THE PURPOSE OF THIS PROJECT AT THE ROANOKE REGIONAL AIRPORT IS TO CONSTRUCT UP TO 4 (FOUR) AIRCRAFT HANGARS

RUNOFF FROM ALL DISTURBED AREAS ASSOCIATED WITH THIS PROJECT SHALL BE INTERCEPTED BY SILT FENCE, INLET PROTECTION, OR OTHER SEDIMENT TRAPPING DEVICES.

#### 2. EXISTING SITE CONDITIONS

THE SITE IS AN AREA OF LEVEL AND MILDLY SLOPING TERRAIN, APPROXIMATELY 1.0 ACRE IN SIZE. UNDISTURBED AREAS OF THE SITE ARE EITHER PAVED OR COVERED WITH AVERAGE TO DENSE GRASS.

## 3. ADJACENT PROPERTY

THE AIRPORT IS BORDERED BY PETERS CREEK ROAD (U. S. ROUTE 117) TO THE NORTH, U. S. ROUTE 118 TO THE EAST, HERSHBERGER ROAD TO THE SOUTH, AND THIRLANE ROAD TO THE WEST.

## 4. SOILS

THE FOLLOWING SOIL TYPES OCCUPY THE MAJORITY OF THE AIRPORT PROPERTY:

- \* 18B FREDERICK SILT LOAM, 2 TO 7% SLOPES
- \* 18C FREDERICK SILT LOAM, 7 TO 15% SLOPES
- \* 37C SEQUOIA SILT LOAM, 7 TO 15% SLOPES
- \* 37D SEQUOIA SILT LOAM, 15 TO 25% SLOPES
- \* 52 UDORTHENTS URBAN LAND COMPLEX

### 5. CRITICAL EROSION AREAS

\* 53 URBAN LAND

THE POTENTIALLY CRITICAL AREA IS THE EXISTING OUTFALL FROM THE PROJECT SITE. INLET PROTECTION WILL BE USED TO PROTECT OFFSITE AREAS FROM SEDIMENT DEPOSITION. WHEREVER GRADING IS NECESSARY, ADEQUATE PRECAUTIONS SHALL BE TAKEN TO MINIMIZE EROSION AND TRAP SEDIMENT ON-SITE

## 6. EROSION AND SEDIMENT CONTROL MEASURES

- a. AIR, WATER, SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), LATEST EDITION. INSTALLING, MAINTAINING AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES (EXCEPT FOR SILT FENCE AND PERMANENT SEEDING AND MULCHING OF PERMANENT SEEDED AREAS) SHALL BE INCLUDED IN THE LUMP SUM PAY ITEM FOR "EROSION AND SEDIMENT CONTROL." PAYMENT FOR SILT FENCE, PERMANENT SEEDING AND ASSOCIATED MULCHING WILL BE MADE UNDER THEIR RESPECTIVE PAY ITEMS. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS ARE CONSIDERED MINIMAL STEPS AND ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED, DEPENDING UPON THE FINAL CONSTRUCTION PHASING PROPOSED BY THE CONTRACTOR. NO SEPARATE PAYMENT WILL BE MADE FOR ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES FOUND NECESSARY UNDER THIS PROJECT DUE TO THE CONTRACTOR'S SEQUENCE OF WORK.
- b. PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MUST ALSO BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNWORKED) FOR LONGER THAN THIRTY (30) DAYS. SOIL STOCKPILES MUST BE STABILIZED OR PROTECTED WITH SOIL STABILIZATION AND/OR SEDIMENT TRAPPING MEASURES TO PREVENT SOIL LOSS.
- c. PERMANENT SEEDING COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED.
- d. PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITS.
- e. INLET PROTECTION AND OTHER MEASURES INTENDED TO TRAP SEDIMENT ON-SITE MUST BE CONSTRUCTED AS THE <u>FIRST</u> STEP IN GRADING AND MUST BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
- f. CUT AND FILL SLOPES MUST BE CONSTRUCTED IN A MANNER WHICH WILL MINIMIZE EROSION (VESCH STANDARD SPECIFICATION 3.29). SLOPES WHICH ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR OF CONSTRUCTION MUST BE PROVIDED, BY THE CONTRACTOR, WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.
- g. WHENEVER CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS MUST BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT (MUD) BY RUNOFF OR VEHICLE TRACKING ON TO PAVED SURFACES (VESCH STANDARD SPECIFICATION 3.02). WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE SWEPT OR MANUALLY REMOVED AND PLACED IN A DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL OF THE TEMPORARY STONE CONSTRUCTION ENTRANCES SHOWN ON THE PLANS.
- h. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
- i. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DISPOSED OF WITHIN THIRTY (30) DAYS AFTER THE FINAL SITE STABILIZATION IS ACHIEVED OR AFTER TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER. THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DISPOSED OF AS ORDERED BY THE ENGINEER.
- j. SEDIMENT REMOVED FROM THE EROSION CONTROL STRUCTURES SHALL BE DISPOSED OF IN AREAS PROTECTED BY EROSION CONTROL DEVICES OR AS ORDERED BY THE ENGINEER.
- k. ALL STORM SEWER INLETS WHICH ARE OPERATIONAL DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT LADEN WATER WILL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT (VESCH STANDARD 3.07, STORM DRAIN INLET PROTECTION).
- I. THE CONTRACTOR SHALL OBTAIN ANY LAND DISTURBING AND/OR EROSION AND SEDIMENT CONTROL PERMIT FROM THE CITY OF ROANOKE EROSION CONTROL OFFICER AND POST THE REQUIRED EROSION CONTROL BOND.
- m. TOPSOIL STRIPPED FROM THE SITE SHALL BE STOCKPILED, AS ORDERED BY THE ENGINEER. NO MEASUREMENT WILL BE MADE FOR EXCAVATING AND STOCKPILING OF THE TOPSOIL. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
- n. TEMPORARY SEEDING SHALL BE IN ACCORDANCE WITH SECTION III OF THE <u>VIRGINIA EROSION AND</u> SEDIMENT CONTROL HANDBOOK.
- o. ALL UTILITIES MUST BE INSTALLED IN ACCORDANCE WITH MINIMUM STANDARD NO.16 OF THE <u>VIRGINIA</u> SEDIMENT AND EROSION CONTROL HANDBOOK.

#### 7. STRUCTURAL PRACTICES

a. TEMPORARY STONE CONSTRUCTION ENTRANCE - 3.02

THIS DEVICE SHALL BE INSTALLED AT ALL POINTS OF CONSTRUCTION ACCESS TO PUBLIC ROADWAYS.

#### b. SILT FENCE - 3.05

THIS DEVICE WILL BE INSTALLED IN THE LOCATIONS SHOWN ON THE PLANS, OR AS ORDERED BY THE ENGINEER.

#### c. STORM DRAIN INLET PROTECTION - 3.07

ALL STORM DRAIN INLETS DRAINING DISTURBED AREAS SHALL BE PROTECTED DURING CONSTRUCTION.

## d. TEMPORARY SEDIMENT TRAP - 3.13

THIS DEVICE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS. THE DEVICES SHALL BE USED TO DETAIN SEDIMENT\_LADEN RUNOFF FROM SMALL DISTURBED AREAS LONG ENOUGH TO ALLOW THE MAJORITY OF THE SEDIMENT TO SETTLE OUT.

## e. OUTLET PROTECTION - 3.18

RIPRAP SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER TO REDUCE EROSION AND UNDER-CUTTING AT NEWLY INSTALLED OUTLETS AND TO REDUCE FLOW VELOCITIES BEFORE STORM WATER ENTERS RECEIVING CHANNELS.

## f. CHECK DAM - 3.20

THIS DEVICE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS. THE DEVICES SHALL BE USED TO REDUCE THE VELOCITY OF CONCENTRATED STORM WATER FLOWS, THEREBY REDUCING THE EROSION IN NEWLY CONSTRUCTED SWALES AND DITCHES.

### 8. VEGETATIVE PRACTICES

### a. TOPSOIL STOCKPILE - 3.30

TOPSOIL SHALL BE STRIPPED, STOCKPILED AND THEN REDISTRIBUTED OVER THE AREAS TO BE PERMANENTLY SEEDED UPON REACHING FINAL GRADE. TOPSOIL STOCKPILE LOCATIONS SHALL BE APPROVED BY THE ENGINEER. SURPLUS TOPSOIL SHALL BE LEFT IN A NEAT STABILIZED STOCKPILE (OR AS ORDERED BY THE ENGINEER).

#### b. TEMPORARY SEEDING - 3.31

THE TEMPORARY DIVERSION DIKES, TOPSOIL STOCKPILES, AND ALL AREAS TO BE ROUGH-GRADED DURING THE INITIAL PHASE OF CONSTRUCTION SHALL BE PROTECTED WITH ADEQUATE SEDIMENT BARRIERS AND SEEDED WITH FAST-GERMINATING, TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SELECTION OF THE APPROPRIATE SEED MIXTURE WILL DEPEND UPON THE TIME OF YEAR IT IS TO BE APPLIED.

#### 9. MANAGEMENT STRATEGIES

- a. CONSTRUCTION SHOULD BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- **b.** INLET PROTECTION MEASURES SHALL BE INSTALLED AS A <u>FIRST</u> STEP IN GRADING AND SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
- c. TEMPORARY SEEDING OR OTHER STABILIZATION SHALL FOLLOW IMMEDIATELY AFTER GRADING.
- d. AREAS WHICH ARE NOT TO BE DISTURBED SHALL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.
- e. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.

# 10. PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. PERMANENT STABILIZATION SHALL BE IN ACCORDANCE WITH SPECIFICATIONS T-901 SEEDING, T-908 MULCHING, AND R-606 JUTE MESH.

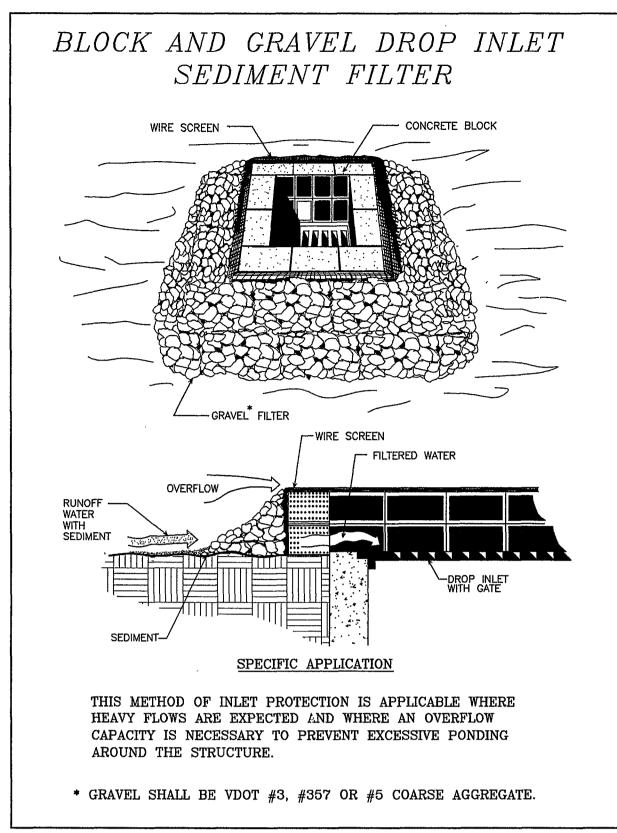
# 11. STORM WATER MANAGEMENT

ANALYSIS OF THE EXISTING STORMWATER MANAGEMENT FACILITIES REVEALS THAT THESE STRUCTURES WERE DESIGNED TO ACCOMMODATE THE ULTIMATE DEVELOPMENT OF THE AIRPORT, INCLUDING THIS PROJECT, AND REDUCE THE PEAK RATES OF RUNOFF IN ACCORDANCE WITH CITY OF ROANOKE STORMWATER MANAGEMENT CRITERIA. THIS INCLUDES THE ULTIMATE 10-YEAR PEAK RUNOFF BEING REDUCED TO THE PREDEVELOPMENT 2-YEAR PEAK RATE AND THE ULTIMATE 25-YEAR PEAK RATE RUNOFF BEING REDUCED TO THE PREDEVELOPMENT 10-YEAR PEAK RATE.

# . MAINTENANCE

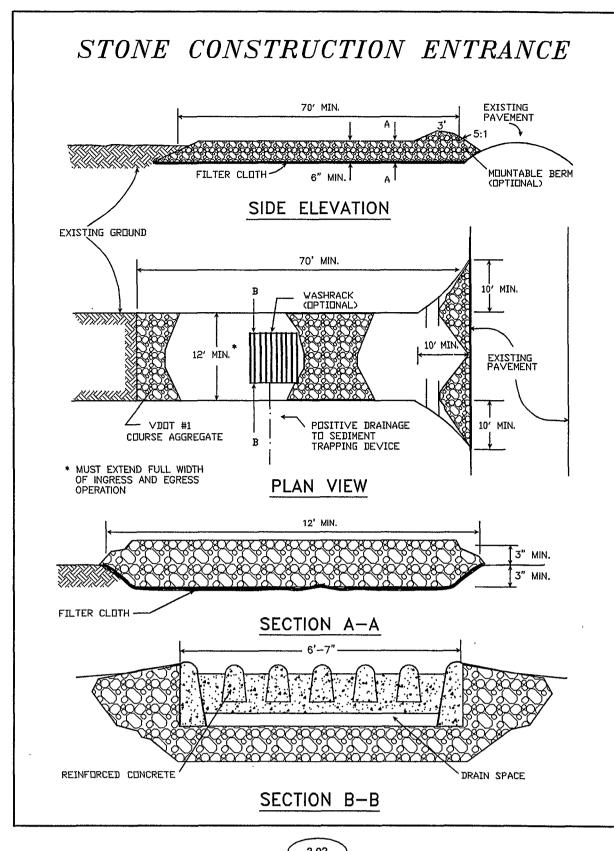
IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR.

- a. THE INLET PROTECTION DEVICES SHALL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT.
- b. THE GRAVEL OUTLETS SHALL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF THE GRAVEL IS CLOGGED WITH SILT, IT SHALL BE REMOVED AND CLEANED OR REPLACED.
- c. THE SILT FENCE BARRIERS SHALL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION.
- d. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND OF GRASS IS MAINTAINED. AREAS SHOULD BE REPAIRED AND RESEEDED, AS NEEDED.
- 13. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

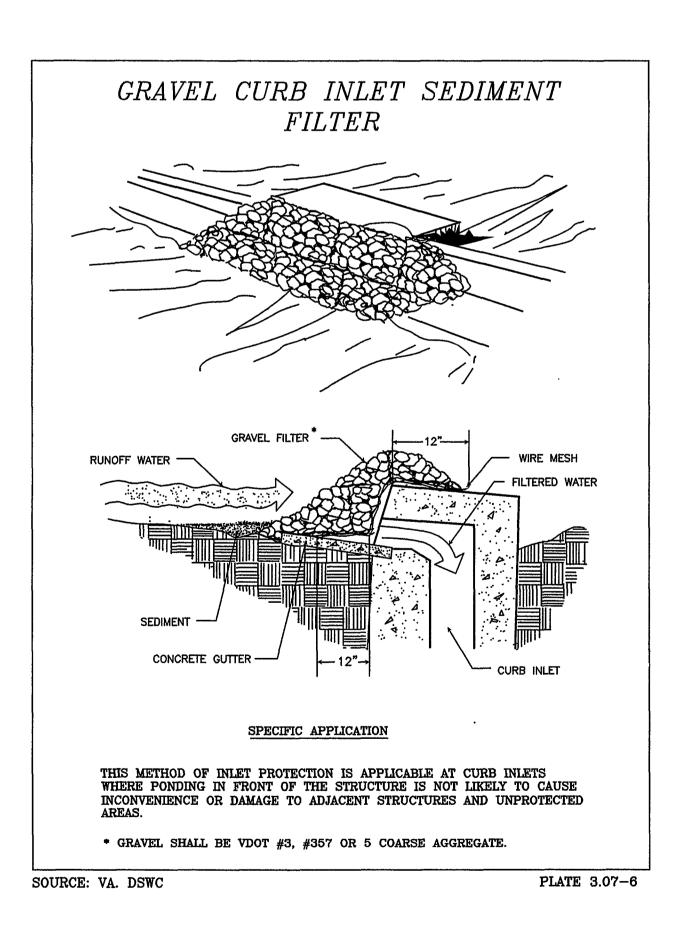


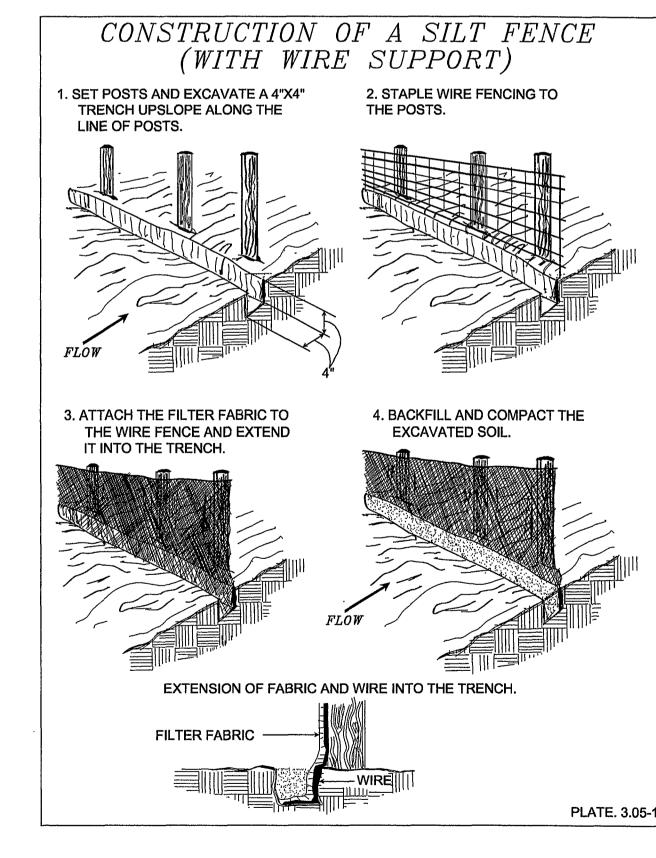
SOURCE: VA. DSWC

PLATE. 3.07-3

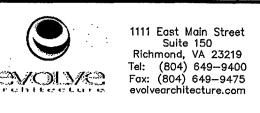


3.02





NO. REVISIONS BY APP. DATE









CONSTRUCT HANGARS	AIP NO. NON-AIP		<b>JOB NO.</b> VA 07007
<b>EROSION &amp; SEDIMENT</b>	DRAWN BY:	PJW	SHEET
ONTROL NOTES & DETAILS	<b>DESIGNED BY:</b> JKB		OF OF
ROANOKE REGIONAL AIRPORT	SCALE: NONE	DATE: JUNE 2007	<b>7</b> 13