



STABILIZATION PLAN

Cheryl's Way and Compass Circle

The following is a stabilization plan for the remaining slope stabilization for the Compass Pointe Subdivision.

Matthew S. Marro Environmental Consulting
April 27, 2020

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The following is a narrative plan for the final stabilization of slopes for the Compass Pointe Subdivision. This report focuses on the areas referenced in an inspection narrative report by Paul McManus of EcoTec Inc. dated 9/20/19, and on a plan of land by J M Grenier and Associates dated February 2020 outlining the slope for the parcels in question. The Conservation Commission specifically requested revisions to ensure that the references to lot numbers between the McManus report, the Grenier plan, and this narrative are consistent.

Condition of Bordering Vegetated Wetland

As a result of the construction activities proposed and completed, there are areas of steep slope adjacent to Bordering Vegetated Wetland ("BVW"). As cited in the McManus report, most of the site is stable, with few exceptions, due to current construction and stabilization measures. Many of the lots cited in the McManus report have either been addressed or are currently in the process of final construction and stabilization. The remaining areas under construction are temporarily stabilized with mulch and wood grindings. The BVW are still in excellent condition. Work is ongoing to complete final stabilization in the areas on Cheryl's Way and on Compass Circle, with completion of hydro-seeding anticipated by the week of May 11, 2020. According to reports and site inspections completed subsequent to the initial McManus report, all parties agree that on certain lots, the wood chips initially added as temporary slope stabilization have decayed sufficiently to organic content. The wood chips may now be raked over by hand, have loom spread on them, and have seeding spread. Hydroseeding in those areas has already begun, and will be completed by the end of the week of May 11, 2020.

Any areas not exhibiting sufficient growth will be reseeded, and monitoring will continue to ensure that the areas fully stabilize. At such time that the areas are fully stabilized, the developer will approach the conservation commission for certificates of compliance. The developer will perform final stabilization in the newer construction areas that lack sufficient wood chip decay by removing the wood chips and properly disposing of them, and then applying loaming and seeding with the mix outlined below.

Proposed Seed mixture

The seed mix below has similar species to the surrounding upland, and the species are native to the area:

NOTE: The following seed mixture listed was obtained from New England Wetland Plants of Amherst, MA.

Botanical Name	Common Name	Indicator
<i>Elymus canadensis</i>	Canada Wild Rye	FACU+
<i>Festuca rubra</i>	Red Fescue	FACU
<i>Lolium multiflorum</i>	Annual Ryegrass	UPL
<i>Lolium perenne</i>	Perennial Ryegrass	UPL
<i>Schizachyrium scoparium</i>	Little Bluestem	FACU
<i>Panicum virgatum</i>	Switch Grass	FAC
<i>Sorghastrum nutans</i>	Indian Grass	UPL

The New England Erosion Control/Restoration Mix for Dry Sites provides an appropriate selection of native and naturalized grasses to ensure that dry and recently disturbed sites will be quickly revegetated and the soil surface stabilized. It is an appropriate seed mix for road cuts, pipelines, steeper slopes, and areas requiring quick cover during the ecological restoration process. The mix may be applied by hydro- seeding, by mechanical spreader, or on small sites it can be spread by hand. Lightly rake or roll to ensure proper soil-seed contact. Best results are obtained with a Spring or late Summer seeding. Late Spring through Mid-Summer seeding will benefit from a light mulching of weed-free straw to conserve moisture. If conditions are drier than usual, watering will be required. Fertilization is not required unless the soils are particularly infertile. Preparation of a clean weed free seed bed is necessary for optimal results. It should be noted for purposes of this development, this mix is commonly used in the Midwest through the eastern United States as a steep slope mix and has been demonstrated to be very effective for the purpose of final stabilization.

The following is a breakdown of the lots to be stabilized and the methods to be used. This is based on the Conservation Commission's input and three site inspections with the Commission's representative, Paul McManus, PWS, of Eco Tec Inc.

For purposes of clarity, I will reference the lots on Cheryl's Way as noted in the plan generated by John Grenier (with parenthetical reference to the current designations) dated February 24, 2020:

With respect to lot 16 D and 16 C (AKA 46 Compass Circle and lots 1 A and 1 B Cheryl 's Way), as noted on the plans, the area appears completely stable, with the majority of the area containing an already established canopy with excellent growth. I recommend nothing else be done in those areas as they appear to be fully stable and compliant with the plans

submitted. No further stabilization is necessary.

With respect to lot 15 C (AKA 3A and 3B Cheryl's Way), as noted on the plans and as previously stated, the areas of mulch appear to have decayed to the point where the mulch can be turned over by hand, exposing the organic material underneath, and seeded for growth. The slopes are reasonably within overall specifications as required in construction documents.

With respect to lot 14 C (AKA 5A and 5B Cheryl' s Way), the jute matting and material underneath appear to be completely stable. The material should be overturned to expose the organic material underneath, and then seeded. The area should develop growth readily.

With respect to lot 13 C (AKA 7A and 7B Cheryl' s Way), as previously stated, this area is relatively flat. While some run off has displaced a minor amount of the mulch, the mulch could be turned over and seeded, resulting in good growth with this growing season.

With respect to lot 13D (AKA 8A and 8B Cheryl's Way), the area appears very stable with the same recommendations as stated above for Lots 16 D and 16 C applying.

With respect to lot 12 D (AKA 6A and 6B Cheryl 's Way), there was some minor displacement in one small section of the bark mulch that can be readily replaced by hand. The mulch can be turned over as there has been enough decay of the mulch over the winter that sufficient organic material has accumulated to allow for a decent growth.

With respect to lot 11 D (AKA 4A and 4B Cheryl's Way), there was some minor displacement in one small section of bark mulch that also can be readily replaced by hand, as noted in the section above. I would note that previous erosion events, occurring while the area was undergoing grading and was mostly exposed as bare graded ground, will in the future be minimized by the placement of sod. The eventual stabilization of the remaining slopes should eliminate erosion events entirely.

In lot 10 D, (AKA 2A and 2B Cheryl's Way), I would recommend that sodding be completed, and as stated previously, mulch could be turned over by hand exposing the organic material that has accumulated to allow for a decent growth.

I would note that the condition of all these lots, and of the lot I inspected on Compass Pointe, are fairly identical. The seeding of the area can be maintained during the growing season by hand in the event of any displacement by a rain event. The completion of the sodding of lot 10 D will help with erosion control and post-development stormwater flows and mitigation substantially.

At no time have I seen any silt accumulation or any breaches in the erosion barriers resulting in any siltation of the BVW. This includes the one small area that did have a minor breach during construction last summer that was immediately cleaned and the erosion control repaired with no impact to the wetlands. Overall, the erosion control has held very well, and the wetland resource areas have been protected and in excellent condition.

The Town Parcel:

Slope not applicable.

The Town Parcel has been mulched for stabilization and loamed as promised to cover the exposed soil near the road, and is stable at this time. It will be seeded within the week, but will likely need to be seeded again in the spring.

Lots 30 A&B and lots 32 A & B:

Slope: 2:1

The lots have been stabilized with sod. The remainder of Compass Circle at lot 28 is currently temporarily stabilized with wood chips. The chips have experienced some organic decay and will be raked in during the spring of 2020, and loamed and seeded. The Blueberry bushes have been planted. The stone wall and signs are in place as required under the amended Order of Conditions and any further plantings as needed will be completed under the supervision of MSMEC.

Please note formal reports will be filed quarterly by MSMEC. However, monthly informal email reports with photos can be mailed from Spring until the end of July by MSMEC to keep the Commission up to date.

Respectfully Submitted,



Matthew S. Marro,
Consulting Agent/Principle

TABLE OF PROPOSED EVENT

Proposed stabilization timeline.

EVENT	START	END	PROPOSED MONITORING
Areas of mulch to be cleared	Spring 2020	Summer 2020	Once per day during implementation
Soils spreading Vegetation planting	Spring 2020	Fall 2020	Once per week
Allow for growth	Spring 2020	Fall 2020	Once per week May -October
Re-seeding if necessary	Spring 2020	Fall 2020	Once per week May-October

Note: Monitoring reports to be submitted quarterly. Schedule is subject to change for reasons including, but not limited to, items such as the time required for any required supplemental permit approvals or construction mobilization. Any change in schedule shall be submitted to the Conservation Agent for review and approval.