

TEMPORARY EROSION CONTROL PROCEDURES

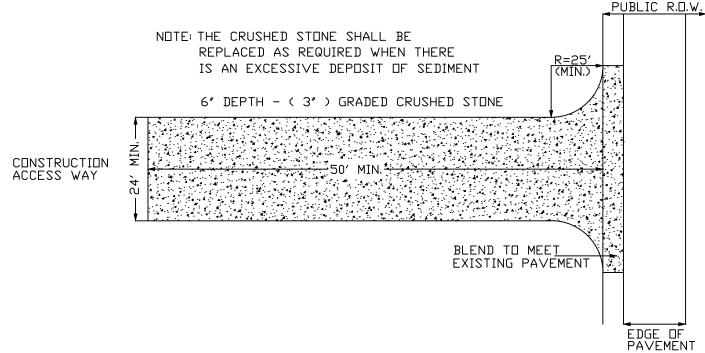
PRIOR TO ANY DISTURBANCES OR ALTERATIONS OF ANY AREA ON THE SITE WHICH ARE UPGRADIENT OF A ENVIRONMENTAL RESOURCE AREA, AN EROSION SEDIMENT CONTROL BARRIER SHALL BE INSTALLED IN THE LOCATION SHOWN TO PROTECT THE RESOURCE AREA.

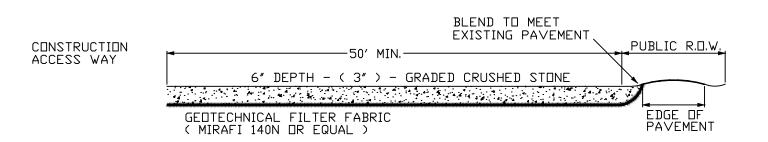
COMPACTED SUBGRADE

ONCE INSTALLED THE SEDIMENTATION BARRIER PROTECTING A PARTICULAR SECTION OF RESOURCE AREA SHALL BE MAINTAINED IN PLACE UNTIL ALL AREAS UP GRADIENT OF THAT SECTION OF RESOURCE AREA HAVE BEEN STABILIZED AS SPECIFIED. SEDIMENTATION BARRIER IS ALSO INTENDED TO ACT AS A LIMIT OF DISTURBANCE. ANY LAND DOWN GRADIENT OF THE BARRIER ACCIDENTALLY DISTURBED SHALL BE IMMEDIATELY REPAIRED AND RESTORED TO ORIGINAL CONDITION.

ALL DISTURBED AREAS NOT OTHERWISE DEVELOPED OR WHERE STABILIZATION MEASURES ARE NOT SPECIFIED, THE AREA SHALL BE STABILIZED WITH A VIGOROUS GROWTH OF VEGETATIVE GROUND COVER..

ALL AREAS OUTSIDE THE LIMITS OF WORK ARE TO BE LEFT UNDISTURBED. THE CONTRACTOR SHALL STAY OUT OF THESE AREAS AND PRESERVE THEIR EXISTING VEGETATION.





- 1. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE
- 1. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE
 AND PUBLIC RIGHT OF WAY
 2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR
 FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY, THIS MAY REQUIRE PERIODIC TOP
 DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND
 REPAIR AND / OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED,
 DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT OF WAY IS TO BE REMOVED IMMEDIATELY

CIVIL ENGINEER

MICHAEL J. BURKE R. P. E. LICENSE # 23374 DATE: ____/___

SITE IMPROVEMENT PLAN **DETAIL SHEET** 101 HUNTOON MEMORIAL HIGHWAY LEICESTER, MASSACHUSETTS 01524

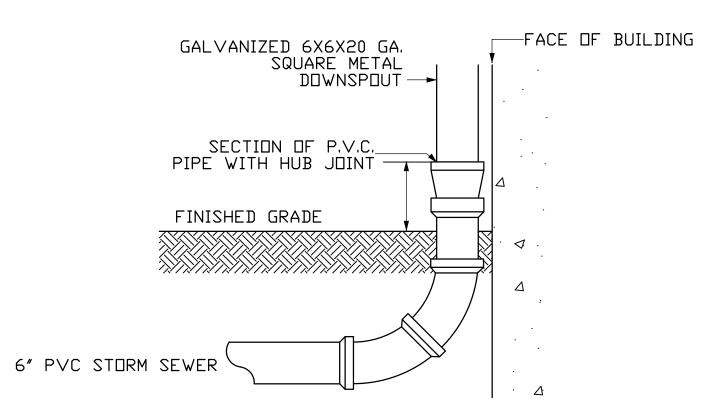
OWNED BY: 101 HUNTOON, LLC 101 HUNTOON MEMORIAL HIGHWAY ROCHDALE, MA 01542

> SCALE: NO SCALE DATE: MAY 1, 2018 JOB#: BC 1040-17 LEICESTER

BC ENGINEERING & SURVEY INC. CIVIL ENGINEERING - LAND SURVEYING

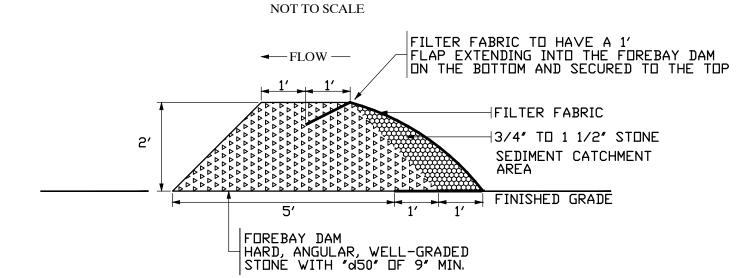
P.O. Box 466 Oxford Ma, 01540 Tel. (508) 949 - 2700

P.V.C. BOOT DETAIL SCALE: NOT TO SCALE

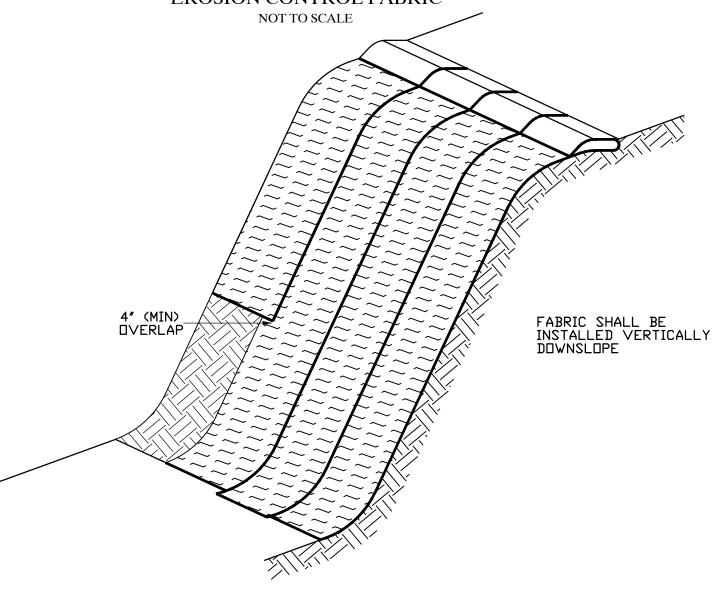


FABRICATE 16 GAUGE GALVANIZED METAL SQUARE TO ROUND CONNECTOR TO TRANSITION FROM DOWNSPOUT TO HUB JOINT PAINT TO MATCH DOWNSPOUT

TYPICAL WASHED STONE FILTER DETAIL

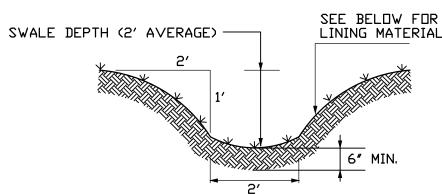


EROSION CONTROL FABRIC

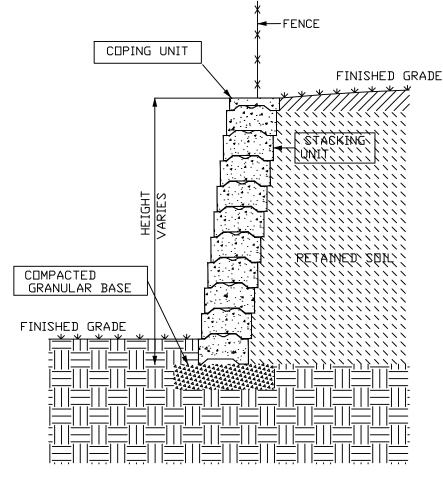


SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS... FABRIC SHALL HAVE GOOD SOIL CONTACT APPLY PERMANENT SEEDING BEFORE PLACING FABRIC LAY BLANKETS LOOSELY AND STAKE TO MAINTAIN DIRECT CONTACT WITH THE SOIL, DO NOT STRETCH.

GRASSED CHANNEL DETAIL

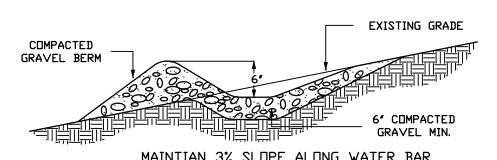


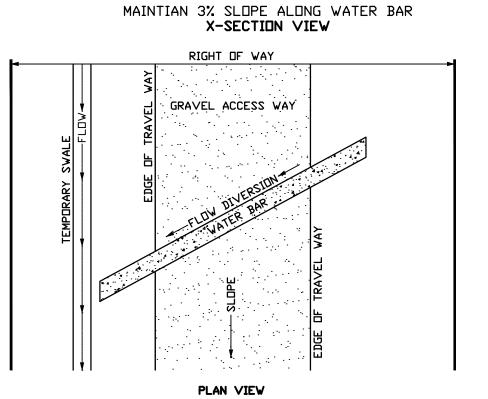
TYPICAL PRECAST RETAINING WALL DETAIL (NOT TO SCALE)



TYPICAL CROSS SECTION FOR DETAILED ENGINEERING SPECIFICATIONS CONTACT MANUFACTURER RETENTION WALL TO BE DESIGNED BY OTHERS

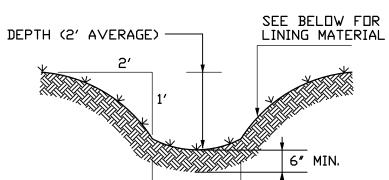
TEMPORARY WATER BAR DETAIL SCALE: NOT TO SCALE





A DIVERSION DITCH AND / OR HUMP INSTALLED ACROSS A TRAIL OR ROAD TO DIVERT RUNDFF FROM THE SURFACE BEFORE THE FLOW GAINS ENDUGH VOLUME AND VELOCITY TO CAUSE SOIL MOVEMENT AND EROSION, DEPOSIT THE RUNDFF INTO A DISPERSION AREA.

NOT TO SCALE



SWALES NOT EXCEEDING 5% GRADE SHALL BE LOAMED TO A MINIMUM DEPTH OF 6" AND SEEDED.

A NATURAL OR CONSTRUCTED BROAD CHANNEL WITH DENSE VEGETATION DESIGNED TO TREAT RUNDFF AND DISPOSE OF IT SAFELY INTO THE NATURAL DRAINAGE SYSTEM. SWALES ARE DESIGNED TO REMOVE POLLUTANTS FROM STORMWATER RUNDFF, INCREASE INFILTRATION AND REDUCE THE EROSION POTENTIAL AT THE DISCHARGE POINT.

SCALE: NOT TO SCALE 8″-12″ SIZE ST⊡NES HAND PLACED BERM VARIES PLAN VIEW

EMERGENCY SPILLWAY DETAIL

X-SECTION VIEW

CIVIL ENGINEER

MICHAEL J. BURKE R. P. E. LICENSE # 23374 DATE: ____/___

SITE IMPROVEMENT PLAN 101 HUNTOON MEMORIAL HIGHWAY LEICESTER, MASSACHUSETTS 01524

OWNED BY:

101 HUNTOON, LLC

101 HUNTOON MEMORIAL HIGHWAY

LEICESTER, MA 01524

NO. DATE **REVISION**



JOB#: BC1040-17 LEICESTER

BC ENGINEERING & SURVEY INC. CIVIL ENGINEERING - LAND SURVEYING P.O. Box 466 Oxford Ma, 01540 Tel. (508) 949 - 2700

PROJECT DESCRIPTION:

THE PURPOSE OF THE PROJECT IS TO CONSTRUCT AN ADDITION TO AN EXISTING METAL BUILDING WITH ASSOCIATED UTILITIES AND GROUNDWATER RECHARGE SYSTEM, STORM WATER TREATMENT AND CONVEYANCE SYSTEM, GRADING, LAWN, AND LANDSCAPE AREAS.

THE DEVELOPMENT OF THIS PARCEL AS PROPOSED SHALL MINIMIZE IMPACTS ON ENVIRONMENTALLY SENSITIVE AREAS DUE TO THE TREATMENT OF STORM WATER AND REMOVAL OF SUSPENDED SOLIDS. THIS SHALL BE ACHIEVED BY STABILIZING WITH VEGETATIVE COVER ANY EXPOSED SOIL AREAS. RECHARGING THE GROUNDWATER WITH CAPTURED ROOF RUNOFF THROUGH THE PROPOSED RECHARGE SYSTEM.

101 HUNTOON MEMORIAL HIGHWAY, LEICESTER, MASSACHUSETTS. ASSESSORS MAP 44 - BLOCK B - PARCEL 6.3 & B2.2, W.D.R.D. DEED BOOK 56827, PAGE 364, PLAN BOOK 517 & 847,

PLAN 68 & 58, RESPECTIVELY, AND EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP: 25027C0784E DATED: JULY 4, 2011

ADJACENT PROPERTIES:

THE LAND LOCATED TO THE NORTH OF THE SITE IS PRESENTLY IN USE FOR BUSINESS. THE LAND LOCATED TO THE EAST OF THE SITE IS PRESENTLY IN USE FOR BUSINESS. THE LAND LOCATED TO THE SOUTH OF THE SITE IS PRESENTLY IN USE FOR BUSINESS. THE LAND LOCATED TO THE WEST OF THE SITE IS PRESENTLY IN USE FOR BUSINESS.

101 HUNTOON MEMORIAL HIGHWAY IS CURRENTLY A MANUFACTURING FACILITY.

PROPOSED LAND USE:

THE LAND IS PROPOSED TO BE UTILIZED AS SAME.

EXISTING TOPOGRAPHY: (SEE PLAN) THE SUBJECT PARCELS CONSISTS OF A 133,564 SQ. FT. TRACT OF LAND LOCATED NORTHERLY OF STAFFORD STREET IN THE SOUTHERLY PORTION OF THE

TOWN OF LEICESTER, MA. THE PARCEL CONSISTS OF A METAL BUILDING, PARKING/STORAGE AREAS, WOODS/BRUSH. THE EASTERLY PORTION OF THE LOT IS THE HIGH POINT OF THE SITE. THE LAND SLOPES WESTERLY DOWNWARDS TOWARD HUNTOON MEMORIAL HIGHWAY AT A VARIABLE SLOPE TO THE EXISTING DRAINAGE SYSTEM ALONG HUNTOON MEMORIAL HIGHWAY.

THE EXISTING SOILS ON SITE CONSIST OF THE FOLLOWING TYPES: 317B SCITUATE FINE SANDY LOAM AND

THE EXISTING HYDROLOGY OF THE SITE FLOWS OVERLAND IN A WESTERLY DIRECTION TOWARDS HUNTOON MEMORIAL HIGHWAY

AND INTO THE DRAINAGE SYSTEM ON SITE.

315A SCITUATE FINE SANDY LOAM.

EXISTING VEGETATION: THE EXISTING VEGETATION OF SITE CONSISTS OF THE FOLLOWING, THE MAJORITY OF THE AREA IS PRESENTLY DEVELOPED WITH

COMPONENTS SHALL BE CLEANED, REPAIRED, OR REPLACED AS NECESSARY DURING INSPECTIONS TO ENSURE PROPER OPERATION.

SOME WOODS, BRUSH AND LANDSCAPED AREAS.

THE PROPOSED DEVELOPMENT OF THIS SITE WILL COLLECT AND TREAT APPROXIMATELY 75% OF THE IMPERVIOUS DRIVEWAY STORM INDUCED RUNOFF AND TREAT IT FOR APPROXIMATELY 80% TOTAL SUSPENDED SOLIDS LOAD. THIS WILL BE ACHIEVED BY GRADING PAVED AREAS TO A WATER QUALITY SWALE WITH TEMPORARY WATER BARS AND GRASS FILTER CHECKDAM. THIS SWALE DISCHARGES STORM WATER TO THE EXISTING LEVEL SPREADER AREA. THE SPREADER HAS A SETTLING AREA WITH STORAGE VOLUME AND A SILTATION BARRIER ENCLOSING IT. THE SILTATION BARRIER PRODUCES FURTHER TREATMENT PRIOR TO DISCHARGING WATERS TO A RAIN GARDEN. PAVED AREAS SHALL BE SWEPT ON A QUARTERLY OR MORE FREQUENT AS NEEDED BASIS. 100% OF THE ROOF RUNOFF SHALL BE COLLECTED AND DIRECTED TO A RAIN GARDEN FOR ADDITIONAL GROUNDWATER RECHARGE. SEASONAL RUNOFF SHALL BE REDUCED BY STABILIZING THE EXPOSED AREAS WITH LAWN AND OTHER LANDSCAPE METHODS AND

GROUNDWATER RECHARGE:

GROUNDWATER SHALL BE RECHARGED BY COLLECTING THE ROOF AREA RUNOFF WITH GUTTERS. GUTTERS SHALL BE CONNECTED TO DOWNSPOUTS. DOWNSPOUTS SHALL FLOW OVERLAND INTO A RAIN GARDEN RECHARGE SYSTEM. GUTTERS, DOWN SPOUTS, AND ASSOCIATED PIPING SHALL BE INSPECTED ANNUALLY FOR SERVICEABILITY. ALL

PRE CONSTRUCTION MEETING:

PRIOR TO ANY WORK PERFORMED ON SITE, A PRE CONSTRUCTION MEETING SHALL BE HELD ON SITE AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION. ALL PROPOSED SITE IMPROVEMENTS, GRADING, CLEARING, AND PROPOSED BMPS SHALL BE MARKED IN THE FIELD. MEETING SHALL BE ATTENDED BY ALL PARTIES INVOLVED

WITH THE DESIGN, CONSTRUCTION, AND INSPECTION OF THE SITE.

TREES AND LIMITS OF CUTTING SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO COMMENCEMENT OF ANY WORK ON SITE. THE LIMITS OF WORK SHALL BE REVIEWED BY ALL PARTIES CONDUCTING SITE WORK, EXCAVATING, EARTH MOVING, TREE REMOVAL, GRUBBING, STUMPING, AND ALL OTHER ASSOCIATED WORK ON SITE THAT COULD IMPACT THE PRESERVATION OF EXISTING TREES. INDIVIDUAL TREES TO BE SAVED SHALL BE FLAGGED AND IDENTIFIED IN THE FIELD. INDIVIDUAL TREES, SHRUBS TREE LINES, AND OTHER SALVAGED VEGETATION SHALL BE PROTECTED WITH ORANGE BARRIER FENCING OR AN APPROVE EQUAL.

A SEDIMENTATION BARRIER CONSISTING OF SILT FENCE AND DOUBLE STAKED HAY BALES (SEE DETAIL SHEET) IS PROPOSED TO ENCLOSE THE ENTIRE DOWN GRADIENT AREA OF THE SITE WHERE EXCAVATION ACTIVITIES ARE PROPOSED. THE BARRIER SHALL END UPGRADIENT OF ANY PROPOSED SITEWORK. SEE SITE PLAN FOR LOCATION. ADDITIONAL BARRIERS MAY BE ADDED TO MEET SITE SPECIFIC CONDITIONS THE BARRIERS SHALL BE INSPECTED REGULARLY AND REPAIRED OR REPLACED AS

A TEMPORARY CONSTRUCTION ENTRANCE / TIRE SCRUBBER (SEE DETAIL SHEET) SHALL BE INSTALLED AT THE BEGINNING OF THE DRIVEWAY AS NEEDED. DURING WET O THAT RUNOFF WATER WILL BE DIRECTED TO A WATER QUALITY FACILITY.THE ENTRANCE SHALL BE INSPECTED REGULARLY AND REPAIRED OR REPLACED AS NEEDED.

APPLY GRAVEL OR CRUSHED STONE TO THE DRIVEWAY AREA AND RESTRICT VEHICLE TRAFFIC TO THIS ONE ROUTE. THIS MEASURE WILL REDUCE SOIL FROM ADHERING TO TIRES AND REDUCES SOIL FROM WASHING INTO THE ROADWAY. THIS MEASURE REQUIRES PERIODIC INSPECTIONS AND MAINTENANCE INCLUDING WASHING,

TOP-DRESSING WITH ADDITIONAL AGGREGATE, REWORKING, AND COMPACTING. TEMPORARY DIVERSIONS:

TEMPORARY DIVERSIONS SHALL BE CONSTRUCTED ACROSS SLOPING LAND OR AT THE TOP OR BOTTOM OF STEEP SLOPES. DIVERSIONS SHALL CONSISTS OF A RIDGE OR CHANNEL OR A COMBINATION OF BOTH. DIVERSIONS SHALL DIRECT FLOWS TOWARDS APPROPRIATE TREATMENT FACILITIES. DIVERSIONS SHALL BE STABILIZED AS SOON AS POSSIBLE. DIVERSIONS SHALL BE INSPECTED MAINTAINED AND REPAIRED AS NECESSARY.

PROVIDE FOR PERIODIC STREET CLEANING TO REMOVE ANY SEDIMENT THAT MAY HAVE BEEN TRACKED OUT. SEDIMENT SHOULD BE REMOVED BY SHOVELING OR SWEEPING AND CAREFULLY REMOVED TO A SUITABLE DISPOSAL AREA WHERE IT WILL NOT BE ERODED. ALL PAVED AREAS SHALL BE INSPECTED, MAINTAINED, AND REPAIRED AS NEEDED.

DUST CONTROL IS NOT EXPECTED TO BE A PROBLEM DUE TO THE SMALL AREA OF EXPOSURE, THE UNDISTURBED PERIMETER OF VEGETATION AROUND THE SITE, AND THE RELATIVELY SHORT TIME OF EXPOSURE (NOT TO EXCEED 6 MONTHS). TO AVOID SEDIMENT TRACKING AND FUGITIVE DUST FROM LEAVING THE SITE, A VARIETY OF MITIGATION MEASURES ARE EMPLOYED. AS NECESSARY, WATER TRUCKS SHALL BE USED TO SPRINKLE SOIL IF IT BECOMES AN ISSUE. STREET SWEEPING SHALL BE PERFORMED AS NEEDED TO REDUCE THE BUILDUP OF DUST AND SEDIMENT ON ROADWAYS AND PARKING AREAS.

PLAN AND IMPLEMENT PROPER CLEARING OF THE SITE. IT IS IMPORTANT TO CLEAR ONLY THE AREAS NEEDED. THUS KEEPING EXPOSED AREAS TO A MINIMUM. PHASE THE CLEARING SO THAT ONLY THOSE AREAS THAT ARE ACTIVELY BEING WORKED ARE UNCOVERED. CLEARING LIMITS SHALL BE MARKED PRIOR TO COMMENCEMENT OF

PLAN AND IMPLEMENT PROPER GRADING OF THE SITE. IT IS IMPORTANT TO GRADE ONLY THE AREAS NEEDED, THUS KEEPING EXPOSED AREAS TO A MINIMUM. PHASE THE GRADING SO THAT THE ONLY THOSE AREAS THAT ARE ACTIVELY BEING WORKED ARE UNCOVERED. GRADING LIMITS SHALL BE FLAGGED PRIOR TO START OF WORK.

BACK FILL SITE AS SOON AS POSSIBLE AND ROUGH GRADE THE LOT. THIS WILL REDUCE LARGE SOIL STOCKPILES AND PREPARE THE LOT FOR TEMPORARY COVER.

REMOVE EXCESS SOIL FROM THE SITE AS SOON AS POSSIBLE AFTER BACK FILLING THIS WILL REDUCE SEDIMENT LADEN RUNOFF FROM SURPLUS FILL LOCATED ON

STOCKPILED MATERIALS:

ALL STOCKPILED MATERIALS SHALL BE STORED OUTSIDE OF THE 100 FT. BUFFER ZONE IN A LOCATION AS TO MINIMIZE THE POTENTIAL FOR EROSION. THE ENTIRE STOCKPILE AREA SHALL BE ENCLOSED WITH SILTATION FENCING. SURPLUS MATERIAL SHALL BE REMOVED FROM THE SITE AS SOON AS POSSIBLE. THE DESIGNATED MATERIALS STORAGE AREA SHALL HAVE ADDITIONAL EROSION CONTROL MATERIALS SUCH AS SILT FENCE, HAY BALES, AND CRUSHED STONE ON HAND AT ALL TIMES. AREA TO BE INSPECTED AND MAINTAINED

STABILIZATION OF SURFACES INCLUDES THE PLACEMENT OF PAVEMENT, STONE, VEGETATION, AND STRUCTURE. REMAINING DISTURBED AREAS FOLLOWING CONSTRUCTION WILL BE LOAMED, SEEDED, MULCHED, LANDSCAPED, AND PLANTED FOR FINAL STABILIZATION. AREAS THAT HAVE BEEN COMPLETED OR THAT WILL NOT BE WORKED ON FOR MORE THAN 14 DAYS SHOULD BE STABILIZED WITH PERMANENT VEGETATIVE COVER AS SOON AS POSSIBLE BUT NOT MORE THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. SURFACES THAT ARE DISTURBED BY ONGOING CONSTRUCTION ACTIVITIES SHALL BE STABILIZED AS SOON AS POSSIBLE. TOPSOIL WILL NOT BE PLACED UNLESS IT IS TO BE SEEDED OR OTHERWISE STABILIZED IN AN APPROPRIATE MANNER DIRECTLY THEREAFTER. ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 4 INCHES OF TOPSOIL PLACED BEFORE BEING SEEDED AND MULCHED. CONSIDERATION SHALL BE GIVEN TO HYDRO MULCHING ON SLOPES 3:1 OR GREATER. ALL LANDSCAPING AND PLANTINGS SHALL BE CONDUCTED IN ACCORDANCE WITH APPROVED PLANS.

ALL PROPOSED SLOPES ON SITE OF 3:1 OR STEEPER SHALL BE DISKED LIGHTLY TO ROUGHEN THE SURFACE JUST PRIOR TO VEGETATION AND MULCH APPLICATIONS. SLOPES OF LESS THAN 3:1 SHALL BE LEFT IN A LOOSE CONDITION AND GROOVED ON THE CONTOUR.

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TEST RESULTS. IN ABSENCE OF A SOIL TEST, APPLY LIME AT A RATE OF 2.5 TONS PER ACRE AND 10-20-20 ANALYSIS FERTILIZER AT A RATE OF 500 POUNDS PER ACRE.

SEEDING:

UNIFORM SEED DISTRIBUTION IS ESSENTIAL. THIS IS BEST OBTAINED USING A CYCLONE SEEDER, DROP SPREADER, CONVENTIONAL GRAIN DRILL, CULTIPACKER SEEDER, OR HYDRAULIC SEEDER. ON STEEP SLOPES HYDRO SEEDING MAY BE THE ONLY EFFECTIVE SEEDING METHOD. SURFACE ROUGHENING IS PARTICULARLY IMPORTANT WHEN PREPARING SLOPES FOR HYDRO SEEDING IN CONTRAST WITH OTHER SEEDING METHODS. SEEDING SHALL BE PERFORMED DURING THE PERIODS OF APRIL 15 TO JUNE 15 AND AUGUST 15 TO SEPTEMBER 15. IMMEDIATELY FOLLOWING SEEDING, THE SEEDED AREA SHALL BE MULCHED.

MULCHING:

APPLICATION OF A PROTECTIVE BLANKET OF STRAW, PLANT RESIDUE, GRAVEL, OR SYNTHETIC MATERIAL TO THE SOIL SURFACE TO PROVIDE IMMEDIATE PROTECTION TO EXPOSED SOILS LIMITING EROSION POTENTIAL. MULCH RATE APPLICATION SHALL BE THE FOLLOWING: WOOD CHIP 500-900 LBS/1,000 S.F. WOOD CHIPS REQUIRE 10-12 LB. OF NITROGEN PER TON, HAY OR STRAW 90-100 LB. PER 1,000 S.F.

INLET PROTECTION:

INLET PROTECTION SHALL BE UTILIZED ON ALL DRAINAGE STRUCTURES RECEIVING RUNOFF FROM THE SITE DURING CONSTRUCTION PHASE OF THIS PROJECT. THIS SHALL BE ACHIEVED BY THE USE OF STONE, GEOTEXTILES, OR VEGETATIVE SEDIMENT FILTERS IN COMBINATION WITH IMPOUNDING AREAS AROUND ANY STORM DRAIN INLET STRUCTURE. PROTECTIVE MEASURES TO BE INSPECTED AND MAINTAINED.

TEMPORARY SEDIMENT TRAPS:

TEMPORARY SEDIMENT TRAPS SHALL BE INSTALLED AT ALL INLET POINTS FOR STORM WATER CONVENCE SYSTEMS. THIS TRAP WILL REDUCE THE T.S.S. LOAD ENTERING THE STORM WATER CONVEYANCE SYSTEM DURING THE CONSTRUCTION PHASE OF THE PROJECT. TRAPS SHALL BE PLACED AT THE DISCHARGE POINT FOR THE TEMPORARY ACCESS WAY AND ENTRANCE. THESE TRAPS ARE TO BE INSPECTED REGULARLY AND CLEANED AS NEEDED.TRAPS TO BE INSPECTED AND MAINTAINED.

SEDIMENT BASIN(S):

SEDIMENT BASINS SHALL BE CONSTRUCTED IN THE PROPOSED WATER QUALITY SWALE AREA OF THE PROJECT.ALL WATER FROM DISTURBED AREAS WILL BE DIRECTED TO THE BASIN BEFORE FLOWING OFF SITE. THE BASIN SHALL BE SIZED TO ACCOMMODATE THE RUNOFF PRODUCED BY THE PROJECT. THE BASIN SHALL BE CONSTRUCTED WITH DESIGNED FORE BAY AND OUTLET STRUCTURE. THIS BASIN SHALL BECOME THE WATER QUALITY TREATMENT SWALE WITH FORE BAY, SUMP, AND STONE FILTER CHECK DAM FOR THE SITE ONCE COMPLETED TO STANDARD. BASINS SHALL BE INSPECTED AND MAINTAINED

A LEVEL SPREADER WILL SERVE AS THE OUTLET FOR THE STORM WATER TREATMENT SYSTEM. A LEVEL SPREADER IS AN EXCAVATED DEPRESSION CONSTRUCTED AT ZERO PERCENT GRADE ACROSS A SLOPE. THE LEVEL SPREADER CHANGES CONCENTRATED RUNOFF TO BE DISCHARGED AT NON EROSIVE VELOCITIES ONTO NATURAL OR MANMADE AREAS THAT HAVE EXISTING VEGETATION CAPABLE OF PREVENTING EROSION. SPREADER TO BE INSPECTED AND MAINTAINED

EROSION, AND THE FORMATION OF PLUNGE POOLS. THESE APRONS SHALL BE INSPECTED REGULARLY AND CLEANED OR REPAIRED AS NEEDED. APRONS ARE DESIGNED TO CONTROL EROSION AT THE OUTLET OF A CHANNEL OR CONDUIT BY REDUCING THE VELOCITY OF FLOW AND DISSIPATING THE ENERGY. OUTLETS TO BE INSPECTED

RIP RAP APRONS SHALL BE INSTALLED AT ALL OUTLETS AND DISCHARGE POINTS. THESE APRONS SHALL BE IMP LACED TO REDUCE SCOURING, SEVERE GULLY

SNOW & SNOW MELT MANAGEMENT:

PROPER MANAGEMENT OF SNOW AND SNOW MELT. IN TERMS OF SNOW REMOVAL AND STORAGE, USE OF DEICING COMPOUNDS, AND OTHER PRACTICES CAN PREVENT OR MINIMIZE THE RUNOFF AND POLLUTANT IMPACTS ON SURROUNDING ENVIRONMENTALLY SENSITIVE AREAS. USE ALTERNATIVE DEICING COMPOUNDS, CALIBRATE EQUIPMENT, CAREFUL APPLICATION, AND REDUCED APPLICATIONS IN AREAS ADJACENT TO WETLANDS OR WATERWAYS. STORE DEICING COMPOUNDS ON SHELTERED IMPERVIOUS PADS. PLACE PLOWED SNOW IN PERVIOUS AREAS WHERE IT CAN SLOWLY INFILTRATE. STORAGE AREAS SHALL BE POSITIONED AS FAR FROM WETLANDS, WATERWAYS, AND DRAINAGE STRUCTURES AS POSSIBLE. CHOOSE STORAGE AREAS WITH SOILS OF ADEQUATE PERMEABILITY USE LEVEL SPREADERS AND BERMS TO SPREAD MELT WATER EVENLY OVER VEGETATED AREAS. REMOVE SEDIMENTS FROM SNOW STORAGE AREA IN THE SPRING. DISPOSE OF SEDIMENT PROPERLY. AREA TO

WASTE DISPOSAL RECEPTACLES WILL BE USED FOR THE DISPOSAL OF CONSTRUCTION DEBRIS. WASTE AND RECEPTACLE TO BE REMOVED FROM SITE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL GUIDELINES. RECEPTACLES TO BE PLACED OUTSIDE OF THE 100 FT. BUFFER ZONE AND AS FAR FROM ANY STORM WATER CONVENIENCE SYSTEM AS POSSIBLE. THE RECEPTACLES SHALL BE EMPTIED ON A REGULAR OR AS NEEDED BASIS. THE RECEPTACLES ARE TO BE COVERED. IF DEBRIS MATERIAL ARE TO BE STOCKPILED PERIMETER CONTROLS OR PLASTIC SHEET COVERING MATERIAL SHALL BE USED IF DEEMED NECESSARY DURING SITE INSPECTIONS. PORTABLE SANITARY FACILITIES ARE TO BE USED ON SITE. CONCRETE DELIVERY TRUCKS ARE TO UTILIZE PREDETERMINED WASHOUT POINT FOR CLEANING.

ALL SPILLS MUST BE REPORTED TO MA DEP (508)-792-7650 AND THE TOWN OF LEICESTER 911. DEP SHALL BE CONTACTED IMMEDIATELY IN THE EVENT OF AN

EMERGENCY. LOCAL FIRE DEPARTMENT AND EMERGENCY RESPONDERS SHALL BE NOTIFIED IN THE EVENT OF AN EMERGENCY.

SPILL PREVENTION FOR STORED MATERIALS:

HAZARDOUS MATERIALS NECESSARY FOR CONSTRUCTION WILL BE STORED N WATER TIGHT CONTAINERS OR BUILDINGS IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS AND THE MANUFACTURES RECOMMENDATIONS, WITH APPROPRIATE SIZED SPILL KITS ON HAND. THE STORAGE SITE WILL BE INSPECTED FOR SIGNS OF LEAKAGE OR UNSAFE STORAGE AND TRANSFER PRACTICES. THE STORAGE AREAS IS TO BE LOCATED OUTSIDE THE 100 FT BUFFER ZONE AND IN A POSITION ON THE LANDSCAPE TO LIMIT DOWN GRADIENT IMPACT IN CASE OF A SPILL. ANY EQUIPMENT PERMITTED TO WORK ADJACENT TO WETLAND AREAS WILL BE EQUIPPED WITH EMERGENCY SPILL KITS. EMERGENCY SPILL KITS SHALL BE ON SITE AT ALL TIMES DURING CONSTRUCTION. STORAGE AREAS TO BE CLEAN WELL ORGANIZED AND ENCLOSED WITH PERIMETER CONTROLS, LINERS, COVERS, OR CONTAINMENT STRUCTURES.

IF A SPILL OCCURS, ALL WORK IS TO STOP. THE EFFECTED AREA IS TO BE COVERED IMMEDIATELY. PREVENTING CONTACT WITH STORM WATER, DRAINAGE SYSTEMS, OPEN WATER, WETLANDS, AND ANY OTHER SENSITIVE AREA. FIRST RESPONDER DETERMINES THE EXTENT AND SEVERITY OF SPILL. SPILLS ON SOILS SHOULD BE ENCLOSED IN AN EARTHEN BERM. SPILLS SHOULD NOT BE WASHED AWAY OR BURIED. ALL CONTAMINATED SOIL IS TO BE EXCAVATED AND DISPOSED OF IN A PROPER MANNER. ALL CLEANUP AND CONTAMINATED MATERIALS SHOULD BE DISPOSED OF IN A PROPER MANNER.

REFUELING AND VEHICLE LUBRICATION:

VEHICLES REQUIRING REFUELING, LUBRICATION, OR OTHER MAINTENANCE SHALL BE BROUGHT TO A PORTION OF THE SITE AWAY FROM ENVIRONMENTALLY SENSITIVE AREAS. THE OPERATOR SHALL TAKE PRECAUTIONS TO ENSURE THAT DRIPS, SPILLS, OR SEEPS DO NOT ENTER THE GROUND. THE USE OF ABSORBENT PRODUCT AND FUEL SPILL RECOVERY KIT IS MANDATORY.

GENERAL NOTES:

EXISTING TOPOGRAPHY WAS OBTAINED FROM A FIELD SURVEY PERFORMED IN APRIL 2017, ELEVATIONS REFER TO ASSUMED SEE EXISTING CONDITION PLAN, SEE BENCHMARK LOCATED AS SHOWN ON PLAN(S).

PROPERTY LINE INFORMATION FROM A FIELD SURVEY PERFORMED IN APRIL 2018.

THE LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES ARE APPROXIMATE ONLY, THE DESIGNER DOES NOT GUARANTEE THEIR ACCURACY OR THAT ALL UTILITIES AS SUBSURFACE STRUCTURES ARE SHOWN, THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, AND INVERT ELEVATIONS OF THE UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION ANY DISCREPANCIES WITH RECORD DATA SHALL BE REPORTED TO THE DESIGNER IMMEDIATELY, THE CONTRACTOR IS CAUTIONED TO CONTACT "DIG SAFE" (1-888-344-7233) 72 HOURS PRIOR TO EXCAVATION.

ALL MATERIALS AND CONSTRUCTION PRACTICES SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS (MDPW) CONSTRUCTION STANDARDS AND THE MDPW "STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES", UNLESS OTHERWISE SPECIFIED BY LOCAL AUTHORITY OR THE DESIGNER.

ELECTRIC, TELEPHONE, AND CAT∨ UTILITY CONNECTIONS AND SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE RESPECTIVE UTILITY.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE HIS WORK WITH THE APPROPRIATE HIGHWAY AND UTILITY DEPARTMENTS. CONTRACTOR SHALL MAINTAIN ALL EXISTING AND NEWLY INSTALLED UTILITIES IN GOOD WORKING ORDER AND SHALL PROTECT THEM FROM DAMAGE AT ALL TIMES UNTIL THE WORK IS COMPLETED AND ACCEPTED

THE CONTRACTOR SHALL UTILIZE ALL MEASURES AND MATERIALS NECESSARY TO ENSURE THE SAFETY OF ALL PERSONS AND PROPERTIES AT THE SITE DURING CONSTRUCTION. ALL EXCAVATIONS SHALL CONFORM TO CURRENT OSHA STANDARDS.

THE CONTRACTOR SHALL PROVIDE APPROPRIATE EROSION AND SEDIMENTATION CONTROL MEASURES AT ALL TIMES, DEWATERING OPERATIONS SHALL BE PROVIDED, IF REQUIRED; ALL DISCHARGES SHALL PASS THROUGH SEDIMENTATION CONTROL DEVICES TO PREVENT IMPACTS UPON WATER BODIES, BORDERING VEGETATED WETLANDS, DRAINAGE SYSTEMS, AND ABUTTING PROPERTIES.

UNLESS OTHERWISE NOTED, ALL DISTURBED AREAS SHALL BE DRESSED WITH A MINIMUM OF FOUR INCHES (4") OF LOAM AND SHALL BE SEEDED WITH AN APPROVED GRASS MIX. SLOPE EXCEEDING 2:1 SHALL BE LOAMED AND STABILIZED WITH PEGGED SOD OR APPROVED EROSION CONTROL BLANKETS UNLESS OTHERWISE NOTED.

WORK WITHIN THE HIGHWAY LAYOUT SHALL CONFORM TO THE CONDITIONS OF THE PERMIT ISSUED BY THE MASSACHUSETTS HIGHWAY DEPARTMENT AND OR LOCAL AUTHORITY AS APPROPRIATE

ALL STRUCTURES AND APPURTENANCES SHALL BE CONSTRUCTED FOR H-20 LOADING.

THE CONTRACTOR SHALL MAKE APPLICATIONS FOR ALL PERMITS AND PAY ALL FEES REQUIRED.

IN AREAS OF FILL UNDER UTILITIES OR WITHIN BEARING AREAS, COMPACT ION IS TO BE A MINIMUM 95% OF OPTIMUM DRY DENSITY WITH ALL OTHER AREAS TO BE COMPACTED 92% MINIMUM.

ALL MANHOLE COVERS ARE TO HAVE THE APPROPRIATE UTILITY IDENTIFICATION CAST IN 3 INCH LETTERS.

WETLANDS DELINEATION BY ECOSYSTEM SOLUTION.

2" PVC CONDUIT ASTM D-3034 FOR CABLE TV. IF CABLE IS UNAVAILABLE, NOTE DISTANCE TO NEAREST CONNECTION.

SEDIMENT AND EROSION CONTROL BEST MANAGEMENT PRACTICES

THE FOLLOWING BEST MANAGEMENT PRACTICES SHALL BE UTILIZED, WHERE AND AS APPROPRIATE, ON THE PROJECT DURING CONSTRUCTION.

FLAGGING OF LIMITS OF WORK AND DISTURBANCE.

ESTABLISHING AND MAINTAINING PERIMETER EROSION CONTROL DEVICES.

ESTABLISHING AND MAINTAINING PERIMETER DEWATERING AND REROUTING DEVICES

CONSTRUCTION PHASING

LIMIT DISTURBANCE TO EXISTING VEGETATIVE AREAS

PLACEMENT OF TIRE SCRUBBER AT ENTRANCE / EXIT TO THE SITE UTILIZE CONSTRUCTION ACCESS WAY FOR ALL TRAFFIC

UTILIZE TEMPORARY DIVERSIONS TO BASINS OR TEMPORARY SEDIMENT TRAPS

PLACEMENT AND MAINTENANCE OF APPROPRIATE CHANNEL LININGS WHERE SHOWN ON PLANS OR FOUND TO BE REQUIRED.

PLACEMENT AND MAINTENANCE OF TEMPORARY CHECK DAMS IN DITCHES TO SLOW RUNOFF AND TRAP SEDIMENT UNTIL DISTURBED AREAS ARE STABILIZED

PLACEMENT AND MAINTENANCE OF LEVEL SPREADERS AT THE END OF TEMPORARY OR PERMANENT DIVERSIONS

PLACEMENT AND MAINTENANCE OF PROTECTIVE MEASURES AT ALL STORM WATER DRAINAGE STRUCTURES UNTIL DISTURBED AREAS TRIBUTARY TO THE STRUCTURE ARE

LOCATION AND MANAGEMENT OF TEMPORARY STOCKPILES TO LIMIT EROSION POTENTIAL

LOCATION AND MANAGEMENT OF STORED HAZARDOUS MATERIALS TO LIMIT POTENTIAL FOR IMPACT

LOCATION AND MANAGEMENT OF SOLID WASTE TO LIMIT POTENTIAL IMPACT

DISTURBANCE ON STEEP SLOPES SHALL BE KEPT TO A MINIMUM. SLOPES SHALL BE STABILIZED FOLLOWING EARTH MOVING WORK.

SURFACE ROUGHING OF EXPOSED SLOPES OR AREAS TO BE LEFT OPEN FOR 5 DAYS, PRIOR TO SITE CLOSURES, AND PRIOR TO EXPECTED RAIN EVENTS. STABILIZATION OF DISTURBED AREAS AS QUICKLY AS POSSIBLE

FOR AREAS NOT SCHEDULED FOR FINAL GRADING WITHIN 14 DAYS MULCHING, TEMPORARY SEEDING, OR OTHER METHOD OF STABILIZATION IS REQUIRED.

ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED DURING CONSTRUCTION TO ADDRESS SPECIFIC ISSUES OR PROBLEM AREAS. THE CONTRACTOR SHALL IMPLEMENT WHATEVER MEASURES THAT ARE FOUND TO BE NECESSARY TO ENSURE THAT EXCESSIVE EROSION DOES NOT TAKE PLACE ON THE SITE OR ABUTTING PROPERTIES AND THAT SEDIMENT IS NOT DEPOSITED IN DOWNSTREAM AREAS.

OPERATION & MAINTENANCE SCHEDULE

REPAIRED IMMEDIATELY TO AVOID FURTHER DAMAGE.

MAINTENANCE OF EXISTING AND PROPOSED BEST MANAGEMENT PRACTICES TO ADDRESS STORM WATER MANAGEMENT FACILITIES DURING CONSTRUCTION IS A DYNAMIC PROCESS. THE OWNER'S APPOINTED REPRESENTATIVE IS RESPONSIBLE FOR PERFORMING REGULAR INSPECTIONS OF EROSION CONTROLS AND ORDERING REPAIRS AS NECESSARY. THE INSPECTIONS WILL OBSERVE SOURCES OF STORM WATER OR NON STORM WATER DISCHARGES AS WELL AS THE STATUS OF RECEIVING WATERS.

EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF PRODUCING STORM EVENT, BUT IN NO CASE NOT LESS THAN ONCE EVERY WEEK. DAILY INSPECTIONS SHALL BE REQUIRED DURING EXTENDED STORM EVENTS. NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.

FIELD MARKINGS DEPICTING LIMITS OF WORK, VEGETATION PRESERVATION, SITE IMPROVEMENTS, BARRIER FENCING, AND ALL OTHER MARKERS TO BE INSPECTED REGULARLY AND REPLACED OR REPAIRED AS NEEDED. INSPECT ALL SEEDED AREAS. AREAS TO BE FERTILIZED, LIMED, WATERED, AND MULCHED ACCORDING TO SPECIFICATIONS TO ENSURE AND MAINTAIN A VIGOROUS DENSE

ALL SLOPES SHALL BE CHECKED REGULARLY TO SEE THAT VEGETATION IS IN GOOD CONDITION. ANY RILLS OR DAMAGE FROM EROSION AND ANIMAL BURROWING SHALL BE

WATER BARS, DIVERSIONS, BERMS, DRAINAGE DEVICES, EROSION CONTROL BARRIERS, ALL STORM WATER QUALITY DEVICES, DISCHARGE POINTS, AND WATERWAYS SHALL BE INSPECTED FOR PROPER FUNCTIONING. PROBLEMS FOUND DURING THE INSPECTIONS SHALL BE REPAIRED IMMEDIATELY.

SUBSURFACE DRAINS AND STRUCTURES SHALL BE INSPECTED REGULARLY TO ENSURE THEY ARE FREE FLOWING, INLETS AND OUTLETS SHALL BE KEPT CLEAN OF DEBRIS.

PAVEMENT IS TO BE KEPT CLEAN OF ALL DEBRIS SWEEP AS NEEDED TO REMOVE FUGITIVE MATERIAL

ALL SNOW IS TO BE STOCKPILED IN DESIGNATED AREAS. AREAS TO BE CLEANED AS NECESSARY. LAWN CARE AND LANDSCAPING APPLICATIONS AND METHODS SHALL BE CONCURRENT WITH MANUFACTURERS SPECIFICATIONS.

ALL LAWN AND LANDSCAPE "CLIPPINGS" AND OTHER DEBRIS PRODUCED DURING NORMAL GROWTH AND MAINTENANCE TOO BE REMOVED FROM SITE OR COMPOSTED ON SITE AS FAR FROM ALL RESOURCE AREAS OR TRIBUTARIES AS POSSIBLE.

THE OWNER OF RECORD: 101 HUNTOON, LLC PARTY RESPONSIBLE FOR OPERATION & MAINTENANCE: OWNER OF RECORD

PARTY RESPONSIBLE FOR FINANCING: OWNER OF RECORD

CIVIL ENGINEER MICHAEL J. BURKE R. P. E.

STORMWATER POLLUTION PREVENTION PLAN 101 HUNTOON MEMORIAL HIGHWAY

LEICESTER. MASSACHUSETTS 01524

OWNED BY:

LICENSE # 23374

DATE: ____/__

101 HUNTOON, LLC 101 HUNTOON MEMORIAL HIGHWAY ROCHDALE, MA 01542

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BC ENGINEERING & SURVEY INC.

CIVIL ENGINEERING - LAND SURVEYING P.O. Box 466 Oxford Ma, 01540 Tel. (508) 949 - 2700

SCALE: NO SCALE DATE: MAY 1, 2018

JOB#: BC1040-17 LEICESTER

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