SYNTHETIC GRASS OUTDOOR SURFACE SPECIFICATIONS:
K9Grass Lite or Classic
1.1 DESCRIPTION OF WORK
The contractor shall provide all labor, materials, equipment, and tools necessary for the complete installation of a "no infill" synthetic grass dog surface with a stable draining base. The complete synthetic grass system shall consist of, but not necessarily be limited to the following:
A. Area of construction with the extent of artificial turf work as shown on the drawings.
B. Subgrade, base, and drainage construction as specified in Section 2 and Section 3 of this document.
C. Quality synthetic grass product manufactured in the USA according to specifications in Section 2 of this document. Product shall be a knitted synthetic grass product (not tufted) and contain an antimicrobial agent while meeting or exceeding all guidelines as established herein. For characteristics not specifically stated, shall meet or exceed all guidelines published by the Synthetic Turf Council.
D. The synthetic grass surface shall be specifically designed, manufactured, and installed for the intended use as a commercial/residential use dog surfacing solution.
E. Plastic perimeter boards ("2x4" or "2x2" set vertically) are to surround the entire area for anchoring of the turf. The top edge of this surface is to be a minimum of 1/2" below any adjacent solid walking surfaces where there could be foot traffic.
F. Stainless steel staples, 1" in length, are to be used to anchor the synthetic turf to the perimeter boards.

1.2 SYSTEM PERFORMANCE
Contractor shall ensure that products for pet/dog system meet the following performance requirements:
F. The components, as well as the installation methods utilized, shall be designed and executed in a manner to hold up to the unique challenges dogs present. The materials as hereinafter specified shall withstand full climatic exposure in the location of the play yard/dog run, be resistant to insect infestation, rot, fungus, mold and mildew, shall also withstand ultra-violet rays, and allow the free flow of water vertically through the surface and into the drainage below.
G. The seams of all system components shall provide a permanent, tight, secure, and hazard free surface.
H. The installed synthetic grass and drainage system shall allow for drainage and water flow through the system at a rate of not less than 800" per hour.

1.3 SERVICE AND QUALITY ASSURANCE
Synthetic grass vendor shall provide ongoing service, quality assurance, and warranty, consisting of, but not necessarily be limited to, the following:
A. The synthetic grass vendor must provide competent workmen skilled in this type of dog surface installation. The synthetic grass vendor shall provide a qualified installation foreman to coordinate and review the component parts of the synthetic grass system. Foreman shall be introduced to owner or owner's representative prior to start of construction.
B. The synthetic grass vendor and installer must be experienced with no less than six completed commercial dog installations (2500sf or greater) where a knitted synthetic grass surface was installed. Installer must be competent in the installation of this material, including attachment of seams, proper trimming, and attaching techniques, prior to the start of turf installation.
C. The synthetic grass vendor shall submit its manufacturer's warranty, which warrants the synthetic grass product:
I. Provide coverage of synthetic grass for a minimum of ten (10) years from the date of substantial completion.
II. Warrant that the materials installed meet or exceed the product specifications.
III. Be from a single source (certified by manufacturer) covering workmanship and all materials.
IV. Assure the availability of exact or substantially the same replacement materials for the synthetic grass system for the full warranty period.
V. Include general wear and damage caused by UV degradation. The warranty may specifically exclude vandalism and Acts of God beyond the control of the manufacturer or installer.

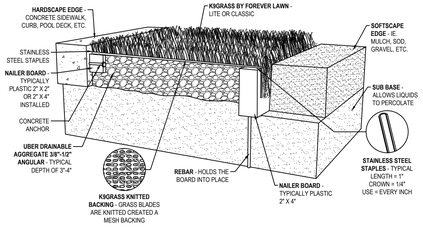
1.4 SUBMITTALS
Synthetic grass vendor must submit the following to owner or owner's representative with the official bid package:
I. One (1) copy of the most recent installation reference list for projects of similar scope to this project completed in last five years.

2 PRODUCTS
II. Synthetic grass: ForeverLawn K9Grass Lite or Classic or Landscape Architect approved equal.
Pile Weight: 72 oz. /sy.
Face Yarn Type: Primary: Polyethylene; Secondary: Heat set textured nylon monofilament containing antimicrobial agent
Yarn Count: Primary 5,000/4; Secondary: 4,200/8
Pile Height (knitted): 7/8" (+/- 1/8).
Color: Primary: Summer Green; Secondary: Turf green
Construction: Knitted
Antimicrobial Protection: AlphaSan (manufactured into yarn)
Tufting Gauge: N/A - knitted product
Backing: Flow-through knitted backing
Seaming: Turf adhesive
Total Product Weight: 87 oz. /sy.
Finished Roll Width: 15 ft. (4.6 m)
Finished Roll Length: Up to 150 ft. (45.72 m)
I. The synthetic grass shall be delivered in 15-foot-wide rolls. The rolls will be laid out and installed as specified in the site layout and equipment placement drawings.
II. All seams shall be installed and secured with approved turf adhesive. Seams secured with stitching alone shall not be acceptable.
III. No infill material is to be used.
B. Base and Attaching Components: Base is to be prepared using plastic "2x4" or"2x2" plastic board and secured using 1" length 1/4" crown stainless steel staples. Turf is to be secured around all edges.

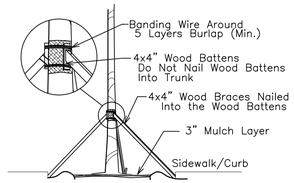
3 EXECUTION
3.1 BASE AND DRAINAGE CONSTRUCTION
The synthetic grass base contractor shall strictly adhere to the installation procedures outlined under this section. Any variance from these requirements must be accepted in writing, by the synthetic grass vendor, and submitted to the owner or owner's representative, verifying that the changes do not adversely affect the performance or warranty.
A. Excavation: Existing ground cover shall be excavated to the depth established on the excavation plan. The sub-grade shall also be compacted to a recommended 90% compaction rate.
B. Plastic Nailer Board: The synthetic turf perimeter fastening structure shall be installed before the drainage aggregate.
I. Install a synthetic nailer board around perimeter and all penetrating objects. Nailer board shall be flush to grade (or as specified in site detail drawings) when adjacent to soft surface (i.e. natural grass, mulch). Nailer board shall be 1/2" to 3/4" below grade when adjacent to hard walking surface (i.e. concrete or tile).
II. This shall be the responsibility of the synthetic turf base contractor. See synthetic turf edge attachment detail.
C. Base Drainage Aggregate: Installation of the free draining base aggregate of 3/8" to 5/8" clean compactable angular stone (any mix with fines in excess of 20% must be approved by manufacturer), shall follow procedures provided. If the sub-base does not permit liquids to freely percolate, auxiliary drainage is required. Base material must be installed to a recommended depth of 3 1/2". The drainage network and its existing elevations shall not be disrupted through ground pressures from trucks, dozers, or by any other means.
I. The stone shall be left firm and compacted while allowing the porosity and drainage capabilities of the aggregate profile.
II. The free draining base course should be designed to meet local soil and weather conditions. It must be installed to a minimum depth of 3 1/2" with a recommended compaction rate of 90%.

3.2 SYNTHETIC GRASS SYSTEM INSTALLATION
After a final inspection of the stone base by the synthetic grass contractor and the owner's representative, the synthetic turf installation shall begin. The synthetic grass product shall be delivered in 15-foot-wide rolls.
A. Synthetic grass rolls shall be joined via adhesive bond seaming and reinforced with specialty turf adhesive where necessary.
I. Seams shall be flat, tight, and permanent with no separation or fraying.
II. Grass rolls must be installed with pile leaning the same direction.
B. Synthetic Turf Perimeter Attachment:
I. After final layout and seaming of the synthetic grass product, the synthetic turf material shall at a minimum be secured to the top of plastic nailer board firmly anchored to sidewalk, curb, wall, or by rebar making up the perimeter of the synthetic turf area.
II. The turf shall be attached to plastic nailer board by stainless steel staples, screws, and/or nails.
III. Soil or surfacing material outside of the defined synthetic turf area shall be backfilled against turf wrapped perimeter edge and have zero transition edge to synthetic turf unless otherwise specified.
IV. Concrete and solid walking surfaces should be 1/2" to 3/4" higher than the top of the board.
C. Infill Application: It is imperative that no infill is utilized with synthetic turf used with dogs.

3.3 CLOSEOUT
A. The synthetic grass vendor must verify that a qualified representative has inspected the installation and that the finished surface conforms to the manufacturer's requirements.
B. Extra materials: Owner shall be given the option to retain and store excess materials such as excess turf left over from the project.
C.
3.4 CLEAN UP
A. Contractor shall provide the labor, supplies, and equipment as necessary for final cleaning of surfaces and installed items.
B. During the contract and at intervals as directed by the owner or owner's representative and as synthetic grass system installation is completed, clear the site of all extraneous materials, rubbish, or debris, and leave the site in a clean, safe, well-draining, neat condition.
C. Surfaces, recesses, enclosures, etc. shall be cleaned as necessary to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the owner



ARTIFICIAL TURF DETAIL
NTS



DATE PALM BRACING DETAIL
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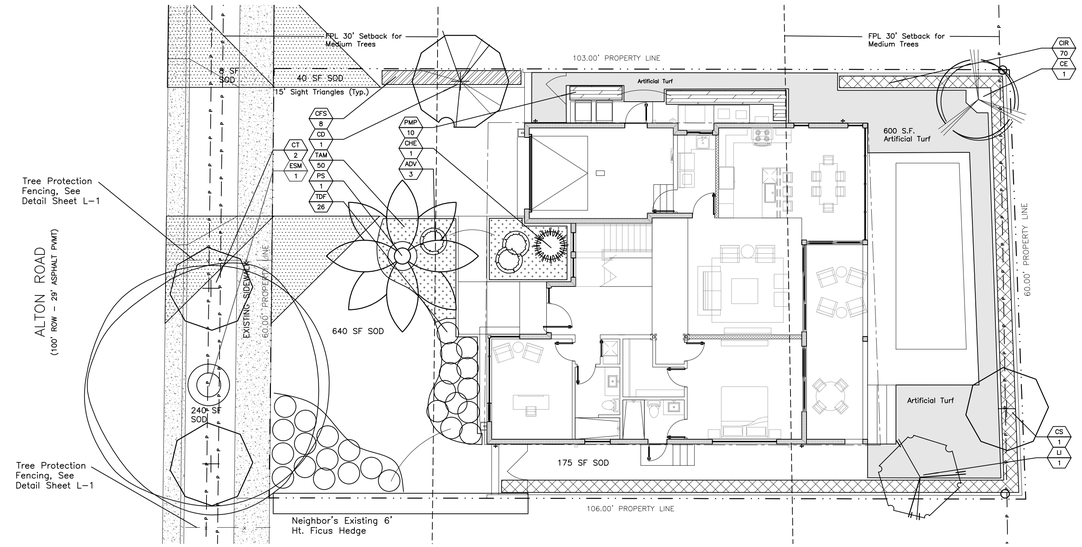
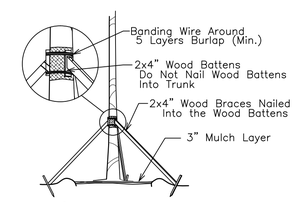


PLANT LIST

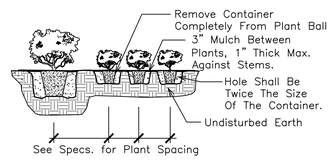
Code		Drought	QTY.		Botanical Name / Common Name	Specifications
EXISTING TREES						
ESM	(N)	V	1		Swietenia mahogani / Mahogany	See Existing Tree / Palm List
PROPOSED TREES / PALMS						
CD	(N)	V	1		Coccoloba diversifolia / Pigeon Plum	12'x6', 2" Cal.
CE	(N)	V	1		Conocarpus erectus sericeus / Silver Buttonwood	12'x6', 2" Cal.
CS	(N)	V	1		Cordia sebestena / Orange Geiger	12'x6', 2" Cal.
CT	(N)	V	2		Cordia sebestena / Orange Geiger (Street Tree)	12'x6', 4" CT, 3" Cal.
LI		V	1		Lagerstroemia indica / Crape Myrtle	12'x6', 2" Cal.
PS		V	1		Phoenix sylvestris / Silver Date Palm	10' CT, 12" Cal.
			7		**Total Trees / Palms (ESM Not Counted)**	
			5		**Native Trees / Palms**	
			71%		**Native Trees / Palms**	
ACCENTS / SHRUBS / GROUND COVERS						
ADV		V	3		Agave desmettiana / Variegated Agave	24"x 24"
CFS	(N)	V	8		Clusia flava / Small Leaf Clusia	24"x 24", 24" OC
CHE		V	1		Chamaerops humilis / European Fan Palm	4' OA Ht., Multi
CIR	(N)	V	70		Chrysobalanus icaco 'Red Tip' / Cocoplum	24"x 24", 24" OC
PMP		V	10		Podocarpus macrophyllus / Podocarpus	4'x24", 3' OC
TDF	(N)	V	26		Tripsacum dactyloides / Fakahatchee Grass	24"x 24", 30" OC
			118		**Total Shrubs**	
			104		**Native Shrubs**	
			88%		**Native Shrubs**	
SOD & SOD ALTERNATES						
Art. Turf		V	600	S.F.	Forever Lawn or Landscape Architect Approved Equal	See Details Sheet L-2
Sod		M	855	S.F.	Stenotaphrum secundatum / St. Augustine 'Palmetto'	Inside Property Lines
			1,455	S.F.	**Total Artificial Turf & Natural Sod Areas**	
			41.2%		**Percent of Artificial Turf vs. Natural Sod Areas**	
Sod		M	248	S.F.	Stenotaphrum secundatum / St. Augustine 'Palmetto'	Outside Property Lines
TAM		V	50		Trachelospermum asiaticum minima / Small Leaf	12" Spr., 20" OC
		(N)			Florida Native Plant Species	
		M			Moderate Drought Tolerance	
		V			Very Drought Tolerant	

CITY OF MIAMI LANDSCAPE LEGEND

	Zoning:	**RS-4**		**Lot Area**	**0.14**	**Acres**	**6,300.00**	**s.f.**	
		Res Low Rise, Med Density							
	OPEN SPACE							**REQUIRED**	**PROVIDED**
A.	Square feet of required Open Space as indicated on site plan:								
	Lot area =	6,300.00	s.f. x	25	% =	1,575.00	s.f.	1,575.00	2,932.00
	LAWN AREA CALCULATION								
A.	Total s.f. of landscaped open space required by Miami 21							1,575.00	2,932.00
B.	Maximum lawn area (sod) permitted =			50	% x	2,932.00	s.f. = 50%	1,466.00	1,455 50%
	TREES								
A.	No. trees required per net lot acre							3	
	less existing number of trees meeting minimum requirements =							0	
		3	trees x	0.14	acreas =			3	3
B.	% of palms allowed (two palms = one tree): Number of trees provided x 30% =						30%	2	0 0%
C.	% natives required: Number of trees provided x 30% =						30%	2	5 71%
D.	% Drought Tolerance and Low Maintenance: Number of trees provided x 50% =						50%	4	7 100%
E.	Street trees (maximum average spacing of 30' o.c.):								
	0	linear feet along street / 30 =						0	0
	% of Palms permitted to count towards street trees on 1:1 basis x 30%							0	0
F.	Street trees located beneath power lines (maximum average spacing of 25' o.c.):								
	60	linear feet along street / 25 =						2	2
	Total number of trees required =							**5**	**7**
	SHRUBS								
A.	Number of shrubs required: Number of shrubs required x 10							50	118
B.	% Native of shrubs required: Number of shrubs provided x 50% =						50%	25	104 88%
C.	% Drought Tolerance and Low Maintenance: Number of shrubs provided x 50% =						50%	25	118 100%

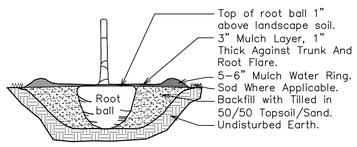


TREE/PALM BRACING DETAIL
NTS

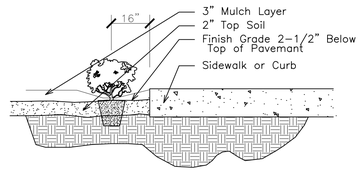


SHRUB PLANTING DETAIL
NTS

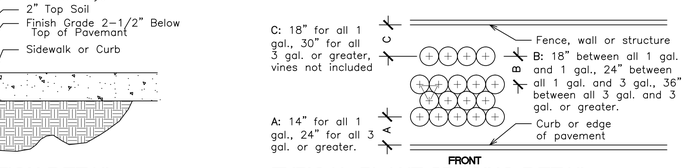
SITE PLAN INFORMATION				
Current Zoning Designation:	RS-4			
Current Land Use Designation:	Res Low Rise, Med Density			
Gross Site Area:	6,300 Sq. Feet	=	0.14	Acres
Building Area:	1,919 Sq. Feet	=	30.5%	
Driveways / Walkways / Patios	1,449 Sq. Feet	=	205.4%	
Total Impervious Areas:	3,368 Sq. Feet	=	53.5%	
Total Pervious/Landscape Area:	2,932 Sq. Feet	=	46.5%	



TREE/PALM PLANTING DETAIL
NTS



SHRUB INSTALLATION DETAIL
NTS



TYPICAL PLANT SPACING DETAIL
NTS

GRAPHIC SCALE
10 0 5 10 20 40
1 INCH = 10 FEET

THOMAS WHITE, ASLA-ISA
LANDSCAPE ARCHITECT, LEED GREEN ASSOCIATE, CERTIFIED ARBORIST
2600 NE 27th AVENUE
FORT LAUDERDALE, FLORIDA 33306
tcawhite@bellsouth.net
954-253-2265

REVISIONS
12-29-2020: Per City Comments

Landscape Permit Plan
Alsabbagh Residence
4625 Alton Road
Miami Beach, Florida 33140

Digitally signed by Thomas White, ASLA-ISA
Date: 2020.12.29 08:04:32 -05'00'
Thomas White, ASLA-ISA

REGISTERED LANDSCAPE ARCHITECT THOMAS L. WHITE LA-0001100 STATE OF FLORIDA

DRAWN: TW
CHECKED: TW
DATE: 12-9-2020
SCALE: As Shown

Sheet No.
L-2
Sheet 2 Of 3