

4. MAINTENANCE

4.1. LIVING FACADES

THE GREEN BARRIER®

As with all living materials, the living side of a barrier needs maintenance and attention:

- Drip irrigation in summertime during the first years.
- Trimming is recommended twice a year.
- Fertilising during the spring.
- Observation and control of pests and diseases.
- Due to the natural characteristics of the barrier it is rendered vandal and graffiti resistant.



Drip irrigation

The systems consist of a computer controlled drip irrigation system laid just under the surface of the soil at ground level. The system is installed when the barrier is being built. The barrier needs irrigation from May till mid September. The actual consumption will depend on various factors such as the geographical position of the barrier and the nature of the plants in question.



Magnetic valve, computer and filter

Low rate drip

Pruning twice a year, summer and winter is recommended and the system can be run with LOW RATE DRIP. Year of establishment: 1,5 hour/day. Following years: 1 hour/day. Extensive pruning premises higher water consumption: 2,5 hour/day (2L/hour/running meter). An inspection and follow-up routine must be drawn up to monitor the quality status of barriers. PileByg recommends checking the living side of a barrier and irrigation system once a month during the first years of establishment.

THE GREEN NOISE BARRIERS

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Maintenance of the irrigation system

The irrigation system (computer, solenoid valve and filter) should be started each may (no risk of frost) and removed each autumn. If the batteries are left in the computer, the programming will be maintained. When changing batteries, the system leaves a enough capacity for changing batteries for maintaining the programming.

VERY IMPORTANT. The computer, solenoid valve and filter should be kept in a non-freezing environment. If outside during summer, then demounted and kept in a frostproof place.

Fertilizer

Fertilizer is applied each spring. The fertilizer should be spread evenly along the living side of the barrier. NPC Fertilizer 23-3-7 or corresponding, applied with approx 0,1 kg per running meter living barrier.

Pruning

To obtain a sound and dense green living side of a barrier it is strongly recommended to conduct pruning both winter and summer, that is twice a year. The optimum time for pruning is January/February - before the willow starts shooting; and second pruning during the month of July. The branches should be cut in a distance of appr. 20 cm from the living side of a barrier. Pruning is done with a hedge cutter or similar.

Through out the year:

- January/February - trimming, 20-30 cm long branches.
- March/April - Fertiliser, 0,1 kg. NPC 23-3-7 running meter..
- May - drip irrigation started, supervision as a min. each month.
- July trimming, 20-30 cm long branches.
- September - Drip irrigation should be stopped and essential parts kept in a frostproof place

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4.1. LIVING FACADES

THE GREEN BARRIER® AND GB® ECONOMY

Newsletter

Send to:

All owners of a barrier. Those without e-mail address or who wish to receive a snailmail, can have that. One barrier can have more key persons, who should receive the mail.

We spend some efforts on making sure, that the e-mail address or contact persons are the right ones. We have allways had a phone conversation with a person ahead of agreeing on the responsibility for the maintenance of the barrier

Frequency

The letter is sent minimum 2- times a year:

- Standard: spring, before summer Holliday, autumn, winter. Always coordinate with starting and stopping of irrigation system.
- Supplements if the summer is extremely dry or if other special aspects need to be covered.

Content

We are very strict on the premise, that the newsletter must not be a sales letter. Then people get tired of reading it, and the main reason why we send it, is that we want to prevent bad experiences with willow due to lack of watering etc.

Very important that this is a professional service without offers etc. but information on new barriers or new techniques acceptable to a limited degree.

Questions concerning maintenance are always welcome:

Phone: +45 98962071

Mail: info@pilebyg.dk

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GB. ECONOMY

The Living barrier Economy is designed to require a minimum of maintenance.

- Trimming is recommended 1 time every second year (in period dec-feb)
- Fertilising during the spring during the first 3 years.
- Due to the natural characteristics of the barrier it is rendered vandal and graffiti resistant.
- Irrigationpipelines are installed, only to be used if the summers gets unusual dry.



Newly planted cutting



Fertilizer

Fertilizer is applied each spring. The fertilizer should be spread evenly

along the living side of the barrier. NPC Fertilizer 23-3-7 or corresponding, applied with approx 0,1 kg per running meter living barrier.

Pruning

To obtain a sound and dense green living side of a barrier the branches should be cut to keep the trees in a right proportion compared to height of barrier. This is done by cutting off branches each second winter so they level with or are a bit lower than the height of the barrier itself.

Side branches can be cut if the barrier becomes too wide and traffic is hindered. Cutting is easily done with a hedge cutter or similar.

Irrigation

Irrigation is only to be used if the summer causes extremely dry periods without any rain. In september - the drip irrigation should be stopped and essential parts kept in a frostproof place

For any further questions, feel free to contact PileByg +45 98962071 or mail: info@pilebyg.dk. PileByg offers to send a free newsletter with a reminder on yearly pruning and if applied, removal of dripirrigation in September.

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4. MAINTENANCE

4.3 WOVEN WILLOW, OAK, STEEL AND GLASS

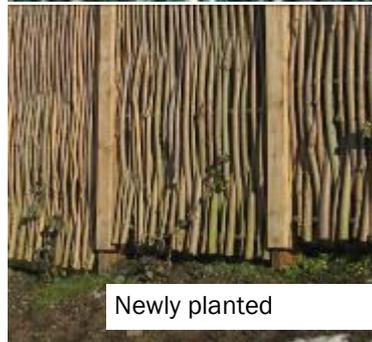
THE GREEN BARRIER® AND GB® ECONOMY



All types of barriers with facades in woven willow, oak, steel or glass does not take any maintenance. Glass is to be considered cleaned. Except for the glass solution, the facades does not carry any static or supporting function to the construction of the barrier. The willow rods are after 10-12 years marked by wind and weather. The oak facades aged too, the design concept is however developed to make aging, weathered willow or oak and greenery (as ivy) work well together. This combination ensures, that the barrier maintains and obtains a beautiful, living front during the total life expectancy of the barrier. Planting of evergreens and other is recommended on either both sides or only the woven panel side in front of each panel. Oak does not require plants. See also chapter 4.5 on durability of the barrier.



12 year old barrier



Newly planted



Newly planted

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Cleaning of the glass facade

In general, it is always recommended to apply plenty of water. The water can be mixed with a rinse aid. Other methods, as mentioned in the following, only to be used if plenty of water does not do the job.

No aggressive such as alkaline and likes are to be applied - as this can damage the surface of the glass. Concrete and calcareous materials or remains is to be removed instantly as these can damage the surface of the glass and later be impossible to remove. Hard and scraping tools such as steel wool and the likes is never to be used, as this will leave scratches and marks on the glass. Instead, a solvent should be applied such as an alcohol containing or benzincontaining cleansing product; eg to be used when removing remains of stickers and the like. Make sure not to apply any solvent on the material, which fixates the glass, as this can destroy the products used to hold the glass panel.

When any solvent has been used, as a rule, always apply plenty of water to clean away all remains of the solvent.

A window cleaner product can be used also, but it is very important to make sure that proper wiping is done afterwards as a window cleaner product easily otherwise can leave a membrane on the glass, almost impossible to remove.

DET GRØNNE ELEMENT®

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4.3 WOVEN WILLOW, OAK, STEEL AND GLASS

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Ivy coming down along the barrier, from plants established on opposite side.

Recommendations for maintenance of ivy or other evergreens:

- Fertilizing in period April-May during first 2 years after establishment according to recommendations for the plants chosen and instructions on fertilizer package. Typically 20-30 g (a small handful) for each plant.
- Runners from the evergreens should be tied to the panels to improve coverage, but by means of nature, the ivy clings very well, especially to the willow. In the first 2 years of establishment it is however worthwhile spending time tying the runners; often this can be done, just by weaving/sticking the runner into the willow panel/metal mesh without use of any tie or binder.

The evergreens will in 5-10 years cover the metal mesh side of the barrier. There are none known examples of graffiti painters who have tried more than one stroke of paint on the wall, as the paint is not visible on the willow or ivy due to the “un-even” surface.

Ivy on both sides after 6 years.



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4.4 GRAFFITI

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Graffiti

A natural and raw facade does not provoke graffiti and vandalism. Years of experience with the PileByg facade, erected on difficult sites in major cities show, that even when graffiti has been tried, the vandalist has given up due to the uneven surface. Graffiti does not really show on the rough surface and is a waste of paint; and easily dissolves into nothing after a few months of being weatherbeaten.



Graffiti is performed on surfaces, placed right next to the barrier, but not on the barrier itself.



Graffiti tried on a woven facade: It does not show as clearly as on an even surface - and it dissolves from being weather beaten.

Same site in Copenhagen; photos taken with one years interval. A rare case of graffiti, but after a year the graffiti barely shows.



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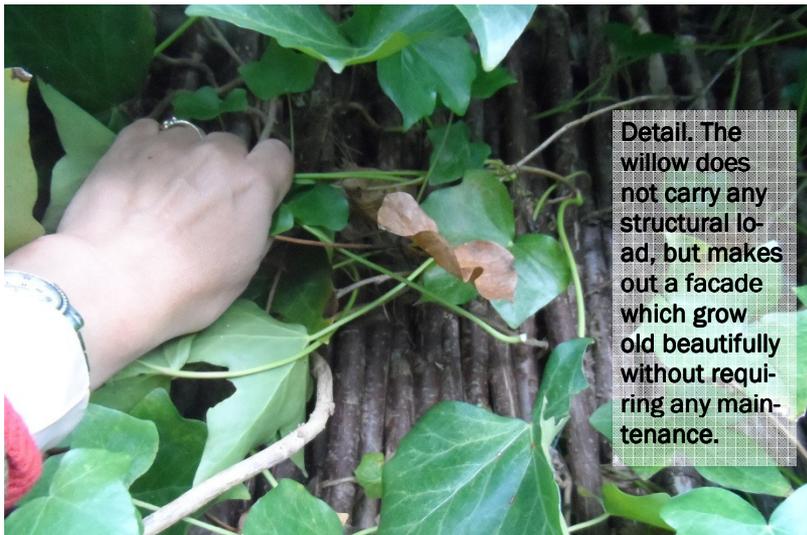
4. MAINTENANCE

4.5 DURABILITY AND LIFE EXPECTANCY

THE GREEN BARRIER® AND GB® ECONOMY

PileByg barriers are environmentally sound, also when it comes to maintenance and durability. The structural characteristics of the barriers are based on the acacia-steel framing, see chapter 6 on CE-marks. The facades are made of willow and constructed to require as little maintenance as possible, if any - and to stay beautiful during the entire life expectancy without maintenance. The strategy is named "english garden", explained as "to age naturally and with beauty". We do not fight the signs of age; we work "with" nature and exploit that raw nature grows old in a beautiful way; - just think of a tree - or evergreens climbing an old brickwall. Projects shown below are good examples of that and worth visiting to experience "on site" how strong and beautiful the barriers are - also when "growing" old.

13 year old barrier - facades of dried, woven willow



Site: Nyvangen 73-93, 2750 Ballerup, Denmark.

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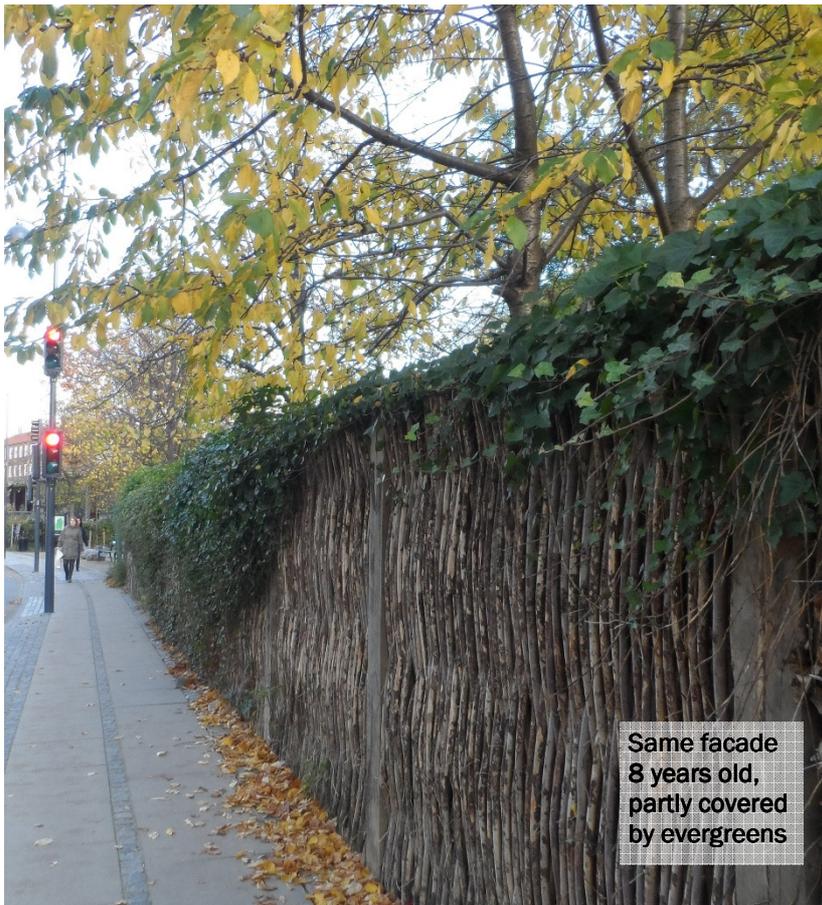
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4.5 DURABILITY AND LIFE EXPECTANCY

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8 year old barrier - facades of dried, woven willow



Site: Artillerivej 67. Copenhagen South, Denmark.

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4.5 DURABILITY AND LIFE EXPECTANCY

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12 year old barrier - facades of living willow



Site: Highway orbit 3, Brøndby, Copenhagen
Please notice, this type of barrier with living facades requires annual pruning.

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4. MAINTENANCE

4.5 DURABILITY AND LIFE EXPECTANCY

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9 year old barrier - facades of living willow transformed into evergreen facade



Now 9 year old, late summer and transformed into a zero maintenance solution with ivy climbing and covering the living willow. No pruning required.



Site: Vejleågården, strandgård, Ishøj.

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4. MAINTENANCE

4.5 DURABILITY AND LIFE EXPECTANCY

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12 year old barrier - facades of living willow transformed into evergreen facade



Site: Jærggade, Nørrebro, 2200 København.

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