

LUCK STONE CORPORATION / FAIRFAX PLANT

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SPECIAL PERMIT AMENDMENT PLAT

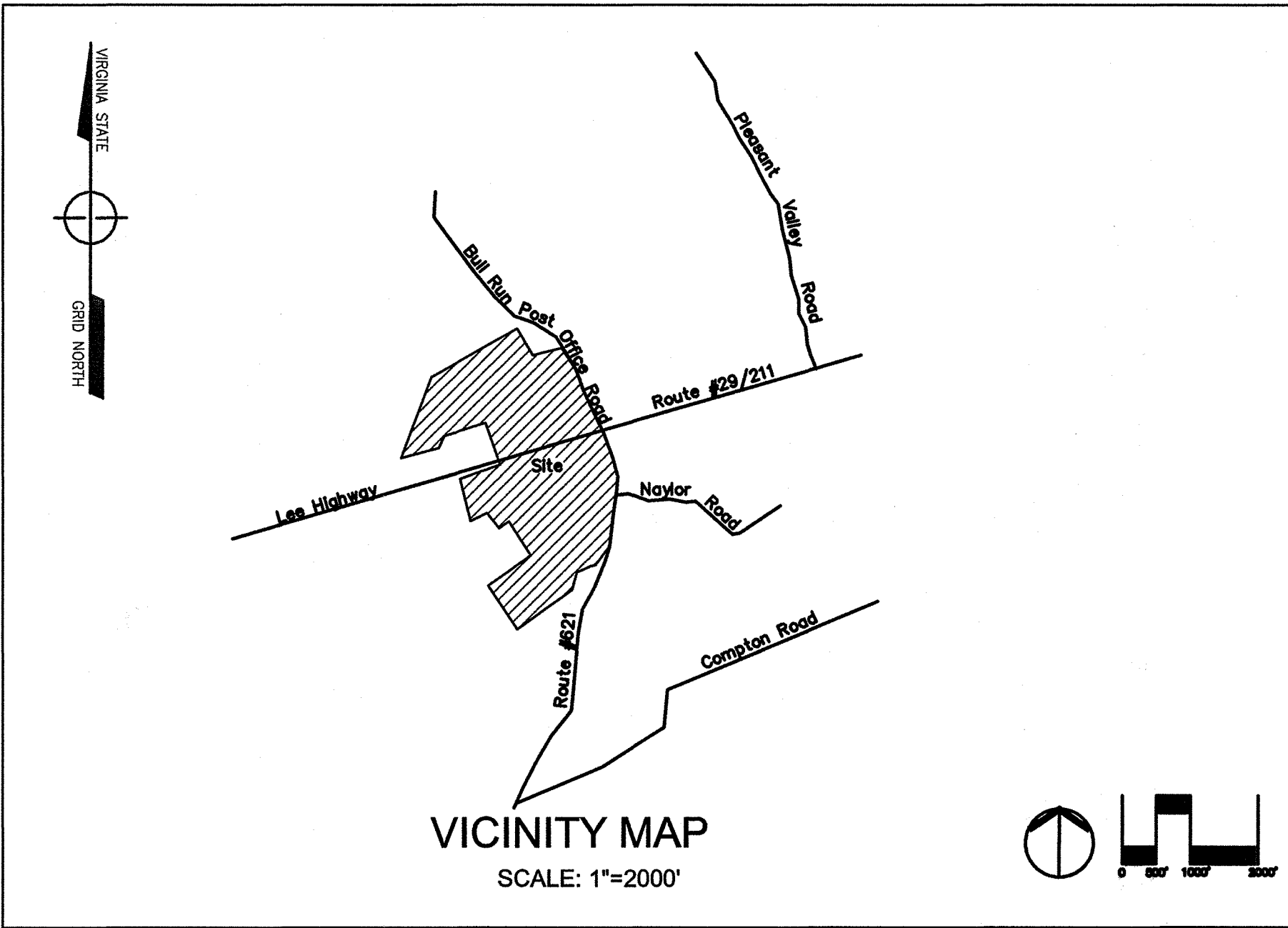
~~SPA 81-S-064-10~~ SPA 81-S-064-11

SHEET INDEX

SHEET	DESCRIPTION
1	COVER SHEET
2	SPECIAL PERMIT PLAT - DEVELOPMENT PLAN
3	SPECIAL PERMIT PLAT - DEVELOPMENT PLAN
4	SPECIAL PERMIT PLAT - DEVELOPMENT PLAN
5	RESOURCES OPERATIONS PLAN
6	FINAL GRADING PLAN
7	RESTORATION PLAN
8	DRAINAGE AND COMPUTATIONS
9	BMP COMPUTATIONS AND SOILS MAP
10	OUTFALL MAP AND SITE PHOTOS
11	OUTFALL SECTIONS AND COMPUTATIONS
12	SITE NARRATIVES

SHEET INDEX

SHEET	DESCRIPTION
1	COVER SHEET
2	DEVELOPMENT AND LANDSCAPE PLAN
3	DEVELOPMENT AND LANDSCAPE PLAN
4	DEVELOPMENT AND LANDSCAPE PLAN
4A	EXISTING VEGETATION MAP
4B	EXISTING VEGETATION MAP
4C	EXISTING VEGETATION MAP
5	RESOURCES OPERATION PLAN
6	FINAL GRADING PLAN - VOID
6A	FINAL GRADING PLAN
7	RESTORATION PLAN - VOID
7A	RESTORATION PLAN
8	DRAINAGE AND COMPUTATIONS
9	BMP COMPUTATIONS AND SOILS MAP
10	OUTFALL MAP AND SITE PHOTOS
11	OUTFALL SECTIONS AND COMPUTATIONS
12	SITE NARRATIVES



ANGLE OF BULK PLANE

MINIMUM YARD REQUIREMENTS IN THE R-C ZONING DISTRICT
FOR ALL STRUCTURES OTHER THAN SINGLE FAMILY DWELLINGS

FRONT YARD: CONTROLLED BY A 50° ANGLE OF BULK PLANE,
BUT NOT LESS THAN 40'

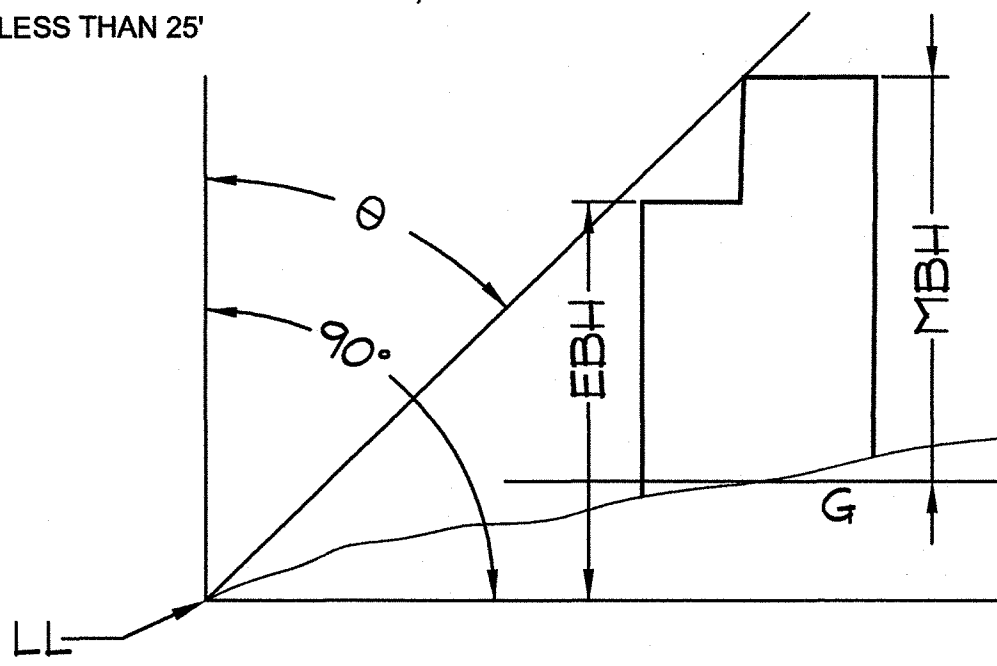
SIDE YARD: CONTROLLED BY A 45° ANGLE OF BULK PLANE,
BUT NOT LESS THAN 20'

REAR YARD: CONTROLLED BY A 45° ANGLE OF BULK PLANE,
BUT NOT LESS THAN 25'

θ = ANGLE OF BULK PLANE
LL = LOT LINE
MYR = MINIMUM YARD REQUIREMENT
EBH = EFFECTIVE BUILDING HEIGHT
MBH = MAXIMUM BUILDING HEIGHT
G = GRADE (FINISHED)

MYR = EBM TAN θ

EBH = $\frac{MYR}{\tan \theta}$



GENERAL NOTES

- THE PROPERTY THAT IS THE SUBJECT OF THIS SPECIAL PERMIT AMENDMENT (SPA) CONTAINS APPROXIMATELY 210.25 ACRES AND IS IDENTIFIED ON THE FAIRFAX COUNTY ZONING MAP AS:
64-1 (11) PARCELS 1, 4, 13, 14, 15, 17(PART), 33A, 38(PART), 39(PART) and 64-1 (4)7A
THE PROPERTY IS CURRENTLY ZONED R-C.
THE SUBJECT PROPERTY LIES WITHIN THE:
WATER SUPPLY PROTECTION OVERLAY DISTRICT
NATURAL RESOURCE PROTECTION OVERLAY DISTRICT.
THE SITE IS CURRENTLY APPROVED AND USED FOR STONE QUARRYING, CRUSHING, SALES AND ANCILLARY USES.

THE SUBJECT PROPERTY MOST NOTABLY CONSISTS OF TWO LARGE QUARRY PITS AND NUMEROUS STOCKPILES OF MATERIAL ASSOCIATED WITH THE SITE'S PRODUCTION. MANY STRUCTURES EXIST ON THE PROPERTY, AS CAN BE NOTED ON THE GRAPHIC, RANGING IN DATE OF CONSTRUCTION BACK TO THE 1950'S. ALL EXISTING STRUCTURES ARE TO BE RETAINED.
- ON APRIL 30, 2003, THE BOARD OF ZONING APPEALS PREVIOUSLY APPROVED SPA 81-S-064-9 FOR THIS SITE TO PERMIT GROUP 1 SPECIAL PERMIT USES INCLUDING STONE QUARRYING, CRUSHING, SALES AND ANCILLARY USES, AS CONDITIONED PER ARTICLE 8-104 PAR. 4 OF THE FAIRFAX COUNTY ZONING ORDINANCE AND PER DEVELOPMENT CONDITIONS. THE SPECIAL PERMIT APPROVAL WAS GRANTED FOR A PERIOD OF FIVE (5) YEARS. THE PURPOSE OF THIS SPA APPLICATION IS TO PERMIT CONTINUATION OF THE CURRENTLY APPROVED GROUP 1 SPECIAL PERMIT USES FOR THIS SITE. NO CHANGE IN OPERATION OR EXPANSION OF SERVICE IS PROPOSED.
- BOUNDARY INFORMATION IS TAKEN FROM EXISTING RECORDS AND HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND, THEREFORE, DOES NOT NECESSARILY INDICATE ALL ENCUMBRANCES ON THE PROPERTY. PATTON HARRIS RUST & ASSOCIATES (PHR+A) ASSUMES NO RESPONSIBILITY FOR DESIGN OR CONSTRUCTION CHANGES CAUSED BY INACCURACIES IN THE TOPOGRAPHIC INFORMATION.
- TOPOGRAPHIC INFORMATION IS FROM AN AERIAL SURVEY PREPARED BY LANDAIR SURVEYING COMPANY (ATLANTA, GEORGIA). AERIAL TOPO WAS FLOWN IN AUGUST 2007 AND IS DENOTED AT TWO-FOOT CONTOUR INTERVALS. PHR+A ASSUMES NO RESPONSIBILITY FOR DESIGN OR CONSTRUCTION CHANGES CAUSED BY INACCURACIES IN THE TOPOGRAPHIC INFORMATION.
- THE GRAPHIC DEPICTION OF THE ANGLE OF BULK PLANE FOR THE R-C ZONING DISTRICT IS LOCATED ON SHEET 1 OF THE GRAPHIC.

YARD REQUIREMENTS WITHIN THE R-C ZONING DISTRICT FOR STRUCTURES OTHER THAN RESIDENTIAL BUILDINGS ARE AS NOTED BELOW:

FRONT YARD: CONTROLLED BY A 50° ANGLE OF BULK PLANE, BUT NOT LESS THAN 40 FEET

SIDE YARD: CONTROLLED BY A 45° ANGLE OF BULK PLANE, BUT NOT LESS THAN 20 FEET

REAR YARD: CONTROLLED BY A 45° ANGLE OF BULK PLANE, BUT NOT LESS THAN 25 FEET
- ACCESS TO THE SUBJECT PROPERTY IS BY LEE HIGHWAY (ROUTE 29). THE PRIMARY BUSINESS ACCESS IS ON PARCEL 64-1 (11) 13 AND SERVES AS ACCESS TO QUARRY OFFICE AND OPERATIONS. AN ADDITIONAL ACCESS TO ROUTE 29 IS PROVIDED VIA A PRIVATE ROAD ON THE WESTERN EDGE OF PARCEL 64-1(11) 17, WHICH IS NOT INCLUDED WITH THIS SPA APPLICATION. ACCESS TO THE NORTHERN PORTION OF THE SITE IS PROVIDED FROM THE SOUTHERN PORTION OF THE SITE BY A TUNNEL WHICH RUNS BENEATH ROUTE 29.

NO ACCESS EXISTS OR IS PROPOSED TO BULL RUN POST OFFICE ROAD TO THE EAST, OR THE PRIVATE OUTLET ROAD TO THE SOUTH.
- NO MAJOR SANITARY SEWER IMPROVEMENTS ARE PROPOSED WITH THIS DEVELOPMENT PLAN.

- DRAINAGE FOR THE LUCK STONE SITE IS MOSTLY CONTAINED BY INTERNAL DRAINAGE TO TWO MAIN PITS. STORM FLOWS ARE COLLECTED TO TWO STAGE SETTLEMENT PONDS WITHIN THE EXCAVATION PITS AND THEN PUMPED TO THE SURFACE. FLOW IS THEN DRAINED TO A THIRD STAGE WET POND IN THE OPERATIONS AREA THEN GRAVITY DRAINED TO AN UNNAMED TRIBUTARY WHICH FLOWS ACROSS FOREST AND FARMLAND TO OUTFALL TO BULL RUN. SOME LIMITED SURFACE AREA FLOWS EXIST FROM A STOCKPILE YARD ON THE WEST SIDE OF THE NORTHERN PIT TO AN OLD 1.5 ACRE FARM POND, WHICH ALSO OUTFALLS TO ANOTHER SMALL TRIBUTARY TO BULL RUN.

THESE STORM WATER MANAGEMENT FACILITIES ARE EXISTING AND APPEAR TO PROVIDE ADEQUATE SETTLEMENT AND FILTRATION. STORM FLOWS ARE AMELIORATED BY CAPTURE IN THE EXCAVATION PITS WITH EXTENDED PUMP OUT. A POSITIVE SIGN OF WATER QUALITY IS THAT THE SURFACE PONDS SUSTAIN POPULATIONS OF GAME FISH AND ONE OF THE PONDS IN THE NORTH PIT SUSTAINS STOCKED TROUT.
- A TRANSCONTINENTAL GAS PIPELINE EASEMENT HAVING A WIDTH OF TWENTY FIVE (25) FEET OR GREATER IS LOCATED ALONG THE SOUTHERN EDGE OF THE SITE. TO THE BEST OF OUR KNOWLEDGE, NO OTHER EASEMENTS TWENTY FIVE (25) FEET IN WIDTH OR GREATER EXIST ON THE SUBJECT PROPERTY.
- PARKING SPACES FOR THE PROPOSED DEVELOPMENT PROGRAM HAVE BEEN / WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 11 OF THE ZONING ORDINANCE AND AS REPRESENTED IN THE TABULATION.

THE APPLICANT RESERVES THE RIGHT TO INCREASE OR REDUCE THE NUMBER OF PARKING SPACES AS REPRESENTED IN THE TABULATION SO LONG AS THE RESULTING NUMBER OF SPACES SATISFIES THE MINIMUM NUMBER PRESCRIBED BY THE PROVISIONS IN THE ZONING ORDINANCE AND/OR THE AMOUNT OF OPEN SPACE AND THE MINIMUM DISTANCES TO THE PERIPHERAL LOT LINES ARE NOT DIMINISHED.
- THERE ARE NO AREAS THAT HAVE SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION AND PRESERVATION ON THE SUBJECT PROPERTY.
- THE SUBJECT PROPERTY IS PREDOMINANTLY BOUNDED ON THE NORTH, EAST AND SOUTH BY PROPERTY WHICH IS ZONED R-C AND CONTAINS RESIDENTIAL USES AND VACANT LAND. THE PROPERTIES WEST OF THE SITE ARE PREDOMINANTLY ZONED I-6 AND CONTAIN INDUSTRIAL USES.

THROUGH PRIOR APPLICATIONS, SUBSTANTIAL BUFFER AREAS AND LANDSCAPING HAVE BEEN AGREED TO AND PROVIDED ALONG THE SUBJECT PROPERTY'S INTERFACE WITH THE ADJACENT PROPERTIES. AS THESE BUFFERS EXIST TODAY AND WITH NO PROPOSED CHANGE IN THE DEVELOPMENT PROGRAM, THE SUBJECT PROPERTY WILL NOT CAUSE ANY ADDITIONAL EFFECT TO THE SURROUNDING DEVELOPMENT.
- THE SUBJECT PROPERTY MOST NOTABLY CONSISTS OF TWO LARGE QUARRY PITS AND NUMEROUS STOCKPILES OF MATERIAL ASSOCIATED WITH THE SITE'S PRODUCTION. MANY STRUCTURES EXIST ON THE PROPERTY, AS CAN BE NOTED ON THE GRAPHIC, RANGING IN DATE OF CONSTRUCTION BACK TO THE 1950'S. ALL EXISTING STRUCTURES ARE TO BE RETAINED.
- THE TOTAL GROSS FLOOR AREA FOR THE PROPOSED DEVELOPMENT IS NOTED IN THE TABULATION. GROSS FLOOR AREAS REPRESENTED ARE AS DEFINED IN THE FAIRFAX COUNTY ZONING ORDINANCE. THE TOTAL GROSS FLOOR AREA AND BUILDING HEIGHT REPRESENTED ARE TO BE CONSIDERED MAXIMUMS.

THE MAXIMUM FAR PERMITTED IN THE R-C ZONING DISTRICT FOR USES OTHER THAN RESIDENTIAL OR PUBLIC IS 0.10.

THE EXISTING/PROPOSED FAR IS 0.001.
- DIMENSIONS TO PERIPHERAL LOT LINES ARE TO BE CONSIDERED MINIMUMS WITH THE UNDERSTANDING THAT ALL DIMENSIONS SHOWN ON THE GRAPHIC ARE SUBJECT TO MINOR MODIFICATION IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN SECT. 2-419 OF THE ZONING ORDINANCE.

- NO SPECIAL AMENITIES ARE PROPOSED WITH THIS APPLICATION.
- THERE IS NO FLOODPLAIN DESIGNATED BY THE FEDERAL INSURANCE ADMINISTRATION, UNITED STATES GEOLOGICAL SURVEY OF FAIRFAX COUNTY ON THE SUBJECT PROPERTY. THERE IS NO RESOURCE PROTECTION AREA (RPA) ON THE SITE. AN ENVIRONMENTAL QUALITY CORRIDOR (EQC) IS NOTED ON THE NORTHWESTERN PORTION OF THE SITE AND HAS BEEN WILL BE PROTECTED PER PREVIOUS APPROVAL LIMITATIONS.
- PER APPROVAL LIMITATIONS SET FORTH WITH SPA 81-S-064-9, THE APPLICANT AGREES TO PROVIDE RIGHT-OF-WAY DEDICATION FOR IMPROVEMENTS TO LEE HIGHWAY (ROUTE 29) AT SUCH TIME AS PLANNED IMPROVEMENTS ARE DESIGNED AND FUNDED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION OR FAIRFAX COUNTY.
- LANDSCAPING AND SCREENING HAVE BEEN WILL BE PROVIDED IN ACCORDANCE WITH APPROVAL LIMITATIONS SET FORTH WITH SPA 81-S-064-9.

AN EXISTING VEGETATION MAP WILL BE SUBMITTED SEPARATELY IN ASSOCIATION WITH THIS SPA APPLICATION.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES LOCATED ON THE SUBJECT PROPERTY.
- A STATEMENT WHICH CONFIRMS OWNERSHIP OF THE SUBJECT PROPERTY AND THE NATURE OF THE APPLICANT'S INTEREST WILL BE SUBMITTED SEPARATELY.
- THE SUBJECT PROPERTY LIES WITHIN THE BR5 STONE BRIDGE COMMUNITY PLANNING SECTOR OF THE BULL RUN PLANNING DISTRICT. LAND USE RECOMMENDATION 4 SPECIFICALLY REFERS TO THE LUCK STONE QUARRY SITE WITH RECOMMENDATIONS FOR BUFFERING AND NOISE MITIGATION. THIS SPECIAL PERMIT AMENDMENT APPLICATION IS IN CONFORMANCE WITH THESE COMPREHENSIVE PLAN RECOMMENDATIONS.

COMPREHENSIVE PLAN TRANSPORTATION RECOMMENDATIONS FOR THIS SITE REFLECT THE WIDENING OR IMPROVEMENT OF LEE HIGHWAY TO SIX LANES. DEDICATION OF NECESSARY RIGHT-OF-WAY FOR SAID IMPROVEMENT HAS BEEN COMMITTED PREVIOUSLY. SUCH DEDICATION, HOWEVER, WILL NOT BE MADE UNTIL THE PROPOSED ROAD IMPROVEMENTS ARE DESIGNED AND FULLY FUNDED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION OR FAIRFAX COUNTY.

THE COUNTY WIDE TRAILS MAP INDICATES AN ON-ROAD BIKE ROUTE TO BE PROVIDED ALONG LEE HIGHWAY AND A NATURAL SURFACE OR STONE DUST TRAIL TO BE PROVIDED ON THE SOUTHERN SIDE OF LEE HIGHWAY. THE APPLICANT REQUESTS REAFFIRMATION OF A WAIVER OF THIS TRAIL REQUIREMENT.
- THERE ARE A NUMBER OF STORAGE TANKS ON THE SUBJECT PROPERTY CONTAINING PETROLEUM PRODUCTS. A LIST OF THESE AND THE COMPANY POLICY FOR SPILL PROTECTION ARE SUBMITTED SEPARATELY.

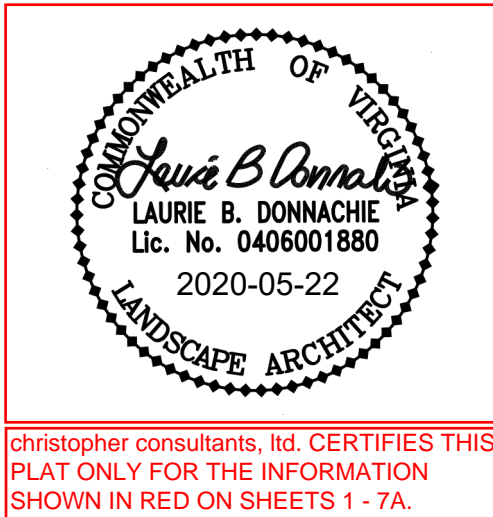
TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THE PROPOSED DEVELOPMENT PROGRAM DOES NOT WILL NOT GENERATE, UTILIZE, STORE, TREAT OR DISPOSE OF ANY OTHER HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PARTS 118.4, 302.4 AND 305; ALL HAZARDOUS WASTE AS SET FORTH IN VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY HAZARDOUS WASTE MANAGEMENT REGULATIONS; AND/OR PETROLEUM PRODUCTS AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 280. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THE SUBSTANCES THAT MAY BE UTILIZED, STORED AND DISPOSED OF IN CONJUNCTION WITH THE PROPOSED DEVELOPMENT PROGRAM AND/OR MAINTENANCE OF THE BUILDING PROGRAM AND GROUNDS WILL BE IN ACCORDANCE WITH SAID REGULATIONS.
- THE SUBJECT PROPERTY IS CURRENTLY SERVED BY GROUND WELLS AND SEPTIC SYSTEM. NO NEW FACILITIES ARE PROPOSED.

- IT IS EXPECTED THAT 225 TRUCKS WILL ENTER AND LEAVE THE PREMISES ON AN AVERAGE DAY AND THAT THERE WILL BE 39 TOTAL EMPLOYEES (32 DURING THE DAY, WITH 7 ON THE EVENING SHIFT). THESE ESTIMATES ARE BASED THE CURRENT USE, WHICH IS NOT EXPECTED TO CHANGE. BASED ON A CONSERVATIVE ESTIMATE OF EACH EMPLOYEE ENTERING AND LEAVING AN AVERAGE OF TWICE EACH DURING THE COURSE OF THE DAY, THE TOTAL NUMBER OF TRIPS IN AND OUT OF THE SITE IS EXPECTED TO BE APPROXIMATELY 350 TRIPS PER DAY. ACCORDING TO VDOT TRAFFIC COUNTS FOR 2006, THERE ARE 19,000 VEHICLES PER DAY TRAVELING ALONG ROUTE 29 AT THE SITE. THEREFORE, TRIPS FROM THE LUCK STONE QUARRY REPRESENT LESS THAN 2 PERCENT OF THE TOTAL TRAFFIC AT THE SITE ENTRANCE.

AS THIS SPECIAL PERMIT AMENDMENT DOES NOT PROPOSE ANY NEW USES OR ANY INCREASE IN TRAFFIC ENTERING OR EXITING THE SITE, A TRAFFIC IMPACT ANALYSIS IS NOT REQUIRED. IN ADDITION, SINCE DAILY TRIPS ARE SIGNIFICANTLY BELOW THE 5,000 VPD THRESHOLD, AND SINCE TOTAL DAILY VOLUMES ARE BELOW THE PEAK HOUR THRESHOLDS (500 VEHICLES PER HOUR), A VDOT CHAPTER 527 REVIEW WILL NOT BE REQUIRED FOR THIS SITE.
- IT IS UNDERSTOOD THAT ADDITIONAL SITE FEATURES SUCH AS GAZEBOES, BENCHES, COVERED WALKWAYS, FLAGPOLES, TRELLISES, WATER FOUNTAINS OR FEATURES, SIGNS, WALLS, FENCES, LIGHT STANDARDS AND/OR UTILITY MAINTENANCE STRUCTURES NOT REPRESENTED ON THE GRAPHIC MAY BE PROVIDED AS LONG AS THE RESULTANT PROPOSED DEVELOPMENT IS IN SUBSTANTIAL CONFORMANCE WITH THAT REPRESENTED ON THE GRAPHIC.
- IT IS ALSO UNDERSTOOD THAT MOBILE AND LAND BASED TELECOMMUNICATION FACILITIES MAY BE PROVIDED ON SITE IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN SECT. 2-514 OF THE ZONING ORDINANCE.
- ALL SIGNS SHALL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 12 OF THE ZONING ORDINANCE.
- ALL LIGHTING ON SITE WILL BE IN ACCORDANCE WITH THE STANDARDS SET FORTH IN SECTION 14-900 OF THE ZONING ORDINANCE.
- A WRITTEN STATEMENT DESCRIBING THE TYPE OF OPERATION, HOURS OF OPERATION, ESTIMATED NUMBER OF PATRONS, PROPOSED NUMBER OF EMPLOYEES AND THE ESTIMATED TRAFFIC IMPACT ARE PROVIDED IN THE STATEMENT OF JUSTIFICATION.
- A DETAILED LIST OF EQUIPMENT, ESTIMATED NUMBER OF TRUCKS ENTERING AND LEAVING THE SITE, PROPOSED HOURS AND DAYS OF OPERATION AND THE PROPOSED TIME PERIOD TO COMPLETE THE PROPOSED USE ARE SUBMITTED SEPARATELY.
- A WAIVER OF THE SUBMISSION REQUIREMENT FOR A SOILS ANALYSIS (SECT. 8-103 PAR. 10) IS REQUESTED. A SOILS ANALYSIS OF THE PROPERTY HAS BEEN SUBMITTED WITH PRIOR SPECIAL PERMIT APPLICATIONS. NO ADDITIONAL SOILS REPORT IS SUPPLIED WITH THIS APPLICATION.
- A LETTER GRANTING ENTRY TO THE PROPERTY TO DESIGNATED OFFICIALS WILL BE SUBMITTED SEPARATELY.
- TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED DEVELOPMENT OF THE SUBJECT PROPERTY CONFORMS TO ALL CURRENT APPLICABLE LAND DEVELOPMENT ORDINANCES, REGULATIONS AND ADOPTED STANDARDS EXCEPT AS MAY BE QUALIFIED ABOVE.
- THE PURPOSE OF THIS SPA IS TO AMEND PREVIOUSLY APPROVED SPA 81-S-064 TO PERMIT RENEWAL FOR NEXT 5 YEARS AS PER SECTION 8-104.4 OF THE FAIRFAX COUNTY ZONING ORDINANCE. NO CHANGE IN USE, OPERATION OR EXPANSION OF SERVICES IS PROPOSED.

SITE TABULATIONS

ZONING	EXISTING / PROPOSED ZONING	R-C
SITE AREA	APPLICATION AREA	210.25±AC
GROSS FLOOR AREA	EXISTING / PROPOSED GROSS FLOOR AREA	11,745 SF
FLOOR AREA RATIO (FAR)	PERMITTED FAR PER R-C ZONING DISTRICT (FOR USES OTHER THAN RESIDENTIAL OR PUBLIC)	0.04-0.10
	EXISTING / PROPOSED FAR	0.001
PARKING	REQUIRED PARKING	37 SP
	ONE (1) SPACE PER EMPLOYEE ON MAJOR SHIFT	32 SP
	ONE (1) SPACE PER COMPANY VEHICLE	5 SP
	PARKING PROVIDED	37 SP
LOADING REQUIRED	ONE (1) SPACE FOR THE FIRST 5,000 SF OF GROSS FLOOR AREA PLUS ONE (1) SPACE FOR EACH ADDITIONAL 30,000 SF OR MAJOR FRACTION THEREOF	1 SP
	LOADING PROVIDED	1 SP
OPEN SPACE		NO REQUIREMENT



christopher consultants, llc CERTIFIES THIS
PLAT ONLY FOR THE INFORMATION
SHOWN IN RED ON SHEETS 1 - 7A.

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.

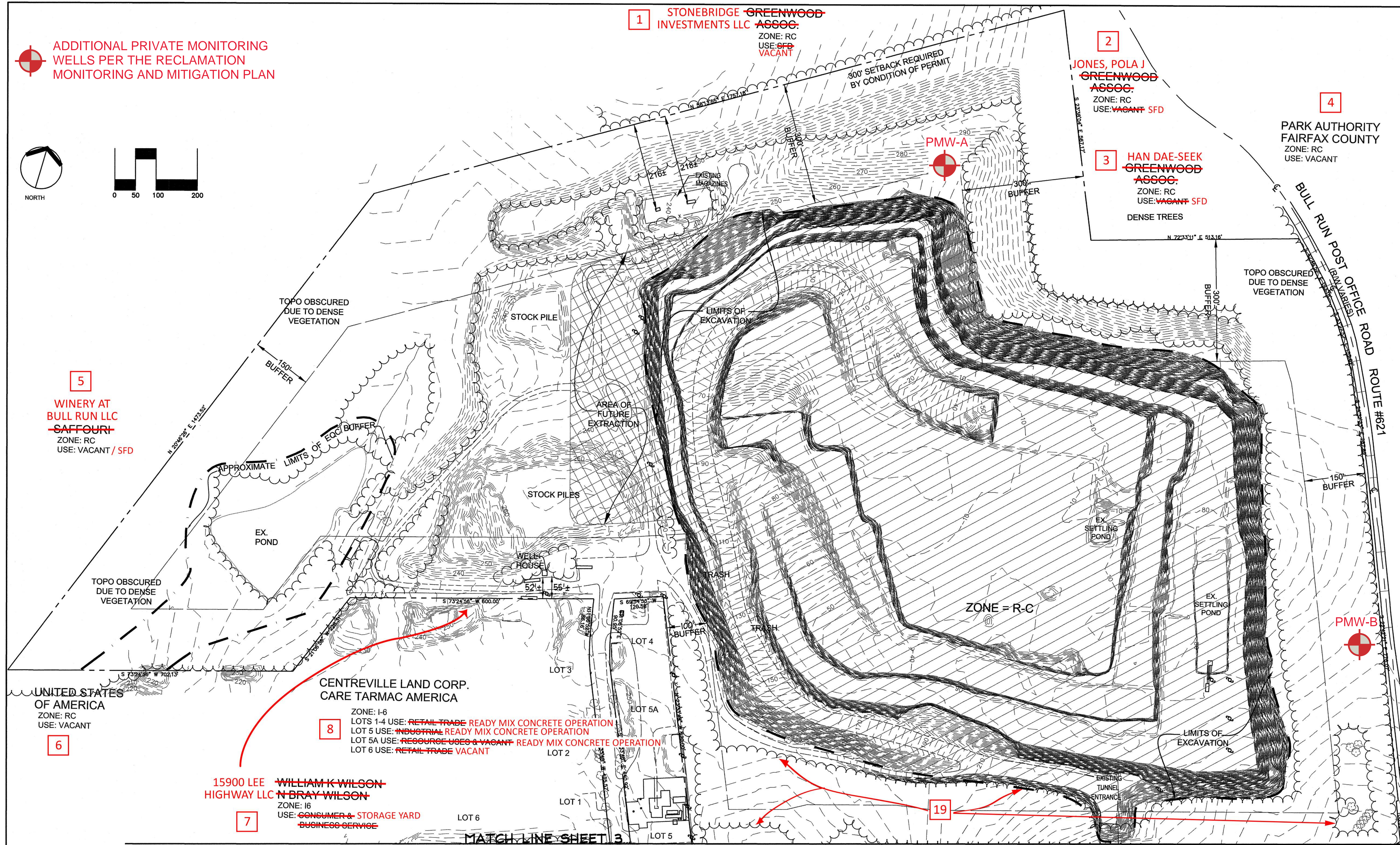
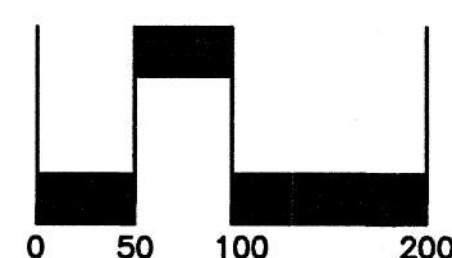
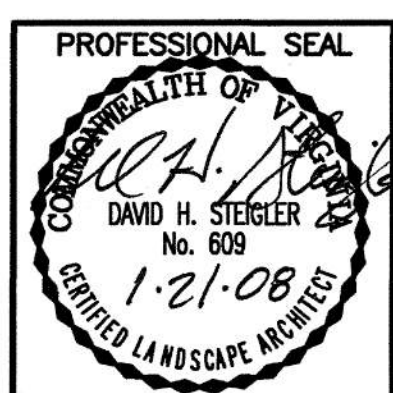
PHR+A

14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

JANUARY 18, 2008
SUBMISSION DATE

00676-1-6

SHEET 1 OF 12

[illegible]

PROJECT

LUCK STONE PROPERTY

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

TITLE

SPECIAL PERMIT AMENDMENT PLAT

~~SPA 81-S-064-10~~

SPA 81-S-064-11

DEVELOPMENT PLAN AND
LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.

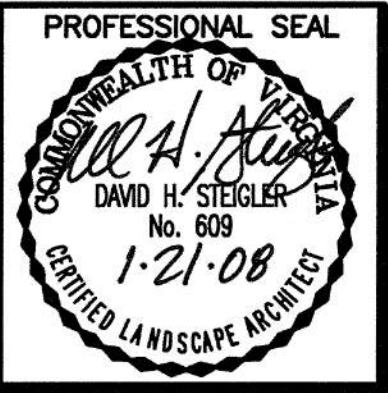
P_HR+A

14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	GAH	DATE	01.18.08
CHECKED	DHS	SCALE	1"=100'
SHEET	2 OF 12	FILE NO.	00676-1-6



NO.	DESCRIPTION	DATE	REV'S	REV'D	APR'D	DATE
1	Portable Crushing Plant	3/19/03				
REVISION						



PROJECT

LUCK STONE PROPERTY

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

TITLE

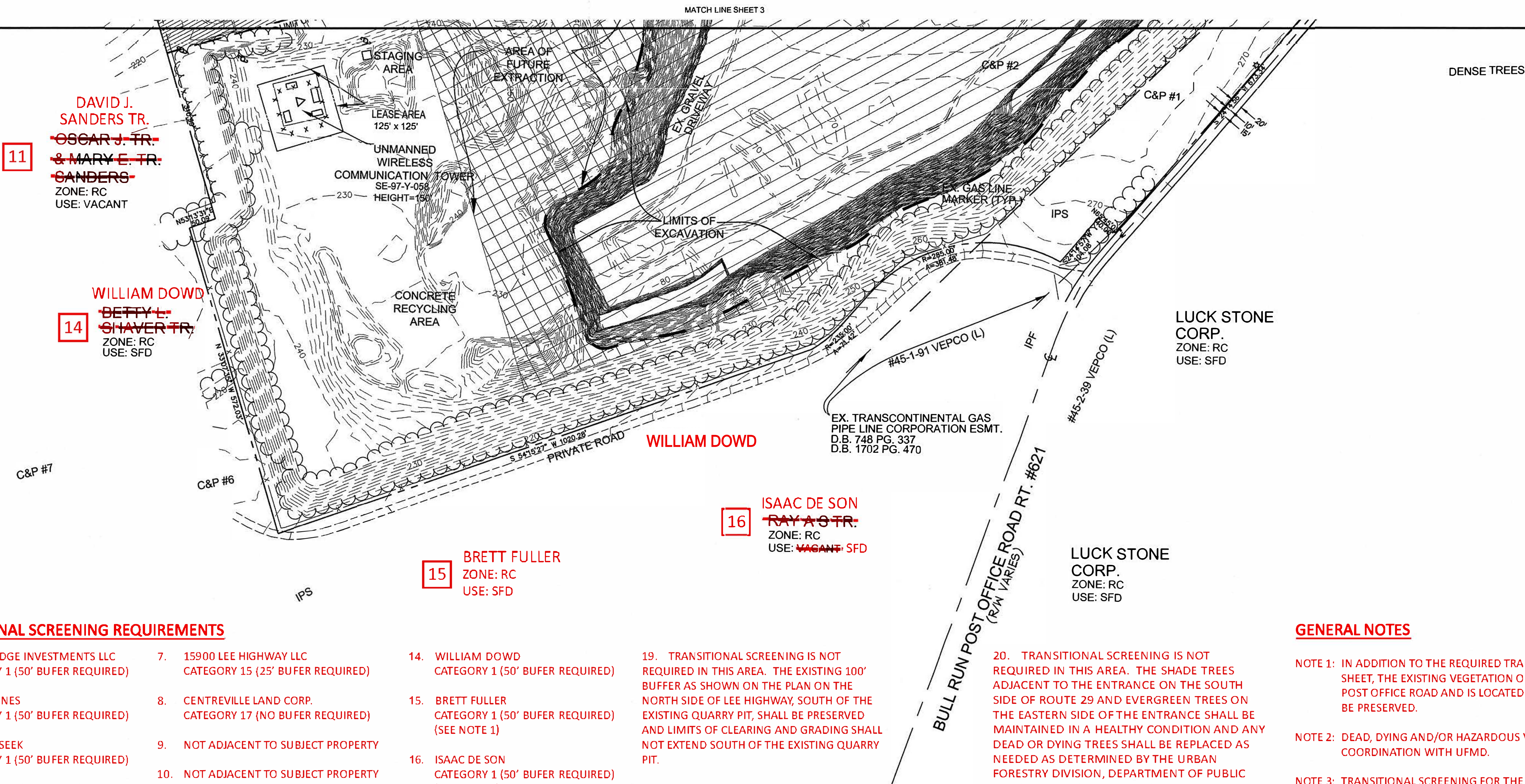
SPECIAL PERMIT AMENDMENT PLAT
~~SPA 81-S-064-10~~
SPA 81-S-064-11
DEVELOPMENT PLAN AND
LANDSCAPE PLAN

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.

PHRA

14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	GAH	DATE	01.18.08
CHECKED	DHS	SCALE	1"=100'
SHEET	3 OF 12	FILE NO.	00676-1-6



TRANSITIONAL SCREENING REQUIREMENTS

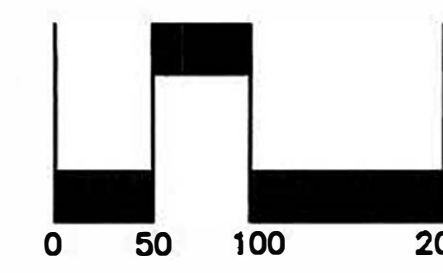
- | | | |
|---|--|---|
| 1. STONEBRIDGE INVESTMENTS LLC
CATEGORY 1 (50' BUFER REQUIRED) | 7. 15900 LEE HIGHWAY LLC
CATEGORY 15 (25' BUFER REQUIRED) | 14. WILLIAM DOWD
CATEGORY 1 (50' BUFER REQUIRED) |
| 2. POLA J. JONES
CATEGORY 1 (50' BUFER REQUIRED) | 8. CENTREVILLE LAND CORP.
CATEGORY 17 (NO BUFER REQUIRED) | 15. BRETT FULLER
CATEGORY 1 (50' BUFER REQUIRED)
(SEE NOTE 1) |
| 3. HAN DAE-SEEK
CATEGORY 1 (50' BUFER REQUIRED) | 9. NOT ADJACENT TO SUBJECT PROPERTY | 16. ISAAC DE SON
CATEGORY 1 (50' BUFER REQUIRED)
(SEE NOTE 1) |
| 4. PARK AUTHORITY FAIRFAX COUNTY
CATEGORY 1 (50' BUFER REQUIRED) | 10. NOT ADJACENT TO SUBJECT PROPERTY | 17. LUCK STONE CORP.
NO BUFER REQUIRED |
| 5. WINERY AT BULL RUN
CATEGORY 1 (50' BUFER REQUIRED) | 11. NOT ADJACENT TO SUBJECT PROPERTY | 18. TRANSITIONAL SCREENING 3 TO BE
MAINTAINED BETWEEN THE ACCESS
ROAD TO THE ASPHALT PLANT AND
THE MAINTENANCE BUILDING. |
| 6. UNITED STATES OF AMERICA
CATEGORY 1 (50' BUFER REQUIRED) | 12. HARRIS H. HITER III TR.
CATEGORY 1 (50' BUFER REQUIRED) | |
| | 13. LUCK STONE CORP.
CATEGORY 1 (50' BUFER REQUIRED) | |

19. TRANSITIONAL SCREENING IS NOT
REQUIRED IN THIS AREA. THE EXISTING 100'
BUFFER AS SHOWN ON THE PLAN ON THE
NORTH SIDE OF LEE HIGHWAY, SOUTH OF THE
EXISTING QUARRY PIT, SHALL BE PRESERVED
AND LIMITS OF CLEARING AND GRADING SHALL
NOT EXTEND SOUTH OF THE EXISTING QUARRY
PIT.

20. TRANSITIONAL SCREENING IS NOT
REQUIRED IN THIS AREA. THE SHADE TREES
ADJACENT TO THE ENTRANCE ON THE SOUTH
SIDE OF ROUTE 29 AND EVERGREEN TREES ON
THE EASTERN SIDE OF THE ENTRANCE SHALL BE
MAINTAINED IN A HEALTHY CONDITION AND ANY
DEAD OR DYING TREES SHALL BE REPLACED AS
NEEDED AS DETERMINED BY THE URBAN
FORESTRY DIVISION, DEPARTMENT OF PUBLIC
WORKS AND ENVIRONMENTAL SERVICES
(DPWES).

GENERAL NOTES

- NOTE 1: IN ADDITION TO THE REQUIRED TRANSITIONAL SCREENING MENTIONED ON THIS
SHEET, THE EXISTING VEGETATION ON THE BERM WHICH DIRECTLY ABUTS BULL RUN
POST OFFICE ROAD AND IS LOCATED ALONG THE PERIPHERY OF THE AREA, SHALL
BE PRESERVED.
- NOTE 2: DEAD, DYING AND/OR HAZARDOUS VEGETATION SHALL BE REMOVED IN
COORDINATION WITH UFMID.
- NOTE 3: TRANSITIONAL SCREENING FOR THE PERIMETER BUFFERS SHALL BE PROVIDED AS
PER SECTION 13-300 OF THE FAIRFAX COUNTY ZONING ORDINANCE.



NO.	DESCRIPTION	DATE	REV'D	REV'D	APR'D	DATE
REVISION						



PROJECT
LUCK STONE PROPERTY
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

TITLE
SPECIAL PERMIT AMENDMENT PLAT
SPA 81-S-064-10
SPA 81-S-064-11
DEVELOPMENT PLAN AND
LANDSCAPE PLAN

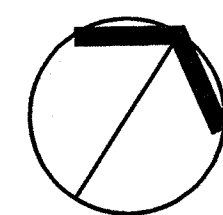
Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	GAH	DATE	01.18.08
CHECKED	DHS	SCALE	1"=100'
SHEET	4 OF 12	FILE NO.	00676-1-6

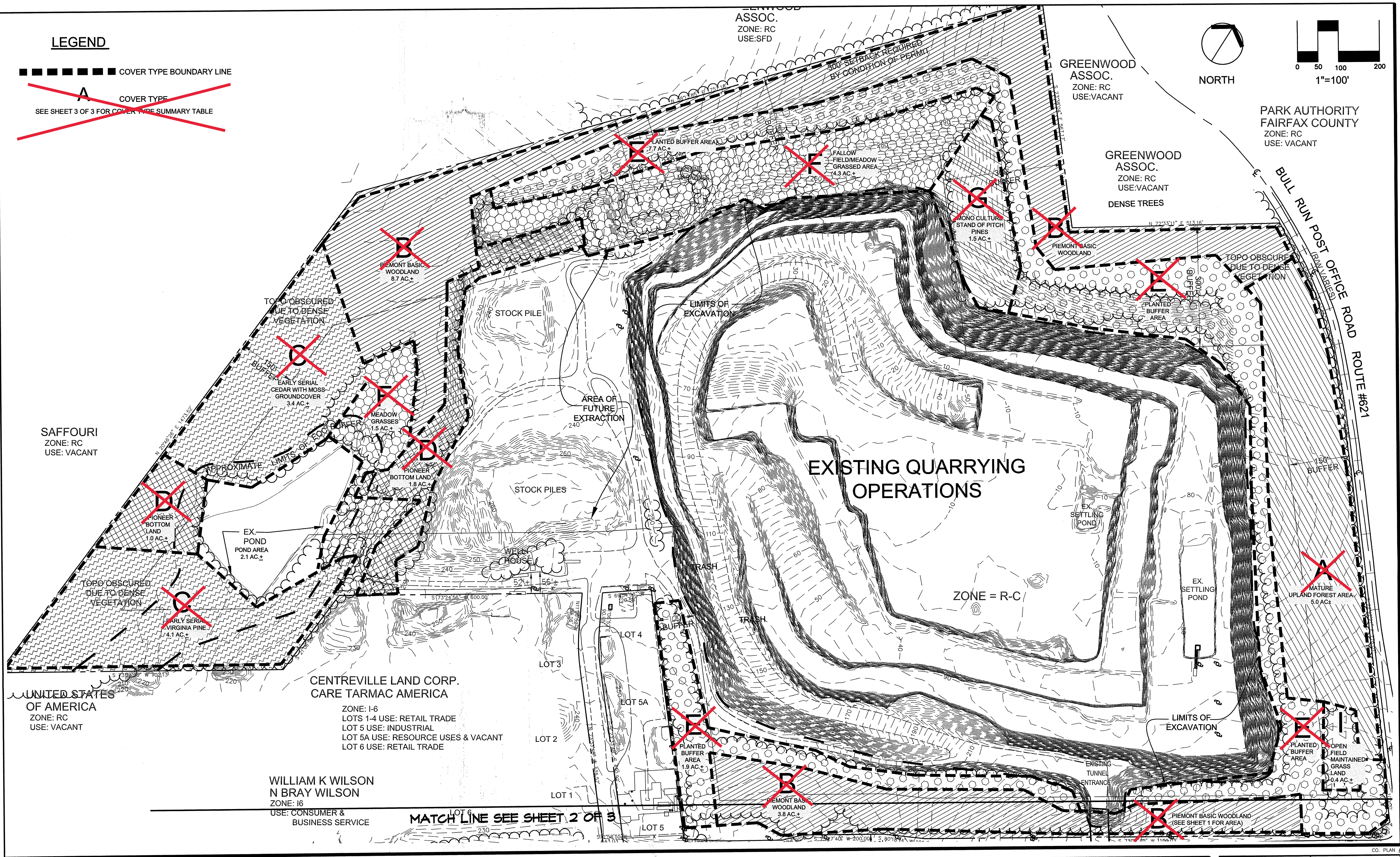
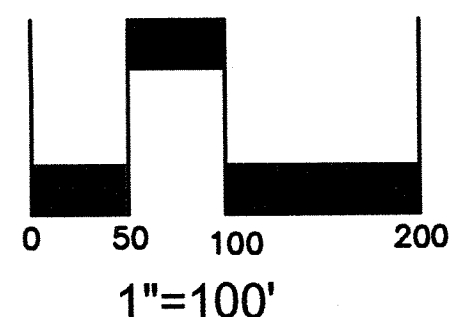
LEGEND

COVER TYPE BOUNDARY LINE

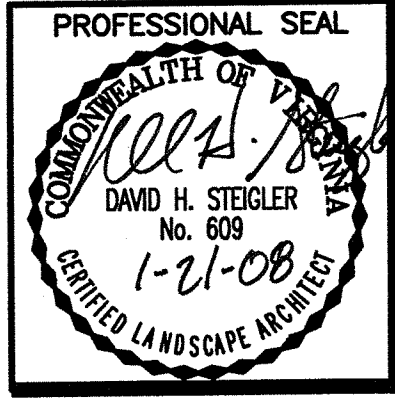
COVER TYPE
SEE SHEET 3 OF 3 FOR COVER TYPE SUMMARY TABLE



NORTH



NO.	DESCRIPTION	DATE	REV'SD	REV'D	APR'D	DATE
REVISION						



PROJECT

LUCK STONE PROPERTY

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

TITLE

SPECIAL PERMIT AMENDMENT PLAT
SPA 81-S-064-10-
SPA 81-S-064-11

EXISTING VEGETATION MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.

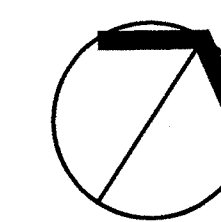
PHRA

14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

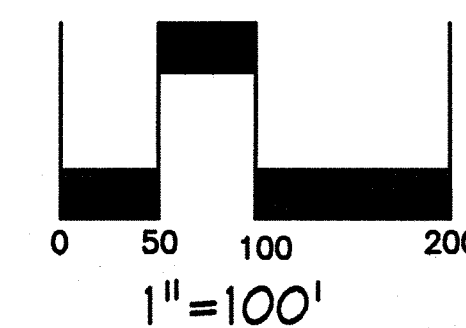
DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	GAH	DATE	01.15.08
CHECKED	DHS	SCALE	1"=100'
SHEET	4A OF 12 1 OF 3	FILE NO.	00676-1-6-A



LEGEND



NORTH



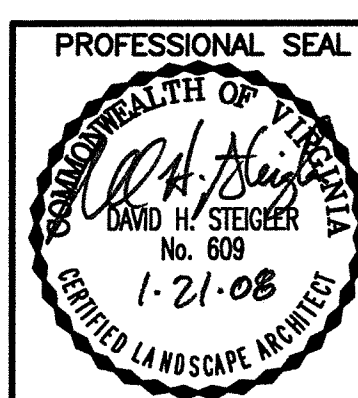
■ ■ ■ ■ ■ ■ COVER TYPE BOUNDARY LINE

~~A~~

~~COVER TYPE~~

~~SEE SHEET 3 OF 3 FOR COVER TYPE SUMMARY TABLE~~

NO.	DESCRIPTION	DATE	REV'S D	REW'D	APRV'D	DATE	
REVISION							



PROJECT

LUCK STONE PROPERTY

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

TITLE

SPECIAL PERMIT AMENDMENT PLAT

~~SPA 81-S-064-10~~
SPA 81-S-064-11

EXISTING VEGETATION MAP

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.

$$P_H R_+ \Lambda$$

14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	GAH	DATE	01.15.08
CHECKED	DHS	SCALE	1"=100'
SHEET	4B OF 12 2 OF 3	FILE NO.	00676-1-6-A

EXISTING VEGETATION COVER TYPE SUMMARY TABLE PROPERTY.						
Cover Type	PRIMARY SPECIES		UNDER STORY SPECIES	SUCCESIONAL STAGES	CONDITION*	TOTAL AREA
A MATURING UPLAND FOREST	PREDOMINATELY PINUS VIRGINIA, WHITE AND RED OAKS, WITH SOME AM. ELMS, FRAXINUS SPP., RED MAPLES AND PRUNUS SEROTINA		DOGWOODS, BUCKTHORN. CERCIS CANADENSIS, DECLINING CEDAR UNDER STORY LAYER	SUB CLIMAX	EXCELLENT	5.0 AC.±
B PIEMONT BASIC WOODLANDS	PREDOMINATELY QUERCUS SPP. WITH YOUNGER ASH, HICKORY, CHERRY & SOME SYCAMORE ALONG THE EDGE		BUCKTHORN, SHAD, REDBUD, HICKORY AMERICAN ELM	CLIMAX / SUB CLIMAX	EXCELLENT	13.1 AC.±
C SERIAL MONOCULTURE	PREDOMINATELY STANDS OF PINUS VIRGINIANA, OR JUNIPERUS VIRGINIANA OCCASIONAL AMERICAN ELM, RED MAPLE OR DOGWOOD		NO UNDER STORY PRESENT GROUNDCOVER MOSS OR PINE NEEDLES (SEE PLAN FOR LOCATION)	NA	GOOD	7.9 AC.±
D BOTTOM LAND	JUNIPERUS VIRGINIANA & PINUS VIRGINIANA MAPLES, SYCAMORES, ASH, SYCAMORE PERSIMMON		ELAEAGNUS NATIVIAN HONEYSUCKLE, BRAMBLES	PIONEER	GOOD	4.6 AC.±
COMMENTS AND CONDITION DESCRIPTIONS:						
COVER TYPE A :	DEVELOPING COVER TYPE, DECIDUOUS ESTABLISHING DOMINANCE . FOREST STAND IS ABOUT 50/50 EVERGREEN & HARDWOOD. THIS COVER TYPE IS IN THE BEST CONDITION ON SITE. THE GROUND COVER IS A MIXTURE OF BEDDINGS AND HONEYSUCKLE THROUGHOUT THE COVER TYPE. NO APPARENT INSECT OR DISEASE PROBLEM FOUND.					
COVER TYPE B :	THIS COVER TYPE IS DOMINATED BY OLDER QUERCUS SPP. 20 TO 23" DBH WITH YOUNGER (1 TO 5") ASH, HICKORY, ALSO SOME, MAPLES, AMERICAN ELMS AND HACKBERRY. MOST TREES ARE IN GOOD CONDITION WITH NO APPARENT DISEASE OR INSECT PROBLEMS ALTHOUGH SOME RED OAKS SHOWS SIGNS OF ROTTING CENTERS.					
COVER TYPE C :	EVEN AGED DENSELY PLANTED CEDAR, VIRGINIA PINES GROUPING MONOCULTURE MAKING UP 95% OF THE STAND. NO APPARENT DISEASE OR INSECT PROBLEMS NOTED.					
COVER TYPE D :	EVEN AGED CEDAR, VIRGINIA PINES GROUPING WITH 50% HARDWOODS AND COMPETING UNDER STORY SHRUBS. NO APPARENT DISEASE OR INSECT PROBLEMS NOTED.					

Invasive Species Management Plan

Invasive species management will be addressed as part of a 5-year plan that designates specific property lines to be analyzed each year through 2024. It is the intent of this plan to evaluate the perimeter of the entire property subject to this Special Permit over this 5-year period. The year-by-year breakdown of active management areas is identified in the table below.

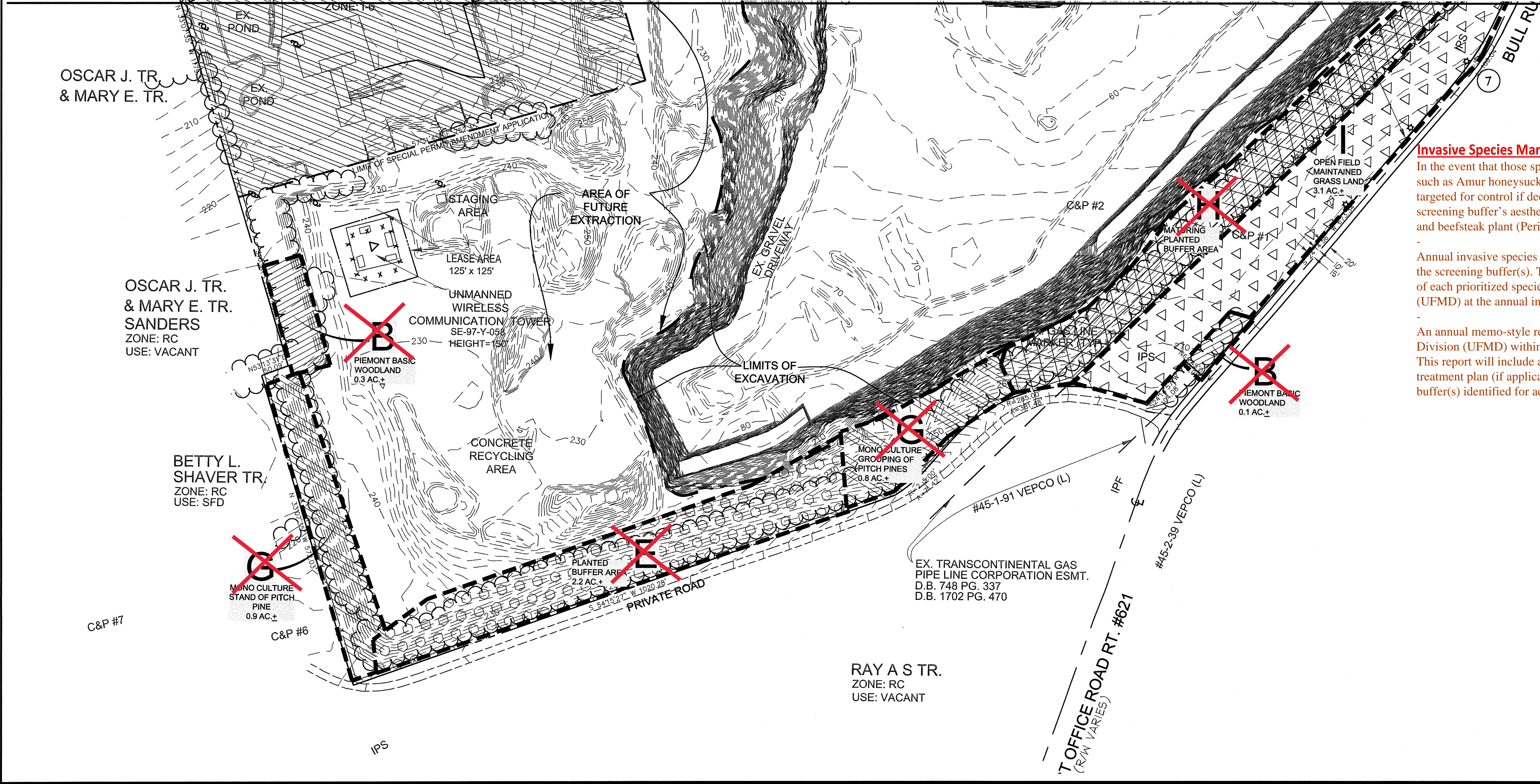
Year in Rotation	Screening Buffer(s) Actively Managed
Year 1 (2020)	1, 2, 3, 4
Year 2 (2021)	11,14,15,16,
Year 3 (2022)	5, 6, 7, 8
Year 4 (2023)	12, 13, 19
Year 5 (2024)	18, 20
Year 6-10*	Invasive monitoring and spot treatment of the entire periphery of the property as a result of the site's yearly county inspection.

*Assuming administrative renewal is approved.

On an annual basis, as per the table above, Luck Stone will inspect the specific transitional screens for presence of invasive species. This inspection will identify which invasive species are present and may warrant control. Within the transitional screen area, invasive species control will be prioritized to focus on species that actively damage or degrade the native forested screening buffers.

As such, aggressive vine species such as kudzu (*Peararia montana var. lobata*), Oriental bittersweet (*Celastrus orbiculatus*), Japanese honeysuckle (*Lonicera japonica*), and porcelain-berry (*Ampelopsis brevipedunculata*) will be given top priority for management. Because of its direct competition with native screening buffer trees and allelopathic nature, Tree-of-heaven (*Ailanthus altissima*) will also be given top priority.

EXISTING VEGETATION COVER TYPE SUMMARY TABLE PROPERTY						
Cover Type		PRIMARY SPECIES	UNDER STORY SPECIES	SUCCESIONAL STAGES	CONDITION*	TOTAL AREA
E	PLANTED BUFFER	PREDOMINATELY PINUS VIRGINIA, PITCH PINE, BLACK LOCUST, RED BUD WITH SOME AM. ELMS, FRAXINUS SPP., RED MAPLES AND PRUNUS SEROTINA	DOGWOODS, ELAEAGNUS, CERCIS CANADENSIS, & BUCKTHORN	SUB CLIMAX	EXCELLENT	11.8 AC.±
F	MEADOW GRASS LAND	NO WOOD GROWTH PRESENT	FALLOW MEADOW GRASS LAND	NA	NA	5.8 AC.±
G	SERIAL MONOCULTURE	PREDOMINATELY PINUS RIGIDA, AND SOME PIONEER SPP. OF PERSIMMON, ASH, OAK, AND RED MAPLE	NO DEVELOPED UNDER STORY PRESENT GROUNDCOVER PESCUE AND HONEYSUCKLE	SUB CLIMAX	POOR	3.2AC.±
H	PLANTED BUFFER	ALTERNATING GROUPINGS OF WHITE, VIRGINIA AND PITCH PINE, LEYLAND CYPRESS AND HEMLOCKS WITH VOLUNTEER SPP.	UNDER STORY NOT YET DEVELOPED GRASS AND HONEYSUCKLE GROUNDCOVER	PIONEER	POOR	4.6 AC.±
I	MAINTAINED GRASS AREA	MAINTAINED PESCUE GRASS AREA	NO UTILITY EASEMENT AREA	NA	NA	3.5 AC.±
TOTAL AREA OF COVER TYPE						59.50 AC.±
AREA OF POND (NORTHERN PORTION OF SITE)						2.10 AC.±
AREA OF EXCAVATION AND RELATED ACTIVITY (DEVOID OF SIGNIFICANT VEGETATION)						148.65 AC.±
TOTAL SITE AREA OF SPECIAL PERMIT AMENDMENT APPLICATION						210.25 AC.±
COMMENTS AND CONDITION DESCRIPTIONS:						
COVER TYPE E :	DEVELOPING COVER TYPE WITH STAGGERED ROWS. FOREST STAND IS ABOUT 60/60 EVERGREEN & HARDWOOD. ALTERNATING GROUPS OF EVERGREENS PLANTED AT THE TOP AND BOTTOM OF THE SLOPE WITH 3 TO 6 ROWS OF ALTERNATING DECIDUOUS TREE TYPES IN BETWEEN THE EVERGREEN STANDS. NO APPARENT INSECT OR DISEASE PROBLEM FOUND.					
COVER TYPE G :	PLANTED EVERGREEN BUFFER AVERAGE SIZE 8" TO 12" CAL. SOME COMPETING PIONEER HARDWOODS ARE PRESENT. NO APPARENT DISEASE FOUND.					
COVER TYPE H :	EVEN AGED GROUPING MONOCULTURE ABOUT 5 TO 7 FT ON CENTER. SOME PIONEER SPP. DEVELOPING RANDOMLY. OF ASH, CHERRY, DOGWOOD, & LOCUST. PLANTS ARE OF AVERAGE HEALTH ALTHOUGH SEVERAL INDIVIDUAL PLANTS HAVE DIED AND NEED TO BE REPLACED.					



Invasive Species Management Plan Continues

In the event that those species listed above are not present, secondary invasive tree or bush species such as Amur honeysuckle (*Lonicera maackii*) and mimosa tree (*Albizia julibrissin*) may be targeted for control if deemed necessary. Herbaceous invasive species that do not affect the screening buffer's aesthetics or functionality such as Japanese stiltgrass (*Microstegium vimineum*) and beefsteak plant (*Perilla frutescens*) will not be prioritized for control.

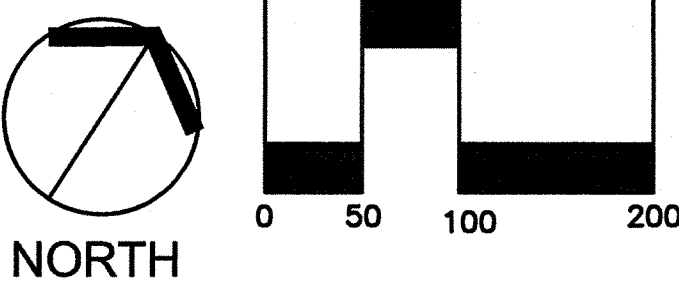
Annual invasive species control shall be limited to the 2-3 highest priority species present within the screening buffer(s). The management strategy and treatment schedule for the annual treatment of each prioritized species will be reviewed and approved by Urban Forest Management Division (UFMD) at the annual inspections.

An annual memo-style report shall be provided to the Fairfax County's Urban Forest Management Division (UFMD) within 60 days of completion of yearly invasive species management inspection. This report will include a summary of invasive species extents, a list of prioritized species, a treatment plan (if applicable), and pre-treatment photographic documentation of the screening buffer(s) identified for active management that given year.

LEGEND

COVER TYPE BOUNDARY LINE

COVER TYPE



NO.	DESCRIPTION	DATE	REV'D	REV'D	APR'D	DATE
REVISION						



PROJECT

LUCK STONE PROPERTY

SULLY DISTRICT

FAIRFAX COUNTY, VIRGINIA

TITLE

SPECIAL PERMIT AMENDMENT PLAT

SPA 81-S-064-10

SPA 81-S-064-11

EXISTING VEGETATION MAP

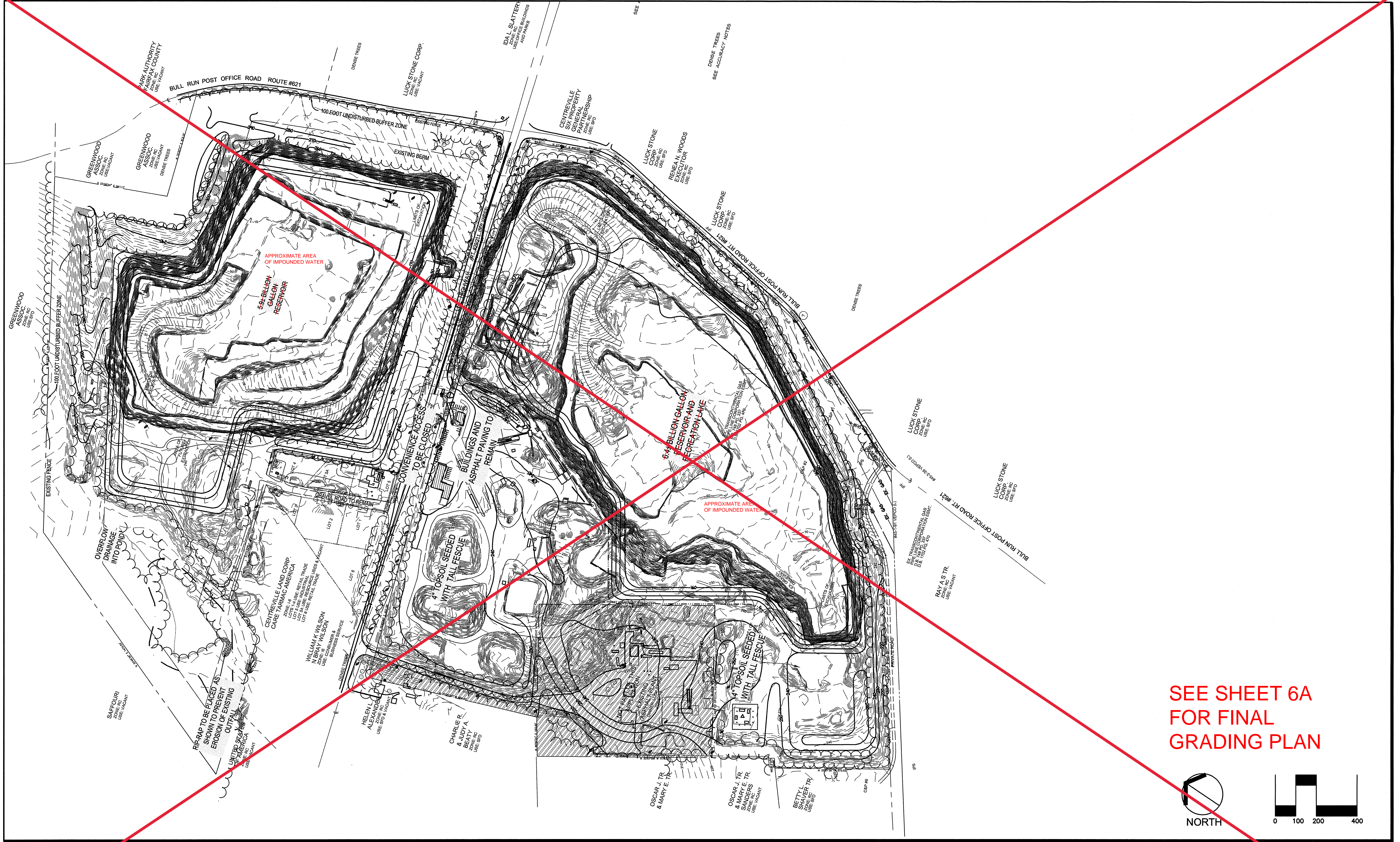
Patton Harris Rust & Associates,pc

Engineers. Surveyors. Planners. Landscape Architects.

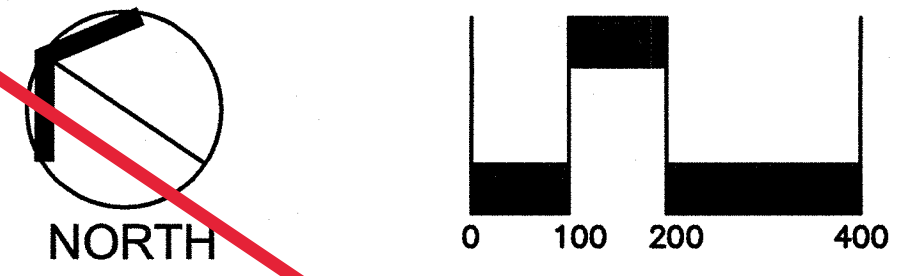
PHR+A

14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

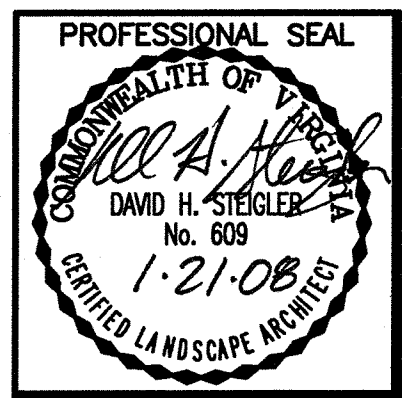
DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	GAH	DATE	01.15.08
CHECKED	DHS	SCALE	1"=100'
SHEET	4C OF 12 3 OF 3	FILE NO.	00676-1-6-A



SEE SHEET 6A
FOR FINAL
GRADING PLAN



REVISION						
NO.	DESCRIPTION	DATE	REV'S'D	REV'W'D	APPR'D	DATE



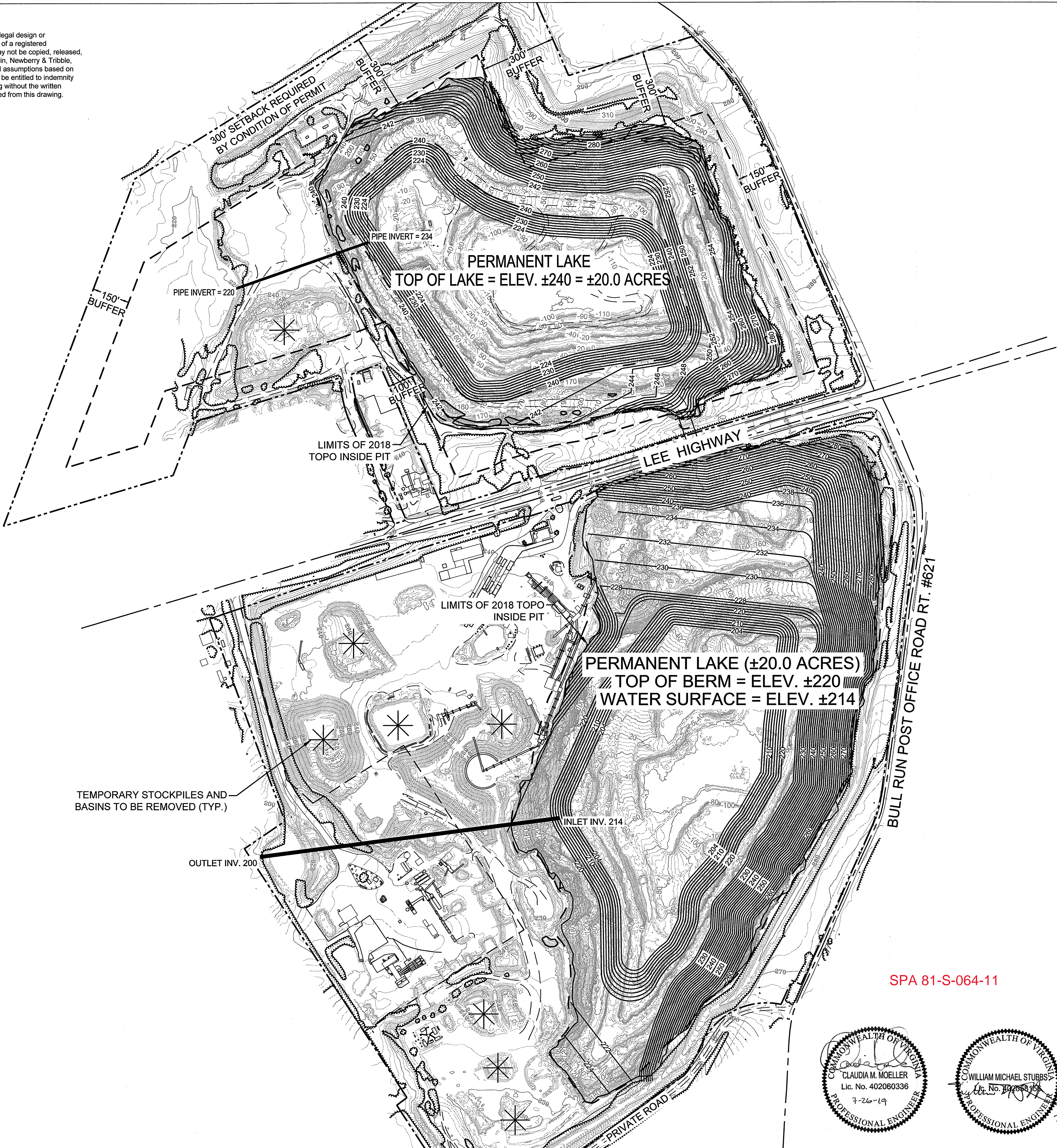
PROJECT
LUCK STONE PROPERTY
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

TITLE
SPECIAL PERMIT AMENDMENT PLAT
~~SPA 81-S-064-10~~
SPA 81-S-064-11
FINAL GRADING PLAN

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.
PHRA
14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	GAH	DATE	01.18.08
CHECKED	DHS	SCALE	1"=200'
SHEET	6 OF 12	FILE NO.	00676-1-6

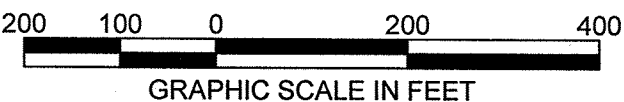
NOTE: The electronic version of this drawing is not for construction purposes, and not a legal design or construction document. Actual construction documents must bear the seal and signature of a registered professional engineer employed by Hodges, Harbin, Newberry & Tribble, Inc. This file may not be copied, released, distributed, or posted to a third party without the express written consent of Hodges, Harbin, Newberry & Tribble, Inc. Users of this electronic drawing assume all risks associated with any information and assumptions based on this drawing, without any liability to Hodges, Harbin, Newberry & Tribble, Inc., which shall be entitled to indemnity for any liability, costs, claim, or expense that might be incurred by any user of this drawing without the written authorization of Hodges, Harbin, Newberry & Tribble, Inc. This NOTE may not be removed from this drawing.



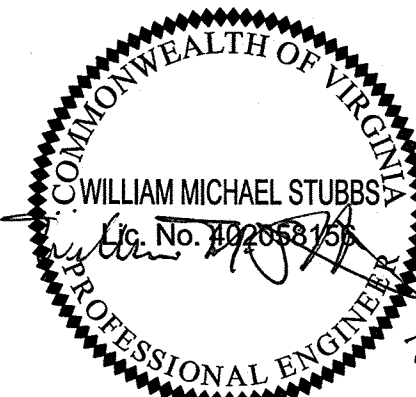
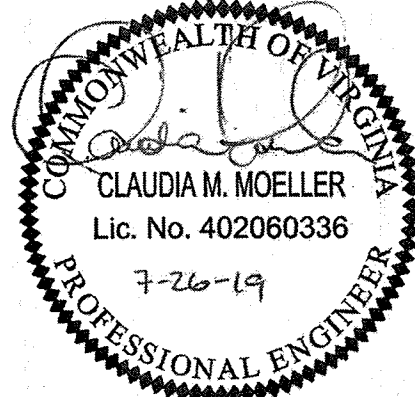
LEGEND:

PROPERTY LINE	---
UNDISTURBED BUFFER	- - - -
LIMITS OF EXCAVATION	---
UNPAVED ROAD	---
2' CONTOUR - EXISTING	---
10' CONTOUR - EXISTING	---
2' CONTOUR - PROPOSED	---
10' CONTOUR - PROPOSED	---
PIPE	---
TREELINE	---

DO NOT USE FOR CONSTRUCTION

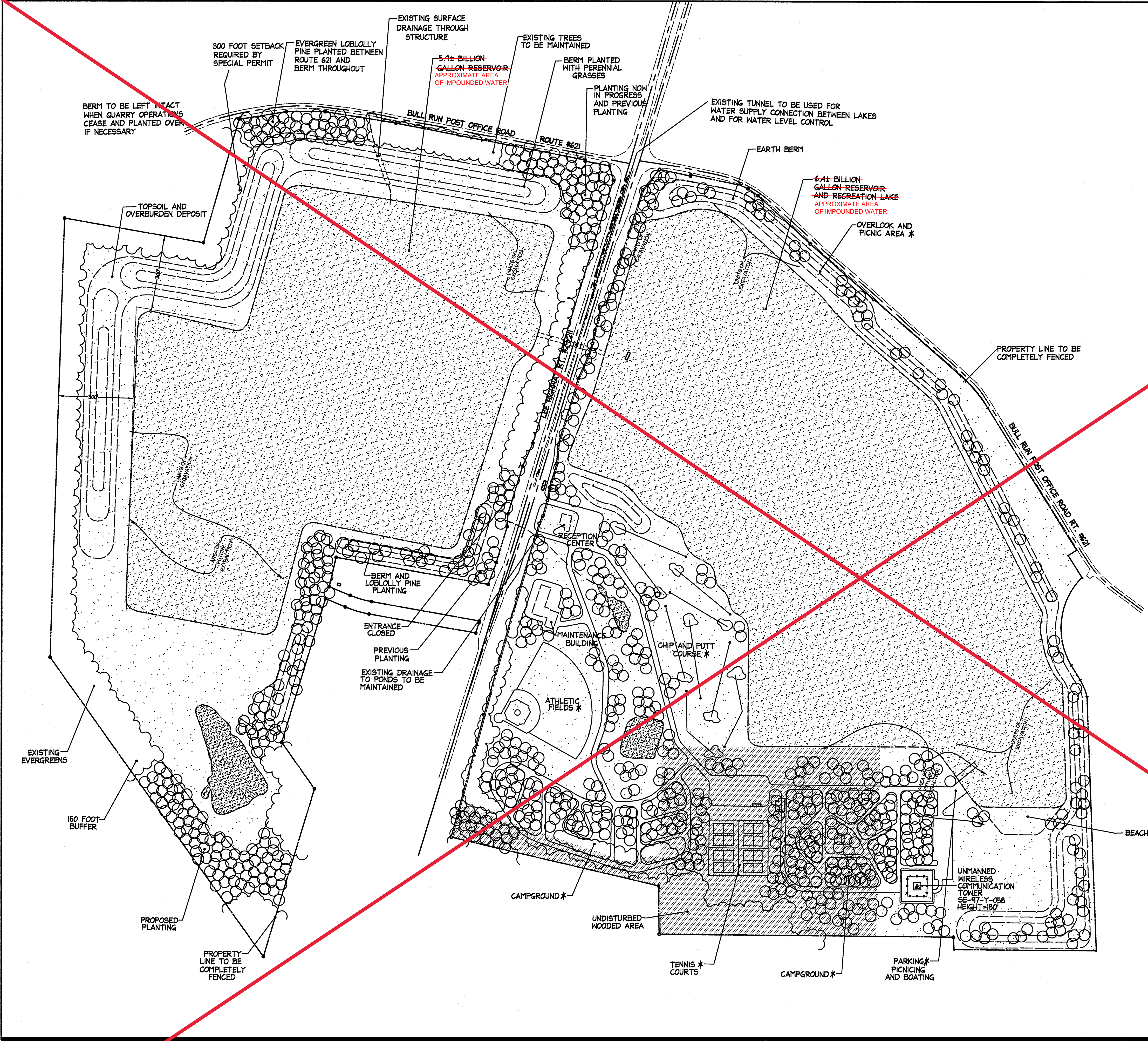


SPA 81-S-064-11



- NOTES:
1. THE EXISTING CONDITIONS SHOWN IS A COMBINATION OF TOPOGRAPHIC INFORMATION FROM SEPTEMBER 27, 2018 INSIDE OF THE PIT AND TOPOGRAPHIC INFORMATION FROM MAY 19, 2014 OUTSIDE OF THE PIT.
 2. FINAL ELEVATIONS OF THE PERMANENT LAKE ARE APPROXIMATE AND SUBJECT TO ADJUSTMENTS WITH FINAL DESIGN.
 3. THIS DRAWING WAS PREPARED FOR THE SPECIAL PERMIT AMENDMENT APPLICATION DATED JUNE 14, 2019.

FINAL GRADING PLAN			
SOUTH QUARRY FILL-IN FAIRFAX PLANT FOR LUCKSTONE CORPORATION CENTREVILLE, VIRGINIA			
 HODGES, HARBIN, NEWBERRY & TRIBBLE, INC. Consulting Engineers			
(478) 743-7175 (478) 743-7175 (FAX)	3920 ARKWRIGHT RD. SUITE 101 MACON, GEORGIA 31210		
PROJ. NO. 4780-013-01	DWG. LSFF-FINAL	EDIT 02-25-2019	
SCALE 1" = 200'			
DATE FEBRUARY 2019	SHEET 6A OF 12		



RESTORATION TABULATIONS

AREA NORTH OF ROUTE 29

LAND AREA TO BE RESTORED	1,163,052 SF	26.7± ACRES
MAXIMUM EXCAVATED AREA TO BE RESTORED AS RESERVOIR	2,003,760 SF	45.3± ACRES
RESTORATION IN PROGRESS (PLANTING AND FENCING)	0 408,900 SF	0 2.5± ACRES
PREVIOUS RESTORATION	152,400 43,660 SF	3.5 4.0± ACRES
UNDISTURBED WOODED AREA	566,280 SF	13.0± ACRES
BERM, USED FOR OVERBURDEN AND TOPSOIL DEPOSIT	479,160 SF	11.0± ACRES
SUBTOTAL	4,364,712 SF	99.50± ACRES

AREA SOUTH OF ROUTE 29

LAND AREA TO BE RESTORED	991,425 SF	22.8± ACRES
MAXIMUM EXCAVATED AREA TO BE RESTORED AS RESERVOIR	2,578,752 SF	57.85± ACRES
PREVIOUS RESTORATION	217,800 SF	5.0± ACRES
UNDISTURBED WOODED AREA	348,480 SF	8.0± ACRES
BERM, USED FOR OVERBURDEN AND TOPSOIL DEPOSIT	744,876 SF	17.1± ACRES
SUBTOTAL	4,881,333 SF	110.75± ACRES
TOTAL RESTORATION AREA	9,246,045 SF	210.25± ACRES

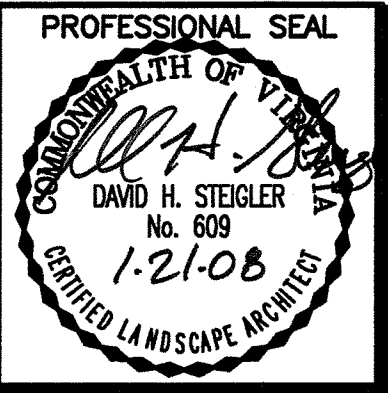
NOTE:

1. FEATURES MARKED WITH AN "*" INDICATE THAT THESE ARE SUGGESTED USES FOLLOWING RESTORATION, BUT THESE FEATURES ARE NOT PROPOSED TO BE CONSTRUCTED BY THE APPLICANT OR OWNER.
2. ALL CLEAN FILL RECLAMATION MATERIALS USED FOR QUARRY PIT RESTORATION SHALL STRICTLY ADHERE TO DEPARTMENT OF MINES, MINERALS, AND ENERGY ("DMME") REQUIREMENTS. ALL CLEAN FILL RECLAMATION MATERIALS WOULD BE GENERATED FROM SPECIFIC, TESTED, AND DOCUMENTED SOURCES AS REQUIRED BY DMME. THE OWNER WILL BE CHARGED WITH DOCUMENTING COMPLIANCE AND ENSURING ALL MATERIAL ARRIVING AT THE PROPERTY MEETS DMME ACCEPTANCE CRITERIA. ANY MATERIAL NOT MEETING DMME CRITERIA WILL BE RETURNED TO THE SOURCE. A RECORD OF ALL MATERIAL DELIVERED TO THE PROPERTY WILL BE KEPT ON-SITE AND AVAILABLE FOR COUNTY REVIEW.
3. THE RESTORATION PLAN CONTAINED HEREON IS PROVIDED FOR ILLUSTRATION PURPOSES AND MAY INCLUDE ANY USES AS PERMITTED IN THE RC ZONING DISTRICT REGULATIONS, INCLUSIVE OF ANY USES PERMITTED BY SPECIAL EXCEPTION OR SPECIAL PERMIT IN THE RC ZONING DISTRICT REGULATIONS PROVIDED THAT APPROVAL OF THE REQUISITE SPECIAL EXCEPTION OR SPECIAL PERMIT (IF REQUIRED) SHALL HAVE BEEN OBTAINED IN ACCORDANCE WITH THE ZONING ORDINANCE PRIOR TO ESTABLISHMENT OF SUCH USE. THIS RESTORATION PLAN IS SUBJECT TO THE PROVISIONS OF ARTICLE 17, SITE PLANS, AS MAY BE DETERMINED BY LAND DEVELOPMENT SERVICES (LDS).

SEE SHEET 7A
FOR RESTORATION
PLAN



NO.	DESCRIPTION	DATE	REV'S'D	REV'W'D	APR'D	DATE
REVISION						



PROJECT

LUCK STONE PROPERTY

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

TITLE

SPECIAL PERMIT AMENDMENT PLAT
~~SPA 81-S-064-10~~
SPA 81-S-064-11
RESTORATION PLAN

Patton Harris Rust & Associates,pc
Engineers. Surveyors. Planners. Landscape Architects.

PHR+A

14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	GAH	DATE	01.18.08
CHECKED	DHS	SCALE	1"=200'
SHEET	7 OF 12	FILE NO.	00676-1-6



- NOTES:
1. EXISTING EQUIPMENT (SUCH AS, BUT NOT LIMITED TO CRUSHERS, CONVEYORS AND SCALES) RELATED TO THE PROCESSING OF EXCAVATED STONE AND ALL STONE STOCKPILES ARE TO BE REMOVED FROM THE PROPERTY.
 2. RECLAMATION FILL USED AS PART OF THE RESTORATION OF THE QUARRY PITS SHALL STRICTLY ADHERE THE MATERIAL PERMITTED WITHIN THE RECLAMATION FILL PLAN.
 3. THE EXISTING PERIMETER FENCE TO REMAIN FOR BOTH QUARRY PITS.
 4. AREAS OF EXISTING VEGETATION AND INFRASTRUCTURE TO BE PRESERVED ARE SHOWN ON THE PLAN. THIS INCLUDES FORESTED AREAS, PORTIONS OF ACCESS ROAD TO REMAIN FOR MAINTENANCE PURPOSES, AND THE EASEMENT FOR THE TRANSCONTINENTAL PIPE LINE WHERE NO RESTORATION IS NEEDED.
 5. 12" OF RECLAMATION FILL AND ERNMX-110 SEED MIX (ERNST SEEDS NATIVE BIOMASS MIX FOR STRIP MINES & GAS PRODUCTION SITES) SHALL BE PLACED IN THE DESIGNATED 'RESTORATION AREA'. EXCEPT FOR CERTAIN TRAVELWAYS WHICH WILL REMAIN FOR SITE MAINTENANCE AND ACCESS PURPOSES. BUILDINGS, NOT DIRECTLY RELATED TO THE PROCESSING OF EXCAVATED MATERIAL, MAY ALSO REMAIN.
 6. THE RECLAMATION PLAN PROVIDED HEREIN DESCRIBES HOW THE PROPERTY WILL BE RESTORED FROM AN ACTIVE MINE SITE TO PROPERTY CAPABLE OF ACCOMMODATING FUTURE LAND USE OPPORTUNITIES. POST-MINE DEVELOPMENT MAY INCLUDE ANY USES AS PERMITTED IN THE R-C ZONING DISTRICT REGULATIONS (SECTION 3-C00 OF THE FAIRFAX COUNTY ZONING ORDINANCE), INCLUSIVE OF ANY USES PERMITTED BY SPECIAL EXCEPTION OR SPECIAL PERMIT IN THE R-C ZONING DISTRICT REGULATIONS PROVIDED THAT APPROVAL OF THE REQUISITE SPECIAL EXCEPTION OR SPECIAL PERMIT (IF REQUIRED) SHALL HAVE BEEN OBTAINED IN ACCORDANCE WITH THE ZONING ORDINANCE PRIOR TO ESTABLISHMENT OF SUCH USE. THIS RESTORATION PLAN IS SUBJECT TO THE PROVISIONS OF ARTICLE 17, SITE PLANS, AS MAY BE DETERMINED BY LAND DEVELOPMENT SERVICES (LDS).

LEGEND

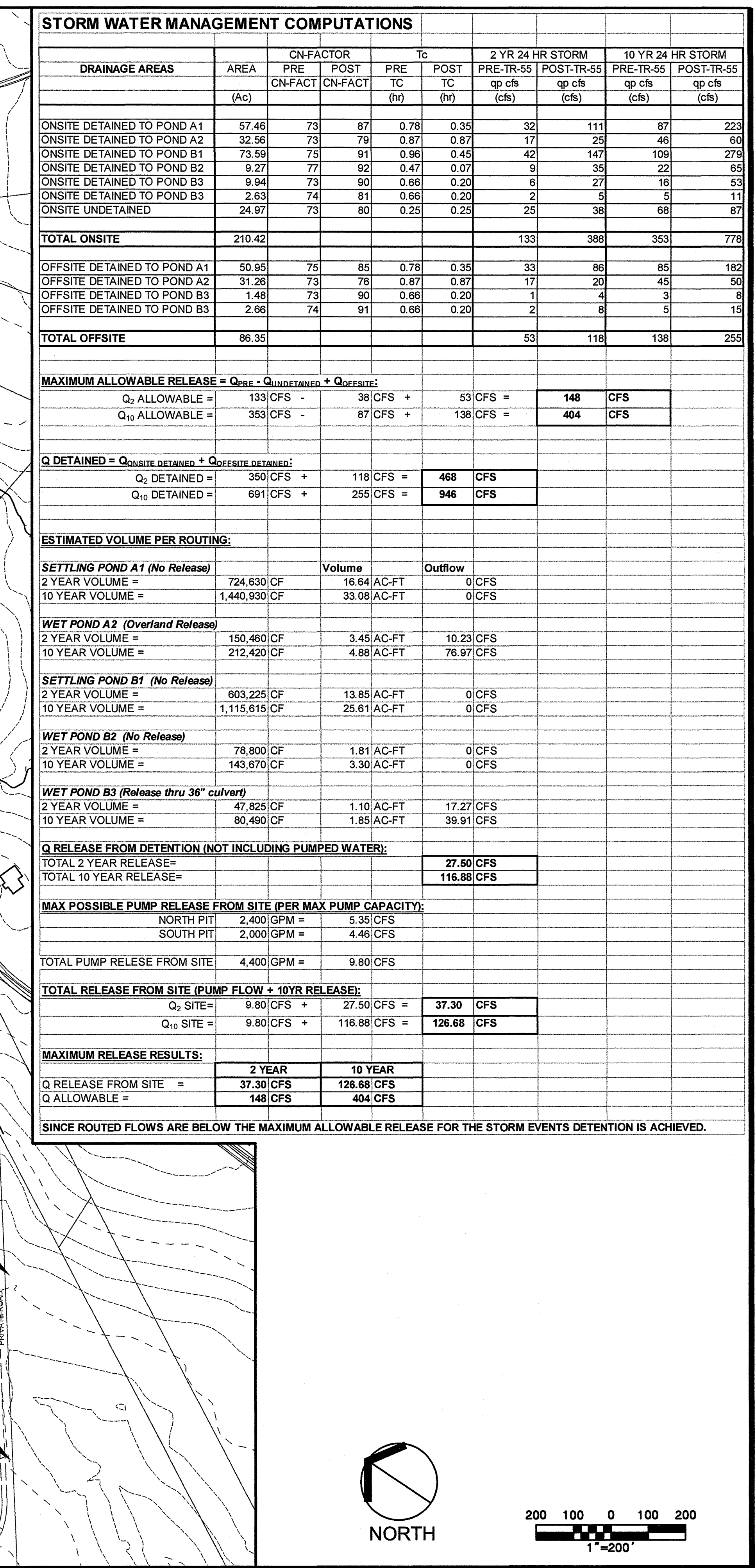
--- APPROXIMATE SITE BOUNDARY

APPROXIMATE WATER SURFACE ELEVATION

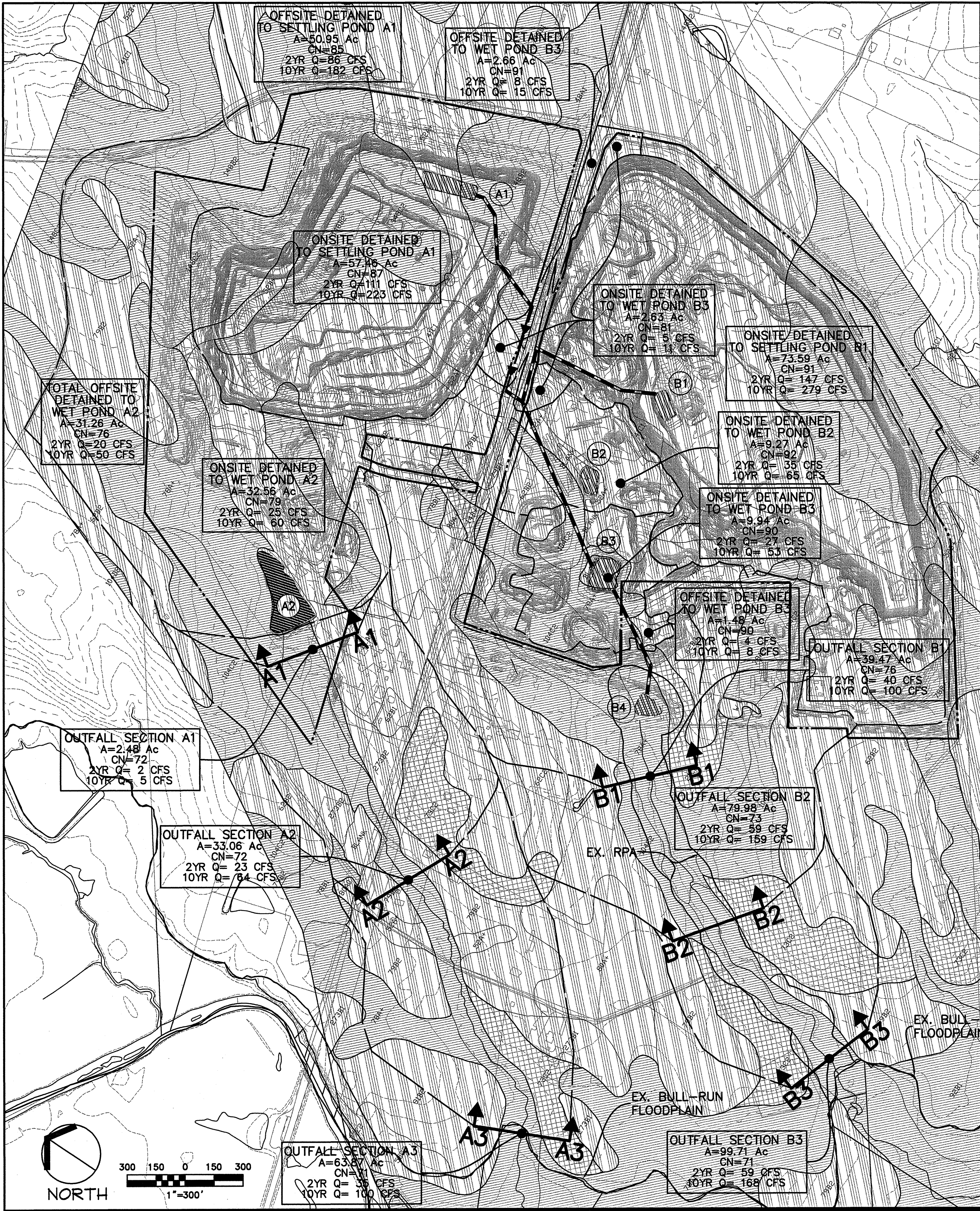
+ + + + + EXISTING AREA TO BE PRESERVED (SEE NOTE 4 ON THIS SHEET)

X X X X X RESTORATION AREA (SEE NOTE 5 ON THIS SHEET)

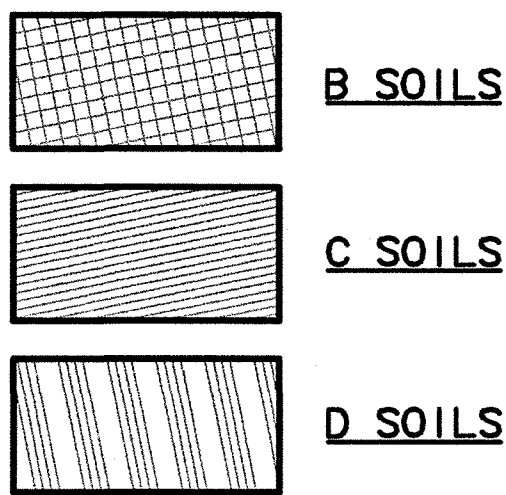
RECLAMATION FILL (SEE NOTE 2 ON THIS SHEET)



DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	MBR	DATE	01.18.08
CHECKED	DHS	SCALE	1"=200'
SHEET	8 OF 12	FILE NO.	00676-1-6



SOIL LEGEND:



SOIL CLASSIFICATION:

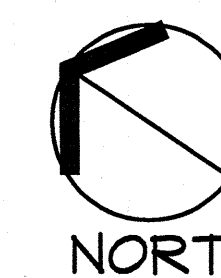
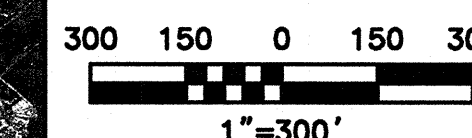
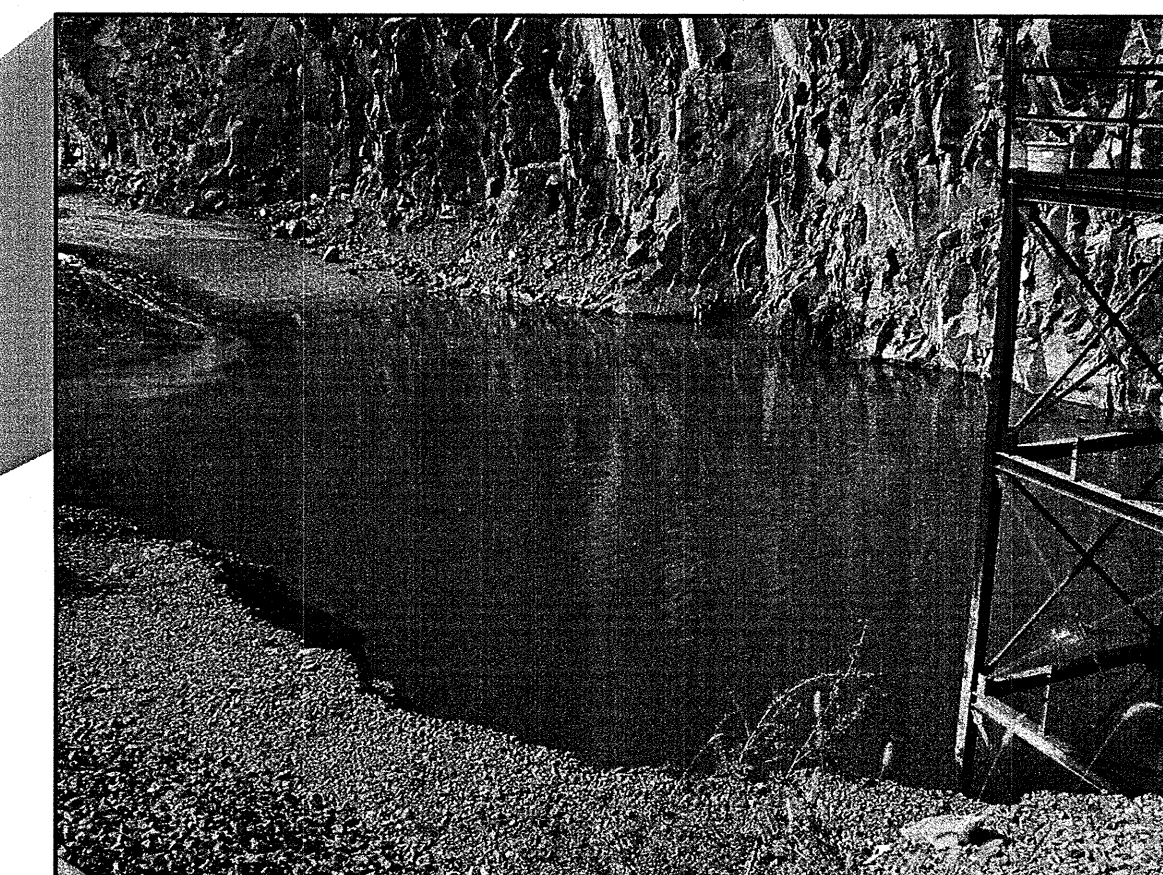
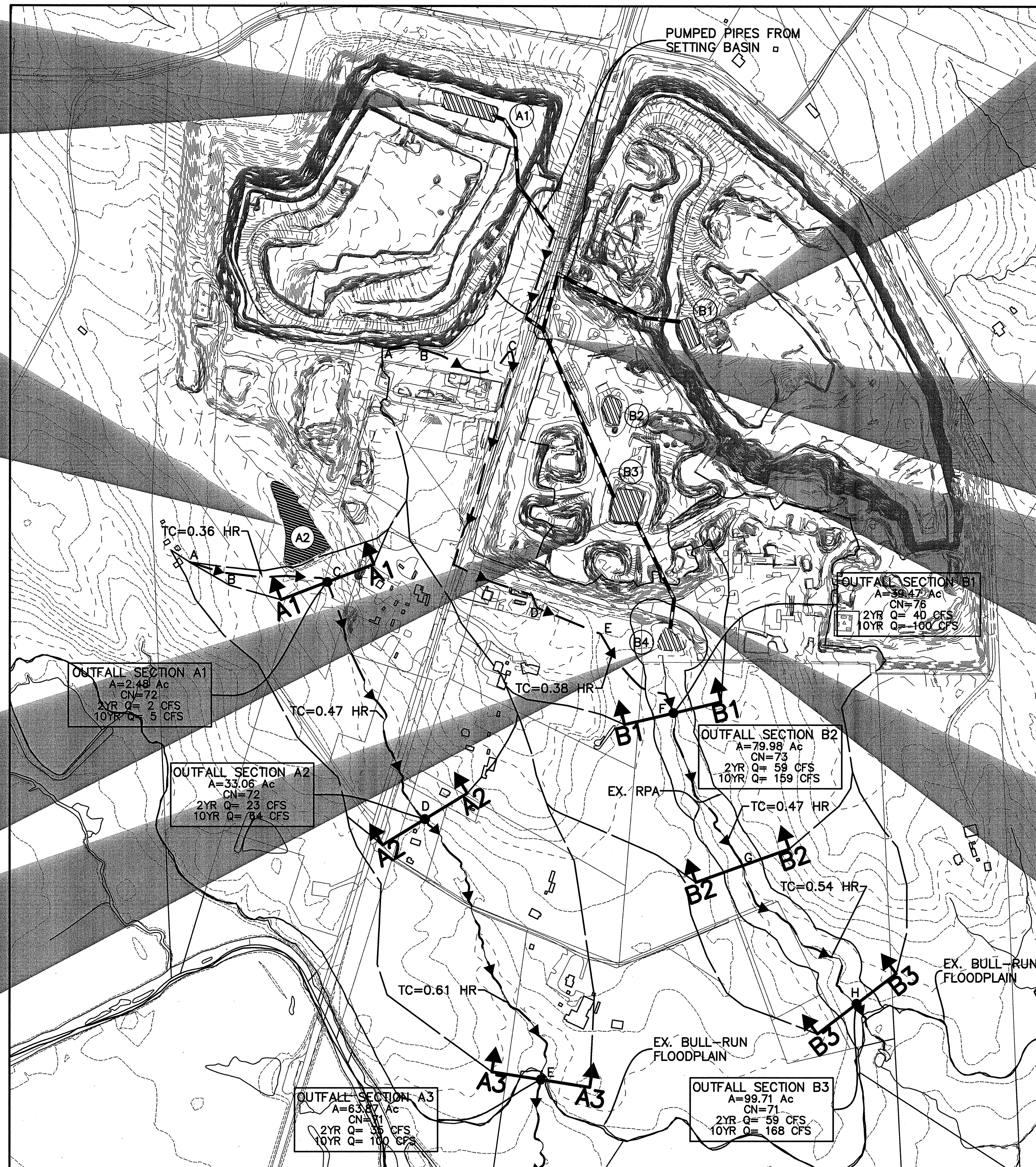
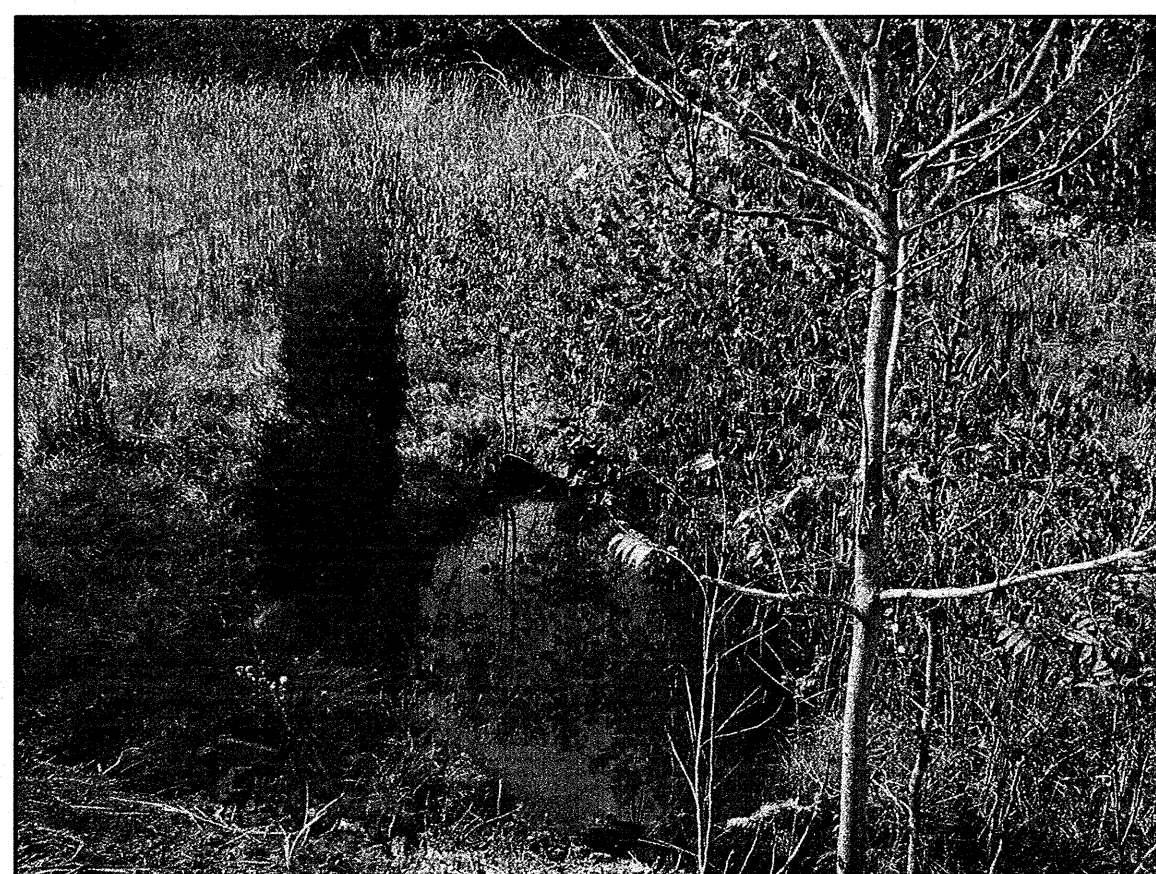
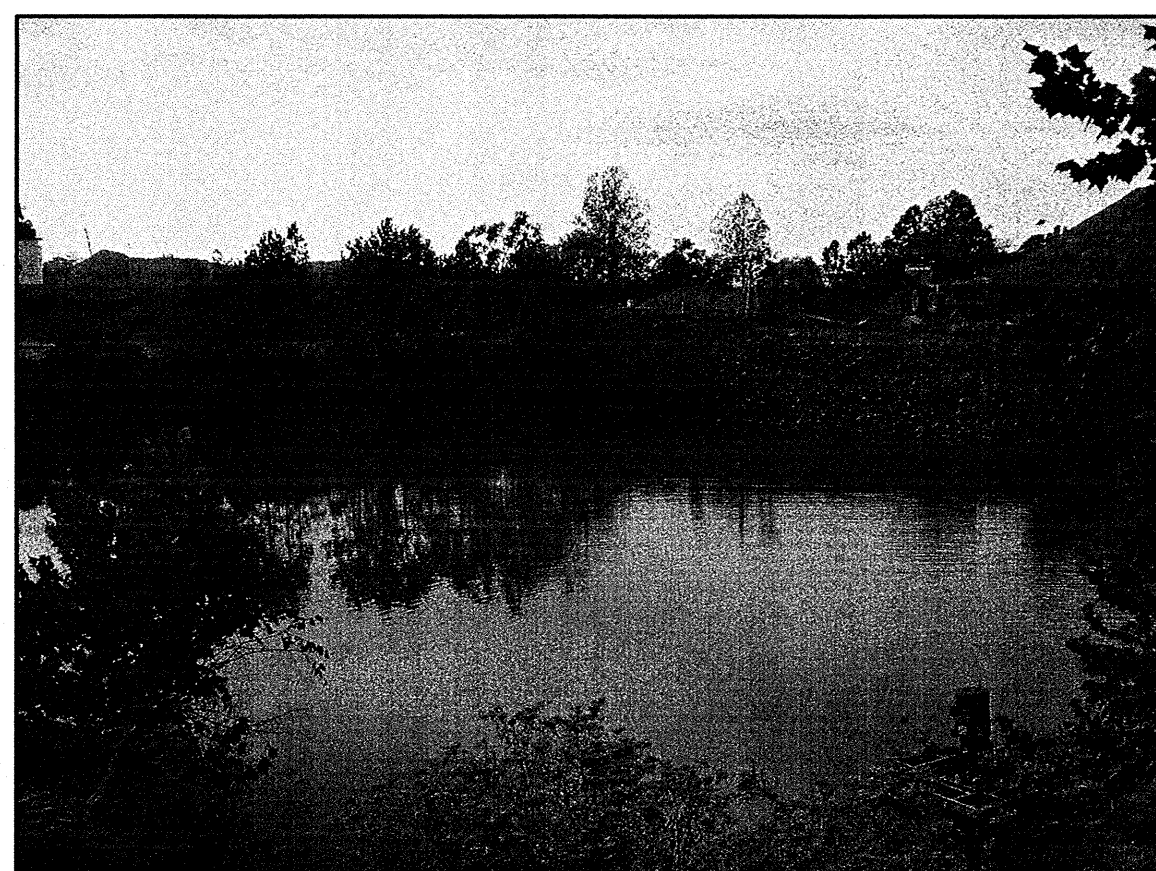
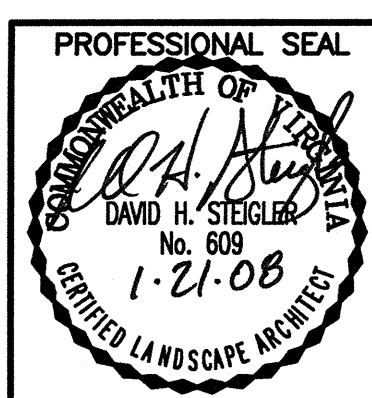
CLASS	NAME	HYD
14B+	MANASSAS	B
21C	MANOR	B
73C2	PENN	B
78B1	CALVERTON	C
104C2	CATLETT	C
148B2	MECKLENBURG	C
92B1	RARITAN	C
12A	ROWLAND	C
91B2	BIRDSBORO	D
62B2	BRECKNOCK	D
80A+	CROTON	D
52A1	ELBERT	D
55C2	GLENELG	D
48A1	IREDELL	D
79A1	KELLY	D
77E2	PENN (SH SIL)	D
273B1	READINGTON	D
41C1	ROCKY LAND	D

BMP COMPUTATIONS:

II. WATERSHED INFORMATION									
Part 1: LIST OF SUBAREAS AND "C" FACTORS USED									
SUBAREA DESIGNATION AND DESCRIPTION				C	ACRES				
A1	ONSITE CONTROLLED TO SETTLING POND A1			0.54	57.46				
A2	ONSITE CONTROLLED TO WET POND A2			0.34	32.56				
B1	ONSITE CONTROLLED TO SETTLING POND B1			0.60	73.59				
B2	ONSITE CONTROLLED TO WET POND B2			0.66	9.27				
B3	ONSITE CONTROLLED TO WET POND B3			0.56	12.57				
C1	ONSITE UNCONTROLLED			0.36	24.97				
D1*	OFFSITE CONTROLLED TO SETTLING POND A1			0.50	10.19	AREA X 0.20			
D2*	OFFSITE CONTROLLED TO WET POND A2			0.33	6.25	AREA X 0.20			
D3	OFFSITE CONTROLLED TO WET POND B3			0.66	4.14				
III. PHOSPHORUS REMOVAL									
Part 2: COMPUTE WEIGHTED AVERAGE "C" FACTOR FOR THE SITE									
(A)	AREA OF THE SITE:			(a)	210.42	Ac			
(B)	SUBAREA DESIGNATION:			C	X	ACRES	=	PRODUCT	
A1	ONSITE CONTROLLED TO SETTLING POND A1			0.54	X	57.46	=	31.03	
A2	ONSITE CONTROLLED TO WET POND A2			0.34	X	32.56	=	11.07	
B1	ONSITE CONTROLLED TO SETTLING POND B1			0.60	X	73.59	=	44.15	
B2	ONSITE CONTROLLED TO WET POND B2			0.66	X	9.27	=	6.12	
B3	ONSITE CONTROLLED TO WET POND B3			0.56	X	12.57	=	7.04	
C1	ONSITE UNCONTROLLED			0.36	X	24.97	=	8.99	
						210.420	TOTAL=	108.40 (b)	
WEIGHTED POST DEVELOPMENT "C" FACTOR =						(b)/(a)=(c) 0.52			
Part 3: COMPUTE THE TOTAL PHOSPHORUS REMOVAL FOR THE SITE									
DESIGNATION	BMP TYPE	REMOVAL EFF	AREA RATIO		"C" FACTOR RATIO		PRODUCT		
		(1)	(2)		(3)		(1)x(2)x(3)		
A1	ONSITE CONTROLLED TO SETTLING POND	50	57.46	/	210.42	0.54	/	0.52	14
A2	ONSITE CONTROLLED TO WET POND A2	50	32.56	/	210.42	0.34	/	0.52	5
B1	ONSITE CONTROLLED TO SETTLING POND	50	73.59	/	210.42	0.60	/	0.52	20
B2	ONSITE CONTROLLED TO WET POND B2	50	9.27	/	210.42	0.66	/	0.52	3
B3	ONSITE CONTROLLED TO WET POND B3	50	12.57	/	210.42	0.56	/	0.52	3
C1	ONSITE UNCONTROLLED								
D1*	OFFSITE CONTROLLED TO SETTLING POND	50	10.19	/	210.42	0.50	/	0.52	2
D2*	OFFSITE CONTROLLED TO WET POND A2	50	6.25	/	210.42	0.33	/	0.52	1
D3	OFFSITE CONTROLLED TO WET POND B3	50	4.14	/	210.42	0.66	/	0.52	1
TOTAL SITE PHOSPHORUS REMOVAL =								(a)	50.42
Part 4: DETERMINE COMPLIANCE WITH PHOSPHORUS REMOVAL REQUIREMENT									
(A) SELECT REQUIREMENT			(a)	50.00					
(B) IF LINE 3(a)			50.42 >= LINE 4(a)	50.00	THEN PHOSPHORUS REMOVAL REQUIREMENT IS SATISFIED.				
			OK						
Part 5: DETERMINE COMPLIANCE WITH SITE COVERAGE REQUIREMENTS									
SUM ALL THE UNCONTROLLED ONSITE AREAS AND COMPUTE A WEIGHTED AVERAGE "C" FACTOR. DO NOT INCLUDE QUALIFYING OPEN SPACE.									
SUBAREA DESIGNATION		"C"	ACRES	PRODUCT					
C1		0.36	24.97	8.99					
(A)	TOTAL EQUIVALENT UNCONTROLLED			8.99 (a)					
(B)	TOTAL UNCONTROLLED AREA			24.97 (b)					
(C)	WEIGHTED AVERAGE "C" FACTOR (a)/(b) = (c)			0.36 (c)					
(D) IF LINE 5(b)<20% OF LINE 2(a), THEN THE SITE COVERAGE REQUIREMENT IS SATISFIED. LINE 5(a) IS THE EQUIVALENT OFFSITE ARE FOR WHICH COVERAGE MAY BE REQUIRED.									
100 X LINE 5(b)			24.97 / LINE 2(a)	210.42 = (d)	11.87 %			OK	
Part 6: DETERMINE THE OFFSITE AREAS FOR WHICH COVERAGE IS REQUIRED									
not applicable									
(A)	FOR THE OFFSITE AREAS LISTED IN PART 1 WHICH FLOW TO PROPOSED ONSITE BMPs COMPUTE THE EQUIVALENT AREAS.								
SUBAREA DESIGNATION		"C"	ACRES	PRODUCT					
D1*		0.50	10.19	5.095					
D2*		0.33	6.25	2.0625					
D3		0.66	4.14	2.7324					
			TOTAL =	9.8899 (a)					
FOR THE OFFSITE AREAS LISTED, WHICH ARE NOT CONSIDERED PART OF THE BASE SITE AREA LISTED IN PART 2(B), COMPUTE THE EQUIVALENT ONSITE AREAS BASED ON THE "C" FACTOR OF THE OFFSITE AREA. THE PRODUCT OF THE "C" FACTORS AND THE CORRESPONDING AREAS IS COMPUTED, TOTALED, AND ENTERED INTO THE MARKED (a) 9.8899.									

REQUIRED BMP VOLUMES FOR NORTH (B) PONDS:

SETTLING POND B1									
Part 7: COMPUTE THE WEIGHTED AVERAGE "C" FACTOR FOR EACH PROPOSED BMP FACILITY									
(A) LIST THE AREAS TO BE CONTROLLED BY THE PROPOSED BMP.									
SUBAREA DESIGNATION AND DESCRIPTION			C	ACRES		PRODUCTS			
B1 ONSITE CONTROLLED TO SETTLING POND B1			0.60	73.59		44.15			
			(a)	TOTAL		73.59			
			(b)	TOTAL CA		44.15			
			(b)/(a)=(c)=	0.60					
Part 8: B) WET POND									
VOLUME OF RUNOFF FROM MEAN STORM:									
[1452 x "C"] = 1452 x Line 7(c) =			871		cf/ac (a)				
DESIGN 2 (4.0 X Volume of runoff from mean storm)									
4.0 X LINE 7(a)			73.59	x LINE 8(a)		871	=	256,446 cf	
								5.89	
								Ac-ft	
WET POND B2									
Part 7: COMPUTE THE WEIGHTED AVERAGE "C" FACTOR FOR EACH PROPOSED BMP FACILITY									
(A) LIST THE AREAS TO BE CONTROLLED BY THE PROPOSED BMP.									
SUBAREA DESIGNATION AND DESCRIPTION			C	ACRES		PRODUCTS			
B2 ONSITE CONTROLLED TO WET POND B2			0.66	9.27		6.12			
			(a)	TOTAL		9.27			
			(b)	TOTAL CA		6.12			
			(b)/(a)=(c)=	0.66					
Part 8: B) WET POND									
VOLUME OF RUNOFF FROM MEAN STORM:									
[1452 x "C"] = 1452 x Line 7(c) =			958		cf/ac (a)				
DESIGN 2 (4.0 X Volume of runoff from mean storm)									
4.0 X LINE 7(a)			9.27	x LINE 8(a)		958	=	35,535 cf	
								0.82	
								Ac-ft	
WET POND B3									
Part 7: COMPUTE THE WEIGHTED AVERAGE "C" FACTOR FOR EACH PROPOSED BMP FACILITY									
(A) LIST THE AREAS TO BE CONTROLLED BY THE PROPOSED BMP.									
SUBAREA DESIGNATION AND DESCRIPTION			C	ACRES		PRODUCTS			
B3 ONSITE CONTROLLED TO WET POND B3			0.56	12.57		7.04			
D3 OFFSITE CONTROLLED TO WET POND B3			0.66	4.14		2.73			
			(a)	TOTAL		16.71			
			(b)	TOTAL CA		9.77			
			(b)/(a)=(c)=	0.58					
Part 8: B) WET POND									
VOLUME OF RUNOFF FROM MEAN STORM:									
[1452 x "C"] = 1452 x Line 7(c) =			849		cf/ac (a)				
DESIGN 2 (4.0 X Volume of runoff from mean storm)									
4.0 X LINE 7(a)			16.71	x LINE 8(a)		849	=	56,753 cf	
								1.30	
								Ac-ft	

[illegible]

PROJECT

LUCK STONE PROPERTY

SULLY DISTRICT

FAIRFAX COUNTY, VIRGINIA

TITLE

SPECIAL PERMIT AMENDMENT PLAT

~~SPA 81-S-064-10~~ ~~SPA 81-S-064-11~~

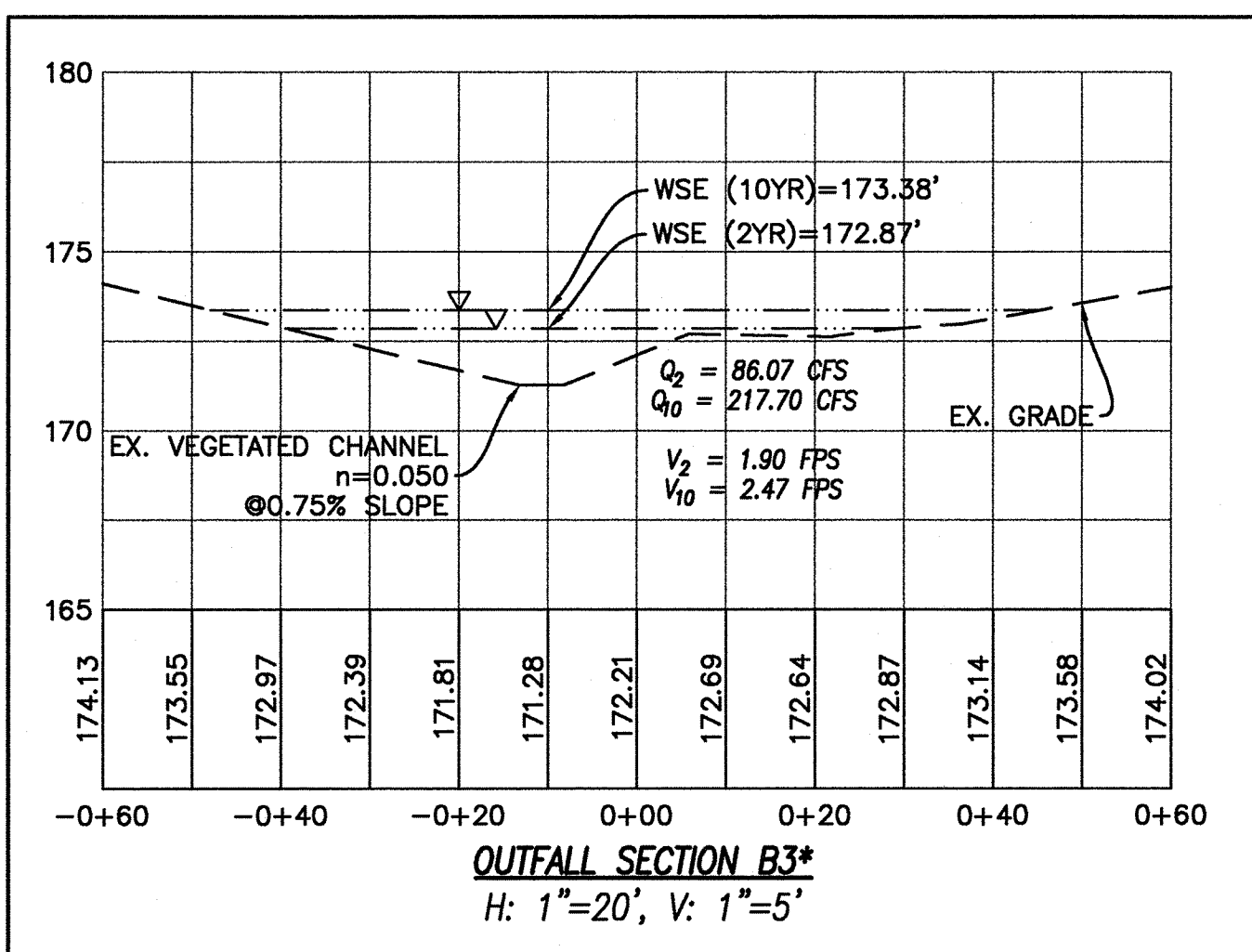
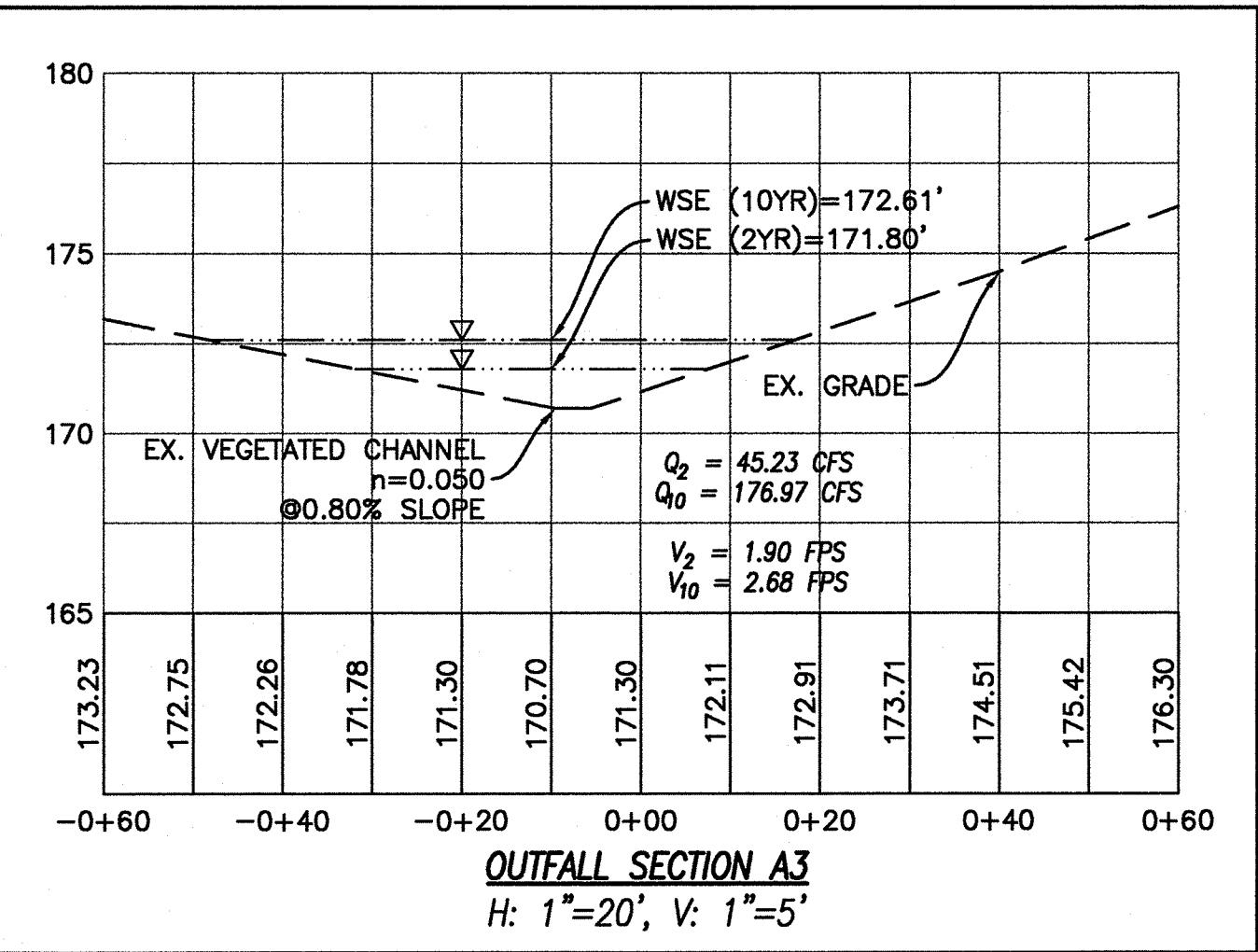
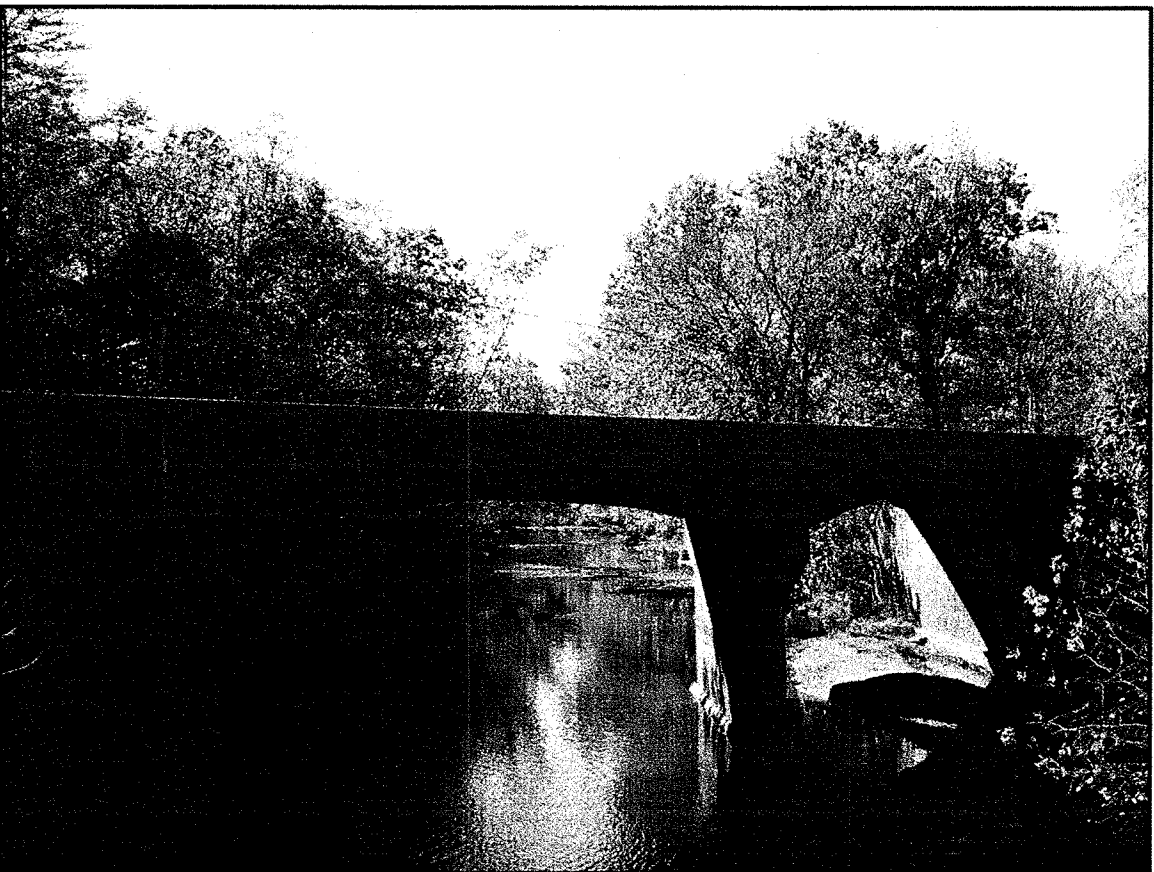
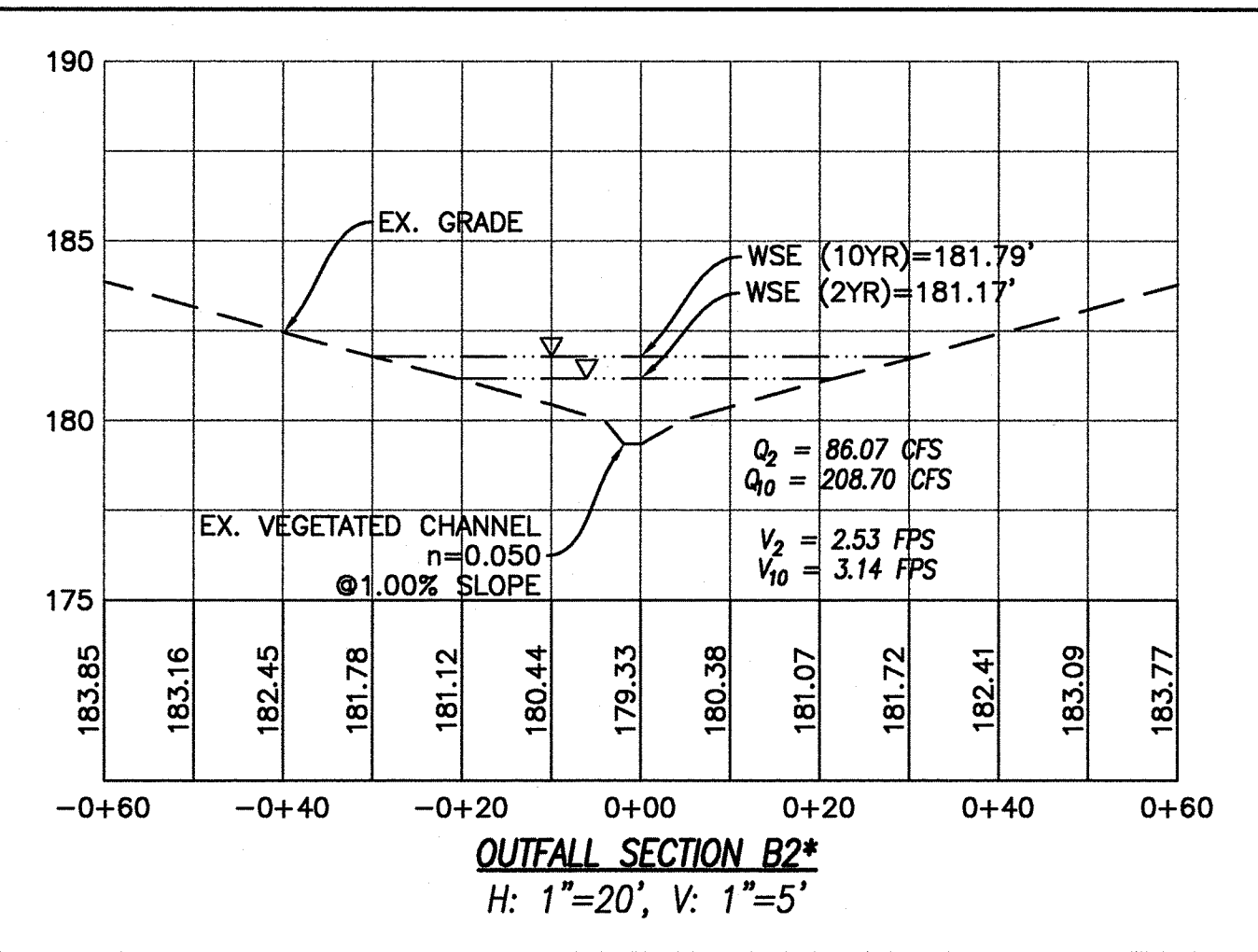
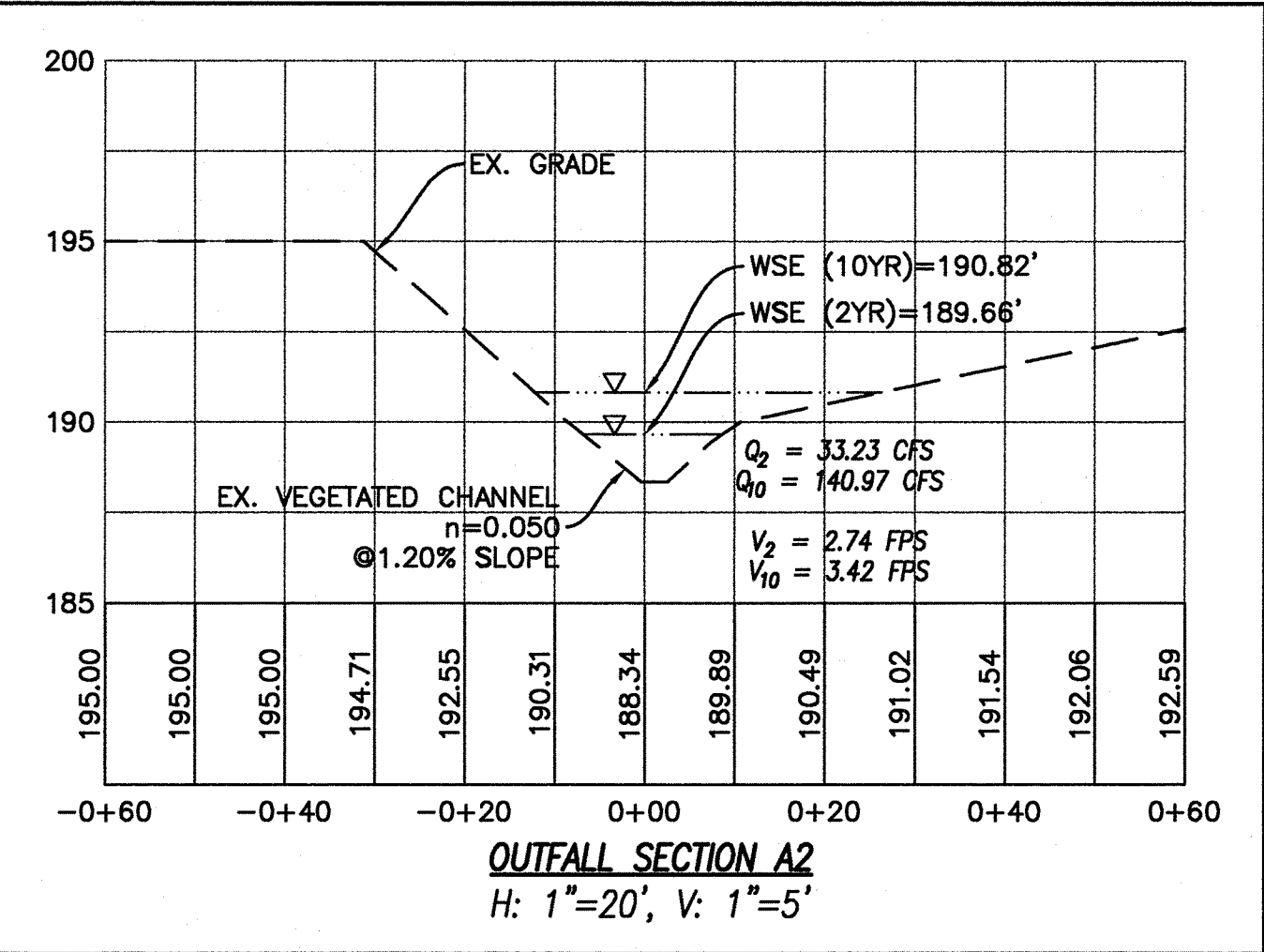
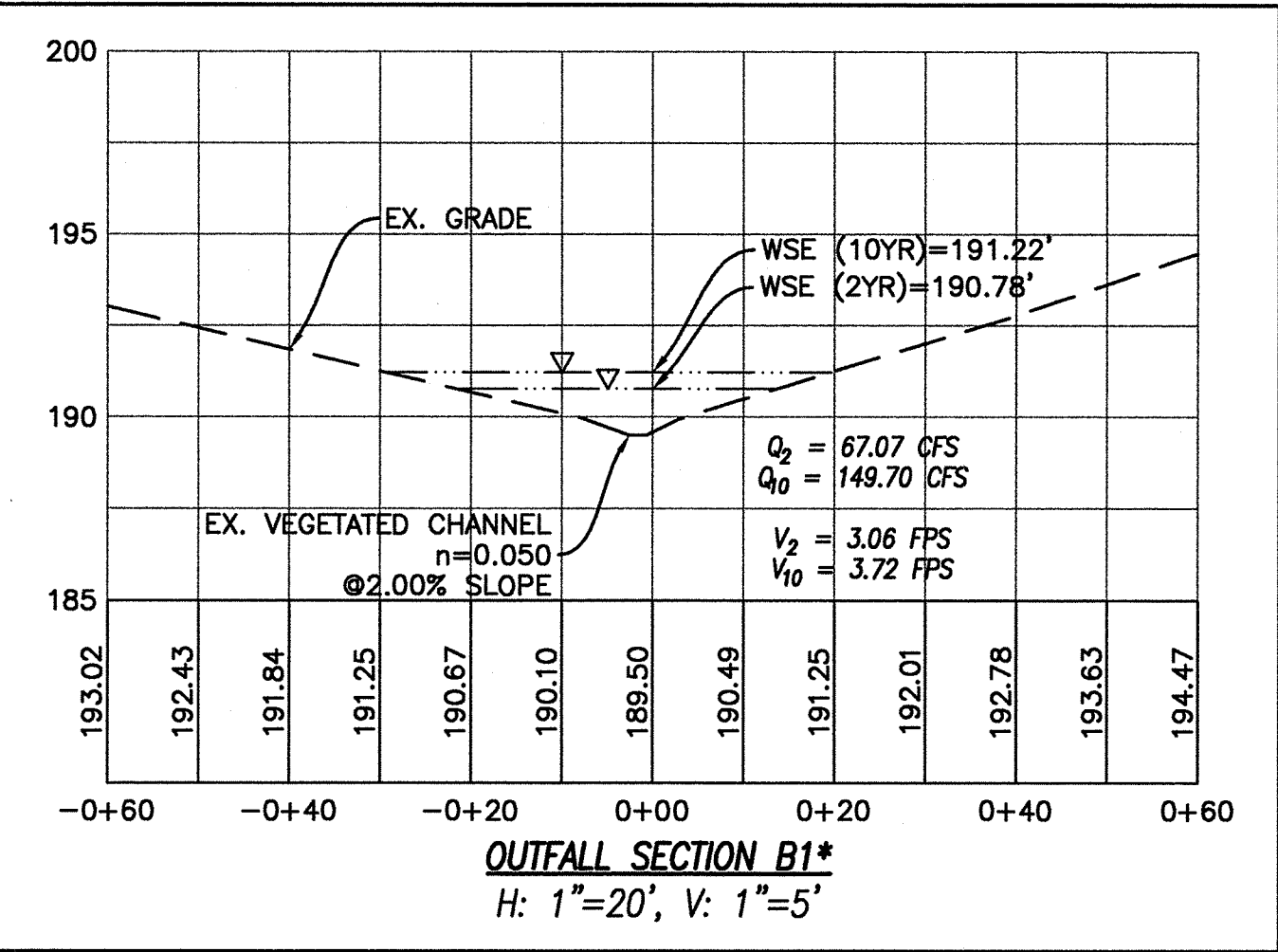
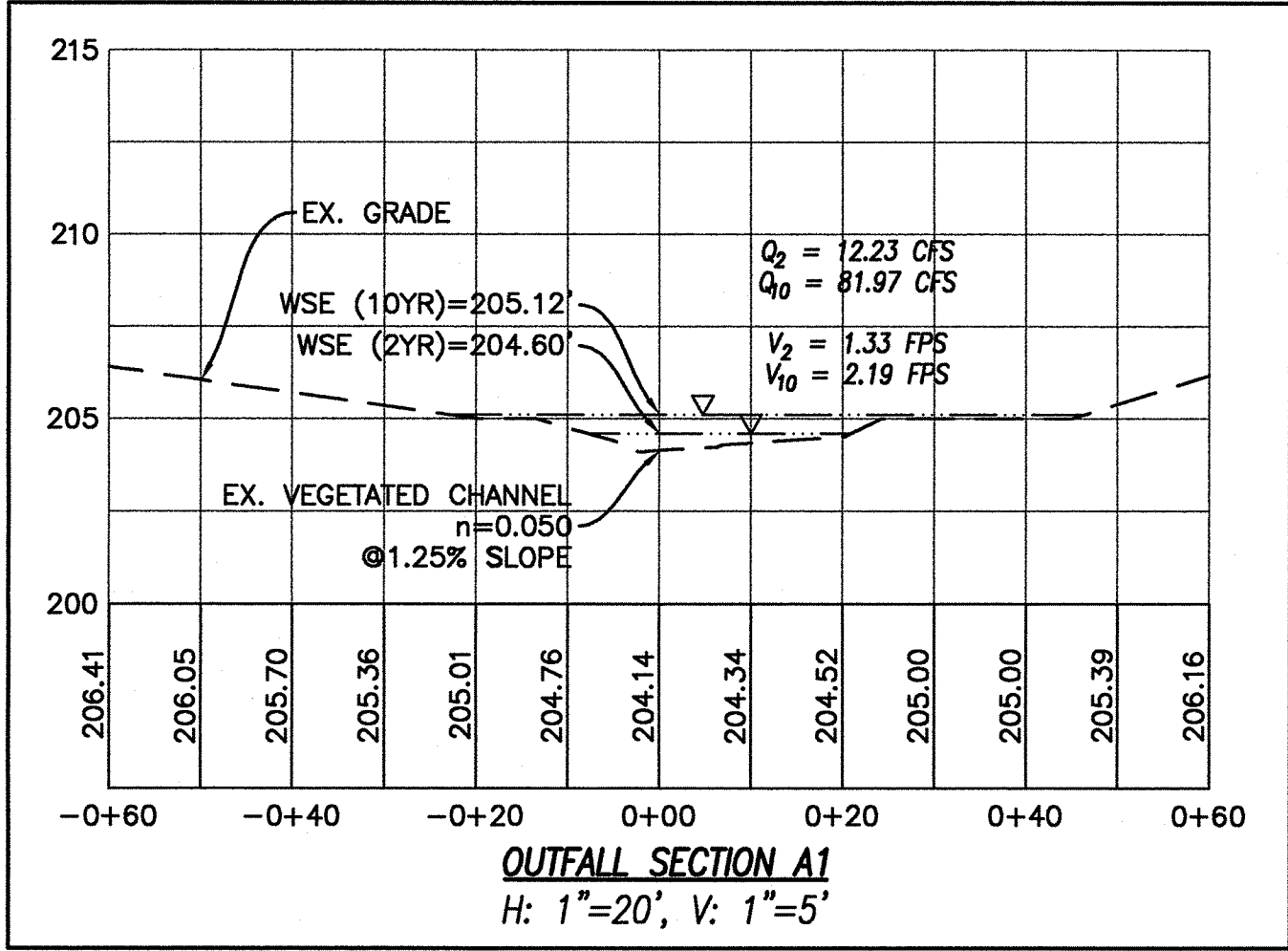
**OUTFALL MAP &
PHOTOGRAPHS**

Patton Harris Rust & Associates, pc
Engineers. Surveyors. Planners. Landscape Architects.

P_HR+_A

14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	MBR	DATE	01.18.08
CHECKED	DHS	SCALE	1"=300'
SHEET	10 OF 12	FILE NO.	00676-1-6



OUTFALL SECTION TABLE:

	FLOW COMPUTATIONS							SECTION COMPUTATIONS								
Outfall	OVERLAND FLOW					Q Release from SWM	Q Release from Pump	Total Q	Slope at Section	Weighted n-factor	Base Width	Side Slopes	Water Depth	Water Elev	Velocity	Remarks
	Area	Weighted CN-factor	Tc	Inc. Q	Accum. Q											
	(Ac)		(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)		(ft)	(ft)	(ft)	(ft)	(ft/s)	
Section A1									0.0125	0.050	EX	SEC				Ex. Vegetated channel
2yr	2.48	72	0.36	2	2	10.23	0.00	12.23					0.50	204.60	1.33	
10yr	2.48	72	0.36	5	5	76.97	0.00	81.97					1.02	205.12	2.19	
Section A2									0.0120	0.050	EX	SEC				Ex. Vegetated channel
2yr	33.06	72	0.47	22	23	10.23	0.00	33.23					1.32	189.66	2.74	
10yr	33.06	72	0.47	59	64	76.97	0.00	140.97					2.48	190.82	3.42	
Section A3									0.0080	0.050	EX	SEC				Ex. Vegetated channel
2yr	63.87	71	0.61	15	35	10.23	0.00	45.23					1.10	171.80	1.90	
10yr	63.87	71	0.61	44	100	76.97	0.00	176.97					1.91	172.61	2.68	
Section B1									0.0200	0.050	EX	SEC				Ex. Vegetated channel
2yr	39.47	76	0.38	40	40	17.27	9.80	67.07					1.28	190.78	3.06	
10yr	39.47	76	0.38	100	100	39.90	9.80	149.70					1.72	191.22	3.72	
Section B2									0.0100	0.050	EX	SEC				Ex. Vegetated channel
2yr	79.98	73	0.47	24	59	17.27	9.80	86.07					1.84	181.17	2.53	
10yr	79.98	73	0.47	70	159	39.90	9.80	208.70					2.46	181.79	3.14	
Section B3									0.0075	0.050	EX	SEC				Ex. Vegetated channel
2yr	99.71	71	0.54	5	59	17.27	9.80	86.07					1.59	172.87	1.90	
10yr	99.71	71	0.54	21	168	39.90	9.80	217.70					2.10	173.38	2.47	

CROSS-SECTION NOTE:
ALL CROSS-SECTIONS SHOWN ARE BASED ON FAIRFAX COUNTY 5-FOOT INTERVAL CONTOUR DATA.
*SECTION LOCATED WITHIN RESOURCE PROTECTION AREA (RPA)

NO.	DESCRIPTION	DATE	REV'S'D	REV'D	APR'D	DATE
REVISION						



PROJECT
LUCK STONE PROPERTY
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

TITLE
SPECIAL PERMIT AMENDMENT PLAT
~~SPA 81-S-064-10~~
~~SPA 81-S-064-11~~
OUTFALL SECTIONS AND COMPUTATIONS

Patton Harris Rust & Associates, p.c
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	MBR	DATE	01.18.08
CHECKED	DHS	SCALE	H:1"=20', V:1"=5'
SHEET	11 OF 12	FILE NO.	00676-1-6

SITE DESCRIPTION NARRATIVE:

EXISTING SITE CONDITIONS:
THE SUBJECT SITE IS A LARGE, OPEN PIT MINE NOW OWNED AND OPERATED BY THE LUCK STONE CORPORATION. THE SITE COMPRISES A TOTAL OF APPROXIMATELY 210 ACRES LYING WESTERLY OF RT. 621, BULL RUN POST OFFICE ROAD, WITH THE SITE AREA DIVIDED INTO NEARLY EQUAL PARTS BY RT. 29, IN THE FAR NORTH-WESTERLY AREA OF FAIRFAX COUNTY. THIS SITE LIES ON THE EASTERLY EDGE OF THE TRIASSIC PLAIN, AN ANCIENT LAKE BED WESTERLY OF THE PIEDMONT REGION WHICH DOMINATES FAIRFAX COUNTY. THERE IS A PRIMARY PIT ON EACH SIDE OF RT. 29 CONNECTED BY A TUNNEL BELOW RT. 29. THE MINE HAS REPORTEDLY BEEN IN OPERATION SINCE THE 1920'S AND EXTRACTS DIBASE (TRAPROCK), AN IGNEOUS STONE, AND IS A PRINCIPLE SOURCE OF CRUSHED CONSTRUCTION AGGREGATES FOR THE REGION. THE NORTH PIT IS CURRENTLY OVER 250 FEET IN DEPTH AND THE SOUTH, OVER 300 FEET, AND OPERATIONS CONTINUE DEEPER. ON THE EASTERLY EDGES OF THE SITE(S), VEGETATED BERMS PROVIDE A BUFFER ABUTTING RT. 621 AND ADJACENT PROPERTIES. STOCKPILE, SURFACE PROCESSING AND HAUL OPERATIONS ARE LOCATED IN THE NORTHWEST QUADRANT OF THE SOUTH SITE. SOME FUTURE EXPANSION AREAS LIE ON THE WESTERLY SIDES OF EACH PIT.

ADJACENT AREAS:
AN ASPHALT PROCESSING PLANT (APPROXIMATELY 15.5 ACRES), SEPARATELY OWNED AND NOT PART OF THE LUCK STONE OPERATION, ALSO LIES TO THE WEST OF THE SOUTH PIT. THE NORTH PIT IS BOUND ON THE SOUTHWEST CORNER BY A SEPARATE CONCRETE PLANT AND TRUCKING OPERATIONS. OPEN PASTURE OR WOODLANDS BOUND THE PROPERTY TO THE NORTH, WEST, AND SOUTH.

EXISTING WET POND "A2" & OUTFALL DESCRIPTION:
DISREGARDING THE PITS, THE GENERAL LAY OF LAND IS FROM THE NORTHEAST TO THE WEST AND SOUTHWEST. BUFFERING BERMS ON THE EAST SIDE OF THE NORTH PIT CAPTURE OVERLAND FLOWS FROM OFFSITE OAK WOODLANDS AND A NEARBY SUBDIVISION ACROSS RTE. 621 TO A CULVERT PIPE WHICH OUTFALLS DOWN A CLEFT IN THE FACE OF THE PIT. STREAM FLOW APPEARS TO BE INTERMITTENT BUT MAY BE PERENNIAL BUT OF RELATIVELY LOW VOLUME. THE GRADIENT OF THE NATURAL LAND AREAS IS RELATIVELY FLAT AND CHANNEL CONDITIONS APPEAR STABLE. ON THE NORTH SIDE OF THE NORTH PIT, FLOWS FROM OFFSITE FARM FIELDS ARE DIVERTED TO THE WEST AND SOUTH AROUND THE SITE AND TO AN OLD FARM POND (A2), APPROX. 1.34 ACRE IN SURFACE AREA, ON THE FAR WESTERLY SIDE OF THE NORTH PIT AREA. THIS POND ALSO RECEIVES SOME FLOWS FROM THE SURFACE OPERATIONS AREA. THE EXISTING POND, UP TO SEVEN FEET IN DEPTH IS PRECEDED BY A DRY EMBANKED BASIN, WHICH CAPTURES SOME OF THE CONTRIBUTING ONSITE FLOW. THIS BASIN, ALTHOUGH ONCE A WET POND, IS NOW HEAVILY VEGETATED WITH LOW GROWING DRY MARSH PLANTS. A NATURAL "PIPE" WAS OBSERVED WHICH IS DRAINING THIS UPPER BASIN THROUGH THE EMBANKMENT AND TO THE WET POND, HOWEVER, FLOW ENTERING THE BASIN SHOULD BE WELL FILTERED BY THE VEGETATION. THE LOWER WET POND, ALTHOUGH SOMEWHAT SILTED APPEARS TO BE IN REASONABLY GOOD CONDITION, CONTAINING BASS AND OTHER FISHES AS WELL AS LARGE (UP TO 3 INCHES) FRESHWATER CLAMS, AND WILD FOWL. THE POND HAS BEEN MEASURED AT APPROXIMATELY 5 1/2 FEET AT IT'S DEEPEST. THE MANMADE EMBANKMENT WAS DESIGNED WITH OVERLAND RELIEF CHANNELS ON EITHER END, BUT THERE DOES NOT APPEAR TO BE ANY OTHER OUTLET. THE OUTFALL CHANNELS ARE IN STABLE CONDITION. THE ENTIRE EMBANKMENT TOP IS APPROXIMATELY 10 FEET WIDE AND 10-12 FEET HIGH ON THE LOW SIDE. THE TOP HAS APPROXIMATELY FOUR FEET OF FREEBOARD ABOVE THE WATER SURFACE ON THE DAY OBSERVED, (AND NO WATER WAS SEEN EXITING AT ANY POINT) THE EMBANKMENT IS COVERED WITH TREES AND OTHER VEGETATION, AND ALTHOUGH SOME MINOR SLUMPS ARE OBSERVED, THE EMBANKMENT APPEARS STABLE. REMNANTS OF A BEAVER IMPOUNDMENT ADJACENT THE POND THE EXISTING POND IS ALSO EVIDENT, WHEREAS IT APPEARS THE WESTERN OUTLET CHANNEL WAS BLOCKED. THE POND IS FISABLE AND USED OCCASIONALLY BY LUCK STONE EMPLOYEES. THIS POND OUTFLOWS TO THE WEST INTO AN UNNAMED TRIBUTARY WHICH DRAINS SOUTH-WESTERLY ACROSS PASTURE LANDS (APPROX. 2800 FEET) TO BULL RUN. AT THE IMMEDIATE OUTFALL FROM THE POND, EACH OF THE TWO OVERLAND RELIEF CHANNELS IS STABLE AND VEGETATED, IN FACT OPENS TO A BROAD FLAT OPEN WOODLAND. THERE IS LITTLE INCISION, BEYOND THE EMBANKMENT LIMITS, NOR INDICATIONS OF SEDIMENT. FROM THE POND SOUTHWARD, THE OUTFLOW PASSES THROUGH THICK WOODLAND AT LOW GRADIENT ACROSS PRIVATE PROPERTY TO A CULVERT CROSSING AT RT. 29. AT THIS CROSSING, NO PERENNIAL FLOW WAS OBSERVED, AND ALTHOUGH SOME MINOR BANK EROSION AND EXPOSED ROOTS IS EVIDENT, THERE IS NO INDICATION OF ANY SIGNIFICANT DAMAGES DUE TO EXCESSIVE FLOW, NOR ANY SIGN OF SEDIMENTATION. BEYOND ROUTE 29, THE CHANNEL CONTINUES ACROSS WOODED PROPERTY AND EVENTUALLY TO OUTFALL IN BULL RUN BELOW IN THE MANASSAS BATTLEFIELD PARK.

EXISTING SETTLLING PONDS "A1 & B1" DESCRIPTION:
OTHER THAN THE SURFACE AREAS DRAINING TO THE FARM POND, THE NORTH PIT IS RELATIVELY SELF CONTAINED RELATIVE TO DRAINAGE. TYPICAL SETUP IN THE PITS IS TO PROVIDE A 1ST STAGE COLLECTION/SETTLEMENT POND AT THE LOWEST AREAS OF EXCAVATION (WHICH MAY BE MOVED FREQUENTLY), THE WATER FROM WHICH IS THEN PUMPED TO A HIGHER LEVEL SECONDARY POND, WHICH MAY REMAIN IN PLACE FOR SEVERAL YEARS. CURRENTLY, THE SECONDARY POND (A1) IN THE NORTH PIT IS APPROXIMATELY 75x 270 FEET AND NORMALLY 40 FEET IN DEPTH AT THE DEEP POINT AND SET IN SOLID ROCK. FLOW IS RE-CIRCULATED TO FRESHEN AND OXYGENATE AND CONDITIONS ARE OF HIGH ENOUGH QUALITY TO SUSTAIN A POPULATION OF STOCKED TROUT, SOME WHICH HAVE GROWN AS LARGE AS 24 INCHES OR GREATER, IN LENGTH. FROM THIS SETTLEMENT POND (A1), WATER IS THEN PUMPED UP THE SHEER FACE ON THE SOUTH WALL OF THE NORTH PIT TO OUTFALL IN AN OPEN CHANNEL AND A CULVERT WHICH DRAINS ACROSS RT. 29 WESTERLY OF THE MAIN SITE ENTRANCE. ANOTHER SHORT OPEN CHANNEL SECTION (WHICH EXHIBITS AQUATIC VEGETATION NOT UNLIKE THAT WHICH MIGHT BE EXPECTED IN A LIMESTONE SPRING CREEK), FLOWS TO ANOTHER PIPE WHICH ENTERS THE SOUTH PROPERTY. THIS PIPE ALSO RECEIVES STORM FLOWS FROM BOTH SIDES OF RT. 29 FOR THE SEGMENTS EAST OF THE MAIN ENTRANCE.

EXISTING WET POND "B2 & B3" DESCRIPTION:
THIS PIPE DRAINS TO ANOTHER FINAL ONSITE SETTLEMENT POND (B3), APPROX. 0.5 ACRES WHICH ALSO RECEIVES PUMPED FLOWS IN A SIMILAR FASHION FROM THE SOUTH PIT (B1), AS WELL AS SURFACE FLOWS FROM THE PRIMARY STOCKPILE AND OPERATIONS AREA. NOTE THAT THE OPERATIONS AREA ALSO CONTAINS ANOTHER SMALL POND (B2) WHICH PROVIDES WATER FOR THE LARGE TRUCK WHEEL WASH AND HAS A TOTALLY SELF CONTAINED AND CLOSED CIRCULATION SYSTEM.

POND (B3), ALTHOUGH RECEIVING SOME SILTED FLOWS, ALSO EXHIBITS CONDITIONS OF REASONABLE HEALTH INCLUDING SOME FISH POPULATION (BASS, SUNFISH). POND (B3) IS THEN GRAVITY DRAINED THRU THE ABUTTING BERM TO THE WEST OF THE STOCKPILE AREA AND ACROSS THE ACCESS ROAD OF THE ASPHALT PLANT TO A HEAVILY VEGETATED OFFSITE BASIN (B4).

EXISTING DRY POND "B4" & OUTFALL DESCRIPTION:
FLOW THRU THIS OLD BASIN IS NEARLY CONTINUOUS (EVEN IN DROUGHT CONDITIONS, FALL 2007) AND MAY BE WET DURING HEAVY STORM EVENTS, THIS BASIN WAS MOSTLY DRY DURING A RECENT VISIT. THIS BASIN HAS NOT BEEN MAINTAINED FOR DETENTION OR TREATMENT. THE MAIN CHANNEL FROM THE OUTFALL RUNS ACROSS THE POND AND THRU A CHANNEL OPENING IN THE EMBANKMENT ON THE SOUTH-WEST END, FREE FLOWING TO THE LOW GRADIENT STREAM CHANNEL IN THE WOODLAND BELOW. WITH LARGER STORM FLOWS, HOWEVER, AND DUE TO THE HEAVY VEGETATION, THIS DRY BASIN MAY FUNCTION TO PROVIDE SOME FILTRATION, HAVING CONDITIONS MUCH LIKE A SEMI-DRY WETLAND. THE OUTLET CHANNEL IS DEEPLY CUT AT THE EMBANKMENT BUT SEEMS TO BE STABLE AND REINFORCED BY VEGETATION. BELOW THE EMBANKMENT, THE OUTFALL TO THE WEST IS THROUGH AN UNNAMED TRIBUTARY (OVERLAID WITH RPA) ACROSS FOREST AND PASTURE LAND AND TO BULL RUN 2,200 FEET TO THE WEST. (THE OUTFALL STREAM APPEARS TO BE TREE COVERED THRU ITS LENGTH). OBSERVABLE CONDITIONS IN THE WOODLAND BELOW THE DRY BASIN APPEAR TO BE VERY STABLE.

SOME INVESTIGATION WAS ATTEMPTED REGARDING AVAILABLE STUDIES, FROM COUNTY SOURCES, REGARDING THESE UN-NAMED TRIBUTARIES TO BULL RUN, BUT LITTLE SPECIFICS WERE OBTAINED. APPARENTLY THERE DOES EXIST A SPECIFIC STUDY POINT IN BULL RUN DOWNSTREAM OF THE LOWER TRIBUTARY. RESULTS (EXHIBIT TITLED TABLE 13) OF WATER SAMPLING AND ANALYSIS INDICATES THAT SOLUBLE HEAVY METALS ARE COMPARABLE TO THOSE OBSERVED IN CUB RUN AND LITTLE ROCKY RUN, CONSIDERED THE STREAMS OF HIGHEST WATER QUALITY IN FAIRFAX COUNTY. FURTHER, AS BULL RUN IS A PRINCIPLE CONTRIBUTOR TO THE OCCOQUAN RESERVOIR, DEVELOPMENT DENSITIES IN THIS AREA ARE CONTROLLED AND THE WATER SHED HIGHLY PROTECTED.

STORMWATER MANAGEMENT NARRATIVE:

THE TOTAL AREA OF THE LUCKSTONE ROCK QUARRY SITE IS 210.25 ACRES ±.

FOR THIS ANALYSIS THERE ARE FIVE (5) STORM WATER MANAGEMENT FACILITIES (SWM) BEING ANALYZED. RUNOFF TO EACH SWM FACILITY IS BASED ON HYDROLOGIC SOIL GROUP, LAND USE, DRAINAGE AREA AND TIME OF CONCENTRATION USING STANDARD TR-55 CALCULATION METHOD FOR THE ENTIRE SITE.

FROM THE COMPUTATIONS, 185.45 ACRES OF THE 210.25 ACRE SITE ARE BEING DETAINED BY ONSITE FACILITIES WHILE 24.97 ACRES OF THE SITE ARE UNDETAINED. THERE IS AN ADDITIONAL 86.35 ACRES OF OFFSITE AREA WHICH IS BEING DETAINED ONSITE.

FOR THE PURPOSES OF DETERMINING THE ALLOWABLE RELEASE FROM THE SITE THE ENTIRE SITE IN THE PRE-EXISTING CONDITIONS HAS BEEN ASSUMED TO BE WOODED IN GOOD CONDITION. THIS IS USED AS THE BASIS TO COMPUTE THE ALLOWABLE RELEASE RATES. THE ALLOWABLE RELEASE RATE FOR THE SITE (ACCOUNTING FOR ADDITIONAL OFFSITE FLOW) IS COMPUTED TO BE 148 CFS FOR THE 2YR STORM AND 404 CFS FOR THE 10YR STORM EVENT (SEE DRAWING C7.01 FOR SWM COMPUTATIONS).

RUNOFF IN THE ROCK QUARRY PITS IS COLLECTED BY SMALL BASINS FROM THE LOWEST POINTS AND PUMPED TO THE TWO SETTLLING PONDS IN THE ROCK QUARRY PITS "A1 & B1". SINCE THESE SMALLER PONDS MOVE LOCATIONS FREQUENTLY AND ARE PUMPED OUT REGULARLY, PONDS A1 & B1 ARE THE ONLY TWO PONDS ANALYZED IN THE ROCK QUARRY PITS. PONDS A1 & B1 ARE FOR SETTLLING PURPOSES AND REMAIN AT A REGULAR WATER SURFACE ELEVATION. THESE PONDS DO NOT HAVE ANY OUTFALL RELEASE EXCEPT WHEN THEY ARE PUMPED. POND B2 ALSO DOES NOT HAVE ANY RELEASE AND IS ONLY USED FOR RECYCLING WATER TO WASH TRUCKS ON THE SITE FOR DUST CONTROL PURPOSES. THE ONLY PONDS THAT HAVE AN OUTFALL RELEASE ARE THE FARM POND A2 AND THE ONSITE WET POND B3. POND A2 HAS TWO OVERFLOW CHANNELS AT EACH END OF THE DAM EMBANKMENT. OVERFLOW WEIRS ARE APPROXIMATELY SIX FEET WIDE AND TWO FEET DEEP ON EACH END OF THE EMBANKMENT. PRELIMINARY ROUTING HAS SHOWN THAT THIS POND WOULD RELEASE 10-23 CFS FOR THE 2YR EVENT AND 76.97 CFS FOR THE 10 YR EVENT AND 126.68 CFS FOR THE 10YR EVENT. SINCE THESE FLOWS ARE WELL UNDER THE MAXIMUM ALLOWABLE RELEASE RATES FOR THE SITE OF 148 CFS FOR THE 2YR EVENT AND 404 CFS FOR THE 10YR EVENT AND THE FACT THAT THE ALLOWABLE RELEASE RATES ALREADY ACCOUNT FOR THE UNDETAINED FLOW FROM THE SITE, IT IS THIS ENGINEERS OPINION THAT STORM WATER MANAGEMENT PEAK REDUCTION IS ACHIEVED.

THE COMBINED TOTAL RELEASE FROM THESE PONDS IS 27.50 CFS FOR THE 2YR EVENT AND 116.88 CFS FOR THE 10YR EVENT. POND B2 HAS NO RELEASE AND PONDS A1 AND B1 ARE PUMPED ALMOST CONTINUOUSLY TO POND B3. THE MAX. PUMP CAPACITY FROM THESE PITS IS A TOTAL OF 4,400 GPM WHICH EQUATES TO 9.80 CFS. WE HAVE ADDED THIS FLOW TO THE POND RELEASES FOR A TOTAL RELEASE FROM THE SITE OF 37.30 CFS FOR THE 2YR EVENT AND 126.68 CFS FOR THE 10YR EVENT. SINCE THESE FLOWS ARE WELL UNDER THE MAXIMUM ALLOWABLE RELEASE RATES FOR THE SITE OF 148 CFS FOR THE 2YR EVENT AND 404 CFS FOR THE 10YR EVENT AND THE FACT THAT THE ALLOWABLE RELEASE RATES ALREADY ACCOUNT FOR THE UNDETAINED FLOW FROM THE SITE, IT IS THIS ENGINEERS OPINION THAT STORM WATER MANAGEMENT PEAK REDUCTION IS ACHIEVED.

PONDS A2 & B3 HAVE SUFFICIENT EXISTING VOLUME TO DETAIN THE 10 YEAR REQUIRED VOLUME PER THE SWM COMPUTATIONS. SETTLLING PONDS A1 & B1 TECHNICALLY DO NOT HAVE SUFFICIENT VOLUME BUT THESE POND ARE LOCATED IN THE ROCK QUARRY PITS AND ARE ALLOWED TO EXPAND OUT INTO THE PIT AS MUCH AS NEEDED AND THERE IS MORE VOLUME THAN WOULD EVER BE REQUIRED IN THE ROCK QUARRY PITS. SETTLLING PONDS A1 & B1 ALSO RECEIVE A MAJORITY OF THE FLOW FROM PONDS AT THE BOTTOM OF THE PITS PUMPED TO THEM SO THERE IS NO CONCERN THAT THESE PONDS ARE NOT FULLY SIZED FOR THE ENTIRE PIT DRAINAGE. POND B2, GRADED INTO THE SURFACE WITH NO EMBANKMENT, IS SLIGHTLY UNDERSIZED FOR A 10-YEAR STORM BUT OVERFLOWS TO B3, WHERE THERE IS MORE THAN SUFFICIENT CAPACITY FOR THE 10YR STORM EVENT (SEE POND VOLUME THIS SHEET FOR BREAKDOWN OF VOLUMES).

-SEE DRAWING C7.01 FOR DRAINAGE AREAS, FLOWS USED, TIME OF CONCENTRATION, TABULATION OF AREAS AND MAXIMUM ALLOWABLE RELEASE COMPUTATIONS.
-SEE DRAWING C7.02 FOR SOLS BREAKDOWN FOR ALL DRAINAGE AREAS USED FOR THE SWM AND OUTFALL CALCULATIONS
-SEE THIS SHEET FOR POND VOLUME COMPARISON

WATER QUALITY NARRATIVE:

THE TOTAL AREA OF THE LUCKSTONE ROCK QUARRY SITE USED FOR WATER QUALITY CALCULATIONS IS 210.25 ACRES AND THE BOUNDED AREA FOR THE SITE IS SHOWN ON DRAWING C7.01.

SINCE THE SITE IS LOCATED WITHIN FAIRFAX COUNTY, THE OCCOQUAN PHOSPHOROUS REMOVAL CALCULATION METHOD IS BEING USED TO DETERMINE BMP COMPLIANCE FOR THE SITE (PER THE NORTHERN VIRGINIA BMP HANDBOOK). THE LUCKSTONE SITE IS LOCATED WITHIN A WSPD WHICH REQUIRES A 50% PHOSPHOROUS REMOVAL RATE. THIS REQUIREMENT IS BEING MET BY THE USE OF FIVE ONSITE WET PONDS AND HAVE ACHIEVED A 50.42% REMOVAL RATE (SEE COMPUTATIONS DRAWING C7.02). THERE IS A TOTAL OF 86.35 ACRES OF OFFSITE AREA BEING CONTROLLED BY THE ONSITE FACILITIES. ONLY 20% OF THIS AREA IS CREDITED SINCE IT IS OFFSITE AREA (EXCEPT FOR 4.14 ACRES WHICH IS THE ROUTE 29 AREA FLOWING ONSITE AND SOME ADDITIONAL STOCK PILE AREAS LOCATED OFFSITE. THIS AREA IS NOT REDUCED SINCE THERE IS NO OTHER MEANS OF TREATMENT FOR THIS OFFSITE AREA). THERE IS A TOTAL OF 24.97 ACRES OF UNCONTROLLED ONSITE AREA AND THE ADDITIONAL OFFSITE AREA COMPENSATES FOR THIS UNDETAINED AREA. SINCE WET PONDS HAVE A REMOVAL EFFICIENCY OF 50%, EXISTING FACILITIES ACHIEVE A TOTAL OF 50.42% PHOSPHOROUS REMOVAL FOR THE SITE MEETING THE 50% REQUIREMENT. WET VOLUMES REQUIRED FOR THESE FACILITIES TO TREAT THE RUNOFF HAVE BEEN CALCULATED AND ARE SHOWN ON DRAWING C7.02. REQUIRED VOLUMES ARE COMPARED TO THE EXISTING WET POND VOLUMES AND ALL PONDS HAVE MORE WET STORAGE AVAILABLE THAN IS REQUIRED (SEE THIS SHEET FOR POND VOLUME COMPARISONS).

-SEE DRAWING C7.01 FOR SUB-AREAS USED IN BMP COMPUTATIONS
-SEE DRAWING C7.02 FOR BMP COMPUTATIONS
-SEE THIS SHEET FOR POND VOLUME COMPARISON

POND VOLUME TABLE:

POND		SURFACE AREA			APPROX	SIDE	POND VOLUME	
		LENGTH (FT)	WIDTH (FT)	AREA (SF)	DEPTH (FT)	SLOPES	(CF)	(AC-FT)
SETTLING POND A1 (No Release)								
	REQUIRED BMP VOLUME						209,805	4.82
	REQUIRED SWM 10YR VOLUME						1,440,930	33.08
	TOTAL REQUIRED VOLUME							37.90
	APPROX. EXISTING WET VOLUME	270	75	20,250	30	0	607,500	13.95
	EXISTING EXTENDED STORAGE VOLUME*						209,290	4.80
	TOTAL PROVIDED VOLUME**							18.75
WET POND A2 (Overland Release)								
	REQUIRED BMP VOLUME						76,276	1.75
	REQUIRED SWM 10YR VOLUME						658,115	4.88
	TOTAL REQUIRED VOLUME							6.63
	APPROX. EXISTING WET VOLUME	425	140	59,500	4	20:1	108,400	2.49
	EXISTING EXTENDED STORAGE VOLUME*						263,060	6.04
	TOTAL PROVIDED VOLUME							8.53
SETTLING POND B1								
	REQUIRED BMP VOLUME						256,446	5.89
	REQUIRED SWM 10YR VOLUME						1,115,615	25.61
	TOTAL REQUIRED VOLUME							31.50
	APPROX. EXISTING WET VOLUME	150	80	12,000	30	0	360,000	8.26
	EXISTING EXTENDED STORAGE VOLUME*						135,610	3.11
	TOTAL PROVIDED VOLUME**							11.38
WET POND B2								
	REQUIRED BMP VOLUME						35,535	0.82
	REQUIRED SWM 10YR VOLUME						143670	3.30
	TOTAL REQUIRED VOLUME							4.11
	APPROX. EXISTING WET VOLUME	125	80	10,000	5	3:1	36,875	0.85
	EXISTING EXTENDED STORAGE VOLUME*						68,785	1.58
	TOTAL PROVIDED VOLUME***							2.43
WET POND B3								
	REQUIRED BMP VOLUME						56,753	1.30
	REQUIRED SWM 10YR VOLUME						80490	1.85
	TOTAL REQUIRED VOLUME							3.15
	APPROX. EXISTING WET VOLUME	140	160	22,400	7	3:1	118,874	2.73
	EXISTING EXTENDED STORAGE VOLUME*						267445	6.14
	TOTAL PROVIDED VOLUME							8.87
*Based on Contour information and Pond-Pack Volume Calculations								
**Additional ponding is available within the entire rock Quarry pit								
***Additional ponding is available in the Wet Pond B3								

OUTFALL NARRATIVE:

THERE ARE TWO MAJOR OUTFALLS FROM THE LUCK STONE SITE.

OUTFALL A
32.56 ACRES OF THE SITE DRAIN TO THE EXISTING FARM POND (A2). THIS POND DRAINS FOR A LENGTH OF APPROX. 2800 FEET TO THE BULL RUN FLOODPLAIN (SEE POND A2 DESCRIPTION FOR DETAIL POND AND OUTFALL CHANNEL DESCRIPTION). THREE CROSS SECTIONS ARE PROVIDED ON THESE PLANS TYPIFYING THE CHANNEL TO THE FLOODPLAIN ON DRAWING C7.04. ALSO SEE DRAWING C7.04 FOR PLAN VIEW LOCATIONS OF THE SECTIONS. FLOW FROM CONTRIBUTING DRAINAGE AREAS AT EACH SECTION HAS BEEN CALCULATED AND ADDED TO THE FLOW BEING RELEASED BY POND (A2) TO DETERMINE A TOTAL FLOW AT EACH SECTION (SEE DRAWING C7.04 FOR OUTFALL SECTION COMPUTATIONS). 2YR AND 10YR WATER SURFACE ELEVATIONS AS WELL AS FLOWRATE AND VELOCITY AT EACH SECTION. ALL SECTIONS ARE NATURALLY VEGETATED AND DO NOT HAVE EROSIVE 2YR VELOCITIES. THE HIGHEST VELOCITY IS 2.74 FT/S AND THE 10YR STORM EVENT IS DETAINED WITHIN THE SECTIONS WITHOUT ADVERSELY AFFECTING ANY DOWNSTREAM PROPERTIES. PER FAIRFAX COUNTY PFM 6-0203.2B THIS ANALYSIS WAS TAKEN TO A POINT AT WHICH THE TOTAL DRAINAGE AREA IS AT LEAST 100 TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE SITE. THIS POINT IS THE BULL RUN FLOODPLAIN AND A PICTURE IS PROVIDED ON DRAWING C7.04 OF THIS FLOODPLAIN.

OUTFALL B
THE MAJORITY OF THE SITE OUTFALLS TO THE SOUTHWEST OF THE SOUTH QUARRY PIT. THE DRAINAGE AREA FOR THIS OUTFALL INCLUDES BOTH THE NORTH AND SOUTH PITS ALONG WITH ADDITIONAL ONSITE AREAS FOR A TOTAL OF 152.89 ACRES OF ONSITE AREA. THE TWO PONDS IN THE PITS ARE PIPED TO POND (B3). POND (B3) OUTFALLS TO AN OLD (DRY) BASIN (B4) AND THEN DRAINS FOR A LENGTH OF APPROX. 2200 FEET TO THE BULL RUN FLOODPLAIN (SEE POND B3 & B4 DESCRIPTION FOR DETAIL POND AND OUTFALL CHANNEL DESCRIPTION).

SHOWN ARE THREE CROSS SECTIONS ALONG THE CHANNEL TO THE FLOODPLAIN ON DRAWING C7.04. ALSO SEE DRAWING C7.04 FOR PLAN VIEW LOCATIONS OF THE SECTIONS. FLOWRATES FROM CONTRIBUTING AREAS HAVE BEEN CALCULATED AT EACH SECTION AND ADDED TO THE FLOW BEING RELEASED BY POND (B3) ALONG WITH THE PUMPED FLOW FROM THE QUARRY PITS FOR A TOTAL FLOW AT EACH SECTION (SEE DRAWING C7.04 FOR OUTFALL SECTION COMPUTATIONS). EACH SECTION INDICATES THE 2YR AND 10YR WATER SURFACE ELEVATIONS AND THE FLOWRATE AND VELOCITY AT EACH SECTION. ALL SECTIONS ARE NATURALLY VEGETATED AND DO NOT HAVE EROSIVE 2YR VELOCITIES. THE HIGHEST VELOCITY IS 3.06 FT/S AND THE 10YR STORM EVENT IS DETAINED WITHIN THE SECTIONS WITHOUT ADVERSELY AFFECTING ANY DOWNSTREAM PROPERTIES. PER FAIRFAX COUNTY PFM 6-0203.2B THIS ANALYSIS WAS TAKEN TO A POINT AT WHICH THE TOTAL DRAINAGE AREA IS AT LEAST 100 TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE SITE. THIS POINT IS ALSO THE BULL RUN FLOODPLAIN AND A PICTURE IS PROVIDED ON DRAWING C7.04 OF THIS FLOODPLAIN.

THIS ANALYSIS COMPLIES WITH PFM REQUIREMENT 6-0203.2B FOR THE EXTENT OF THE OUTFALL ANALYSIS AND INDICATES THAT THE OUTFALL SECTIONS FROM THE LUCK STONE SITE ALL CONTAIN THE 10-YR STORM EVENT AND HAS ADEQUATE PROTECTION FOR THE 2-YEAR VELOCITIES. THERE ARE NO PERCEIVED ADVERSE EFFECTS TO THE DOWNSTREAM CHANNEL AND FLOODPLAIN, THEREFORE IT IS THIS DESIGN ENGINEER'S OPINION THAT ADEQUATE OUTFALL EXISTS, AND THAT NO ADVERSE EFFECTS DOWNSTREAM ARE EXPECTED, PARTICULARLY AS THESE CONDITIONS HAVE EXISTED FOR A CONSIDERABLE TIME.

-SEE DRAWING C7.03 FOR OUTFALL SECTION PLAN VIEW LOCATIONS, DRAINAGE DIVIDES AND FLOWS
-SEE DRAWING C7.04 FOR OUTFALL SECTIONS, COMPUTATIONS, AND PICTURES
-SEE SITE DESCRIPTION NARRATIVE THIS SHEET FOR DETAIL DESCRIPTION OF OUTFALL CHANNELS

MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:
Special Permits (8-011 2J & 2L) Special Exceptions (9-011 2J & 2L)
Cluster Subdivision (9-615 1 G & 1 N) Commercial Revitalization Districts (9-622 2A (12) & (14))
Development Plans PRC District (16-302 3 & 4L) PRC Plan (1 6-303 1 E & 1 O)
FDP P Districts (except PRC) (16-502 1F & 1Q) Amendments (18-202 10F & 10I)

☒ 1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').

☒ 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet **C7.03 - 7.05**

☒ 3. Provide:
Facility Name/ On-site area Off-site area Drainage... Footprint... Storage..... If pond, dam
Type & No. served (acres) served (acres) area (acres) area (sf) Volume (cf) height (ft)
All Settling Pond *57.96* *50.45* *168.41* *22,350* *816,750* *0*
(e.g. dry pond A, mill trench, underground vault, etc.)
B2 / Wet Pond *32.56* *31.26* *63.82* *51,500* *371,565* *B*
B1 / Settling Pond *73.59* *0* *73.59* *12,000* *475,710* *0*
B2 / Wet Pond *7.27* *0* *7.27* *10,000* *105,850* *0*
B3 / Wet Pond *12.57* *4.14* *16.71* *22,400* *396,875* *D*
Total *185.45* *35.85* *271.80* *121,150* *2,176,250*

☒ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet **C7.03**
Pond inlet and outlet pipe systems are shown on Sheet **C7.03**

☒ 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet **C7.05**
Type of maintenance access road surface noted on the plat is **Gravel** (asphalt, geoblock, gravel, etc.).

☒ 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet **Landscaping has been provided in accordance with approved limitations set forth previously with SPM 81-S-064-9.**

☒ 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet **C7.05**

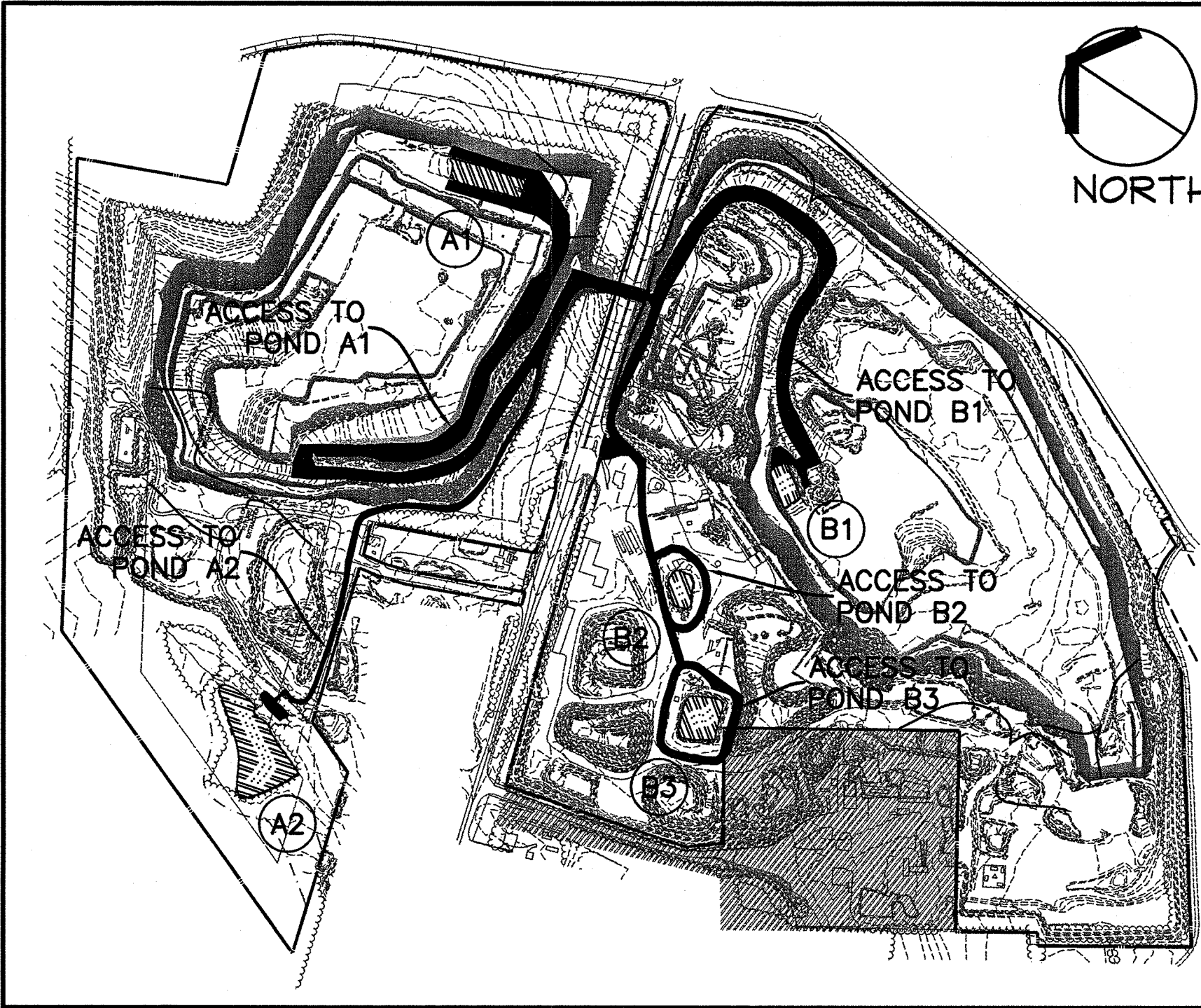
☒ 8. A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet **C7.05**

☒ 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet **C7.05**

☒ 10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets **2 and 3**.

☐ 11. A submission waiver is requested for **N/A**

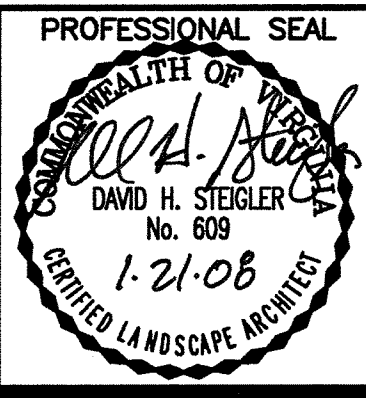
☐ 12. Stormwater management is not required because **N/A**



POND MAINTENANCE ACCESS MAP
ALL ACCESS ROAD SURFACES ARE CRUSHED GRAVEL

500 250 0 250 500
1"=500'

NO.	DESCRIPTION	DATE	REV'S	REV'D	APR'D	DATE
REVISION						



PROJECT

LUCK STONE PROPERTY

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

TITLE

SPECIAL PERMIT AMENDMENT PLAT

SPA 81-S-064-10
SPA 81-S-064-11

SITE
NARRATIVES

Patton Harris Rust & Associates, p.c
Engineers. Surveyors. Planners. Landscape Architects.

PHR+A

14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

DESIGN	PHR+A	SURVEY	BY OTHERS
DRAWN	MBR	DATE	01.18.08
CHECKED	DHS	SCALE	1"=500'
SHEET	12 OF 12	FILE NO.	00676-1-6