

MEMORANDUM

DATE: July 21, 2021

RE: 1319 William Street and 1316 Royal Street Final Approval

FROM: Karen DeMaria, Urban Forestry Manager, City of Key West ^{KW}

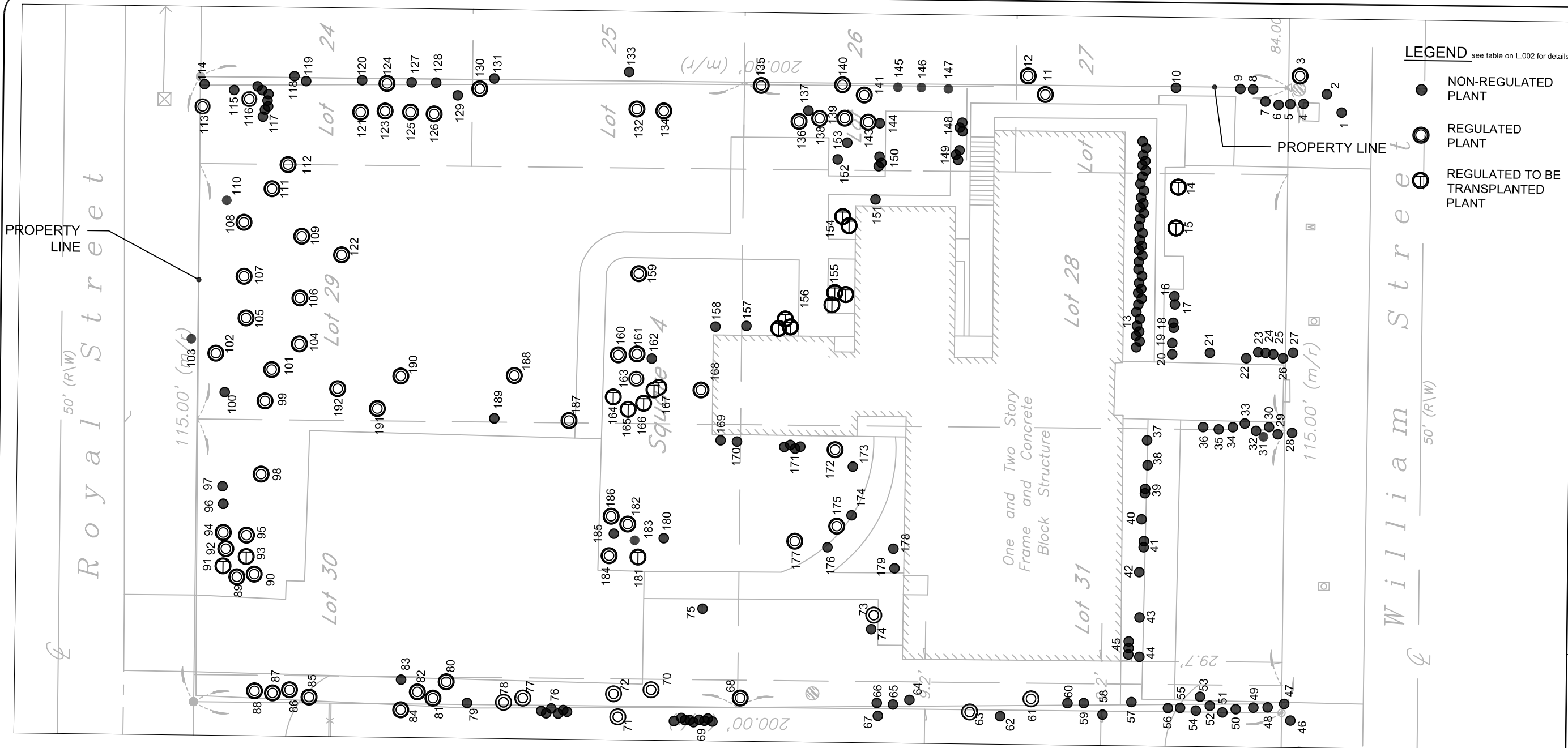
On April 22, 2021, the Planning Board approved the Major Development Plan and Landscape Waiver for 1319 William Street and 1316 Royal Street, PB Resolution 2021-12. The resolution requires under the general conditions, that page C-10 to be reconciled with the final landscape plan and swales relocated so as not to impact existing trees and palms to remain onsite and under conditions prior to the City Commission hearing, signed and sealed landscape and irrigation plans be submitted.

On June 7, 2021 the Tree Commission approved the Final Landscape Plan. At the time, the landscape plans were not signed and sealed. Signed and sealed landscape and irrigation plans were submitted to the Urban Forestry Manger on July 22, 2021.

A revised page C-10 was submitted on July 10, 2021, showing the locations of existing trees and palms to remain in relation to the planned swale locations with a statement that digging for the creation of swales would be field modified. A review of the revised plans indicated numerous swales are in conflict with the tree roots therefore, a handwritten statement was added to the plans stating that prior to the submittal of building permit applications, the swale plan must be redrawn to reflect no impacts to the tree roots.



Karen DeMaria



LEGEND see table on L.002 for details

- NON-REGULATED PLANT
- REGULATED PLANT
- ⊖ REGULATED TO BE TRANSPLANTED PLANT



NO.	DATE	DESCRIPTION	BY	CHK	APV
Δ	02/24/21	Issued for Review			

PROJECT NUMBER

DRAWING NUMBER
L.001

DRAWING NAME
TREE INVENTORY



1



2



3



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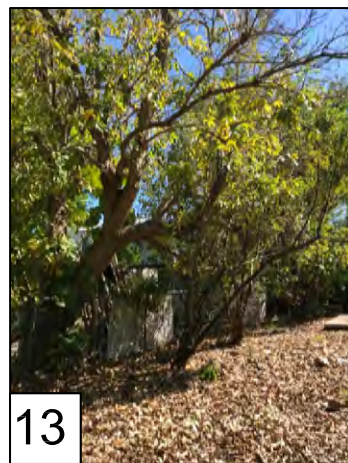
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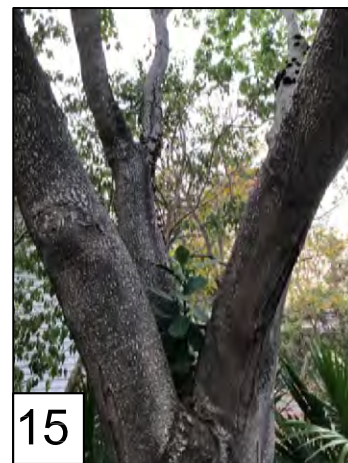
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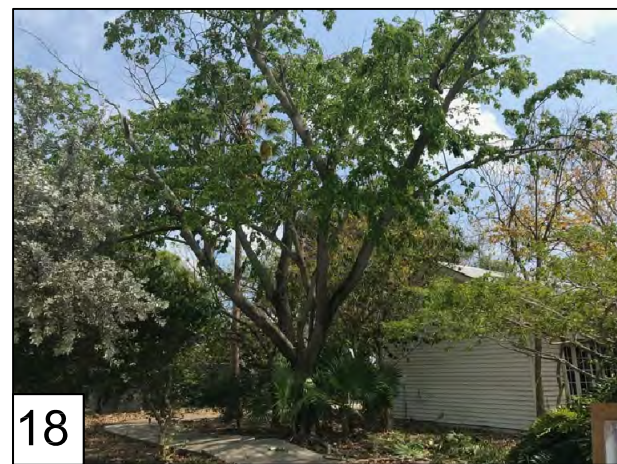
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1316 ROYAL STREET
KEY WEST, FLORIDA



NO.	DATE	DESCRIPTION	BY	CHK	APV

PROJECT NUMBER
DRAWING NUMBER
L.003
DRAWING NAME
TREE PHOTOS

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1316 ROYAL STREET
KEY WEST, FLORIDA



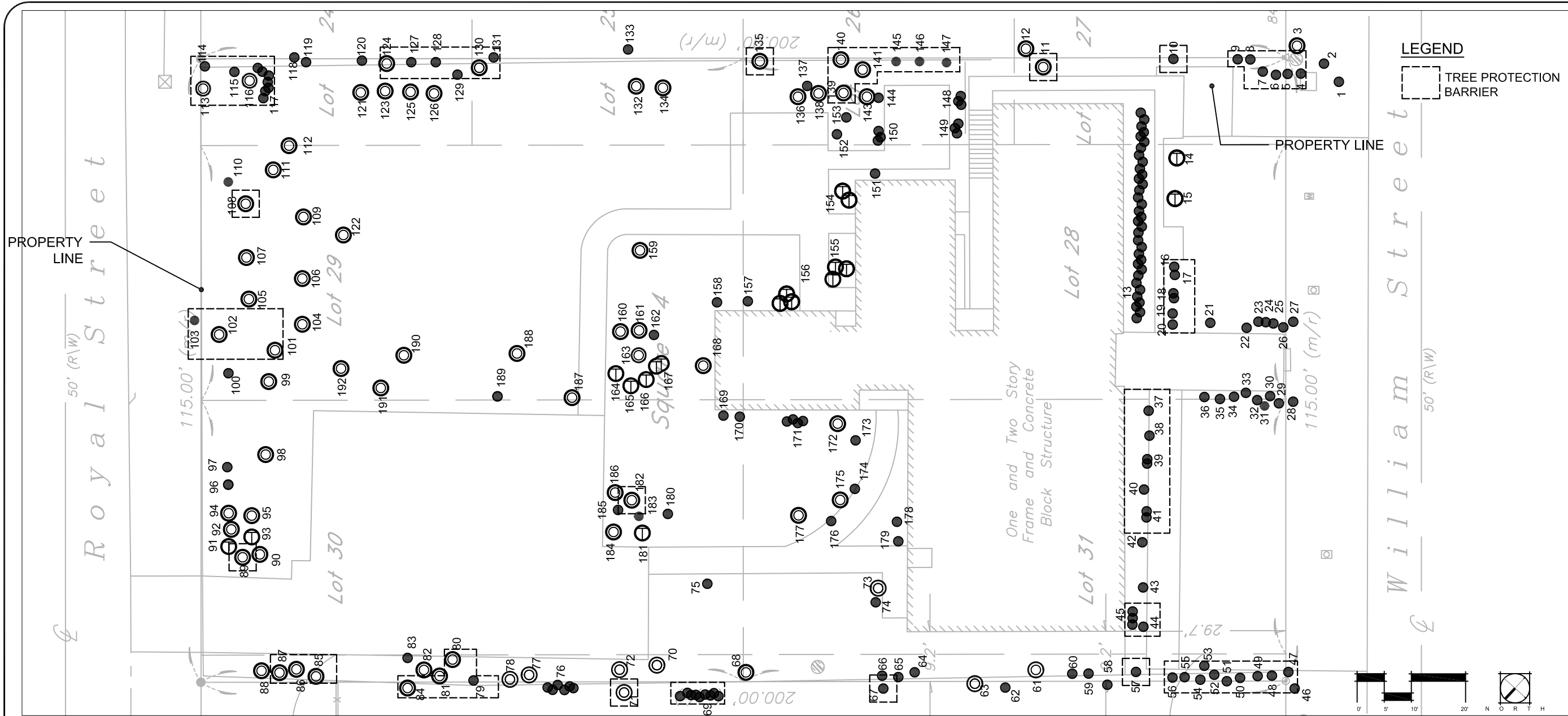
NO.	DATE	DESCRIPTION	BY	CHK	APV

PROJECT NUMBER

DRAWING NUMBER
L.004

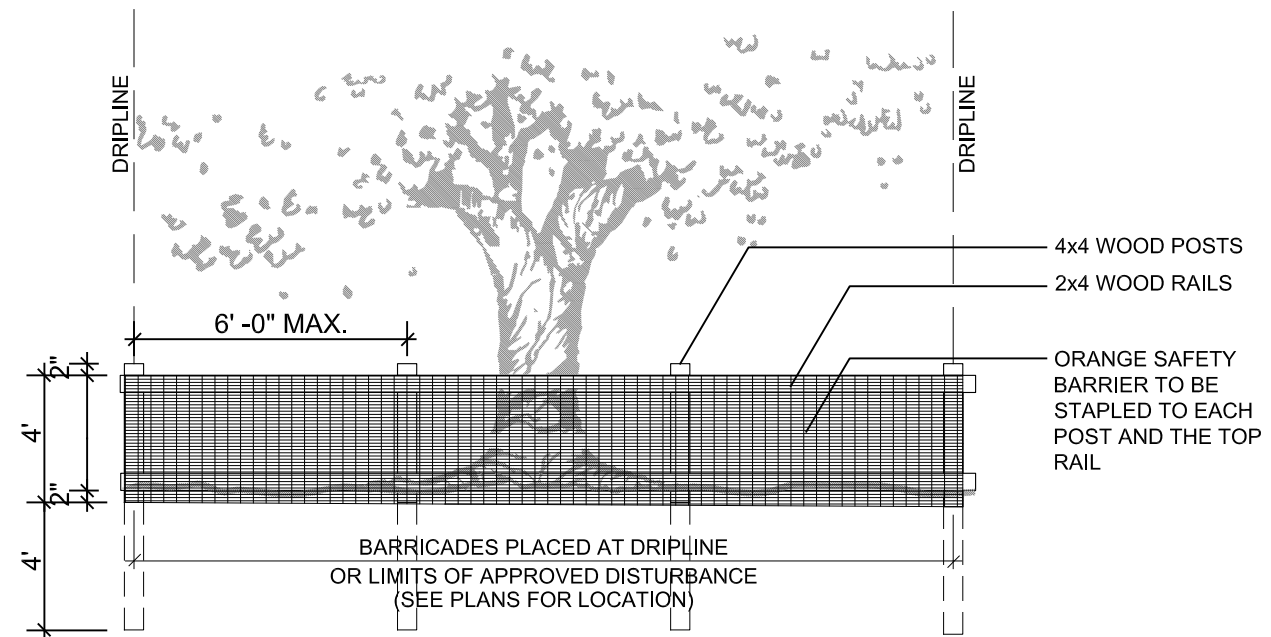
DRAWING NAME
TREE PHOTOS

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TREE PROTECTION AND PRESERVATION NOTES

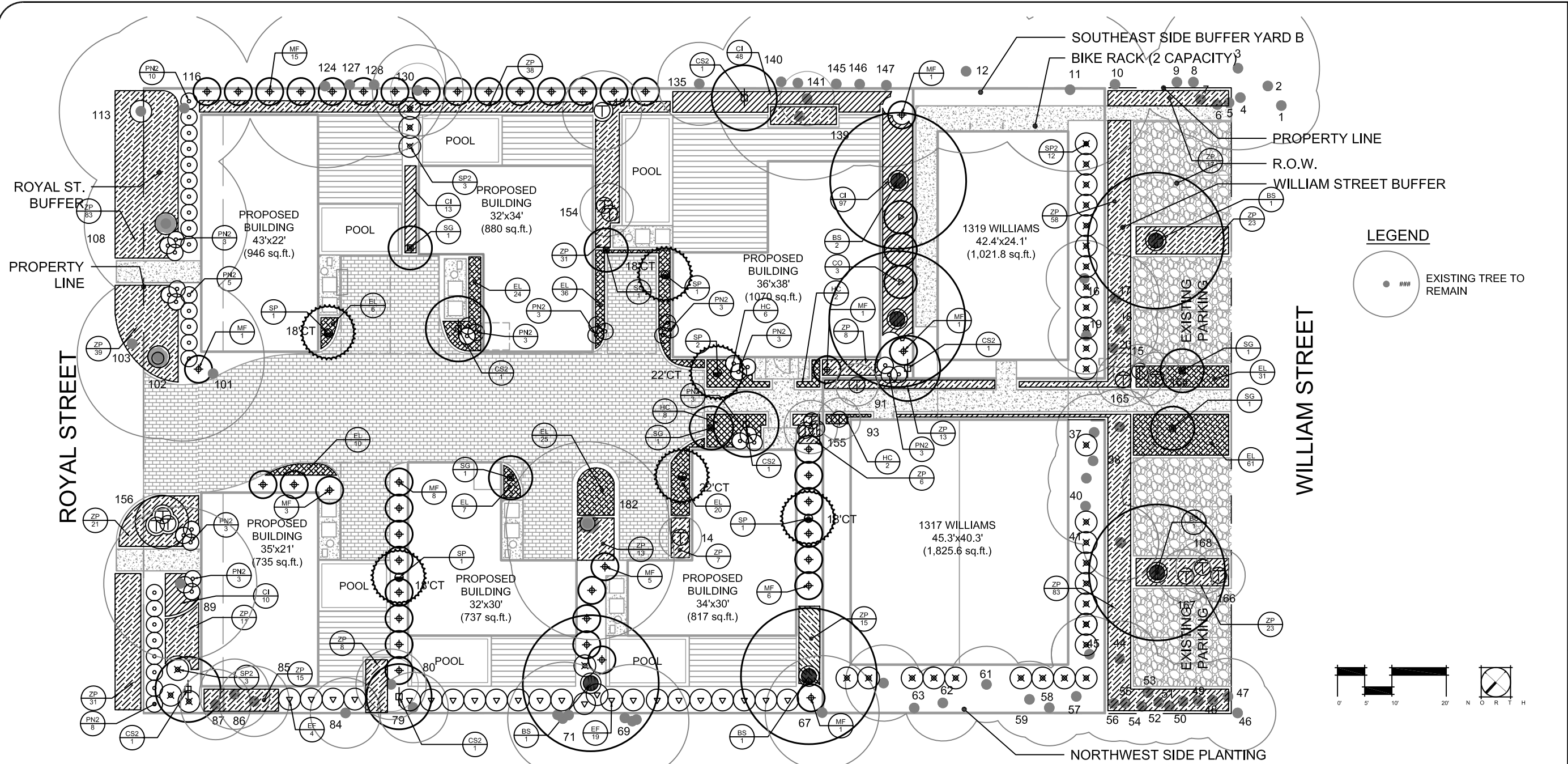
- Protect designated existing trees scheduled to remain against:
 - Unnecessary cutting, breaking, or skinning of roots
 - Skinning and bruising of bark
 - Smothering of trees by stockpiling construction or excavation materials within protection barrier
- Protection barriers (tree barricades) shall be plainly visible and shall create a continuous boundary around trees or vegetation clusters in order to prevent encroachment within the barricade.
- For all trees to be preserved, see Tree Protection and Barricade Elevation detail.
- No grade changes shall be made within the protective barrier zones without prior approval.
- The method of protection is to make certain that 50% of the area under the canopy dripline remains undisturbed (no grade change or root cut) and there shall be no disturbance to the root plate.
- General contractor shall be responsible for the replacement and mitigation costs of trees damaged beyond repair that have been identified as protected and preserved. If trees are harmed through lack of protection or through negligence on the part of the contractor, the contractor shall bear the burden of the cost of repair or replacement.
- Root pruning shall be done by or under supervision of an ISA certified arborist, and meet or exceed ANSI A300 or approved tree care industry standards. A certified arborist must be onsite during the entirety of root pruning.
- No root pruning shall be done within a distance of 3x the diameter the tree unless authorized by the arborist.
- No more than 30% of the trees roots may be pruned.
- A pruning trench shall be cleared in a way that exposes the roots while leaving them intact. Use hand tools or an air knife. Limits of trench to be determined by the arborist.
- All roots outside of the protective barricade to be removed during the development shall be severed clean using a sharp tool to provide a clean cut. Roots shall be left with clean smooth ends and no ragged edges and a two-inch layer of mulch shall be applied over the surface of exposed roots during development within one hour of damage or exposure.
- After pruning, tree roots shall be covered and kept moist. Fill pruning trench with topsoil and water daily for a period determined by the arborist.



1316 ROYAL STREET
KEY WEST, FLORIDA

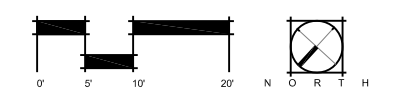
NO.	DATE	DESCRIPTION	BY	CHK	APV
1	02.24.21	Issued for Review	IM	KO	KO

PROJECT NUMBER: _____
DRAWING NUMBER: **L.005**
DRAWING NAME: **TREE PROTECTION PLAN**



LEGEND

●### EXISTING TREE TO REMAIN



TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	SIZE	GAL.
	BS	6	Bursera simaruba	Gumbo Limbo	65 GAL.	14'-16' HT.	4" CAL.
	CO	3	Chrysophyllum olmiforme	Satinleaf	25 GAL.	10' HT X 5' SPRD	2" CAL.
	CS2	6	Cordia sebestena	Orange Gelger Tree	30 GAL.	8'-10' HT. X 4'-5' SPRD.	2.5" CAL.
	MF	42	Myrcianthes fragans	Simpsons Stopper	25 GAL.	6' HT	2.5" CAL.
	SP	6	Sabal palmetto	Cabbage Palmetto	FG.	--	SEE PLAN FOR CT HT.
	SG	6	Simarouba glauca	Paradise Tree	25 GAL.	10'-12' STD	2" CAL.
###	--	13	Varies: Reference Number refers to Tree Inventory on Sheet L.002	Varies: Reference Number refers to Tree Inventory on Sheet L.002	EXISTING	EXISTING	EXISTING

SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	SIZE	
	EF	23	Eugenia foetida	Spanish Stopper	15 GAL.	6' HT. MIN., FULL	
	PN2	53	Psychotria nervosa	Wild Coffee	3 GAL.	18"-24" OA	
	SP2	37	Sparthra patens	Salt Meadow Cord Grass	3 GAL.	24"-30" OA	
SHRUB AREAS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	SIZE	SPACING
	CI	153	Chrysobalanus icaco	Coco Plum	7 GAL.	20"24" OA.	20" o.c.
	HC	18	Hamelia patens 'Compacta'	Dwarf Firebush	3 GAL.	18"-24" OA.	30" o.c.
	ZP	560	Zamia pumila	Coontle	3 GAL.	18"-24" OA.	24" o.c.
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	SIZE	SPACING
	EL	220	Ernodea littoralis	Golden Creeper	3 GAL.	FULL	18" o.c.

NOTES:

- TOTAL LANDSCAPE AREA SHALL BE A MINIMUM OF 20% THE TOTAL SITE AREA.
- *ALL SIMPSONS STOPPER (MYRCIANTHES FRAGANS) SHALL NOT BE HEDGED AND MUST BE MAINTAINED AT 5' HT MIN.
- ALL (100%) LANDSCAPE MATERIALS USE TO BE NATIVE
- PALM TREES USED IS 25% OF ALL TREES PROPOSED.
- TEMPORARY IRRIGATION TO BE PROVIDED DURING PLANT ESTABLISHMENT.
- NO ROOTS ARE TO BE CUT DURING THE INSTALLATION OF IRRIGATION.

Landscape Data							
Requirement	Proposed	Comment	Requirement	Proposed	Comment	Requirement	Proposed
Royal Street Buffer	20-ft Linear Landscape Buffer 90 plant units per 100 ft 1 canopy tree per 35 ft 10 shrubs per 35 ft	Length = 115 ft Width = 10 ft 92 units 95 units 3.3 trees 32.9 shrubs	Request Waiver	Complies		Request Waiver	Complies
Williams Street Buffer	20-ft Linear Landscape Buffer 80 plant units per 100 ft 1 canopy tree per 35 ft 10 shrubs per 35 ft	Length = 115 ft Width = 12 ft 128 units 128 units 3.3 trees 32.9 shrubs	Request Waiver	Complies		Request Waiver	Complies
SE-Side Buffer	Buffer yard (B) (BF & Multi-Fam) 2.5'-5' = 45 plant units per 100 ft	Length = 160 ft Width = 5 ft 131 units	Request Waiver	Complies		Request Waiver	Complies
NW-Side	No required landscape screening buffer Proposed: Single-family, detached Adjoining Use: Single-family, detached	Length = 160 ft Width = 2.5 ft 114 units 6 trees	Request Waiver	Complies		Request Waiver	Complies
Interior Landscape (excluding the required street frontage landscape strips, the interior parking lot landscape strips, and the perimeter landscape strips)	4 trees per 2000 sq. ft. NOS	38.5 trees 36 trees	Request Waiver	Complies		Request Waiver	Complies



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PROJECT NUMBER

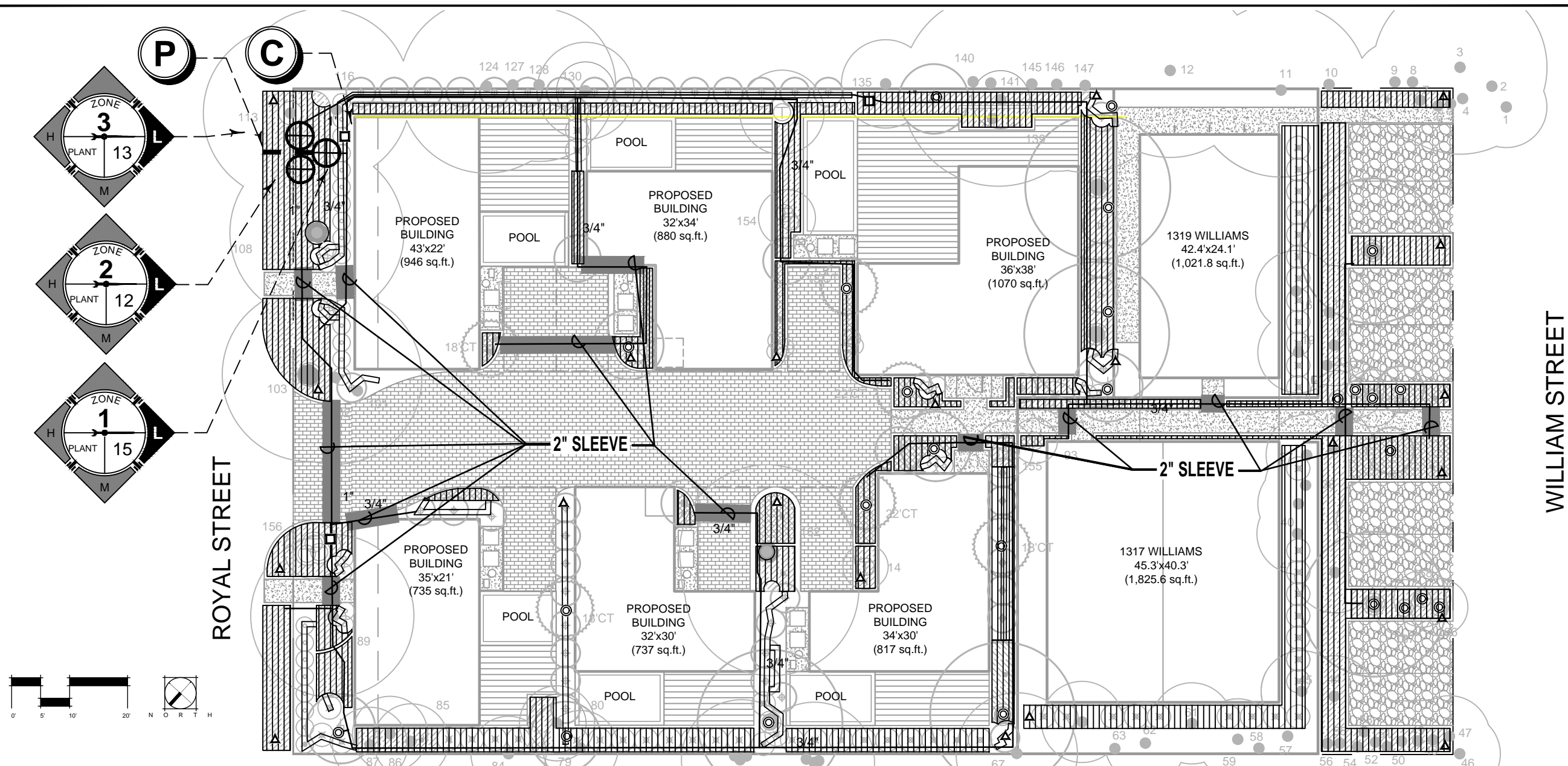
DRAWING NUMBER

L.300

DRAWING NAME

LANDSCAPE PLAN

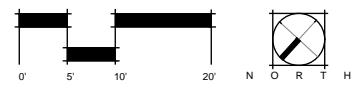
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ROYAL STREET

WILLIAM STREET

1316 ROYAL STREET
KEY WEST, FLORIDA



LEGEND

	NETAFIM DRIP BUBBLER TREE RING- REFER TO DRIP BUBBLER DETAIL
	NETAFIM FLAG INDICATOR- REFER TO THE DETAIL
	NETAFIM FLUSH VALVE
	NETAFIM TECHLINE CV 17MM DRIP TUBING- 1 GPH EMITTERS EVERY 12". PLACE ROWS 12" APART IN ALL GROUND COVER BEDS. INSTALL A DOUBLE ROW ON ALL HEDGE ROWS. REFER TO ALL NOTES AND DETAILS ON THIS SHEET.
	CLASS 200 PVC MAINLINE-1 1/4"
	CLASS 200 PVC LATERAL LINE- SIZE AS SHOWN UNTIL A SMALLER SIZE IS SHOWN. MINIMUM SIZE OF 3/4"

	SCH. 40 SLEEVE (MINIMUM OF 24" DEPTH AND 2 SIZES LARGER THAN THE PIPE SIZE OR AS LABELED ON THE PLAN)
	HUNTER ZONE CONTROL KIT- REFER TO THE DETAIL.
	CONTROLLER- HUNTER ICC-2. WHERE SHOWN ON THE PLAN. INSTALL WITH A HUNTER MINI-CLK RAIN SENSOR. GROUND WITH A MINIMUM 8' COPPER CLAD ROD. SLEEVE TO AS REQUIRED.
	POINT OF CONNECTION TO A 3/4" POTABLE IRRIGATION METER AND 1" BACKFLOW PREVENTER. REFER TO THE UTILITY PLAN FOR THE EXACT LOCATION AND DETAILS.



NO.	DATE	DESCRIPTION	BY	CHK	APV

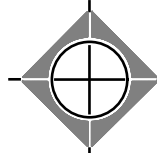
PROJECT NUMBER	
DRAWING NUMBER	L.400
DRAWING NAME	IRRIGATION PLAN

ZONE CHART

ZONE	PLANT (TYPE)	IRRIGATION (TYPE)	WATER (DEMAND)	PRECIP. (RATE)	APPLIC. (IN. PER WEEK REQ.)	GPM (GPM)	MINUTES (PER CYCLE)	TOTAL (GALLONS)
1	PLANT	DRIP	LOW	1.5	0.5	15	10	150
2	PLANT	DRIP	LOW	1.5	0.5	12	10	120
3	PLANT	DRIP	LOW	1.5	0.5	13	10	130
						40	30	400

TOTAL GPM PER RUN CYCLE **800**
 TOTAL GPM PER WEEK
 (PEAK WEEKLY DEMAND)

THE RUN TIMES SHOWN FOR THE ZONE IS FOR ONE RUN CYCLE AND WILL PROVIDE HALF THE REQUIRED AMOUNT OF WATER NEEDED PER WEEK. TWO RUN CYCLES PER WEEK ARE REQUIRED TO PROVIDE THE TOTAL WEEKLY REQUIREMENT. ALL RUN TIMES SHALL BE SET TO FOLLOW THE CURRENT WATER MANAGEMENT DISTRICT REGULATIONS AND REDUCED TO ONLY ONE RUN TIME PER WEEK WHEN RESTRICTED BY DAYLIGHT SAVINGS TIME OR WATER RESTRICTIONS. THE ZONE CHART IS PROVIDED AS A GENERAL OUTLINE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE TO SET THE RUN TIMES BASED ON THE SPECIFIC SITE CONDITIONS AND PLANT REQUIREMENTS. THIS SHALL INCLUDE, BUT NOT LIMITED TO, SOIL TYPE, DRAINAGE, SLOPES, SUN EXPOSURE AND THE ESTABLISHMENT PERIOD. THE TOTAL GPM REQUIRED PER YEAR WILL BE LESS THAN THE PEAK DEMAND PER WEEK TIMES 52 WEEKS, BASED ON THE RUN TIMES BEING REDUCED BY SENSORS AND A REDUCED WATER DEMAND IN THE WINTER MONTHS.



GENERAL NOTES

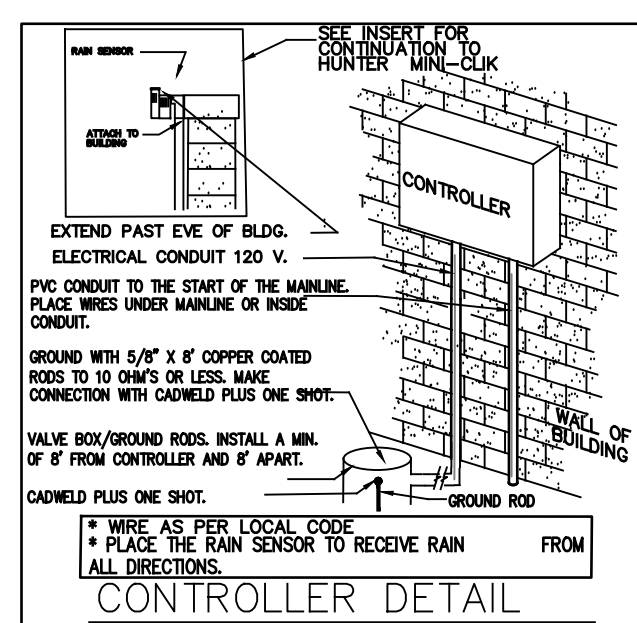
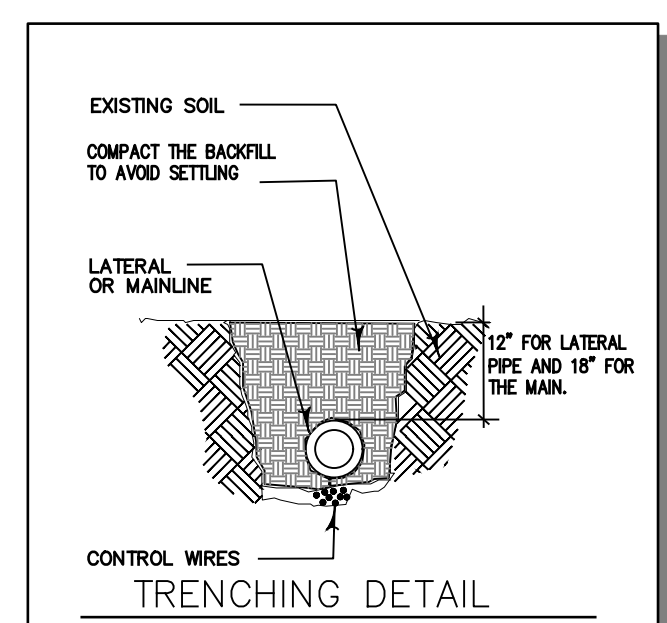
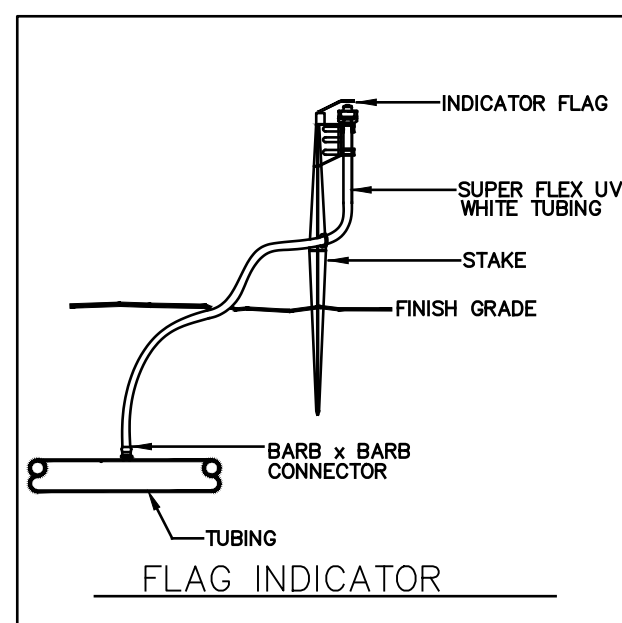
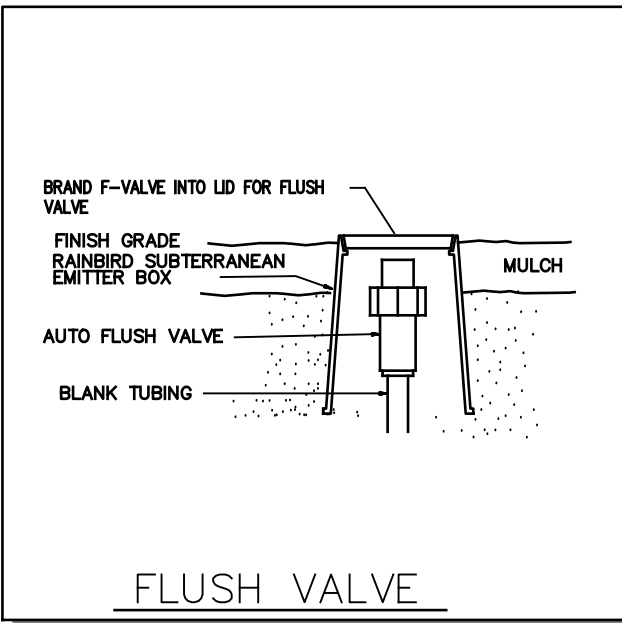
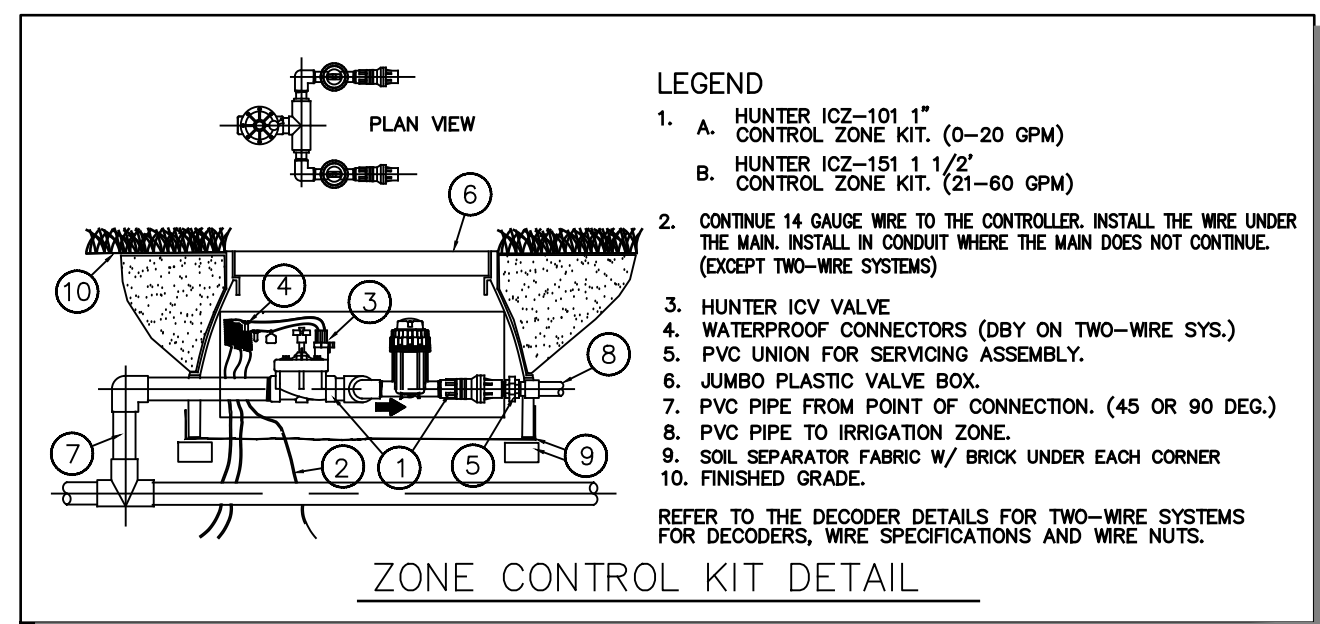
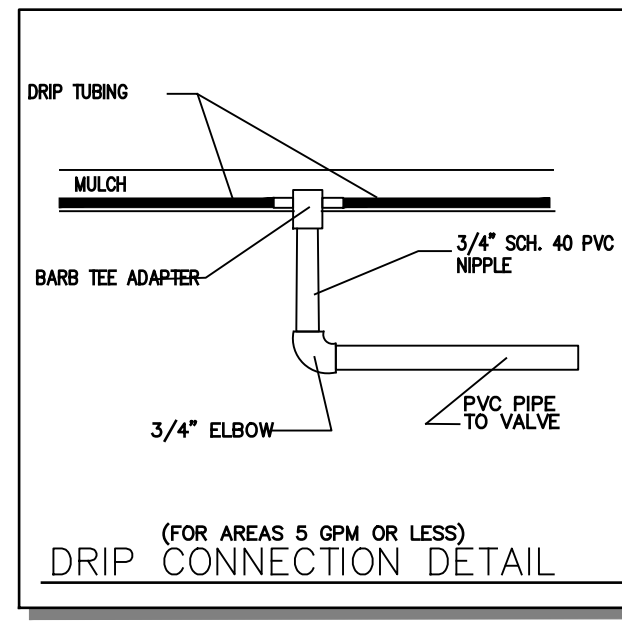
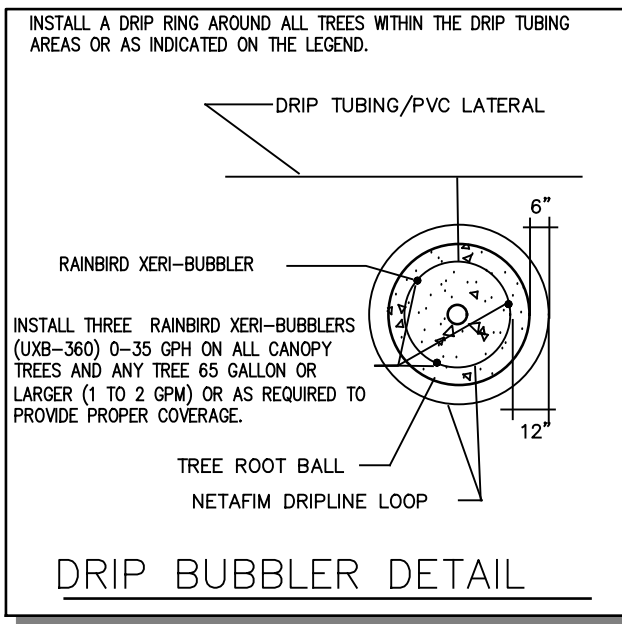
- 1) INSTALL ALL DRIP TUBING AT GROUND LEVEL AFTER PLANT INSTALLATION. INSTALL NETAFIM TLS6 U SHAPED WIRE STABILIZERS A MIN. OF 4' O.C. TO HOLD THE LINES IN PLACE.
- 2) KEEP ALL DRIP LINE CLEAN AT ALL TIMES BEFORE THE FINAL CONNECTION. ALL TUBE ENDS SHALL BE INTERCONNECTED TO ALL OTHER DRIP TUBES. DO NOT DEAD END TUBING. SINGLE ROWS SHALL HAVE A END CAP AND NOT BENT OVER OR TAPED.
- 3) AVOID SHARP BENDS IN THE TUBING. DO NOT BEND THE TUBING WITH LESS THEN A 12" RADIUS. THERE SHALL NOT BE ANY KINKS IN THE TUBING.
- 4) ALL DRIP TUBING SHALL HAVE UNIFORM SPACING AND BURIAL DEPTH. THE PLAN DOES NOT ALWAYS REFLECT THE EXACT SPACING OR LAYOUT OF THE TUBING. LAYOUT THE TUBING DOWN THE LONGEST WIDTH WHEN POSSIBLE. ADAPT THE TUBING TO CURVED BEDS OR PLANTERS AS REQUIRED. ADJUST AND ADAPT THE TUBING FOR ALL TREES. REFER TO THE TREE DRIP RING DETAIL.
- 5) INSTALL DRIP TUBING TO ALL AREAS THAT SHALL RECEIVE PLANT MATERIAL. SEE THE LANDSCAPE PLAN FOR THE EXACT LOCATIONS. THERE SHALL BE A MINIMUM OF TWO ROWS OF TUBING ON A SINGLE ROW OF PLANTS.
- 6) SPACE TUBING AS NOTED ON THE PLAN. DO NOT SNAKE TUBING BACK AND FORTH EXCEPT WHERE SHOWN ON THE PLAN. ALWAYS INSTALL A HEADER PIPE UNLESS THE TOTAL GALLONAGE OF AN AREA IS 3 GPM OR LESS.
- 7) REFER TO THE MANUFACTURERS DRIP INSTALLATION MANUAL FOR INSTALLATION INSTRUCTIONS. ALL FITTINGS SHALL BE THE SAME TYPE AND MANUFACTURER AS THE DRIP TUBING.
- 8) ALWAYS FLUSH ALL LINES BEFORE FINAL CONNECTION.
- 9) INSTALL A "SYSTEM ON" INDICATOR FLAG ON EVERY ZONE WHERE IT IS SEEN FROM THE CONTROL VALVE.
- 10) ALL MAINLINE PIPING SHALL BE BURIED TO A MINIMUM DEPTH OF 18" OF COVER. ALL LATERAL PIPING SHALL BE BURIED TO A MINIMUM DEPTH OF 12" OF COVER.
- 11) ALL CONTROL WIRES SPLICES SHALL BE MADE IN VALVE BOXES USING 3M DBR-Y CONNECTORS AND SEALANT AND ALL WIRE SHALL BE 14 GAUGE, EXCEPT AS DETAILED FOR TWO-WIRE SYSTEMS.
- 12) ANY PIPING SHOWN OUTSIDE THE PROPERTY LINE OR RUNNING OUTSIDE A LANDSCAPE AREA IS SHOWN THERE FOR CLARITY ONLY. ALL LINES SHALL BE INSTALLED ON THE PROPERTY AND INSIDE THE LANDSCAPE AREAS OR INSIDE A SCH. 40 SLEEVE.
- 13) THE CONTRACTOR SHALL EXERCISE CARE SO AS NOT TO DAMAGE ANY EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REPAIRS AND COST OF ANY DAMAGE CAUSED BY THEIR WORK.
- 14) INSTALL FLUSH VALVES WHERE SHOWN AT THE ENDS OF EACH RUN OF DRIP TUBING AND ONE FOR EVERY 15 GPM OF TUBING.
- 15) CLEARLY AND NEATLY MARK THE TOP OF EACH VALVE BOX WITH THE TYPE OF EQUIPMENT THAT IT CONTAINS. (I.E. VALVE, FLUSH VALVE, ETC.)
- 16) THE DRIP ZONE VALVE ASSEMBLY SHALL BE PLACED INSIDE AN ARMOR JUMBO VALVE BOX. THE VALVE SHALL BE INSTALLED AS PER THE DETAIL ON THE PLANS.
- 17) THE DRIP TUBING SHALL HAVE EMITTERS EVERY 12" AND SHALL BE SPACED 12" APART IN GROUND COVER BEDS AND A MINIMUM OF TWO RUNS FOR EACH ROW OF SHRUBS WHEN THE SHRUBS ARE SPACED FARTHER THAN 2' ON CENTER.
- 18) REFER TO THE ZONE CONTROL KIT DETAIL FOR FILTER SIZES.
- 19) THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THEIR WORK WITH THE LANDSCAPE CONTRACTOR.
- 20) REFER TO THE LANDSCAPE PLANS WHEN TRENCHING TO AVOID TREES AND SHRUBS. HAND DIG AROUND ANY EXISTING TREES. DO NOT CUT ANY ROOTS OVER 2" IN DIAMETER.
- 21) THE CONTRACTOR SHALL PREPARE AN AS-BUILT DRAWING SHOWING ALL IRRIGATION INSTALLATION. THE CONTRACTOR SHALL NEATLY MARK IN RED INK ON WHITE BOND PAPER ANY INSTALLATION THAT DEVIATES FROM THE PLAN. THE AS-BUILT DRAWING SHALL ALSO LOCATE ALL MAINLINE AND VALVES BY SHOWING EXACT MEASUREMENTS FROM HARD SURFACES. MEASUREMENTS SHALL BE MARKED ON THE PLAN EVEN WHEN THE EQUIPMENT IS INSTALLED IN THE EXACT LOCATION AS THE PLAN.
- 22) ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE AGAINST ALL DEFECTS IN EQUIPMENT AND WORKMANSHIP. (OR AS OUTLINED IN THE WRITTEN SPECIFICATIONS)
- 24) 48 HOURS BEFORE DIGGING, CALL 1-800-432-4770 (SUNSHINE STATE ONE CALL CENTER)

1316 ROYAL STREET
KEY WEST, FLORIDA



NO.	DATE	DESCRIPTION	BY	CHK	APV

PROJECT NUMBER
 DRAWING NUMBER
L.401
 DRAWING NAME
 IRRIGATION DETAILS



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1316 ROYAL STREET
KEY WEST, FLORIDA



NO.	DATE	DESCRIPTION	BY	CHK	APV
1	02.01.21	Issued for Review			

PROJECT NUMBER

DRAWING NUMBER
L.402

DRAWING NAME
IRRIGATION DETAILS

Water Quantity - Predevelopment

Project Area	0.53 ac
PerVIOUS Area	0.25 ac
ImperVIOUS Area	0.28 ac
% ImperVIOUS	52.12%
Rainfall for 25yr / 72hr event (P)	12.00 in
Depth to Water Table	2.85 ft
Undeveloped Available Storage	1.88 in
Soil Storage (S)	0.90 in
$Q_{pre} = (P - 0.2S)^2 / (P + 0.8S) [25yr / 72hr]$	10.98 in

Water Quantity - Postdevelopment

Project Area	0.53 ac
PerVIOUS Area	0.21 ac
ImperVIOUS Area	0.32 ac
% ImperVIOUS	60.00%
Rainfall for 25yr / 72hr event (P)	12.00 in
Depth to Water Table	2.85 ft
Developed Available Storage	1.88 in
Soil Storage (S)	0.75 in
$Q_{post} = (P - 0.2S)^2 / (P + 0.8S) [25yr / 72hr]$	11.14 in

Postdevelopment - Predevelopment

$Q_{post} - Q_{pre} [25yr / 72hr]$	0.16 in
Volume = $QA [25yr / 72hr]$	0.08 ac-in 0.007 ac-ft

Water Quality

Project Area	0.53 ac
Total Roof Area	0.18 ac
Adjusted Project Area	0.35 ac
ImperVIOUS Area	0.14 ac
% ImperVIOUS	39.32%

A) One inch of runoff from drainage basin 0.044 ac-ft
 B) 2.5 inches * % ImperVIOUS * Tot. Proj. Area 0.043 ac-ft

Water Quantity Vs. Water Quality

Quantity	Quality
0.007 ac-ft	< 0.04401 ac-ft

Swale Volume Required

Water Quality / Quantity * 50%	958.61 cu.ft 0.02201 ac-ft
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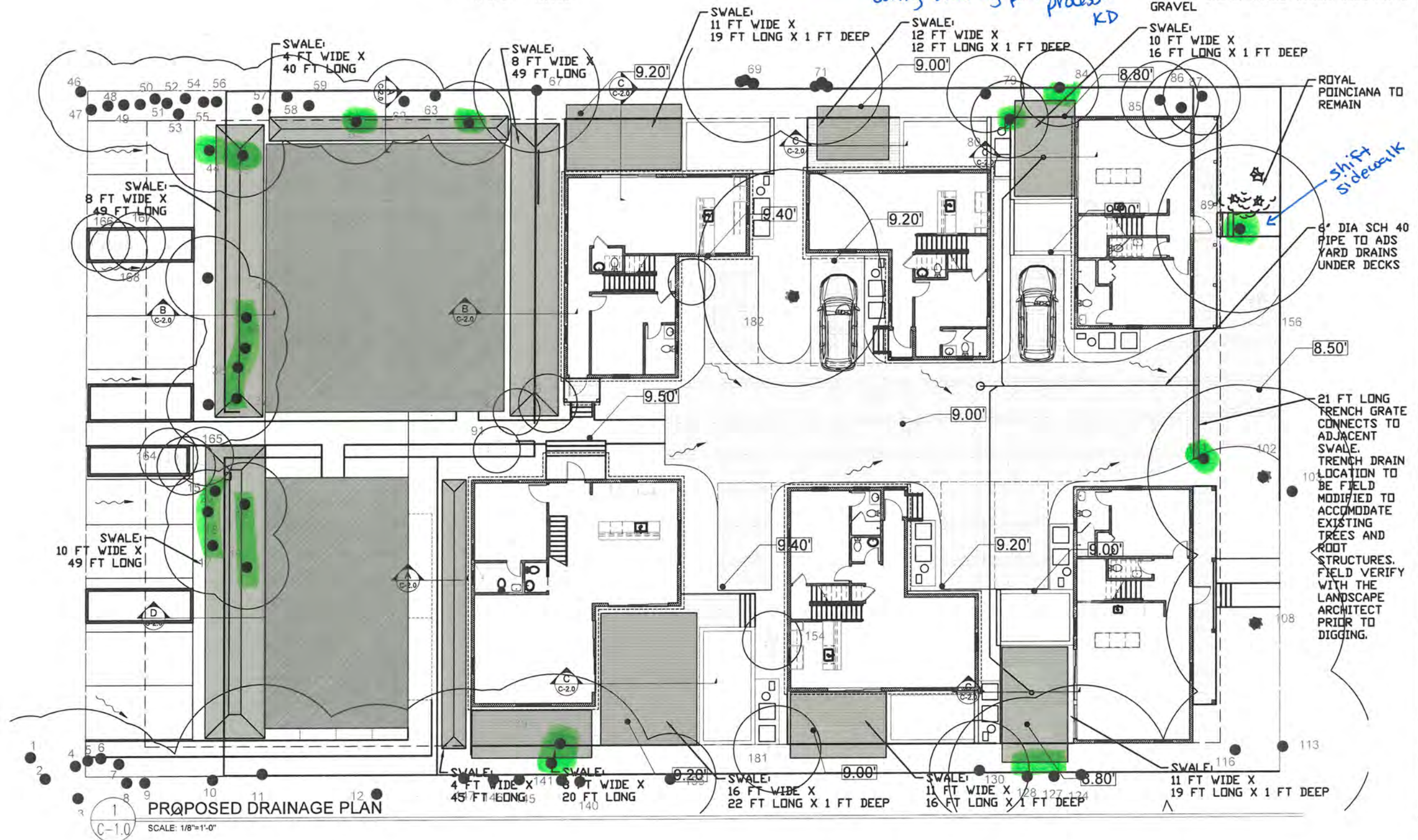
NOTE: 50% CREDIT FOR DRY RETENTION

SWALES	428 CF
SEEPAGE TRENCHS	634 CF
TOTAL =	1062.00

ALL DRAINAGE SWALES TO BE FIELD MODIFIED TO ACCOMMODATE EXISTING TREES AND ROOT STRUCTURES. FIELD VERIFY WITH THE LANDSCAPE ARCHITECT PRIOR TO DIGGING

Potential tree and swale conflicts. Must be resolved during building permit process. KD

NOTE: 1. ALL SWALES TO BE SODDED EXCEPT SWALES UNDER DECKS WHICH WILL HAVE GRAVEL



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 william shepler & associates
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 Tel: 305-735-3131
 Email: info@wsaarch.com

Seal
 RICHARD J. MILELLI
 LICENSE
 No 58315
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

Signature: Richard J Milelli
 Digitally signed by Richard J Milelli
 Date: 2021.07.12 15:38:22 -04'00'

Submissions / Revisions:
 PLANNING REVISION 5.11.20
 PLANNING REVISION 1: 8.13.20
 PLANNING REVISION 2: 10.15.20
 PLANNING REVISION 3: 11.11.20
 PLANNING REVISION 4: 2.19.21
 H.A.R.C. SUBMISSION: 4.26.21

1316 ROYAL STREET
 KEY WEST, FL
 NEW RESIDENTIAL PROJECT

Drawing Size: 24x36 Project #: 19029
 Title: PROPOSED DRAINAGE PLAN
 Sheet Number: C-1.0
 Date: APRIL 21, 2021
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