

- ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
- DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
- DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
- ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
- THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
- FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
- ALL EARTH REMOVED AND NOT NEEDED ON CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
- STABILIZATION SHALL BE AS PER THE CHART BELOW:

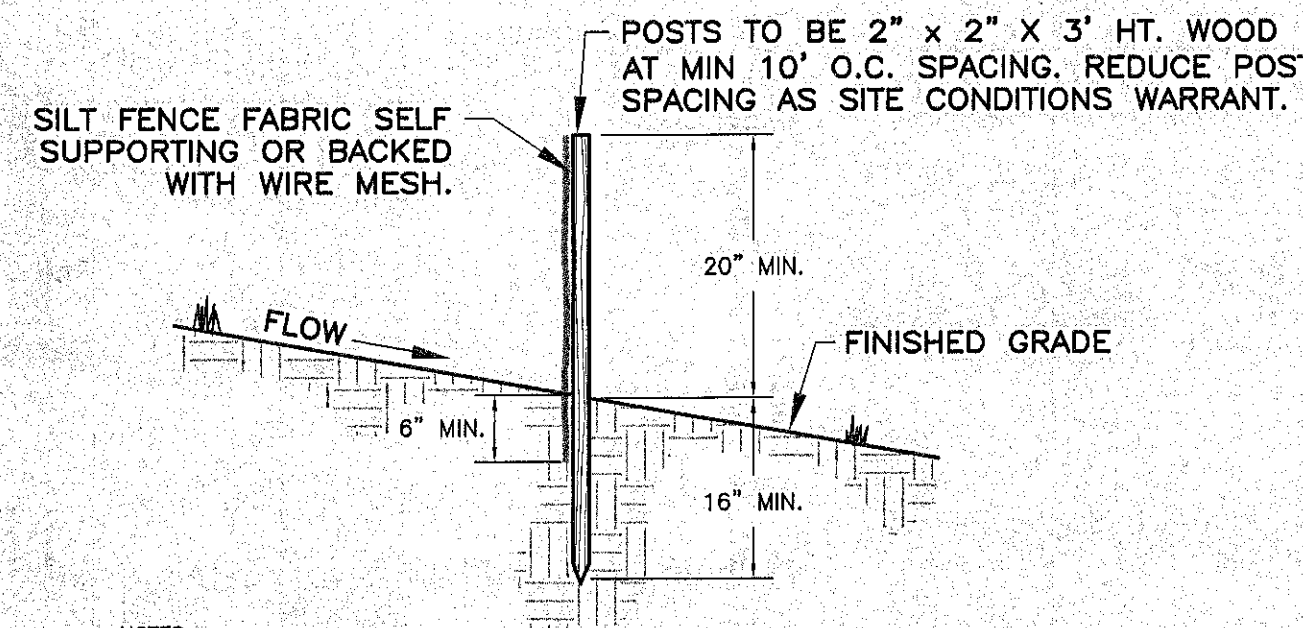
MINIMUM FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	SWALE A (5ac. OR LESS)	SWALE B (5ac.-10ac.)
1	0.5 - 3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1 - 5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1 - 8.0%	SEED WITH JUTE OR EXCELSIOR; SOD	LINED RIP-RAP 4-8"
4	8.1 - 20%	LINED 4-8" RIP-RAP	ENGINEERED DESIGN

- PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.
- FLOW CHANNEL STABILIZATION SHOWN ABOVE WILL REQUIRE SUBSEQUENT MAINTENANCE AND ATTENTION, SINCE RUNOFF PATTERNS, QUANTITY, QUALITY AND SEDIMENT CONTENT VARY WIDELY FROM SITE TO SITE. ACTUAL STABILIZATION MAY EXCEED THAT SHOWN IN THE CONTRACT DOCUMENTS. REMOVE SILT ACCUMULATIONS ROUTINELY AND DISPOSE OF PROPERLY SUCH THAT WATER QUALITY IS NOT IMPAIRED. DO NOT INTRODUCE SILT INTO TOPSOIL/RESTORATION AREAS.
- REMOVE TEMPORARY SWALE WHEN SITE IS SUBSTANTIALLY OR COMPLETELY STABILIZED AND SWALE IS NO LONGER REQUIRED. PERFORM FINAL GRADING AND ESTABLISH VEGETATION AT ALL DISTURBED AREAS.

A TEMPORARY SWALE

SCALE: N.T.S.

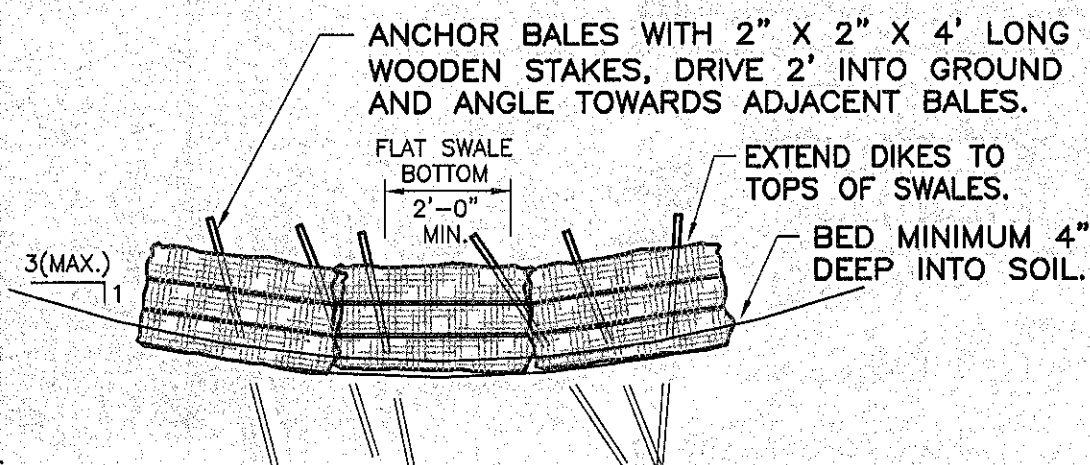


NOTES:

- SILT FENCE FABRIC SHALL BE FIRMLY ATTACHED TO POSTS USING WIRE TIES OR STAPLES.
- EMBED FILTER CLOTH A MINIMUM OF 6" BELOW FINISHED GRADE.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED A MINIMUM OF SIX INCHES AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED IN ACCORDANCE WITH THE "GENERAL MAINTENANCE PLAN" OR WHEN BULGES OF MATERIAL DEVELOP IN FENCES.

B SILT FENCE

SCALE: N.T.S.



NOTES:

- BALES SHALL BE TIGHTLY PLACED IN ROW WITH ENDS BUTTED AND CENTERED ON SWALE CENTERLINE.
- EACH BALE SHALL BE EMBEDDED INTO THE SOIL A MINIMUM OF FOUR (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARDS THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER.
- STOCKPILES OF SOIL MATERIALS SCHEDULED FOR STORAGE MORE THAN 1 WEEK SHALL BE RINGED WITH SILT FENCE OR STRAW BALES.
- INSPECTION SHALL BE AS SPECIFIED IN THE "GENERAL MAINTENANCE PLAN" AND SWPPP.
- GRADE DITCH PER GRADING PLAN. ESTABLISH TURF AS SOON AS POSSIBLE, PER SWPPP.
- REMOVE SILT ACCUMULATIONS ROUTINELY AND DISPOSE OF PROPERLY SUCH THAT WATER QUALITY IS NOT IMPAIRED. DO NOT INTRODUCE SILT INTO TOPSOIL/RESTORATION AREAS.

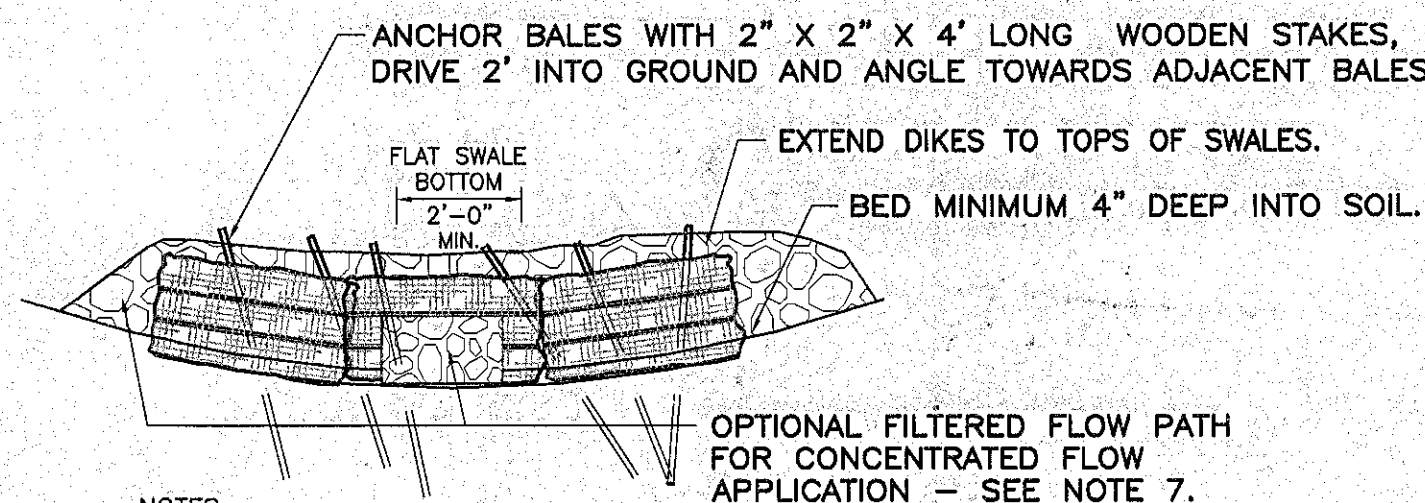
C STRAW BALE DIKE

SCALE: N.T.S.

SWPPP

(STORMWATER POLLUTION PREVENTION PLAN)

- * HAS BEEN DETERMINED TO BE REQUIRED BASED ON SCOPE OF PROJECT. SWPPP REQUIRES DOCUMENTS FROM CONSTRUCTION TEAM.
- * HAS BEEN DETERMINED NOT TO BE REQUIRED BASED ON SCOPE OF PROJECT.
- * REFER TO REQUIREMENTS LISTED ON THIS SHEET AND SPECIFICATION SECTION 01560. IF SCOPE OF PROJECT CHANGES, THE REQUIREMENT FOR A SWPPP AND NYSDEC PERMITTING MAY REQUIRE RE-EVALUATION.

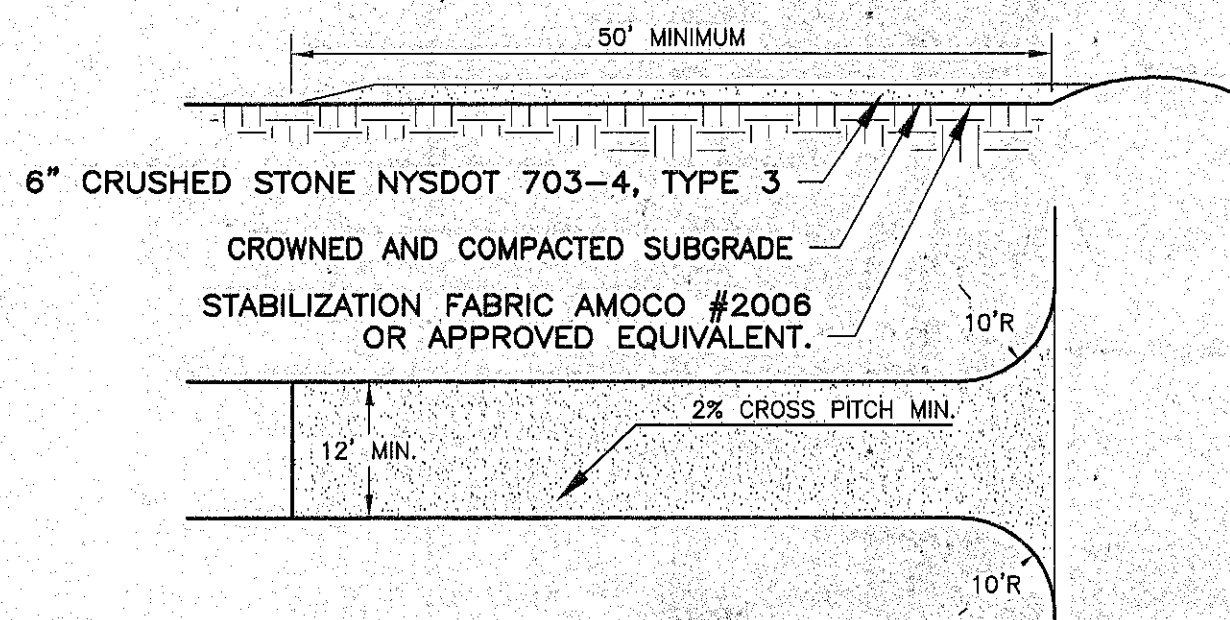


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- STOCKPILES OF SOIL MATERIALS SCHEDULED FOR STORAGE MORE THAN 1 WEEK SHALL BE RINGED WITH SILT FENCE.
- INSPECTION SHALL BE AS SPECIFIED IN THE "GENERAL MAINTENANCE PLAN".
- GRADE DITCH PER GRADING PLAN. ESTABLISH TURF AS SOON AS POSSIBLE.
- FOR DITCHES WHERE SIGNIFICANT CONCENTRATED FLOWS CAN OCCUR, CUT PORTIONS OF BALES AND BACKFILL OPENING WITH LIGHT RIP-RAP AND FILTER STONE ON UPSTREAM SIDE. ENVELOP BALES IN RIP-RAP AND STONE. OVERFLOW ELEVATION SHALL BE AT LEAST 2 FEET BELOW ADJACENT ROAD WHEREVER POSSIBLE.

D SEDIMENT DIKE DETAIL

SCALE: N.T.S.



NOTES:

- STABILIZATION FABRIC SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA PRIOR TO PLACING OF STONE. OVERLAP FABRIC PER MANUFACTURER'S SPECIFICATIONS.
- ALL SURFACE WATER FLOWING OR DIVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE ROAD.
- WHEN EQUIPMENT WASHING IS REQUIRED IT SHALL BE DONE ON A SEPARATE AREA ADJACENT TO THE ENTRANCE ROAD AND STABILIZED WITH STONE. EQUIPMENT WASHING WILL BE REQUIRED IF ROAD RECEIVES SIGNIFICANT SOILS OR DEBRIS ACCORDING TO JUDGMENT BY OWNER OR OWNER'S REPRESENTATIVE.
- KEEP ROADS CLEAR OF STONES, MUD, AND OTHER CONSTRUCTION DEBRIS. CLEAN PAVEMENT AS ACCUMULATIONS WARRANT AND AS ORDERED BY ENGINEER.
- REMOVE SILT ACCUMULATIONS ROUTINELY AND DISPOSE OF PROPERLY SUCH THAT WATER QUALITY IS NOT IMPAIRED. DO NOT INTRODUCE SILT INTO DRAINAGE SYSTEM OR TOPSOIL/RESTORATION AREAS.

E CONSTRUCTION ENTRANCE

SCALE: N.T.S.

SUGGESTED EROSION CONTROL CONSTRUCTION SCHEDULE:

- FLAG THE GRADING LIMITS AND MARK A 10' BUFFER AREA BEYOND THE GRADING LIMITS FOR PROTECTION.
- INSTALL TEMPORARY CONSTRUCTION ENTRANCE AT APPROXIMATE LOCATION OF DRIVEWAY IF DRIVEWAY STONE HAS NOT YET BEEN PLACED.
- INSTALL PROTECTIVE MEASURES AROUND TREES TO BE RETAINED WITHIN GRADING LIMITS.
- INSTALL BRIGHTLY COLORED CONSTRUCTION FENCE ALONG ROAD TO LIMIT VEHICULAR ACCESS TO STONE DRIVEWAY OR CONSTRUCTION ACCESS DRIVE.
- INSTALL INLET PROTECTION DEVICES AT CATCH BASINS DOWN SLOPE FROM THE SITE THAT ARE VULNERABLE TO SEDIMENT ACCUMULATIONS.
- COMPLETE SITE CLEARING, STOCKPILE SAVED MATERIALS IN DESIGNATED AREAS.
- INSTALL SILT FENCES IN LOCATIONS AROUND THE PERIMETER OF SITE WORK, STOCKPILE AREA AND ALONG THE CONTOUR OF ALL DISTURBED SLOPES AT A MINIMUM OF EVERY 50' OF HORIZONTAL DISTANCE OR AS SPECIFIED, MEASURED PERPENDICULAR TO THE SLOPE.
- ROUGH GRADE SWALES AROUND PROPOSED EARTHWORK AND STRUCTURES TO EXTEND POSSIBLE WITHIN GRADING LIMITS. INSTALL SILT FENCES, STRAW BALE DIKES, DIVERSION SWALES AND OTHER EROSION CONTROL MEASURES AS SHOWN ON PLANS, AND AS NECESSARY TO COMPLY WITH THE SWPPP AND ENSURE WATER QUALITY OF RUNOFF.
- CONTRACTOR MUST ROUTINELY INSPECT AND MAINTAIN EROSION CONTROL DEVICES AND BEST MANAGEMENT PRACTICES (BMP'S). DOCUMENT WEEKLY INSPECTIONS IN SEPARATE CONTRACTOR'S LOG.
- ROUTE ALL DEWATERING AND SUMP PUMP OUTFALLS, OF TURBID QUALITY, DIRECTLY TO SEDIMENT BASINS OR OTHER APPROPRIATE BMP.
- THE CONTRACTOR SHALL INITIATE STABILIZATION OF ANY BARE SOIL AREAS, AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN 14 DAYS AFTER INITIAL DISTURBANCE OF THE RESPECTIVE AREAS OF THE SITE. THE CONTRACTOR SHALL RETAIN SITE RECORDS OF THE EARTHWORK AND STABILIZATION WORK PERFORMED. EXCEPTIONS TO THIS POLICY CAN BE GRANTED UNDER NORMAL CONDITIONS IN THE FOLLOWING INSTANCES:
 - WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
 - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN TWENTY-ONE (21) DAYS, TEMPORARY STABILIZATION MEASURES NEED NOT BE INITIATED ON THAT PORTION OF THE SITE IF REQUESTED IN WRITING AND APPROVED BY THE ENGINEER.
- ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ATTAINED. REMOVAL OF ANY EROSION CONTROL MEASURES MUST FIRST BE APPROVED BY THE ENGINEER AND/OR THE JURISDICTION HAVING AUTHORITY.
- WHEN WEATHER CONDITIONS PROHIBIT SEED GERMINATION, DISTURBED GROUND SHOULD BE MULCHED WITH STRAW OR FIBER MULCH AND RECEIVE A BINDER/TACK APPLICATION OR EQUIVALENT.
- THE SCHEDULE DESCRIPTIONS ABOVE ARE SUGGESTIONS PROVIDED TO ASSIST THE CONTRACTOR(S) IN DEVELOPING THEIR STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SCHEDULE SPECIFIC TO THIS PROJECT. THE ACTUAL SCHEDULING AND IMPLEMENTATION OF THE SWPPP AND MAINTENANCE OF REQUIRED WATER QUALITY IS THE RESPONSIBILITY OF THE CONTRACTOR(S). THE EROSION AND SEDIMENT CONTROL PLAN AND DEVICES SHOWN ARE CONSIDERED TO COMPRISE THE MAJORITY OF EFFORTS NEEDED, BUT NOT NECESSARILY ALL THAT WILL BE REQUIRED. WEATHER, SITE AND UNFORESEEN CONDITIONS CAN DICTATE THAT GREATER EFFORTS WILL BE NECESSARY. IN THE CASE OF PROJECTS THAT DISTURB MORE THAN 1 ACRE OF LAND, THE OWNER, OR OWNER'S REPRESENTATIVE, WILL DEVELOP THE SWPPP WITH SUBMITTED CONTRIBUTIONS FROM THE ASSIGNED CONTRACTORS PERFORMING PROJECT SITE WORK. THESE CONTRIBUTIONS WILL CONSIST OF AN EROSION AND CONTROL SCHEDULE (AS SPECIFIED IN THE PROJECT MANUAL), SHORT NARRATIVE OF ANTICIPATED EROSION CONTROL ACTIVITIES, PRE-CONSTRUCTION PHOTOGRAPHS AS SPECIFIED, AND SIGNED CERTIFICATION STATEMENTS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROVIDING PERSONS TO PERFORM COMPETENT AND UNBIASED WEEKLY INSPECTIONS, AFTER EVERY 0.5" OF RAINFALL PER 24 HOURS AND TO MAINTAIN A SITE LOG.

GENERAL MAINTENANCE PLAN:

- ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF PRODUCING RAINFALL, BUT IN NO CASE LESS THAN ONCE EVERY WEEK, IN ACCORDANCE WITH THE SWPPP AND NYSDEC SPODES GENERAL PERMIT No. GP-02-01. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
- SEDIMENT WILL BE REMOVED FROM BEHIND STRAW BALE DIKES AND BEHIND SILT FENCES WHEN IT BECOMES 8" DEEP AT THE DIKE/FENCE OR WHEN ACCUMULATIONS HAVE ADVERSELY AFFECTED ITS FUNCTION. STRAW BALE DIKES AND SILT FENCES WILL BE REPAIRED BY REMOVING SILT AND SEDIMENTS AND THEN TAMPING LOOSE SOIL ALONG BASE, REPLACING DAMAGED OR WEAKENED POSTS AND STAKES, OR AS NECESSARY TO MAINTAIN A BARRIER.
- SEDIMENT WILL BE REMOVED AND FILTER DEVICES CLEANED OR REPLACED AT CATCH BASINS WHEN THE SEDIMENT POOL NO LONGER DRAINS FREELY. SEDIMENT ACCUMULATIONS WITHIN DRAINAGE STRUCTURES AND PIPING SHALL BE CLEANED OUT AT THE PROJECT COMPLETION AND AS ORDERED BY ENGINEER WHEN DETERMINED THAT PRE-COMPLETION INSTALLATIONS NO LONGER FUNCTION PROPERLY DUE TO SEDIMENT OR DEBRIS. EVENTUAL SYSTEM CLEANING IS NOT AN EXCUSE TO NOT IMPLEMENT APPROPRIATE CONTROLS UPSTREAM. THE ENGINEER SHALL BE THE FINAL JUDGE REGARDING WHETHER THE PIPING SYSTEM REQUIRES CLEANING. THE CONTRACTOR CAN MINIMIZE THE NECESSITY OF EXTENSIVE SILT AND SEDIMENT ACCUMULATION REMOVALS BY EFFECTIVE IMPLEMENTATION OF THE SWPPP.
- ALL DISTURBED AREAS WILL BE FERTILIZED, SEEDING AND MULCHED ACCORDING TO LANDSCAPE RESTORATION SPECIFICATIONS TO MAINTAIN VIGOROUS, DENSE VEGETATION. REPAIR ANY ERODED SLOPES. REAPPLY TOPSOIL, RESEED AND STABILIZE REPAIR AREA AS REQUIRED FOR PERMANENT OR TEMPORARY MEANS. REPAIR SOIL AREAS DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT.
- IMMEDIATELY REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION EQUIPMENT, MAINTENANCE OR OTHER ACTIVITY TO ANY EROSION CONTROL MEASURE, OR BEST MANAGEMENT PRACTICE OR DEVICE.
- THE PRIME CONTRACTOR(S) ARE RESPONSIBLE FOR THE PERFORMANCE AND COMPLIANCE OF THEIR SUB-CONTRACTOR'S ACTIVITIES RELATING TO THE SWPPP. THEY SHALL MAKE FREQUENT INSPECTIONS OF THEIR WORK AND COORDINATE APPROPRIATE INSTALLATION AND MAINTENANCE OF EROSION CONTROL AND WATER QUALITY DEVICES.

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PLANNING BOARD
TOWN OF BETHLEHEM

PLANNING BOARD

PLANNING BOARD
TOWN OF BETHLEHEM
ALBANY COUNTY, NEW YORK
FINAL PLAT APPROVAL

WHEN SIGNED BY THE DUTY AUTHORIZED OFFICER OF THE PLANNING BOARD, THIS ENDORSEMENT CONSTITUTES FINAL APPROVAL OF THIS PLAT

SIGNED: *Robert W. Mathias*
TITLE: *Chairman*
DATE: *3-14-05*

SEE ALSO CERTIFICATE OF APPROVAL OF FINAL PLAT NO. *225-12*

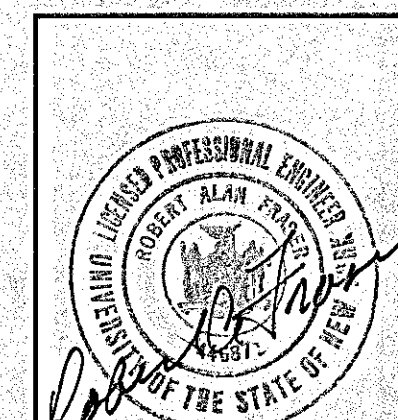
FINAL PLAT OF PROPOSED SUBDIVISION OF LANDS OF WILLIAM VAN VALKENBURG ST. NO. 515 DAWSON ROAD

TOWN OF BETHLEHEM
COUNTY OF BETHLEHEM STATE OF NEW YORK

PREPARED BY
EDWARD W. BOUTELLE & SON
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A DIVISION OF J. KENNETH FRASER AND ASSOCIATES, P.E. L.S. LA, P.C.
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CAD FILE: 4009-101.dwg
FIELD BK. 711 PG. 72

DATE: AUGUST 12, 2004
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