

No.	Revision	Date
	Revision Block	

SITE PLAN AMENDMENT FOR ALGONKIAN REGIONAL PARK POOL RENOVATION

APPROVED
 AS CORRECTED
for 12/01
 LOUDOUN COUNTY, VA.
 DATE *12/01*
 BY *Steinbocker*

LIST OF DRAWINGS

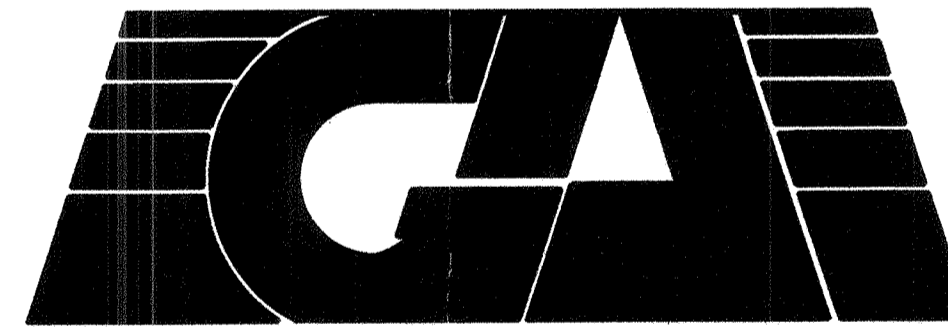
1. COVER SHEET
2. GENERAL NOTES AND CONSTRUCTION DETAILS
3. DEMOLITION PLAN
4. GRADING PLAN
5. EROSION SEDIMENT STAGE I & II PLAN
6. WATER QUALITY (BMP) FACILITY AND NARRATIVE

**BROAD RUN DISTRICT
LOUDOUN COUNTY, VIRGINIA**

OWNER/DEVELOPER

NORTHERN VIRGINIA REGIONAL PARK AUTHORITY

5400 OX ROAD
FAIRFAX STATION, VA. 22039
TELEPHONE: (703) 352-5900



William H. Gordon Associates, Inc.
Engineers • Land Planners • Landscape Architects • Surveyors

4501 DALY DRIVE CHANTILLY, VIRGINIA 22021

(703) 263-1900

PROJECT MANAGER: ROBERT W. WALKER, C.L.A.

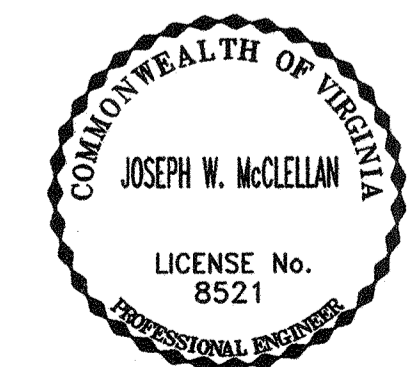
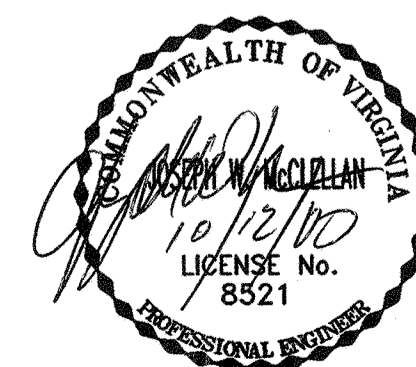
EXISTING	LEGEND	PROPOSED
---	PROPERTY LINE	---
---	DEPARTING PROPERTY LINE	---
---	EASEMENT LINE	---
---	EDGE PAVEMENT	---
---	CENTERLINE	---
-x-x-	FENCE LINE	-x-x-
+	RAILROAD	+
G	GAS LINE	G
o	OVERHEAD ELECTRIC	o
o	UNDERGROUND ELECTRIC LINE	o
o	OVERHEAD TELEPHONE LINE	o
o	UNDERGROUND TELEPHONE LINE	o
...	ROADSIDE DELINEATORS	...
...	GUARDRAIL OR TRAFFIC BARRICADE	...
W	WATER MAIN	W
TO BE REMOVED	BUILDINGS	PROP. BLDG.
TO REMAIN	RETAINING WALL	
EX. CONC. S/W	SIDEWALK	
EX. H.C.	HEADER CURB	
EX. C&G	CURB & GUTTER	
8" SAN	SANITARY SEWER	8" SAN
15" RCP	STORM SEWER	15" RCP
EX. STM.	DITCH, SWALE OR SMALL STREAM	
	LARGE STREAM	
	CONCRETE DITCH	
SAVE 30" OAK	TREES	
	TREE LINE	
	LIMITS OF CLEARING & GRADING	
390	CONTOUR LINE	390
42 X 5	SPOT ELEVATION	42.5

THIS IS A SITE PLAN AMENDMENT TO THE PREVIOUS SITE PLAN. (EX:1997-0077)

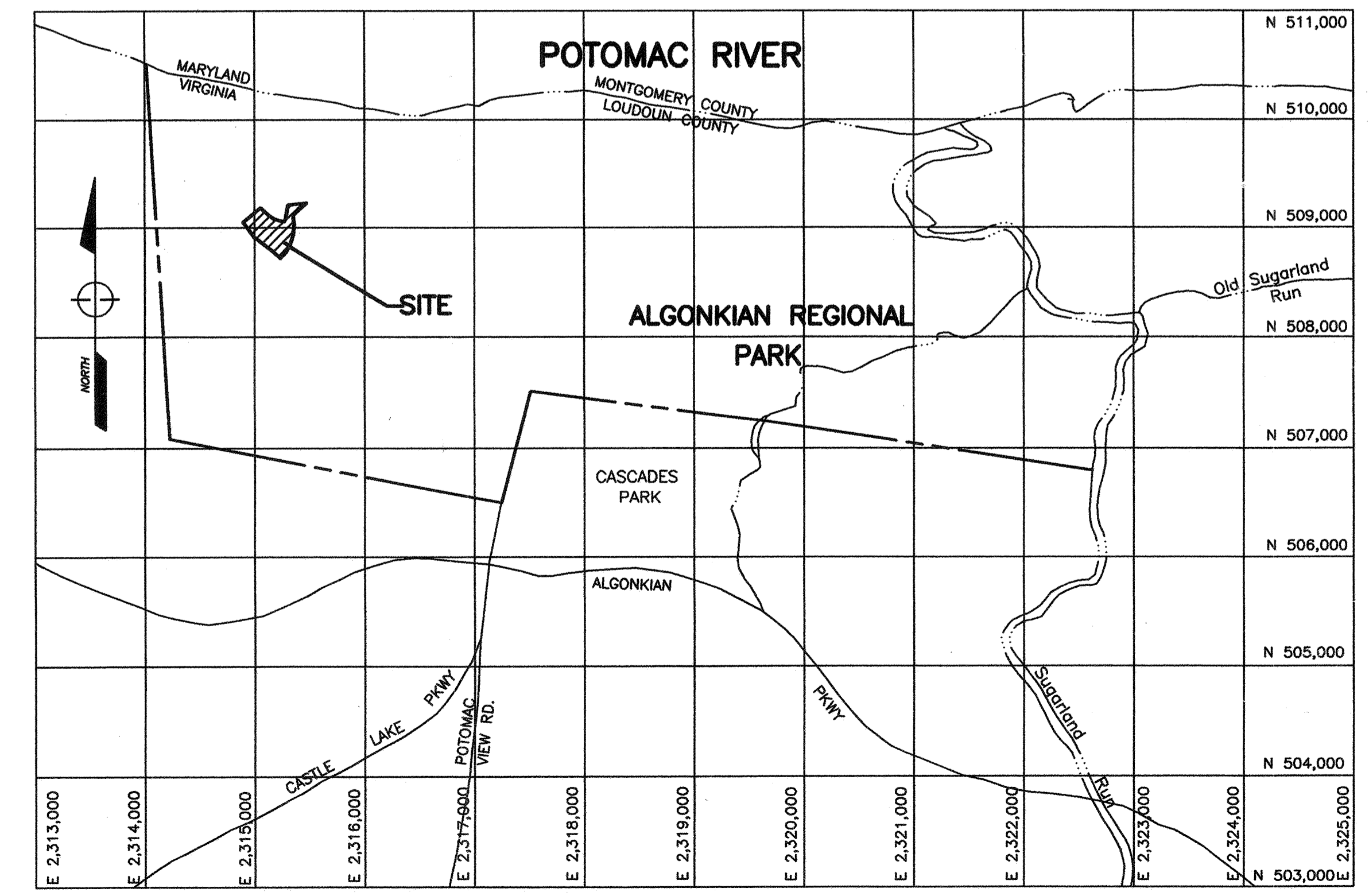
APPROVAL BLOCK

LAND DEVELOPMENT APPLICATION
NUMBER SPAM 2000-0133

Director, _____ Date _____
Department of Building & Development



VICINITY MAP
SCALE: 1"=1000'



PROJECT: VENTN1140\02011140es.dwg Mon Oct 02 15:46:57 2000 HP 1050C HP

GENERAL NOTES

- 1. THIS PARCEL IS IDENTIFIED AS LOUDOUN COUNTY TAX MAP NO. 64, PARCELS 5 AND 5A.
2. THE TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 1.0 ACRES.
3. TOPOGRAPHIC SURVEY FOR THE GRADING PLANS IS FROM A FIELD RUN SURVEY BY WILLIAM H. GORDON ASSOCIATES, INC.
4. THE TOPOGRAPHIC CONTOUR INTERVAL IS TWO (2) FEET (UNLESS OTHERWISE NOTED).
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO THE GRADING PERMIT.
6. WILLIAM H. GORDON ASSOCIATES, INC. DOES NOT CERTIFY TO THE LOCATION OF OR THE EXISTENCE OF ANY UNDERGROUND UTILITIES.
7. SEE COVER SHEET FOR LEGEND OF SYMBOLS USED HEREIN.
8. CONTRACTOR SHALL NOTIFY OPERATORS WHO MAINTAIN EXISTING UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST TWO (2) WORKING DAYS, BUT NOT MORE THAN TEN (10) WORKING DAYS, PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.

MISS UTILITY CONTACT NUMBERS (PARTIAL LIST)

Table with columns: UTILITY, UTILITY COMPANY, TELEPHONE NUMBER. Rows include WATER, SANITARY SEWER, STORM SEWERS, GAS, ELECTRIC, TELEPHONE AT&T, CABLE, OTHER.

- 9. ALL LAND ON OR OFF-SITE WHICH IS DISTURBED BY CONSTRUCTION AND WHICH IS NOT BUILT UPON OR SURFACED SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION.
10. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING TRUCKS AND/OR EQUIPMENT OF MUD PRIOR TO ENTERING THE VDOT RIGHT-OF-WAY.
11. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
12. UNLESS OTHERWISE NOTED, ALL PROPOSED ELEVATIONS AS SHOWN HEREON ARE FINISHED GRADE.
13. CONTROLLED FILL:
A. CONTROLLED COMPACTION SHALL OCCUR IN ALL FILL SECTIONS FOR PAVEMENT, TRENCHES FOR UTILITIES, AND IN ANY AREA DESIGNATED ON THE DRAWINGS.
B. CONTROLLED FILLS MUST BE COMPACTED TO 95% DENSITY AS DETERMINED BY METHODS AS PER STANDARD PROCTOR AASHTO-19 OR ASTM-B698.
C. CONTROLLED FILLS SHALL BE COMPACTED IN EIGHT (8) INCH LIFTS (LOOSE THICKNESS) TO THE SPECIFIED DENSITY, BEGINNING FROM THE EXISTING GROUND SURFACE, UNLESS OTHERWISE APPROVED IN WRITING BY A QUALIFIED SOILS ENGINEER.
D. THE SURFACE AREA DIRECTLY BENEATH AREAS TO RECEIVE CONTROLLED FILLS OF LESS THAN FIVE (5) FEET IS TO BE DENuded OF ALL VEGETATION AND SCARIFIED AND COMPACTED TO A DEPTH OF SIX (6) INCHES TO THE SAME DENSITY AS THE CONTROLLED FILL TO BE PLACED THEREIN.
14. ALL TEST, STUDIES, ETC., WILL BE CARRIED OUT AT THE EXPENSE OF THE OWNER.

STORMWATER NARRATIVE

THIS SITE LIES WITHIN THE 100 YEAR FLOODPLAIN FOR THE POTOMAC RIVER, THEREFORE, STORMWATER MANAGEMENT(SWM) IS NOT REQUIRED.

PROJECT AND EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION:

THIS PROJECT PROPOSES TO RENOVATE AN EXISTING POOL. THIS WILL INCLUDE CONCRETE DECK ADDITION AREAS, THE INSTALLATION OF NEW FAMILY PLAY POOL AND DUAL SLIDES WITH TOWER, APPROXIMATELY 1.0 AC OF LAND WILL BE DISTURBED WITH THIS PROJECT.

EXISTING CONDITIONS:

ALL OF THIS PROJECT SITE IS WITHIN THE 100 YEAR FLOODPLAIN OF THE POTOMAC RIVER. THE EXISTING RAISED ASPHALT SERVICE ROAD IS AN EXISTING DRAINAGE DIVIDE WITH SWALES ON EITHER SIDE AT SOME POINTS.

GENERAL EROSION CONTROL NOTES:

DEVICES SHOWN BELOW ARE TO BE CONSIDERED MINIMUM EROSION AND SILTATION CONTROLS. ADDITIONAL CONTROLS MAY BE NECESSARY DUE TO CONTRACTOR PHASING OR OTHER UNANTICIPATED CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL DEVICES TO THOSE SHOWN IN ORDER TO CONTROL EROSION AND SILTATION.

EROSION AND SILTATION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE STANDARDS AND SPECIFICATIONS IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

TREES TO BE SAVED ARE TO BE TO BE PROTECTED FROM EQUIPMENT DAMAGE. PROTECTION TO BE LOCATED AT THE DRIP LINE OF TREES (LIMITS OF DISTURBANCE).

APPLY PERMANENT VEGETATION (SODDING AND SEEDING) WITH SOIL PREPARATION. AMENDMENTS AND SEED MIXTURE AS DETERMINED BY N.V.R.P.A.

EROSION/SEDIMENT CONTROL PROGRAM:

DUE TO THE SIMPLE NATURE OF THIS CONSTRUCTION BOTH THE STAGE I AND STAGE II EROSION SEDIMENT CONTROLS ARE INCLUDED ON THE SAME DRAWING.

EROSION CONTROL REQUIREMENTS

- 1. NO DISTURBED AREA SHALL BE LEFT DENuded FOR MORE THAN SEVEN (7) CALENDAR DAYS UNLESS AUTHORIZED BY THE DIRECTOR OR HIS AGENT (SPECIFIC AREAS TO BE DETERMINED IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION).
2. NO MORE THAN 50% OF THE SITE SHALL BE DENuded AT ONE TIME.
3. TOPSOIL THAT HAS BEEN STOCKPILED IS TO BE SURROUNDED BY SILT FENCE AND SHALL BE PROTECTED BY MULCH AND/OR TEMPORARY VEGETATION IMMEDIATELY AFTER GRADING.
4. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND MULCHED WITHIN FIVE (5) DAYS OF COMPLETION OF GRADING.
5. ANY DISTURBED AREA NOT PAVED, SODDED OR BUILT UPON BY NOVEMBER 1 OR DISTURBED AFTER NOVEMBER 1, IS TO BE SEEDED WITHIN FIFTEEN (15) DAYS WITH OATS, ABRUZZI RYE OR EQUIVALENT, AND MULCHED WITH STRAW OR HAY MULCH AT THE RATE OF TWO (2) TONS PER ACRE.

SEDIMENT CONTROL REQUIREMENTS

THE EROSION AND SILTATION CONTROL PROGRAM HAS BEEN PROPOSED IN TWO (2) STAGES WHERE THE STAGE I CONTROL FACILITIES SHALL BE INSTALLED BEFORE OTHER GRADING AND CONSTRUCTION STARTS AND THE STAGE II CONTROL FACILITIES SHALL BE INSTALLED AFTER THE FINAL GRADING.

CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THE STAGE I AND STAGE II PLANS. CONTROLS INSTALLED UNDER THE STAGE I PLAN MAY REQUIRE REVISIONS AS CONSTRUCTION PROGRESSES BUT ARE INTENDED TO REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL CONTROLS WILL BE PROVIDED UNDER STAGE II.

EROSION AND SILTATION CONTROL MEASURES FOR STAGE I WILL INCLUDE:

- 1. CONSTRUCTION ENTRANCE.
2. SILT FENCE.
3. TREE PROTECTION.

EROSION AND SILTATION CONTROL MEASURES FOR STAGE II WILL INCLUDE:

- 1. PROVIDE PERMANENT SEEDING.

VEGETATIVE MEASURES WILL INCLUDE:

- 1. TEMPORARY SEEDING (3.31) - NO AREA SHALL REMAIN DENuded FOR MORE THAN SEVEN (7) DAYS. TEMPORARY SEEDING MAY BE USED DURING SEASONS WHEN PERMANENT SEED IS PROHIBITED.
2. PERMANENT SEEDING (3.32) - ALL AREAS DENuded BY THIS CONSTRUCTION SHALL BE STABILIZED WITH APPROPRIATE TURF GRASSES, GROUND COVER, AND/OR OTHER ACCEPTABLE MEASURES TO BE DETERMINED BY OWNER.

ANTICIPATED PHASING OF CONSTRUCTION:

- 1. FLAG LIMITS OF GRADING AND ESTABLISH TREE PROTECTION MEASURES.
2. INSTALL STAGE I EROSION SEDIMENT CONTROLS.
3. RECEIVE O.K. FROM THE COUNTY INSPECTOR TO PROCEED.
4. REMOVE AND RELOCATE EXISTING CONCRETE DUMPSTER PAD AND ENCLOSURE.
5. REMOVE FENCES, FUNBRELLA ANCHORS, EXISTING WADING POOL, AND ALL OTHER ENTITIES CALLED OUT ON THE DEMOLITION PLAN.
6. PREPARE EXISTING CONCRETE DECK FOR MATCHING CONCRETE DECK EXTENSION.
7. INSTALL CONCRETE DECK EXTENSIONS, FAMILY PLAY POOL, DUAL WATER SLIDES AND TOWER, AND ALL FENCES CALLED OUT TO BE REPLACE ON THE GRADING PLAN.
8. REMOVE STAGE I EROSION/SEDIMENT CONTROLS.
9. INSTALL PERMANENT SEEDING (STAGE II EROSION SEDIMENT CONTROL).
10. REMOVAL OF ANY REMAINING EROSION AND SILTATION CONTROLS WITH THE APPROVAL OF THE COUNTY INSPECTOR.

EROSION AND SEDIMENT CONTROL NARRATIVE CONT

MAINTENANCE:

- 1. ALL MEASURES ARE TO BE INSPECTED DAILY BY THE SITE SUPERINTENDENT OR HIS REPRESENTATIVE. ANY DAMAGED MEASURES ARE TO BE REPAIRED BY THE END OF THE DAY.
2. TRAPPED SEDIMENT IS TO BE REMOVED AS REQUIRED TO MAINTAIN EFFICIENCY AND TO BE DISPOSED OF BY SPREADING ON-SITE.
3. CONTROLS MAY BE REMOVED AFTER AREAS ABOVE THEM HAVE BEEN STABILIZED AND WITH APPROVAL OF THE SITE INSPECTOR.

COMMONWEALTH OF VIRGINIA DEPARTMENT OF PUBLIC HEALTH COUNTY OF LOUDOUN 1 HARRISON STREET, S.E. P. O. BOX 7000 LEESBURG, VA 20177-7000 Phone 703/777-0234 Metro 703/478-8408 Fax 703/771-5023 TDD 703/771-5382 September 19, 2000

Mr. Tim Geisler Northern Virginia Regional Park Authority 5400 Ox Road Fairfax Station, Virginia 22039-1022

RE: LCTM 64/5

Dear Mr. Geisler:

Your request for a waiver to the Loudoun county policy SGP 3.11A has been approved with the condition that the well be abandoned as specified in the permit and the abandonment witnessed by this office. Should you have any questions concerning this matter, please feel free to contact me at (703) 777-0234.

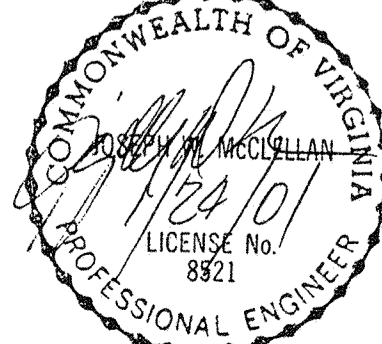
Respectfully, Jerry D. Franklin Sr. Environmental Health Specialist Division of Environmental Health

cc: file@d JDF/ATB/tdf a.geisler.ltr



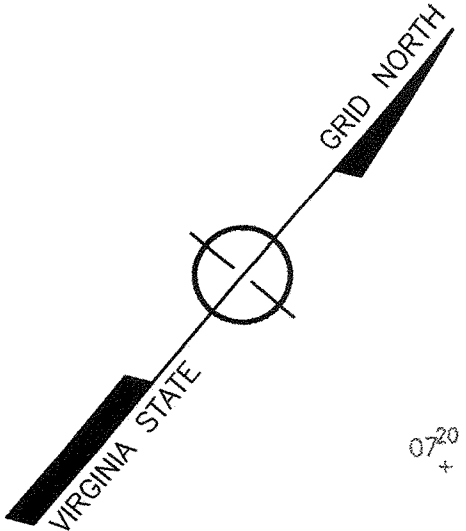
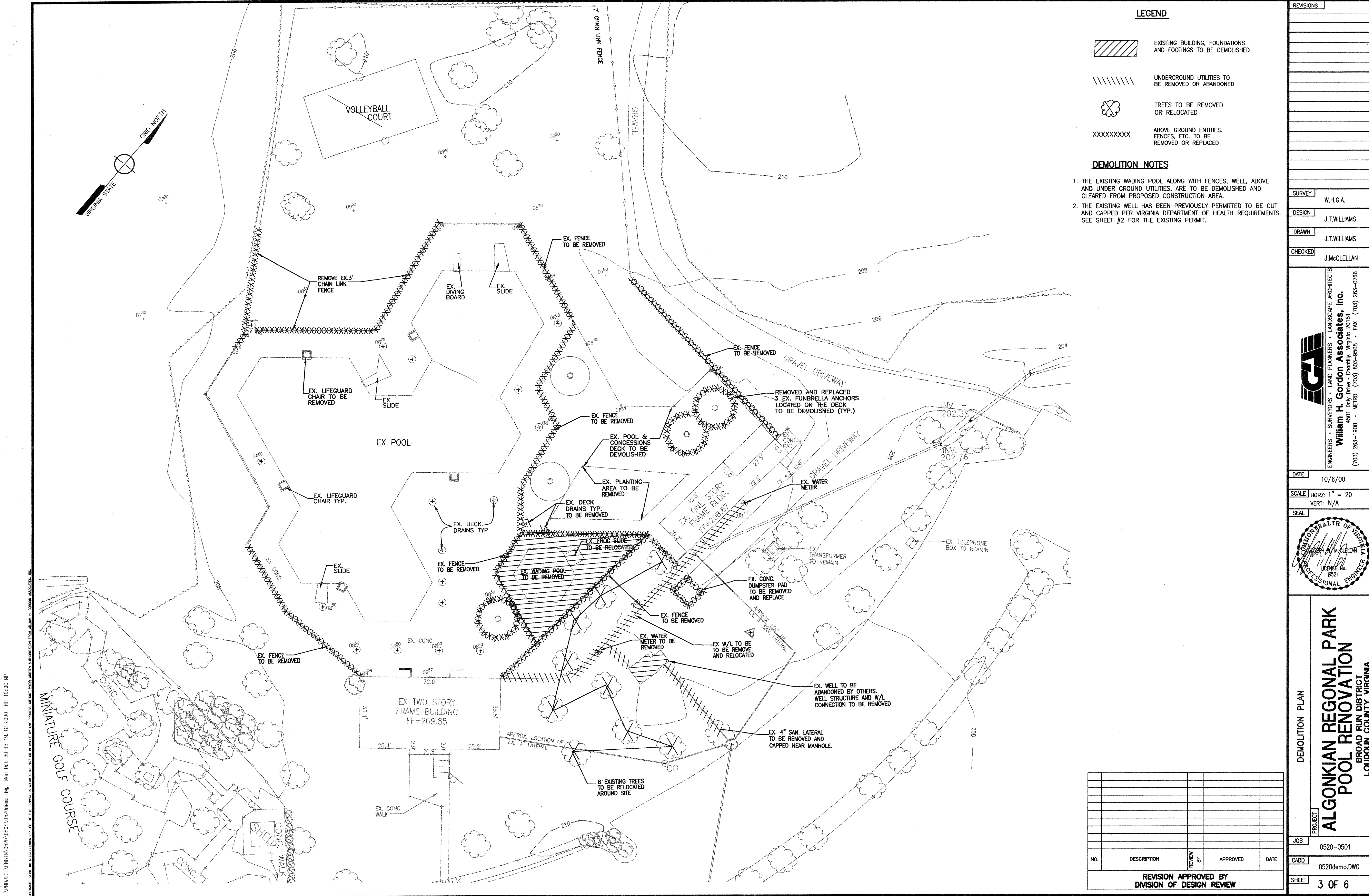
WHGA Proj #: 0520-0501 PROJECT NAME: Algonkian Regional Park Pool Renovation Project's Intended Use: Public Pool Facility Date: 23-Jan-01 Name of Owner: Northern Virginia Regional Park Authority Federal Tax I.D. No. Address: 5400 Ox Road Fairfax Station, Va. 22039 Telephone: (703) 352-5900 Contractor/Builder: To be determined. Address: Telephone: Architect/Engineer: William H. Gordon Associates Address: 4501 Daly Drive, Suite 200 Telephone: (703) 263-1900

Table with columns: TYPE, Qty, Unit, Price, Total. Rows include Construction Entrance, Construction Entrance w/ Wash Rack, Silt Fence, Super Silt Fence, Diversion Dike, Sediment Trap, Pipe Outlet Trap, Sediment Basin, Inlet Protection, Outlet Protection, Temporary Seeding, Permanent Seeding, Rip Rap, Stone Check Dam, Pipe Slope Drain, Tree Protection, Utility Stream Crossing, Soil Stabilization Mat, Inflation Factor.

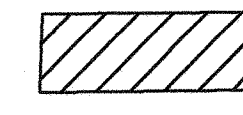
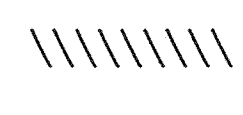




Well/Water System Construction Permit Loudoun County, Virginia Health Department Identification Number 1193 WAB 00 Map Reference #1575 General Information: New Repair Abandonment Upgrade Well ID # 1575 Based on the application for a well/water supply system construction permit filed in accordance with Chapter 1040, Codified Ordinances, a construction permit is hereby issued to: Owner Northern Virginia Regional Park Authority Telephone (540) 352-5900 Address 5400 Ox Rd. Fairfax, Va. 22039 If a well/water system which is to be constructed on Rt. 7 E. to Cascades Pkwy. go N. on Cascades Pkwy. to Park entrance L. at first Rd. to pool. Subdivision Section/Block Lot 64 5 DESIGN: Water supply, existing (describe) 11 B 12 13 To be installed: class 11 B Cased and Grouted to Bedrock plus 10' or a minimum Cased 12 13 Grouted 14 whichever is greater Well Location See Page 2 NOTE: INSPECTION RESULTS: Water supply location: Satisfactory yes no Drivers Report (S.W.2) Received yes no Well Construction Approval yes no Sanitation Date Well Driller Lic # Pump Installer Lic # Chemical Quality Data Received yes no N/A Pumping Data Received yes no N/A As Built sketch on page Bacteriological Sample Received yes no Water System Approved yes no Sanitation Date II. Criteria for approval of well and well yield are as follows: The well must produce a: A. Minimum of 1 gallon per minute for 6 continuous pumping hours after the well has been pumped out according to Part I, Sec. B of this permit. B. The pump test can be terminated early and well yield considered adequate if: 1. The well cannot be pumped out as stated in Part I B of this permit. 2. The Well yields 2.5 gpm or greater for 3 hours of continuous pumping after Part I B of this permit is completed. C. Sufficient storage and yield may be considered for approval. D. Person conducting the pump test shall collect a sample to be analyzed for constituents described in Codified Ordinances of Loudoun County Title 4, Chapter 1040, Appendix III. E. Replacement wells are exempt from this requirement. Date: 8/15/00 Issued by: Jen. J. Smith This Construction Permit Valid until 8/15/01 Date: 8/16/00 Reviewed by: [Signature]

REVISIONS SURVEY W.H.G.A. DESIGN J.T.WILLIAMS DRAWN J.T.WILLIAMS CHECKED J.McCLELLAN DATE OCTOBER 6, 2000 SCALE HORZ: N/A VERT: N/A SEAL PROFESSIONAL ENGINEER GENERAL NOTES & LETTERS PROJECT ALGONKIAN REGIONAL PARK POOL RENOVATION JOB 0520-0501 CADD 0520NT1.DWG SHEET 2 OF 6



LEGEND

-  EXISTING BUILDING, FOUNDATIONS AND FOOTINGS TO BE DEMOLISHED
-  UNDERGROUND UTILITIES TO BE REMOVED OR ABANDONED
-  TREES TO BE REMOVED OR RELOCATED
-  ABOVE GROUND ENTITIES, FENCES, ETC. TO BE REMOVED OR REPLACED

DEMOLITION NOTES

1. THE EXISTING WADING POOL ALONG WITH FENCES, WELL, ABOVE AND UNDER GROUND UTILITIES, ARE TO BE DEMOLISHED AND CLEARED FROM PROPOSED CONSTRUCTION AREA.
2. THE EXISTING WELL HAS BEEN PREVIOUSLY PERMITTED TO BE CUT AND CAPPED PER VIRGINIA DEPARTMENT OF HEALTH REQUIREMENTS. SEE SHEET #2 FOR THE EXISTING PERMIT.

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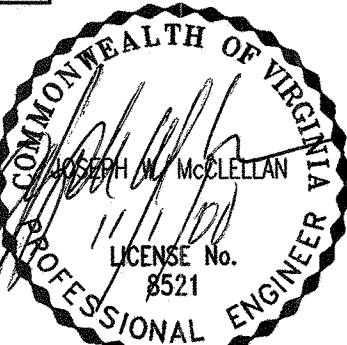
REVISIONS

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

SURVEY: W.H.G.A.
 DESIGN: J.T.WILLIAMS
 DRAWN: J.T.WILLIAMS
 CHECKED: J.McCLELLAN

GA
William H. Gordon Associates, Inc.
 ENGINEERS • SURVEYORS • LAND PLANNERS • LANDSCAPE ARCHITECTS
 4501 Daly Drive • Chantilly, Virginia 20151
 (703) 263-1900 • METRO (703) 803-9508 • FAX (703) 263-0786

DATE: 10/6/00
 SCALE: HORIZ: 1" = 20'
 VERT: N/A

SEAL: 

DEMOLITION PLAN
ALGONKIAN REGIONAL PARK POOL RENOVATION
 BROAD RUN DISTRICT
 LOUDOUN COUNTY VIRGINIA

JOB: 0520-0501
 CADD: 0520demo.DWG
 SHEET: 3 OF 6

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY
DIVISION OF DESIGN REVIEW

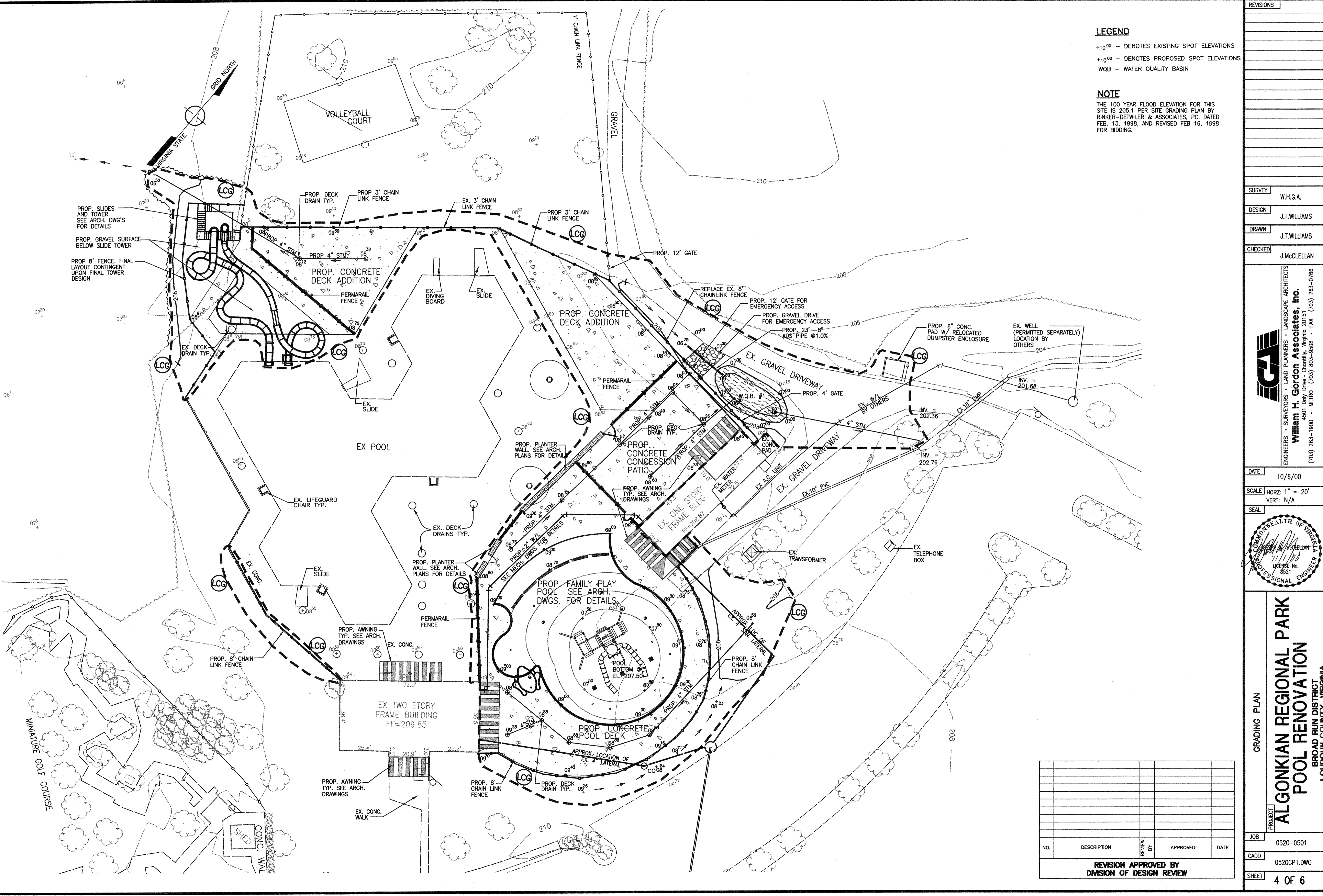
REVISIONS

LEGEND

- +10⁰⁰ - DENOTES EXISTING SPOT ELEVATIONS
- +10⁰⁰ - DENOTES PROPOSED SPOT ELEVATIONS
- WQB - WATER QUALITY BASIN

NOTE

THE 100 YEAR FLOOD ELEVATION FOR THIS SITE IS 205.1 PER SITE GRADING PLAN BY RINKER-DETWILER & ASSOCIATES, P.C. DATED FEB. 13, 1998, AND REVISED FEB 16, 1998 FOR BIDDING.



SURVEY	W.H.G.A.
DESIGN	J.T.WILLIAMS
DRAWN	J.T.WILLIAMS
CHECKED	J.McCLELLAN

W.H.G.A.
William H. Gordon Associates, Inc.
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 4501 Daly Drive • Charlottesville, Virginia 20151
 (703) 263-1900 • METRO (703) 803-9508 • FAX (703) 263-0786

DATE 10/6/00
 SCALE HORZ: 1" = 20'
 VERT: N/A

COMMONWEALTH OF VIRGINIA
 WILLIAM H. GORDON
 LICENSE NO. 8521
 PROFESSIONAL ENGINEER

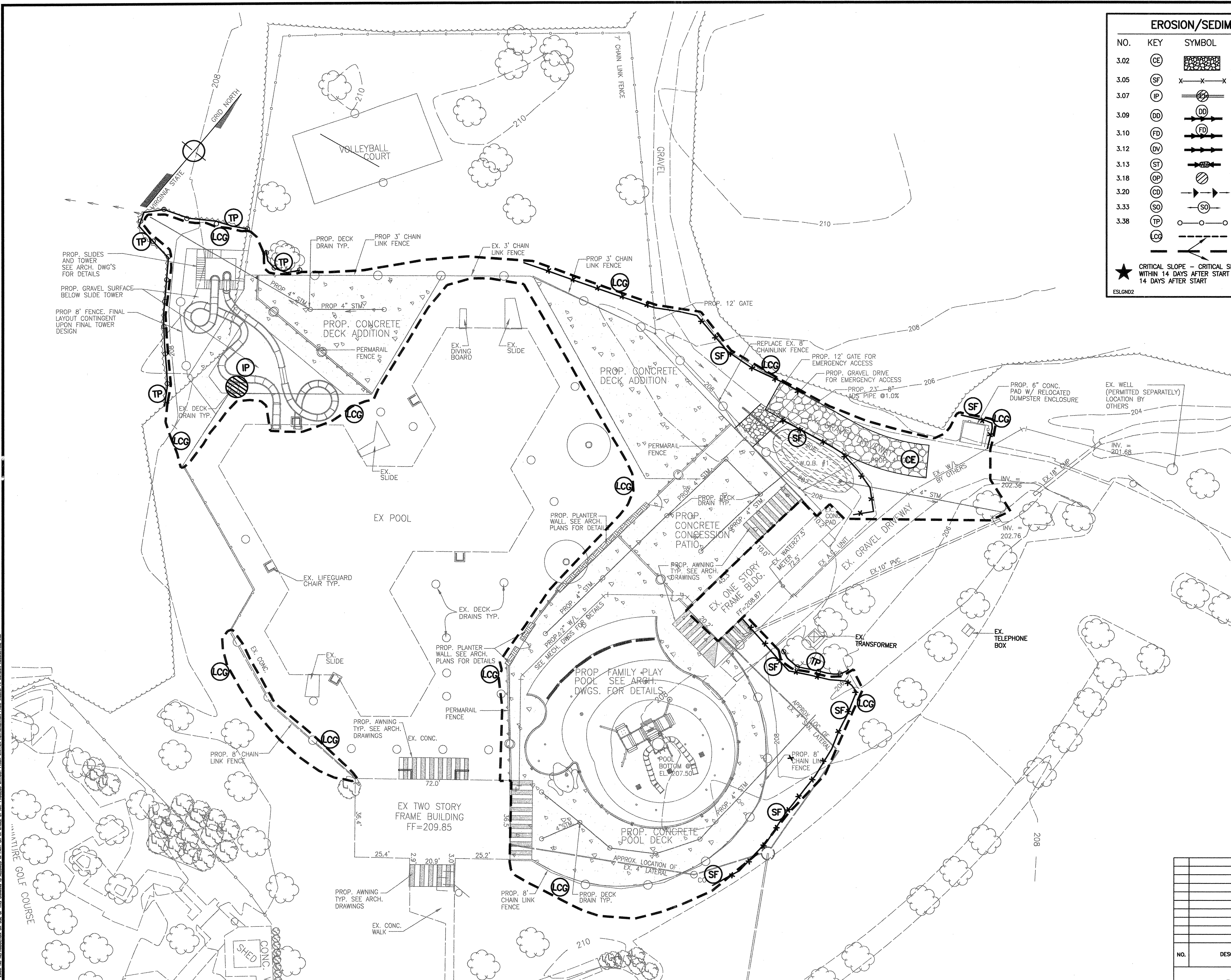
GRADING PLAN
**ALGONKIAN REGIONAL PARK
 POOL RENOVATION**
 BROAD RUN DISTRICT
 LOUDOUN COUNTY, VIRGINIA

JOB	0520-0501
CADD	0520GP1.DWG
SHEET	4 OF 6

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY
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EROSION/SEDIMENT CONTROL LEGEND			
NO.	KEY	SYMBOL	DESCRIPTION
3.02	CE	[Symbol: Temporary Gravel Construction Entrance]	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
3.05	SF	[Symbol: Silt Fence]	SILT FENCE
3.07	IP	[Symbol: Storm Drain Inlet Protection]	STORM DRAIN INLET PROTECTION
3.09	DD	[Symbol: Temporary Diversion Dike]	TEMPORARY DIVERSION DIKE
3.10	FD	[Symbol: Temporary Fill Diversion]	TEMPORARY FILL DIVERSION
3.12	DV	[Symbol: Diversion]	DIVERSION
3.13	ST	[Symbol: Temporary Sediment Trap]	TEMPORARY SEDIMENT TRAP
3.18	OP	[Symbol: Outlet Protection]	OUTLET PROTECTION
3.20	CD	[Symbol: Check Dams]	CHECK DAMS
3.33	SO	[Symbol: Sodding]	SODDING
3.38	TP	[Symbol: Tree Protection]	TREE PROTECTION
	LCG	[Symbol: Limits of Clearing & Grading]	LIMITS OF CLEARING & GRADING
		[Symbol: Drainage Divides]	DRAINAGE DIVIDES

★ CRITICAL SLOPE - CRITICAL SLOPE TO BE SEEDED, MULCHED AND TACKED WITHIN 14 DAYS AFTER START OF GRADING, OR SODDED AND PEGGED WITHIN 14 DAYS AFTER START

ESL.GND2

REVISIONS

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

SURVEY: W.H.G.A.
 DESIGN: J.T.WILLIAMS
 DRAWN: J.T.WILLIAMS
 CHECKED: J.McCLELLAN

DATE: 10/6/00
 SCALE: HORZ: 1" = 20'
 VERT: N/A

SEAL: [Professional Engineer Seal]

EROSION SEDIMENT CONTROL PHASE 1 & 2
ALGONKIAN REGIONAL PARK POOL RENOVATION
 BROAD RUN DISTRICT
 LOUDOUN COUNTY, VIRGINIA

PROJECT: 0520-0501
 CADD: 0520ES.DWG
 SHEET: 5 OF 6

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

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 PROJECT: 0520-0501-0520ES.DWG LAYOUT1_01/24/01 04:30:48 PM 10500 240 8.0

**BMP WATER QUALITY BASINS
EXAMPLE COMPUTATIONS**

**BMP VOLUME COMPUTATION FOR
WATER QUALITY BASIN #1**

DRAINAGE AREA = 0.30 ACRES

VOLUME OF FIRST INCH OF RAINFALL RUNOFF (BMP VOLUME REQUIRED) = $(1.73 \text{ ac})(43,560 \text{ ft}^2/\text{ac})(1.0 \text{ in}) / (12 \text{ in/ft}) = 1,117 \text{ CF}$

BMP WATER SURFACE ELEVATION = 207.0 FT
BMP VOLUME PROVIDED @ BMP WSE = 1,120 CF

BMP 24 HOUR DRAWDOWN COMPUTATION
AVERAGE ORIFICE FLOW IS APPROXIMATELY 60 PERCENT OF PEAK ORIFICE FLOW (ORIFICE SIZING DOES NOT FACTOR OUTFALL RESTRICTIONS DUE TO STONE AND/OR FILTER FABRIC)

WATER SURFACE ELEVATION = 207.0 FT
ORIFICE ELEVATION = 202.8 FT
ORIFICE HEAD = 4.2 FT

AVERAGE FLOW = $\frac{1,120 \text{ CF}}{(24 \text{ hr})(60 \text{ min/hr})(60 \text{ sec/min})} = 0.013 \text{ CFS}$

ALLOWABLE PEAK ORIFICE FLOW (AVERAGE/60%=PEAK) = $\frac{0.013}{0.60} = 0.02 \text{ CFS}$

OUTLET ORIFICE DIAMETER = 0.5 IN
OUTLET ORIFICE AREA = 0.0025 SF

PEAK FLOW THROUGH THIS ORIFICE = $(Cd)(0.005 \text{ SF})\sqrt{(0.50)(g)(4.2 \text{ FT})} = 0.0123 \text{ CFS}$
CONSTANTS USED FOR ALL PEAK FLOW COMPS:
 $Cd=0.6$ =OVERALL ORIFICE COEFF. OF DISCHARGE
 $g=32.2 \text{ ft/sec}^2$ =ACCELERATION OF GRAVITY

ACTUAL DRAWDOWN = $\frac{1,120 \text{ CF}}{(0.60)(0.0123 \text{ CFS})(60 \text{ sec/min})(60 \text{ min/hr})} = 42.0 \text{ HRS}$
(USING AVG. FLOW, (AVERAGE/60%))
AVERAGE=PEAK*60%

BMP WATER QUALITY BASINS COMPUTATION TABLE

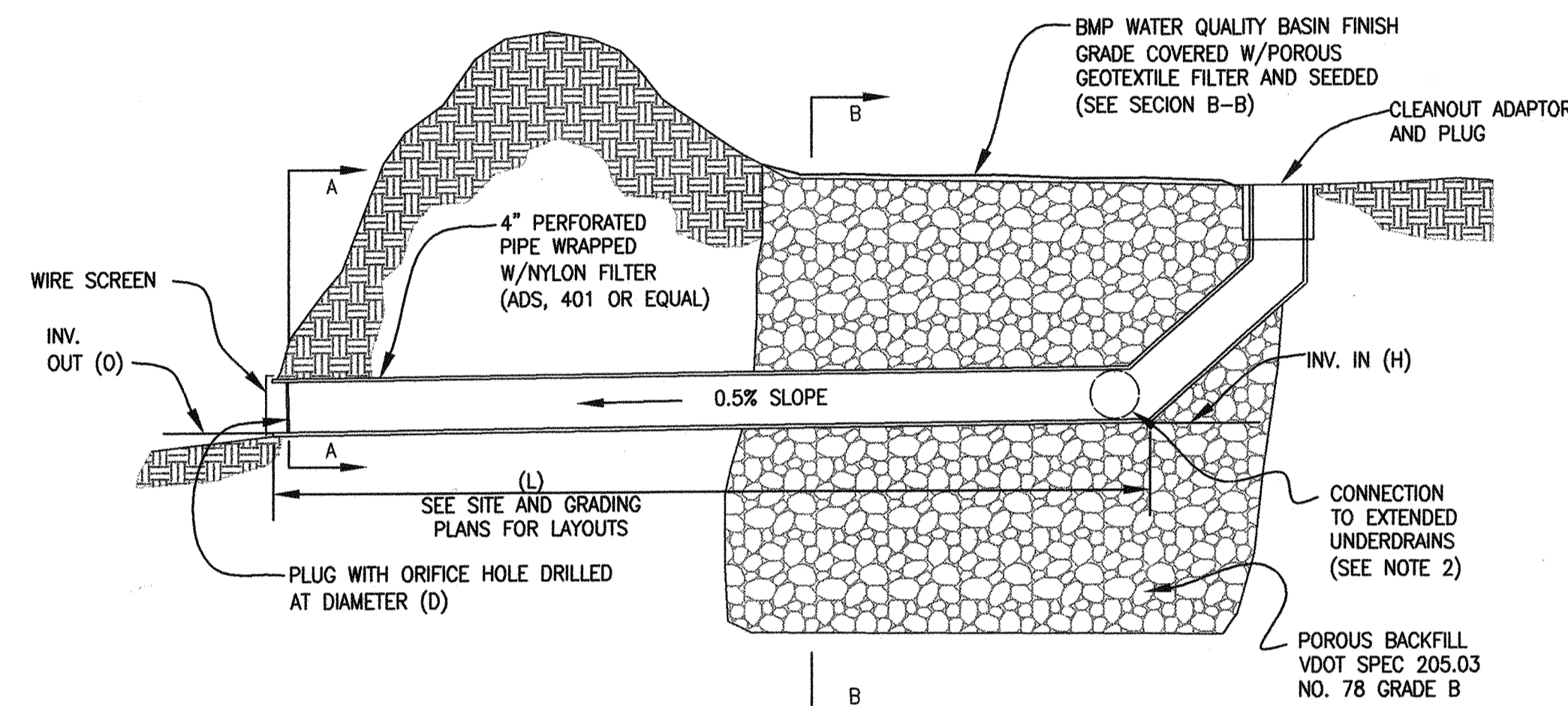
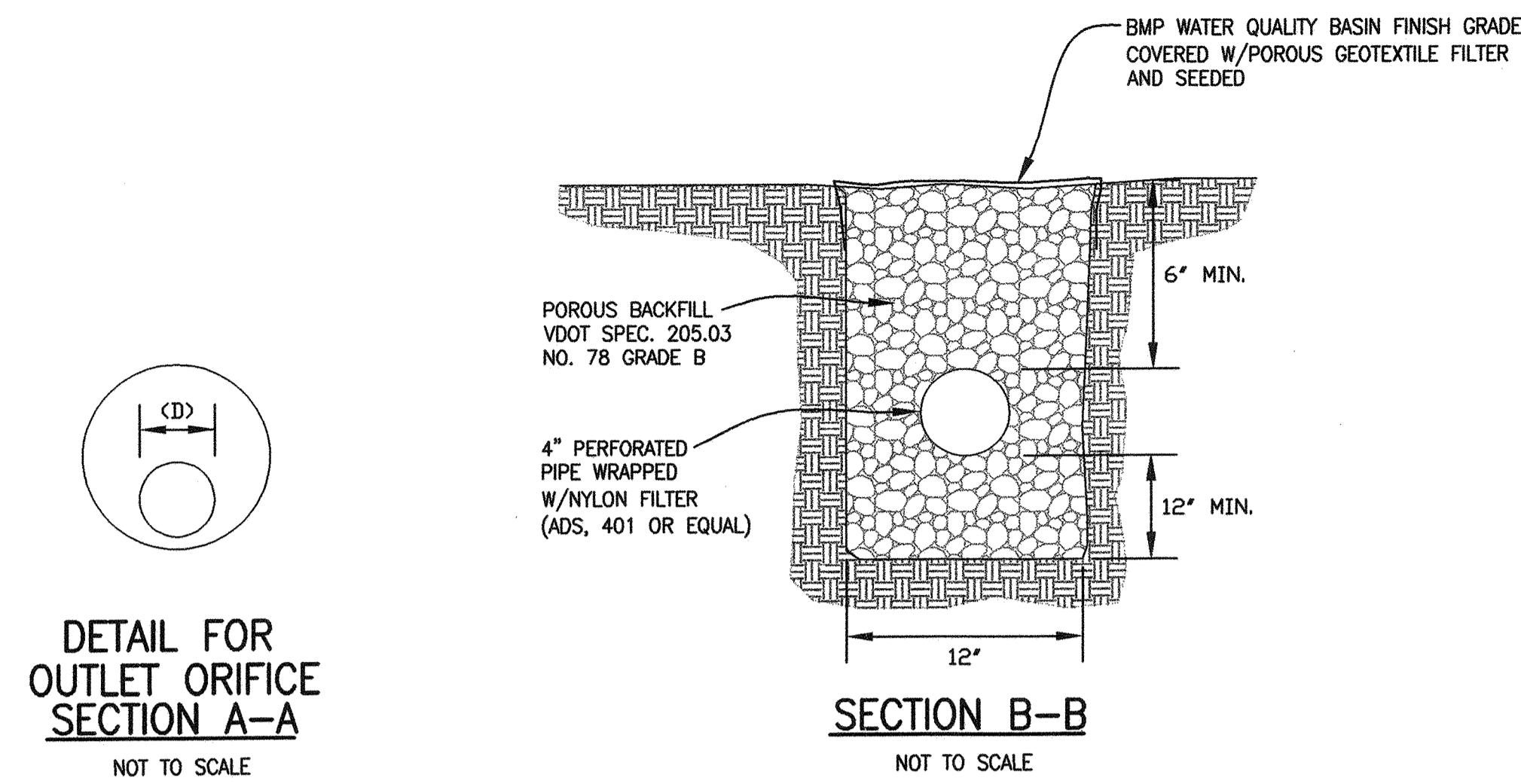
BMP WATER QUALITY BASIN #	SHOWN ON GRADING PLAN SHEET #	4" PIPE INV. OUT OF ORIFICE (O) FT.	4" PIPE INV. IN (H) FT.	CLEANOUT PIPE LENGTH (L) FT.	OVERFLOW/BMP WATER SURFACE ELEV. (B) FT.	OUTLET ORIFICE DIAMETER (D) IN.	DRAINAGE AREA AC.	BMP VOLUME REQUIRED CF	BMP VOLUME PROVIDED CF	ORIFICE HEAD FT.	AVERAGE FLOW CFS	ALLOWABLE PEAK ORIFICE FLOW CFS	OUTLET ORIFICE AREA SF	PEAK FLOW THIS ORIFICE CFS	ACTUAL DRAWDOWN HRS. (30 HR. MIN.)
1	4	202.80	203.18	75	207	0.50	0.30	1,117	1,120	4.2	0.013	0.02	0.0025	0.0123	42

BMP NARRATIVE

BEST MANAGEMENT PRACTICES (BMP) HAVE BEEN PROVIDED FOR ONLY THE INCREASE IN IMPERVIOUS AREA FOR THIS SITE PLAN SINCE THIS SITE WAS DEVELOPED PRIOR TO FACILITIES STANDARDS MANUAL REQUIRING BMP. THE INCREASE IN IMPERVIOUS AREA IS APPROXIMATELY 13,403 SQUARE FEET (SEE MAP THIS SHEET). WITH THE ADDITION OF A WATER QUALITY BASIN, THIS SITE PROVIDES THE REQUIRED BMP STORAGE AND DRAWDOWN FOR THE INCREASE IN IMPERVIOUS AREA.

OUTFALL NARRATIVE

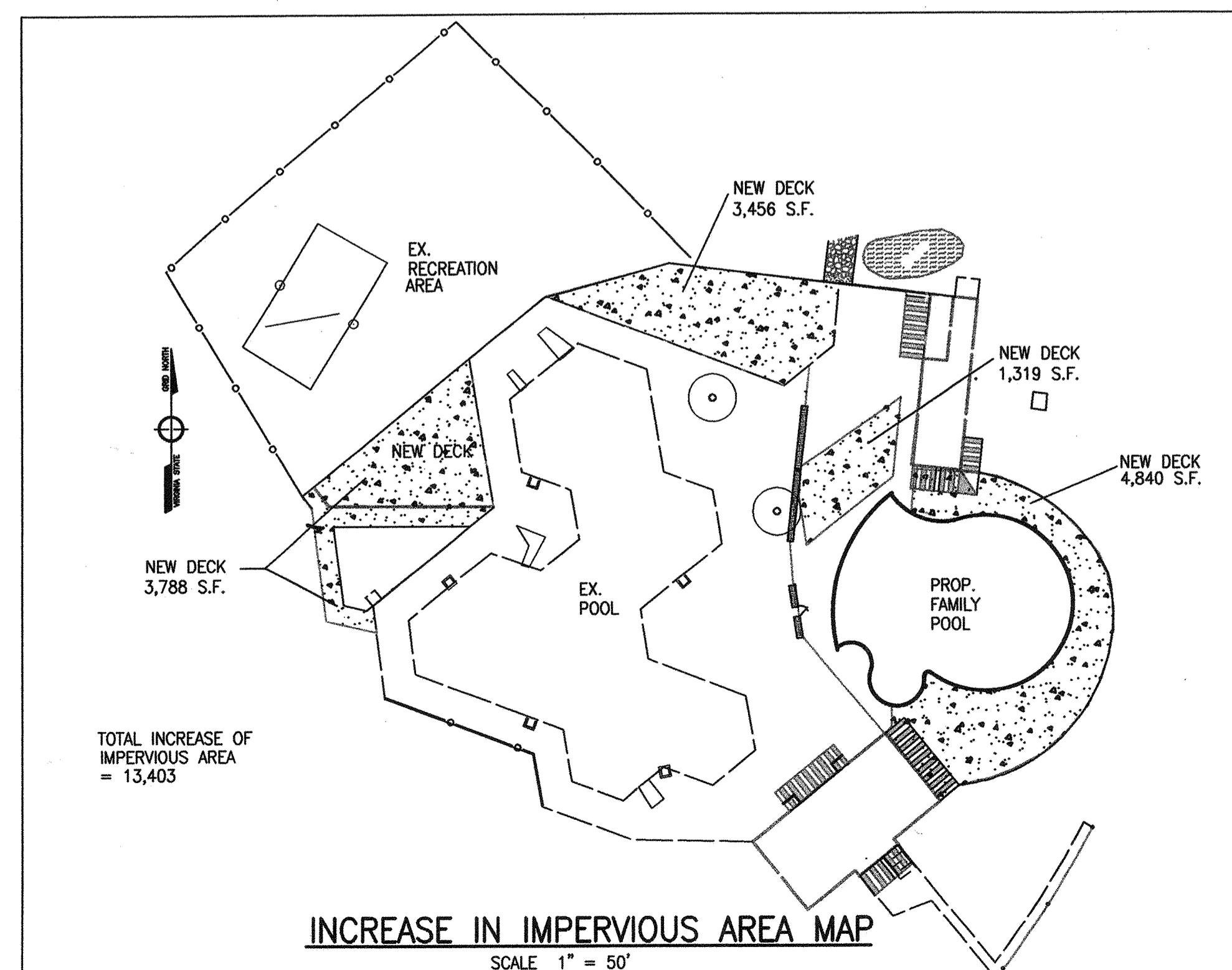
THIS SITE LIES WITHIN THE 100 YEAR FLOODPLAIN FOR THE POTOMAC RIVER AND, THEREFORE IN THE OPINION OF THIS ENGINEER HAS AN ADEQUATE OUTFALL PER THE STANDARDS SET FORTH IN THE LOUDOUN COUNTY FACILITIES STANDARDS MANUAL.



TYPICAL DETAIL FOR BMP WATER QUALITY BASIN OUTLET
NOT TO SCALE

NOTES:

- CLEANOUT LENGTH (L) TO BE FROM INVERT OUT TO FIRST PIPE JUNCTION.
- EXTENDED UNDERDRAINS TO BE FIELD LOCATED WITH SLOPE 0.5%.



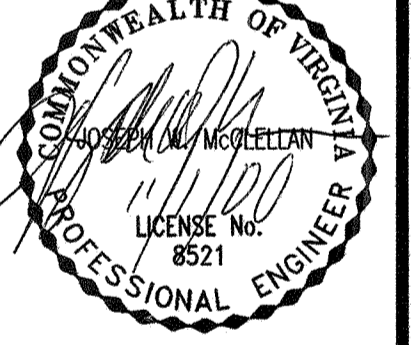
INCREASE IN IMPERVIOUS AREA MAP
SCALE 1" = 50'

REVISIONS

SURVEY	W.H.G.A.
DESIGN	R. WALKER
DRAWN	J.T.WILLIAMS
CHECKED	R. WALKER

ENGINEERS - SURVEYORS - LAND PLANNERS - LANDSCAPE ARCHITECTS
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DATE: OCTOBER, 2000
SCALE: HORZ: N/A
VERT: N/A
SEAL:



PROJECT: **ALGONKIAN REGIONAL PARK POOL RENOVATION**
BROAD RUN DISTRICT
LOUDOUN COUNTY, VIRGINIA

WATER QUALITY (BMP) FACILITY AND NARRATIVES

JOB: 0520-0501
CADD: 0520BMP.DWG
SHEET: 6 OF 6

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY
DIVISION OF DESIGN REVIEW