



DRAINAGE AND EROSION REPORT

PREPARED FOR:
Summit Chase HOA
Reston, VA 20194

DATE: July 5, 2017

PREPARED BY;
Dick Ratcliff
Earthman Design Group, LLC

BACKGROUND: I was retained by Summit Chase HOA in Reston Virginia to inspect common grounds for erosion and drainage problem areas. Site analysis was performed in February and March of 2017 where field measurements were made, spot elevations obtained and photos taken as needed. Areas of concern were drafted on the scaled base plans with call outs for specific recommendations for mitigation.

DISCUSSION: Discovered areas of concern ranged from places lacking in vegetation cover due to shade, steep slopes with soil loss and lacking in vegetation cover, daylighted drainage pipes resulting in erosion, and areas with excessive surface runoff from multiple sources resulting in excessive erosion and retaining wall failure. Mitigation varies depending on the issues and ranges from trimming trees to increase light penetration to establish turf, importing topsoil to establish ground cover, extending daylighted drainage pipes, and extensive drainage systems to capture and redirect water. *Liriope spicata* is the recommended ground cover for shady, steep slope areas and turf in areas of level or moderate slopes where light penetration is improved. Specific areas as follows.

1523 to 1527 - rear: Install rock to mitigate erosion from daylighted pipe and extend it to the natural area. Install pathway to reduce wear from foot traffic, and import topsoil to establish ground cover in bare area.

1529 to 1541 – rear: Extend pipe to natural area, install pathway to reduce wear from foot traffic, and import topsoil to establish ground cover in bare area.

1549 to 1557 – rear: Extend pipes to natural area, install pathway to reduce wear from foot traffic, and import topsoil to establish ground cover in bare area.

Between 1557 and 1559: Install filter fabric and rock in eroded swale.

1559 to 1565 – rear: Extend pipes to natural area, install pathway to reduce wear from foot traffic, and import topsoil to establish ground cover in bare area.

1569 to 1573 - rear and side: Extend pipes to natural area, and import topsoil to establish turf in bare area.

1577 - rear: Install pathway to reduce wear from foot traffic, and import topsoil to establish turf in bare area.

1585 – rear: Extend pipe to natural area, and import topsoil to establish ground cover in bare area.

1595 and 1597 – rear: Install pathway to reduce wear from foot traffic, and import topsoil to establish ground cover in bare area.

1605 – rear: Remove trees and import topsoil to establish turf.

1481 side and rear: Grading, drainage system, filter fabric with rock, steppers and ground cover to hold soil and redirect water.

1487 to 1491 – rear: Trim trees for light penetration, import topsoil and establish turf.

1519 – rear: Trim trees for light penetration, import topsoil and establish turf.

1520 to 1524 – rear: Extend retaining wall. Install filter fabric and rock in swale.

1502 to 1510 – rear: Grade for positive surface water flow, install pathway and filter fabric and rock.

1494 to 1500 and 1502 to 1510 and 1486 to 1492 – front, sides and rear: Remove trees, install drainage systems, rebuild retaining wall, grade for positive surface water flow, install filter fabric and rock, import topsoil and establish turf.

SUMMARY: If left unchecked some areas will continue to deteriorate causing additional damage making it more difficult to mitigate in the future. Identified areas can be mitigated in phases and it is recommended that the most severe areas be addressed first.

CERTIFICATION: I certify that all the statements of fact in this report and appraisal are true, complete and correct to the best of my knowledge and belief, and that they are made in good faith.

Respectfully submitted,

Dick Ratcliff

