Dan DiZazzo | Landscape Architecture

City of Mercer Island
Land Use and Planning
9611 SE 36th St
Mercer Island, WA 98040

Attn: Mr. Andrew Leon

Subject: Artificial Turf Feasibility for 6059 77th Ave SW, Mercer Island, WA

Dear Mr. Leon,

I have a project, currently under construction, in which we are considering replacing the lawn that is shown on the permit for a pervious artificial turf. No lawn has been installed yet as the project is in the early phases of construction. Our understanding of the code allows us to make this change. The project is vested under current code per building permit # 1706-084.

The code at the time of permit submission, related to impervious surfaces, is attached. Please see MICC 19.16.010.I.Impervious.6. The section is highlighted for your convenience. It states, "Impervious Surfaces: 6. Miscellaneous – any other structure or hard surface which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development, or causes water to run off the surface in greater quantities or at an increased rate of flow from present flow rate under natural conditions prior to development."

There are two turf areas that we are considering: the Eastern Turf Area and the Western Turf Area. The Eastern Turf Area is proposed to be placed where an impervious driveway, impervious autocourt, and impervious garage originally existed. The Western Turf Area is proposed to be placed where an impervious stone patio originally existed. The soils underneath these surfaces was evaluated by geotechnical engineers. Please see attached L0.2 Landscape Plan with turf area indicated in green. Please see Topographic Survey by Triad.

Geotech Consultants, Inc. evaluated the existing soil's natural conditions prior to development so that we can understand if we would be preventing or retarding the entry of water or if we would be causing water to run off of the surface at an increased rate of flow. The evaluation is attached. Geotech Consultants has determined that the soils are suitable for the use of pervious artificial turf to achieve a long term infiltration rate that exceeds 0.3 inches per hour, which is the minimum rate of infiltration that is considered feasible for permeable surfaces. Per *Stormwater Management Manual for Western Washington*- BMP T5.15B: Permeable Pavements, "Where appropriate field testing indicates soils have a measured (a.k.a., initial) native soil saturated hydraulic conductivity less than 0.3 inches per hour". I have included with this letter

92 lenora street seattle, wa 98121 206.701.9410 dan@dandizazzo.com

the turf manufacturer's Test Report for the artificial turf which also indicates an infiltration rate of 41.5 inches per hour.

Based on the code MICC 19.16.010.I.Impervious.6 and the supporting documents the proposed development does not retard water from reaching the soil mantle, and is not considered impervious per MICC 19.16.010.I.Impervious.6. The artificial turf will not only equal the existing condition, but creates an improved condition for water to enter the soil mantle. I am requesting your approval for this change. Please let me know if there is any other documentation that you may need to further understand our request or if you have any other comments or questions.

Included with this letter: Mercer Island City Code Chapter 19.16 Definitions, Subgrade Evaluation for Pervious Turf Surfaces by Geotech Consultants, L0.2 Landscape Plan by DD|LA (with synthetic turf indicated in green), Topographic Survey of Pre-development Conditions by Triad Associates, Test Report of Synthetic Turf by TSI Testing Services.

Dan DiZazzo
Owner

Registered Landscape Architect
License #1205
206.701.9410
dan@dandizazzo.com

Dan DiZazzo | Landscape Architecture

H

Handicaps, Persons With:

1. A person who has a physical or mental impairment which substantially limits one or more of such person's major life activities; or

2. A person with a record of having such an impairment; or

3. A person who is regarded as having such an impairment, but the term impairment does not include current, illegal use of or active addiction to a controlled substance.

Hazardous Tree: Any tree that receives an 11 or 12 rating under the International Society of Arboricultural rating method set forth in Hazard Tree Analysis for Urban Areas (copies of this manual are available form the city arborist) and may also mean any tree that receives a 9 or 10 rating, at the discretion of the city arborist.

Hazardous Waste: Those solid wastes designated by 40 CFR Part 261 and regulated by the State Dangerous Waste Regulations, Chapter 173-303 WAC.

1. Hazardous Waste Storage: The holding of hazardous waste for a temporary period.

2. Hazardous Waste Treatment: The physical, chemical or biological processing of hazardous waste to make such waste nondangerous or less dangerous, safer for transport, amenable for energy or material resource recovery, amenable for storage, or reduced in volume.

Healthcare Services: Establishments providing outpatient health care services directly or indirectly to ambulatory patients. Examples include offices for doctors, dentists, optometrists, and mental health professionals. This use does not include medical and diagnostic laboratories.

Hotel/Motel: A facility offering temporary accommodations for a fee to the general public and which may provide additional services such as restaurants, meeting rooms, entertainment, and recreational facilities.

Hydric Soils: Soil that is wet long enough to periodically produce reduced oxygen conditions, thereby influencing the growth of plants.

I

Impervious Surfaces: Includes without limitation the following:

1. Buildings – the footprint of the building and structures including all eaves;

2. Vehicular use – driveways, streets, parking areas and other areas, whether constructed of gravel, pavers, pavement, concrete or other material, that can reasonably allow vehicular travel;

3. Sidewalks – paved pedestrian walkways, sidewalks and bike paths;

4. Recreation facilities – decks, patios, porches, tennis courts, sport courts, pools, hot tubs, and other similar recreational facilities;

5. Landscaping – walls and rockeries are considered impervious surfaces; and

6. Miscellaneous – any other structure or hard surface which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development, or causes water to run off the surface in greater quantities or at an increased rate of flow from present flow rate under natural conditions prior to development.

J

Jetty: A barrier used to protect areas from accumulations of excess sediment.

K

Kennel:

1. Any lot on which six or more dogs, cats, or other small animals over the age of four months are kept for any reason; or

2. Any lot on which any number of dogs, cats, or other small animals over the age of four months are kept for sale, are bred to produce off-spring for sale, or are boarded for a fee or other consideration.

Kitchen: Any room used, intended, or designed for cooking and/or preparation of food.

L

Landmark Grove: A healthy grove of trees satisfying one or more of the following criteria and having been designated as a landmark grove under MICC 19.10.140:

pollution-generating impervious surface, or b) 10,000 square feet of impervious surface, or c) three-quarter (3/4) acres of pervious surfaces; and 2) cannot reasonably be broken down into amounts smaller than indicated in (1).

- Where the field testing indicates potential bioretention/rain garden sites have a measured (a.k.a., initial) native soil saturated hydraulic conductivity less than 0.30 inches per hour. If the measured native soil infiltration rate is less than 0.30 in/hour, this option should not be used to meet the requirements of I-2.5.5 Minimum Requirement #5: On-site Stormwater Management (p.55). In these slow draining soils, a bioretention facility with an underdrain may be used to treat pollution- generating surfaces to help meet I-2.5.6 Minimum Requirement #6: Runoff Treatment (p.61). If the underdrain is elevated within a base course of gravel, the bioretention facility will also provide some modest flow reduction benefit that will help achieve I-2.5.7 Minimum Requirement #7: Flow Control (p.64).

A local government may designate geographic boundaries within which bioretention cells, swales, or planters may be designated as infeasible due to year-round, seasonal or periodic high groundwater conditions, or due to inadequate infiltration rates. Designations must be based upon a pre-ponderance of field data, collected within the area of concern, that indicate a high likelihood of failure to achieve the minimum groundwater clearance or infiltration rates identified in the above infeasibility criteria. The local government must develop a technical report and make it available upon request to the Dept. of Ecology. The report must be authored by (a) professional(s) with appropriate expertise (e.g., registered engineer, geologist, hydrogeologist, or certified soil scientist), and document the location and the pertinent values/observations of data that were used to recommend the designation and boundaries for the geographic area. The types of pertinent data include, but are not limited to:

- Standing water heights or evidence of recent saturated conditions in observation wells, test pits, test holes, and well logs.
- Observations of areal extent and time of surface ponding, including local government or professional observations of high water tables, frequent or long durations of standing water, springs, wetlands, and/or frequent flooding.
- Results of infiltration tests

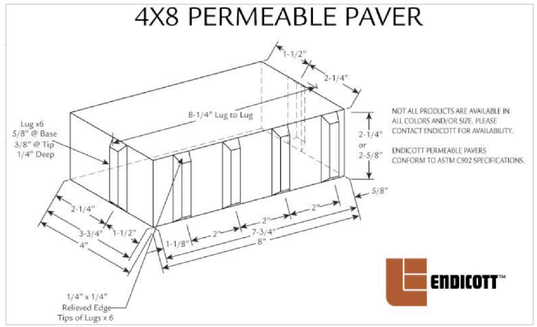
In addition, a local government can map areas that meet a specific infeasibility criterion listed above provided they have an adequate data basis. Criteria that are most amenable to mapping are:

- Where land for bioretention is within an area designated by the local government as an erosion hazard, or landslide hazard
- Within 50 feet from the top of slopes that are greater than 20% and over 10 feet ver-

under the state Model Toxics Control Act or Federal Superfund Law, or an environmental covenant under Chapter 64.70 RCW.

- Within 100 feet of a closed or active landfill.
- Within 100 feet of a drinking water well, or a spring used for drinking water supply, if the pavement is a pollution-generating surface.
- Within 10 feet of a small on-site sewage disposal drainfield, including reserve areas, and grey water reuse systems. For setbacks from a "large on-site sewage disposal system", see Chapter 246-272B WAC.
- Within 10 feet of any underground storage tank and connecting underground pipes, regardless of tank size. As used in these criteria, an underground storage tank means any tank used to store petroleum products, chemicals, or liquid hazardous wastes of which 10% or more of the storage volume (including volume in the connecting piping system) is beneath the ground surface.
- At multi-level parking garages, and over culverts and bridges.
- Where the site design cannot avoid putting pavement in areas likely to have long-term excessive sediment deposition after construction (e.g., construction and landscaping material yards).
- Where the site cannot reasonably be designed to have a porous asphalt surface at less than 5 percent slope, or a pervious concrete surface at less than 10 percent slope, or a permeable interlocking concrete pavement surface (where appropriate) at less than 12 percent slope. Grid systems upper slope limit can range from 6 to 12 percent; check with manufacturer and local supplier.
- Where the native soils below a pollution-generating permeable pavement (e.g., road or parking lot) do not meet the soil suitability criteria for providing treatment. See SSC-6 in III-3.3.7 Site Suitability Criteria (SSC) (p.530). Note: In these instances, the local government has the option of requiring a six-inch layer of media meeting the soil suitability criteria or the sand filter specification as a condition of construction.
- Where seasonal high ground water or an underlying impermeable/low permeable layer would create saturated conditions within one foot of the bottom of the lowest gravel base course.
- Where underlying soils are unsuitable for supporting traffic loads when saturated. Soils meeting a California Bearing Ratio of 5% are considered suitable for residential access roads.
- Where appropriate field testing indicates soils have a measured (a.k.a., initial) native soil saturated hydraulic conductivity less than 0.3 inches per hour. (Note: In these instances, unless other infeasibility restrictions apply, roads and parking lots

4X8 PERMEABLE PAVER



NOTE:
1. INSTALLATION TO FOLLOW CITY OF MERCER ISLAND PERMEABLE BLOCK DESIGN GUIDELINES.

A PERMEABLE BRICK PAVER
SCALE: NOT TO SCALE

GRADING & DRAINAGE NOTES

1. ESTABLISH THE FOLLOWING SUBGRADES:
   PLANTING AREAS: -12"-TO ALLOW FOR 10" TOPSOIL & 2" MULCH
2. SLOPE ALL PAVED SURFACES TO DRAIN @ MIN. 1%
3. VERIFY ALL FINISH GRADES IN FIELD WITH LANDSCAPE ARCHITECT

ARTIFICIAL TURF

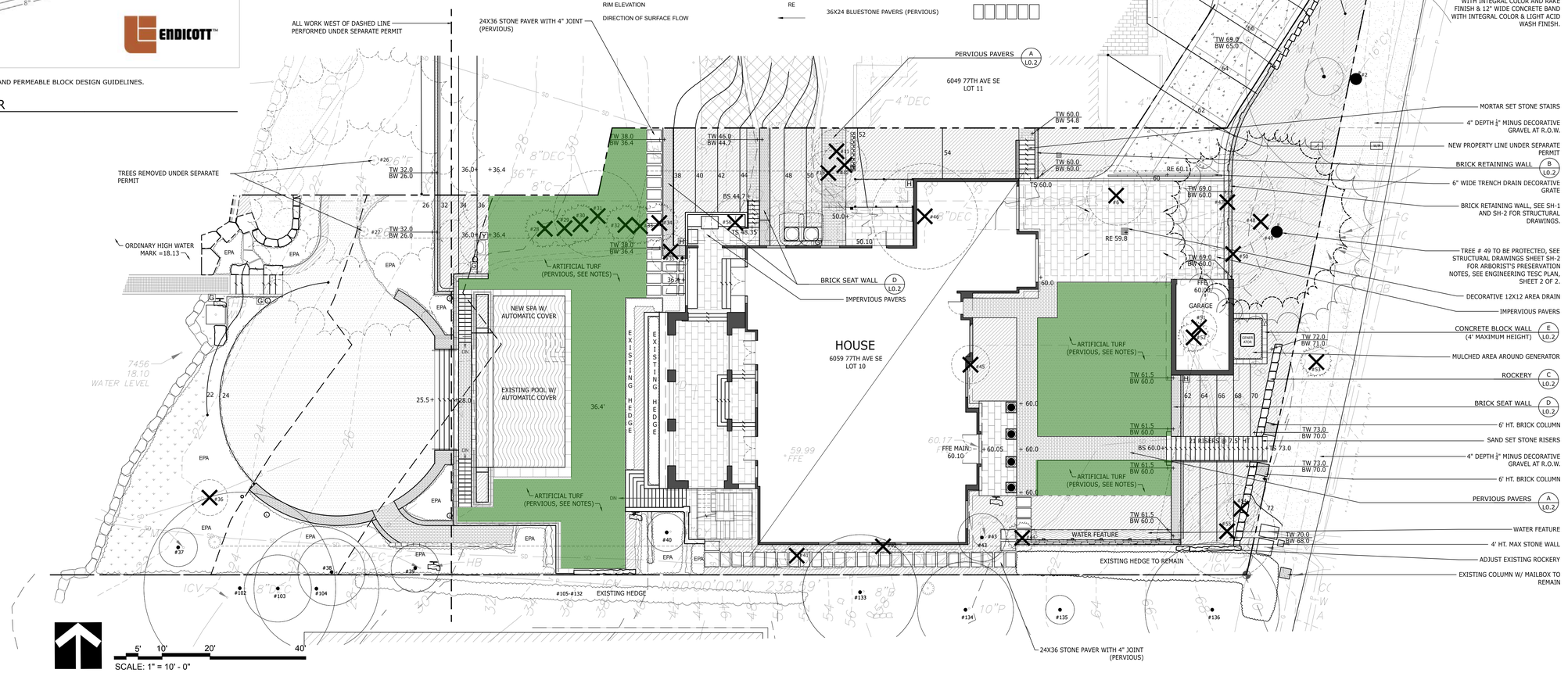
1. TEST PITS TO BE DUG ON SITE TO ENSURE SOIL DRAINAGE FOR ARTIFICIAL TURF.
2. ARTIFICIAL TURF TO BE SITE TESTED TO VERIFY DRAINAGE CAPACITY.

GRADING & DRAINAGE LEGEND

PROPOSED CONTOUR	956
EXISTING CONTOUR	956
PERFORATED PIPE - 4" SCHEDULE 40 PVC	
AREA DRAIN-12"X12" NDS CATCH BASIN W/ CAST IRON GRATE	AD
PROPOSED SPOT ELEVATION	+ 123.45
EXISTING SPOT ELEVATION	+ (123.45)
FINISH FLOOR ELEVATION	FFE
TOP OF WALL	TW
BOTTOM OF WALL	BW
TOP OF STEP	TS
BOTTOM OF STEP	BS
RIM ELEVATION	RE
DIRECTION OF SURFACE FLOW	

GENERAL LEGEND

3/16" X 6" JD RUSSELL DURA EDGE STEEL EDGING OR APPROVED EQUAL INSTALL PER MFR. SPECIFICATIONS	
EXISTING DECIDUOUS TREE	EPA
EXISTING EVERGREEN TREE	
EXISTING TREE TO BE REMOVED	
EXISTING PLANTING AREA	
ARTIFICIAL TURF	
PLANTING AREA	
SHORELINE PLANTING (SEPARATE PERMIT)	
PERVIOUS PAVERS	
IMPERVIOUS STONE PAVERS	
36X24 BLUESTONE PAVERS (PERVIOUS)	



DD/LA
DAN DI ZAZZO | LANDSCAPE ARCHITECTURE
92 Lenora Street Seattle, WA 98121 206.701.9410

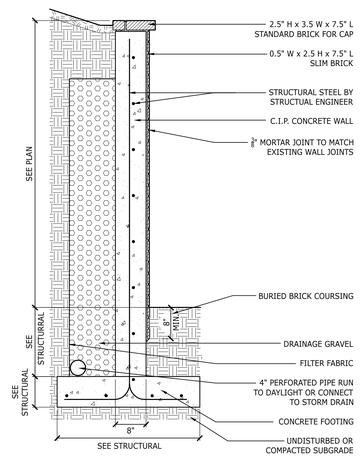
STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
DANIEL M. DI ZAZZO CERTIFICATE NO. 1205

PROJECT TITLE
PEYREE RESIDENCE
6059 77TH AVE SE
Mercer Island, WA 98040

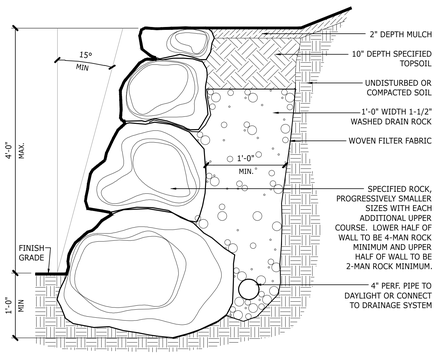
DRAWING TITLE
LAYOUT, MATERIALS, GRADING, & UTLITIES PLAN

NO.	DATE	DESCRIPTION
1	07.20.17	PERMIT
2	09.25.18	PERMIT REVISION
3	02.12.19	PERMIT REVISION
4	05.03.19	PERMIT REVISION
5	06.12.19	PERMIT REVISION
6	05.29.20	PERMIT REVISION

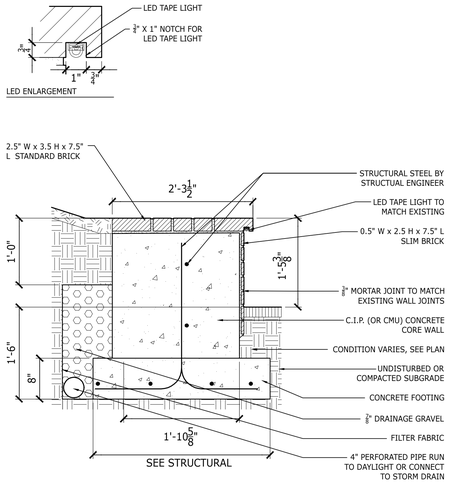
SHEET NUMBER
L0.2



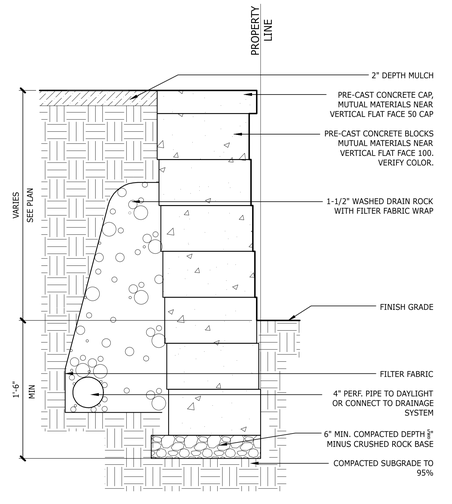
B TYPICAL BRICK WALL DETAIL
SCALE: 3/4"=1'-0"



C ROCKERY
SCALE: 1"=1'-0"

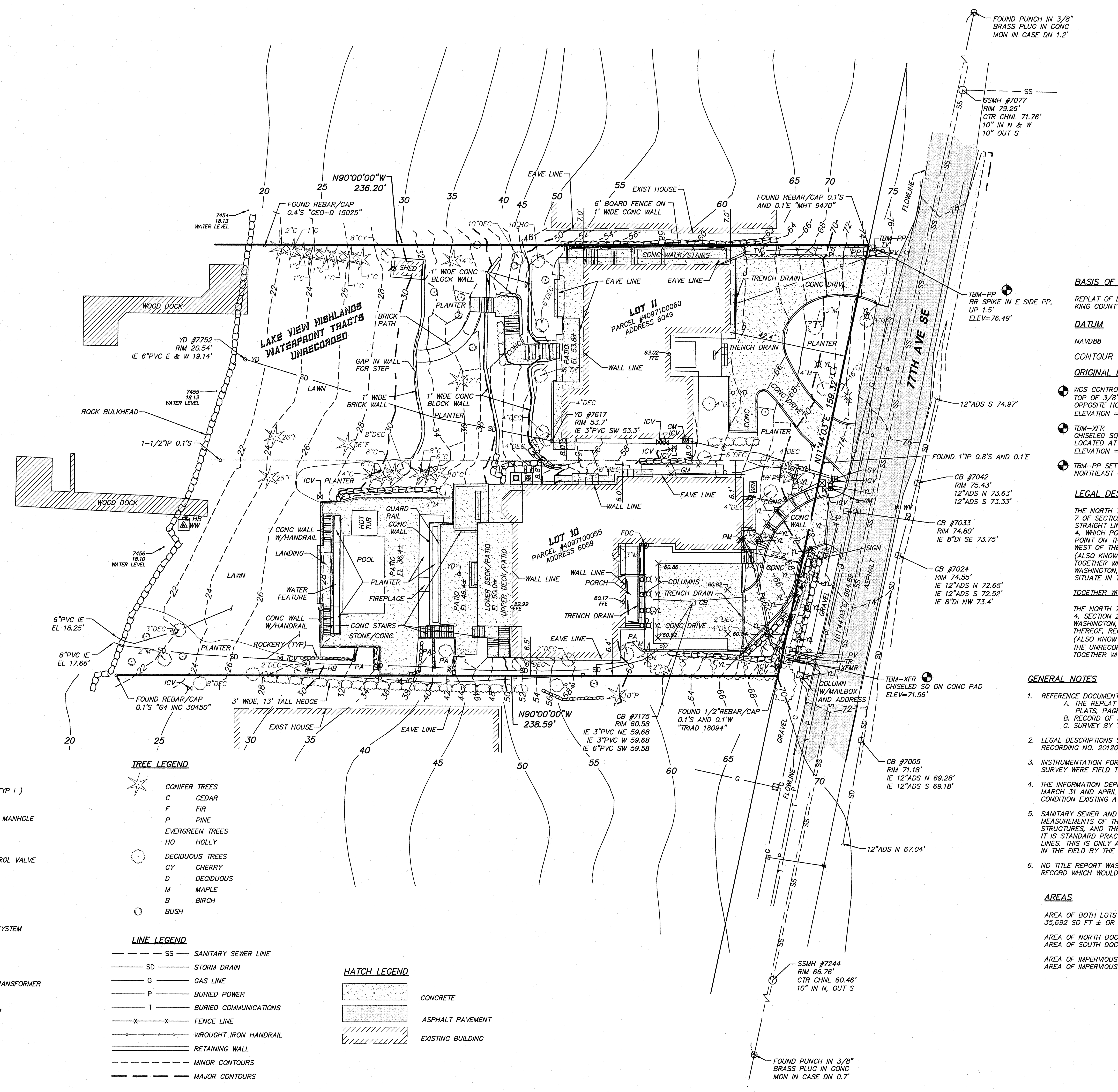


D BRICK SEAT WALL
SCALE: 1"=1'-0"



E CONCRETE BLOCK WALL
SCALE: 1-1/2"=1'-0"

POR GOV. LOT 4, SEC 24, TWP 24 N, RGE 4 E, W.M.



N

SCALE: 1" = 20'

0 10 20 40

BASIS OF BEARING

REPLAT OF LAKE VIEW HIGHLANDS VOL. 76, PG 41 AND 42, RECORDS OF KING COUNTY, WASHINGTON

DATUM

NAVD88

CONTOUR INTERVAL = 2'

ORIGINAL BENCHMARK

WGS CONTROL POINT DESIGNATION 3114, CITY OF MERCER ISLAND, WASHINGTON TOP OF 3/8" BRASS PLUG IN CONC MON IN CASE IN ℄ OF 77TH AVE SE, OPPOSITE HOUSE NO. 6400
ELEVATION = 60.81'

TBM-XFR
CHISELED SQUARE IN NORTHWEST CORNER OF CONC PAD FOR POWER TRANSFORMER LOCATED AT THE SOUTHEAST CORNER OF LOT 11
ELEVATION = 71.56'

TBM-PP SET RAILROAD SPIKE IN EAST SIDE OF POWER POLE LOCATED AT NORTHEAST CORNER OF LOT 10

LEGAL DESCRIPTION

THE NORTH 78 FEET OF THE SOUTH 780 FEET OF THAT PORTION OF GOVERNMENT LOT 7 OF SECTION 24, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M., LYING WEST OF A STRAIGHT LINE RUNNING FROM A POINT ON THE SOUTH LINE OF SAID GOVERNMENT LOT 4, WHICH POINT IS 890.60 FEET WEST OF THE SOUTHEAST CORNER OF SAID LOT TO A POINT ON THE NORTH LINE OF SAID GOVERNMENT LOT 4, WHICH POINT OF 613.24 FEET WEST OF THE NORTHEAST CORNER OF SAID LOT;
(ALSO KNOW AS LOT 10 OF LAKE VIEW HIGHLANDS WATERFRONT TRACTS UNRECORDED);
TOGETHER WITH SECOND CLASS SHORELANDS, AS CONVEYED BY THE STATE OF WASHINGTON, SITUATE IN FRONT OF, ADJACENT TO, OR ABUTTING THEREON ;
SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

TOGETHER WITH

THE NORTH 78 FEET OF THE SOUTH 858 FEET OF THAT PORTION OF GOVERNMENT LOT 4, SECTION 24, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M., IN KING COUNTY, WASHINGTON, LYING WEST OF THE LAKE VIEW HIGHLANDS, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 33 OF PLATS, PAGE 34, IN KING COUNTY, WASHINGTON;
(ALSO KNOW AS LOT 11, LAKE VIEW HIGHLANDS WATERFRONT TRACTS, ACCORDING TO THE UNRECORDED PLAT THEREOF);
TOGETHER WITH SECOND CLASS SHORELANDS ADJOINING SAID PREMISES.

GENERAL NOTES

1. REFERENCE DOCUMENTS:
   A. THE REPLAT OF LAKE VIEW HIGHLANDS PER THE PLAT RECORDED IN VOLUME 76 OF PLATS, PAGES 41 AND 42.
   B. RECORD OF SURVEY DRAWING RECORDED UNDER RECORDING NO. 20081015900003.
   C. SURVEY BY TOUMA ENGINEERS AND LAND SURVEYORS SIGNED DECEMBER 20, 2000.
2. LEGAL DESCRIPTIONS SHOWN ARE BASED ON STATUTORY WARRANTY DEEDS RECORDED UNDER RECORDING NO. 20120629001015 AND 20070615002228.
3. INSTRUMENTATION FOR THIS SURVEY WAS A LEICA TOTAL STATION. PROCEDURES USED IN THIS SURVEY WERE FIELD TRAVERSE, MEETING OR EXCEEDING STANDARDS SET BY WAC 332-130-090.
4. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON MARCH 31 AND APRIL 1, 2015 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.
5. SANITARY SEWER AND STORM DRAINAGE FACILITIES HAVE BEEN ASBUILT THROUGH FIELD MEASUREMENTS OF THE LOCATION OF THE ACCESS STRUCTURES, THE TOP ELEVATION OF THE STRUCTURES, AND THE INVERT ELEVATIONS OF ANY PIPES ENTERING OR LEAVING THE STRUCTURES. IT IS STANDARD PRACTICE TO SHOW THE PIPES CONNECTING THESE STRUCTURES AS STRAIGHT LINES. THIS IS ONLY AN ASSUMPTION AND THE ACTUAL LOCATION OF THE PIPING MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION.
6. NO TITLE REPORT WAS PROVIDED AND THUS NO EASEMENTS, RESTRICTIONS OR RESERVATION OF RECORD WHICH WOULD BE DISCLOSED BY TITLE REPORT ARE SHOWN.

AREAS

AREA OF BOTH LOTS COMBINED (TO THE APPROXIMATE FACE OF BULKHEAD)
35,692 SQ FT ± OR 0.819 ACRES ±

AREA OF NORTH DOCK = 677 SQ FT ±
AREA OF SOUTH DOCK = 603 SQ FT ±

AREA OF IMPERVIOUS SURFACE ON THE NORTH LOT = 6,814 SQ FT ±
AREA OF IMPERVIOUS SURFACE ON THE SOUTH LOT = 10,106 SQ FT ±

SYMBOL LEGEND

CB	CATCH BASIN (TYP I)
YD	YARD DRAIN
SSMH	SANITARY SEWER MANHOLE
FH	FIRE HYDRANT
HB	HOSE BIB
ICV	IRRIGATION CONTROL VALVE
WM	WATER METER
WV	WATER VALVE
WW	WATER VAULT
GM	GAS METER
HVAC	H.V. AIR COND. SYSTEM
YL	YARD LIGHT
PM	POWER METER
PV	POWER VAULT
XFR	PAD MOUNTED TRANSFORMER
PP	POWER POLE
TV	TV RISER ASBUILT
MB	MAILBOX
SGN	SIGN
	ROCKERY

TREE LEGEND

CONIFER TREES

C	CEDAR
F	FIR
P	PINE

EVERGREEN TREES

HO	HOLLY

DECIDUOUS TREES

CY	CHERRY
D	DECIDUOUS
M	MAPLE
B	BIRCH

BUSH

LINE LEGEND

- SS — SANITARY SEWER LINE
- SD — STORM DRAIN
- G — GAS LINE
- P — BURIED POWER
- T — BURIED COMMUNICATIONS
- FENCE LINE
- WROUGHT IRON HANDRAIL
- RETAINING WALL
- MINOR CONTOURS
- MAJOR CONTOURS

HATCH LEGEND

- CONCRETE
- ASPHALT PAVEMENT
- EXISTING BUILDING

CAUTION
LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE AND MAY NOT BE ACCURATE OR ALL INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY LOCATION OF UTILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. YOU MUST CALL 1-800-424-5555 NOT LESS THAN 2 FULL BUSINESS DAYS BEFORE BEGINNING EXCAVATION WHERE ANY UNDERGROUND UTILITIES MAY BE LOCATED. FAILURE TO DO SO COULD MEAN BEARING SUBSTANTIAL REPAIR COSTS.

ccornwell, Feb 16, 2016 - 1:59pm
S:\PROJECTS\15047\DWGFILES\15047.dwg, TOPO-041015

triad
20300 Woodinville Snohomish Rd NE
Suite A • Woodinville, WA 98072
p: 425.415.2000 f: 425.486.5059
w: triadassociates.net

TOPOGRAPHICE SURVEY FOR
SCOTT & MICHELLE PEYREE
PEYREE RESIDENCE
MERCER ISLAND, WASHINGTON

NO.	DATE	REVISION	BY	CK
1	2/16/16	ADDED ADDITIONAL UTILITY & LANDSCAPING	CPC	MHM

GREGORY T JUNEAU, PLS
PROJECT MANAGER
MARY H. McDOWELL, PLS
PROJECT SURVEYOR
PROJECT ENGINEER
PROJECT LANDSCAPE ARCHITECT
FIRST SUBMITTAL DATE: 4/16/15
SCALE: HORIZ.: 1"=20' VERT.:

MARY H. McDOWELL STATE OF WASHINGTON 36805 REGISTERED PROFESSIONAL LAND SURVEYOR 2-16-16

STAMP NOT VALID UNLESS SIGNED AND DATED

JOB NO. 15-047

SHEET NO. 1 OF 1

15047.DWG TOPO-041615

TOPO

GEOTECH
CONSULTANTS, INC.

2401 10th Ave E
Seattle, Washington 98102
(425) 747-5618

October 19, 2020

JN 15442

Scott Peyree
6059 – 77th Avenue Southeast
Mercer Island, Washington 98040
via email: speyree@gw-corp.com

Subject: **Subgrade Evaluation for Pervious Turf Surfaces**
Remodel of Existing Single-Family Residence
6059 – 77th Avenue Southeast
Mercer Island, Washington

Dear Mr. Peyree:

This letter addresses our geotechnical evaluation of the subgrade soils located in the areas of proposed pervious turf surfaces to be installed to the east and west of the existing residence, which is currently undergoing a total remodel. On September 29, 2020 the undersigned principal geotechnical engineer met with your architect and builder at the site. From our discussions, and review of sheet L0.2, we anticipate that artificial turf is proposed to be installed to the east of the house, extending north to the planned motorcourt, and to the west of the house, along the north, east, and south sides of the existing in-ground pool. This artificial turf will allow precipitation to percolate through the surface to the underlying soils.

Eastern Turf Area: Most of the area east of the house, to the south of the planned driveway and motorcourt, is several feet below the planned final grade, extending down to the approximate 10-foot excavation for the lower level below the future garage. This area will have to be filled with imported soil to reach the final design grades. We recommend that a pervious granular fill, such as Seattle-specification Type 17 (gravelly sand), be used for the fill in this area. This will allow downward percolation of precipitation that infiltrates through the artificial turf. If required by City of Mercer Island, organics such as compost, could be mixed into the upper 12 inches of this fill to satisfy their requirements for organic content and cation exchange capability. The fill to within the last 12 inches of the subgrade should be well-compacted, and the last 12 inches should be only moderately compacted, in order to ensure a long-term infiltration rate of more than 0.3 inches/hour.

To the south of the front entry walk the existing grade is higher, but we understand is still mostly one to 2 feet below the planned final grade. This area can be filled as discussed above. Where less than 12 inches of fill will be placed to reach the subgrade for the turf, a sufficient amount of the native glacial till should be removed to create a minimum 12-inch thickness of pervious imported fill.

Western Turf Area: Test holes were conducted around the existing in-ground swimming pool west of the house. Beneath the pavers currently serving as the pool deck, these test holes exposed slightly silty, gravelly sand fill that had originally been placed to backfill around the pool and behind the retaining wall that separates the pool deck from the lower, western yard. This fill was only moderately-compact, which has resulted in some settlement of the surface pavers over time. The fill extended to the maximum 3-foot depth of the test holes. No seepage was observed in these test holes. Based on our observations, the fill in this area is in excess of 5 feet thick.

The existing fill encountered in the test holes in this area is moderately permeable and will have a long-term infiltration capacity in excess of 0.3 inches/hour, which should be suitable for the use of pervious artificial turf.

Please contact us if you have any questions, or if we can be of further assistance.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.

10/19/2020
Marc R. McGinnis, P.E.
Principal

cc: **Gelotte Hommas** – David Grubb
via email: davidg@gelottehommas.com

MRM:kg

TESTING SERVICES, INC.
817 SHOWALTER AVE. • P.O. BOX 2041
DALTON, GEORGIA 30722-2041
PHONE: (706) 226-1400 • FAX: (706) 226-6118

TEST REPORT

CLIENT:

Company:	ForeverLawn, Inc.	**Report Number:**	64819
Address:	5801 Mayfair Road	**Lab Test Number:**	2739-4721
	North Canton, OH 44720	**Test Date:**	August 25, 2015
		Report Date:	September 4, 2015
		Page:	1 of 1
Requested By:	Robb Wolf		

TEST MATERIAL:

Material Type:	Synthetic Turf						**Date Received:**	8/11/2015
Material Condition:	**EXCELLENT:**	**XXX**	**GOOD:**		**POOR:**		**REJECTED:**	
Style:	Select HD							

TESTING METHODS REQUESTED:

Testing Services Inc. was instructed by the client to test for the following...			
Standard:	ASTM F1551	**Test Method:**	Standard Test Methods for Comprehensive Characterization of Synthetic Turf Playing Surfaces and Materials: Suffix-DIN 18-035, Part 6: Water Permeability of Synthetic Turf Systems and Permeable Bases

SAMPLING PLAN:

Sampling Date:	**8/17/2015**

- Specimen sampling is performed in the sampling department at TSI.
- The sampling size of specimens is determined by the test method requirements.
- In the event a specific sampling size is not called for, a determination will be made based on previous testing experience, and approved for use by an authorized manager.
- All samples are subjected to the outside environmental conditions of temperature and relative humidly.
- Sample requiring pre-determined exposure to specified environmental conditions based on a specific test method, take place in the departments in which they are tested

DEVIATION FROM TEST METHOD:

State reason for any Deviation from, Additions to, or Exclusions From Test Method.
None

TEST SUMMARY:

TEST METHOD	TEST DESCRIPTION	TEST RESULT
ASTM F1551; Suffix-DIN 18-035, Part 6	Average Rainfall Capacity (Water Permeability)	41.5 inches/hour

**Test data values represent drainage rates for the turf only, and do not take into account the percolation properties of sub-base, padding or the presence of an infill system.*

Infill System: None
# of Specimens (3) 11.5" Diamater
Pre-Conditioning: 70°F 65% RH for 24 Hours Minimum

Tube: 10.75" OD 10.00" ID 8" Length (Beveled)
Tube Weight: 39 lbs
Tube Flow Head: 2 Gallons

Tube Index Mark: 6"
Flange: 9.375" Diameter

Uncertainty:
We undertake all assignments for our clients on a best effort basis. Our findings and judgments are based on the information to us using the latest test methods available.
TSI can only ensure the test results for the specific items tested.
Unless otherwise noted in the deviations sections of this report, all tests performed are in compliance with stated test method.

Test Report Approval:
Erle Miles, Jr. VP, Testing Services Inc

TSi Accreditation: Our laboratory is accredited by the US Dept of Commerce, National Institute of Standards and Technology: ISO/IEC 17025:2005. Our code # is: NVLAP 100108-0. TSi is a certified independent testing laboratory by the Synthetic Turf Council