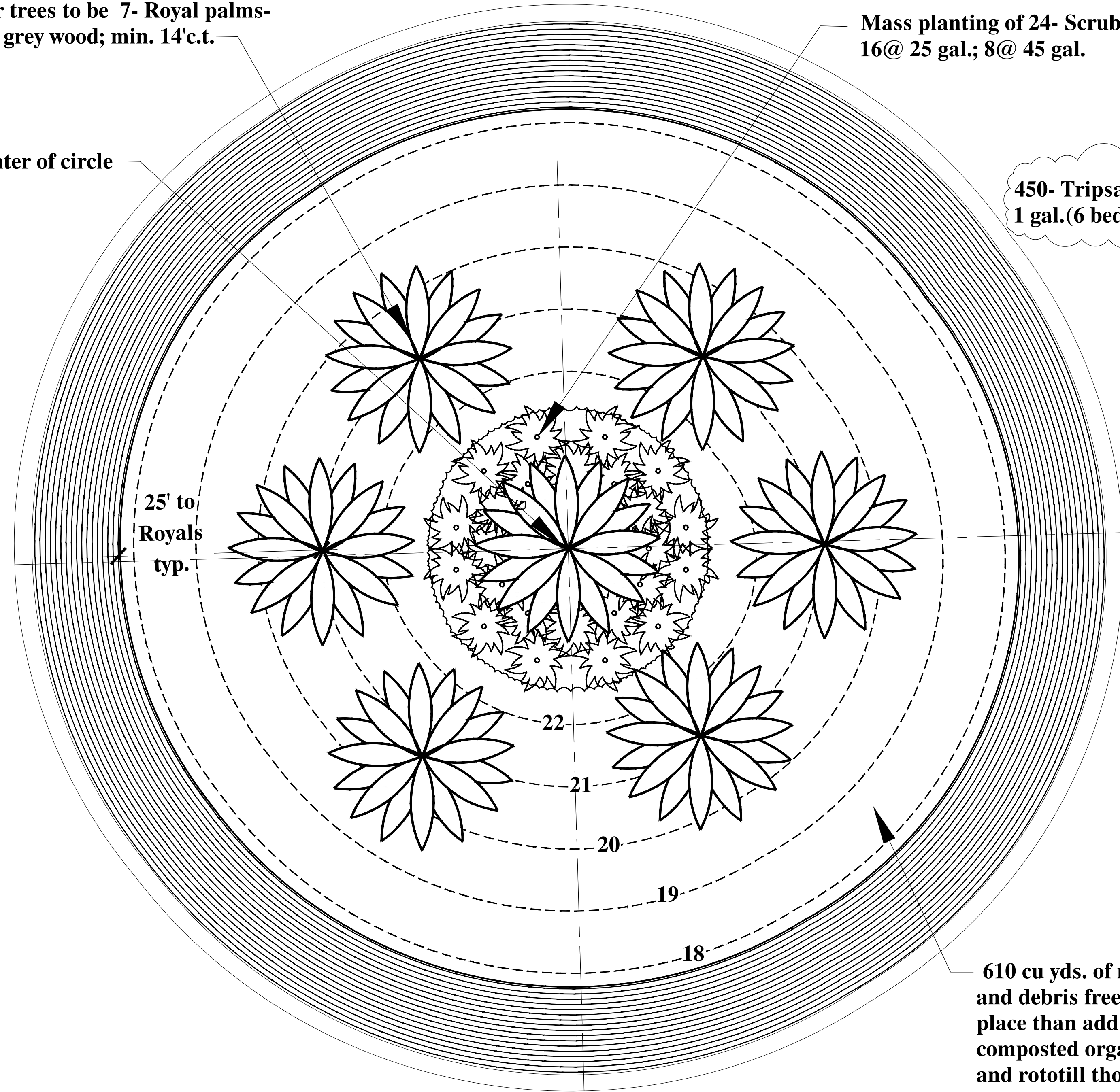


TREES ONLY

Center trees to be 7- Royal palms-
10'-12' grey wood; min. 14'c.t.

Center of circle

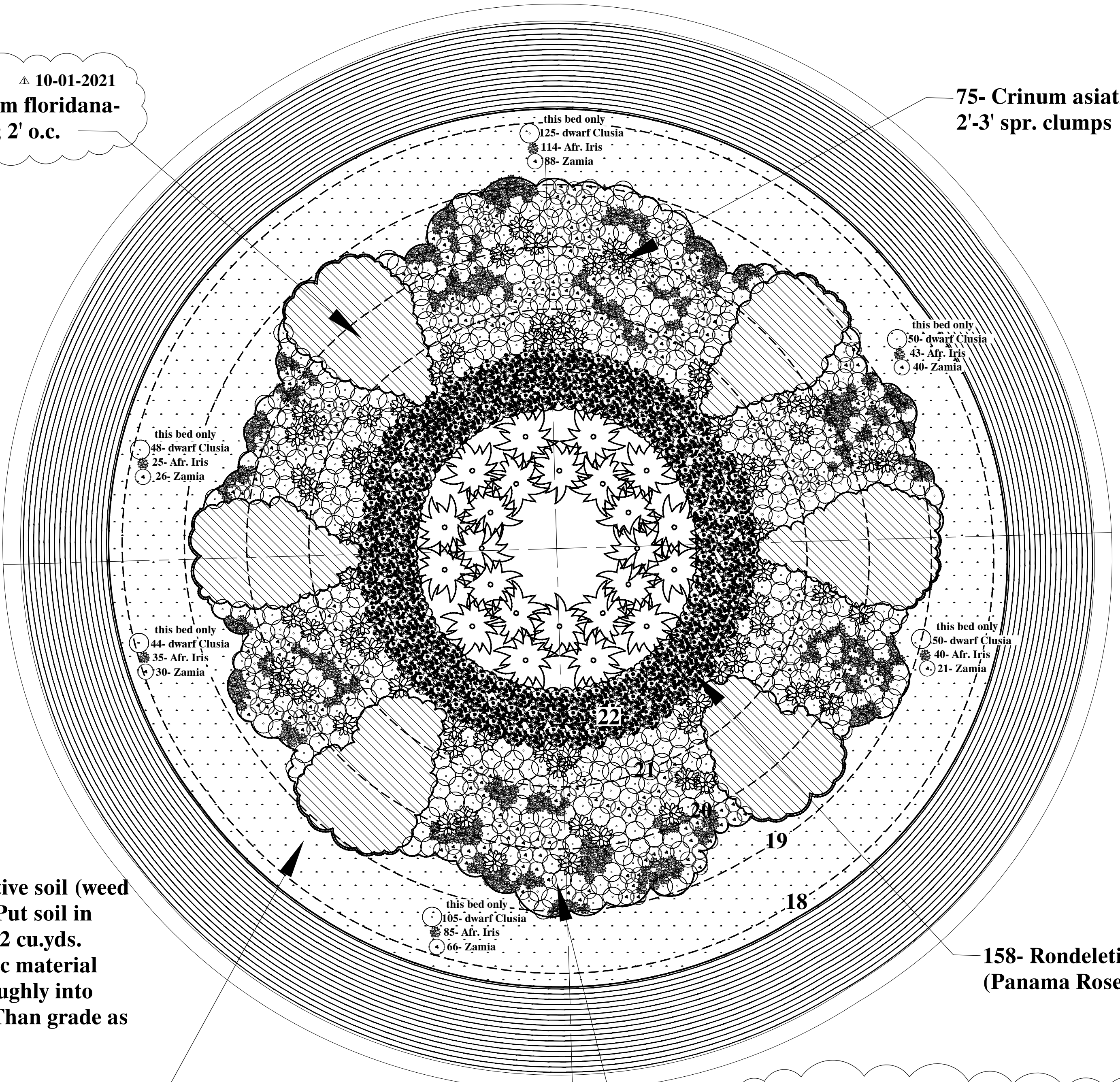


Mass planting of 24- Scrub Palmetto-
16@ 25 gal.; 8@ 45 gal.

▲ 10-01-2021
450- *Tripsacum floridana*-
1 gal.(6 beds); 2' o.c.

SHRUBS ONLY

75- *Crinum asiaticum*-
2'-3' spr. clumps



610 cu yds. of native soil (weed
and debris free). Put soil in
place than add 152 cu.yds.
composted organic material
and rototill thoroughly into
native sand soil. Than grade as
per plan.

2,030- *Trachelospermum
asiaticum minima*- 1 gal.,
18" o.c.

TOTAL COUNT
422- *Dwarf Clusia (nana)*- 3 gal., 30" o.c.; -271-
Zamia floridana- 1 gal., plant 2' o.c.; 342- *Diets
iridiodes*- 3 gal., 18" o.c.;

LANDSCAPE NOTES

- All plant material to be Florida No.1 or better per most current version of "Grades and Standards for Nursery Plants, Part I and II," prepared by the State of Florida Department of Agriculture and Consumer Services.
- All planting beds to be topped with 3" min. mulch "Grade A", consisting of a 2" layer of organic, shredded or bark mulch topped with a 1" layer of Pine Straw. A two-inch layer, after watering in, of mulch must be placed and maintained around all newly installed trees, shrubs, and ground cover plantings. Each tree must have a ring of mulch no less than 24 inches beyond its trunk in all directions. Dyed mulch of any kind is not acceptable. CYPRESS MULCH WILL NOT BE USED.
- All trees to be staked in good workmanlike manner. No nail staking permitted. (Refer to planting details) Landscape contractor is responsible for removing trees stakes once trees are established.
- Landscape plan shall be installed in compliance with all local codes. Local codes take precedence over Landscape plan.
- All tree holes to be back filled around and under root ball with planting soil. All shrub beds to be installed with planing soil (see planting details).
- All trees and palms are to be guaranteed for one year. All shrubs and ground covers shall be guaranteed for six months from date of final acceptance.
- All planting beds shall be free of weeds, grass, litter, and construction debris prior to planting.
- All trees, palms, shrubs, and groundcover plants shall be fertilized at installation with slow release fertilizer, according to manufacturer's recommendations (submit sample for approval).
- Landscape contractor shall review all drawings and prepare his own take off and plant list prior to bid cost, and compare to Landscape Architect's plant list. Sizes specified on Landscape plan are deemed to be minimums. Landscape Contractor is responsible for attaining accurate counts of plant materials specified. In the event of discrepancies, Landscape Contractor shall bring to the attention of the Landscape Architect. Plan shall take precedence over plant list. No Exceptions!
- Landscape Contractor shall locate and verify all underground utility prior to digging. Plantings in Easements: Utility, power, or drainage easements may overlap required buffers; however no required trees or shrubs may be located in any utility, power, or street easement or right-of-way.
- All material is subject to availability at time of installation. Substitutions MUST be cleared with Landscape Architect prior to install.
- All newly planted areas to receive 100% coverage (with 50% overlap) by automatic irrigation system (refer to irrigation plan).
- Landscape Contractor to flag out all Royal palm locations for Landscape Architect approval prior to install. Then all other plants to be laid out in their pots.
- No changes shall be made without the prior consent of the Landscape Architect and Owner.

INSTALLATION NOTES

- Roundabout to receive a rough grade as shown at above left.
- Install Royal Palms in locations as shown at above left.
- After Palm install, correct grading for over compaction due to machines installing palms. Then finalize grading to match shown at above left.
- Layout all underplantings in their pots for review/approval by Landscape Architect prior to installation. Coordinate date and time with Landscape Architect at least 1 week PRIOR to start.
- Once plant installation is complete, finalize irrigation heads and adjust as noted on Irrigation Plan. No water to be thrown onto impervious surfaces.

WILLIAMS RD. ROUNDABOUT			
TREES	QTY	BOTANICAL NAME	DESCRIPTION
	7	<i>Roystonea regia</i>	ROYAL PALM
	24	<i>Serenoa repens cinerea</i>	SILVER SAW PALMETTO
SHRUBS			
	422	<i>Clusia nana</i>	DWARF CLUSIA
	75	<i>Crinum asiaticum "Queen Emma"</i>	CRINUM LILY
	342	<i>Diets iridiodes</i>	WHITE AFRICAN IRIS
	158	<i>Rondeletia leucophylla</i>	PANAMA ROSE
	2,030	<i>Trachelospermum asiaticum minima</i>	CONFEDERATE JASMINE
	450	<i>Tripsacum floridanum</i>	DWARF FAKAHATCHEE
	271	<i>Zamia floridana</i>	COONTIE FERN
EXTRAN.			
	610 cu yds.	Native sand/soil for Mounds	weed and debris free
	152 c.yds.	Composted organic material	
	TBD	Mulch (per note #2)	3" deep

BH & A
BRUCE HOWARD & ASSOCIATES, INC.
Landscape Architects,
Site Planners &
Golf Course Designers

PROJECT: WILLIAMS RD. ROUNDABOUT
Village of Estero, Fla.

DRAWING TITLE: PROPOSED ROUNDABOUT
PLANTING PLAN

NORTH

SCALE: 1/10" = 1' - 0"

PROJECT NUMBER

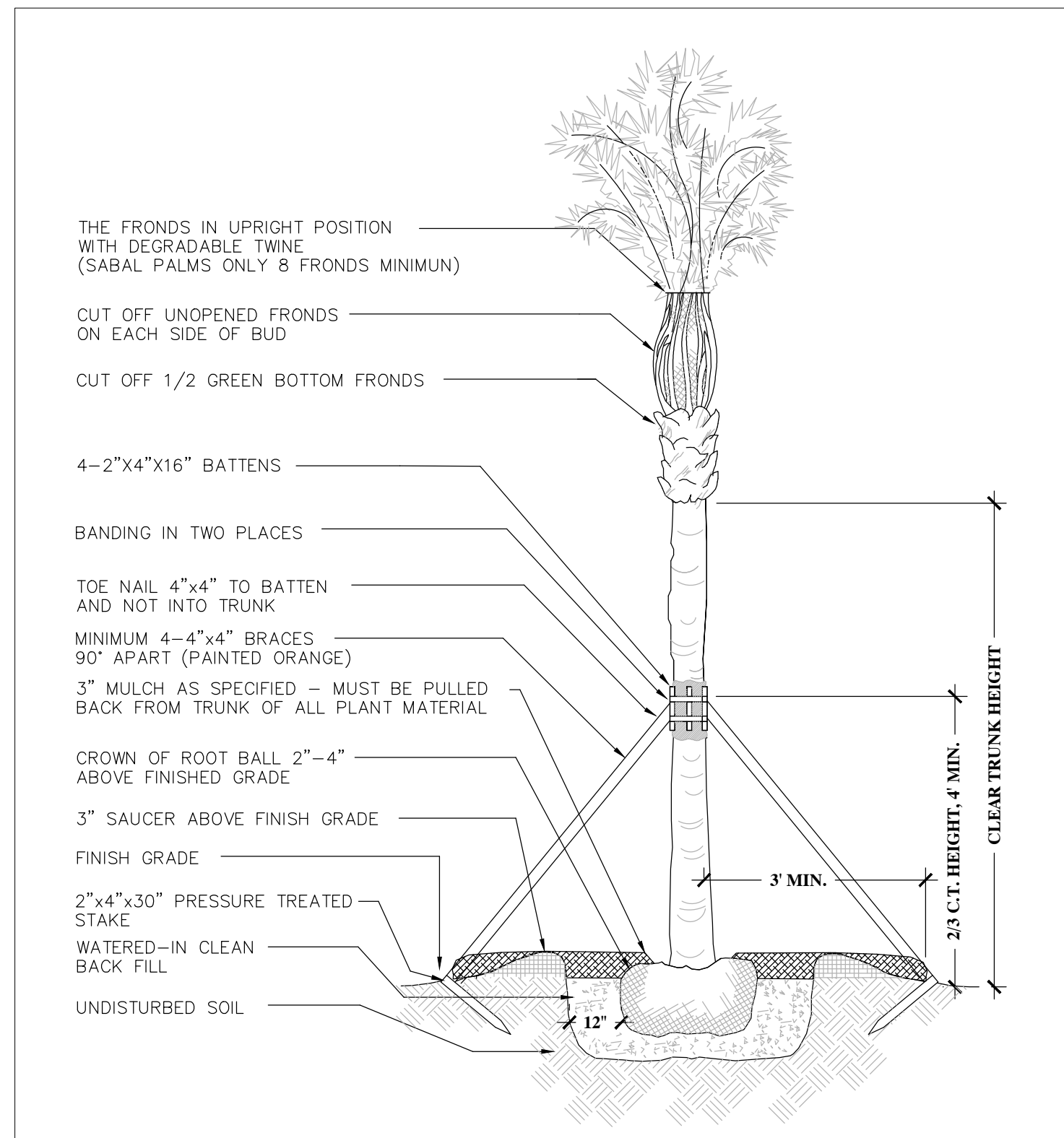
DATE: 09-13-2021

▲ 10-01-2021

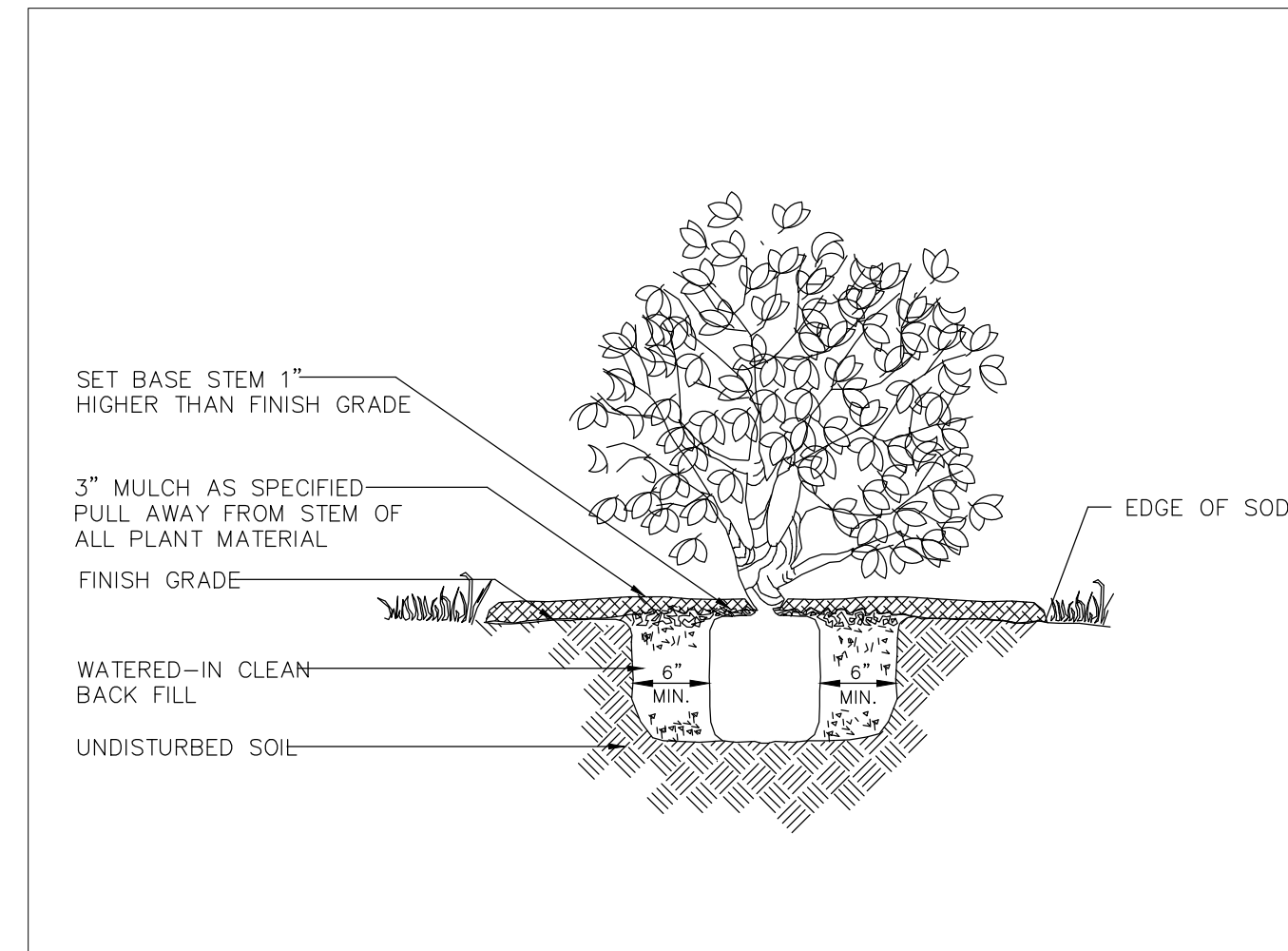
Bruce Howard
License # 140090731

SHEET NUMBER:
LP-1

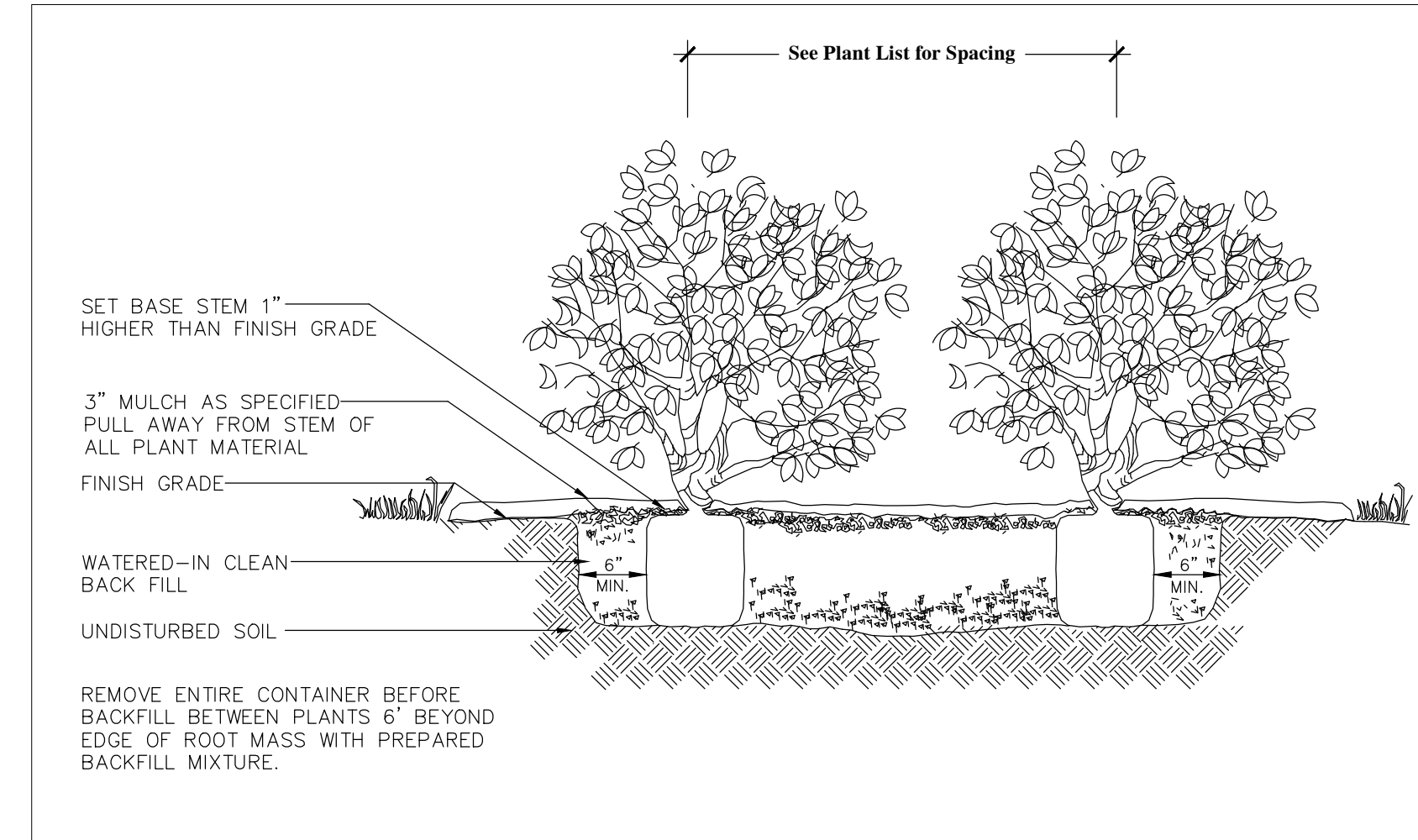
4872 S.W. 72nd Avenue
Miami, Florida 33155
(305)668-3196
Fax (305)668-2871



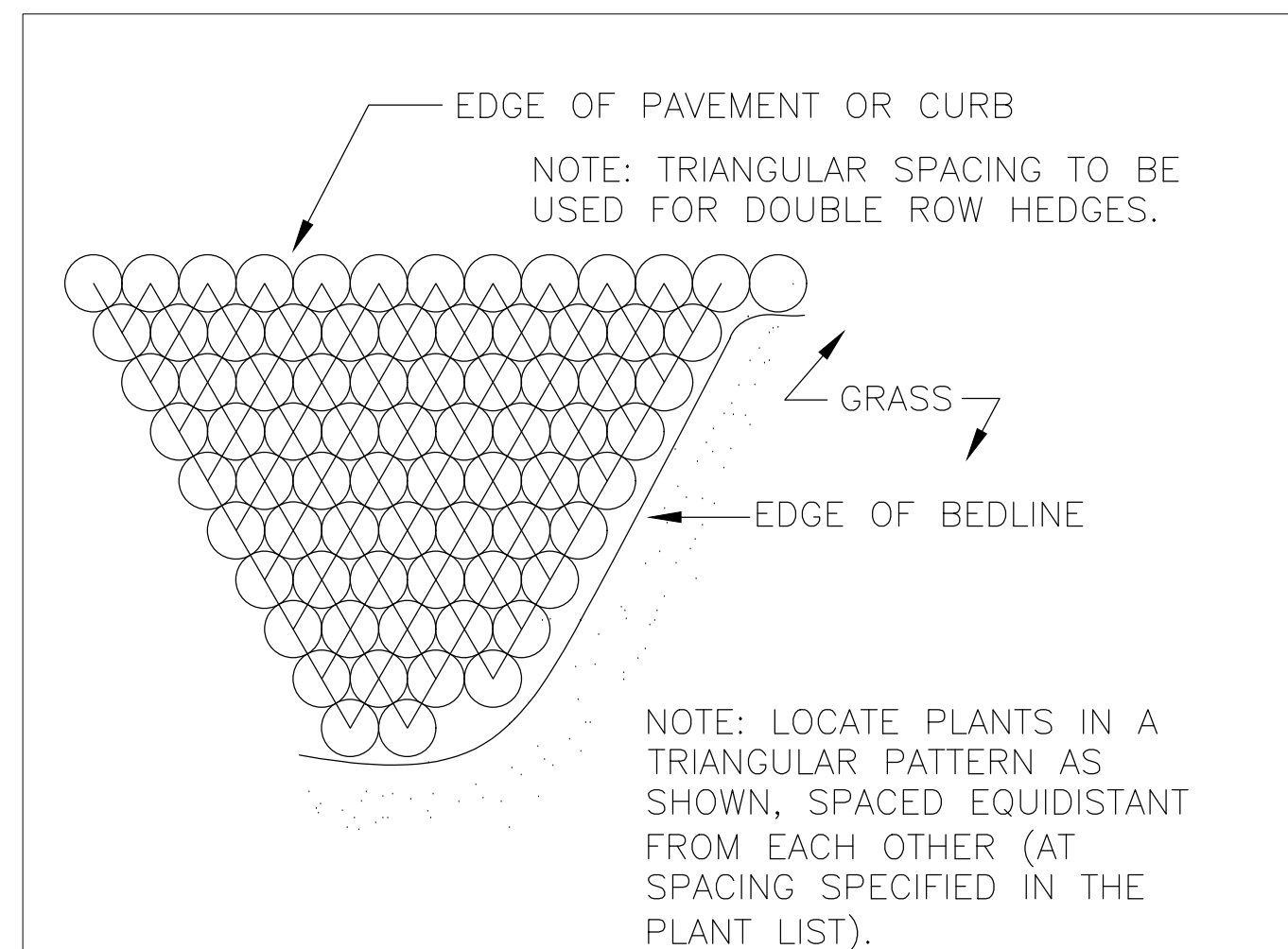
1 Palm Planting Detail
SCALE: N.T.S.



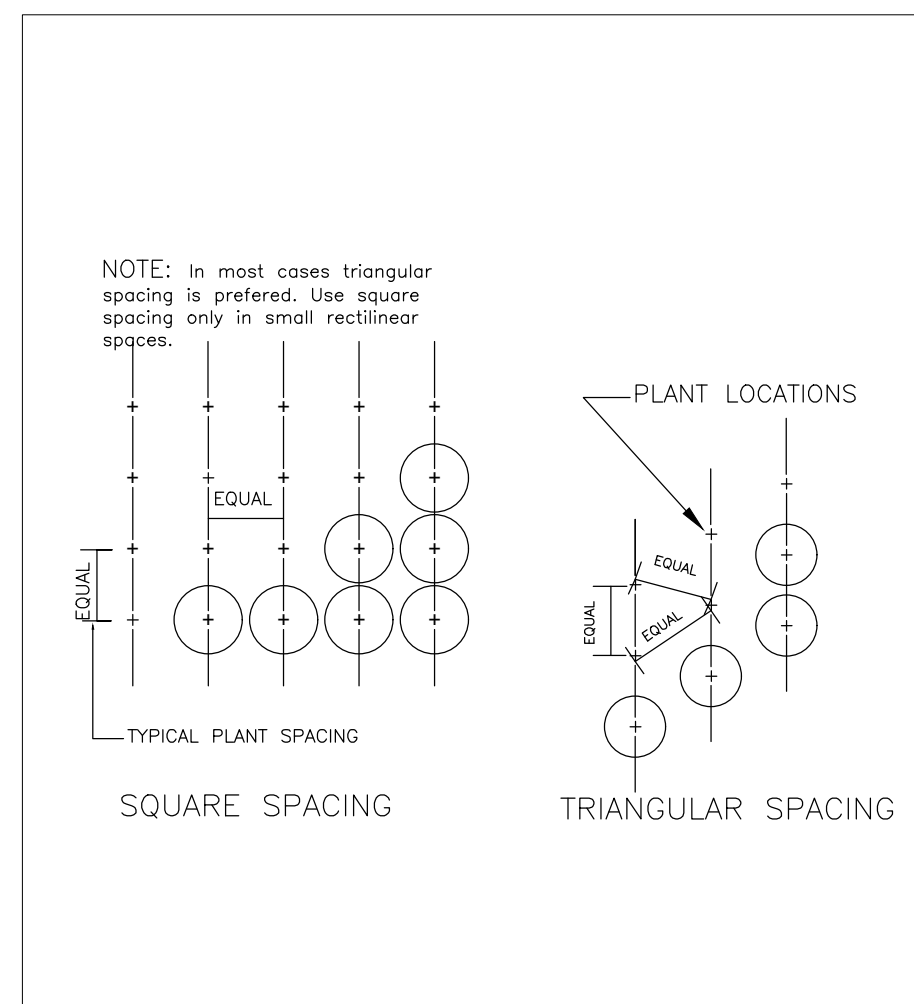
2 Shrub Planting Detail
SCALE: N.T.S.



3 Ground Cover Detail
SCALE: N.T.S.



4 Shrub Planting Spacing Detail
SCALE: N.T.S.



5 Ground Cover Spacing Detail
SCALE: N.T.S.

BH & A
BRUCE HOWARD & ASSOCIATES, INC.
Landscape Architects,
Site Planners &
Golf Course Designers

PROJECT:
WILLIAMS RD. ROUNDABOUT
Village of Estero, Fla.

DRAWING TITLE:
PLANTING DETAILS

NORTH

SCALE:
AS SHOWN

PROJECT NUMBER

DATE:
07-29-2021

Revision table with 10 empty rows.

Bruce Howard
License # 1240000371

SHEET NUMBER:
LP-2

4872 S.W. 72nd Avenue
Miami, Florida 33155
(305) 668-3196
Fax: (305) 668-2871

GENERAL IRRIGATION NOTES

- HIGH POP-UP SPRAYS TO BE UTILIZED AS REQUIRED IN PLANTING BEDS WHERE SPRAY HEAD IS IN LOW PLANTING OR GROUND COVER (MATURE PLANT HEIGHT IS 1' - 18").
- CHANGES IN HEAD PLACEMENT OR SUBSTITUTION SHOULD ALWAYS BE DONE TAKING INTO CONSIDERATION:
 - WHAT IS BEST FOR THE GROWTH AND MAINTENANCE OF THE PLANT MATERIAL.
 - MAINTAINING A CONSTANT AND EVEN DISTRIBUTION AND PRECIPITATION RATE. (NEVER INSTALL BUBBLERS AND SPRAYS ON THE SAME ZONE).
 - THE SPACING BETWEEN HEADS SHALL NOT EXCEED 50% OF THE DIAMETER FOR HEADS SPACED ON A SQUARE PATTERN OR 60% OF THE DIAMETER FOR HEADS SPACED ON A TRIANGULAR PATTERN.
- POP-UP SPRINKLER HEADS SHALL BE INSTALLED:
 - 3" TO 6" FROM EDGE OF CURB OR SIDEWALK.
 - FLUSH WITH FINISH GRADE.
- AUTOMATIC CONTROL TIMER LOCATION TO BE VERIFIED WITH ADJACENT EDERA PROJECT. POWER SHALL BE PROVIDED BY OTHERS. CONTROL WIRES SHALL BE #14 HOT AND #14 COMMON UP-DIRECT BURIAL IRRIGATION. CONTRACTOR SHALL INSTALL (2) EXTRA CONTROL WIRES (THE ENTIRE LENGTH OF MAINLINE) FOR POSSIBLE FUTURE USE. ANY CONTROL WIRES NOT INSTALLED WITH THE MAINLINE SHALL BE INSTALLED IN (2") SCH. 40 GREY ELECTRICAL CONDUIT.
- PIPE SIZE (LATERAL PIPE) SHALL NOT EXCEED FIVE FEET PER SECOND (SEE CHART):

3/4" 0-9 GPM;	1" 10-16 GPM;	1-1/4" 17-26 GPM;	1-1/2" 27-35 GPM;	2" 36-55 GPM
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- FIELD ALTERATIONS MADE IN THE IRRIGATION CONTRACT DRAWING MUST BE IN THE BEST INTEREST OF THE PLANT MATERIAL. IRRIGATION SYSTEM CHANGES MADE BY THE IRRIGATION CONTRACTOR WHICH ARE DEEMED, BY THE ARCHITECT AND/OR OWNER, NOT TO BE IN CONFORMITY WITH THIS CRITERIA WILL BE REMOVED AND REPLACED AT THE IRRIGATION CONTRACTOR'S EXPENSE. IF A QUESTION SHOULD ARISE AS TO THE BEST WAY TO COMPLETE A FIELD ALTERATION, CONTACT THE ARCHITECT AND/OR OWNER FOR APPROVAL.
- THE CONTRACTOR SHALL STAKE OUT THE LOCATION OF EACH RUN OF PIPE, SPRINKLER HEADS, SPRINKLER VALVES PRIOR TO TRENCHING. TRENCHES FOR PIPE SHALL BE CUT TO REQUIRED GRADE LINES, AND COMPACTED TO PROVIDE ACCURATE GRADE AND UNIFORM BEARING FOR THE FULL LENGTH OF THE LINE. THE BOTTOM OF TRENCHES SHALL BE FREE OF ROCK OR OTHER SHARP EDGED OBJECTS. MINIMUM COVER SHALL BE AS FOLLOWS: PRESSURE MAINLINE 36" AT TOP OF PIPE TO FINISH GRADE. LATERAL PIPING 12" AT TOP OF PIPE FROM FINISH GRADE.
- INITIAL BACKFILL ON PVC LINE SHALL BE PULVERIZED NATIVE FREE SOIL, FREE OF FOREIGN MATTER. WITHIN RADIUS OF 4" OF THE PIPE SHALL BE CLEAN SOIL OR SAND. PLANT LOCATIONS SHALL TAKE PRECEDENCE OVER SPRINKLER AND PIPE LOCATIONS. THE CONTRACTOR SHALL COORDINATE THE PLACING OF SPECIMEN TREES AND SHRUBS WITH THE ROUTING OF LINES AND FINAL HEAD LOCATIONS.
- THE IRRIGATION AND LANDSCAPE CONTRACTORS SHALL COORDINATE THE PLACEMENT OF THE SPRINKLER EQUIPMENT AND LANDSCAPE MATERIAL WITHIN THE PLANTED AREAS. THE IRRIGATION CONTRACTOR SHALL INSTALL HIS MATERIAL AT THE EDGE OF THE PLANTED AREAS AVOIDING PLANTS, ROOT BALLS, LIGHTS, BOLLARDS, FENCES, ETC.
- BEFORE SPRINKLER HEADS ARE SET, THE CONTRACTOR SHALL FLUSH THE LINES THOROUGHLY TO MAKE SURE THERE IS NO FOREIGN MATTER IN THE LINES. THE CONTRACTOR SHALL FLUSH THE MAIN LINES FROM DEAD END FITTINGS FOR A MINIMUM OF FIVE MINUTES UNDER A FULL HEAD OF PRESSURE.
- OPEN CUTS IN ASPHALT, WALKS AND/OR TRENCHES MUST BE PROTECTED FROM VEHICLE AND PEDESTRIAN TRAFFIC AT ALL TIMES. IT WILL BE THE IRRIGATION CONTRACTORS RESPONSIBILITY TO BARRICADE AND DIVERT TRAFFIC.
- THE INSTALLER SHALL PROVIDE A COMPLETE SET OF REPRODUCIBLE RECORD DRAWINGS, COMPLETE WITH MEASUREMENTS TO POINTS OF REFERENCE FROM ALL VALVES AND DIRECTIONAL CHANGES IN THE ROUTING OF THE MAINLINE, AS WELL AS FOR THE MAINLINE. THE RECORD DRAWING SHALL ALSO INCLUDE LOCATIONS OF ANY WIRE ROUTING NOT RUN IN THE SAME TRENCH AS THE MAINLINE. ALL OTHER COMPONENTS OF THE IRRIGATION SYSTEM SHALL BE DONE BY THE SAME METHOD (GATE VALVES, WIRE SPLICES ETC.).
- IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING SEQUENCING OF CONTROL VALVES WITH EDERA STAFF UTILIZING MAXIMUM WATER FLOW CAPABILITIES AND MINIMUM SURGE IN PIPE.
- INSTALLER SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY LOCATES, PERMITS AND INSPECTIONS CONNECTED WITH THIS WORK.

IRRIGATION NOTES

- The automated irrigation system is a zoned system using potable water (or lower quality if available). If system is reuse water, purple pipe, caps, etc. are to be used in system.
- All landscaped areas, will be adequately sleeved for irrigation if needed.
- A moisture (rain) sensor will be included in the master irrigation system and located adjacent to site on the Edera property so that it will receive direct rainfall, not impeded by other objects.
- The irrigation system will be designed to eliminate the application of water to impervious areas, including roads, sidewalks and other impervious areas.
- The irrigation system shall provide for 100% coverage and a minimum of 50% overlap of spray areas.

THE DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC, AS IT MAY NOT BE POSSIBLE TO ACCURATELY DEPICT THE EXACT LOCATIONS FOR ALL MATERIAL, OR ANTICIPATE THOSE IN-FIELD VARIATIONS WHICH MAY REQUIRE ADJUSTMENT ON SITE. THE INSTALLER SHALL BE EXPECTED TO MAKE MINOR MODIFICATIONS WHICH MAY BE NECESSARY TO MAINTAIN COMPLETE AND ACCURATE COVERAGE, WITHOUT DEVIATION FROM THE DESIGN CONCEPTS OR INTENT. THE FINAL LOCATIONS OF ALL MAJOR EQUIPMENT, SUCH AS CONTROLLERS, VALVES, SUPPLY CONNECTIONS, MAINLINES, ETC. SHALL BE DETERMINED IN THE FIELD, USING THE DRAWINGS AS A GUIDE, AND APPROVED PRIOR TO INSTALLATION.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH PREVAILING CODES AND REGULATIONS. ALTHOUGH DUE DILIGENCE HAS BEEN EXERCISED IN THE PREPARATION OF THE DOCUMENTS TO AVOID CONFLICTS, THE RESPONSIBILITY FOR VERIFICATION AND CONFORMANCE TO THE PARTICULAR CODES FOR THIS LOCATION SHALL REMAIN SOLELY THAT OF THE INSTALLER. THE INSTALLER SHALL OBTAIN ANY NECESSARY LOCATES, PERMITS AND INSPECTIONS.

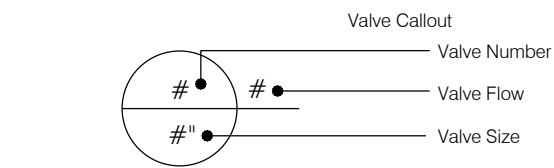
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird 1812-PRS 15 Series MPR Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device.	33
	Rain Bird 1812-PRS HE-VAN Series Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device.	24
	Rain Bird 1400 Series Bubbler Fixed flow rate (0.25-2.0GPM), full circle bubbler, 1/2" flex PVC as shown in detail B.	14

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird PEB 1" 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration.	1
	Rain Bird PEB 2" 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration.	3

NOTE: Pipe quantities shown based on diagrammatic plan, contractor to do own take-off.

	Irrigation Lateral Line: PVC Class 200 SDR 21 3/4"	794.9 l.f.
	Irrigation Lateral Line: PVC Class 200 SDR 21 1"	98.5 l.f.
	Irrigation Lateral Line: PVC Class 200 SDR 21 1 1/4"	49.9 l.f.
	Irrigation Lateral Line: PVC Class 200 SDR 21 1 1/2"	10.2 l.f.
	Irrigation Lateral Line: PVC Class 200 SDR 21 2"	136.9 l.f.
	Irrigation Mainline:	existing



INSTALLER TO NOTE:

- POC AND MAINLINE RUN ARE PART OF THE EDERA PROPERTY IRRIGATION SYSTEM. THESE ARE SHOWN IN A GENERAL LOCATION AND ARE TO BE FIELD LOCATED PRIOR TO INSTALLATION OF ANY PORTION OF THIS DESIGN. FAILURE TO COORDINATE THIS INFORMATION PRIOR TO BID DOESNT RELIEVE THE CONTRACTOR FROM BEING RESPONSIBLE TO PROVIDE A COMPLETE SYSTEM IN PERFECT WORKING ORDER.
- THE PLAN MAY NOT INCLUDE ALL MATERIALS. THIS DOESNT RELIEVE THE CONTRACTOR FROM BEING RESPONSIBLE TO PROVIDE A COMPLETE SYSTEM IN PERFECT WORKING ORDER.
- VERIFY THE LOCATION OF THE EDERA SPRINKLER CONTROLLER AND CONNECTION POINTS FOR 2 WIRE SYSTEM.
- THE DEVELOPER IS RESPONSIBLE FOR THE COST OF BUILDING PERMITS. EDERA TO SUPPLY MAINLINE, 2 WIRE CONNECTION POINT, & ACCESS TO CONTROL CLOCK TO SCHEDULE ZONE RUN TIMES. THIS SYSTEM MUST BE INSTALLED BEFORE STARTING THIS PROJECT.
- THE CONTRACTOR WILL COMMENCE WORK AFTER THE PLANS & SITE HAVE BEEN FOUND FREE FROM CONFLICTS AND AFTER RECEIVING APPROVAL FROM THE LANDSCAPE ARCHITECT/OWNER.

UNDERGROUND CABLE LOCATE

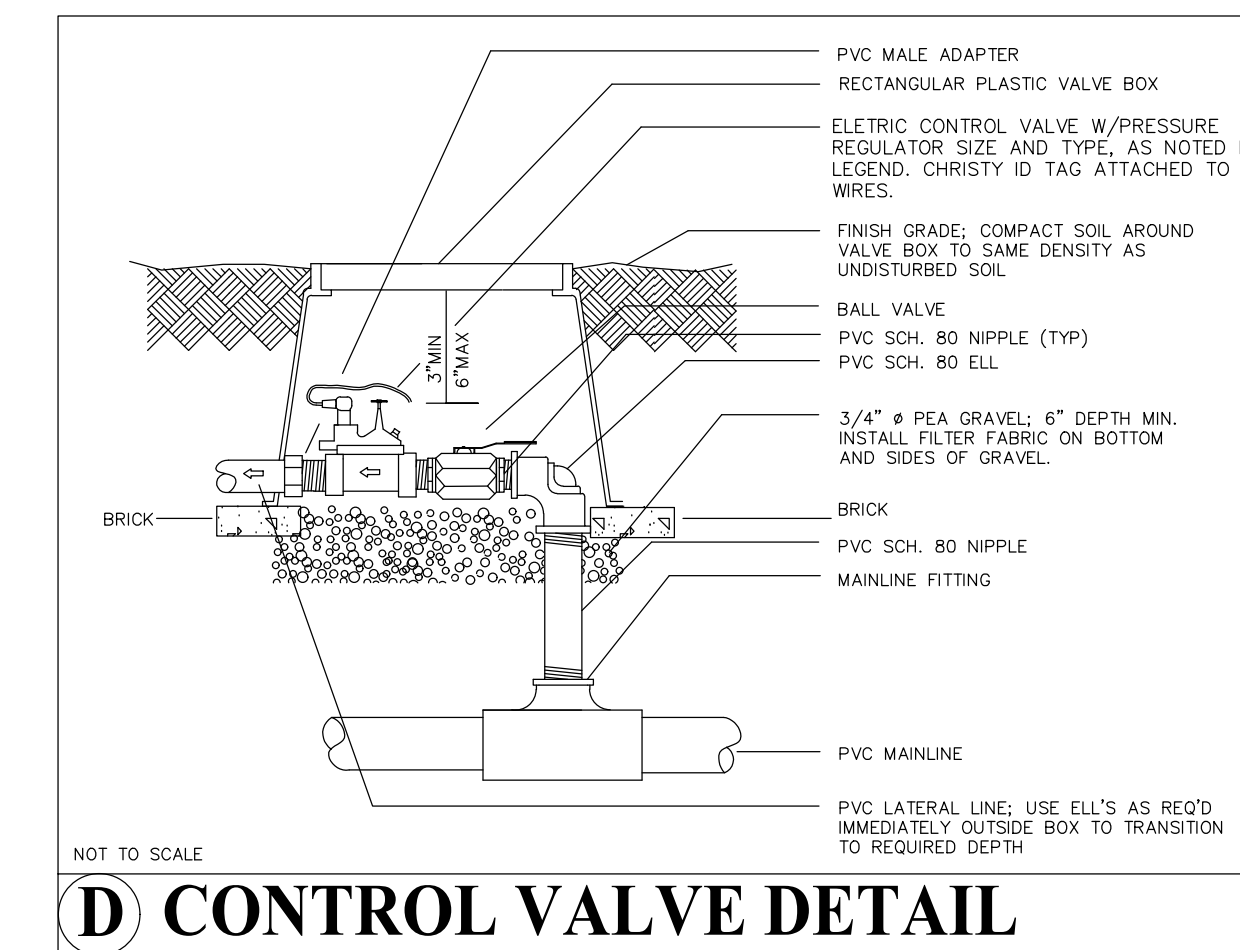
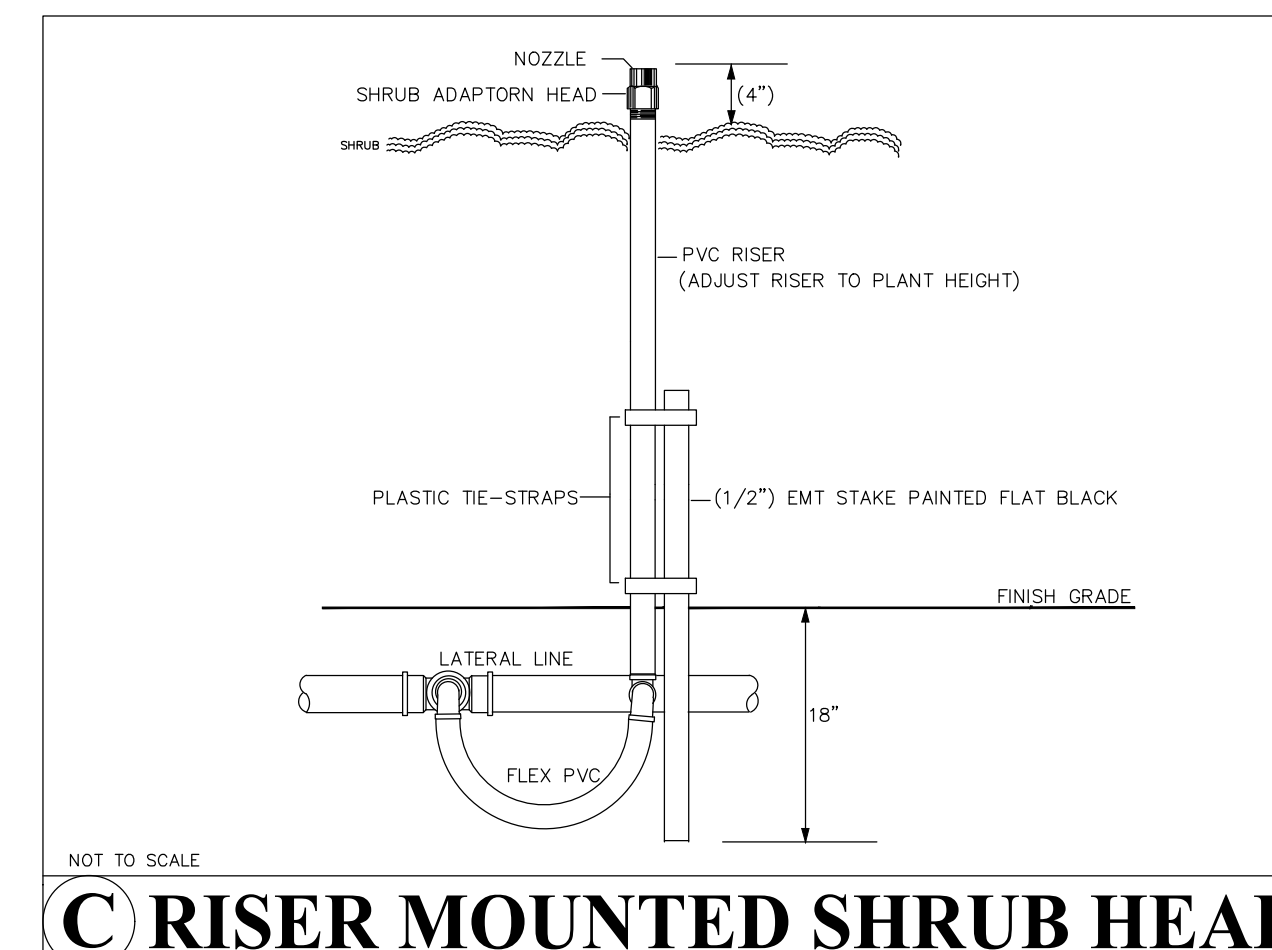
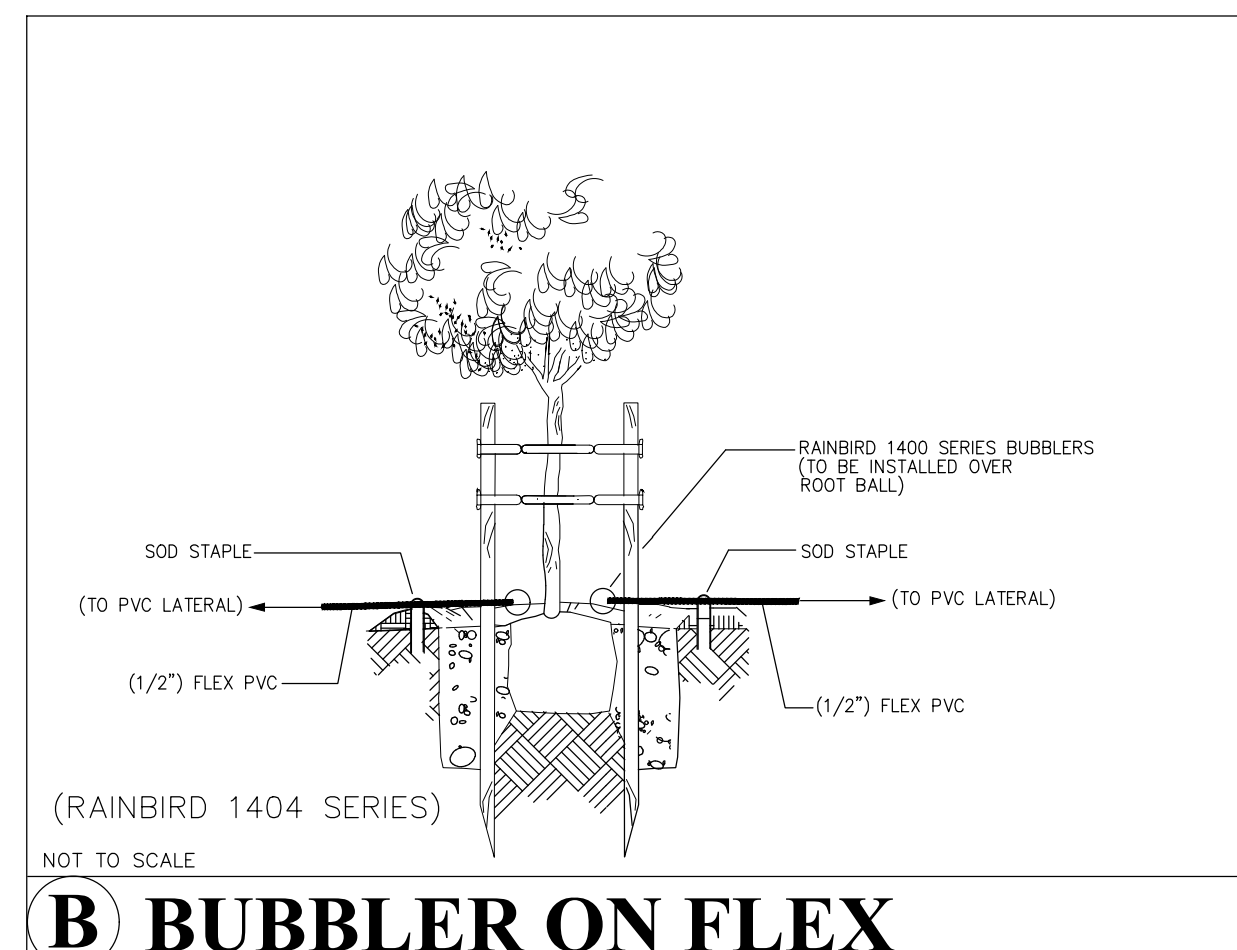
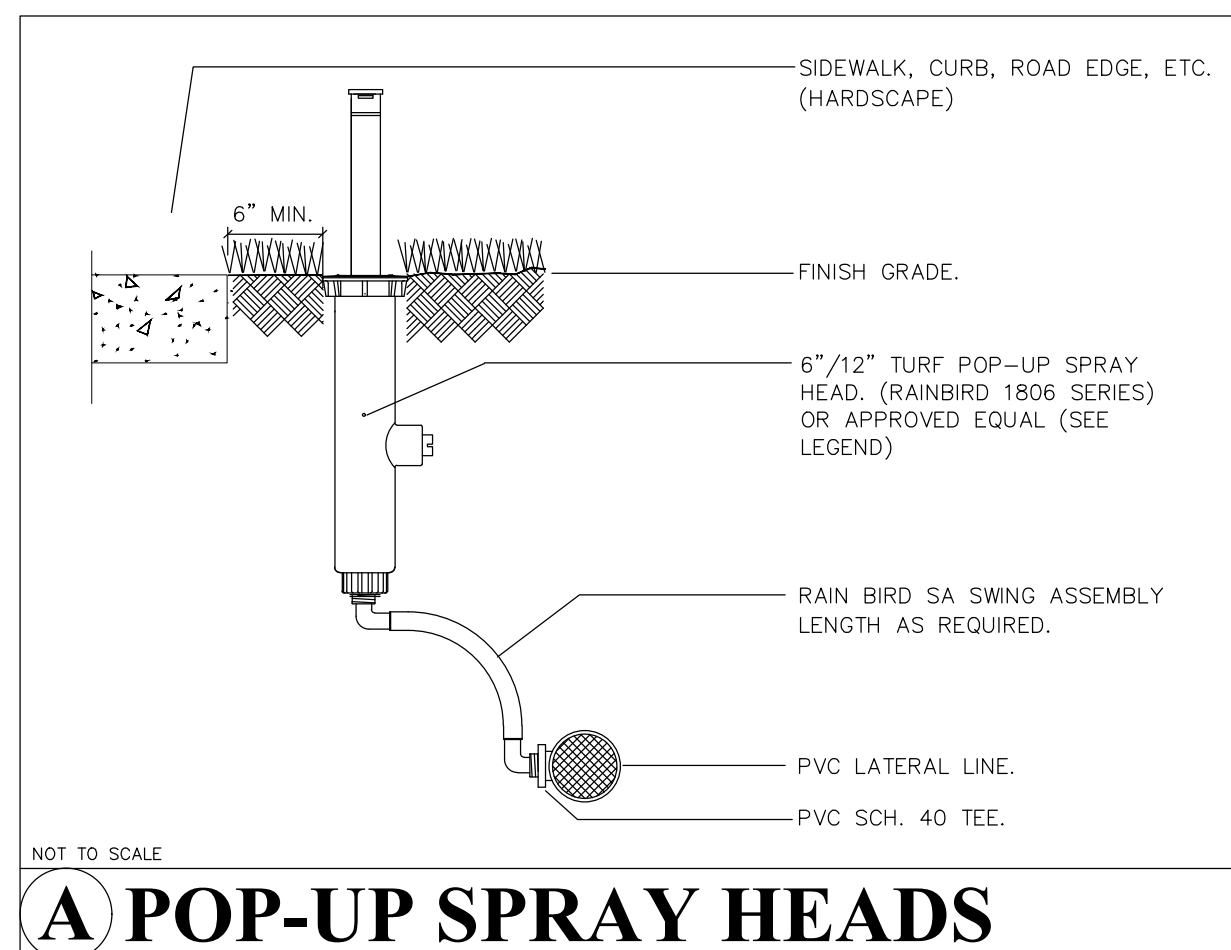
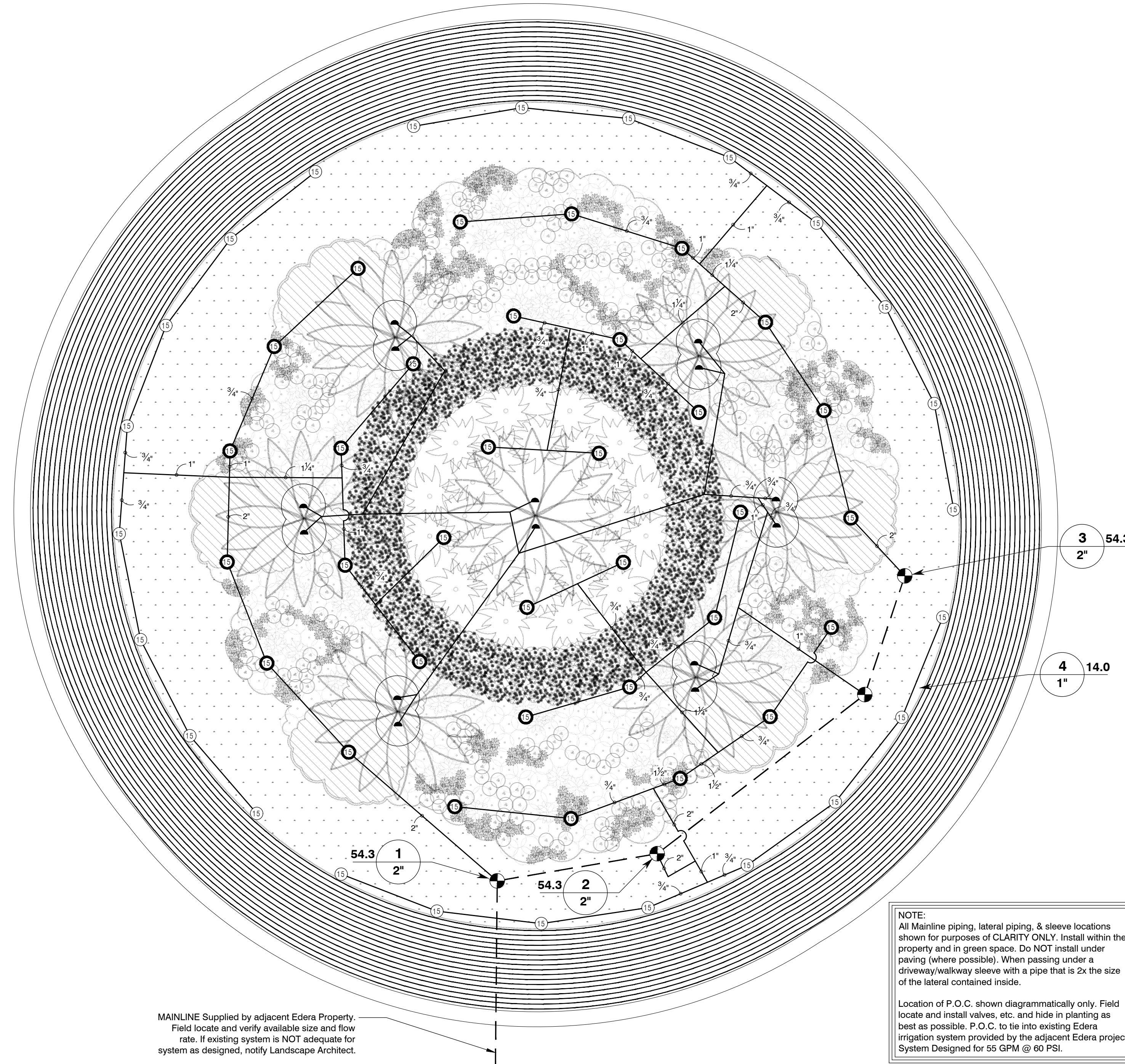


Call: TOLL FREE
1-800-432-4770
OR
811

TWO WORKING DAYS BEFORE YOU DIG

NOTE:
All Mainline piping, lateral piping, & sleeve locations shown for purposes of CLARITY ONLY. Install within the property and in green space. Do NOT install under paving (where possible). When passing under a driveway/walkway sleeve with a pipe that is 2x the size of the lateral contained inside.
Location of P.O.C. shown diagrammatically only. Field locate and install valves, etc. and hide in planting as best as possible. P.O.C. to tie into existing Edera irrigation system provided by the adjacent Edera project. System Designed for 55 GPM @ 60 PSI.

MAINLINE Supplied by adjacent Edera Property. Field locate and verify available size and flow rate. If existing system is NOT adequate for system as designed, notify Landscape Architect.

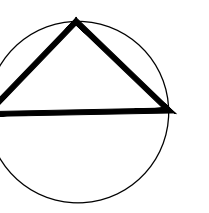


Landscape Architects, Site Planners & Golf Course Designers

PROJECT:
WILLIAMS RD. ROUNDABOUT
Village of Estero, Fla.

DRAWING TITLE:
PROPOSED ROUNDABOUT IRRIGATION PLAN

NORTH



SCALE:
1/10" = 1' - 0"

PROJECT NUMBER

DATE:
07-29-2021

Bruce Howard License # L1400009731

SHEET NUMBER:

LI-1

4872 S.W. 72nd Avenue
Miami, Florida 33155
(305)668-3196
Fax:(305)668-2871