CERTIFICATE OF AUTHENTICITY

THIS IS TO CERTIFY THAT THE FOLLOWING ELECTRONIC RECORDS ARE TRUE AND ACCURATE REPRODUCTIONS OF THE ORIGINAL RECORDS OF JAMES CITY COUNTY GENERAL SERVICES DEPARTMENT- STORMWATER DIVISION; WERE SCANNED IN THE REGULAR COURSE OF BUSINESS PURSUANT TO GUIDELINES ESTABLISHED BY THE LIBRARY OF VIRGINIA AND ARCHIVES; AND HAVE BEEN VERIFIED IN THE CUSTODY OF THE INDIVIDUAL LISTED BELOW.

BMP NUMBER: **SC-008**

DATE VERIFIED: **May 9, 2012**

QUALITY ASSURANCE TECHNICIAN: **Leah Hardenbergh**

Leah Hardenbergh

LOCATION: WILLIAMSBURG, VIRGINIA

Stormwater Division

MEMORANDUM

DATE: March 10, 2010

TO: Michael J. Gillis, Virginia Correctional Enterprises Document Management Services

FROM: Jo Anna Ripley, Stormwater

PO: 270712

RE: Files Approved for Scanning

General File ID or BMP ID: SC008

PIN: 5920100028

Subdivision, Tract, Business or Owner Name (if known): Virginia Natural Gas

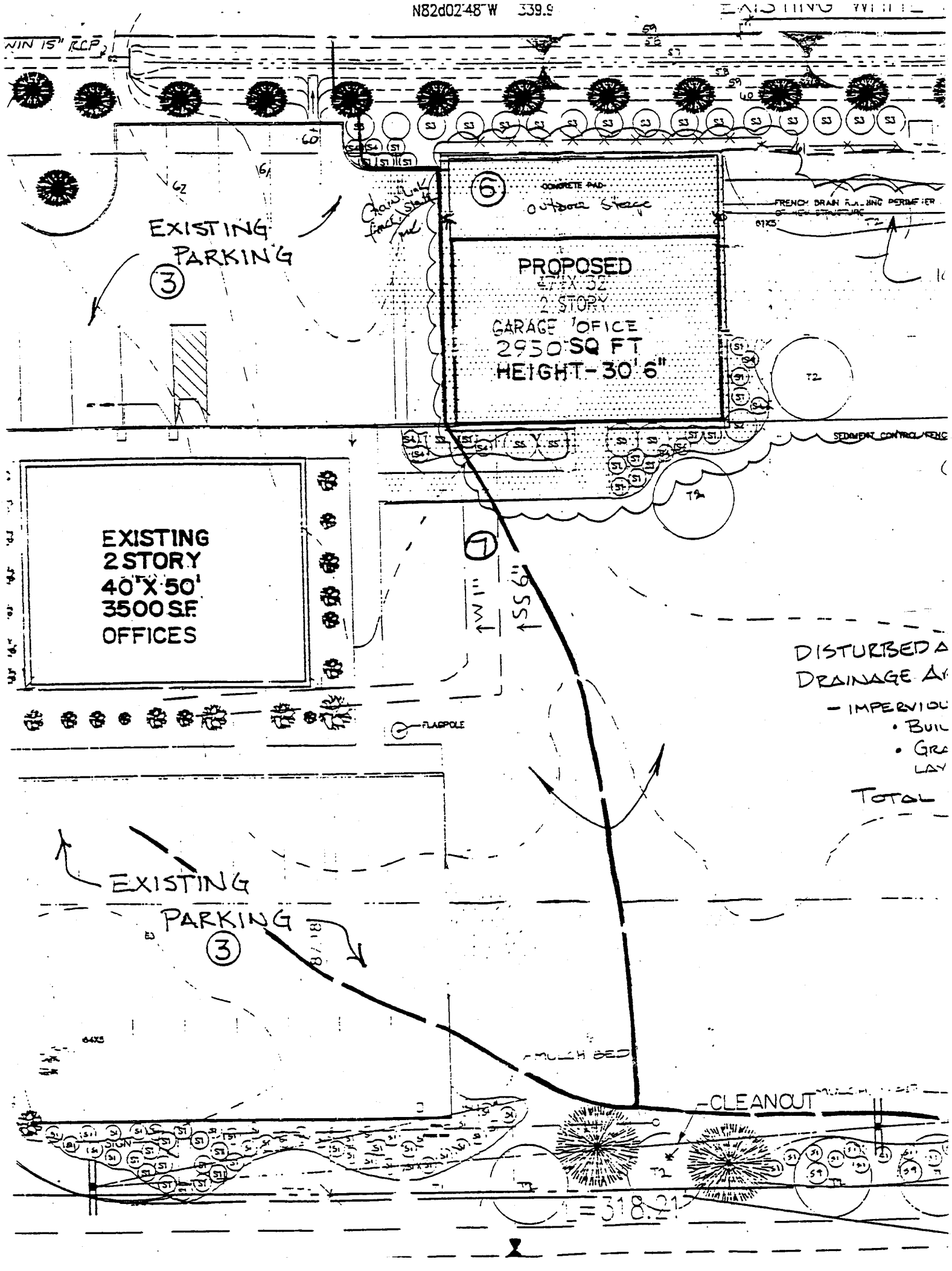
Property Description: Utility

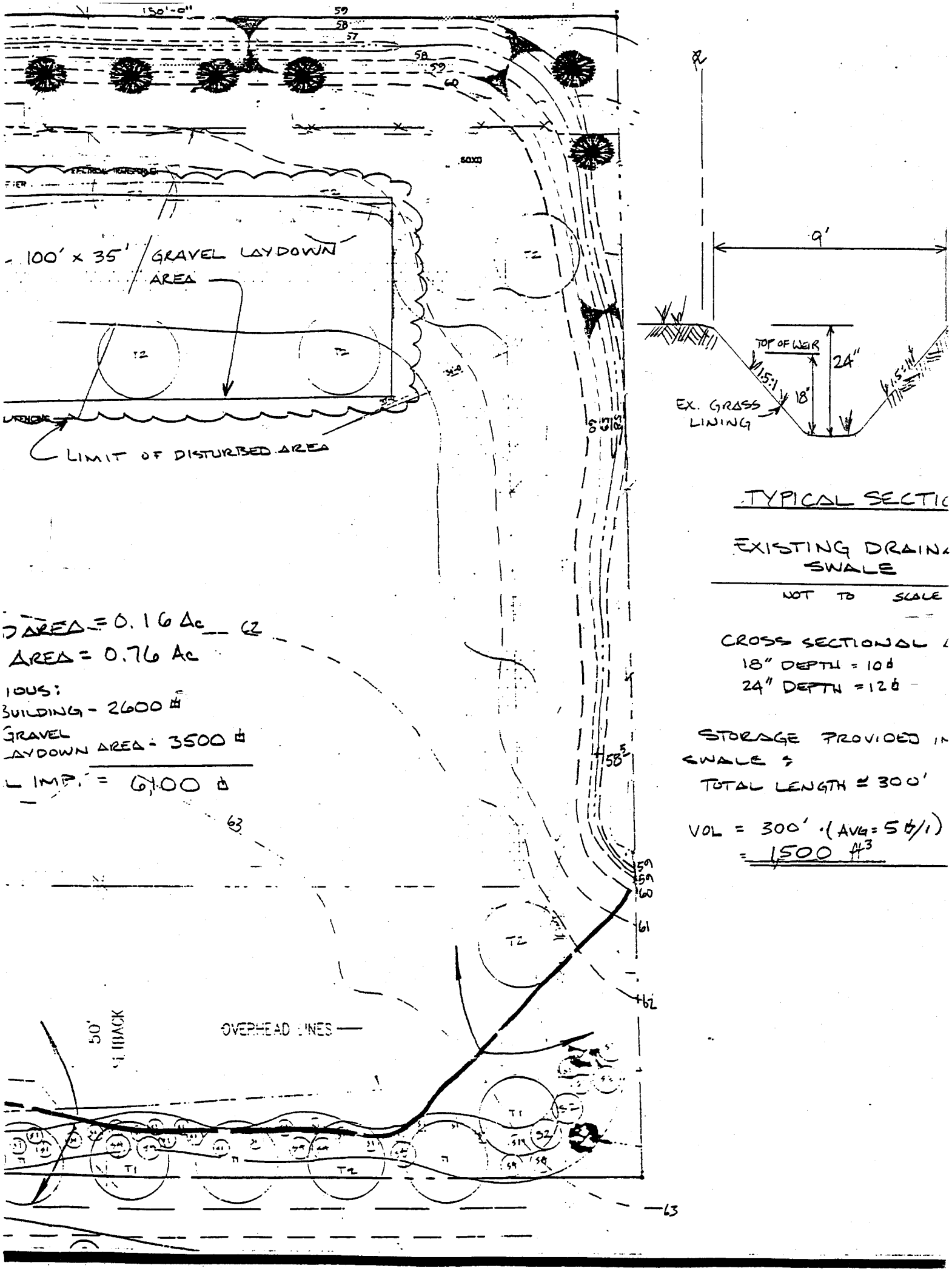
Site Address: 8985 Pocahontas Trail

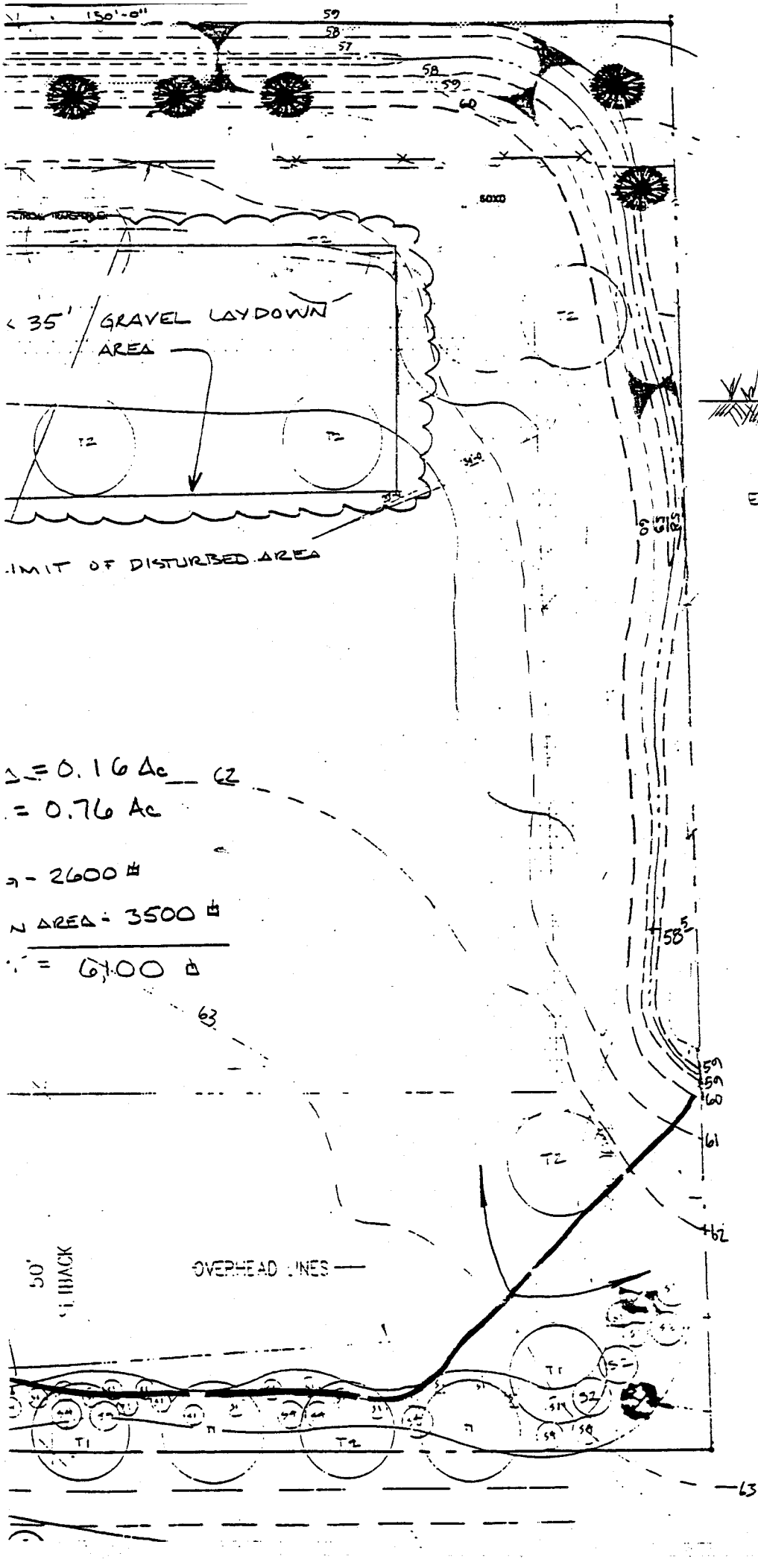
(For internal use only) **Box** 8 **Drawer:** 5

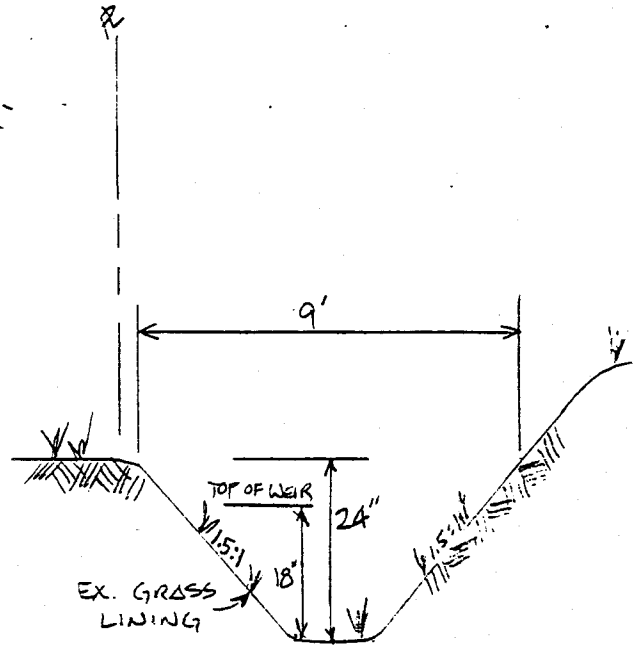
Agreements: (in file as of scan date) **N** **Book or Doc#:** **Page:**

Comments


N82d02'48"W 339.9
EXISTING WATER
WIN 15" RCP
EXISTING PARKING
3
6
CONCRETE PAD
Outdoor Stage
FRENCH DRAIN RUNNING PERIMETER OF NEW STRUCTURE
PROPOSED
47'X 32'
2 STORY
GARAGE OFICE
2950 SQ FT
HEIGHT-30' 6"
SEDIMENT CONTROL FENCE
EXISTING
2 STORY
40'X 50'
3500 S.F.
OFFICES
7
FLAGPOLE
DISTURBED A
DRAINAGE A
- IMPERVIOU
• BUIL
• GRA
LAY
TOTAL
EXISTING PARKING
3
MULCH BED
CLEANOUT
SIGN
= 318.21


150'-0"
100' x 35' GRAVEL LAYDOWN AREA
LIMIT OF DISTURBED AREA
AREA = 0.16 Ac
AREA = 0.76 Ac
BUILDING - 2600
GRAVEL LAYDOWN AREA - 3500
IMP. = 6100
OVERHEAD LINES
50' SETBACK
9'
TOP OF WEIR
24"
18"
1.5:1
EX. GRASS LINING
TYPICAL SECTION
EXISTING DRAINAGE SWALE
NOT TO SCALE
CROSS SECTIONAL
18" DEPTH = 10
24" DEPTH = 12
STORAGE PROVIDED IN SWALE
TOTAL LENGTH ≅ 300'
VOL = 300' (AVG = 5/1)
= 1500 FT³





TYPICAL SECTION

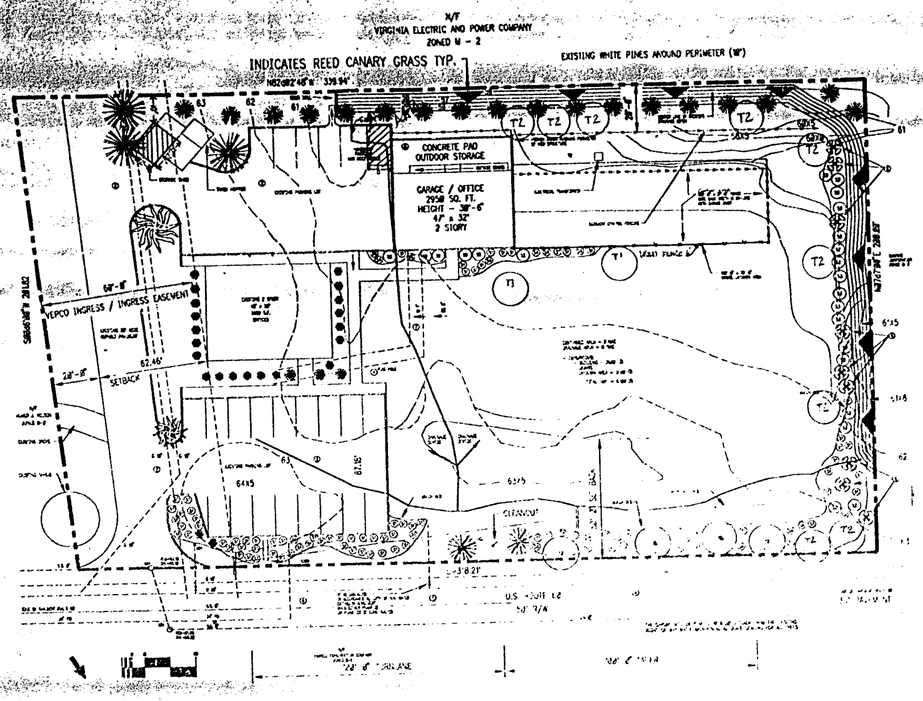
EXISTING DRAINAGE SWALE

NOT TO SCALE

CROSS SECTIONAL AREA:
18" DEPTH = 10 ft
24" DEPTH = 12 ft

STORAGE PROVIDED IN SWALE =
TOTAL LENGTH ≅ 300'

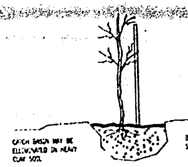
VOL = 300' · (AVG = 5 ft/1) =
= 1500 ft³



PLANTING INFORMATION

HOW TO PLANT TREES AND SHRUBS (BAREROOT)

1. DIG HOLE LARGE ENOUGH TO ACCOMODATE ROOTS IN NATURAL POSITION
2. PRUNE OFF ANY BROKEN OR DAMAGED ROOTS, SET PLANT IN HOLE.
3. SET TREE IN HOLE SO AS TO BE SLIGHTLY HIGHER THAN GROWS IN NURSERY.
4. FILL HOLE 2/3 FULL WITH WELL PREPARED PLANTING SOIL (A MIXTURE OF PEAT MOSS, COMPOST AND SAND)
5. PUSH SOIL BY FILLING HOLE WITH WATER. BE SURE THAT ALL AIR POCKETS ARE DISCHARGE.
6. FILL REMAINING HOLE BUT BE SURE TO LEAVE A SLIGHT DEPRESSION TO ACT AS A CATCH BASIN FOR WATER.
7. IF NECESSARY, SHAKE TREE AS EXPERIENCED
8. MULCH WITH PINESTRAW OR BARK.

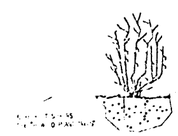


HOW TO PLANT EVERGREENS

1. DIG HOLE LARGE ENOUGH TO PLACE ONE FOOT OF SOIL BELOW THE PLANT BALL AND ONE FOOT OF SOIL ON ALL SIDES.
2. SET TREE IN HOLE SO AS TO BE SLIGHTLY HIGHER THAN GROWS IN NURSERY
3. FILL HOLE WITH GOOD PROBABLE TOP SOIL 2/3 FULL (A MIXTURE OF 1/3 PEAT MOSS, 2/3 COMPOST AND TO 2/3 SAND).
   PACK SOIL BY FILLING HOLE WITH WATER.
4. FINISH FILLING HOLE WITH SOIL, LEAVING SAUCER (LIKE) TWO INCHES OF SOIL IN A LOOSE CONDITION
5. MAKE A CATCH BASIN FOR WATER AROUND THE PLANT
6. MULCH WITH PINES AND OR BARK

HOW TO PLANT EVERGREENS

1. DIG HOLE LARGE ENOUGH TO PLACE SOIL ONE FOOT OF SOIL BELOW CONTAINER BALL AND SIX INCHES ON ALL SIDES.
2. CAREFULLY REMOVE CONTAINER. CUT BALL [illegible] BE WITH HANDS SO THAT ROOTS WILL BE IN SOCKETS SOIL
   ALWAYS LIFT PLANT BY ROOT BALL, NEVER BY THE TOP
3. SET TREE IN HOLE SO AS TO BE SLIGHTLY HIGHER THAN GROWS IN NURSERY
4. FILL HOLE 2/3 FULL WITH WELL PREPARED PLANTING SOIL (A MIXTURE OF PEAT MOSS, COMPOST AND SAND)
5. [illegible] WITH HOSE, LEAVING SAUCER (LIKE) TWO INCHES OF SOIL IN A LOOSE CONDITION
6. MULCH WITH PINES AND OR BARK



LAND USE SUMMARY

ITEM	SQUARE FEET	PERCENTAGE	ACRES
AREA BUILDING	3,224 SF	5.4%	.26 ACRES
AREA PAVEMENT	15,524 SF	24.6%	1.24 ACRES
GREEN AREA	45,249 SF	70%	1.68 ACRES
TOTAL AREA	64,697 SF	100%	1.68 ACRES

ZONING M-2 GENERAL INDUSTRIAL DISTRICT

GENERAL NOTES
1. LAND IS LEVEL SLOPING TO SOUTHWEST CORNER
2. SITE PLAN IS BASED ON BOUNDARY SURVEY BY JOHN N. BALWIN & ASSOCIATES.
3. TOPO IS BASED ON JAMES CITY COUNTY DATA
4. PLAN RECORDED ON APRIL 27, 1959 (SEE ATTACHED SURVEY PLAN)

NEW LANDSCAPE VEGITATION

SYMBOL	SHRUB		SIZE
S1	DWARF TAUPON HOLLY	83	3 GAL 18"
S2	PYRAMIDAL ARBORVITAE	4	3 GAL 3'
S3	PHOTINIA	15	3 GAL 24"
S4	CLEYERA	15	3 GAL 24"
S5	DWARF BURFORD HOLLY	4	3 GAL 24"
	TREE		
T1	VIRGINIA PINE OR SPRUCE	8	8' / 1 1/2"
T2	ARISTOCRAT PEAR OR MAPLE	13	8' / 1 1/2"

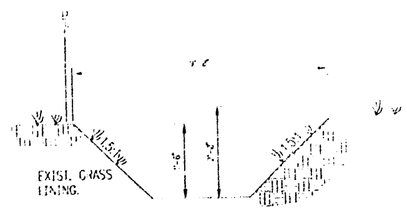
LEGEND

NEW TOPOGRAPHIC LINES

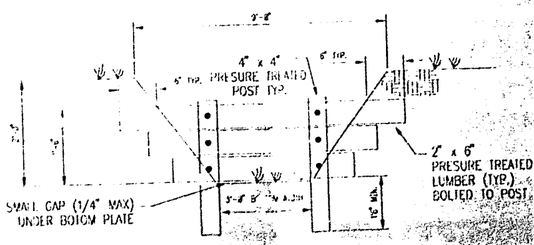
EXISTING TOPOGRAPHIC LINES

NOTES:

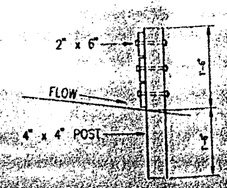
1. NEW WATER SERVICE IS TO ACCOMMODATE FUTURE CONSTRUCTION
2. EXISTING ENTRANCE
3. EXISTING PARKING AISLES & EASEMENT
4. EXISTING TURNLANE
5. EXISTING 8" WHITE PINES
6. ---
7. WATER & SEWER TO TIE INTO EXISTING BUILDING SERVICE
8. 30% OF NEW PLANTING WILL BE 8' TALL & 2 1/2" IN DIAMETER. 60% OF NEW PLANTING WILL BE 8' TALL & 1 1/2" IN DIAMETER.
9. PLANTING WILL BE APPROPRIATELY STAGGERED.
10. THIS SITE PLAN IS AN AMENDMENT TO SP-94-92 FOR THE ADDITION OF THE FOLLOWING:
    A. MODIFICATION OF LANDSCAPE PLAN.
    B. MODIFICATION TO THE BMP'S



TYPICAL SECTION
EXISTING DRAINAGE SWALE
N.T.S.



WEIR WALL
N.T.S.



PARKING CALCULATIONS

EXISTING OFFICE STRUCTURE --- 3520 SF
REQUIRE PER ORDINANCE 28-12
(1) PARKING SPACE PER 250SF ---------- 14

PROPOSED GARAGE FACILITY 1450SF
4 PERSON MAXIMUM OCCUPANCY
(1) PARKING SPACE FOR EVERY 2 OCCUPANTS ---------- 02

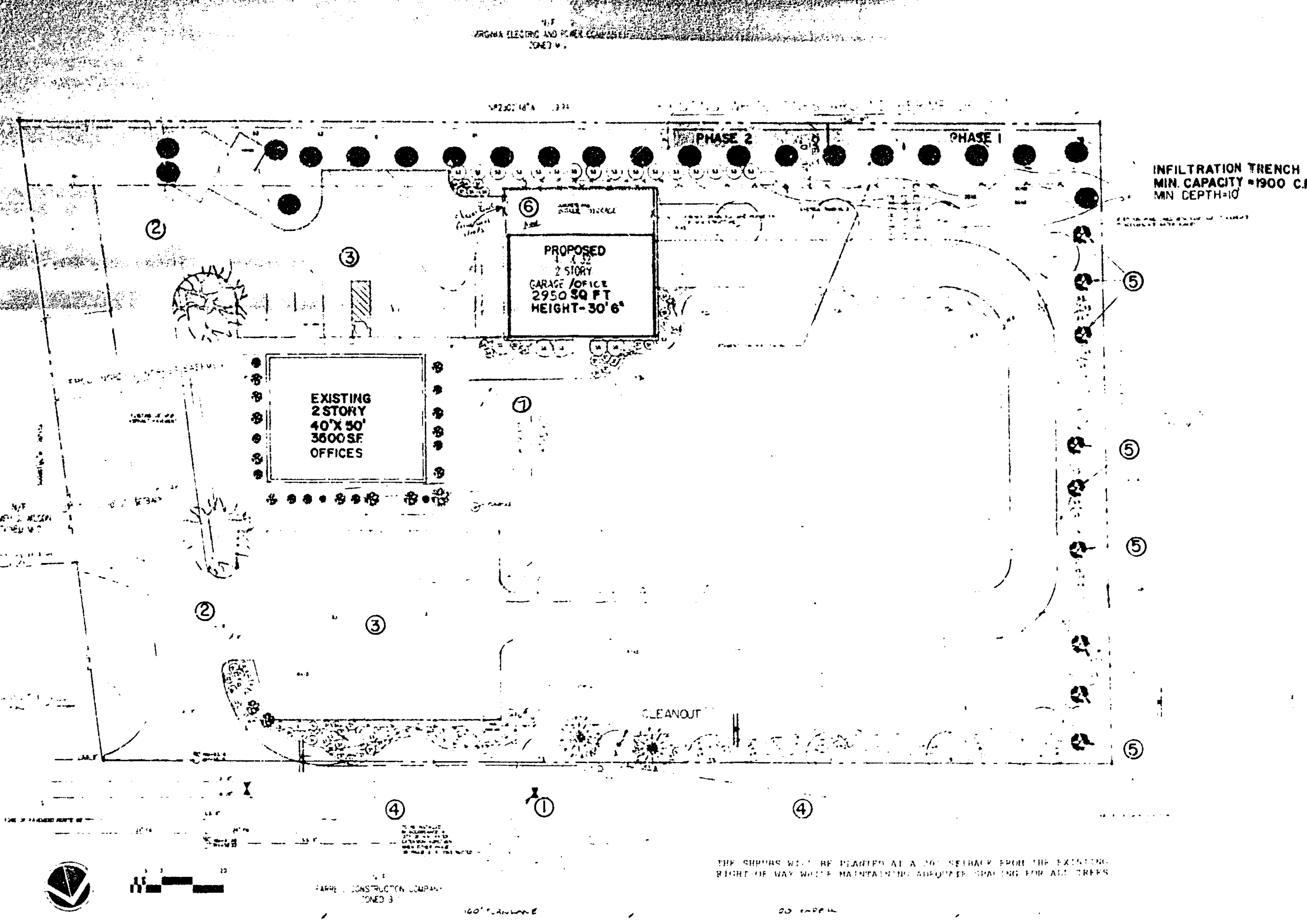
PROPOSED OFFICE FACILITY 1500SF
REQUIREMENT (1) PARKING SPACE PER 250SF ---------- 06

TOTAL PARKING SPACES REQUIRED FOR EXISTING BUILDING AND PROPOSED FACILITY ---------- 22

ENERGY SERVICES GROUP

(09-2)(01-90) SP-20-91
SP-50-91
Energy Services Group Amendment

SC008



THE SHRUBS WILL BE PLANTED AT A 20' SETBACK FROM THE EXISTING RIGHT OF WAY WHILE MAINTAINING ADEQUATE SPACING FOR ALL TREES.

LAND USE SUMMARY

ITEM	SQUARE FEET	PERCENTAGE	ACRES
AREA BUILDING	3,504 SF	5.4%	.08 ACRES
AREA PAVEMENT	15,304 SF	24.6%	.36 ACRES
GREEN AREA	45,249 SF	70%	1.04 ACRES
TOTAL AREA	64,657 SF	100%	1.48 ACRES

ZONING M-2 GENERAL INDUSTRIAL DISTRICT

GENERAL NOTES:

1. LAND IS LEVEL SLOPING TO SOUTHWEST CORNER
2. SITE PLAN IS BASED ON BOUNDARY SURVEY BY JOHN N. BALWIN & ASSOCIATES, NORFOLK, VA. JUNE 5, 1958, RECORDED IN DEED BOOK 65, PAGE 24
3. TOPO IS BASED ON JAMES CITY COUNTY DATUM
4. PLAN RECORDED ON APRIL 27, 1990. (SEE ATTACHED SURVEY PLAN)

NEW LANDSCAPE VEGITATION

SYMBOL	SHRUB		SIZE	
S1	DWARF YAUPON HOLLY	160	GAL	18"
S2	PYRAMIDAL ARBORVITAE	4	3 GAL	3'
S3	PHOTINIA	40	3 GAL	24"
S4	CLEYERA	14	3 GAL	24"
S5	DWARF BURFORD HOLLY	4	3 GAL	24"
	TREE:			
T1	VIRGINIA PINE or Spruce	15	see note *	
T2	ARISTOCRAT PEAR or Maple	13	see note *	

NOTE * (1) 35% of new planting will be 8' tall & 2 1/2" in diameter
65% of new planting will be 8' tall & 1 1/2" in diameter

(2) Planting will be appropriately staggered.

LEGEND

NEW TOPOGRAPHIC LINES

EXISTING TOPOGRAPHIC LINES

NEW AOR

NOTES

1. NEW WATER SERVICE IS TO ACCOMMODATE FUTURE CONSTRUCTION
2. EXISTING ENTRANCE
3. EXISTING PARKING AISLES & EASEMENT
4. EXISTING TURNLANE
5. EXISTING 7' WHITE PINES
6. ~~OUTDOOR OPERATION IS PROHIBITED~~ UNLESS SCREENED FROM ~~ADJACENT PROPERTIES.~~
7. [illegible]

RUNOFF CALCULATIONS

RUNOFF INFILTRATION TRENCH CALCULATIONS

DRAINAGE AREA------------------------------1.48 ACRES
PAVEMENT AND ROOF AREA (EXISTING)----------- .34 ACRES

NEW WATER RUNOFF MANAGEMENT AREA------------1.14 ACRES

NEW DRAINAGE AREA

ROOFTOPS------------------------------ .07 ACRES
STREETS AND DRIVES-------------------- .13 ACRES
LAWN 1% SLOPE OVER 180'--------------- .94 ACRES

TOTAL---------------------------------1.14 ACRES

TIME OF CONCENTRATION (T) = 5 MINUTES MINIMUM

FIND: PEAK RUNOFF RATE FROM A 2 YEAR FREQUENCY STORM.

SALUTION:

1. DRAINAGE AREA = 1.14 ACRES
2. DETERMINE RUNOFF COEFFICIENT (C)

ROOFTOPS	.07 ACRES	X	.9 C	=	.063
STREET/DRIVES	.13 ACRES	X	.7 C	=	.019
LAWN	.94 ACRES	X	.1 C	=	.094
TOTAL					.176

C=.176/1.14 ACRES=.15

3. TIME OF CONCENTRATION (T) = 5 MIN
4. RAINFALL INTENSITY FACTOR (I) = 3 IN/HR (FROM PLATE 5.4)
5. Q=C(I)A
=.15 X 3 X 1.14 = .513 CFS

NOTE:

CALCULATIONS WHERE BASED ON THE RATIONAL METHOD OUTLINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), SECTION V PART 1, (ESTIMATING RUNOFF). THE BMP DESIGNED AT 758 CF WITH A VOID RATIO OF .4 RESULTS IN A INFILTRATION TRENCH OF 1900 CF. THE BMP DESIGNED WILL ACCOMADATE RUNOFF ON SITE. FUTURE CONSTRUCTION RUNOFF HAS BEEN CONSIDERED RESULTING IN A TRENCH APPROXIMATELY 3800 CF. SWALES ON SITE ARE DENOTED WITH TOPO LINES. REFER TO APPENDIX 1.26A ON PAGE III-69 OF THE VESCH FOR ANY ADDITIONAL INFORMATION.

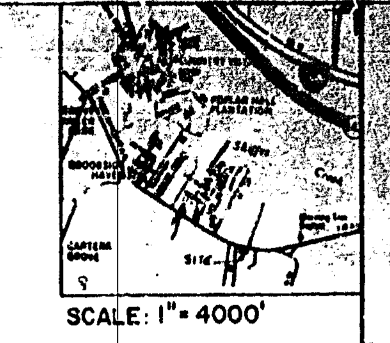
Erosion and Sediment Control Notes

The purpose of the erosion control measures shown on these plans shall be to preclude the transport of all waterborne sediments resulting from construction activities from entering onto adjacent properties or State waters. If field inspection reveals the inadequacy of the plan to confine sediment to the project site, appropriate modifications will be made to correct any plan deficiencies. In addition to these notes, all provisions of the Virginia Erosion and Sediment Control Regulations shall apply to this project.

1. All erosion and sediment control measures shall be installed and maintained in accordance with the "Virginia Erosion and Sediment Control Handbook." The contractor shall be thoroughly familiar with all applicable measures contained therein which may be pertinent to this project.
2. All points of construction ingress and egress shall be protected by a temporary construction entrance to prevent tracking of mud onto public right of ways. An entrance permit from VDOT is required prior to any construction activities within State right of ways.
3. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment on site must be constructed as a first step in grading and be made functional before upslope land disturbance takes place. Earthen structures such as dams, dikes, and diversions must be seeded and mulched immediately after installation. An on site pre-construction meeting will be held between the Office of Code Compliance and the contractor to identify those measures to be initially installed.
4. Maintenance of erosion and sediment control measures shall include the repair of measures damaged by any subcontractor including those of the public utility companies. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]
8. The contractor shall complete drainage activities within 30 days [illegible]
9. [illegible]
10. No more than 500 feet of sanitary sewer, storm sewer, water lines, or underground utility lines are to be open at one time. [illegible]
11. [illegible]
12. The term seeding, final vegetative cover or stabilization, in this plan shall mean the successful germination and establishment of a stable grass cover from a properly prepared seedbed containing the specified amounts of seed, lime and fertilizer in accordance with Specification 3.32. [illegible]
13. All slopes steeper than 3:1 shall require the use of erosion control blankets such as excelsior blankets to aid in the establishment of a vegetative cover. Installation shall be in accordance with Specification 3.36, Mulching and Manufacturer's Instructions.
14. Inlet protection in accordance with Specification 3.07 shall be provided for all storm drain inlets as soon as practical following construction of same.
15. Temporary liners, such as polyethylene sheets, shall be provided for all paved ditches until the permanent concrete liner is installed.
16. Paved flumes shall be required wherever erosion is evident. Particular attention shall be paid to those areas where grades exceed 4 percent.
17. Temporary erosion control measures are not to be removed until all disturbed areas are stabilized. After stabilization is complete, all measures shall be removed within 30 days. Trapped sediment shall be spread and seeded.
18. Off site waste or borrow areas shall be approved by the Office of Code Compliance prior to the import of any borrow or export of any waste to or from the project site.
19. All paved and/or riped outfalls will be constructed before road grading and utility installation begins.

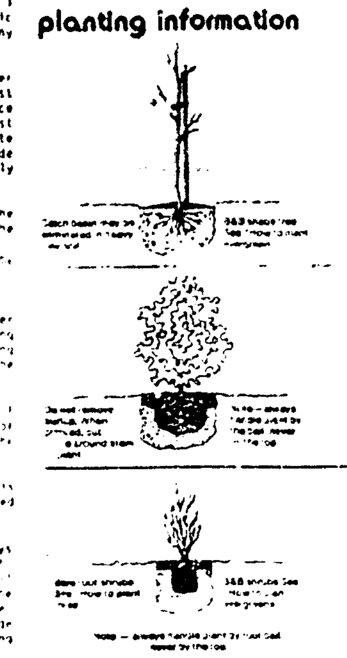
PARKING CALCULATIONS

Existing Office Structure 3500 SF Requirement per ordinance 20-12 (1) Parking space per 250SF	14
Proposed Garage Facility 1450 SF 4 person maximum occupancy (1) Parking Space for every 2 occupants	02
Proposed Office Facility 1500 SF Requirement - (1) parking space per 250SF	06
Total parking spaces required for existing Building and proposed Facility	22



SCALE: 1" = 4000'

planting information



How to plant trees and bare root shrubs

1. Dig hole large enough to accommodate roots in their natural position.
2. Prune off any broken or damaged roots, set plant in hole.
3. Set tree in hole so as to be slightly higher than grown in Nursery.
4. Fill hole 2/3 full with well prepared planting soil or mixture of peat moss, compost and dirt.
5. Firm soil by filling hole with water. Be sure that all air pockets are eliminated.
If remaining hole but be sure to leave a slight depression to act as a catch basin for water.
Needed, stake tree as programmed.
6. Mulch with pinestraw or bark.

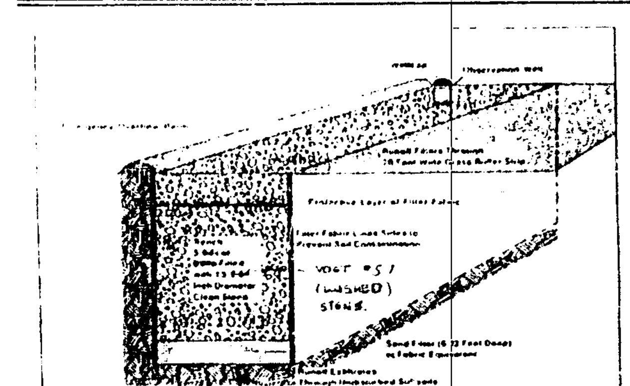
How to plant evergreens

1. Dig hole large enough to place one foot of soil below the plant ball and one foot of soil on all sides.
2. Set tree in hole so as to be slightly higher than grown in nursery.
3. Fill hole with good friable top soil 2/3 full a mixture of 1/3 peat moss, 2/3 compost and 2/3 dirt. Pack soil by filling hole with water.
4. Finish filling hole with soil, leaving upper two inches of soil in a loose condition.
5. Make a catch basin for water around the plant.
6. Mulch with pinestraw or bark.

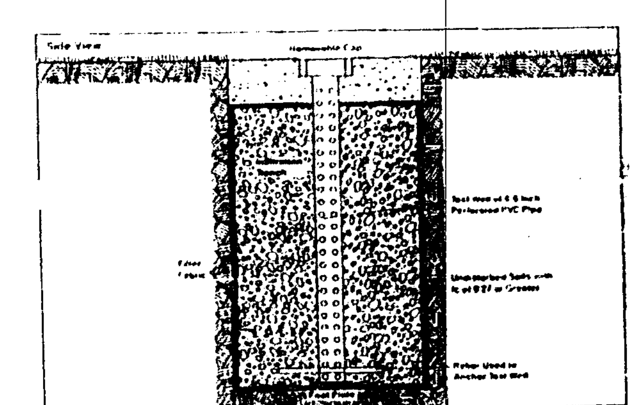
How to plant potted shrubs and trees

1. Dig hole large enough to place six inches of soil below container ball and six inches on all sides.
2. Remove plant from container. Cut ball, tear root system with hands so that roots will be in contact with soil. Always handle plant by root ball never by the top.
3. Set tree in hole.
4. Fill hole 2/3 full with well prepared planting mixture of peat moss, compost and dirt.
5. Finish filling hole with soil, leaving the upper two inches of soil in a loose condition.
6. Mulch with pinestraw or bark.

DETAILS INFILTRATION TRENCH — (A)



Schematic of an Infiltration Trench



Detailed Schematic of a Typical Observation Well

COUNTY OF JAMES CITY
FINAL SITE PLAN

APPROVALS		DATE
	Kan/MMF	10/22/92
	DD/MMF	10/28/92
	BSL/MMF	1/15/93
	[illegible]	3/[illegible]
	DLC/MMF	3/29/93
	[illegible]	4/1/93
	MDW/MMF	3/29/93
Other		
Other		

ENERGY SERVICES GROUP
Architects • Engineers • Constructors

ENERGY SERVICES GROUP
SITE PLAN

DESIGNER: AHMED H. HASSAN

PHASE I
GARAGE & OFFICE COMPLEX
JAMES CITY COUNTY VIRGINIA

SITE

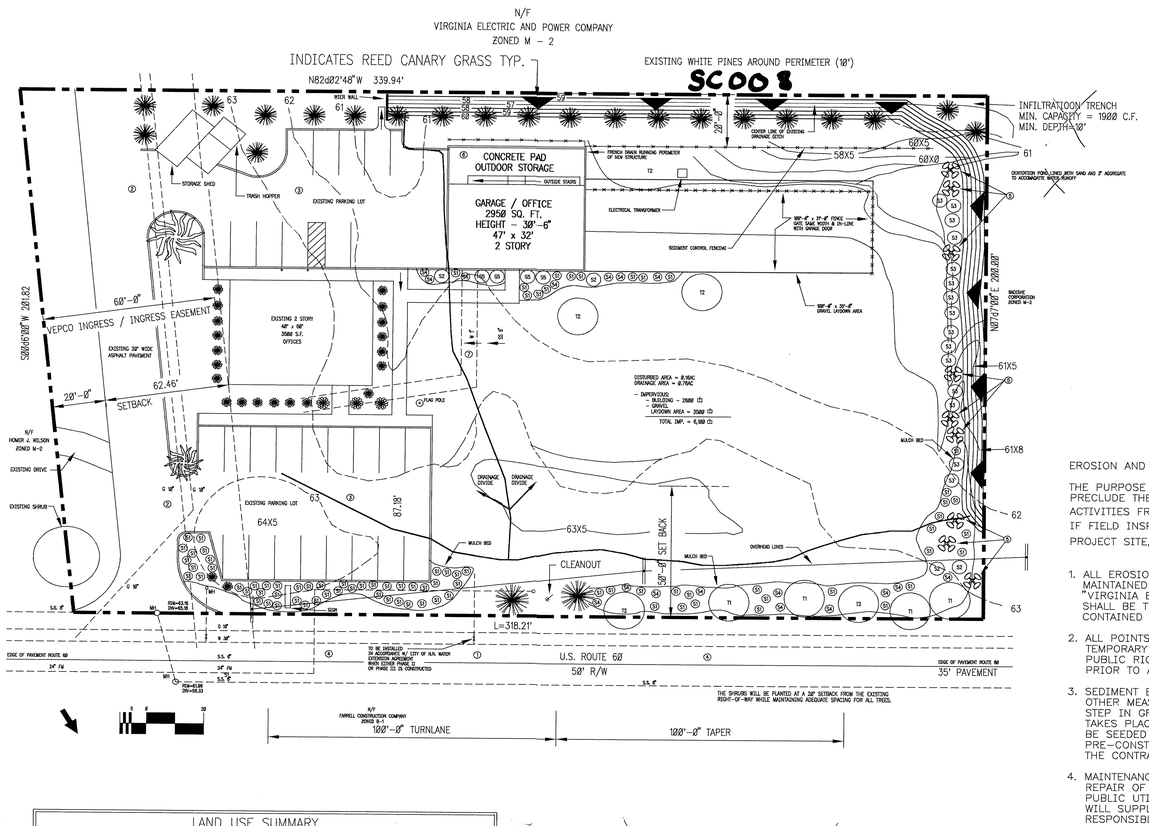
DATE 10/8/92	SCALE 1"=20'
CHECKED BY	DRAWN BY
PROJECT NO.	DRAWING NO.
SHEET	

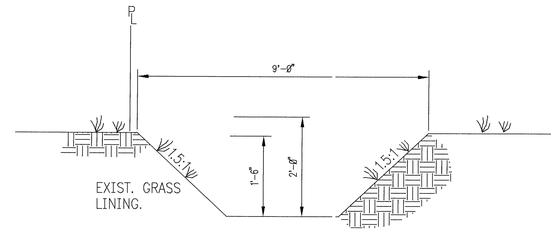
MAR 1993
RECEIVED
PLANNING DEPARTMENT

(59-2) (01-20) SP-94-92 Energy Services Group, Inc.
Superceded by SP-20-94
infiltration trenches not installed

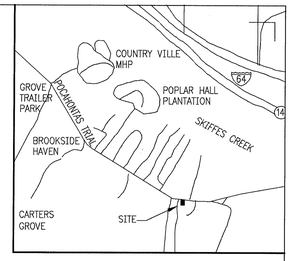
1 of 1

SC008



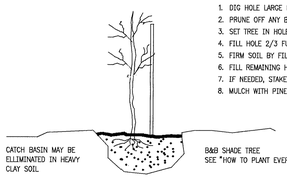


TYPICAL SECTION
EXISTING DRAINAGE SWALE
N.T.S.



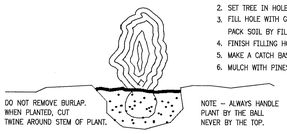
SCALE: 1" = 4000'

PLANTING INFORMATION



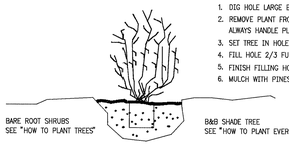
HOW TO PLANT TREES AND BARE ROOT SHRUBES

1. DIG HOLE LARGE ENOUGH TO ACCOMMODATE ROOTS IN THEIR NATURAL POSITION
2. PRUNE OFF ANY BROKEN OR DAMAGED ROOTS, SET PLANT IN HOLE.
3. SET TREE IN HOLE SO AS TO BE SILGHTLY HIGHER THAN GROWN IN NURSERY.
4. FILL HOLE 2/3 FULL WITH WELL PREPARED PLANTING SOIL (A MIXTURE OF PEAT MOSS, COMPOST AND DIRT.)
5. FIRM SOIL BY FILLING HOLE WITH WATER. BE SURE THAT ALL AIR POCKETS ARE ELIMINATED.
6. FILL REMAINING HOLE BUT BE SURE TO LEAVE A SLIGHT DEPRESSION TO ACT AS A CATCH BASIN FOR WATER.
7. IF NEEDED, STAKE TREE AS DIAGRAMMED.
8. MULCH WITH PINESTRAW OR BARK.



HOW TO PLANT EVERGREENS

1. DIG HOLE LARGE ENOUGH TO PLACE ONE FOOT OF SOIL BELOW THE PLANT BALL, AND ONE FOOT OF SOIL ON ALL SIDES.
2. SET TREE IN HOLE SO AS TO BE SILGHTLY HIGHER THAN GROWN IN NURSERY
3. FILL HOLE WITH GOOD FRIABLE TOP SOIL 2/3 FULL (A MIXTURE OF 1/3 PEAT MOSS, 2/3 COMPOST AND TO 2/3 DIRT). PACK SOIL BY FILLING HOLE WITH WATER.
4. FINISH FILLING HOLE WITH SOIL, LEAVING UPPER (LAST) TWO INCHES OF SOIL IN A LOOSE CONDITION.
5. MAKE A CATCH BASIN FOR WATER AROUND THE PLANT.
6. MULCH WITH PINESTRAW OR BARK.

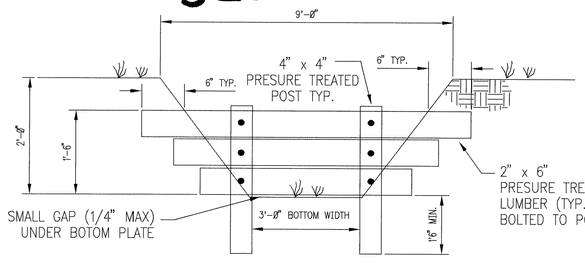


HOW TO PLANT EVERGREENS

1. DIG HOLE LARGE ENOUGH TO PLACE SIX INCHES OF SOIL BELOW CONTAINER BALL AND SIX INCHES ON ALL SIDES.
2. REMOVE PLANT FROM CONTAINER. CUT BALL, TEAR ROOT SYSTEM WITH HANDS SO THAT ROOTS WILL BE IN BACKFILL SOIL ALWAYS HANDLE PLANT BY ROOT BALL, NEVER BY THE TOP.
3. SET TREE IN HOLE SO AS TO BE SILGHTLY HIGHER THAN GROWN IN NURSERY
4. FILL HOLE 2/3 FULL WITH WELL PREPARED PLANTING SOIL (A MIXTURE OF PEAT MOSS, COMPOST AND DIRT.)
5. FINISH FILLING HOLE WITH SOIL, LEAVING UPPER (LAST) TWO INCHES OF SOIL IN A LOOSE CONDITION.
6. MULCH WITH PINESTRAW OR BARK.

NOTE – ALWAYS HANDLE PLANT BY ROOT BALL, NEVER BY THE TOP.

SC008



WEIR WALL
N.T.S.

EROSION AND SEDIMENT CONTROL NOTES

THE PURPOSE OF THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS SHELL BE TO PRECLUDE THE TRANSPORT OF ALL WATERBORNE SEDIMENTS RESULTING FROM CONSTRUCTION ACTIVITIES FROM ENTERING ONTO ADJSCENT PROPERTIES OR STATE WATERS.
IF FIELD INSPECTION REVEALS THE INADEQUACY OF THE PLAN TO CONFINE SEDIMENT TO THE PROJECT SITE, APPROPRIATE

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK." THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH ALL APPLICABLE MEASURES CONTAINED THEREIN WHICH MAY BE PERTINENT TO THIS PROJECT.

2. ALL POINTS OF CONSTRUCTION INGREE AND EGRESS SHALL BE PROTECTED BY A TEMPORARY CONSTRUCTION ENTRANCE TO PREVENT TRACKING OF MUD ONTO PUBLIC RIGHT – OF – WAYS. AN ENTRANCE PERMIT FROM VDOT IS REQUIRED PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN STATE RIGHT – OF – WAYS.

3. SEDIMENT BASIN AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURE INTENDED TO TRAP SEDIMENT ON–SITE MUST BE CONSTRUCTED AS A FIRST STEP IN GRADING AND BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTRUBANCE TAKES PLACE. EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER INSTALLATION. AN ON SITE PRE–CONSTRUCTION MEETING WILL BE HELD BETWEEN THE OFFICE OF CODE COMPLIANCE AND THE CONTRACTOR TO IDENTIFY THOSE MEASURES TO BE INITIALLY INSTALLED.

4. MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES SHALL INCLUDE THE REPAIR OF MEASURES DAMAGED BY ANY SUBCONTRACTOR INCLUDING THOSE OF THE PUBLIC UTILITY COMPANIES. AT THE PRECONSTRUCTION MEETING, THE CONTRACTOR WILL SUPPLY CODE COMPLIANCE WITH THE NAME OF THE INDIVIDUAL WHO WILL BE RESPONSIBLE FOR ENSURING MAINTENANCE OF INSTALLED MEASURES ON A DAILY BASIS.

5. SURFACE FLOWS OVER CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER REDIRECTING FLOWS FROM TRANSVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO SAFELY LOWER WATER DOWNSLOPE WITHOUT CAUSING EROSION. A TEMPORARY FILL DIVERSION (STD. & SPEC. 1.16) SHALL BE INSTALLED PRIOR TO THE END OF EACH WORKING DAY.

6. SEDIMENT CONTROL MEASURES MAY REQUIRE MINOR FIELD ADJUSTMENT AT TIME OF CONSTRUCTION TO INSURE THEIR INTENDED PURPOSE IS ACCOMPLISHED. OFFICE OF CODE COMPLIANCE APPROVAL WILL BE REQUIRED FOR OTHER DEVIATIONS FROM THE APPROVED PLANS.

7. THE CONTRACTOR SHALL PLACE SOIL STOCKPILES AT THE LOCATIONS SHOWN ON THIS PLAN OR AS DIRECTED BY THE ENGINEER. SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES.

8. THE CONTRACTOR SHALL COMPLETE DRAINAGE FACILITIES WITHIN 30 DAYS FOLLOWING COMPLETION OF ROUGH GRADING AT ANY POINT WITHIN THE PROJECT. THE INSTALATION OF DRAINAGE FACILITIES SHALL TAKE PRECEDENCE OVER ALL UNDERGROUND UTILITIES. OUTFALL DITCHES FROM DRAINAGE STRUCTURES SHALL BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION OF SAME, THIS INCLUDES INSTALLATION OF EROSION CONTROL STONE WHERE REQUIRED. ANY DRAINAGE OUTFALLS REQUIRED FOR A STREET MUST BE COMPLETED BEFORE STREET GRADING BEGINS.

9. PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO ALL DENUDED ARES WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MUST ALSO BE APPLIED TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. SOIL STABILIZATION MEASURES INCLUDE VEGETATIVE ESTABLISHMENT, MULCHING AND THE EARLY APPLICATION OF GRAVEL BASE MATERIAL ON AREAS TO BE PAVED.

10. NO MORE THAN 300 FEET OF SANITARY SEWER, STROM SEWER, WATERLINES, OR UNDERGROUND UTILITY LINES ARE TO BE OPEN AT ONE TIME. FOLLOWING INSTALLATION OF ANY PORTION OF THESE ITEMS, ALL DISTURBED AREAS ARE TO BE IMMEDIATELY STABILIZED (i.e., THE SAME DAY).

11. IF DISTRUBED AREA STABILIZATION IS TO BE ACCOMPLISHED DURING THE MONTHS OF DECEMBER, JANUARY, OR FEBRUARY, STABILIZATION SHALL CONSIST OF MULCHING IN ACCORDANCE WITH SPECIFICATION 1.75. SEEDING WILL THEN TAKE PLACE AS SOON AS THE SEASON PERMITS.

12. THE TERM SEEDING, FINAL VEGETATIVE COVER OR STABILIZATION, ON THIS PLAN SHALL MEAN THE SUCCESSFUL GERMINATION AND ESTABLISHMENT OF A STABLE GRASS COVER FROM A PROPERLY PREPARED SEEDBED CONTAINING THE SPECIFIED AMOUNTS OF SEED LIME AND FERTILIZER IN ACCORDANCE WITH SPECIFICATION 1.66, PERMANENT SEEDING. IRRIGATION SHALL BE REQUIRED AS NECESSARY TO ENSURE ESTABLISHMENT OF GRASS COVER.

13. ALL SLOPES STEEPER THAN 3:1 SHALL REQUIRE THR USE OF EROSION CONTROL BLANKETS SUCH AS EXCELSIOR BLANKETS TO AID IN THE ESTABLISHMENT OF A VEGETATIVE COVER. INSTALLATION SHALL BE IN ACCORDANCE WITH SPECIFICATION 1.75, NULCHING AND MANUFACTURER'S INSTRUCTIONS.

14. IN LET PROTECTION IN ACCORDANCE WITH SPECIFICATION 1.08 SHALL BE PROVIDED FOR ALL STORM DRAIN INLETS AS SOON AS PRACTICAL FOLLOWING CONSTRUCTION OF SAME.

15. TEMPORARY LINERS, SUCH AS POLYETHYLENE SHEETS, SHALL BE PROVIDED FOR ALL PAVED DITCHES UNTIL THE PERMANENT CONCRETE LINER IS INSTALLED.

16. PAVED DITCHES SHALL BE REQUIRED WHEREVER EROSION IS EVIDENT. PARTICULAR ATTENTION SHALL BE PAID TO THOSE AREAS WHERE GRADES EXCEED 3 PERCENT.

17. TEMPORARY EROSION CONTROL MEASURES ARE NOT TO BE REMOVED UNTIL ALL DISTURBED ARES ARE STABILIZED. AFTER STABILIZATION IS COMPLETE, ALL MEASURES SHALL BE REMOVED WITHIN 30 DAYS. TRAPPED SEDIMENT SHALL BE SPREAD AND SEEDED.

18. OFF–SITE WASTE OR BORROW AREAS SHALL BE APPROVED BY THE OFFICE OF CODE COMPLIANCE PRIOR TO THE IMPORT OF ANY BORROW OR EXPORT OF ANY WASTE TO OR FROM THE PROJECT SITE.

19. ALL PAVED AND / OR PIPED OUTFALLS WILL BE CONSTRUCTED BEFORE ROAD GRADING AND UTILITY INSTALLATION BEGINS.

LAND USE SUMMARY

ITEM	SQUARE FEET	PERCENTAGE	ACRES
AREA BUILDING	3,504 SF	5.4%	.08 ACRES
AREA PAVEMENT	15,904 SF	24.6%	.36 ACRES
GREEN AREA	45,249 SF	70%	1.04 ACRES
TOTAL AREA	64,657 SF	100%	1.48 ACRES

ZONING M–2 GENERAL INDUSTRIAL DISTRICT

GENERAL NOTES
1. LAND IS LEVEL SLOPING TO SOUTHWEST CORNER
2. SITE PLAN IS BASED ON BOUNDRY SURVEY BY JOHN N. BALWIN & ASSOCIATES.
3. TOPO IS BASED ON JAMES CITY COUNTY DATUM
4. PLAN RECORDED ON APRIL 27, 1990 (SEE ATTACHED SURVEY PLAN)

NEW LANDSCAPE VEGITATION

SYMBOL	SHRUB		SIZE
S1	DWARF YAUPON HOLLY	83	3 GAL 18"
S2	PYRAMIDAL ARBORVITAE	4	3 GAL 3'
S3	PHOTINIA	15	3 GAL 24"
S4	CLEYERA	16	3 GAL 24"
S5	DWARF BURFORD HOLLY	4	3 GAL 24"
TREE:			
T1	VIRGINIA PINE OR SPRUCE	15	8' / 1 1/2"
T2	ARISTOCRAT PEAR OR MAPLE	13	8' / 1 1/2"

LEGEND

——————— NEW TOPOGRAPHIC LINES

– – – – – – – – – – – EXISTIING TOPOGRAPHIC LINES

NOTES:

1. NEW WATER SERVICE IS TO ACCOMMODATE FUTURE CONSTRUCTION
2. EXISTING ENTRANCE
3. EXISTING PARKING AISLES & EASEMENT
4. EXISTING TURNLANE
5. EXISTING 8" WHITE PINES
6. -----
7. WATER & SEWER TO TIE INTO EXISTING BUILDING SERVICE
8. 35% OF NEW PLANTING WILL BE 8' TALL & 2 1/2" IN DIAMETER.
   65% OF NEW PLANTING WILL BE 8' TALL & 1 1/2" IN DIAMETER.
9. PLANTING WILL BE APPROPRIATELY STAGGERED.

RUNOFF CALCULATIONS

RUNOFF INFILTRATION TRENCH CALCULATIONS

DRAINAGE AREA----------1.48 ACRES
PAVEMENT AND ROOF AREA (EXISTING)---------- .34 ACRES

NEW WATER RUNOFF MANAGEMENT AREA----------1.14 ACRES

NEW DRAINAGE AREA

ROOFTOPS---------- .07 ACRES
STREETS AND DRIVES---------- .13 ACRES
LAWN 1% SLOPE OVER 180'---------- .94 ACRES

TOTAL----------1.14 ACRES

TIME OF CONCENTRATION (T) = 5 MINUTES MINIMUN
FIND: PEAK RUNOFF RATE FROM A 2 YEAR FREQUENCY STORM.

SALUTION:

1. DRAINAGE AREA = 1.14 ACRES
2. DETERMINE RUNOFF COEFFICIENT (C)

ROOFTOPS ----------	0.7 ACRES	X	.9 C	= .063
STREET/DRIVES -------	.13 ACRES	X	.7 C	= .019
LAWN ----------	.94 ACRES	X	.1 C	= .094
TOTAL----------				.176

C=.176/1.14 ACRES=.15

3. TIME OF CONCENTRATION (T) = .15
4. RAINFALL INTENSITY FACTOR (i) = 3 IN/HR (FROM PLATE 5.4)
5. Q=C(i)A
   =.15 x 3 x 1.14 = .513 CFS

NOTE:

CALCULATION WHERE BASED ON THE RATIONAL METHOD OUTLINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), SECTION V PART 1, (ESTIMATING RUNOFF). THE BMP DESIGNED AT 758 CF WITH A VOID RATIO OF .4 RESULATS IN A INFILTRATION TRENCH OF 1900 CF. THE BMP DESIGNED WILL ACCOMADATE RUNOFF ON SITE. FUTURE CONSTRUCTION RUNOFF HAS BEEN CONSIDERED RESULTING IN A TRENCH APPROXIMATELY 3800 CF. SWALES ON SITE ARE DENOTED WITH TOPO LINES. REFER TO APPENDIX 1,26A ON PAGE III–69 OF THE VESH FOR ANY ADDITIONAL INFORMATION.

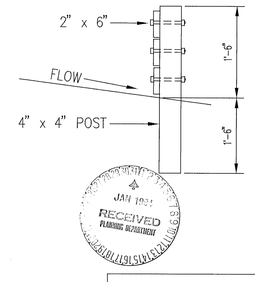
PARKING CALCULATIONS

EXISTING OFFICE STRUCTURE -- 3500 SF
REQUIRE PER ORDINANCE 28–12
(1) PARKING SPACE PER 2500SF ---------- 14

PROPOSED GARAGE FACILITY 1450SF
4 PERSON MAXIMUM OCCUPANCY
(1) PARKING SPACE FOR EVERY 2 OCCUPANTS ---------- 02

PROPOSED OFFICE FACILITY 1500SF
REQUIREMENT (1) PARKING SPACE PER 250SF ---------- 06

TOTAL PARKING SPACES REQUIRED FOR EXISTING
BUILDING AND PROPOSED FACILITY---------- 22



JAN 1994
RECEIVED
PLANNING DEPARTMENT

COUNTY OF JAMES CITY
FINAL SITE PLAN
Received .....
APPROVALS DATE
Fire Dept. ....
Health Dept. ....
Highway Dept. ....
Plan. Comm. ....
Pub Bld. Dept. ....
Zoning Adm. ....
JCSA ....
Other ....
Other ....

REV	DATE	DESCRIPTION

ENERGY SERVICES GROUP
WILLIAMSBURG, VA.

CUSTOMER: ENERGY SERVICES GROUP		
PROJECT JOB No.: SITE–PLAN	CUSTOMER JOB No.:	DATE: 1/26/94
DRAWN BY: A.B.	DRAWING No.:	REV
CHECKED BY: S.W.C.	ESGSITE	A

SP-20-94; SC 008

JGB 1-20-14 | ENERGY SERVICES GROUP

SC 008
SP-20-94

SUMMARY SHEET

SITE AREA: 1.48 Ac.

PROPOSED IMPROVEMENTS:

BUILDING: 2600 □' = 0.06 Ac
GRAVEL LAYDOWN AREA: 3500 □' = 0.08 Ac

TOTAL IMPROVEMENTS = 0.14 Ac

BMP DRAINAGE AREA = 0.76 Ac *

SIZE BMP: (FROM MWCOG - URBAN BMP MANUAL)

$$R_V = 0.05 + 0.009 (I)$$

I = IMPERVIOUSNESS OF DRAINAGE AREA

$$= \frac{0.14}{0.76} \times 100$$

$$I = 18.4$$

$$R_V = 0.005 + 0.009 (18.4)$$

$$= \underline{0.22}$$ R_V

JAMES CITY COUNTY - EXTENDED DETENTION DESIGN 3
= RUNOFF VOLUME FROM 1" STORM

$$= 1'' \cdot 0.22 \cdot 0.76 Ac \cdot 43560/12$$

$$= \underline{607 \ ft^3}$$ VOL REQ'D

STORAGE VOLUME PROVIDED =

FROM TYPICAL SECTION = 7.9 □' = AVG = 3.95

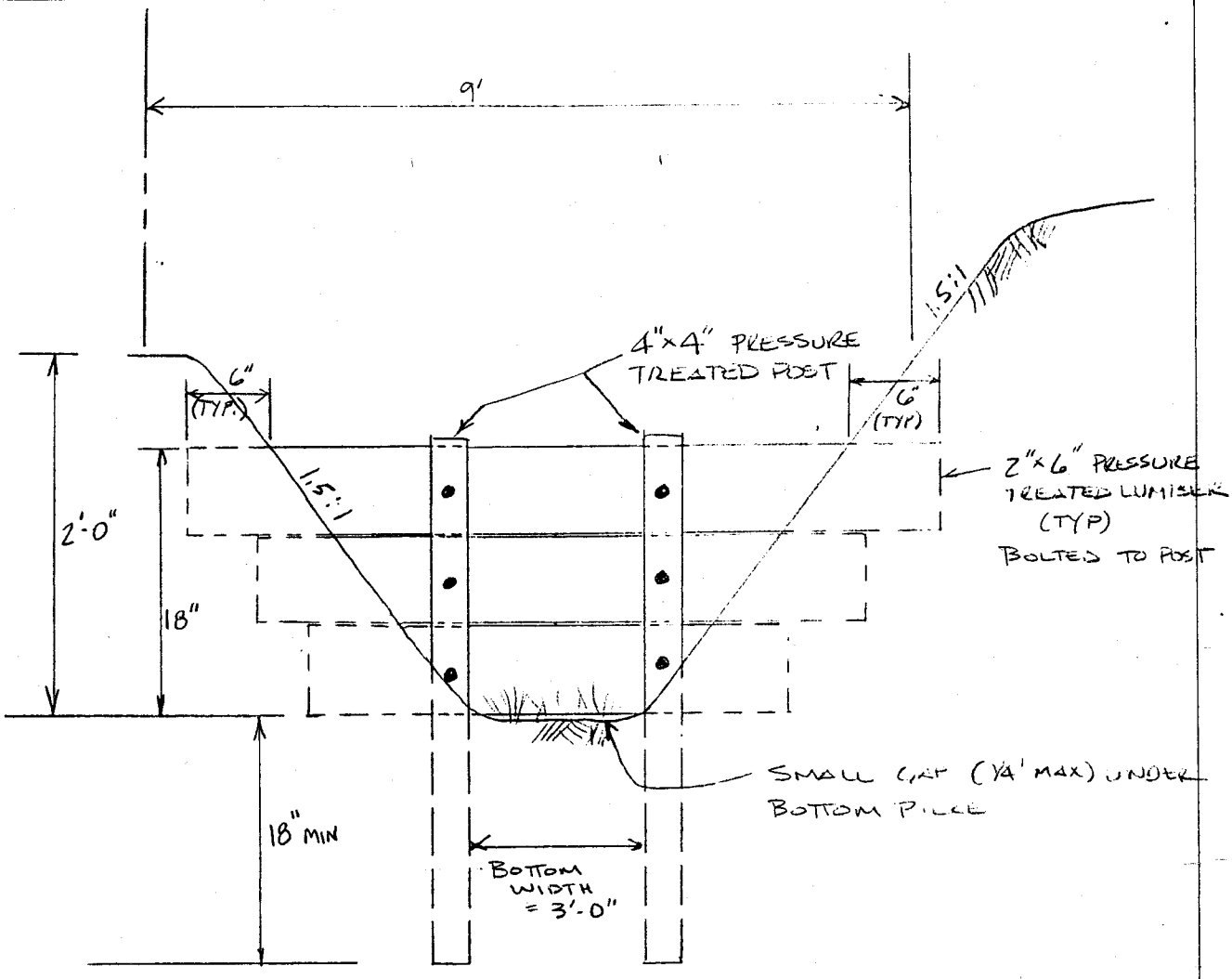
VOL PROVIDED = 3.95 · 300' LENGTH = $\underline{1185 \ ft^3}$ VOL PROV'D

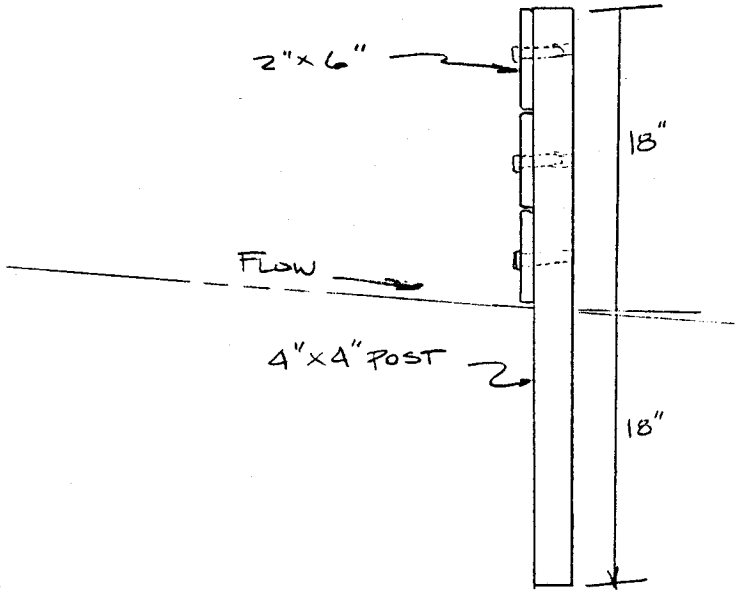
*NOTE: BMP DESIGNED TO CONTROL ADDITIONAL AREA
"FRACTION OF SITE SERVED" = $\frac{\text{DRAINAGE AREA}}{\text{DISTURBED AREA}}$

$$= \frac{0.76}{0.20} \times 100 = 380\%$$

JGB - 1-20-94

ENERGY SERVICES GROUP





NATIONAL 42-381 50 SHEETS 5 SQUARE 42-382 100 SHEETS 5 SQUARE 42-389 200 SHEETS 5 SQUARE

WATERSHED	SC	MAINTENANCE PLAN	No	CTRL STRUC DESC	Weir Wall
BMP ID NO	008	SITE AREA acre	1.48	CTRL STRUC SIZE inches	18
PLAN NO	SP-20-94	LAND USE	General Industrial	OTLT BARRL DESC	RCP Pipe
TAX PARCEL	(59-02)(01-20)	old BMP TYP	Dry Pond	OTLT BARRL SIZE inch	15
PIN NO	5920100020	JCC BMP CODE			
CONSTRUCTION DATE	1/20/1994	POINT VALUE	6	EMERG SPILLWAY	No
PROJECT NAME	ESG International, Inc.			DESIGN HW ELEV	60.00
FACILITY LOCATION	8979 Pocahantas Trail			PERM POOL ELE	na
CITY-STATE	Williamsburg, Va. 23185	SVC DRAIN AREA acres	0.76	2-YR OUTFLOW cfs	0.00
CURRENT OWNER	Energy Services Group International			10-YR OUTFLOW cfs	0.00
OWNER ADDRESS	8979 Pocahantas Trail			REC DRAWING	Yes
OWNER ADDRESS 2		SERVICE AREA DESCRI	Building, Parking & Open Area		
CITY-STATE-ZIP CODE	Williamsburg, Va. 23185	IMPERV AREA acres	0.14	CONSTR CERTI	No
OWNER PHONE		RECV STREAM	UT of Skiffes Creek		
MAINT AGREEMENT	Yes	EXT DET-WQ-CTRL	Yes	LAST INSP DATE	
EMERG ACTION PLAN	No	WTR QUAL VOL acre-ft	0.014	INTERNAL RATING	
		CHAN PROT CTRL	No	MISC/COMMENTS	
		CHAN PROT VOL acre-ft	0	Timber weir wall in 3' bw trapezoidal channel.	
		SW/FLOOD CONTROL	Yes		
		GEOTECH REPORT	No		

Get Last BMP No

Return to Menu

ENERGY SERVICES GROUP
1-20-94

TABLE 3

WORKSHEET FOR BMP POINT SYSTEM

A. STRUCTURAL BMP POINT ALLOCATION

BMP	BMP Points		Fraction of Site Served by BMP		Weighted BMP Points
EXTENDED DRY DETENTION (DESIGN #3)	6	x	380% *	=	22.8
		x		=	
		x		=	
		x		=	

TOTAL WEIGHTED STRUCTURAL BMP POINTS: _____

B. NATURAL OPEN SPACE CREDIT

Fraction of Site		Natural Open Space Credit (0.1 per 1%)		Points for Natural Open Space
	x		=	

C. TOTAL WEIGHTED POINTS

22.8	+	—	=	22.8
Structural BMP Points		Natural Open Space Points		TOTAL

* "FRACTION OF SITE SERVED" COMPUTED BY:

$$= \frac{\text{TOTAL DRAINAGE AREA SERVED BY BMP}}{\text{TOTAL DISTURBED AREA OF PROJECT}}$$

$$= \frac{0.76}{0.20} \times 100 = 380\%$$