

Article VI. Performance Standards

Section 51. Private ways and roads.

[Ord. of 2-4-1997(2); Ord. of 6-2-1998(2); Ord. No. 2003.15, 2-4-2003; Ord. No. 2003.76, 7-15-2003]

Limits of a private way: The road beginning from the edge of the traveled way of a public road and all associated sub roads that spur off from this road. The portion of the private way within the public right-of-way shall be built according to public street standards. Maintenance of this right-of-way area shall be the responsibility of the homeowner's association.

- A. No building permit shall be issued to erect a structure on a lot lacking frontage on a public way unless a private way meeting the following criteria has been approved by the Planning Board and constructed within a deeded right-of-way, no less than 50 feet in width. The land within the right-of-way of an approved private road shall not be used to meet the area requirements of any lot obtaining its frontage from the private road. The creation of a private road shall not reduce the frontage, lot area, or other dimensional requirements of an existing conforming lot below that required by the zone in which it is located nor reduce the frontage, lot area, or other dimensional requirements of an existing nonconforming lot. Driveways to corner lots shall gain access from the street of lower classification when a corner lot is bounded by streets of two different classifications. The restriction shall appear as a note on the plan and as a deed restriction. Also, the lots legal frontage shall be determined by this requirement.
- B. See schedule of fees (located in Attachment A of this Code) for associated costs for development. Fees are required for review of plans, and inspection of work. A performance guarantee will also be requested by the City for all associated roadway work.
- C. For private road construction standards see Table 6-50. The private way shall have drainage, ditches and culverts at all appropriate points according to Subsection **E** of this section, stormwater management. Gravel surfaces will be allowed for roads servicing up to four lots, or reclaimed asphalt may be used in lieu of the base gravel course as shown in Table 6-50. For roads with five to 10 lots, the roadway will require paving as shown in Table 6-50. Any private way serving more than 10 lots shall meet the public road design and construction standards for the City of Biddeford (Chapter **62**). Each lot shall have the minimum required feet of frontage on a private way as set forth in the City's Zoning Ordinance requirements.
The construction of the private way shall follow the requirements stated in Chapter **62**, Sections **62-127** through and including 62-137.
- D. The City Planner, Code Enforcement Officer, City Engineer and Fire Department shall review and may approve the use of a private way in accordance with Table 6-50 requirements in order to provide access and frontage to no more than three lots provided that the project does not entail a subdivision review. If a proposed private way is to provide access to more than three lots, or if staff members are not unanimous in their approval of the proposed private way, the Planning Board shall review and may approve the proposed private way in accordance with the following provisions:
 1. A plan showing the private way shall be prepared by a registered professional engineer. The plan shall be labeled "plan of a private way" and shall provide an approval block for the signatures of

the board members. The plan shall delineate the proposed way and each of the lots to be served by the private way. A copy of the signed standard boundary survey of the roadway shall be included in the package. Monumentation of the roadway is required. See public street standards, Section **62-87**, for details.

2. A street plan and an erosion control plan is required for a single lot private way. A street plan, cross section, erosion control, utility plan, and drainage plan shall be submitted for each private way serving two or more lots. The utility plan should contain the following information: locations and size of existing and proposed utility connections, including sewer, water, power, telephone, stormwater drainage systems, power poles, light poles, and nearest hydrant(s).
 - a. Adequate light shall be provided on all streets. The number and location of all streetlights shall be installed according to the following guidelines: in urban areas, the lights shall be located at all intersections and on every other pole, in non-urban areas lights shall be located at all intersections and to service three homes. For overhead power, type and size of streetlights to be determined by public works. If underground power is used, the applicant needs to coordinate with the engineering department for City standard light fixtures and poles.
A note on the plan shall state, "The City of Biddeford shall not be responsible of the cost of materials, installation, maintenance, or power for the streetlighting. The homeowner's association shall assume all costs associated with the lighting system."
3. Lots shall conform to zoning requirements for size, frontage, and setbacks for the area in which they are located.
4. The plan shall bear notes that the City of Biddeford will not be responsible for the maintenance, repair, or plowing of the private way and that further lot divisions utilizing the private way are prohibited without prior approval of the board.
5. Prior to Planning Board approval, the applicant shall submit a street name to the 911 coordinator to determine if the street name is acceptable for the 911 system.
6. If the private way is to provide access to two or more lots, a maintenance agreement shall be required by the board and recorded in the York County Registry of Deeds. The maintenance agreement shall specify the rights and responsibilities of each lot owner with respect to the maintenance, repair and plowing of the private way. If the road is not in good condition in the judgment of the Fire Department, the parties to the maintenance agreement may be notified that the road needs repair and that the City may discontinue emergency services.
7. Private ways need to be inspected by the City's engineering staff during the construction process. Failure to include the City in reviewing the construction may result in the City's dismissal of any attempts to make the private way a public road at a later date.
If the owner did not include the City's staff in the construction process and wished to have the road accepted as a public road at a later date, the owner would need to hire at the owner's expense a registered civil engineer to inspect the roadway and to certify that the road has been constructed according to City standards. This certification (stamp) would need to be submitted to the committee responsible for capital projects and then the City Council for final acceptance. The proposed public road must comply with the requirements stated in Chapter **62** of this Code, Streets, Sidewalks and Other Public Places. If the road does not meet the requirements of Chapter **62**, then the road will need to be upgraded to the point that it would be eligible for recommendation to the Council for acceptance as a public road. All costs and work for such improvements to bring the road up to public standards shall be borne solely by the developer or lot owners.
8. All private roads need to have a paved apron access to the public road it extends off from. Table

6-50 states the minimum lengths required based on number of lots. The paved apron shall conform to public road standards for minor residential streets. The road shall be constructed such that a grade of $\pm 3.0\%$ from the existing edge of pavement will allow the generated flows to be handled by the drainage system.

9. The construction of private ways shall meet the following minimum standards:

Table 6-50
Private Roads Construction Requirements¹
Number of Total Lots Served by Road

Requirements⁵	1³ Gravel	2 Gravel	3 to 4 Gravel	5 to 10 Paved⁶	More than 10
Minimum roadway travel width (feet)	12 ⁴	16	20	20 ¹¹	See Note 7
Minimum shoulder width (gravel) each side (feet)	2	2	2	2 ¹¹	See Note 7
Sidewalk width ⁹ (feet)	N/A	5	5	5	See Note 7
Maximum roadway grade ¹⁰	10%	8%	8%	8%	See Note 7
Minimum roadway grade	1.0%	1.0%	1.0%	1.0%	See Note 7
Roadway crown (inches per foot)	3/8	3/8	3/8 gravel, 1/4 paved	1/4	See Note 7
Maximum dead-end length (feet)	2,000	1,500	1,500	1,500	See Note 7
Minimum center-line radius (feet)	150	150	150	150	See Note 7
Minimum entrance radius (curbed or gravel) (feet)	Note 8	30	30	30	See Note 7
Minimum paved apron (feet)	40	40	50	50	See Note 7
Turnaround at dead-end	Hammer head or T	Hammer head or T	Hammer head or T	Hammer head or T	See Note 7
Stormwater drainage approval	City Engineer	City Engineer	City Engineer	City Engineer ¹¹	See Note 7
Subbase course (heavy gravel) MDOT Type D (inches)	18	18	18	18	See Note 7
Base course (crushed gravel MDOT Type A, or reclaimed asphalt) (U.N.O) (inches)	2	4	4	4 (no reclaim)	See Note 7
Hot bituminous pavement ² : Total thickness required (inches)	N/A	N/A	3 1/4	3 1/4	See Note 7
Base course, MDOT B-mix (inches)	N/A	N/A	2	2	See Note 7

Surface course, MDOT C-mix (inches)	N/A	N/A	11/4	11/4	See Note 7
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NOTES:

U.N.O. = Unless Noted Otherwise

All materials to meet specified current MDOT standards. (Refer to MDOT Standard Specifications for Highways and Bridges.)

- 1 These provisions may be subject to Chapter **62** (Streets and Sidewalks) of this Code.
 - 2 In accordance with Section **62-131**, Paving of the City of Biddeford Code.
 - 3 No profile necessary, however finish elevations along the road center line shall be shown on the plan view. A benchmark must be designated on the plan.
 - 4 One turnout to provide space for two vehicles to pass shall be provided for every 500 feet of the private way.
 - 5 All horizontal road geometries shall comply with the Chapter **62** (Streets and Sidewalks) of this Code.
 - 6 Paving: The surface coat shall not be placed sooner than one year after the base coat has been placed unless the engineering office considers this acceptable or a maintenance guarantee for 150% of the roadway construction costs is posted for a period of at least one year after the surface coat is placed.
 - 7 Follow design requirements based on Chapter **62**, Section **62-81**, Definitions, and Section **62-129**, Table A.
 - 8 See "Driveway Aprons and Curb Cuts" Chapter **62**, Section **62-111** for requirements.
 - 9 The criteria for determining whether or not to have a sidewalk on a private street shall be made on the basis of if there is an existing sidewalk within a one-thousand-foot radius of the project site, the developer will need to create a new sidewalk from the end of the existing sidewalk a length equivalent to the length of the proposed private way. If the developer chooses, they may wish to give the City the equivalent monetary value for the project for the City to undertake.
 - 10 Exceptions to the maximum road grades listed above are as follows:
 - (a) Within 75 feet of an intersection the road grade shall be no greater than 3%.
 - (b) Roads with slopes greater than 8% (up to a maximum of 14%) have to increase the level off distance by 25 feet for each percent over 8% at intersections.
 - 11 For roads built in the urban area as defined in Chapter **62** (Streets and Sidewalks) the public road requirements are eleven-foot travel lane widths, three-foot shoulders and subsurface drainage.
10. Pavement joints: Where pavement joins an existing pavement, the existing pavement shall be sawcut along a smooth line to form a neat, even, vertical joint.
 11. Turnaround: A hammerhead or T-turnaround shall be constructed to comply with the applicable standards of this section, and the perpendicular cross piece of the "T" shall have the same width as its associated road, and shall extend a minimum of 40 feet to either side of the center line of the dead-end street. The cross piece of the "T" shall be located within a fifty-foot wide right-of-way that shall extend at least 20 feet beyond the ends of the pavement. No lot may be accessed from either ends of a hammerhead or a T-turnaround. Culs-de-sac may also be used for turnarounds. See Chapter **62**, Streets, Sidewalks and Other Public Places for requirements.
 12. The applicant will provide a stop sign and street name sign meeting City specification at the intersection with the public street, located per the City's ordinance.
 13. Driveways widths shall comply with requirements stated in "Driveway Aprons and Curb Cuts" Chapter **62**, Section **62-111**.

14. Intersection requirements: See Chapter **62**, Section **62-104**, Intersections.
 15. The plan shall be recorded in the York County Registry of Deeds within 30 days of the date of the Planning Board approval. If the plan is not recorded within this time period, the approval of the Board shall be null and void.
 16. In reviewing requests for approval of private ways under this subparagraph, the Board shall apply such standards and criteria, and may impose such conditions, as are applicable to conditional uses.
 17. The owner, or owners, shall convey, where applicable, to the City an easement, described by metes and bounds, for sewer purposes over the entire right-of-way and shall record the easement in the York County Registry of Deeds.
 18. Existing private roads or projects previously approved by the Planning Board before the enactment of the revised code sections dated January 13, 2003, shall be exempt from those changes.
However, if an extension to a private road is requested, land is to be subdivided with access to an existing private road, or a dwelling unit is added to an existing private road, an application must be submitted to the Planning Board for approval. If it is deemed that the existing road is not suitable for expansion or increased traffic, the applicant will need to upgrade the road to the appropriate private road standards.
 19. After a private way has been approved by the Board, no further lots shall be created which are to be provided access by means of the private way without the prior approval of the Board. Where a proposed subdivision is on a private way approved by the Board, a copy of the approval shall be submitted with the subdivision application.
- E. Stormwater management. In order to preserve rural natural resources and keep construction costs down, the City of Biddeford will require the developer to implement a stormwater management plan utilizing low-impact water collection structures.
- For roads serving five or less lots, or roads located within cluster subdivisions, vegetative buffers and swales shall be utilized. However, if there are extenuating circumstances that do not afford the use of vegetative structures (land slope, wetland protection, neighboring properties, etc.), and the applicant's engineer has proven that there are no other reasonable alternatives, the Planning Board will work with the applicant to determine the best means of stormwater management.
- For roads serving greater than five lots, traditional stormwater structures may be used, although if feasible, vegetative structures should be incorporated.
- The following information is from the Maine DEP Best Management Practices "Stormwater Management For Maine" Section 6.2 "Vegetative BMPs" (Nov. 95). Refer to the most current version of this source for further information. Applicant shall be responsible for meeting current standards.
- 6.2.1 Vegetative Buffer:
- Design criteria. References to "Table 6-1": For buffer removal efficiencies see this table in the most recent version of the MDEP Best Management Practices.
1. Maximum contributing drainage area: The length of the vegetated buffer should be at least as long as the runoff flow path across the contributing drainage area. The depth, or buffer width referred to in Table 6-1, of the buffer strip should not be more than 250 feet in length without an intervening level spreader.
 2. Maximum slope: Must be less than 30% to be included in the calculation of buffer width. Areas with slopes greater than 30% are too steep to be effective as a treatment buffer but should be left undisturbed. The optimum slope for effective treatment is around 1%.
 3. Distribution of runoff over the buffer: To be treated, runoff must enter the buffer as sheet flow and cannot be allowed to channelize. Buffers will not treat shallow concentrated or channelized flow.

- Runoff should be distributed across the buffer strip so that the maximum flow velocities are well below one fps. The maximum allowable Q_{10} velocity should be less than three fps (Galli, 1993).
4. Restabilization of buffers used for sediment control during construction: If a buffer has been used to trap sediment during construction, sediments shall be removed and buffer will be regraded and the top of the buffer will be reseeded.
 5. Pretreatment for buffers with "bare soil" contributing areas: To prevent a heavy sediment loading from damaging the buffer, sites that will have areas of bare soil for a long time can not utilize this BMP without first pretreating the runoff with a sediment control BMP.
 6. Buffer width (length): The recommended minimum buffer width is 25 feet (Maine DEP, 1992). Only continuous width may be counted when calculating buffer width. Maximum buffer width (length) is 250 feet.
 7. Provision of ditch turnouts: Turnouts should receive no more than one cfs of peak flow during a storm event. If the peak flow is greater than one cfs, the spacing between turnouts should be reduced so that the peak flow from each turn-out's drainage area is less than 1.0 cfs. The following formula can be used to find the peak flow from a drainage area to a ditch turnout (Maine DEP, 1992):

$$\text{Peak Flow} = (\text{Impervious area in ft}^2)(0.000139) + (\text{pervious area in ft}^2)(0.000069)$$
 The turnout should extend into the side ditch or cut slope in a manner that it intercepts the ditch runoff and carries it into the buffer area. The buffer end of the turnout must be level or equipped with a level spreader such as a shallow stone trench to promote sheet flow. Refer to Erosion and Sediment Control for Construction (MDEP, 1991) for level spreader designs. Use Table 6-1 to determine the treatment factor of the buffer by measuring the length the road runoff travels through the buffer continuously or, in cases where the runoff parallels the road, until the runoff encounters the next ditch turnout.
 8. Buffer vegetation: For buffer strip design and practice in Maine, the following vegetation designations are suggested to be utilized:
 - a. Wooded: Example of a wooded buffer is shown in Figure 6.3.
 - b. Non-wooded: Fields or reverting fields, as well as forested areas where more than 40% of the timber has been harvested in the past 10 years or where ground cover or leaf litter has been disturbed. When mowed the height should be cropped to not less that six inches.
 - c. Seeded: Mowed lawns or seeded or sodded areas previously disturbed by construction activity. An example of a seeded buffer is shown in Figure 6.3.
 Refer to the Maine Erosion and Sediment Control Handbook (Maine DEP, 1991) for appropriate seed mixtures and application methods for seeded buffers.

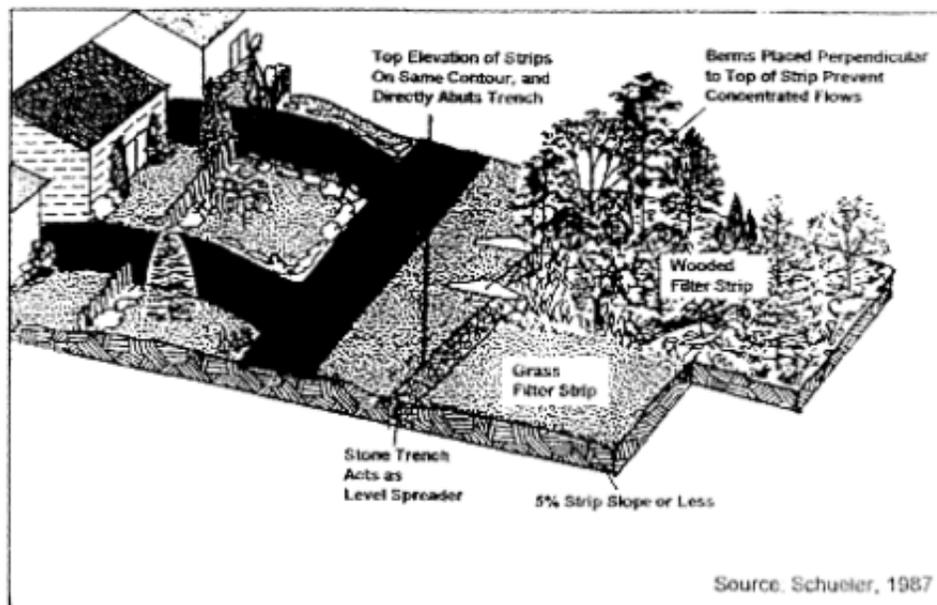


Figure 6.3: Schematic of a Seeded and Wooded Buffer Strip

Maintenance of the buffer. The Planning Board will require the applicant to submit a maintenance agreement and a maintenance schedule for the buffer. These items need to be approved of by the Board as part of the project.

Maintenance requirements for buffers can be reduced by managing them as undisturbed, natural areas. Wooded buffers should be maintained as specified in Phosphorus Control in Lake Watersheds (Maine DEP, 1992) (pp. 60-62).

1. Mowing: Four to six inches of dense grass cover or natural vegetation, and the area should receive the minimum fertilizer application needed to maintain the grass in a healthy condition. Fertilizer use should be in accordance with the Maine Erosion and Sediment Control Handbook (Maine DEP, 1991) and BMP 7.2 (Me DEP BMP Stormwater).
2. Inspection frequency: Annually. All eroded areas should be repaired, seeded and mulched. A shallow stone trench should be installed and maintained as a level spreader to distribute flows evenly in any area showing concentrated flows.
3. Access and use: Buffers should not be traversed by all-terrain vehicles or other vehicles. Activities within buffers should be conducted so as not to damage vegetation, disturb any organic duff layer, and expose soil.

6.2.2 Vegetative Swale:

Design criteria.

1. Soils: Underlying soils should have a high infiltration rate (at least 1.0 inches/hour).
2. Channel design: The channel should be designed for low velocity flow. A velocity of one fps is the maximum design storm flow velocity recommended when vegetated swales are being designed as a BMP. Higher velocities might be permissible for channel stability, but could result in resuspension of settled particulates. The maximum allowable Q_{10} velocity should be less than three fps. Flow depths in the swales should be minimized to increase the amount of vegetative filtering and settling. A maximum design flow depth of one foot is suggested. The minimum width of the flat bottom of a trapezoidal channel shall be at least three times the channel depth. Non-trapezoidal channels should have similar depth to width relationships.
The grade of the channel should be as flat as possible, and preferably less than 2% (MPCA, 1989). Channels should be designed for capacity and stability in accordance with Erosion and Sediment Control BMP 36.0 of the Maine Erosion and Sediment Control Handbook for Construction (1991).
3. Infiltration and sedimentation enhancement: The hydrologic performance of vegetated swales can be improved if check dams are used to temporarily pond runoff (see swale with check dams BMP).
4. Vegetation: Vegetation for swale linings should be selected based on soils and hydrologic conditions at the site, in accordance with applicable erosion and sediment control BMPs described in the Maine Erosion and Sediment Control Handbook for Construction. Recommended grasses include Ky-31 tall fescue, reed canary grass, redtop, roughstalked blue grass, and mixtures thereof (Galli, 1993).
5. Construction considerations: Construct and stabilize the waterway in advance of any other channels or facilities that will discharge into it.

Maintenance of the buffer. The Planning board will require the applicant to submit a maintenance agreement and a maintenance schedule for the buffer. These items need to be approved of by the Board as part of the project.

Routine maintenance should include: the immediate repair of newly formed channels or gullies, reseeding/sodding of bare spots, removal of trash, leaves and/or accumulated sediments, and the control of woody or other undesirable vegetation. Swales must be maintained to remove fine sediment if their infiltrative capacity is to be maintained. In addition, the buffer strip may require

periodic mechanical aeration to restore infiltration capacity. This aeration must be done during a time when the area can be reseeded and mulched prior to any significant rainfall. It is important to install erosion and sediment control measures to stabilize this area as soon as possible and to retain any organic matter in the bottom of the trench. Routine fertilization and/or use of pesticides is strongly discouraged. A minimum mow height of six inches is generally recommended (Galli, 1993).

Vehicular traffic should be excluded from the waterway. The area should be inspected for failures following heavy rainfall and repaired as necessary. If complete re-seeding is necessary, half the original recommended rate of fertilizer should be applied with a full rate of seed.

6.2.3 Swales with Check Dams:

Design criteria.

1. Soils: Swales with check dams should not be located on soils with a final infiltration rate (f) less than 1.0 inches per hour. The recommended depth to seasonal high groundwater or bedrock is a minimum of two feet.
2. Channel design: The design storm channel velocity should be no greater than one fps, and the maximum Q_{10} velocity should be less than three fps. The grade of the channel should be less than 5%, but preferably less than 2% for maximum storage and effectiveness. Channels should also be designed for capacity and stability in accordance with Erosion and Sediment Control BMP 36.0 of the Maine Erosion and Sediment Control Handbook for Construction (1991).

Channel side slopes shall not exceed 3 (horizontal): 1 (vertical) for seeded or sodded slopes, or 2:1 for riprap slopes, although the channels may be vee-shaped, parabolic, or trapezoidal (Maryland, 1984).

If underdrains are provided under the swale, there should be a minimum of two feet of "soil" between the bottom of the swale and the top of the drainpipe.

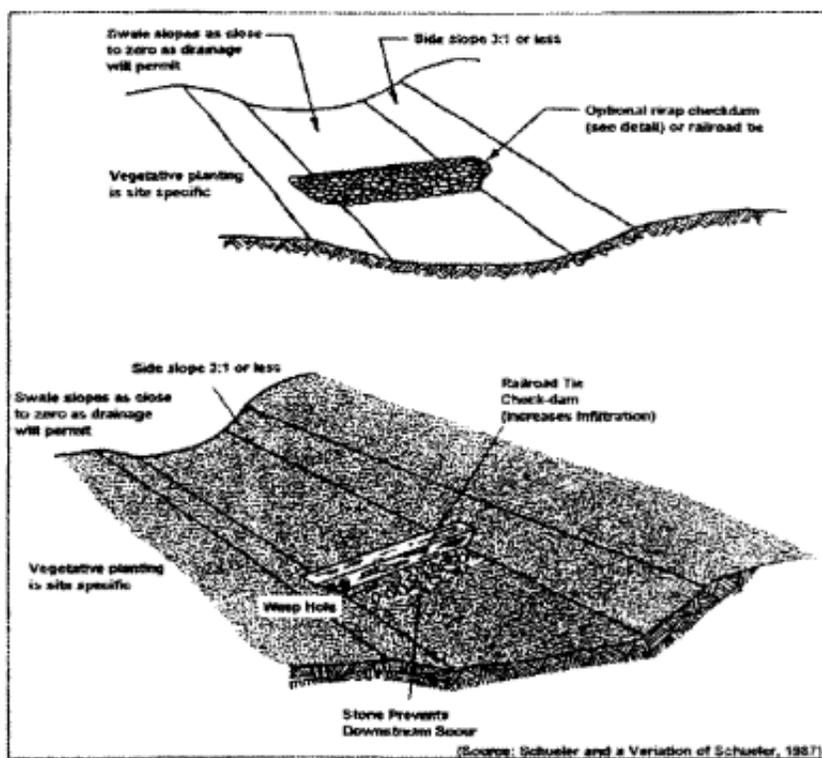


Figure 6.4: Examples of Check Dam Swales and Railroad Tie Swales

3. Check dam design: The check dam should be constructed of durable rock or rock-lined material so that it will not erode. The area just downstream of the check dam should be protected from scour with properly designed rock riprap or protective channel lining. The check dam may have a solid level surface integrated into it for added durability as shown in Figure 6.4.

Check dam heights are generally six to 12 inches, depending on channel slope and desired storage capacity. The check dams should be notched or ported to allow the flows in excess of

their infiltrative capacity to be bypassed. Check dams should be designed so that the water ponded behind them will infiltrate in 12 hours or less (Galli, 1993).

Maintenance of the buffer: The Planning Board will require the applicant to submit a maintenance agreement and a maintenance schedule for the buffer. These items need to be approved of by the board as part of the project.

Grassed waterways need to be checked regularly to repair erosion problems, remove accumulated debris, and to check the condition and integrity of the check dams.

The level of sediment deposition in the channel should be monitored regularly, and removed from grassed channels before permanent damage is done to the grassed vegetation, or if infiltration times are longer than 12 hours. Sediment should be removed from riprap channels when it reduces the capacity of the channel.

- F. For roads and driveways within Shoreland and Resource Protection Areas, additional design standards apply to these projects. See Article XIV, Shoreland Zoning, Section 15-H for requirements. For stream crossings, DEP permits must be obtained prior to Planning Board approval.