TOWN OF SCITUATE
Planning Board

600 Chief Justice Cushing Hwy.
Scituate, Massachusetts 02066
Telephone: (781) 545-8730
Fax: (781) 545-8704

June 26, 2018

Ms. Kathleen Curran, Town Clerk
600 Chief Justice Cushing Highway
Scituate, MA 02066

RE: Site Plan Administrative Review
Stormwater Permit
Roach Field
Beaver Dam Road, Scituate

Dear Ms. Curran,

An application for a Site Plan Administrative Review and a Stormwater Permit for a new gravel parking lot and reconfiguration of the existing parking lot at Roach Field off Beaver Dam Road was submitted on May 9, 2018. The site plan entitled Parking Lot Improvement Plan Land off Beaver Dam Road, Scituate, MA, dated April 30, 2018 stamped by Deborah W. Keller of Merrill Engineers and Land Surveyors for the Town of Scituate. The plans were reviewed for stormwater by the Board's consulting engineer, Amory Engineers, P.C.

A public hearing was held on June 14, 2018. A comment from the Traffic Rules and Regulations Committee was received on May 29, 2018. The Committee indicated they support the addition of a parking lot to the east of the field to discourage the practice of motorists parking adjacent to the field along Beaver Dam Road. They indicated that there are adequate sight lines for the new parking lot and the modification of the existing parking lot so that there is only access on Clifton Avenue which improves safety for motorists and pedestrians.

On June 14, 2018, Ann Burbine, Stephen Pritchard, Benjamin Bornstein, William Limbacher and Patricia Lambert being present and voting, voted unanimously to make the following Findings of Fact:

1. The applicant submitted a site plan entitled Parking Lot Improvement Plan Land off Beaver Dam Road, Scituate, MA, dated April 30, 2018 stamped by Deborah W. Keller of Merrill Engineers and Land Surveyors for the Town of Scituate.
2. The improvements at Roach Field are funded through the Community Preservation Committee funds approved at the 2017 Annual Town Meeting. This shows community support for the project.
3. Roach Field currently exists off Beaver Dam Road with one gravel parking lot at the corner of Beaver Dam Road and Clifton Avenue. The property is in the Residence R-2 Zoning District.

4. The project proposes construction of a new gravel parking lot to the east of the existing field with eighteen (18) parking spaces and a water quality swale. The existing parking lot at the corner of Beaver Dam Road and Clifton Avenue is being reconfigured to provide one way circulation from Beaver Dam Road through the parking lot so there will be one way egress to Clifton Avenue. Eighteen (18) parking spaces are proposed with a water quality cell. Two accessible parking spaces are proposed in the Clifton Avenue parking area. Circulation between the two parking areas will be on the inside of the existing chain link fence. The batting cage is proposed to be relocated to the north of the new gravel parking area with access outside of the chain link fence area of the existing field.

5. The property at Roach Field is surrounded on three sides by existing residential development. Wetlands and the MBTA right of way are to the east of the site. Existing trees to the north and east will remain providing the adjoining premises with protection against any detrimental or offensive uses of the site. Clifton Avenue and Beaver Dam Road separate the ball field from the other residences. Parking is now proposed in site lots. The site plan meets the standard of review of Scituate Zoning Bylaw Section 770.6 Paragraph A.

   The Scituate Zoning Bylaw Section 760.6, Table of Minimum Parking Requirements, requires the parking demand for uses not listed the zoning bylaw to be determined by the Planning Board. Twenty (20) new parking spaces have been provided in a new lot. Eighteen (18) parking spaces including two handicap spaces are provided in the reconfigured lot. There were existing twelve (12) parking spaces. Parking appears to be sufficient for the proposed use.

   The proposed reconfigured driveway coming into the new parking lot from Beaver Dam Road entrance will be 14 – 16 feet wide and no less than 14 -16 feet at Clifton Avenue exiting. The parking areas are being constructed to address the existing parking situation of parking on the street. The proposed parking provides off street parking and pedestrian safety.

   Sight distances of over 600 feet are provided for the proposed parking lot. The site plan meets the standards for Section 770.6 B. and C. for traffic safety, ease of access, pedestrian safety, minimizing glare of headlights and access for service and emergency vehicles.

6. Existing trash receptacles will remain. Additional trash receptacles will be placed adjacent to the new parking lot. The Town of Scituate will be responsible for waste disposal on a weekly basis at a minimum. An existing fire hydrant is located approximately 100 feet downhill of the proposed new parking lot entrance and there is a water line to the south dugout. The site plan meets the standard of review of Scituate Zoning Bylaw Section 770.6 D. for adequacy of methods of waste disposal, adequacy of water supply and fire- fighting facilities on the site.

7. The site plan and stormwater report were reviewed by the Board's consulting engineer, of Amory Engineers, P.C. The stormwater system of water quality cells east and west of the

field with crushed stone diaphragms for pretreatment has been designed to improve water quality by providing treatment, storage volume control and minimal infiltration for the rate and volume of runoff for the 2, 10, 25 and 100 year storms to the extent possible. There is a slight increase in the peak rate of runoff for the 25 and 100 year storms to Beaver Dam Road; however there is a slight decrease in volume therefore there will be negligible to no flooding impacts downgradient. Runoff from the new parking area will receive the required 80% Total Suspended Solids (TSS) removal. Runoff from the reconfigured parking area will receive 73% TSS removal which greatly enhances the stormwater treatment from existing conditions. The site plan meets the standard of Scituate Zoning Bylaw Section 770.6 E. and F. for adequacy of stormwater management.

8. The proposed parking lot has been graded to fit into the site to minimize cut and fill and tree clearing. Disturbance of existing trees along the east side of the site has been minimized. There are no wetland resources within 100 feet of the proposed site. A silt sock erosion control barrier will be provided. Three shade trees of a minimum of 2 1/2" caliper will be provided. No outdoor lighting is proposed. The site plan meets the standards of Scituate Zoning Bylaw Section 770.6 G., H. and I.

9. The parking areas provide safe functional areas for pedestrians on the perimeter of the parking lots and inside a chain link fence area adjacent to Beaver Dam Road. The gravel parking area is suitable for a seasonal recreational use. No bicycle parking is provided. The DPW is responsible for the maintenance of the parking lots. The site plan meets the standards of the Scituate Zoning Bylaw Section 770.6 J.

10. The site plan entitled Roach Field Parking Lot Improvement Plan, Land off Beaver Dam Road, Scituate, MA, dated April 30, 2018 by Deborah W. Keller, P.E. of Merrill Engineers and Land Surveyors meets the requirements of the Town of Scituate Zoning Bylaw Section 770.6, Site Plan Review Standards of Review to a degree consistent with reasonable use of the site for the purpose permitted by the regulations of the district in which the land is located.

At the public hearing on June 14, 2018, Ann Burbine, Stephen Pritchard, William Limbacher, Benjamin Bornstein and Patricia Lambert being present and voting, voted unanimously to approve the site plan for Roach Field Parking Lot Improvement Plan, Land off Beaver Dam Road, Scituate, MA, dated April 30, 2018 by Deborah W. Keller, P.E. of Merrill Engineers and Land Surveyors subject to the following conditions:

1. The project shall be in accordance with the site plan entitled Roach Field Parking Lot Improvement Plan, Land off Beaver Dam Road, Scituate, MA, dated April 30, 2018 by Deborah W. Keller, P.E. of Merrill Engineers and Land Surveyors for the Town of Scituate. Any further changes from these plans other than to incorporate the conditions below will require approval of the Planning Board.

2. Materials and details of construction shall meet all requirements of the DPW, Board of Health, Fire Department, Conservation Commission, Building Department and Commission on Disabilities. Where this Site Plan Administrative Review requires approval, permitting or licensing from any local, state or federal agency, such required approval, permitting or licensing is deemed a condition of the Town of Scituate Planning Board's approval of this site plan. All necessary permits and approvals must be received prior to construction.

3. Any plan changes or changes from the proposed materials shall be submitted to the Planning Office to determine if changes are insignificant or require a permit modification approved by the Town Planner or Planning Board. The stormwater management system, grading or parking lot locations shall not be changed without prior written approval of the issuing authority. Failure to obtain written approval is a violation of the town of Scituate Stormwater General Bylaw and subject to fines.

4. The number of parking spaces for a baseball field is not specifically regulated by the Table of Minimum Requirements, Section 760.6 of the Scituate Zoning Bylaw, but is included in "All other uses" in this table subject to determination by the Planning Board. The 36 spaces shown on the plans including two spaces that are ADA/AAB compliant are based on estimated users of the baseball field from the amount of cars parking on the road now. The Planning Board determines the number of parking spaces shown on the plans (36) is adequate for the proposed use. The Applicant should report back to the Planning Board at the end of the first year of operation of the parking lot improvements to determine if parking is acceptable. "No Parking" signs shall be placed along Beaver Dam Road and Clinton Avenue by the ball field in consultation with the Town Planner.

5. Approval of a new curb cut on Beaver Dam Road must be obtained from the Scituate DPW.

Prior to Scheduling the Pre-Construction Conference

6. The following items shall be added to the plans prior to scheduling the pre-construction conference:

   - Seed mixes shall be shown on the plans.
   - A low impact barrier between the parking areas and the stormwater best management practices (BMP) shall be added to the plan to prevent vehicles from driving into the BMPs.
   - Directional signage for the ballfield
   - Material of ADA/AAB parking spots
   - One way circulation coming from Beaver Dam Road through the parking lot and exiting onto Clifton Ave.

7. Prior to scheduling the pre-construction conference:

   - A list of inspections to be provided by the engineering division shall be provided to the Town Planner; A schedule and sequence of construction activities shall be provided to the Town Planner;

Construction

8. A pre-construction conference will be required prior to the start of construction, including a representative of the DPW, the Conservation and Natural Resource Officer, the site contractor and the Town Planner.

9. Any work within the ROW of Beaver Dam Road or Clinton Avenue shall be coordinated with the DPW. The DPW shall be notified prior to the start of work within the either

road ROW. Other than as required by this work, there shall be no parking or idling of vehicles on Beaver Dam Road or Clinton Avenue during construction.

10. Stormwater control measures shall be maintained according to plans and Long Term Pollution Prevention Plan and Stormwater Operation and Maintenance Plan contained in the Stormwater Report submitted for the project. All clearing and earth moving operations shall only occur while erosion and sedimentation control measures are in place.
11. A crushed stone construction entrance as detailed on the plans shall be required and installed prior to the start of work in any area. Runoff shall be directed to the line of erosion control and not into any street.
12. The Town Planner shall be notified when erosion control measures are in place, when construction begins and when construction is completed. If deemed necessary by the Town Planner in consultation with the DPW Engineering staff, temporary sedimentation basins, check dams, silt socks and or noise and dust control may be required in addition to the erosion control measures shown on the plan. All erosion control measures shall remain until the Town Planner determines that the danger of erosion or sedimentation no longer exists.
13. Construction shall proceed according to the erosion and sedimentation notes.
14. Construction work shall not begin prior to 7 AM weekdays and 8 AM on Saturday and shall cease no later than 7 PM or sunset whichever is earlier. No construction shall take place on Sunday or legal/federal holidays.
15. The three proposed trees shall be a minimum of 2 ½" caliper in size.

After Construction

16. A-set of As-Built Plans stamped by a registered surveyor and reviewed by the registered professional engineer who designed the system shall be submitted to the Planning Board within 30 days of completion of the work. This plan shall include the construction conditions of the stormwater management system, grading, parking lots and driveways. The As-Built Plan must be found in compliance with the approved permit. All grading and landscaping must be complete prior to the as-built submittal.

17. Underground irrigation systems are prohibited from connecting to the town's water distribution system or in any manner using municipal water. All irrigation systems installed must be supplied by on-site sources at the expense of the property owner, with an equal fine levied on the installer of the system.

18. Stormwater control measures shall be maintained according to plans and Long Term Pollution Prevention Plan and Stormwater Operation and Maintenance Plan contained in the Stormwater Report submitted for the project. All clearing and earth moving operations shall only occur while erosion and sedimentation control measures are in place. Ongoing parking lot maintenance will be done by the Town of Scituate Department of Public Works.

Very truly yours,

Ann Burbine, Chairman

AB/KJ

cc: Brad Washburn, Planning and Development Director
Deborah Keller, Merrill Engineers and Land Surveyors
Robert Vogel, Building Commissioner
Kevin Cafferty, DPW Director
Sean McCarthy, Town Engineer
Jennifer Keefe, Director of Public Health
Amy Walkey, Conservation & Natural Resources Officer
Planning Board

CONSTRUCTION OPERATION AND MAINTENANCE PLAN
CONSTRUCTION POLLUTION PREVENTION PLAN

Dated: April 30, 2018

Roach Field Parking Lot Improvements
Off Beaver Dam Road, Scituate, MA

The structural and stabilization practices utilized on site correspond with plans entitled "Roach Field Parking Lot Improvement Plan, Land off Beaver Dam Road (Assessor's Map 39, Block 27, Lot 00A), Scituate, Massachusetts", dated April 30, 2018 as revised hereinafter referred to as the Site Plans.

Responsible Party for Operation and Maintenance Contact Information:

Town of Scituate
Department of Public Works
600 Chief Justice Cushing Highway
Scituate, MA 02066
P: 781-545-8732

Source of Funding:

Operation and Maintenance of this stormwater management system will be the responsibility of the Town of Scituate as the property owner to include its successor and/or assigns, as the same may appear on record with the appropriate register of deeds.

Project Description:

The subject property is located on the north side of Beaver Dam Road and is listed as Parcel 39-27-00A with the Scituate Assessor's Office. The property is located within the "Residence R-2" Zoning District. Refer the Figure-1 USGS Locus Map for the location of the parcels. The project site consists of a total of 361,691± square feet (8.30 ac).

The property currently consists of a baseball field with a small gravel parking area, which can accommodate approximately twelve to fifteen (12-15) vehicles. Due to the limited parking at the ballfield, parking along Beaver Dam Road and in surrounding neighborhoods occurs creating unsafe conditions for vehicles and pedestrians. The proposed project includes the reconfiguration and slight expansion of the existing gravel parking along with adding an additional gravel parking area to the rear of the baseball field with access from Beaver Dam Road. The reconfigured parking area will accommodate eighteen (18) space of which two (2) are designated as accessible parking. The proposed additional parking area will accommodate twenty (20) spaces. Other proposed improvements include relocation of the batting cage, closing the existing curb cut located at the intersection of Clifton Avenue and Beaver Dam Road, site grading, stormwater management facilities, and landscaping.

Under the post development condition, the proposed gravel parking lot stormwater runoff will be collected via a pea stone diaphragm on the downgradient edges of the parking areas which will then flow into a water quality area then discharge onto grassed or wooded areas. The areas that are maintained in their existing conditions will flow in their existing patterns to either Beaver Dam Road or the wooded portion of the site. The project is a combination of new development and redevelopment.

Erosion Sediment Control Best Management Practices:

Structural Practices:

1) **Silt Sock Erosion Control Barrier** – A silt sock barrier will be intalled along downward slopes at the limit of work in locations shown on the plans. This control will be installed prior to major soil disturbance on the site. The sediment silt sock barrier should be installed as shown on the Construction Detail Plan.

   Silt Sock Installation Requirements

   a) ~~Locate the silt sock where identified on the plans.~~

   b) The silt sock line should be nearly level through most of its length to impound a broad, temporary pool. The last 10 to 20 feet at each end of the silt sack should be swung slightly uphill (approximately 0.5 feet in elevation) to provide storage capacity.

   c) The silt sock shall be staked every 8 linear feet with 1-inch by 1-inch stakes.

   d) Sediment silt socks should be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized through one growing season. Retained sediment must be removed and properly disposed of, or mulched and seeded.

   Silt Sock Maintenance

   a) Silt socks should be inspected immediately after each rainfall event of 1-inch or greater, and at least daily during prolonged rainfall. Inspect the depth of sediment, fabric tears, and to see that the stakes are firmly in the ground. Repair or replace as necessary.

   b) Remove sediment deposits promptly after storm events to provide adequate storage volume for the next rain and to reduce pressure on the fence. Sediment will be removed from behind the sediment fence when it becomes about ½ foot deep at the silt sock. Take care to avoid undermining fence during cleanout.

   c) If the fabric tears, decomposes, or in any way becomes ineffective, replace it immediately.

   d) Remove all silt sock materials after the contributing drainage area has been properly stabilized. Sediment deposits remaining after the fabric has been removed should be graded to conform with the existing topography and vegetated.

2) **Stabilized Construction Entrance** – A stabilized construction entrance will be placed at the existing entrance along Clifton Avenue and at the proposed driveway

entrance along Beaver Dam Road. The construction entrances will keep mud and sediment from being tracked off the construction site onto surrounding streets by vehicles leaving the site. The stabilized construction entrance will be installed prior to any major soil disturbance on site. The construction entrances will be graded to contain stormwater runoff from the entrance to prevent sediment from washing onto the adjacent ground surface. The stabilized construction entrances shall be constructed as shown on the Site Plans.

Construction Entrance Installation Requirements

a) Grade foundation of construction entrance with slightly concave shape to contain runoff within the entrance to prevent sediment from washing onto the adjacent ground surface.

b) Stone for a stabilized construction entrance shall consist of 1 to 3-inch stone placed on a stable foundation.

c) Pad dimensions: The minimum length of the gravel pad should be 30 feet. The pad should extend the full width of the proposed roadway, or wide enough so that the largest construction vehicle will fit in the entrance with room to spare; whichever is greater.

d) A geotextile filter fabric shall be placed between the stone fill and the earth surface below the pad to reduce the migration of soil particles from the underlying soil into the stone and vice versa. The filter fabric should be Amoco woven polypropylene 1198 or equivalent.

e) Washing: If the site conditions are such that the majority of mud is not removed from the vehicle tires by the gravel pad, then the tires should be washed before the vehicle enters the road or street. The wash area shall be located at the stabilized construction entrance.

f) Water employed in the washing process shall be directed to the temporary sedimentation basin/dewatering area as shown on the plans prior to discharge. Sediment should be prevented from entering any watercourses.

Construction Entrance Maintenance

a) The entrance should be maintained in a condition that will prevent tracking or flowing of sediment onto Beaver Dam Road and Clifton Avenue. This may require periodic topdressing with additional stone

b) The construction entrance and sediment disposal area shall be inspected weekly and after heavy rains or heavy use.

c) Mud and sediment tracked or washed onto public road shall be immediately removed by sweeping.

d) Once mud and soil particles clog the voids in the gravel and the effectiveness of the gravel pad is no longer satisfactory, the pad must be topdressed with new stone. Replacement of the entire pad may be necessary when the pad becomes completely clogged.

e) If washing facilities are used, the temporary sedimentation basin/dewatering area should be cleaned out as often as necessary to assure that adequate trapping efficiency and storage volume is available. Any water pumped from the temporary sedimentation basin shall be directed into a sediment dirt bag or equivalent inlet protection prior to discharge. Discharge should not be across the disturbed construction site but rather to undisturbed areas.

f) The pad shall be reshaped as needed for drainage and runoff control.

g) Broken road pavement on Beaver Dam Road and Clifton Avenue shall be repaired immediately.

h) All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization is achieved or after the temporary practices are no longer needed and only following approval by the Engineering Department or their representative. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal shall be permanently stabilized.

3) **Inlet Protection** – Inlet Protection will be utilized around the existing catch basin grates as shown on the site plans within Clifton Avenue and Beaver Dam Road. The inlet protection will prevent any sediment from entering the street(s) closed drainage system. Siltsack or equivalent will be utilized for the inlet protection. Siltsack is manufactured by ACF Environmental. The telephone number is 1-800-437-6746. Regular flow siltsack will be utilized, and if it does not allow enough storm water flow, hi-flow siltsack will be utilized.

Silt Sack (or equivalent) Inlet Protection Maintenance Requirements

a) The silt sack trapping device and the catch basin should be inspected after every rain storm and repairs made as necessary.

b) Sediment should be removed from the silt sack after the sediment has reached a maximum depth of one-half the depth of the trap.

c) Sediment should be disposed of in a suitable area and protected from erosion by either structural or vegetative means. Sediment material removed shall be disposed of in accordance with all applicable local, state, and federal regulations.

d) The silt sack must be replaced if it is ripped or torn in any way.

e) Temporary traps should be removed and the area repaired as soon as the contributing drainage area to the inlet has been completely stabilized.

4) **Temporary Sediment Basins** – The water quality areas may be utilized as temporary sediment basins or more appropriate locations as determined by the site contractor. The temporary sediment basins will handle stormwater, filtering out sediment until the permanent stormwater drainage system is functioning properly. The basins will be lined with sediment erosion control barrier controls. Should the water quality areas be utilized, all sediment building up will be removed and the area bottoms shall be regraded and loam and seeded.

Sediment Basin Maintenance Requirements

a) The sediment basins should be readily accessible for maintenance and sediment removal. The basins should remain in operation and be properly maintained until the area is permanently stabilized by vegetation and/or when permanent structures are in place.

b) Inspect the sediment basins weekly and after each significant rainfall.

c) Remove and properly dispose of sediment when it accumulated to one-half design volume (level marked by reference stake). The effectiveness of a sediment basin is based more on the regular sediment removal than its size.

d) Check embankment and outlet for erosion damage such as settlement, seepage, or slumping along the toe. Repair immediately. Remove trash and other debris from principal outlet and basin area.

e) Clean or replace gravel when sediment pool does not drain properly.

Stabilization Practices:

Stabilization measures shall be implemented as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased, with the following exceptions.

- Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
- Where construction activity will resume on a portion of the site within 21 days from when activities ceased, then stabilization measures do not have to be initiated on that portion of the site by the 14th day after construction activity temporarily ceased.

1) **Temporary Seeding** – Temporary seeding will allow a short-term vegetative cover on disturbed site areas that may be in danger of erosion. Temporary seeding will be done at stock piles and disturbed portions of the site where construction activity will temporarily cease for at least 21 days. The temporary seedings will stabilize cleared and unvegetated areas that will not be brought into final grade for several weeks or months.

Temporary Seeding Planting Procedures

a) Planting should preferably be done between April 1st and June 30th, and September 1st through September 31st. If planting is done in the months of July and August, irrigation may be required. If planting is done between October 1st and March 31st, mulching should be applied immediately after planting. If seeding is done during the summer months, irrigation of some sort will probably be necessary.

b) Before seeding, install structural practice controls. Utilize Amoco supergro or equivalent.

c) Select the appropriate seed species for temporary cover from the following table.

Species	Seeding Rate (lbs/1,000 sq.ft.)	Seeding Rate (lbs/acre)	Recommended Seeding Dates	Seed Cover required
Annual Ryegrass	1	40	April 1st to June 1st August 15th to Sept. 15th	¼ inch
Foxtail Millet	0.7	30	May 1st to June 30th	½ to ¾ inch
Oats	2	80	April 1st to July 1st August 15th to Sept. 15th	1 to 1-½ inch
Winter Rye	3	120	August 15th to Oct. 15th	1 to 1-½ inch

d) Apply the seed uniformly by hydroseeding, broadcasting, or by hand.

e) Use effective mulch, such as clean grain straw, tacked and/or tied with netting to protect seedbed and encourage plant growth.

Temporary Seeding Maintenance

a) Inspect within 6 weeks of planting to see if stands are adequate. Check for damage within 24 hours of the end to a heavy rainfall, defined as a 2-year storm event (i.e., 3.35 inches of rainfall within a twenty-four hour period). Stands should be uniform and dense. Reseed and mulch damaged and sparse areas immediately. Tack or tie down mulch as necessary.

b) Seeds should be supplied with adequate moisture. Furnish water as needed, especially in abnormally hot or dry weather. Water application rates should be controlled to prevent runoff.

2) **Geotextiles** - Geotextiles such as jute netting will be used in combination with other practices such as mulching to stabilize slopes. The following geotextile materials or equivalent are to be utilized for structural and nonstructural controls as shown in the following table.

Practice	Manufacturer	Product	Remarks
Sediment Fence	Amoco	Woven polypropylene 1198 or equivalent	0.425 mm opening
Construction Entrance	Amoco	Woven polypropylene 2002 or equivalent	0.300 mm opening
Outlet Protection	Amoco	Nonwoven polypropylene 4551 or equivalent	0.150 mm opening
Erosion Control (slope stability)	Amoco	Supergro or equivalent	Erosion control revegetation mix, open polypropylene fiber on

			degradable polypropylene net scrim

Amoco may be reached at (800) 445-7732

Geotextile Installation

a) Netting and matting require firm, continuous contact between the materials and the soil. If there is no contact, the material will not hold the soil and erosion will occur underneath the material.

Geotextile Maintenance

a) In the field, regular inspections should be made to check for cracks, tears, or breaches in the fabric. The appropriate repairs should be made.

3) **Mulching and Netting** – Mulching will provide immediate protection to exposed soils during the period of short construction delays, or over winter months through the application of plant residues, or other suitable materials, to exposed soil areas. In areas, which have been seeded either for temporary or permanent cover, mulching should immediately follow seeding. On steep slopes, mulch must be supplemented with netting. The preferred mulching material is straw.

Mulch (Straw) Installation

a) Straw has been found to be one of the most effective organic mulch materials. The specifications for straw are described below, but other material may be appropriate. The straw should be air-dried; free of undesirable seeds & coarse materials. The application rate per 1,000 sq.ft. is 90-100 lbs. (2-3 bales) and the application rate per acre is 2 tons (100-120 bales). The application should cover about 90% of the surface. The use of straw mulch is appropriate where mulch is ~~maintained for more than three months~~. ~~Straw mulch~~ is ~~subject to wind blowing~~ unless anchored, is the most commonly used mulching material, and has the best microenvironment for germinating seeds.

Mulch Maintenance

a) Inspect after rainstorms to check for movement of mulch or erosion. If washout, breakage, or erosion occurs, repair surface, reseed, remulch, and install new netting.

b) Straw or grass mulches that blow or wash away should be repaired promptly.

c) If plastic netting is used to anchor mulch, care should be taken during initial ~~mowings to keep the mower height high~~. ~~Otherwise, the netting can wrap up on~~ the mower blade shafts. After a period of time, the netting degrades and becomes less of a problem.

d) Continue inspections until vegetation is well established.

4) **Land Grading** – Grading on fill slopes, cut slopes, and stockpile areas will be done with full siltation controls in place.

Land Grading Requirements

a) Areas to be graded should be cleared and grubbed of all timber, logs, brush, rubbish, and vegetated matter that will interfere with the grading operation. Topsoil should be stripped and stockpiled for use on critical disturbed areas for establishment of vegetation. Cut slopes to be topsoiled should be thoroughly scarified to a minimum depth of 3-inches prior to placement of topsoil.

b) Fill materials should be generally free of brush, rubbish, rocks, and stumps. Frozen materials or soft and easily compressible materials should not be used in fills intended to support buildings, parking lots, roads, conduits, or other structures.

c) Earth fill intended to support structural measures should be compacted to a minimum of 90 percent of Standard Proctor Test density with proper moisture control, or as otherwise specified by the engineer responsible for the design. Compaction of other fills should be to the density required to control sloughing, erosion or excessive moisture content. Maximum thickness of fill layers prior to compaction should not exceed 9 inches.

d) The uppermost one foot of fill slopes should be compacted to at least 85 percent of the maximum unit weight (based on the modified AASHTO compaction test). This is usually accomplished by running heavy equipment over the fill.

e) Fill should consist of material from borrow areas and excess cut will be stockpiled in areas shown on the Site Plans. All disturbed areas should be free draining, left with a neat and finished appearance, and should be protected from erosion.

Land Grading Stabilization Maintenance

a) All slopes should be checked periodically to see that vegetation is in good condition. Any rills or damage from erosion and animal burrowing should be repaired immediately to avoid further damage.

b) If seeps develop on the slopes, the area should be evaluated to determine if the seep will cause an unstable condition. Subsurface drains or a gravel mulch may be required to solve seep problems. However, no seeps are anticipated.

c) Areas requiring revegetation should be repaired immediately. Control undesirable vegetation such as weeds and woody growth to avoid bank stability problems in the future.

5) **Topsoiling** – Topsoiling will help establish vegetation on all disturbed areas throughout the site during the seeding process. The soil texture of the topsoil to be used will be a sandy loam to a silt loam texture with 15% to 20% organic content.

Topsoiling Placement

a) Topsoil should not be placed while in a frozen or muddy condition, when the subgrade is excessively wet, or when conditions exist that may otherwise be detrimental to proper grading or proposed seeding.

b) Do not place topsoil on slopes steeper than 2.5:1, as it will tend to erode.

c) If topsoil and subsoil are not properly bonded, water will not infiltrate the soil ~~profile evenly and it will be difficult to establish vegetation.~~ ~~The best method~~ is to actually work the topsoil into the layer below for a depth of at least 6 inches.

6) **Permanent Seeding** – Permanent Seeding should be done immediately after the final design grades are achieved. Native species of plants should be used to establish perennial vegetative cover on disturbed areas. The revegetation should be done early enough in the fall so that a good cover is established before cold weather comes and growth stops until the spring. A good cover is defined as vegetation covering 75 percent or more of the ground surface.

Permanent Seeding Seedbed Preparation

a) In infertile or coarse-textured subsoil, it is best to stockpile topsoil and re-spread it over the finished slope at a minimum 2 to 6-inch depth and roll it to provide a firm seedbed. The topsoil must have a sandy loam to silt loam texture with 15% to 20% organic content. If construction fill operations have left soil exposed with a loose, rough, or irregular surface, smooth with blade and roll.

b) Loosen the soil to a depth of 3-5 inches with suitable agricultural or construction equipment.

c) Areas not to receive topsoil shall be treated to firm the seedbed after incorporation of the lime and fertilizer so that it is depressed no more than ½ - 1 inch when stepped on with a shoe. Areas to receive topsoil shall not be firmed until after topsoiling and lime and fertilizer is applied and incorporated, at which time it shall be treated to firm the seedbed as described above.

Permanent Seeding Grass Selection/Application

a) Select an appropriate cool or warm season grass based on site conditions and seeding date. Apply the seed uniformly by hydro-seeding, broadcasting, or by hand. ~~Uniform seed distribution is essential. On steep slopes, hydroseeding may~~ be the most effective seeding method. Surface roughening is particularly important when preparing slopes for hydroseeding.

b) Lime and fertilize. Organic fertilizer shall be utilized in areas within the 100 foot buffer zone to a wetland resource area.

c) Mulch the seedings with straw applied at the rate of ½ tons per acre. Anchor the mulch with erosion control netting or fabric on sloping areas. Amoco supergro or equivalent should be utilized.

Permanent Seeding Maintenance

a) Frequently inspect seeded areas for failure and make necessary repairs and reseed immediately. Conduct or follow-up survey after one year and replace failed plants where necessary.

b) If vegetative cover is inadequate to prevent rill erosion, overseed and fertilize in accordance with soil test results.

c) If a stand has less than 40% cover, reevaluate choice of plant materials and quantities of lime and fertilizer. Re-establish the stand following seedbed preparation and seeding recommendations, omitting lime and fertilizer in the absence of soil test results. If the season prevents resowing, mulch or jute netting is an effective temporary cover.

d) Seeded areas should be fertilized during the second growing season. Lime and fertilize thereafter at periodic intervals, as needed. Organic fertilizer shall be utilized in areas within the 100-foot buffer zone to a wetland resource area.

Dust Control:

Dust control will be utilized throughout the entire construction process of the site. For example, keeping disturbed surfaces moist during windy periods will be an effective control measure, especially along vehicle circulation paths. The use of dust control will prevent the movement of soil to offsite areas. However, care must be taken to not create runoff from excessive use of water to control dust. The following are methods of dust control that may be used on-site:

- Vegetative Cover – The most practical method for disturbed areas not subject to traffic.
- Calcium Chloride – Calcium chloride may be applied by mechanical spreader as loose, dry granules or flakes at a rate that keeps the surface moist but not so high as to cause water pollution or plant damage.
- Sprinkling – The site may be sprinkled until the surface is wet. Sprinkling will be effective for dust control on haul roads and other traffic routes.
- Stone – Stone will be used to stabilize construction roads; will also be effective for dust control.

The general contractor shall employ an on-site water vehicle for the control of dust as necessary.

Non-Stormwater Discharges:

The construction de-watering and all non-stormwater discharges will be directed into a sediment dirt bag (or equivalent inlet protection) or a sediment basin. Sediment material removed shall be disposed of in accordance with all applicable local, state, and federal regulations.

The developer and site general contractor will comply with the E.P.A.'s Final General Permit for Construction De-watering Discharges, (N.P.D.E.S., Section 402 and 40 C.F.R. 122.26(b)(14)(x).

Soil Stockpiling:

Topsoil and subsoil from the roadway grading will be stockpiled in locations shown on the plans.

Stockpile Material Construction Procedure

1) Topsoil and subsoil that are stripped will be stockpiled for later distribution on disturbed areas.
2) The stockpiles will be located as shown on the plans. These locations will allow them to not interfere with work on the site.
3) Seed the stockpiles with a temporary erosion control mix if the stockpile is to remain undisturbed for more than 30 days. The stockpiles must be stable and the side slopes should not exceed 2:1.
4) Sediment erosion control measures should be placed surrounding each stockpile.
5) As needed, the stockpiled topsoil and subsoil are redistributed throughout the site.

Pollution Prevention:

Spill Prevention and Response:

The site supervisor or their representative shall be present on the job site at all times during the course of work and shall be present during the delivery, removal of any liquid/chemical materials to or from the job site. They will also be present during any refueling practices. All subcontractors will be notified of their responsibilities in writing. In the event a spill occurs, the site supervisor shall be notified immediately.
The site supervisor shall have in place a spill prevention plan and resources to contain and clean up any potential spills in a timely manner. Refer to the attached Spill Containment & Management Plan, including Spill Report, Emergency Response Equipment Inventory, and Emergency Notification and phone numbers.

Fueling and Maintenance of Equipment or Vehicles:

The site supervisor shall produce a written document received by all subcontractors and employees that delineates their responsibilities on site. This document shall include language that shall permit the maintenance of vehicles only in designated locations on the job site. The site supervisor shall document receipt of these instructions by obtaining the signatures of subcontractors and individuals that may enter the site and the date in which they were notified of their responsibilities.

Several types of vehicles and equipment will be used on-site throughout the project, including graders, scrapers, excavators, loaders, trucks and trailers, and backhoes. Vehicles requiring refueling or lubrication shall be brought to the construction staging areas, the designated portion of the site away from environmentally sensitive areas (such as storm drains, steep slopes, etc.) or shall utilize temporary drip protection measures at the location of fueling. The operator shall take precautions to ensure that drips, spills or

seeps do not enter the ground. The use of absorbent towels beneath the fuel tank is recommended. Absorbent, spill cleanup materials and spill kits should be kept on site. Refueling or maintenance of equipment in locations other than those designated for such activity shall be performed under the supervision of the site supervisor or his/her designee. The site supervisor shall have a fuel spill plan and measures on site to initiate containment and clean-up in the event a fuel spill occurs.

1. Fueling operations shall take place in designated area(s) as shown on site maps. Provide temporary drip protection during fueling operations which take place outside of designated area(s). Materials necessary to address a spill shall be made readily available in a location known to the site supervisor or his/her designee.
2. Fueling operation procedures shall be in effect throughout the project duration.

Maintenance Requirements -

1. Vehicles and equipment will be inspected on each day of use. Leaks will be repaired immediately, or the problem vehicle or equipment will be removed from the project site.
2. All emergency response equipment listed in the Emergency Response Equipment Inventory shall be made readily available and kept in a designated location known to the site supervisor or his/her designee. All such materials shall be replenished as necessary to the listed amounts.

Washing of Equipment and Vehicles:

The site supervisor shall produce a written document received by all subcontractors and employees that delineates their responsibilities on site. The site supervisor shall document receipt of these instructions by obtaining the signatures of subcontractors and individuals that may enter the site and the date in which they were notified of their responsibilities. This document shall include language that shall not permit vehicle washing on the job site.

Maintenance Requirements -

1. The site supervisor shall maintain a log of individuals receiving these instructions.

Storage, Handling, and Disposal of Construction Products, Materials, and Wastes:

It is not anticipated that building products will be stored on site. Storage areas shall properly contain materials and prevent materials or their containers/wrappers from being strewn about the site. Any leaking containers shall be removed and properly disposed of immediately. Weather sensitive materials shall be safely stored in closed temporary containers as necessary.

1. Place all materials being stored for future use in designated storage areas.
2. Place all weather sensitive materials in closed temporary containers as necessary. Care should be taken to store materials in accordance with manufacturer's recommendations and to avoid storing combinations of materials which may cause a noxious, volatile or otherwise dangerous condition.
3. All non-hazardous solid waste shall be disposed of in a trash receptacle (dumpster) which shall be removed and disposed of at an approved land fill.

Maintenance Requirements -

1. The site supervisor shall inspect the designated storage areas weekly and after storm events as well as any portions of the site under construction to ensure that all materials are properly stored. The storage areas will be kept clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored.

Pesticides, Herbicides, Insecticides, Fertilizers, and Landscape Materials

The use of pesticides and herbicides is not currently anticipated for this site. Fertilizers and landscape materials will be used to stabilize slopes and other disturbed areas only as necessary. Apply at recommended rates. Use only slow release fertilizers to minimize discharge of nitrogen or phosphorous.

~~Maintenance Requirements~~

1. Site supervisor shall make regular inspections to ensure that fertilizer is being applied at proper rates and that all perimeter controls are in place and properly maintained to control runoff which may contain fertilizer.
2. Store all fertilizers and landscape materials in designated secure locations. Store all weather sensitive materials in closed containers in accordance with manufacturer's recommendations.
3. To prevent accidental release of fertilizers, the site supervisor shall attempt to coordinate delivery of fertilizers to coincide with application and reduce the need to warehouse large quantities on-site.
4. Avoid applying before heavy rains that could cause excess nutrients to be discharged.
5. Never apply to frozen ground or apply to stormwater conveyance channels with flowing water.
6. Follow all other federal, state, and local requirements regarding fertilizer applications.

Diesel Fuel, Oil, Hydraulic Fluids, Other Petroleum Products, and Other Chemicals

Storage of diesel fuel, oil hydraulic fluids and other petroleum products/chemicals shall not be permitted on site.

~~Refueling and maintenance for vehicles or equipment shall occur either within the~~ designated area or shall utilize temporary drip protection measures at the location of fueling. The site supervisor shall have a fuel spill plan and measures on site to initiate containment and clean-up in the event a fuel spill occurs.

Refueling or maintenance of equipment in locations other than those designated for such activity shall be performed under the supervision of the site supervisor or his/her designee and shall employ drip pans or other suitable means of preventing fuel, hydraulic fluid, etc. from spilling or being otherwise carried offsite or into protected areas.

Hazardous or Toxic Waste

(Note: Examples include paints, solvents, petroleum-based products, wood preservatives, additives, curing compounds, acids.)

Hazardous or toxic waste associated with paints, solvents, petroleum-based products, wood preservatives, additives, curing compounds, acids shall not be stored on site.

Should hazardous or toxic waste be utilized on site, it shall be collected in approved containers and disposed of in accordance with municipal, state and federal regulations and shall not be stored on site.

Hazardous and toxic waste shall not be disposed of in solid waste containers intended for ~~non-hazardous construction debris~~.

Maintenance Requirements

1. The site supervisor shall inspect all portions of the project under construction weekly and after storm events to ensure that all hazardous or toxic materials are stored and disposed of in accordance with the practices detailed above and shall ~~immediately correct any improper storage or disposal practices~~.

Construction and Domestic Waste:

(Note: Examples include packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, and other trash or building materials.)

It is not anticipated that a significant amount of construction and domestic waste will be generated by this project. All construction and domestic waste shall be collected and disposed of off site daily. No construction materials will be buried on-site.

Sanitary Waste

Sanitary facilities (portable toilets) will be provided at the site throughout the construction phase. The portable toilets will be located away from a concentrated flow paths or traffic flow.

Sanitary facilities will be brought to the site at the start of construction.

Maintenance Requirements

1. If necessary, the site supervisor shall execute a contract with a vendor to supply and maintain portable toilets throughout the site for the project duration. The portable toilets shall be inspected weekly for evidence of leaking holding tanks. Toilets with leaking holding tanks will be removed from the site and replaced with new portable toilets. The site supervisor shall determine if a sufficient number of toilets are present to meet staffing levels and shall ensure that the toilets are regularly and properly maintained.

Inspection and Corrective Action:

Operator personnel must inspect the construction site at least once every 7 calendar days and within 24 hours of a storm event of ½-inch or greater. The owner shall be responsible to secure the services of a design professional or similar "qualified person"

(inspector) on an on-going basis throughout all phases of the project. The inspector should review the erosion and sediment controls with respect to the following:

- Whether or not the measure was installed/performed correctly.
- Whether or not there has been damage to the measure or ineffective controls since it was installed or performed.
- What corrective actions should be done to correct any problems with the measure.

The inspector should complete the Stormwater Management Best Management Practices Inspection Schedule and Evaluation Checklist – Construction Phase, as attached or provided in the Site's Stormwater Pollution Prevention Plan, for documenting the findings and should request the required maintenance or repair for the pollution prevention measures when the inspector finds that it is necessary for the measure to be effective. The inspector should notify the appropriate person to make the changes.

It is essential that the inspector document the inspection of the pollution prevention measures. These records will be used to request maintenance and repair and to prove that the inspection and maintenance were performed.