

Notes

- TO PROTECT THE INFILTRATION SURFACES (BENEATH AND ADJACENT TO THE RECHARGE SYSTEMS) FROM DEGRADATION BY CONSTRUCTION ACTIVITIES INCLUDE:
1. PREVENTION OF CONTAMINATION OF THE EXPOSED SUBGRADE BY CONSTRUCTION VEHICLES.
 2. PREVENTION OF EXCESSIVE COMPACTION BY CONSTRUCTION VEHICLES.
 3. PREVENTION OF THE DISCHARGE OF WATER FROM CONSTRUCTION DEWATERING ACTIVITIES INTO THESE FACILITIES.
 4. PREVENTION OF DISCHARGE OF STORMWATER INTO THESE FACILITIES UNTIL THE CONTRIBUTING AREAS ARE STABILIZED, UNLESS SPECIFIC MEASURES ARE PROVIDED FOR PROTECTING AND RESTORING THE INFILTRATION SURFACE.
- IN AREAS OF ROCK EXCAVATION:
1. LEDGE SHALL BE REMOVED TO APPROXIMATELY 18" BELOW FINISHED GRADE AND BACKFILLED WITH GRAVEL FOR 12" AND LOAM FOR 6".
 2. EACH PROPERTY SHOULD INVESTIGATE THE USE OF RETAINING WALLS TO MINIMIZE EXCESSIVE SLOPES.

Operation & Maintenance Plan

THIS PLAN SHOULD BE USED IN CONJUNCTION WITH SEPARATE OPERATIONS AND MAINTENANCE PLAN DOCUMENT FOR MADISON ESTATES DATED SEPTEMBER 27, 2010.

THIS PLAN SHOULD BE USED IN CONJUNCTION WITH SEPARATE STORMWATER POLLUTION PREVENTION PLAN DOCUMENT FOR MADISON ESTATES DATED SEPTEMBER 27, 2010.

THE MAINTENANCE AND UPKEEP ON THE ROADWAY WILL INCLUDE THE FOLLOWING ELEMENTS:

GENERAL MAINTENANCE OF EROSION CONTROL ELEMENTS INCLUDING REGRADING, REVEGETATION, REPLACING RIPRAP, ETC., ON AN AS NEEDED BASIS.

SWALES & POCKET WETLANDS WILL BE INSPECTED SEMI-ANNUALLY BY THE OWNER AND WILL BE MAINTAINED AS REQUIRED. THE BASE OF THE WETLAND AND SWALES SHALL BE MONITORED FOR APPROPRIATE GROWTH. WOODY GROWTH SHALL BE CLEARED AS PART OF THE SEMI ANNUAL MAINTENANCE PROGRAM.

BUILD UP OF SEDIMENTATION AND DEBRIS SHALL BE MONITORED AND REMOVED ON A SEMI-ANNUALLY BASIS IN ORDER TO KEEP THE DISCHARGES AND FLOWS THROUGH THE SWALES FUNCTIONING PROPERLY.

ALL STORMWATER MANAGEMENT SYSTEMS MUST HAVE AN OPERATION AND MAINTENANCE PLAN TO ENSURE THAT SYSTEMS FUNCTION AS DESIGNED.

THE OWNER WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM AND ALL OF ITS APPURTENANCES. THE FOLLOWING MAINTENANCE PROGRAM SHALL BE IMPLEMENTED:

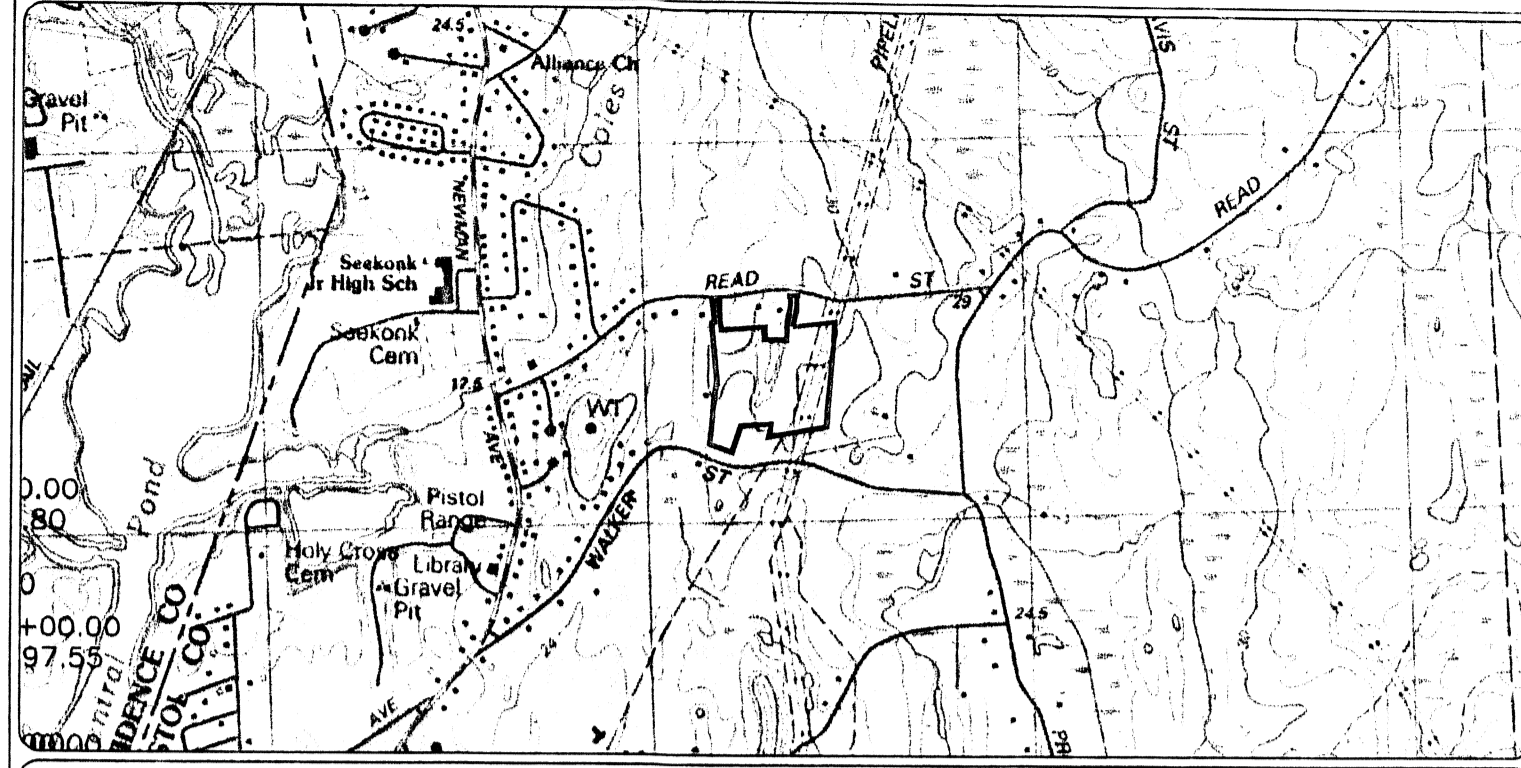
- A. POCKET WETLAND WITH SEDIMENT FOREBAY**
1. POCKET WETLANDS SHALL BE INSPECTED AT LEAST TWICE A YEAR DURING THE GROWING AND NON-GROWING SEASONS. INSPECTIONS CONDUCTED BEFORE AND AFTER A STORM EVENT WILL HELP DETERMINE IF THE WETLANDS ARE HEALTHY. DURING INSPECTIONS RECORD AND MAP THE FOLLOWING:
 - TYPES AND DISTRIBUTION OF DOMINANT WETLAND PLANTS;
 - PRESENCE AND DISTRIBUTION OF PLANTED WETLAND SPECIES;
 - PRESENCE AND DISTRIBUTION OF INVASIVE WETLAND SPECIES;
 - INDICATIONS OF OTHER SPECIES REPLACING THE PLANTED SPECIES;
 - PERCENTAGE OF STANDING WATER THAT IS UNVEGETATED
 - MAXIMUM ELEVATION AND VEGETATIVE CONDITION IN THIS ZONE
 - STABILITY OF THE ORIGINAL DEPTH ZONES AND MICRO-TOPOGRAPHIC FEATURES
 THE CORRECTIVE ACTIONS FOR THE WETLAND MAINTENANCE PROVISIONS ABOVE ARE DICTATED IN THE OPERATIONS AND MAINTENANCE PLAN.
 2. DURING INSPECTIONS THE DEPTH OF SEDIMENT ACCUMULATION IN THE FOREBAY SHALL BE MEASURED AND THE OUTLET STRUCTURE SHOULD BE CHECKED FOR EVIDENCE OF CLOGGING. THE EMBANKMENT SHALL BE VISUALLY INSPECTED FOR EROSION, CRACKING, AND TREE GROWTH. THE INLET AND OUTLET STRUCTURES SHALL BE INSPECTED FOR SEDIMENT ACCUMULATION AND CHANNEL EROSION CONTROL MEASURES.
 3. ANY NECESSARY REPAIRS SHOULD BE MADE IMMEDIATELY.
 4. THE DETENTION BASIN SIDE SLOPES AND EMBANKMENT SHOULD BE MOWED TWICE A YEAR. ALL CLIPPINGS SHALL BE REMOVED AND DISPOSED. TRASH AND OTHER DEBRIS SHOULD BE REMOVED AT THIS TIME.
 5. SEDIMENTS SHOULD BE REMOVED FROM THE FOREBAYS AND BASINS AS NECESSARY, AND AT LEAST ONCE EVERY FOUR (4) YEARS OR WHEN ACCUMULATED DEPTH REACHES SIX INCHES (6"). ALL SEDIMENTS SHALL BE HANDLED PROPERLY AND DISPOSED IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
- B. GRASS SWALE:**
1. GRASS SWALES SHALL BE INSPECTED AT LEAST ONCE PER YEAR. INSPECTIONS CONDUCTED BEFORE AND AFTER A STORM EVENT WILL HELP DETERMINE IF THE SWALES ARE WORKING AS DESIGNED.
 2. SHALL BE MOWED TO NO LESS THAN 4 INCHES AND ALL GRASS CLIPPING SHALL BE REMOVED AFTER MOWING
 3. ANY NECESSARY REPAIRS SHOULD BE MADE IMMEDIATELY.
 4. TRASH AND OTHER DEBRIS SHOULD BE REMOVED.
 5. SEDIMENTS SHOULD BE REMOVED FROM THE SWALES AS NECESSARY, AND AT LEAST ONCE EVERY FOUR (4) YEARS OR WHEN ACCUMULATED DEPTH REACHES SIX INCHES (6"). ALL SEDIMENTS SHALL BE HANDLED PROPERLY AND DISPOSED IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
 6. REPAIR AREAS OF EROSION AND RE-VEGETATE AS NEEDED, BUT NO LESS THAN ONCE A YEAR.
- C. WATER QUALITY SWALES**
1. WATER QUALITY SWALES SHALL BE INSPECTED THE FIRST FEW MONTHS AFTER CONSTRUCTION AND TWICE PER YEAR AFTER. INSPECTIONS CONDUCTED BEFORE AND AFTER A STORM EVENT WILL HELP DETERMINE IF THE SWALES ARE WORKING AS DESIGNED.
 2. INSPECT SWALES TO MAKE SURE VEGETATION IS ADEQUATE AND SLOPES ARE NOT ERODING. CHECK FOR RILING AND GULLING.
 3. ANY NECESSARY REPAIRS SHOULD BE MADE IMMEDIATELY.
 4. TRASH AND OTHER DEBRIS SHOULD BE REMOVED.
 5. SEDIMENTS SHOULD BE REMOVED FROM THE SWALES AS NECESSARY, AND AT LEAST ONCE EVERY YEAR OR WHEN ACCUMULATED DEPTH REACHES SIX INCHES (6"). ALL SEDIMENTS SHALL BE HANDLED PROPERLY AND DISPOSED IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

THE OWNER SHALL KEEP A WRITTEN RECORD OF INSPECTION DATES AND FINDINGS, MAINTENANCE OPERATIONS, AND ALL REPAIRS UNTIL THE ROAD IS ACCEPTED BY THE TOWN. AN INSPECTION/MAINTENANCE CHECKLIST SHALL BE USED IN THE SPECIFIED INSPECTIONS. RECORDS OF INSPECTIONS AND MAINTENANCE SHALL BE KEPT FOR AT LEAST THREE YEARS, AND AVAILABLE ON REASONABLE NOTICE FOR INSPECTION BY THE CONSERVATION COMMISSION.

ALL CLIPPINGS AND OTHER WASTE FROM MAINTENANCE OF INDIVIDUAL YARDS AND THE DRAINAGE FACILITIES SHALL NOT BE DISPOSED WITHIN THE CONSERVATION AREA.

LEGEND:

- LIMIT OF ROADWAY GRADING
- HAYBALES



LOCATION (NOT TO SCALE) MAP

EROSION & SEDIMENT CONTROL NOTES:

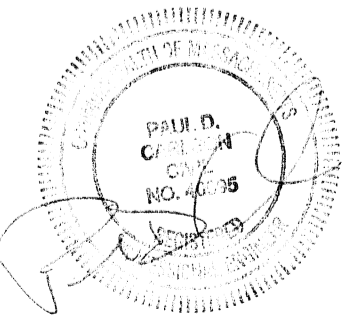
1. EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION. GRAVEL CONSTRUCTION ENTRANCE WILL BE INSTALLED BEFORE CONSTRUCTION TRAFFIC INTO AND OUT OF PROJECT AREA BEGINS. STABILIZATION OF ALL REGRADED AND SOIL STOCKPILE AREAS WILL BE INITIATED AND MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF SEEKONK REGULATIONS. ALL EROSION CONTROL MEASURES ARE TO BE MAINTAINED AND UPGRADED AS REQUIRED TO ACHIEVE PROPER SEDIMENT CONTROL DURING CONSTRUCTION.
3. ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING CONSTRUCTION PERIOD, IF DEEMED NECESSARY BY THE OWNER OR AGENTS OF THE OWNER.
4. EACH HOUSE LOT SHALL BE REQUIRED TO MAINTAIN EROSION AND SEDIMENT CONTROLS DURING HOUSE CONSTRUCTION. ADDITIONAL MEASURES WILL BE REQUIRED TO PREVENT SEDIMENT DISCHARGE INTO THE STREET, DRAINAGE CHANNELS, AND POCKET WETLAND FROM THE INDIVIDUAL DEVELOPMENT OF EACH LOT.
5. SEEDING MIXTURE FOR FINISHED GRASSED AREAS WILL BE AS FOLLOWS:
 - KENTUCKY BLUE GRASS = 45%
 - CREeping RED FESCUE = 45%
 - PERENNIAL RYE GRASS = 10%
 SEED TO APPLIED AT A RATE OF 4 LBS / 1000 S.F. FERTILIZER SHALL BE APPLIED AT A RATE OF 2 LBS / 1000 S.F. PLANTING SEASON SHALL BE APRIL 1 TO OCTOBER 15. AFTER OCTOBER 15 AREAS NOT SEEDED SHALL BE STABILIZED WITH HAY BALE CHECK, FILTER FABRIC OF WOODEN MULCH AS REQUIRED TO CONTROL EROSION.
6. AREAS LEFT BARE BEFORE FINISH GRADING AND SEEDING IS ACHIEVED, SHALL RECEIVE A TEMPORARY SEEDING OF PERENNIAL RYE GRASS APPLIED TO A RATE OF 2 LBS / 1000 S.F. AT A DEPTH OF 1/2" LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) SHALL BE APPLIED AS SEEDBED PREPARATION AT A RATE OF 90 LBS / 1000 S.F. WHERE GRASS PREDOMINATES, FERTILIZE ACCORDING TO A SOIL TEST AT A MINIMUM APPLICATION RATE OF 1 LB OF NITROGEN PER 1000 S.F. AREAS TO BE LEFT BARE BEFORE FINISH GRADING AND SEEDING OUTSIDE OF PLANTING SEASONS SHALL RECEIVE AN AIR-DRIED WOOD CHIP MULCH, FREE OF COURSE MATTER, TREATED WITH 12 LBS NITROGEN PER TON, APPLIED AT A RATE OF 185-275 LBS / 1000 S.F.
7. CONTRACTOR SHALL BE ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, AND NOTIFY THE PROPER TOWN AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY. THE OWNER SHALL BE RESPONSIBLE FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.
8. THE CONTRACTOR SHALL REQUEST THE LOCAL APPROVING AUTHORITY (LAA) INSPECT AND APPROVE THE INSTALLATION OF ALL EROSION CONTROL MEASURES PRIOR TO THE START OF CONSTRUCTION. PERIODIC INSPECTIONS OF EROSION CONTROL MEASURES MAY BE PERFORMED BY THE LAA, THE CONTRACTOR SHALL REPAIR, UPGRADE OR REPAIR ANY MEASURES THE LAA MAY FEEL ARE IN NEED OF SUCH.
9. STOCKPILES OF SOIL SHALL BE SURROUNDED BY A SEDIMENT BARRIER. SOIL STOCKPILES TO BE LEFT BARE FOR MORE THAN FIFTEEN (15) DAYS SHALL BE STABILIZED WITH TEMPORARY VEGETATION OR MULCH, IF STOCKPILES ARE TO REMAIN FOR MORE THAN SIXTY (60) DAYS, FILTER FABRIC SHALL BE USED IN PLACE OF HAY BALES. SIDE SLOPES SHALL NOT EXCEED 2 : 1.
10. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE LIFE OF HIS CONTRACT. DUST CONTROL SHALL INCLUDE BUT NOT LIMITED TO SPRINKLING WATER ON EXPOSED SOILS AND HALL ROADS. CONTRACTOR SHALL CONTROL DUST TO PREVENT A HAZARD TO TRAFFIC ON ADJACENT ROADWAYS.
11. SEDIMENT SHALL BE REMOVED ONCE THE VOLUME REACHES 1/4 TO 1/2 THE HEIGHT OF THE SILT FENCE OR HAY BALE
12. ALL STOCKPILES SHALL BE SURROUNDED BY SEDIMENT CONTROLS
13. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 14 DAYS SHALL BE STABILIZED.
14. DUST SHALL BE CONTROLLED AT THE SITE.
15. ALL FACILITIES USED AS TEMPORARY MEASURES SHALL BE CLEANED PRIOR TO BEING PUT INTO FINAL OPERATION.

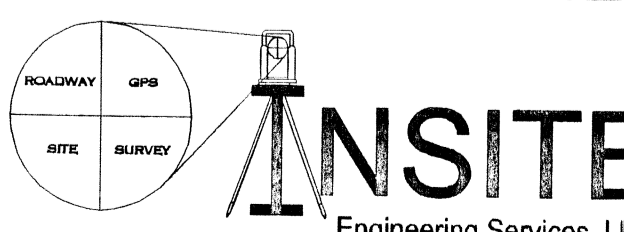
EROSION & SEDIMENT CONTROL PLAN

"MADISON ESTATES"
 READ STREET SEEKONK, MASSACHUSETTS
 ASSESSORS MAP 24 LOT 668

APPLICANT: **COSTA DEVELOPMENT, LLC**
 65 EMILY WAY, SEEKONK, MASSACHUSETTS 02771

JOB # 09-079	SCALE: 1"=40'	DRAWN BY: CEA	DATE: JUNE 21, 2010
REVISED: DECEMBER 1, 2010			


 PROFESSIONAL SEAL


 INSITE
 Engineering Services, LLC

PROFESSIONAL ENGINEERS
 AND LAND SURVEYORS
 INSITE PROFESSIONAL COMPLEX, SUITE 1
 1539 FALL RIVER AVENUE
 SEEKONK, MA 02771
 PHONE: (508) 336-4500
 FAX: (508) 336-4558

SHEET
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