREAMS		10' SEWER EASEMENT SETBACK
STREAM BANK BUFFER		EX. WOODLAND EDGE
APPROX. EDGE OF NON-TIDAL WETLANDS		PROP. WOODLAND EDGE
WETLANDS 25' BUFFER		EX. WATER MAIN w/ FIRE HYDRANT
PROP. LIMIT OF DISTURBANCE		PROP. WATER MAIN w/ VALVE & FIRE HYDRANT
EX. SD		EX. 8" S
EX. STORM DRAIN		EX. 8" S
PROP. STORM DRAIN w/ OUTFALL		PROP. SANITARY SEWER
PROP. CONCRETE / ASPHALT PAVING		15% - 25% SLOPES
PROP. PRIVATE 100W HPS VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		>25% SLOPES
PROP. PUBLIC 100 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		EX. SPECIMEN TREE
PROP. PUBLIC 150 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 10/24/06

TENTATIVELY APPROVED
 DEPT. OF PLANNING AND
 ZONING OF
 HOWARD COUNTY
 PLANNING DIRECTOR DATE

CALL "MISS UTILITY"
 TELEPHONE: 1-800-257-7777 FOR UTILITY LOCATIONS AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.

DESIGNED	IC/DM	7-06	DATE	REVISIONS	REVISIONS
DRAWN	JLC	7-06	DATE	10-03 TTG REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05 TTG REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
CHECKED	KLM	7-06	DATE	7-04 TTG REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06 TTG REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
APPROVED	JBK	7-06	DATE	10-04 TTG REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06 TTG REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
				12-04 TTG REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04	7-06 TTG REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
				3-05 TTG REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 2-11-05	10-06 TTG REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06
				5-05 TTG REVISED AS PER HOWARD COUNTY MEETING, 4-06-05	



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 Suite 100
 Millersville, Maryland 21108
 Ph. (410) 987-3450
 (800) 268-6202
 Fax (410) 987-3457

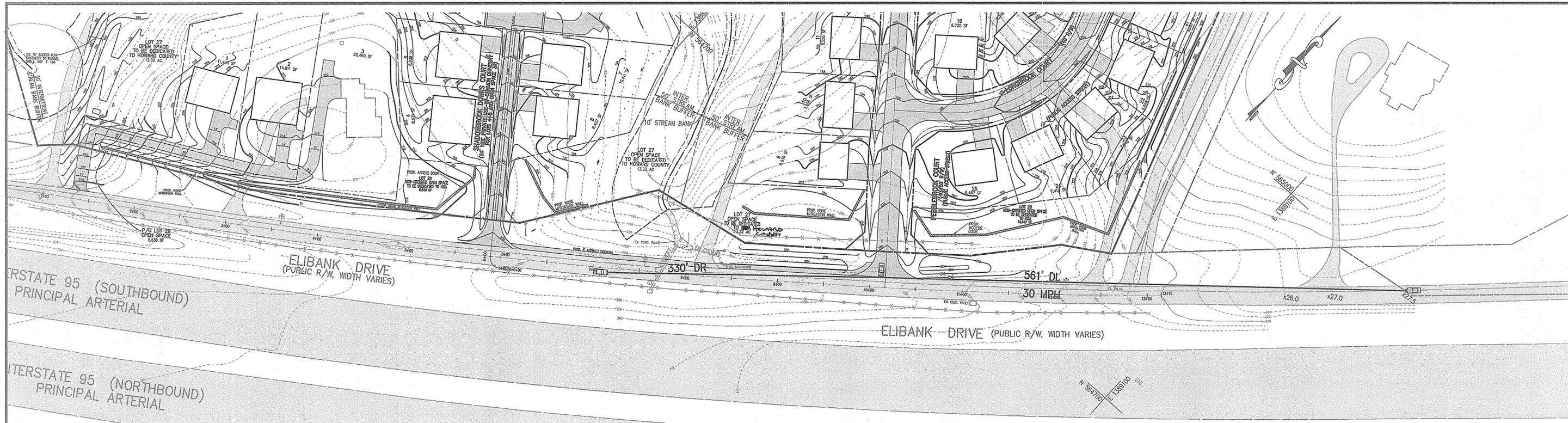


OWNER / DEVELOPER
 SHADOWBROOK FARM, LLC.
 1516 JABEZ RUN
 MILLERSVILLE, MARYLAND 21108
 PHONE: (410) 697-2000

ACOUSTIC WALL AND EASEMENTS PLAN
SHADOWBROOK DOWNS
 LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
 TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
 ELK RIDGE, MARYLAND (HOWARD COUNTY)
 SCALE: 1" = 30' DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 20 OF 30

SP# 04-08

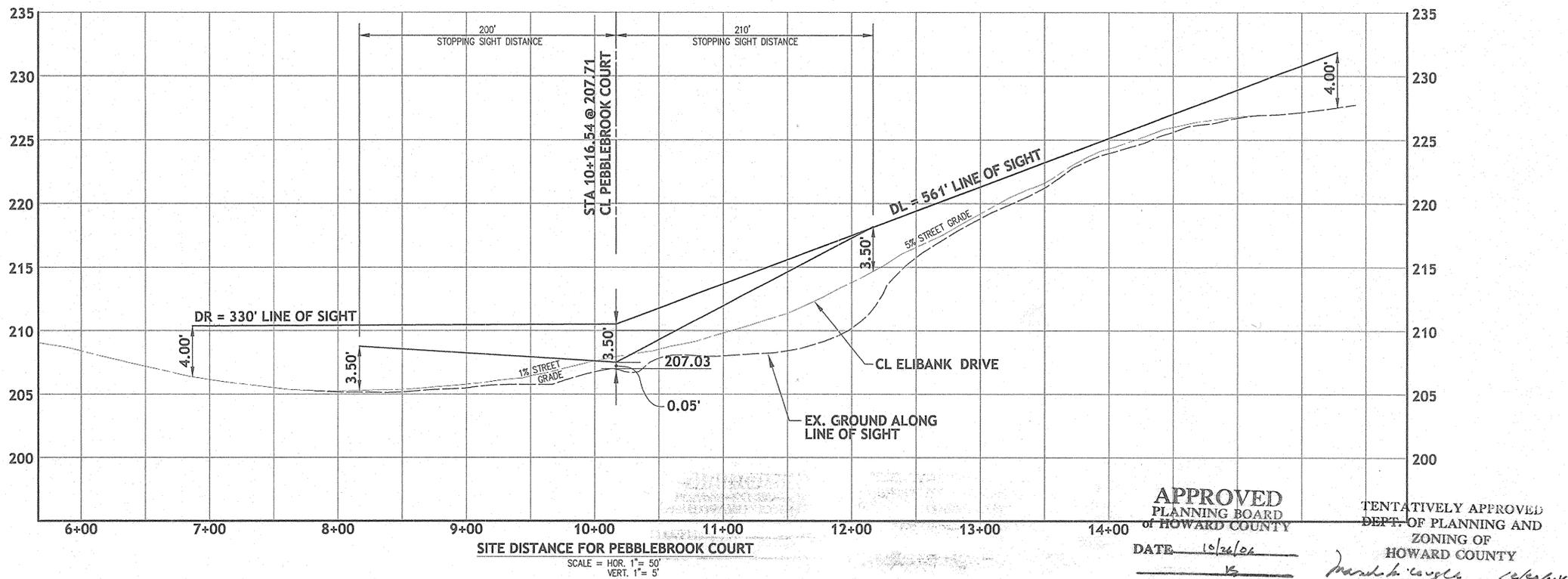
MA:\projects\shadowbrook\dwgs\DWGSHEETS\SITE\NOISE-3.DWG Thu Oct 26 18:42:27 2006



NOTES:
 THE SITE TOPOGRAPHY WAS FIELD RUN BY THE TECH GROUP, INC., SEPTEMBER 2002.
 ELIBANK DRIVE RESIDES WITHIN THE VARIABLE WIDTH R/W, WHICH ALSO INCLUDES I-95.
 IT IS APPROX. 300' WIDE IN THE AREA SHOWN ON THIS DRAWING.

BASED ON FIG. 2.17 OF THE DESIGN MANUAL VOL. III

STREET	DESIGN				ADJUSTED FACTORS BASED ON EXISTING ROAD GRADE			
	DL	DR	DL	DR	DL	DR	DL	DR
PRIVATE DRIVE FOR LOTS 1-3	330'	300'	330'	N/A	330'x1.4	462'	330'x1.0	N/A
SHADOWBROOK DOWNS COURT	330'	300'	330'	N/A	330'x1.0	330'	330'x1.0	N/A
PEBBLEBROOK COURT	330'	300'	330'	N/A	330'x1.0	330'	330'x1.7	N/A



APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 10/26/04

TENTATIVELY APPROVED
 DEPT. OF PLANNING AND
 ZONING OF
 HOWARD COUNTY
 DATE 10/26/04

DESIGNED IG/DM 7-06
 DATE
 DRAWN JLC 7-06
 DATE
 CHECKED KLM 7-06
 DATE
 APPROVED JSK 7-06
 DATE

REVISIONS			REVISIONS		
DATE	BY	DESCRIPTIONS	DATE	BY	DESCRIPTIONS
10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
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REVISIONS			REVISIONS		
DATE	BY	DESCRIPTIONS	DATE	BY	DESCRIPTIONS
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5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05			

THE TECH GROUP, INC.
 ENGINEERS-PLANNERS-SURVEYORS
 GEOTECHNICAL-ENVIRONMENTAL
 MATERIALS-CONSULTANTS-FACILITIES

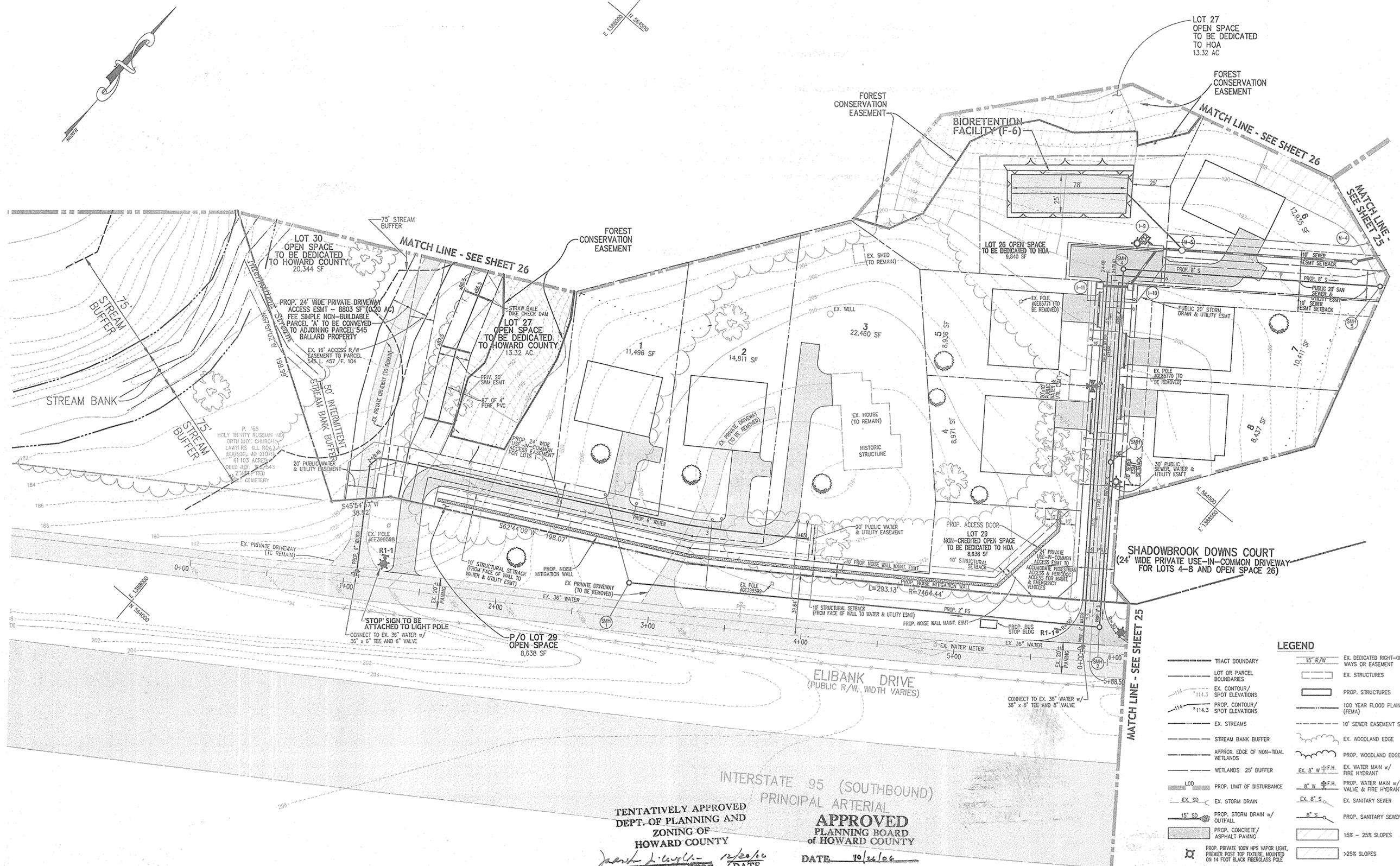
1111 Benfield Blvd
 Suite 100
 Millersville, Maryland 21108
 Ph. (410) 987-3450
 (800) 266-6202
 Fax (410) 987-3457

OWNER / DEVELOPER
 SHADOWBROOK FARM, LLC.
 1516 JABEZ RUN
 MILLERSVILLE, MARYLAND 21108
 PHONE: (410) 697-2000

SKETCH SITE DISTANCE PLAN ALONG ELIBANK DRIVE
 AT PEBBLEBROOK COURT
 SHADOWBROOK DOWNS
 LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
 TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
 ELECTION DISTRICT 1
 ELK RIDGE, MARYLAND (HOWARD COUNTY)

SCALE: AS SHOWN DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 22 OF 30

SP# 04-08



EXISTING DRIVEWAY NOTE:
THE EXISTING DRIVEWAY WILL REMAIN WITHIN THE 50' STREAM BUFFER AND THE AREA INSIDE THE LIMITS OF DISTURBANCE

CALL "MISS UTILITY"
TELEPHONE: 1-800-257-7777 FOR UTILITY LOCATIONS AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.

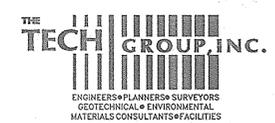
INTERSTATE 95 (SOUTHBOUND)
PRINCIPAL ARTERIAL
APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 10/21/09
DATE: 10/21/09

NOTES:
THREE (3) STREET LIGHTS LOCATED ALONG ELIBANK DRIVE WILL BE 150 W HPS VAPOR PREMIERE POST TOP FIXTURE MOUNTED ON A 14 FOOT BLACK FIBERGLASS POLE, THE OTHER FOUR (4) STREET LIGHTS WILL BE 100 WATT HPS VAPOR PREMIERE POST TOP FIXTURE MOUNTED ON A 14 FOOT BLACK FIBERGLASS POLE. FOR ACOUSTIC WALL AND EASEMENT PLANS, SEE SHEETS 18-20.

LEGEND

TRACT BOUNDARY	15' R/W	EX. DEDICATED RIGHT-OF-WAYS OR EASEMENT
LOT OR PARCEL BOUNDARIES		EX. STRUCTURES
EX. CONTOUR/ SPOT ELEVATIONS		PROP. STRUCTURES
EX. STREAMS		100 YEAR FLOOD PLAN (FEMA)
STREAM BANK BUFFER		10' SEWER EASEMENT SETBACK
APPROX. EDGE OF NON-TIDAL WETLANDS		EX. WOODLAND EDGE
WETLANDS 25' BUFFER		PROP. WOODLAND EDGE
LOD	EX. 8" W 10' F.H.	EX. WATER MAIN w/ FIRE HYDRANT
EX. SD	EX. 8" W 10' F.H.	PROP. WATER MAIN w/ VALVE & FIRE HYDRANT
15' SD	EX. 8" S	EX. SANITARY SEWER
PROP. CONCRETE/ ASPHALT PAVING	8" S	PROP. SANITARY SEWER
PROP. PRIVATE 100W HPS VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		15% - 25% SLOPES
PROP. PUBLIC 100 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		>25% SLOPES
PROP. PUBLIC 150 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		EX. SPECIMEN TREE

DESIGNED	IG/DM	7-06	DATE	REVISIONS				REVISIONS			
DATE	BY	DATE	BY	DATE	BY	DATE	BY	DATE	BY	DATE	BY
7-06	JLC	10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05				
7-06	JLC	7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05				
7-06	KLM	10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006				
7-06	KLM	12-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04	7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006				
7-06	JBK	3-05	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 2-11-05	10-06	TTG	REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06				
7-06	JBK	5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05							



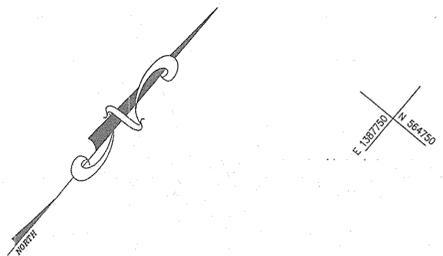
OWNER / DEVELOPER
SHADOWBROOK FARMS, LLC.
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

PRELIMINARY WATER AND SEWER PLAN
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELECTION DISTRICT 1
ELKRDGE, MARYLAND (HOWARD COUNTY)
SCALE: 1" = 30'
DATE: JULY 2009
TTG PROJECT NO. 592947
SHEET 24 OF 39

SP#04-08

LEGEND

- TRACT BOUNDARY
- LOT OR PARCEL BOUNDARIES
- EX. CONTOUR/ SPOT ELEVATIONS
- PROP. CONTOUR/ SPOT ELEVATIONS
- EX. STREAMS
- STREAM BANK BUFFER
- APPROX. EDGE OF NON-TIDAL WETLANDS
- WETLANDS 25' BUFFER
- EX. SD
- PROP. STORM DRAIN w/ OUTFALL
- PROP. CONCRETE/ ASPHALT PAVING
- PROP. PRIVATE 100 W HPS VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
- PROP. PUBLIC 100 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
- PROP. PUBLIC 150 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE
- EX. DEDICATED RIGHT-OF-WAYS OR EASEMENT
- EX. STRUCTURES
- PROP. STRUCTURES
- 100 YEAR FLOOD PLAN (FEMA)
- 10' SEWER EASEMENT SETBACK
- EX. WOODLAND EDGE
- PROP. WOODLAND EDGE
- EX. WATER MAIN w/ FIRE HYDRANT
- PROP. WATER MAIN w/ VALVE & FIRE HYDRANT
- EX. SANITARY SEWER
- PROP. SANITARY SEWER
- 15% - 25% SLOPES
- >25% SLOPES
- EX. SPECIMEN TREE



EXISTING DRIVEWAY NOTE:
THE EXISTING DRIVEWAY WILL REMAIN WITHIN THE 50' STREAM BUFFER AND THE AREA INSIDE THE LIMITS OF DISTURBANCE

CALL "MISS UTILITY"
TELEPHONE: 1-800-257-7777 FOR UTILITY LOCATIONS AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.

DESIGNED	IG/DM	DATE	REVISIONS		REVISIONS	
DRAWN	JLC	DATE	DATE	BY	DATE	BY
CHECKED	KLM	7-06	10-03	TTG	10-05	TTG
APPROVED	JBK	7-06	7-04	TTG	10-05	TTG
			10-04	TTG	5-06	TTG
			12-04	TTG	7-06	TTG
			3-05	TTG	10-06	TTG
			5-05	TTG		

THE TECH GROUP, INC.
ENGINEERS-PLANNERS-SURVEYORS
GEO-TECHNICAL-ENVIRONMENTAL
MATERIALS CONSULTANTS/FACILITIES

1111 Bonfield Blvd
Suite 100
Millersville, Maryland 21108
Ph. (410) 987-3450
(800) 266-6202
Fax (410) 987-3457

NOTES:
THREE (3) STREET LIGHTS LOCATED ALONG ELIBANK DRIVE WILL BE 150 W HPS VAPOR PREMIER POST TOP FIXTURE MOUNTED ON A 14 FOOT BLACK FIBERGLASS POLE, THE OTHER FOUR (4) STREET LIGHTS WILL BE 100 WATT HPS VAPOR PREMIER POST TOP FIXTURE MOUNTED ON A 14 FOOT BLACK FIBERGLASS POLE. FOR ACOUSTIC WALL AND EASEMENT PLANS, SEE SHEETS 18-20.

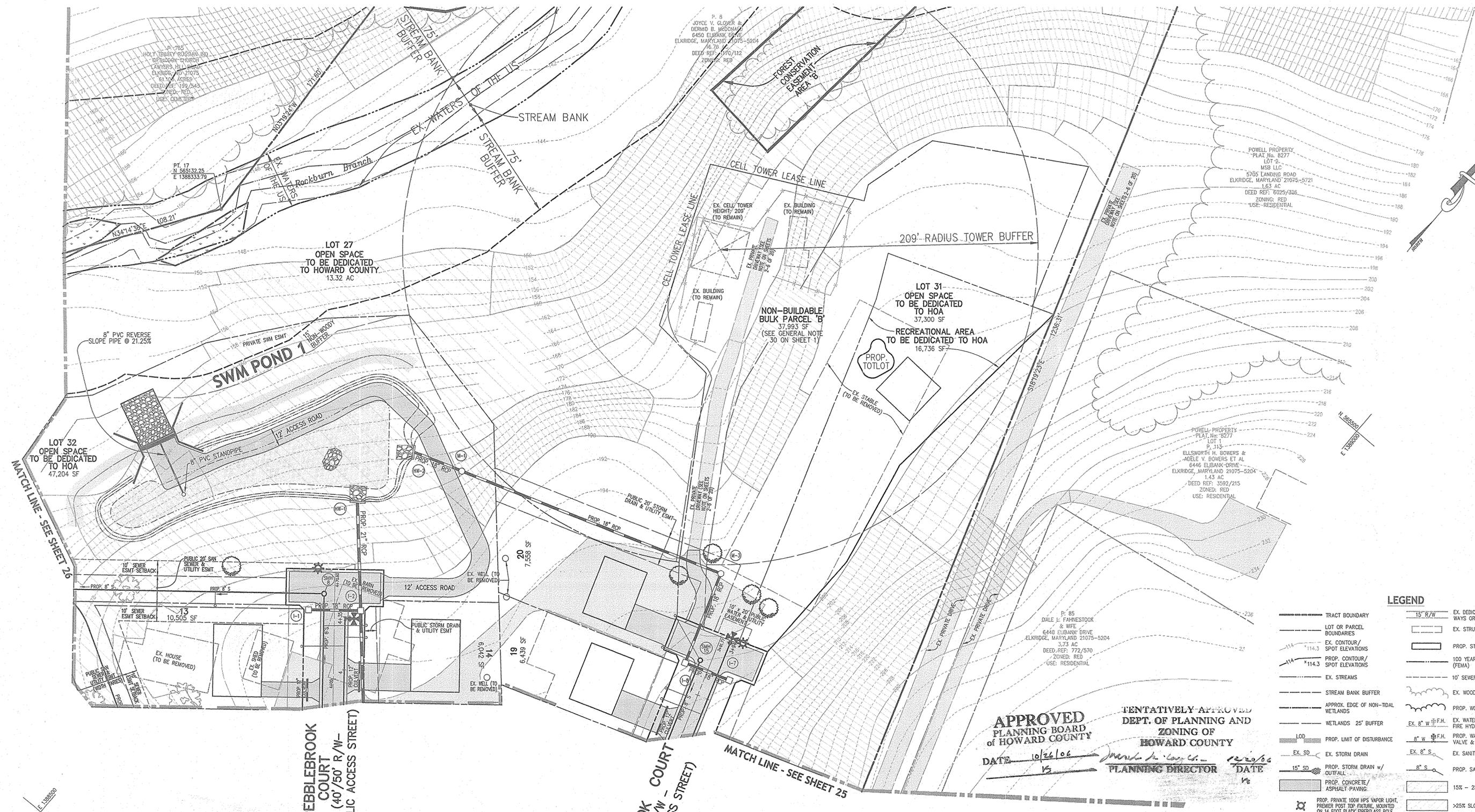
APPROVED PLANNING BOARD OF HOWARD COUNTY
DATE 10/26/06
VS

TENTATIVELY APPROVED
DEPT. OF PLANNING AND ZONING OF
HOWARD COUNTY
Manda D. Cagle 10/26/06
PLANNING DIRECTOR DATE

OWNER / DEVELOPER
SHADOWBROOK FARM, LLC.
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

PRELIMINARY WATER AND SEWER PLAN
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELECTION DISTRICT 1
ELK RIDGE, MARYLAND (HOWARD COUNTY)

SCALE: 1" = 30' DATE: JULY 2006 TIG PROJECT No. 502047 SHEET 26 OF 30
SP #04-08



LEGEND

--- TRACT BOUNDARY	--- 15' R/W	EX. DEDICATED RIGHT-OF-WAYS OR EASEMENT
--- LOT OR PARCEL BOUNDARIES	--- EX. STRUCTURES	
--- EX. CONTOUR/SPOT ELEVATIONS	--- PROP. STRUCTURES	
--- PROP. CONTOUR/SPOT ELEVATIONS	--- 100 YEAR FLOOD PLAN (FEMA)	
--- EX. STREAMS	--- 10' SEWER EASEMENT SETBACK	
--- STREAM BANK BUFFER	--- EX. WOODLAND EDGE	
--- APPROX. EDGE OF NON-TIDAL WETLANDS	--- PROP. WOODLAND EDGE	
--- WETLANDS 25' BUFFER	--- EX. WATER MAIN w/ FIRE HYDRANT	
--- 100' PROP. LIMIT OF DISTURBANCE	--- EX. 8" W/F.H.	
--- EX. SD	--- EX. 8" S	EX. SANITARY SEWER
--- 15" SD	--- 8" S	PROP. SANITARY SEWER
--- PROP. CONCRETE/ ASPHALT PAVING	--- 15% - 25% SLOPES	
--- PROP. PRIVATE 100W HPS VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE	--- >25% SLOPES	
--- PROP. PUBLIC 100 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE	--- EX. SPECIMEN TREE	
--- PROP. PUBLIC 150 W VAPOR LIGHT, PREMIER POST TOP FIXTURE, MOUNTED ON 14 FOOT BLACK FIBERGLASS POLE		

APPROVED
 PLANNING BOARD
 of HOWARD COUNTY
 DATE 10/26/06

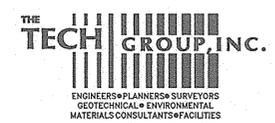
TENTATIVELY APPROVED
 DEPT. OF PLANNING AND
 ZONING OF
 HOWARD COUNTY
 PLANNING DIRECTOR DATE

NOTES:
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CALL "MISS UTILITY"
 TELEPHONE: 1-800-257-7777 FOR UTILITY LOCATIONS AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.

DESIGNED	IG/DM	DATE	REVISIONS			REVISIONS		
			DATE	BY	DESCRIPTIONS	DATE	BY	DESCRIPTIONS
DRAWN	JLC	7-06	10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03	10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
CHECKED	KLM	7-06	7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04	1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
APPROVED	JBK	7-06	10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04	5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
			12-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04	7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
			3-05	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 2-11-05	10-06	TTG	REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06
			5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05			



1111 Benfield Blvd
 Suite 100
 Millersville, Maryland 21108
 Ph. (410) 987-3450
 (800) 266-6202
 Fax (410) 987-3457

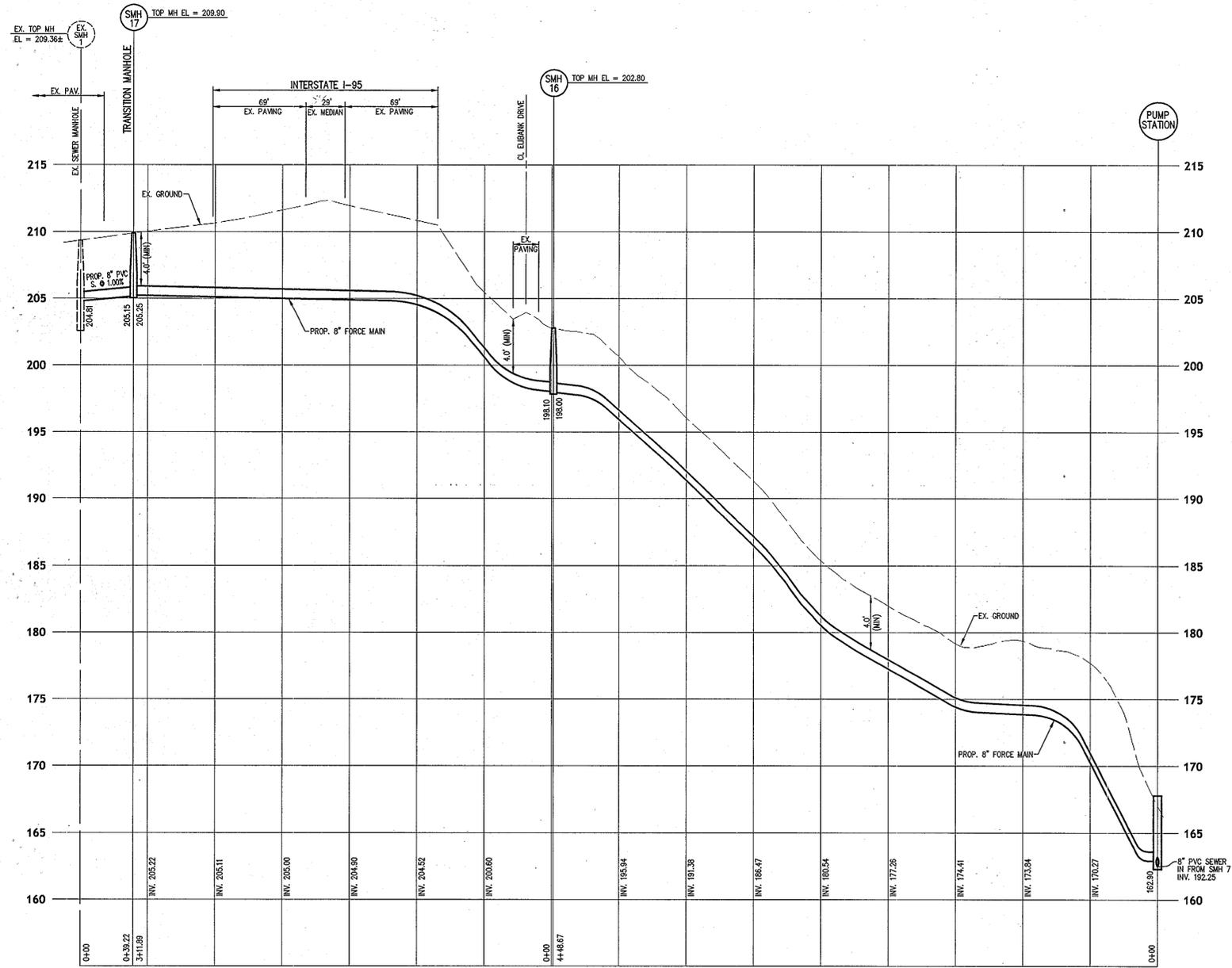


OWNER / DEVELOPER
 SHADOWBROOK FARMS, LLC.
 1516 JABEZ RUN
 MILLERSVILLE, MARYLAND 21108
 PHONE: (410) 697-2000

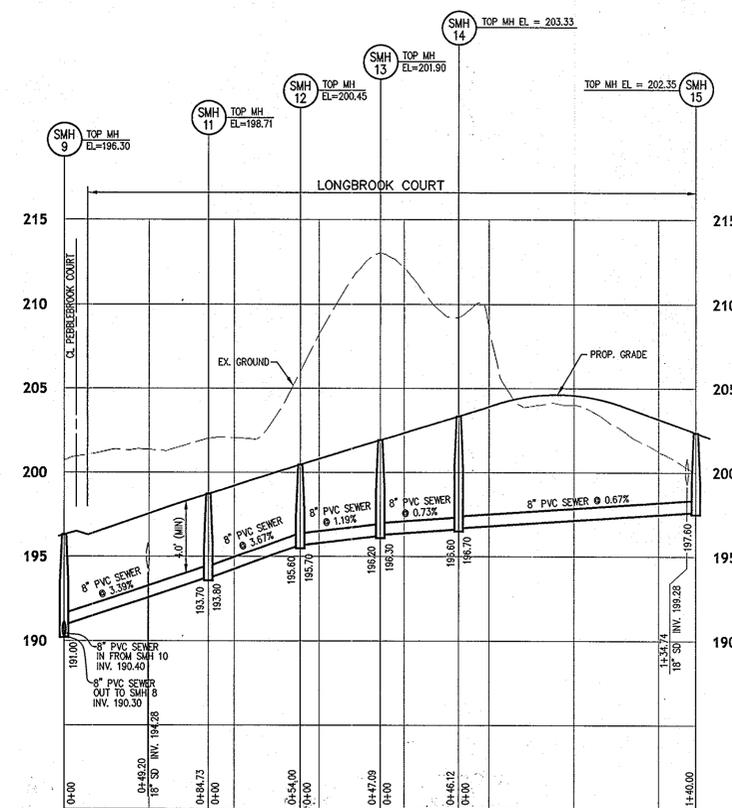
PRELIMINARY WATER AND SEWER PLAN
SHADOWBROOK DOWNS
 LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
 TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
 ELECTION DISTRICT 1
 ELKBRIDGE, MARYLAND (HOWARD COUNTY)

SCALE: 1" = 30' DATE: JULY 2006 TTG PROJECT No. 592947 SHEET 22 OF 39

SP#04-08



PROFILE - SEWER FORCE MAIN FROM EXISTING MANHOLE TO PUMP STATION
SCALE: HORZ 1" = 50'
VERT 1" = 5'



PROFILE - SEWER FOR LONGBROOK COURT
SCALE: HORZ 1" = 50'
VERT 1" = 5'

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE: 10/26/06
KS

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY
DATE: 12/20/06
KS

DESIGNED	IG/DM	7-06
	DATE	
DRAWN	JLC	7-06
	DATE	
CHECKED	KLM	7-06
	DATE	
APPROVED	JBK	7-06
	DATE	

REVISIONS		
DATE	BY	DESCRIPTIONS
10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03
7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04
10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04
12-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 12-27-04
3-05	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 2-11-05
5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-08-05

REVISIONS		
DATE	BY	DESCRIPTIONS
10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
10-06	TTG	REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06

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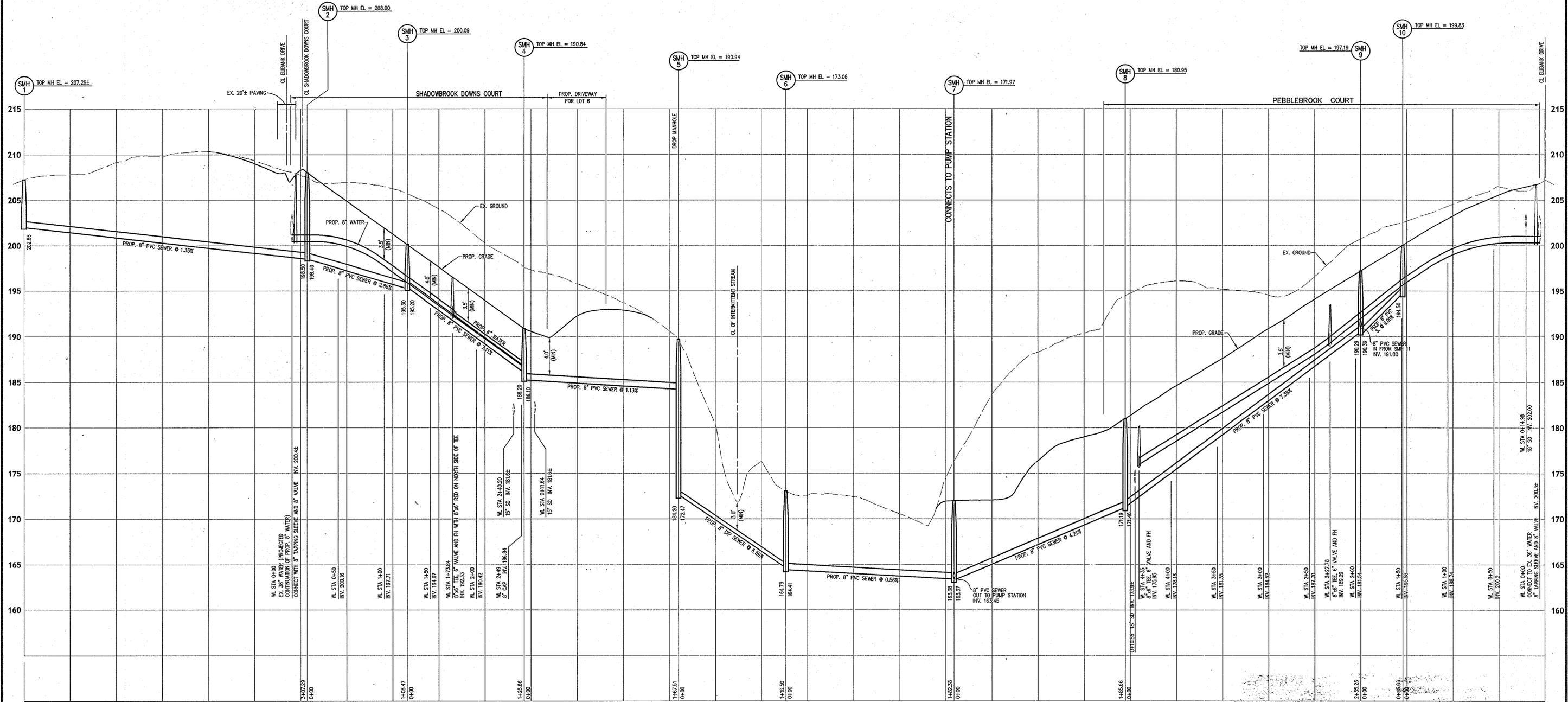


OWNER / DEVELOPER
SHADOWBROOK FARM, LLC.
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

PRELIMINARY SEWER PROFILES
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELECTION DISTRICT 1
ELKBRIDGE, MARYLAND (HOWARD COUNTY)

SCALE: AS SHOWN DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 28 OF 30

SP# 04-08



PROFILE - WATER AND SEWER FOR SHADOWBROOK DOWNS COURT, TO PUMP STATION, AND ALONG PEBBLEBROOK COURT

SCALE: HORIZ 1" = 50'
VERT 1" = 5'

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 10/26/06
KS

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY
March 10, 2007
PLANNING DIRECTOR DATE

DESIGNED	IG/DM	7-06
		DATE
DRAWN	JLC	7-06
		DATE
CHECKED	KLM	7-06
		DATE
APPROVED	JEK	7-06
		DATE

REVISIONS		
DATE	BY	DESCRIPTIONS
10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03
7-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-23-04
10-04	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 8-25-04
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5-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 4-06-05

REVISIONS		
DATE	BY	DESCRIPTIONS
10-05	TTG	REVISED AS PER HOWARD COUNTY MEETING, 9-01-05
1-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 10-31-05
5-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, FEB. 2006
7-06	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, JUNE 2006
10-06	TTG	REVISED AS PER HOWARD COUNTY SCD REVIEW COMMENTS, 9-11-06

THE TECH GROUP INC.
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GEO-TECHNICAL • ENVIRONMENTAL
MATERIALS CONSULTANTS • FACILITIES

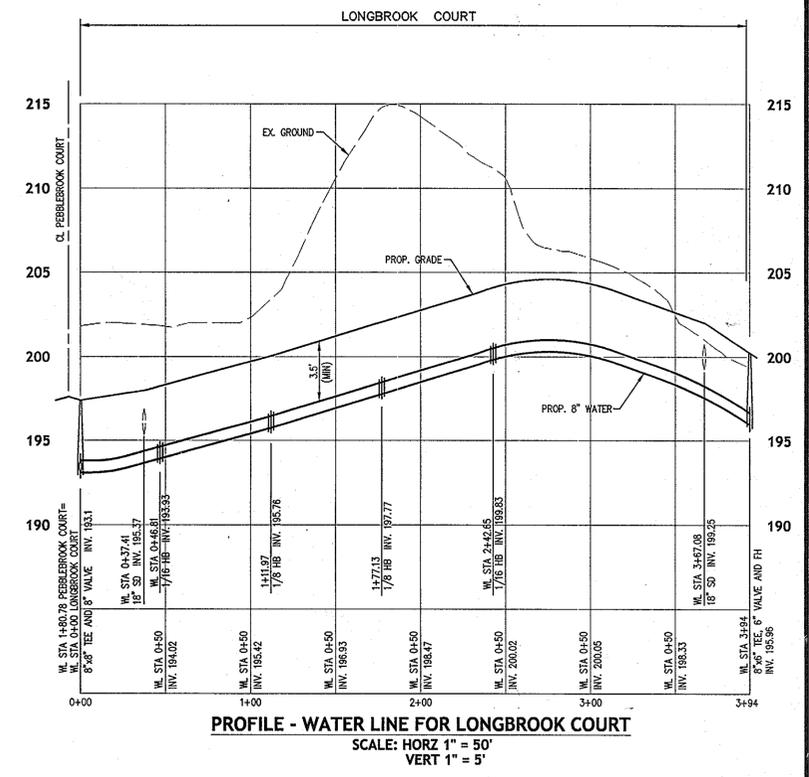
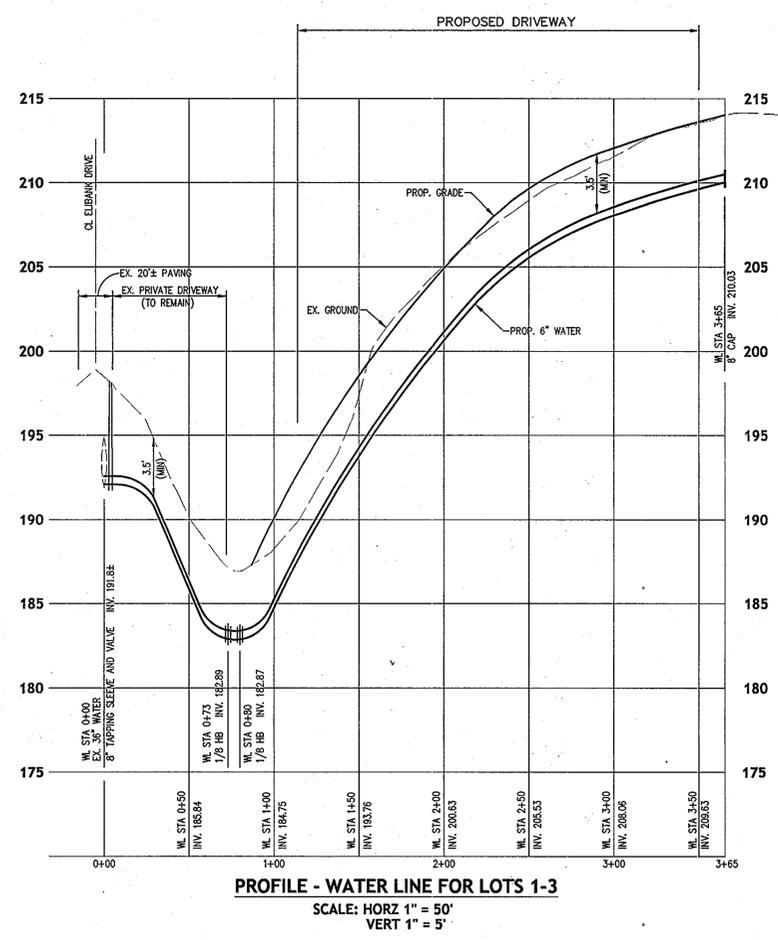
1111 Benfield Blvd
Suite 100
Millersville, Maryland 21108
Ph. (410) 987-3400
(800) 266-8202
Fax (410) 987-3457



OWNER / DEVELOPER
SHADOWBROOK FARM, LLC.
1516 JABEZ RUN
MILLERSVILLE, MARYLAND 21108
PHONE: (410) 697-2000

PRELIMINARY WATER AND SEWER PROFILES
SHADOWBROOK DOWNS
LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
ELK RIDGE, MARYLAND (HOWARD COUNTY)
SCALE: AS SHOWN DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 29 OF 30
SP #04-08

M:\projects\shadowbrook\DWG\SHEETS\Water and Sewer Profiles.dwg Thu Oct 28 10:03:37 2006



APPROVED
 PLANNING BOARD
 of HOWARD COUNTY
 DATE 10/26/06
 KZ

TENTATIVELY APPROVED
 DEPT. OF PLANNING AND
 ZONING OF
 HOWARD COUNTY
Marsha K. Long
 PLANNING DIRECTOR
 DATE 10/26/06
 K

DESIGNED	IG/DM	7-06
DATE		
DRAWN	JLC	7-06
DATE		
CHECKED	KLM	7-06
DATE		
APPROVED	JBK	7-06
DATE		

REVISIONS		
DATE	BY	DESCRIPTIONS
10-03	TTG	REVISED AS PER HOWARD COUNTY REVIEW COMMENTS, 4-27-03
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REVISIONS		
DATE	BY	DESCRIPTIONS
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 PHONE: (410) 697-2000

PRELIMINARY WATER PROFILES
SHADOWBROOK DOWNS
 LOTS 1-25, OPEN SPACE LOTS 26-32, NON-BUILDABLE BULK PARCELS 'A' & 'B'
 TAX MAP 32, PARCEL 8, GRID 20 & TAX MAP 38, PARCEL 803, GRID 2
 ELKRDGE, MARYLAND (HOWARD COUNTY)
 ELECTION DISTRICT 1
 SCALE: AS SHOWN DATE: JULY 2006 TTG PROJECT No. 502047 SHEET 30 OF 30

SP#04-08