# Delray Trails at Villa Delray PUD

# Common Area Landscape Plans Palm Beach County, Florida

NOTE: These Landscape Plans have been prepared to satisfy Palm Beach County zoning requirements and to conceptually reflect landscape requirements for the site. They are not to be utilized for construction drawings until final engineering and architectural plans are available. These drawings are not to be used for Building Permit application until these plans are finalized.

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CATEGORY	REQUIREMENT	NO. REQ'D	PROVIDED
MIN NUMBER OF TREE SPECIES		7	15
PERIMETER VEGETATION			
WEST VIA DELRAY ROW BUFFER 268.86' LF 20.0' ROW BUFFER			
CANOPY TREES: ADDITIONAL PALM OR PINE: MEDIUM SHRUBS: SMALL SHRUBS: GROUNDCOVERS:	1 / 25 L.F. 1 / 30 L.F. 1 / 4 L.F. 1 / 2 L.F. 1 / 1 L.F.	11 9 68 135 269	11 9 69 158 290
EAST VIA DELRAY ROW BUFFER 291.32' LF 20.0' ROW BUFFER			
CANOPY TREES: ADDITIONAL PALM OR PINE: MEDIUM SHRUBS: SMALL SHRUBS: GROUNDCOVERS:	1 / 25 L.F. 1 / 30 L.F. 1 / 4 L.F. 1 / 2 L.F. 1 / 1 L.F.	12 10 73 146 292	12 10 74 171 310
SOUTH VIA FLORA BUFFER 852.58' LF 15.0' R.O.W. BUFFER CANOPY TREES: ADDITIONAL PALM OR PINE: LARGE SHRUBS: SMALL SHRUBS: GROUNDCOVERS:	1 / 25 L.F. 1 / 30 L.F. 1 / 4 L.F. 1 / 2 L.F. 1 / 2 L.F.	35 29 214 467 467	35 29 228 517 589
EAST VIA FLORA BUFFER 1,190.79' LF 15.0' R.O.W. BUFFER CANOPY TREES: ADDITIONAL PALM OR PINE: LARGE SHRUBS: SMALL SHRUBS: GROUNDCOVERS:	1 / 25 L.F. 1 / 30 L.F. 1 / 4 L.F. 1 / 2 L.F. 1 / 2 L.F.	48 40 214 596 596	49 41 298 888 607
3845 VIA FLORA BUFFER (164.68 LF) 20' WIDE CONDITION #3 BUFFER			
CANOPY TREES: ADDITIONAL PALM: MEDIUM SHRUBS: SMALL SHRUBS:	1 / 20 L.F. 1 / 20 L.F. 1 / 4 L.F. 1 / 2 L.F.	9 9 42 42	9 9 42 42
3737 VIA FLORA PLACE BUFFER (75.21 LF) 20' WIDE CONDITION #4 BUFFER			
CANOPY TREES: ADDITIONAL PALM OR PINE: MEDIUM SHRUBS: SMALL SHRUBS:	1 / 20 L.F. 1 / 20 L.F. 1 / 4 L.F. 1 / 2 L.F.	4 4 19 38	4 4 19 85
3767 VIA FLORA PLACE BUFFER (230.86 LF) 20' WIDE CONDITION #5 BUFFER			
CANOPY TREES: ADDITIONAL PALM OR PINE: MEDIUM SHRUBS: SMALL SHRUBS:	1 / 20 L.F. 1 / 20 L.F. 1 / 4 L.F. 1 / 2 L.F.	12 12 58 116	12 12 58 116
W.D.D. CANAL L-31 BUFFER (1,295.44') 0' INCOMPATIBILITY BUFFER			
CANOPY TREES: SMALL SHRUBS: 6' TALL OPAQUE FENCE OR HEDGE	1 / 20 L.F. 1 / 2 L.F. 1 / 4 L.F.	65 648 324	65 648 324
W.D.D. CANAL L-31 BUFFER (1,086.93') 5' INCOMPATIBILITY BUFFER			
CANOPY TREES: ADDITIONAL PALM OR PINE: MEDIUM SHRUBS: SMALL SHRUBS: 6' TALL OPAQUE FENCE OR HEDGE	1 / 20 L.F. 1 / 30 L.F. 1 / 4 L.F. 1 / 2 L.F. 1 / 4 L.F.	54 36 275 541 271	54 36 275 541 271
TOTAL PERIMETER TREES: TOTAL PERIMETER PINES OR PALMS: TOTAL PERIMETER SHRUBS & GROUNDCOVERS:		250 149 5,911	251 150 6,62
INTERIOR VEGETATION			
TOTAL TREES INTERIOR: TOTAL SHRUBS INTERIOR:	1 PER 1,250 SF 3 PER 1,250 SF	599 1,362	619** 1,630
MAXIMUM PALMS ALLOWED (25% OF REQ. TREES):		149	139
·			

### (1) SPECIMEN PALM = 1 CANOPY TREE (PER ART 7.F.A.2.a)

SLASH PINE TREES IN CLUSTERS OF (3) = 1 CANOPY TREE (PER ART 7.D.2.C & ART 7.F.2.A.3)

\*\* PALM TREES IN CLUSTERS OF (3) = 1 CANOPY TREE (PER ART 7.D.2.B & ART 7.F.2.A.2)

NOTE: 20% OF THE REQUIRED TREES ARE PALMS. 94% OF THE REQUIRED TREES AND PALMS ARE NATIVE. 68.5% OF THE REQUIRED SHRUBS & GROUNDCOVER ARE NATIVE.

## **CONSULTANT TEAM**

LAND PLANNER/SITE PLANNER JRBAN DESIGN STUDIOS 610 CLEMATIS STREET. SUITE CU02

### 1920 WEKIVA WAY, SUITE 200 WEST PALM BEACH, FL 33411

(561) 845-0665

**CAULFIELD & WHEELER, INC.** 7900 GLADES ROAD - SUITE 100 BOCA RATON, FLORIDA 33434 (561) 392-1991

### SITE DATA

APPLICATION NAME: CONTROL NUMBER:	DELRAY TRAILS	AT VILLA DELRAY PUI 1971-0001
PROJECT NO.:		TB
TIER:		URBAN / SUBURBA
LAND USE DESIGNATION	:	HR-
ZONING DISTRICT:		PU
OVERLAY DISTRICT:		N/A
PROPERTY CONTROL NU	JMBERS (PCN): 0	0-42-46-11-06-007-000
	C	0-42-46-11-00-000-301
	C	0-42-46-11-07-001-000
EXISTING USES:	RESIDENTIAL / RECRE	ATION, GOLF COURS
PROPOSED USES:	RESID	ENTIAL / RECREATION
GROSS SITE AREA:		126.80 ACRE
RESIDENTIAL PODS:		
TOTAL DWELLING UNITS:		436 D.U
POD A:	ZERO LOT LINE (Z	LL) 164 D.U
POD B:	TOWNHOME (TH)	167 D.U
POD C:	TOWNHOME (TH)	84 D.U
RECREATION POD:		10.43 A
WORKFORCE HOUSING		10 D

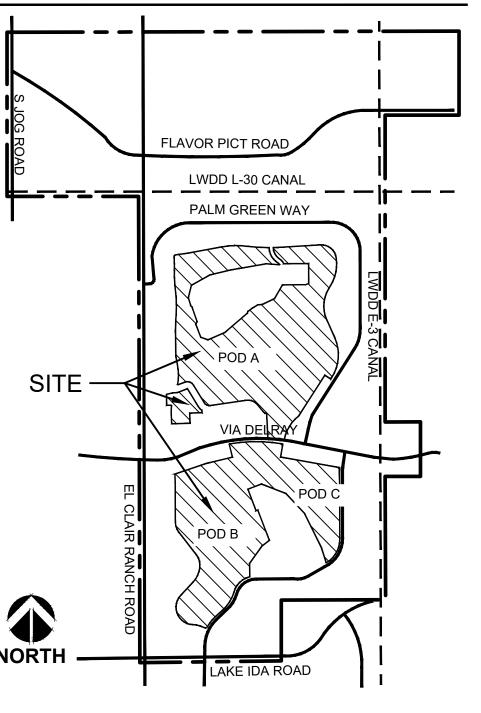
### **PLANT SCHEDULE**

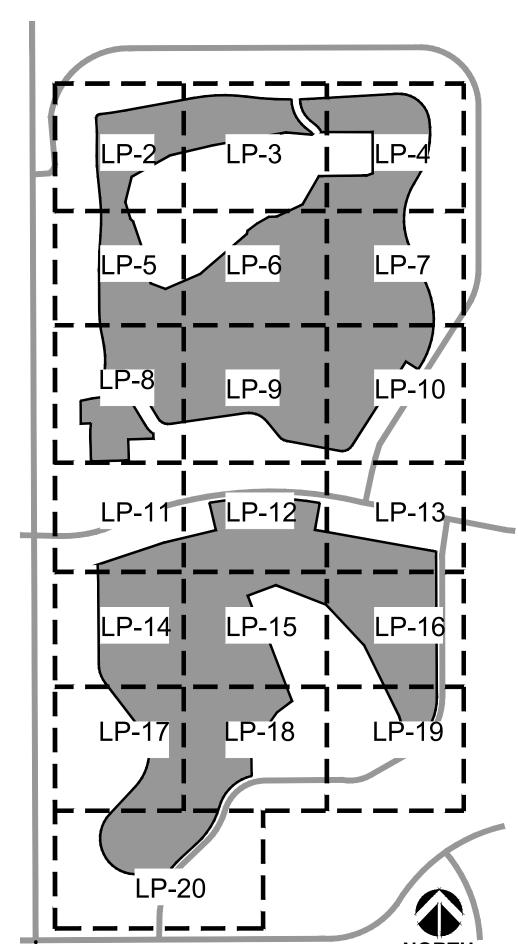
- 1) DROUGHT TOLERANT RATING BASED UPON SFWMD WATERWISE PUBLICATION SOUTH FLORIDA EDITION
- 2) ALL PLANT MATERIAL SPECIFICATIONS AND CONTAINER SIZES LISTED IN THE PROJECT PLANT SCHEDULE ARE REQUIRED MINIMUMS. CONTRACTOR MAY EXCEED THE REQUIRED MINIMUM SPECIFICATION AND CONTAINER SIZE BASED ON MATERIAL
- ALL PLANT MATERIAL SHALL MEET AND ADHERE TO LATEST EDITION OF FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS. ALL PLANT MATERIAL SHALL BE FLORIDA # 1 OR BETTER.THE LANDSCAPE ARCHITECT OR OWNER/OWNER'S REPRESENTATIVE HAVE THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING THESE STANDARDS.
- 4) QUANTITIES ON PLANT SCHEDULE ARE FOR CONVENIENCE ONLY. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL

			NDSCAPE PLANS.		OL ONET. LA	NDOON L OON IN	1010	/ ( IO	REGI GNOIDEE 1 GIV ALE		
TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT	RELOCATED PALM	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	BS	54	Bursera simaruba / Gumbo Limbo 12` Ht., 5` Spr., 2.5" Cal., 5` CT.	Yes	High	RRR	RRR	11	Roystonea regia / Royal Palm Relocated Palm	Yes	Moderate
8	СВ	18	Calophyllum brasiliense / Brazilian Beautyleaf 12` Ht., 5` Spr., 2.5" Cal., 5` Clear trunk.	No	Very	SPR	SPR	99	Sabal palmetto / Cabbage Palmetto Relocated Palm	Yes	High
$\bigcirc$	05		Conocarpus erectus / Buttonwood	V	Ulah	ACCENT PLANTS	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
(.)	CE	34	12` Ht., 5` Spr., 2.5" Cal., 5` Clear trunk.	Yes	High	*	TI2	8	Cordyline fruticosa Red Hawaiian / Red Hawaiian Ti Plant 24" Ht., 3 Plant Per Pot, Full dense plant	No	Very
<b>Ø</b>	cs	66	Conocarpus erectus sericeus / Silver Button Wood 12` Ht., 2.5" Cal., 5' Clear trunk.	Yes	High	LARGE SHRUBS	CODE CHR7	QTY 105	BOTANICAL / COMMON NAME  Chrysobalanus icaco `Red Tip' / Red Tip Cocoplum	NATIVE Yes	DROUGHT TOLERANT
	IC	115	llex cassine / Dahoon Holly 12' ht., 5' spr., 2" cal.,single straight trunk	Yes	High	$\odot$	CLU8	595	5' HT., 36" SPR., 36" O.C., Full dense plant,  Clusia flava / Small Leaf Clusia 42" HT., 36" SPR., 48" O.C., Full dense shrub	Yes	High
8	LJ	33	Ligustrum japonicum / Japanese Privet 6° Ht., 6° Spr., 5-6 trunks, Tree form, Matched	No	Very	0	CLU7	646	Clusia flava / Small Leaf Clusia 36" HT., 34" SPR., 36" O.C., Full dense shrub	Yes	Very
8	PD3	14	Pinus elliotti densa / Slash Pine 14" Ht., 2.5" Cal., 5' Clear trunk.	Yes	High	MEDIUM SHRUBS	CODE	QTY 275	BOTANICAL / COMMON NAME  Chrysobalanus icaco `Red Tip` / Red Tip Cocoplum 24" ht., 24" Spr., 30" O.C., Full dense shrub	NATIVE Yes	DROUGHT TOLERANT High
<del>*</del>	PD	5	Pinus elliotti 'Densa' / Slash Pine 10' Ht., 2.25" Cal., 5' Clear trunk.	Yes	High	•	CLU3	361	Clusia flava / Small Leaf Clusia 24" HT., 24" Spr., 30" O.C., Full dense shrub	Yes	High
8	PD2	55	Pinus elliotti `Densa` / Slash Pine	Yes	High	SMALL SHRUBS	CODE	QTY 239	BOTANICAL / COMMON NAME  Chrysobalanus icaco 'Red Tip' / Red Tip Cocoplum 18" ht., 16" Spr., 24" O.C., Full dense shrub	NATIVE Yes	DROUGHT TOLERANT High
			12° Ht., 2.5" Cal., 4.5° Clear trunk.  Quercus virginiana / Southern Live Oak			$\odot$	FMG2	1,189	Ficus microcarpa 'Green Island' / Green Island Ficus 24" Ht. x 24" Spr., 24" O.C. Full and Dense Shrub, Full to Base	No	Medium
	QV	200	12' Ht., 5' Spr., 2.5" Cal., 5' Clear trunk.	Yes	High	SHRUB AREAS	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
EXISTING TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT		ACA3	68	Acalypha wilkesiana `Louisiana Red` / Louisiana Red Copperleaf 18" HT., 18" SPR., 48" O.C., Full dense plant	No	
	BSE	6	Bursera simaruba / Gumbo Limbo Varying sizes	Yes	High		ALO	278	Alocasia gageana 'California' / Dwarf Elephant Ears 18" HT., 18" SPR., 24" O.C., Full dense plant,	No	Low
PALM TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT		COD	137	Codiaeum variegatum `Curlyboy` / Curlyboy Croton 18" HT., 18" SPR., 20" O.C., Full dense plant,	No	High
*	cg	34	Cocos nucifera `Green Malayan` / Coconut Palm 4` Of Clear Wood, Heavy Caliper	No	Very	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	COR	35	Cordyline fruticosa Red Pepper / Red Pepper Ti Plant 18" HT., 18" SPR., 36" O.C., 3-5 STEMS, Full dense plant	No	High
*	PE	6	Ptychosperma elegans / Alexander Palm 10-14° C.W., No Scarred Trunk	No	Medium		JAS	405	Jasminum volubile / Wax Jasmine 18" HT., 18" SPR., 24" O.C., Full dense plant	No	Moderate
	RR	62	Roystonea regia / Royal Palm 6-10° Clear Wood, no Scars on trunk, 20" Cal., Matched	Yes	Medium	GRASSES	CODE MUH1	QTY 95	BOTANICAL / COMMON NAME  Muhlenbergia capillaris / Pink Muhly 24" HT., 24" SPR., 36" O.C., Full dense plant	NATIVE Yes	DROUGHT TOLERANT High
0	SP	297	Sabal palmetto / Cabbage Palmetto 8' C.t. Min., Hurricane cut, 12-14" Cal.	Yes	High		PEN	111	Pennisetum rubrum / Purple Fountain Grass 24" HT., 28" SPR., 30" O.C., Full dense plant	No	
RELOCATED TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT		SPA1	202	Spartina bakeri / Sand Cord Grass 24" HT., 22" SPR., 36" O.C., Full rooted and dense plant	Yes	High
BSR	BSR	2	Bursera simaruba / Gumbo Limbo Relocated Tree	Yes	High		FAK1	259	Tripsacum dactyloides / Fakahatchee Grass 24" HT., 22" SPR., 36" O.C., Fully rooted and dense plant	Yes	High
QVR	QVR	8	Quercus virginiana / Southern Live Oak Relocated tree	Yes	High	MEDIUM SHRUB	CODE	QTY 674	BOTANICAL / COMMON NAME  Chrysobalanus icaco 'Red Tip' / Red Tip Cocoplum 24" HT., 18" SPR., 30" O.C., Full dense plant	NATIVE Yes	DROUGHT TOLERANT Very
EXISTING FLOWERING TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT	(J-X774-X774-X774-X774-X (111111111111111111111111111111111111	2001	000	Codiaeum variegatum `Mammy` / Mammy Croton		\/·
	DPE	12	Delonix poinciana / Royal Poinciana Varying sizes	No	High		COV	399 243	18" HT., 18" SPR., 30" O.C., Full dense plant  Tripsacum dactyloides / Fakahatchee Grass 24" HT., 24" SPR., 36" O.C., Fully rooted and dense plant	No Yes	Very High
4	LME	1	Lagerstroemia x `Muskogee` / Lavender Crape Myrtle Multi-Trunk	No	High	LARGE SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
EXISTING PALMS	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT		PHI7	14	Philodendron bipinnatifidum selloum / Cut Leaf Philodendron 36" HT., 36" SPR., 48" O.C., Full dense plant	No	
	EAC	11	Adonidia merrillii / Christmas Palm	No	Medium	SMALL SHRUBS	CODE CHR3	QTY 671	BOTANICAL / COMMON NAME  Chrysobalanus icaco 'Red Tip' / Red Tip Cocoplum  18" HT., 18" SPR., 18" O.C., Full dense plant	Yes Yes	DROUGHT TOLERANT High
FLOWERING TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT		НАМ3	247	Hamelia patens 'Compacta' / Dwarf Scarlet Bush 18" HT., 18" SPR., 24" O.C., Full dense plant	Yes	High
	CS2	39	Cordia sebestena / Orange Geiger Tree 8' Ht OA., 1.5" Cal., 3-4' CT.	Yes	High		IXY	128	Ixora coccinea 'Maui Yellow' / Maui Ixora Yellow 18-24" HT. 18" SPR., DISEASE FREE, FULL Dense Shrub, 24" O.C.	No	Medium
<b>₩</b>	DP	6	Delonix poinciana / Royal Poinciana 12` Ht., 2.5" Cal. 5` Single straight trunk	No	High	GROUND COVERS	CODE ILX3	QTY 1,755	BOTANICAL / COMMON NAME  Ilex vomitoria `Stokes Dwarf' / Dwarf Yaupon	NATIVE Yes	DROUGHT TOLERANT
₩	LN	39	Lagerstroemia x 'Natchez' / White Crape Myrtle Multi-Trunk 12' Ht., 4-6 Trunks, 3" Cal., 5' Clear trunk.	No	High		JUN3	111	12" HT., 12" SPR., 24" O.C., Full dense plant  Juniperus chinensis 'Parsonii' / Parsoni Juniper 12" HT., 12" SPR., 24" O.C., Full dense plant	No	Very
₩	тн	27	Tabebuia heterophylla / Pink Tabebuia 12' Ht., 5' Spr., 5' Clear Trunk, 2.5" Cal.	No	High		LIR	294	Liriope muscari `Super Blue` / Super Blue Liriope 16" HT., 16" SPR, 18" O.C.FULL DENSE CLUMP	No	Medium
A.			Tabebuia impetiginosa / Pink Trumpet Tree			GROUNDCOVERS	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
MITIGATION TREES	TI	35 QTY	12° Ht., 2.5" Cal., 5° Clear trunk.  BOTANICAL / COMMON NAME	No NATIVE	High  DROUGHT TOLERANT		CYR	52	Cyrtomium falcatum / Holly Fern 18" HT., 18" SPR., 18 O.C., Full dense plant Ernodea littoralis / Golden Creeper	No	Medium
0	M-CE	322	Conocarpus erectus / Buttonwood 12' Ht. x 5' Spr., 2.5" Cal., 5' Clear Trunk	Yes	High	a, a	ERN	330 841	12" HT., 10" SPR., 12" O.C. Full dense plant  Trachelospermum asiaticum `Minima` / Minima Jasmine	Yes No	High
***	M-PD	271	Pinus elliotti densa / Mitigation Slash Pine 12` Ht., 8` Trunk, 2.5" D.B.H.	Yes	High	SOD	CODE	QTY	6" HT., 6" SPR., 16" O.C., Full dense plant  BOTANICAL NAME / COMMON NAME  Stenotaphrum secundatum 'Floratam' / St. Augustine	NATIVE	DROUGHT TOLERANT
<b>**</b>	M-TD	224	Taxodium distichum / Bald Cypress	Yes	High	NO SYMBOL	SOD	TBD IN FIELD	Steriolaphrum secundatum Foliatum Folia	N/A	N/A
<b>K</b> .V			12' Ht. x 5' Spr., 2.5" Cal., 5' Clear Trunk		_					_	



#### **LOCATION MAP OVERALL KEY MAP** SCALE: NTS





### LANDSCAPE NOTES

- 1) BASE INFORMATION OBTAINED FROM CIVIL PLANS PREPARED BY CAULFIELD &
- 2) ALL INVASIVE SPECIES WILL BE ERADICATED FROM SITE AS REQUIRED BY
- STANDARDS AS OUTLINED BY THE "GRADES AND STANDARDS FOR NURSERY PLANTS" PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANT MATERIAL SHALL BE FLORIDA #! OR BETTER.
- 4) SIGHT TRIANGLES SHALL BE PROVIDED AND MAINTAINED BY OWNER CLEAR OF VEGETATION TO PROVIDE UNOBSTRUCTED VISIBILITY BETWEEN 30 INCHES AND 8 FEET ABOVE GRADE.
- 5) UTILITY EASEMENTS SHALL NOT ENCROACH INTO LANDSCAPE BUFFERS MORE THAN 5 FEET OR AS PERMITTED BY CODE.
- 6) FDOT TYPE "D" OR "F" CURB OR WHEEL STOPS TO BE PROVIDED ALONG ALL LANDSCAPE AREAS, INCLUDING DRIVE AISLES AND PARKING SPACES.
- 7) ALL INSTALLATION WORK SHALL BE CARRIED OUT IN A PROFESSIONAL MANNER IN ACCORDANCE WITH STANDARD NURSERY AND INSTALLATION
- 8) ALL LANDSCAPE AREAS SHALL BE SODDED, MULCHED OR OTHERWISE COVERED WITH GROUND COVER PER THESE PLANS AS LABELED.
- 9) TREES SHOWN ON THIS PLAN ARE GRAPHIC REPRESENTATION ONLY. TREE SPACING IS BASED ON DESIGN REQUIREMENTS AND TREES SHOWN ON THESE PLANS ATTEMPT TO ACCOMPLISH THAT SPACING WHILE MAINTAINING THE REQUIRED SETBACKS FROM UTILITIES. TREES MAY BE FIELD ADJUSTED TO AVOID CONFLICTS WITH DRIVEWAYS AND UNDERGROUND UTILITIES.
- 10) CONTRACTOR TO COORDINATE PLANTING OPERATIONS WITH ALL UTILITY LOCATIONS PRIOR TO COMMENCING PLANTING OPERATIONS FOR ANY PORTION OF THE SITE. IF "SUNSHINE DIG" / 811 DOES NOT LOCATE ALL UNDERGROUND UTILITIES ON-SITE, THE CONTRACTOR IS RESPONSIBLE FOR SECURING THESE SERVICES FROM A PRIVATE PROVIDER.
- 11) LANDSCAPE CONTRACTOR TO HAND DIG PLANTING HOLES FOR TREES AND/OR SHRUBS WITHIN FIVE (5') OF ALL FP&L EASEMENTS.
- 12) GROUND MOUNTED MECHANICAL EQUIPMENT TO BE SCREENED PER THESE PLANS INCLUDING AS-BUILT EQUIPMENT LOCATIONS AT TIME OF LANDSCAPE INSTALLATION. CONTRACTOR TO NOTIFY OWNER / OWNER'S REPRESENTATIVE OF ADDITIONAL REQUIRED PLANT MATERIAL QUANTITIES AT TIME OF LANDSCAPE INSTALLATION FOR ADDITIONAL MECHANICAL EQUIPMENT OR RELOCATED EQUIPMENT THAT MAY REQUIRE ADDITIONAL LANDSCAPE
- 13) PLANTINGS ADJACENT TO OVERHEAD LINES TO COMPLY WITH FP&L's "RIGHT TREE IN THE RIGHT PLACE" GUIDELINES FOR MINIMUM SEPARATIONS TO OVERHEAD LINES.

### UTILITY SETBACK NOTES

SCREENING.

- 1) ALL SETBACK DIMENSIONS SHOWN ON THE PLANS ARE TO BE MET AT THE TIME OF INSTALLATION.
- 2) TREES ARE TO BE INSTALLED WITH A TEN FOOT (10') SEPARATION FROM ANY WATER OR SEWER MAIN AND/OR SERVICE, HYDRANTS, AND LIFT STATIONS, OR WITH A MINIMUM SEVEN FOOT (7') SETBACK IF INSTALLED WITH A ROOT BARRIER SYSTEM. REFER TO THE "ROOT BARRIER" DETAIL ON THE PLANTING DETAILS SHEET FOR INSTALLATION REQUIREMENTS. HOWEVER IN NO CASE SHALL A TREE ENCROACH INTO A PBCUE WITHOUT PRIOR PBCWUD APPROVAL AND ONLY SOD CAN BE INSTALLED WITHIN 5' OF A FIRE HYDRANT UNLESS OTHERWISE APPROVED BY THE FIRE MARSHAL AND PBCWUD.
- B) TREES ARE TO BE INSTALLED WITH A TEN FOOT (10') SEPARATION FROM ANY DRAINAGE OR STORM SEWER INFRASTRUCTURE, OR WITH A MINIMUM SEVEN FOOT (7') SETBACK IF INSTALLED WITH A ROOT BARRIER SYSTEM. REFER TO THE "ROOT BARRIER" ON THE PLANTING DETAILS SHEET FOR INSTALLATION
- 4) WHERE REQUIRED, ROOT BARRIER TO BE INSTALLED WITH A MINIMUM 5' SEPARATION TO THE EDGE OF ALL UNDERGROUND UTILITIES AND
- 5) TREES SHALL BE PLANTED WITH A MIN. 2' SEPARATION BETWEEN ANY ROOT BARRIER (MEASURED FROM THE CENTER OF THE TREE).

### LANDSCAPE EXCAVATION & **BACKFILL NOTES**

- TREE AND SHRUB PLANTING BEDS WHICH FALL WITHIN OR NEAR ROADWAY AREAS SHALL BE COMPLETELY EXCAVATED AND BACK-FILLED WITH TOPSOIL ALL SHELL-ROCK OR OTHER BASE MATERIALS, AND ALL SUBSOIL AND DEBRIS SHALL BE COMPLETELY REMOVED FROM BENEATH SUCH PLANTING AREAS, TO A MINIMUM DEPTH OF 36". UPON COMPLETION OF EXCAVATION, LANDSCAPE ARCHITECT OR OWNER SHALL INSPECT THE EXCAVATED AREA PRIOR TO BACKFILLING WITH TOPSOIL.
- 2) ALL TREE AND/OR SHRUB PLANTING AREAS WITHIN 8' OF BUILDING FOUNDATIONS, AND ANY OTHER PLANTING AREAS WHERE SIGNIFICANT BURIED CONSTRUCTION DEBRIS IS ENCOUNTERED, SHALL BE COMPLETELY EXCAVATED TO A MINIMUM DEPTH OF 36". UPON COMPLETION OF EXCAVATION, LANDSCAPE ARCHITECT OR OWNER SHALL INSPECT THE EXCAVATED AREA PRIOR TO BACKFILLING WITH TOPSOIL.

### MULCH NOTES

1) MULCH SHALL BE GRADE A PREMIUM NATURAL MULCH, OR APPROVED EQUAL, FREE OF FOREIGN MATERIALS AND WEED SEEDS. MINIMUM DEPTH AFTER SETTLING SHALL BE THREE (3") INCHES.

### **GENERAL NOTES**

- 1) FINAL SUBDIVISION PLAN APPROVED BY PBC DEVELOPMENT REVIEW OFFICER (DRO) EXHIBIT 220 DATED 09/28/21.
- UNDERGROUND UTILITY PROVIDERS AND CALL "SUNSHINE DIG" / 811 TO FLAG 2) STREETSCAPE LANDSCAPE PLANS (STREET TREES AND PLANTINGS WITHIN ROW) ARE A SEPARATE DOCUMENT. 3) SEE ENGINEERING PLANS PREPARED BY OTHERS FOR CONFIGURATION, HEIGHT
  - AND SLOPE OF BERMS. 4) DETAILING OF FOCAL POINTS AND HARDSCAPE ARE A SEPARATE DOCUMENT. SEE PLANS PREPARED BY OTHERS FOR THESE DETAILS.

322 BUTTONWOOD

224 BALD CYPRESS

271 SLASH PINE

TOTAL MITIGATION REQUIRED: DELRAY TRAILS MITIGATION: CONTROL #: 1971-00013, FRP EXHIBIT 214	817 TREES 271 TREES
HEATHWOOD RESERVE MITIATION: CONTROL #: 1997-0008, FRP EXHIBIT 4  TOTAL MITIGATION PROVIDED:	546 TREES 817 TREES

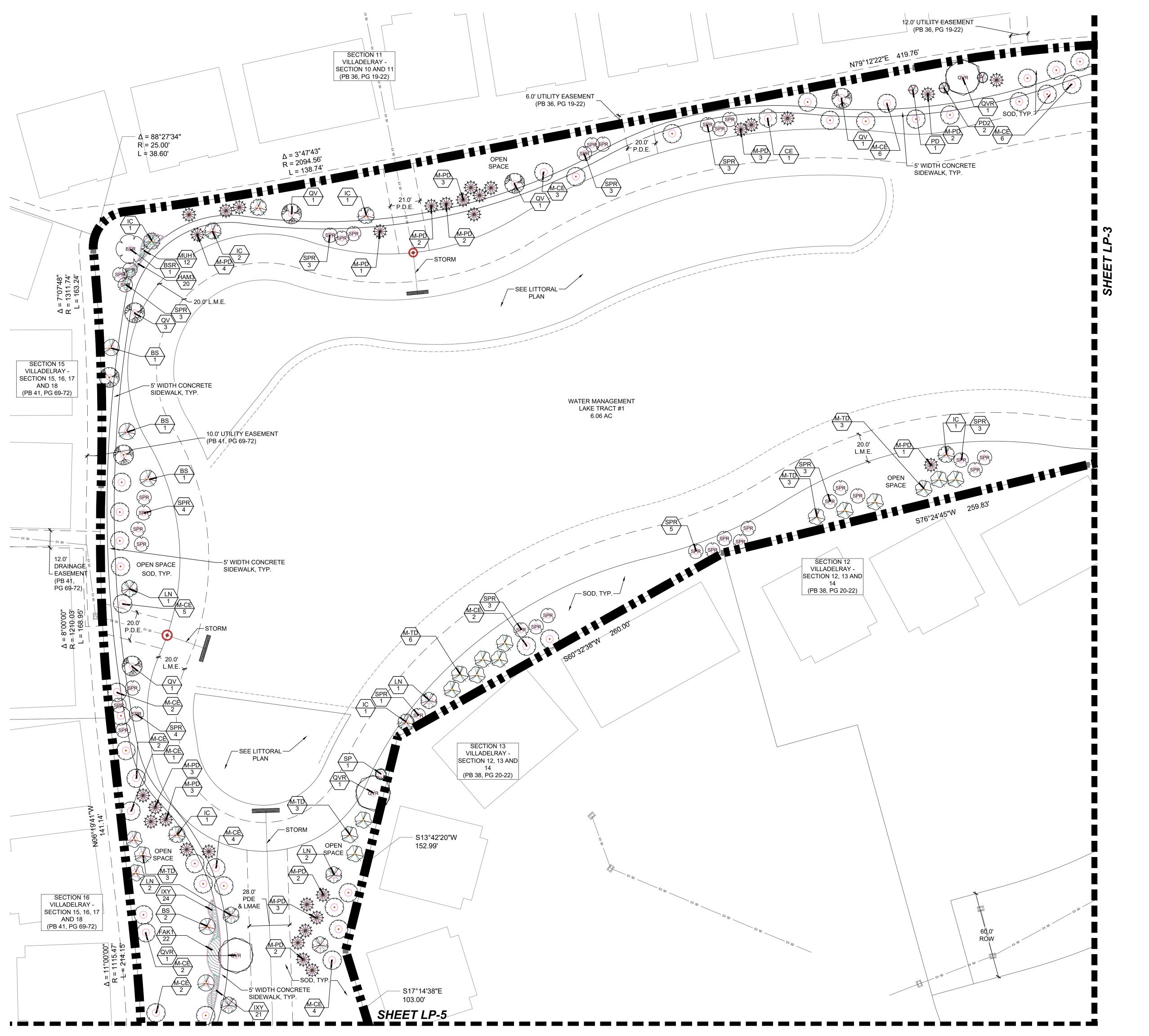
**SCALE: NTS** 

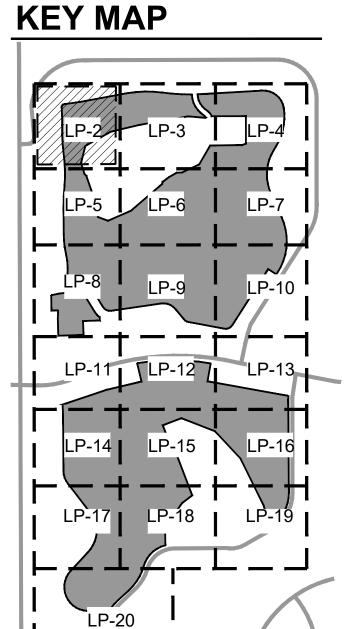
Land Planning Landscape Architecure

610 Clematis Street, Suite CU02 West Palm Beach, FL 33401 561.366.1100 FAX 561.366.111 www.udsflorida.com

All ideas, designs, arrangements, and plan for the exclusive use of the specified project shall not be used by, or disclosed to any person, irm, or corporation without ermission of the designer.

Date:	03/19/20
Project No.:	15-057.0
Designed By:	JWB
Drawn By:	JWB
Checked By:	JWB/WJ



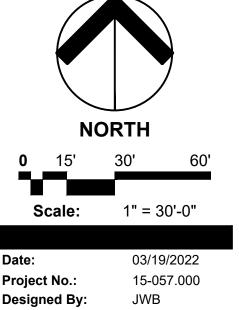




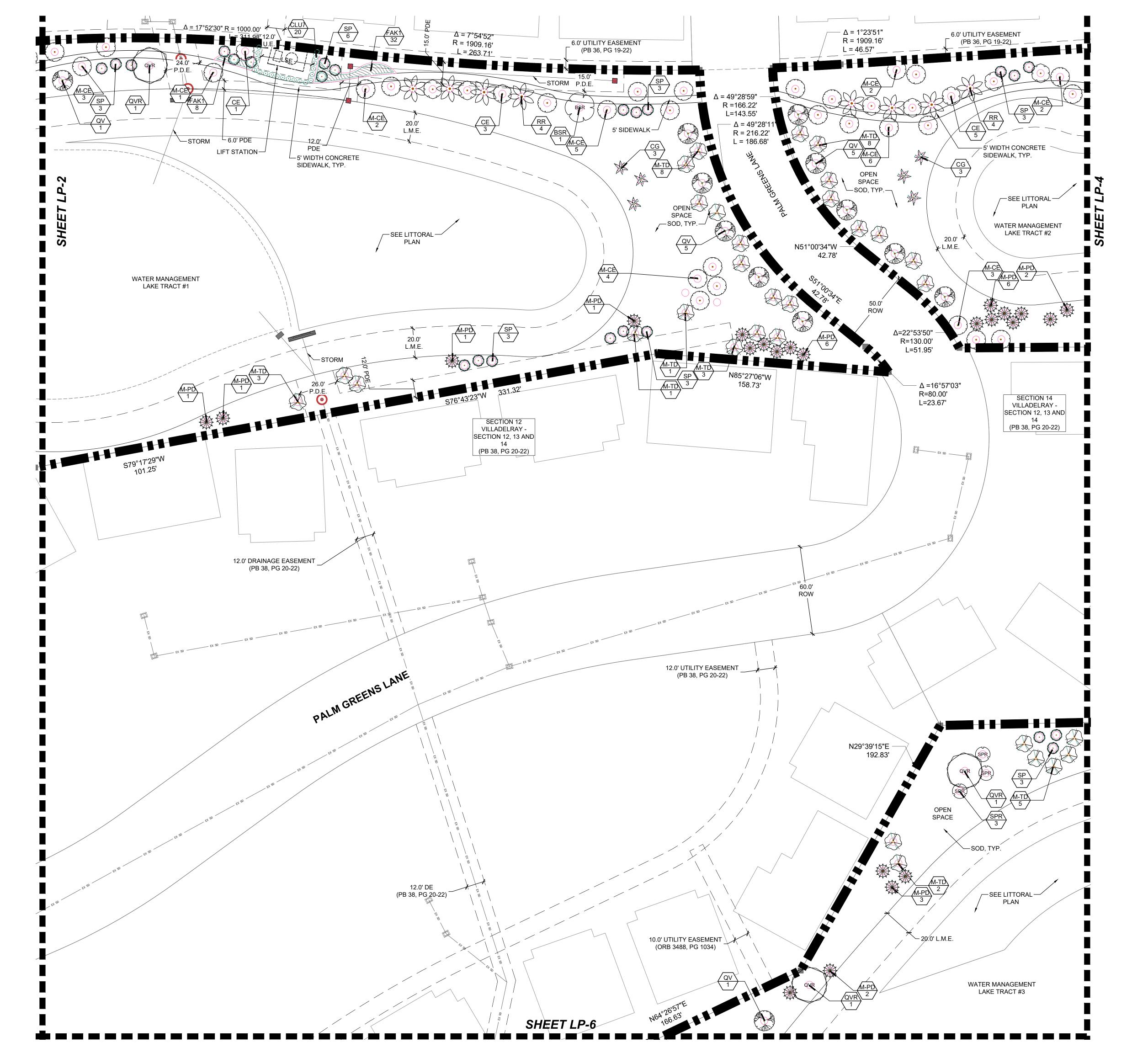
610 Clematis Street, Suite CU02 West Palm Beach, FL 33401 561.366.1100 FAX 561.366.1111 www.udsflorida.com #LA0001739

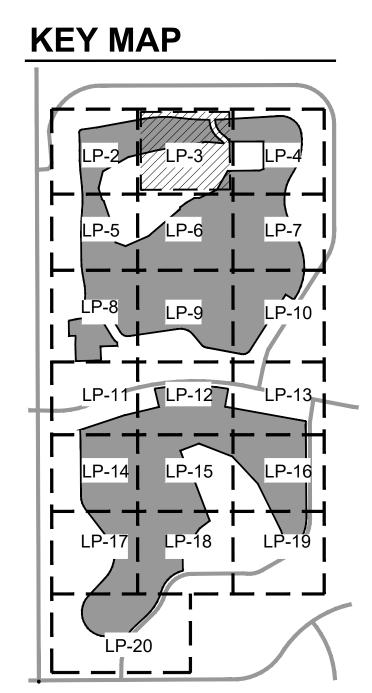
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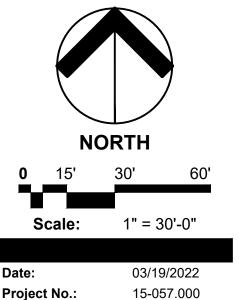




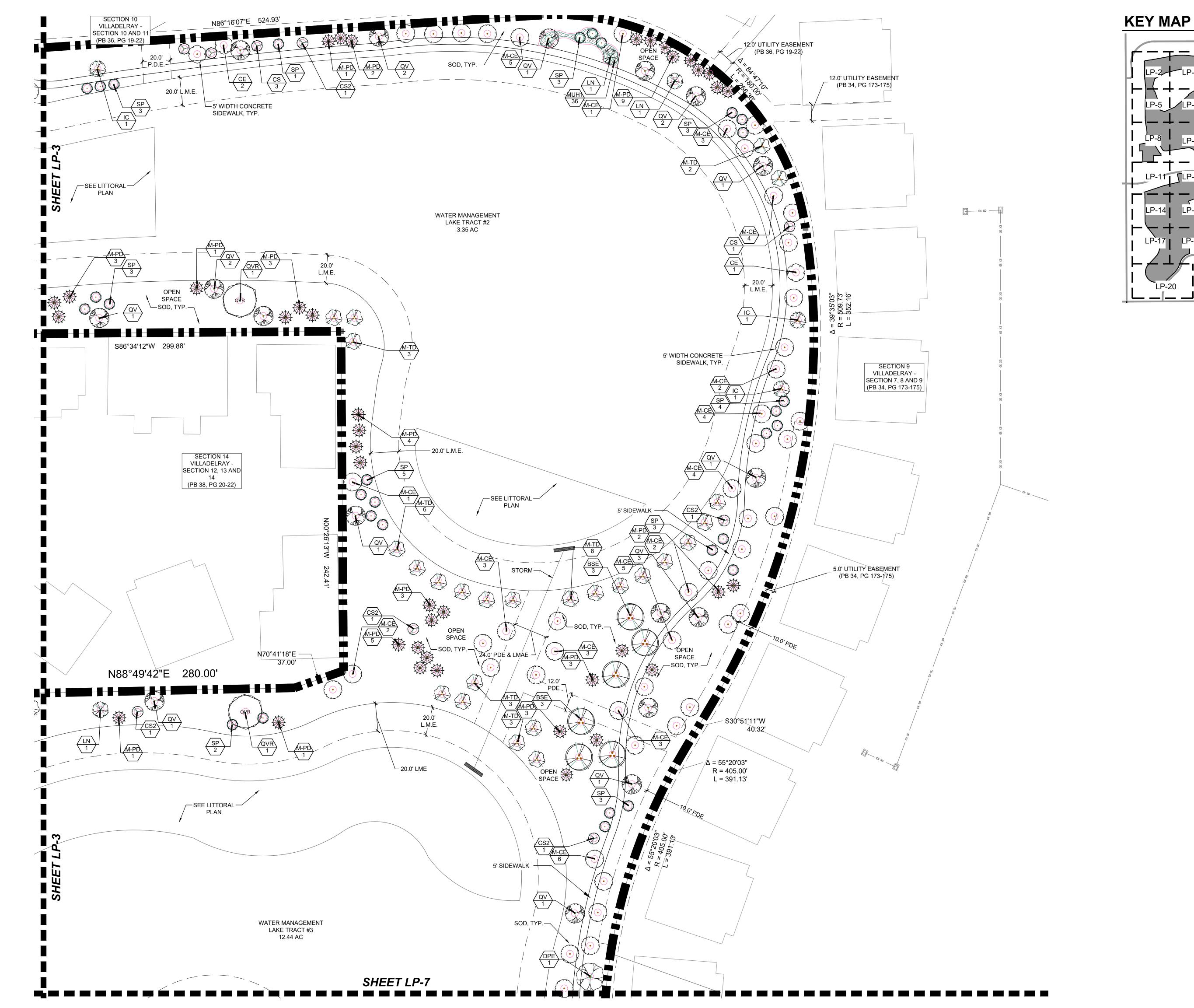
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Drawn By:	JWB
Designed By:	JWB
Project No.:	15-057.000
Date:	03/19/2022

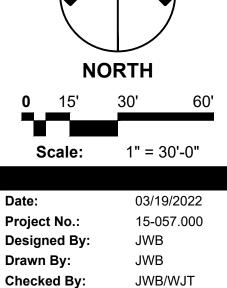




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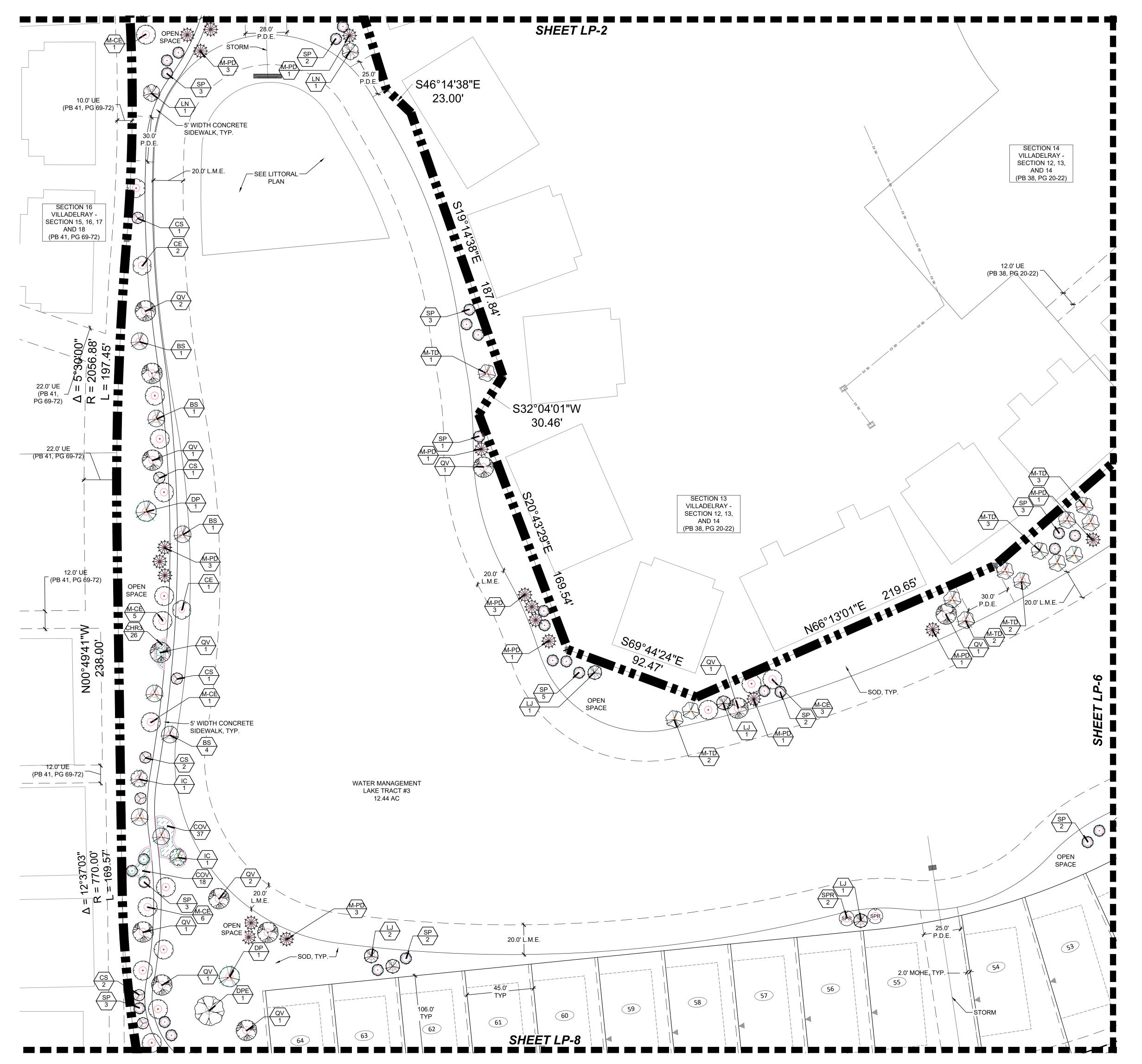


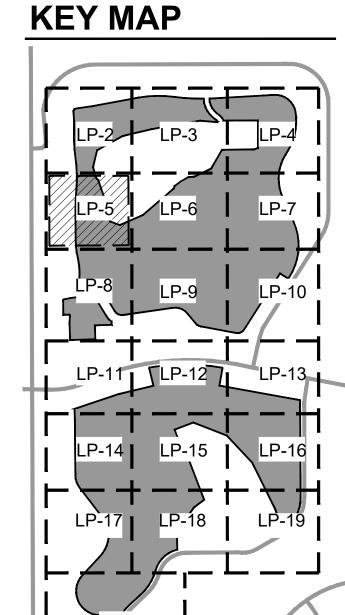
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LP- 4 of 24



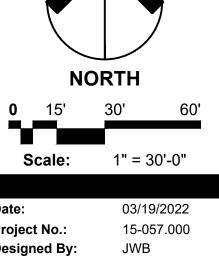




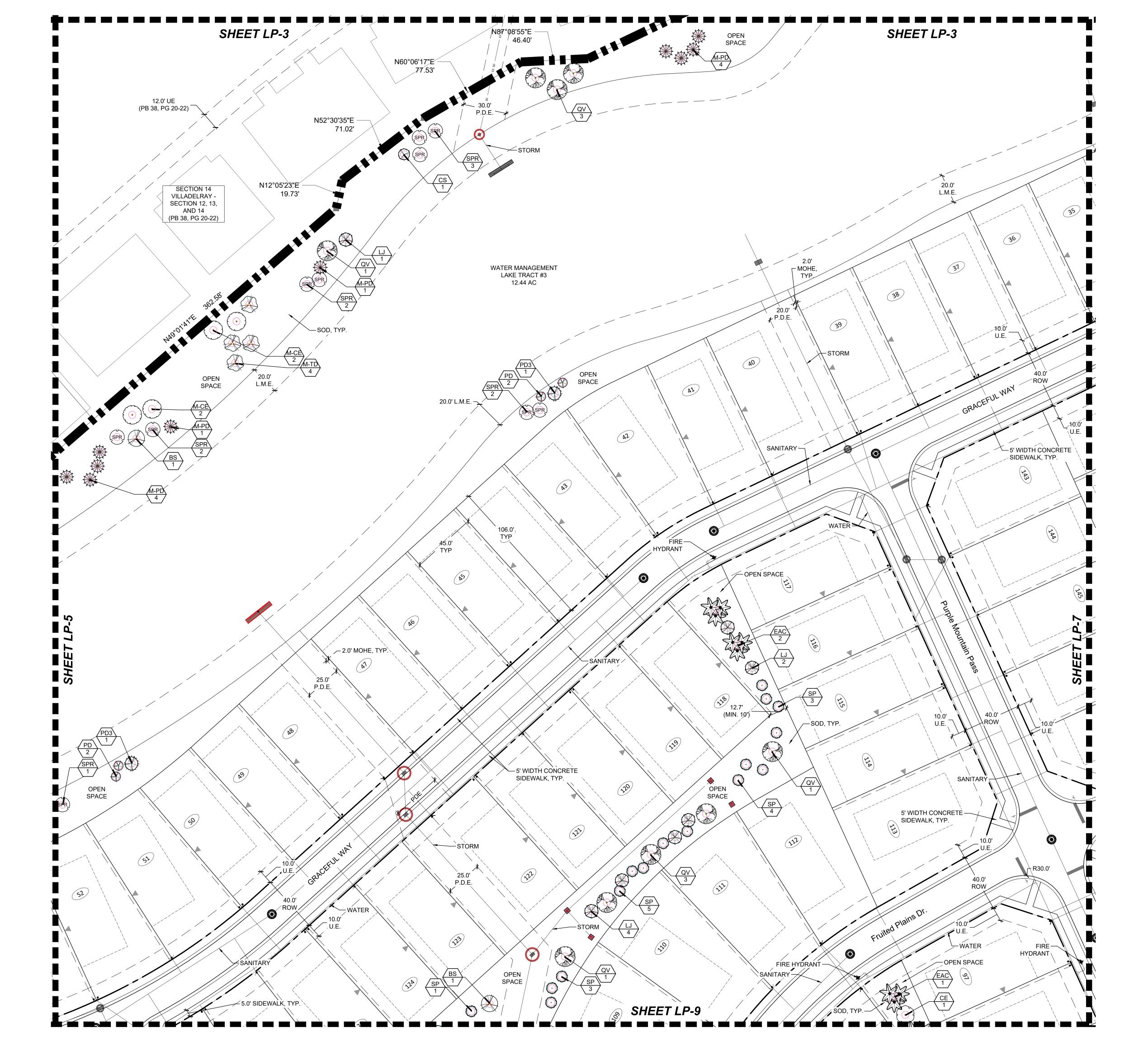
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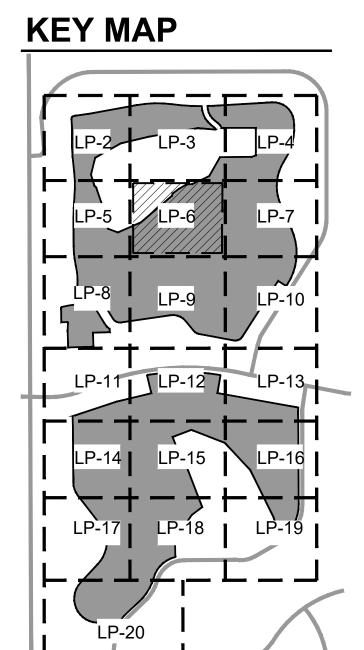
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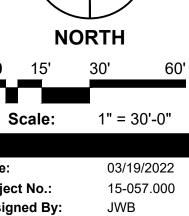




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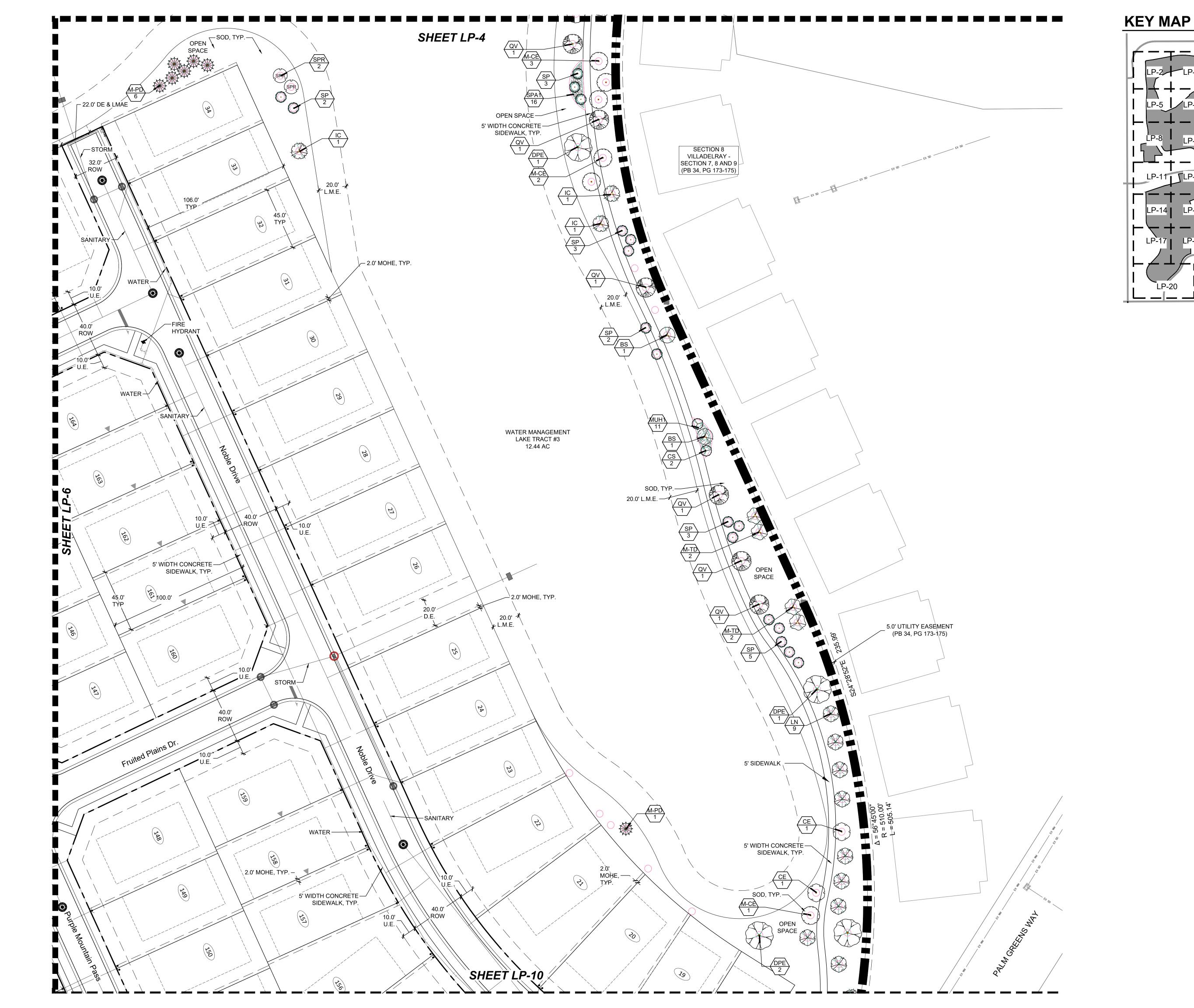


ate: 03/19/2022
roject No.: 15-057.000
esigned By: JWB
rawn By: JWB/WJT

Revision Dates:

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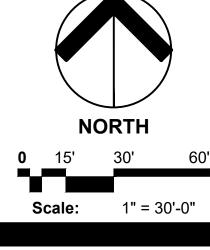




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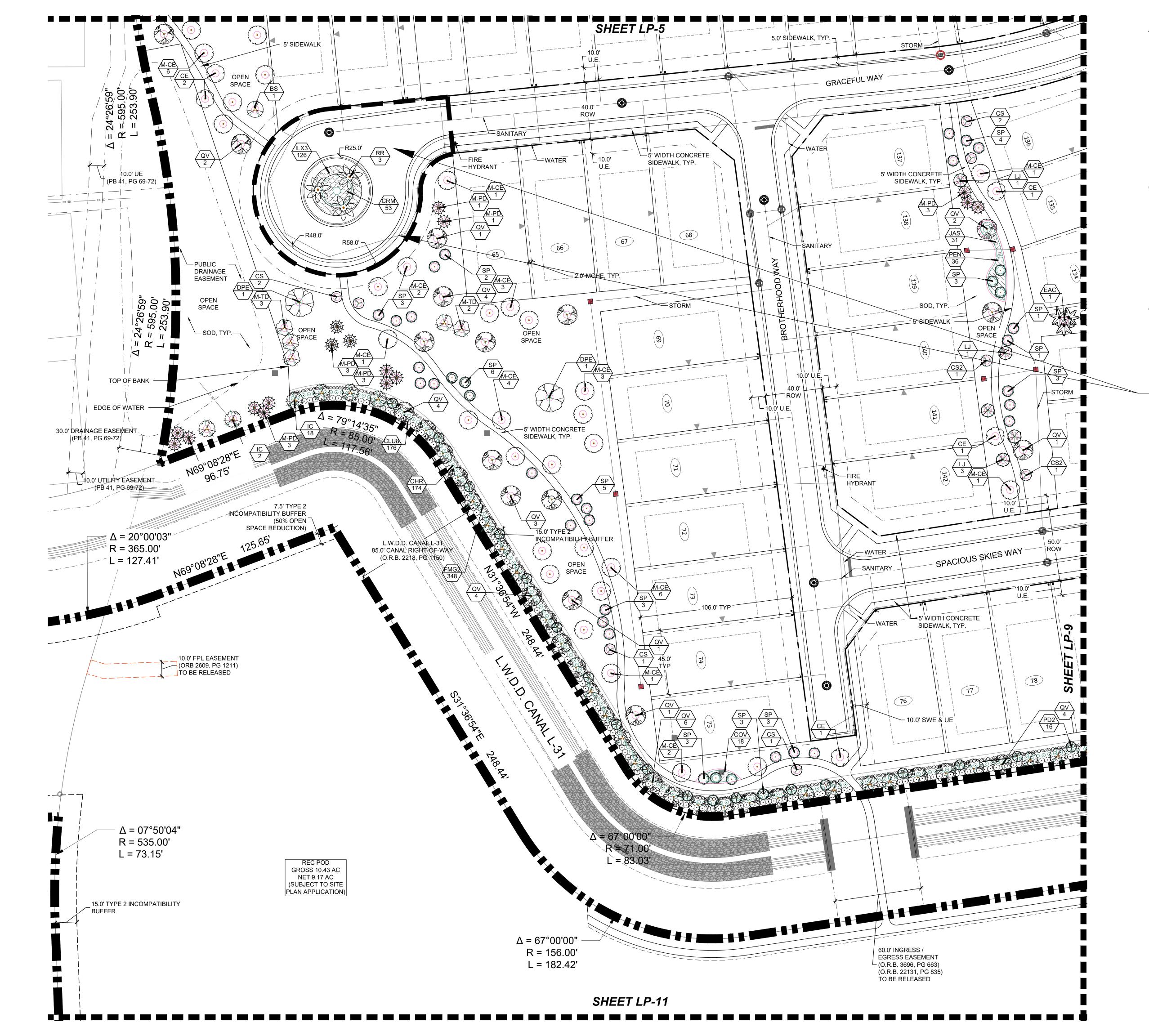
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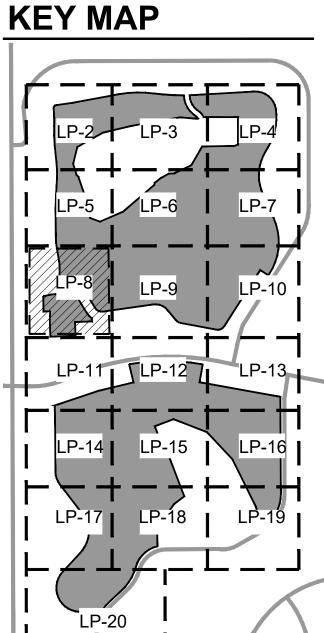




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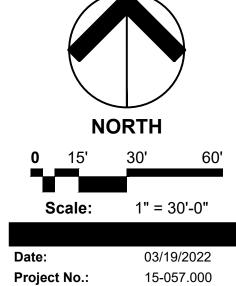
TO BE REVIEWED WITH STREETSCAPE **PLANS** 



Urban Design Land Planning **Landscape Architecure** 

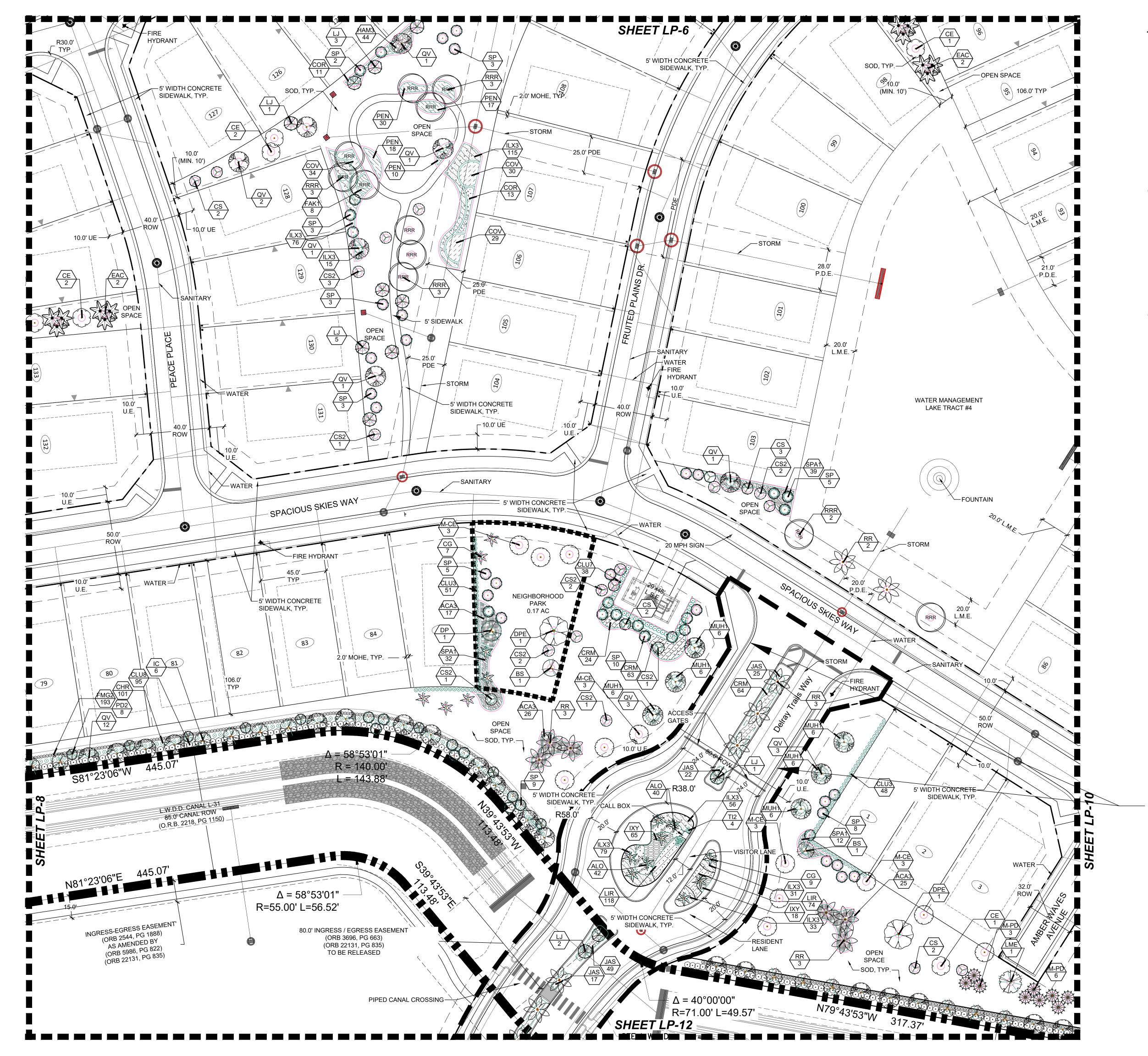
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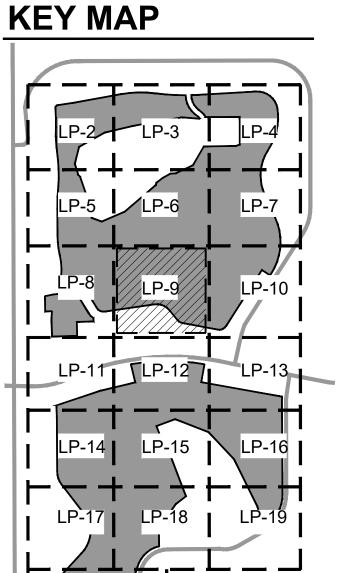
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TO BE REVIEWED

**PLANS** 

WITH STREETSCAPE

LP-20

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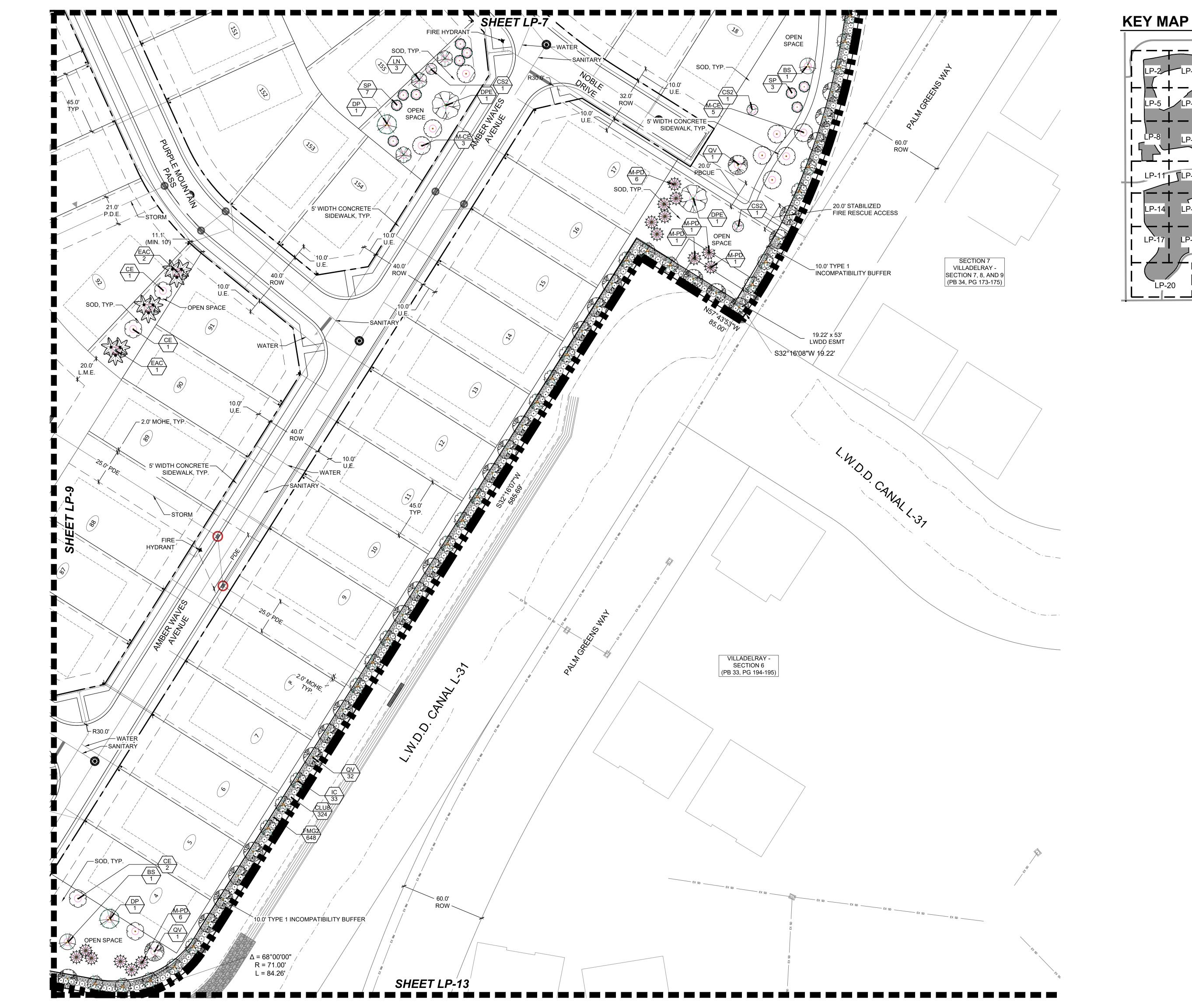
**Landscape Architecure** 

Land Planning

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**Scale:** 1" = 30'-0"

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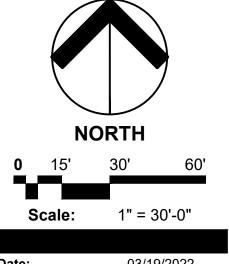


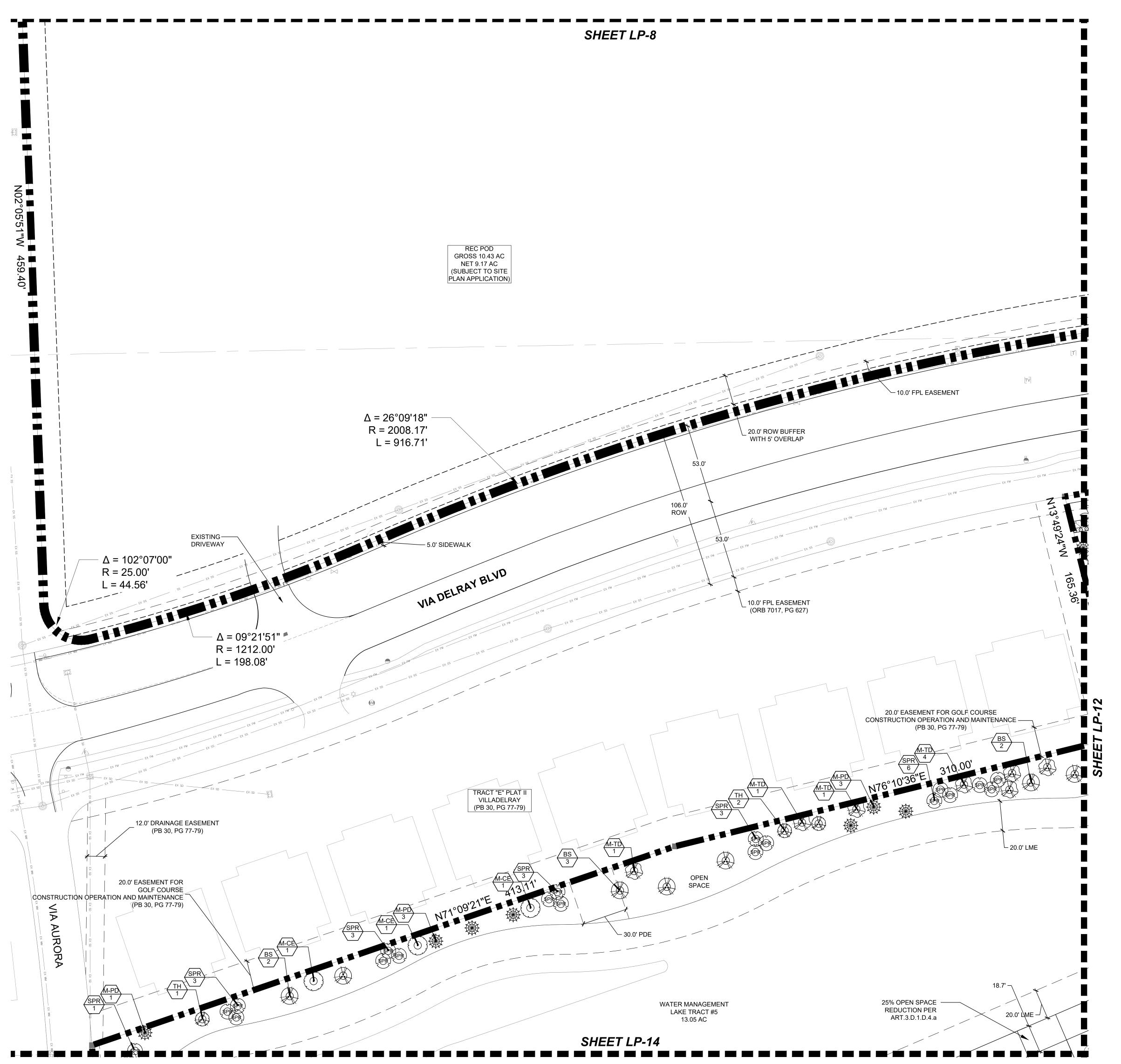


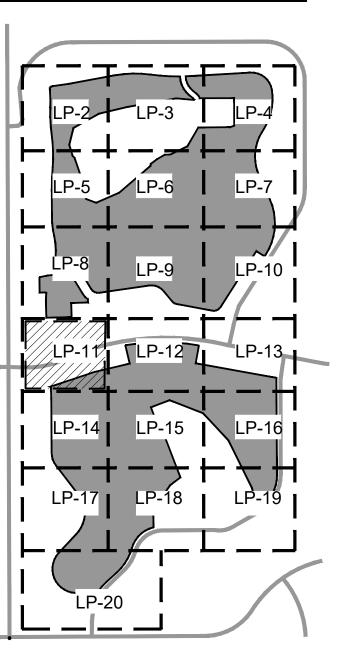
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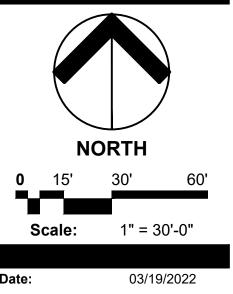


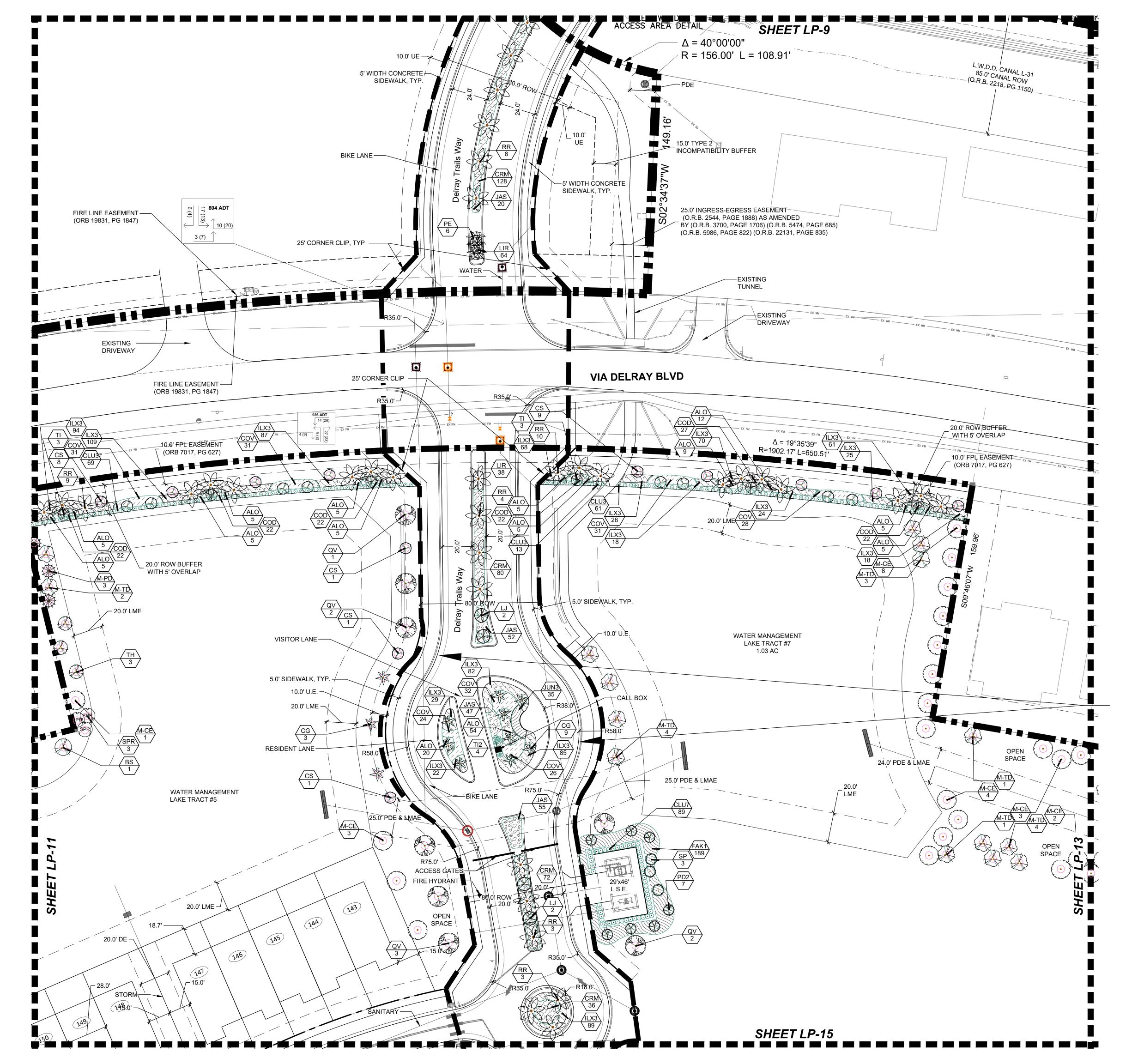
**Urban Design** Land Planning Landscape Architecure

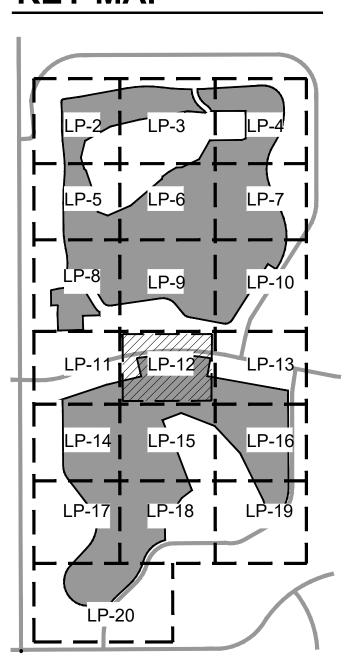
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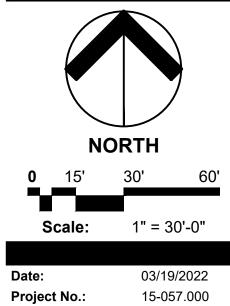
TO BE REVIEWED WITH STREETSCAPE **PLANS** 

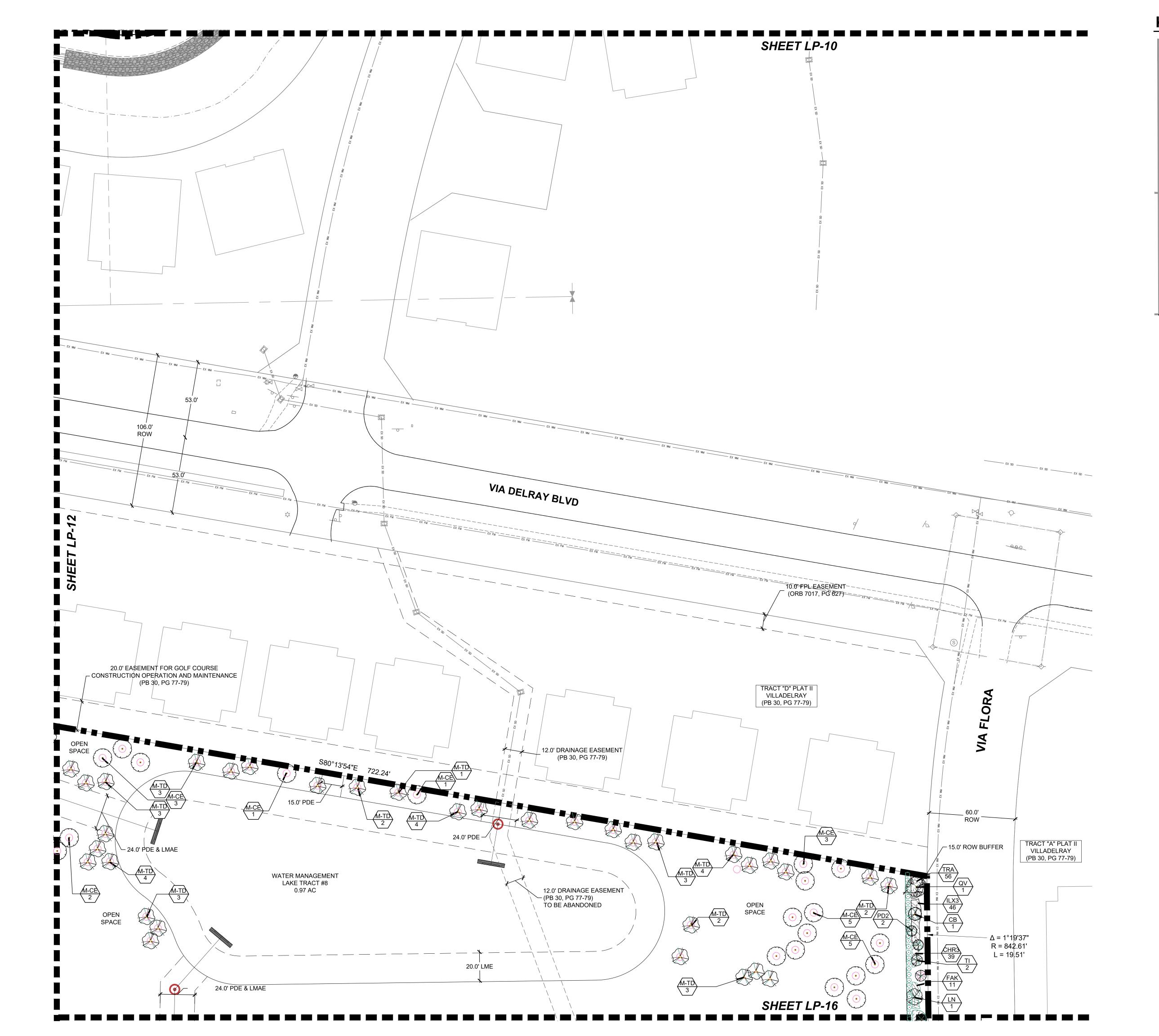


Land Planning **Landscape Architecure** 

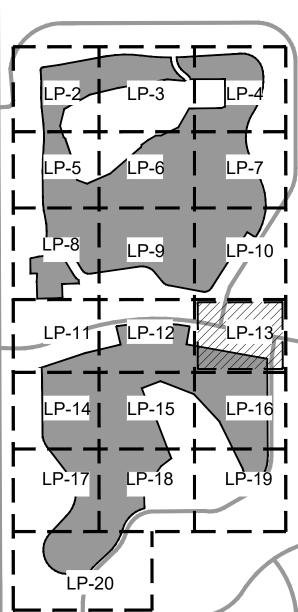
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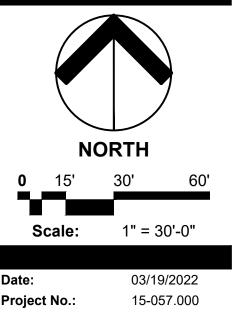




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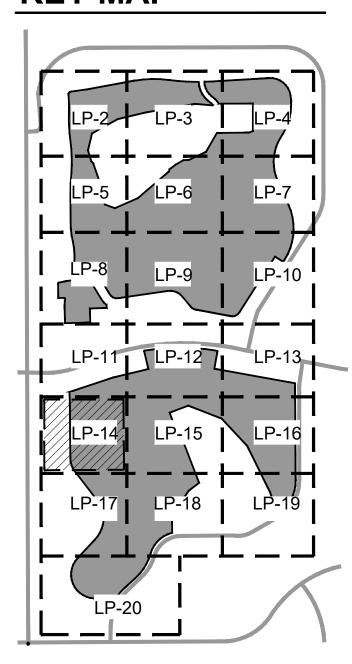
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Revision Dates:	
Checked By:	JWB/WJ
Drawn By:	JWB
Designed By:	JWB
Project No.:	15-057.0





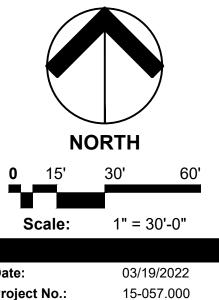


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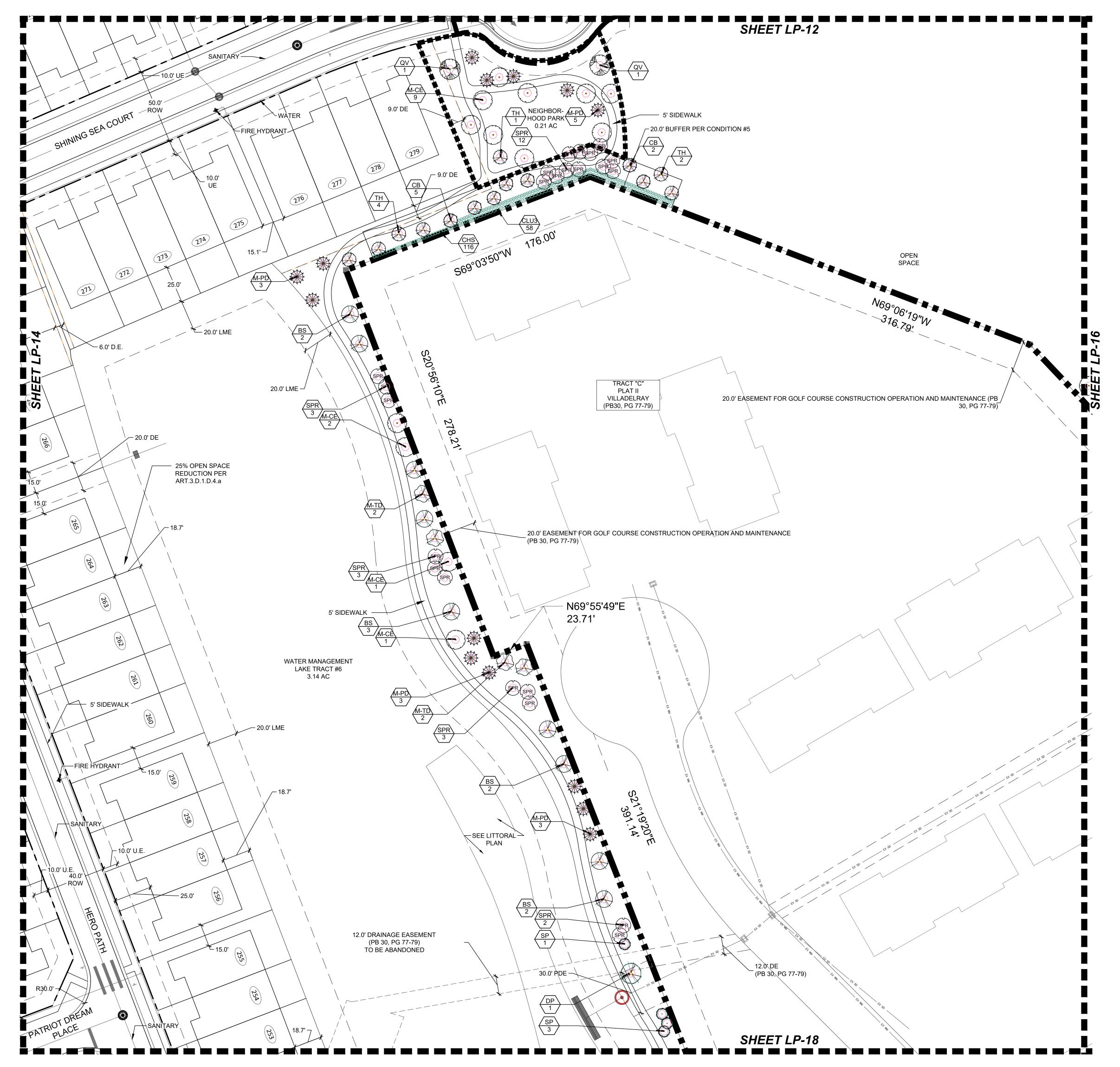
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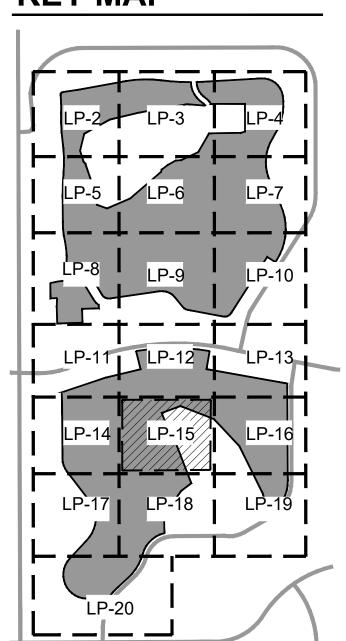




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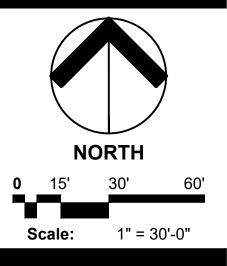




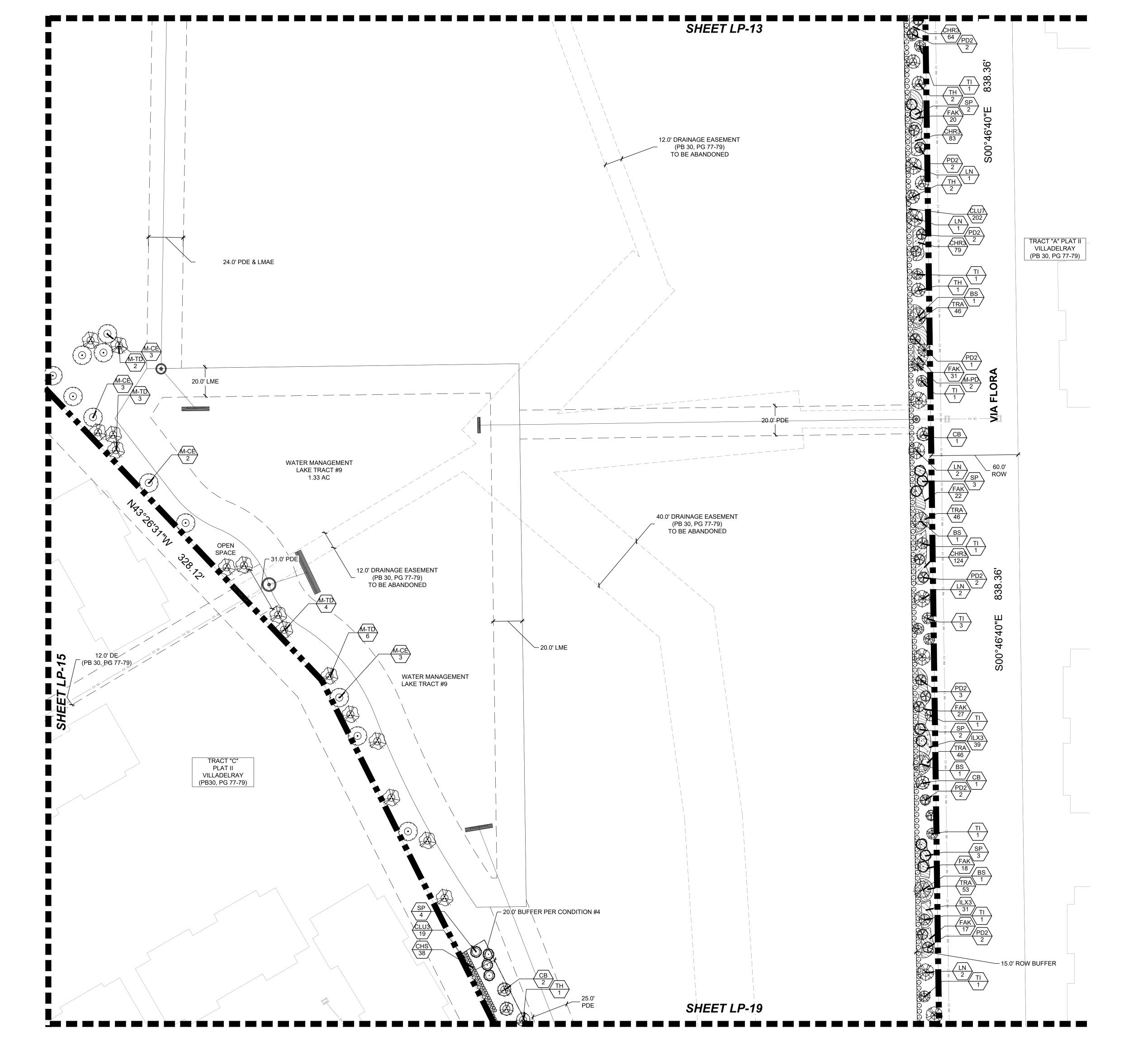


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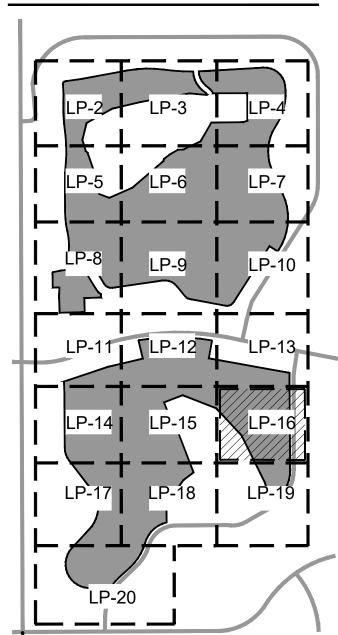
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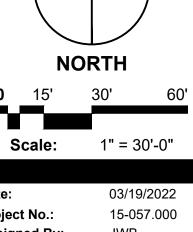




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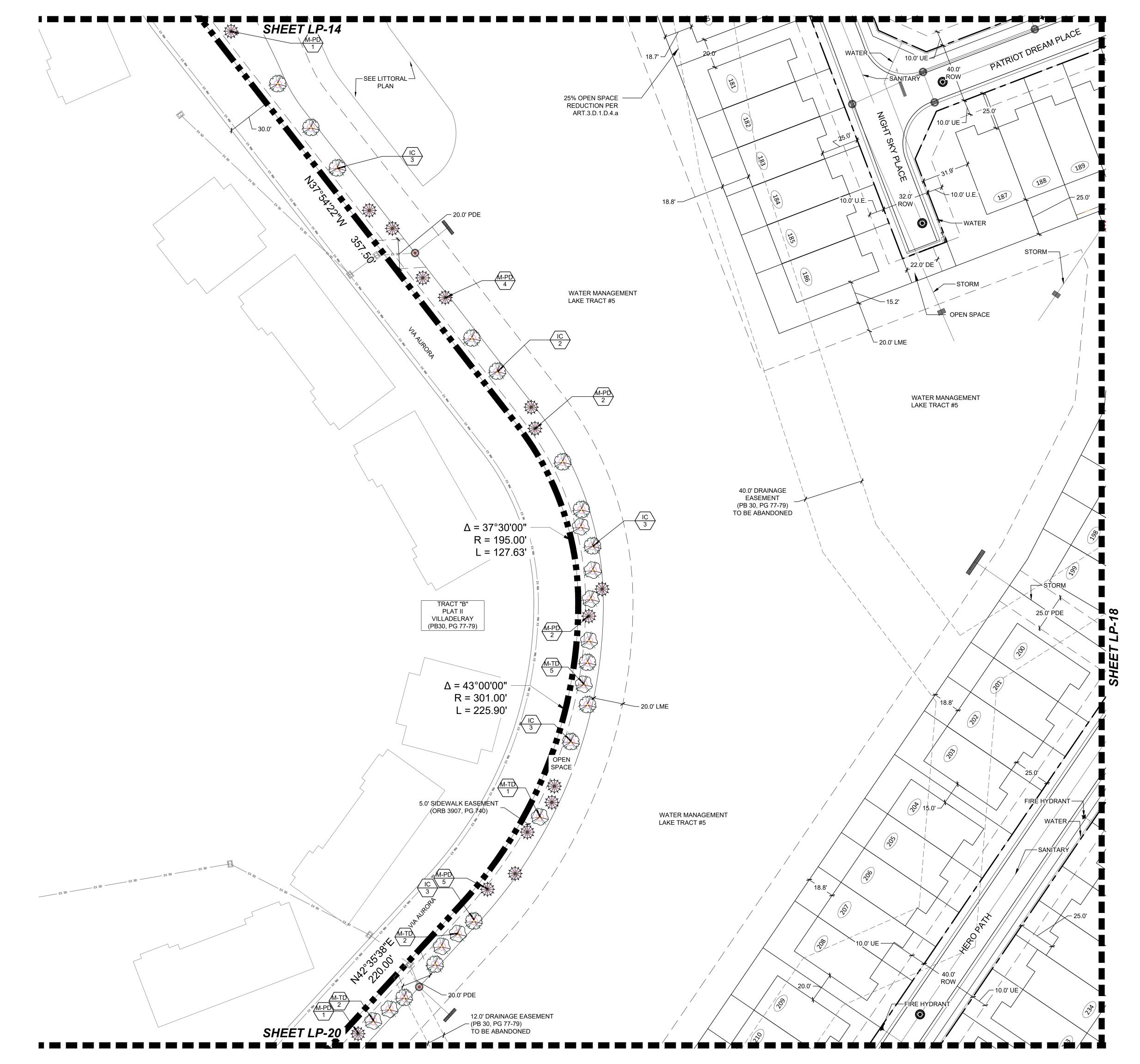


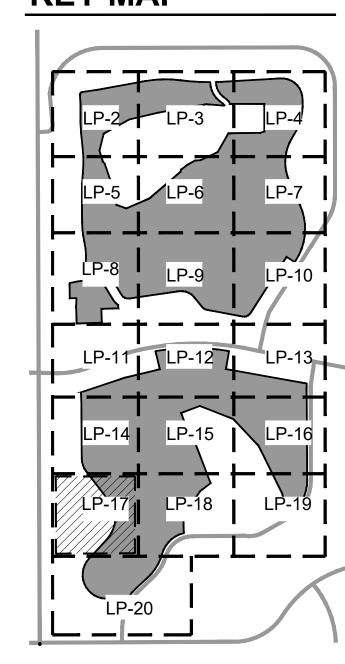
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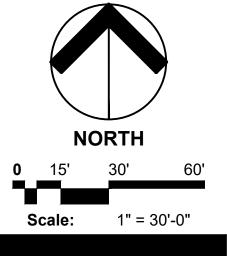


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 Date:
 03/19/2022

 Project No.:
 15-057.000

 Designed By:
 JWB

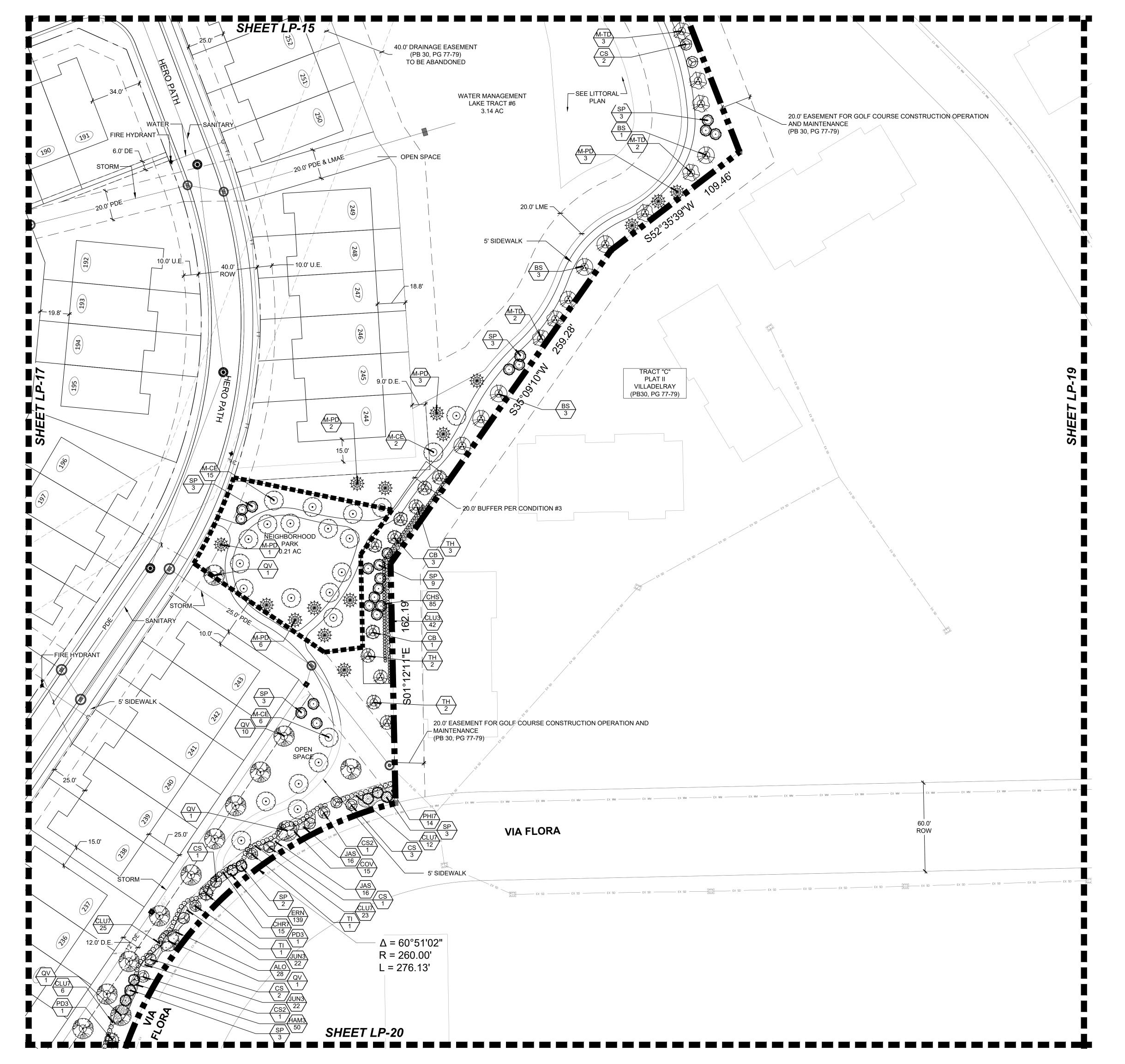
 Drawn By:
 JWB

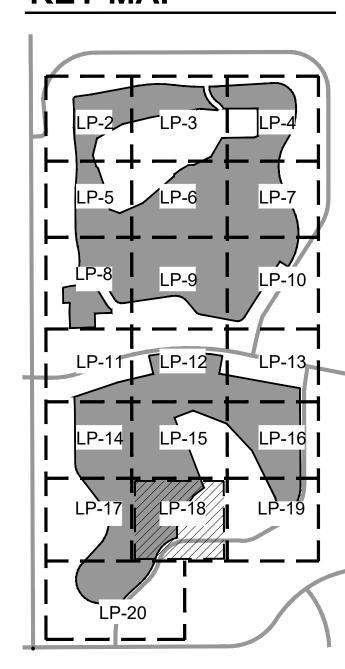
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Revision Dates:

22-08-24-LMB 23-01-19

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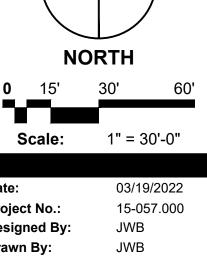


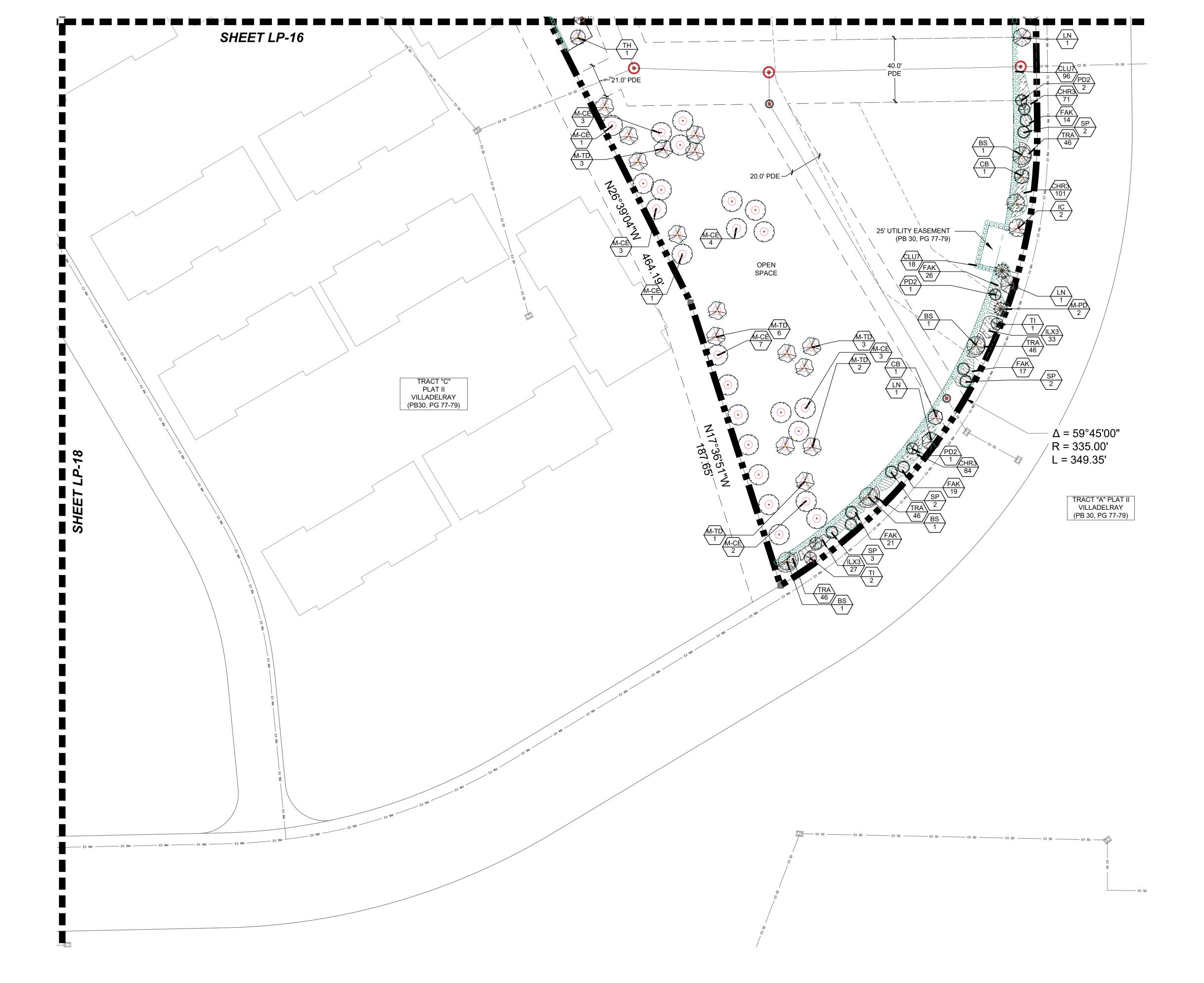
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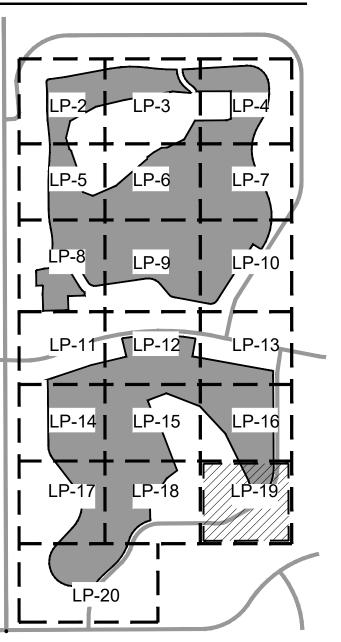
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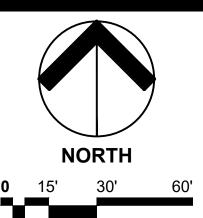




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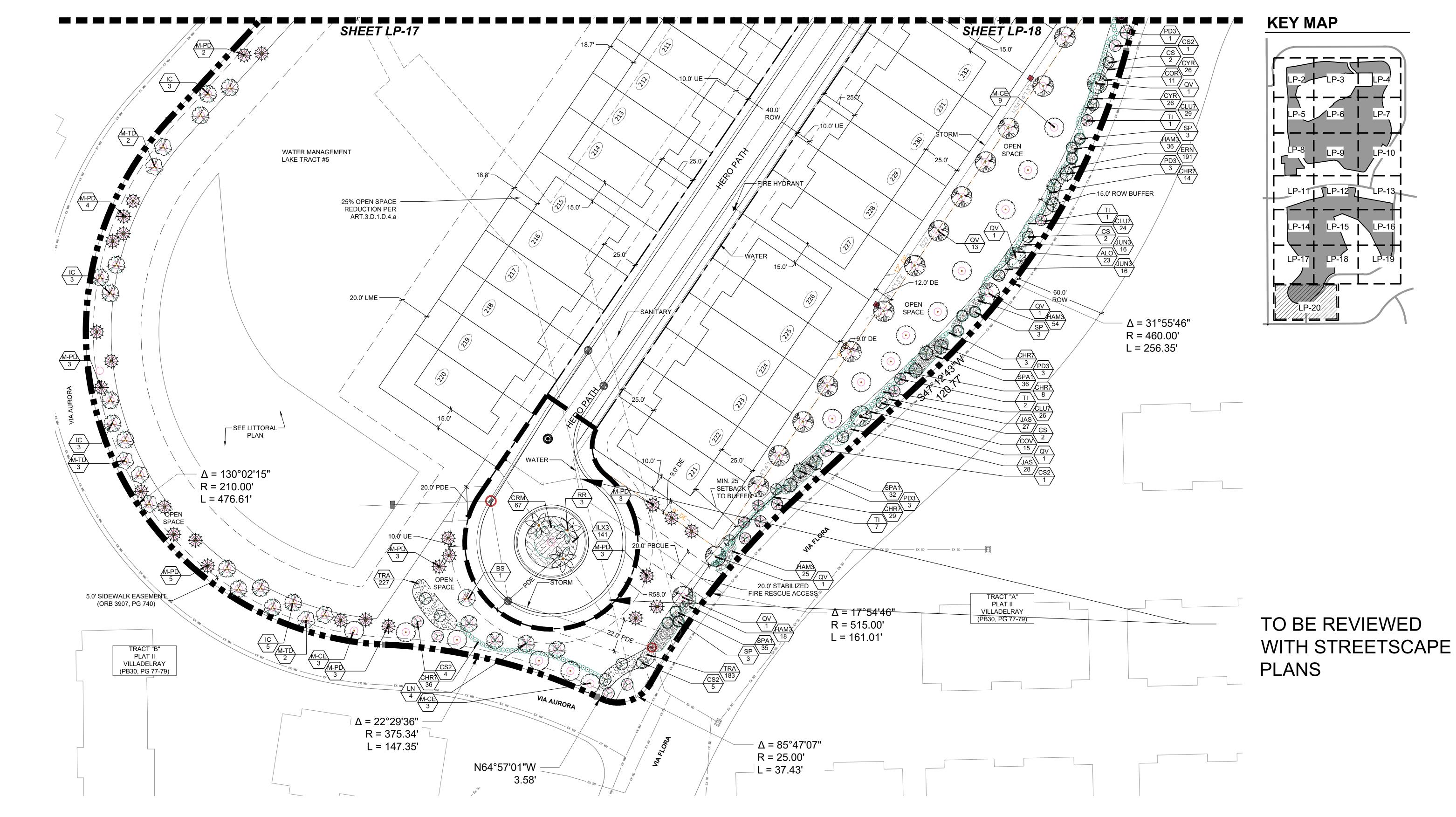


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Date:	03/19/2022
Project No.:	15-057.000
Designed By:	JWB
Drawn By:	JWB
Checked By:	JWB/WJT

Revision Dates:

2022-08-24-LMB 2023-01-19

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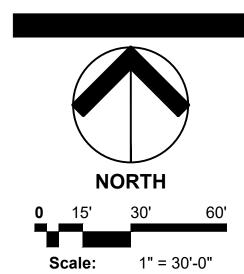




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 Date:
 03/19/2022

 Project No.:
 15-057.000

 Designed By:
 JWB

 Drawn By:
 JWB

 Checked By:
 JWB/WJT

Revision Dates:

2022-08-24-LMB 2023-01-19

LP- 20 of 24

### Tree Protection Management Plan

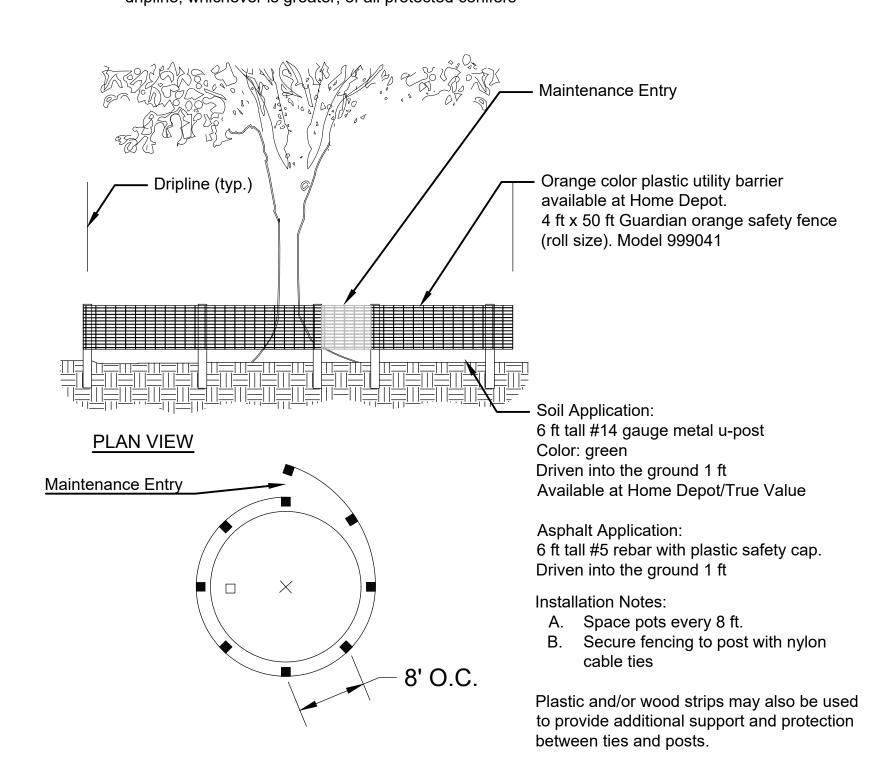
Prior to clearing any of the property for development, the contractor will do the following items:

Clearly identify and mark all trees to be preserved consistent with the approved Landscape Plan.

Install appropriate protective barriers around individual and groups of trees to be preserved.

A suitable protective barrier of metal, wood or other material shall be placed around individual protected trees:

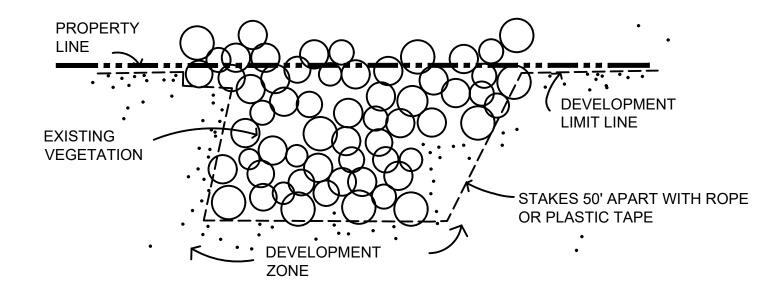
- a distance of 6' or more from all species of mangroves
- a distance of 6' or more, or at a distance outside of 2/3 of the radius of the
- dripline, whichever is greater, from all protected hardwoods
- a distance of 6' or more, or at a distance outside of 2/3 of the radius of the dripline, whichever is greater, of all protected conifers



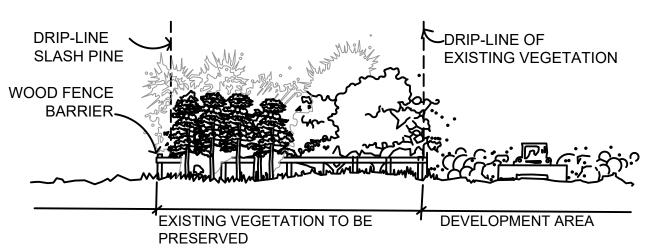


TREE PROTECTION BARRIER DETAIL

Unless conditioned in the vegetation removal permit, groups of trees or areas of vegetation to be preserved shall not require protective barriers. These areas will be marked by stakes installed at a maximum of 50' apart with rope or plastic tape attached to said stakes around the perimeter of the protected area.



Sturdy wood posts and rails shall be used to ensure that barricades can withstand construction activity.



Protective barriers or markings shall remain in place until they are authorized to be removed by staff or receipt of a CO.

There shall be limited development within tree preservation areas:

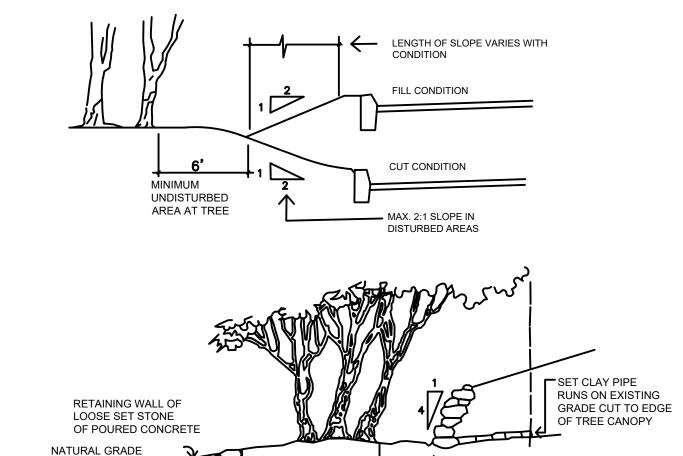
- maintained in its natural state
- provide permeable landscape natural. i.e., grass, mulch
- conform to governing landscape code.

There will be no attachment of signs, etc. to vegetation unless of a non-damaging

Light machinery or hand-labor is to be used if vegetation is to be installed in preservation areas.

No grade changes shall be made within tree preservation areas, which require trenching or cutting of roots unless conditioned. Utility lines shall be installed to protect root systems as much as possible.

No removal of soil or fill in tree preservation areas shall occur.



No clearing shall commence until all protection devices are installed, inspected and approved by the Zoning Division and Environmental Resource Management Department.

RETAINING WALLS AROUND EXISTING TREES

### TREE RELOCATION PROGRAM

Plant Species Requirements

Live Oaks - Best time to move is in their dormant season. Worst time to move is in the spring because of their flush of new growth and lack of precipitation. They should be root pruned at least two weeks in advance of the move and need to be watered in heavily the first two weeks after transplanting.

### Root Pruning and Transplanting

When it is determined that a tree or palm needs to be transplanted, it is beneficial and sometimes required that the plant be root pruned. Root pruning is done to reduce the size of an existing root ball in preparation for transplanting. The root ball is reduced to create a new root system large enough to sustain life in the tree/palm while making its move more effective for transportation. The time it takes for the root system to develop before transplanting will vary from tree to tree, depending on soil moisture content. An estimated wait time follows in the schedule listed below.

- 1. Clear the area around the tree that has been selected.
- 2. Determine the size of the root ball that is being prepared.

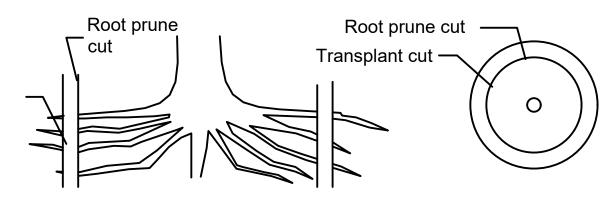
<u>Tree Caliper</u>	Root Ball
2-4"	36-42"
4-6"	42-48"
6-8"	48-60"
8-10"	72-84"
12-14"	84-96"
14-16"	96-108"
16-18"	108-120"
18-20"	120-132"
20-24"	132-144"
24-28"	144-156"
28-32"	156-168"
32-36"	168-180"
Sabal Palms	4' Root Ball
Coconut Palms	4-5' Root Ball
Queen Palms	4' Root Ball
Canary Island Date Palms	5-6' Root Ball
Reclinata Palms	6-8' Root Ball
Paurotis Palms	6-8' Root Ball
Sago Palms	3-4' Root Ball
Royal Palms	5-6' Root Ball
-	

- 3. Palms may be cut on three sizes leaving the open side toward the strongest northeast winds.
- 4. Broadleaf trees should be cut on two sides initially opposite each other.



### Transplant cut

5. Once the ball size has been determined, mark the spot around the ball and prepare for a 1' trench around the tree. Use sharp spades for root pruning and do not cut under the root ball. Leave old cut roots on top of root



- 6. Fill trench with existing soil with 1/3 peat humus mixed in. Leave a depression to hold water.
- 7. Irrigate with a mist head at root ball to help promote feeder roots and maintain watering.
- 8. Wait time after root pruning until transplanting per individual specifications, for differing types of plant material.

 =	
Ficus Trees	6 weeks to 90 days
Palms	6 weeks to 90 days
Oaks, 6" and under	6 weeks to 90 days
Oaks, 6" - 12"	90 days to 6 months
Oaks, 12" and above	6 months to 1 year

- 9. Fertilize top of ball with milorganite after root pruning.
- 10. Some bracing may be required after root pruning.
- 11. A full top will encourage feeder root growth. Previous to transplanting, remove enough top growth to balance the smaller root system. Thin out and trim back unwanted foliage and branches.
- 12. Cut trench for transplanting outside of root pruned trench to allow for feeder roots.
- 13. Lift tree from one side to break suction and peel off root ball. If it doesn't break then dig under to sever roots.

#### Specifications:

- 1. Contractor shall be responsible for locating any and all underground utilities or obstructions prior to commencing work. In case of conflict with proposed work, notify landcape architect prior to commencement of work.
- 2. Contractor shall provide adequate irrigation to assure the healthy establishment of relocated trees.
- 3. Pruning of limbs shall occur only as necessary to facilitate relocation and shall maintain the natural shape and charracter of
- 4. Finish grade for top of tree plug shall meet the proposed finsih grade after relocation.
- 5. All plant materials shall be relocated to freshly dug holes with similiar size and type of tree moving equipment. The holes should be filled 1/3 with water, place tree, back fill and water in thoroughly, being sure to avoid air pockets. Provide 4"-6" dish around newly dug plant material to retain water. Water thoroughly after planting as specified.
- 6. All trees exhibiting shallow root systems shall be staked as
- 7. Prune, thin out and shape relocated trees, shrubs and understory in accordance with desired effect of the landscape architect and to retain natural character. Remove all vines and exotic vegetation. Maintain relocated plant materials for a period of not less than 90 days. Maintain by watering, removing of exotic vegetation or weeds, providing insecticide applications and mulching.
- 8. The contractor shall protect trees during relocation procedures from scrapes, scars and undue breakage. Understory plant material moved with primary species shall be protected against damage.
- 9. Landscaping contractor shall provide a one (1) year warranty on all relocated material.

**Urban Design Land Planning** Landscape Architecure

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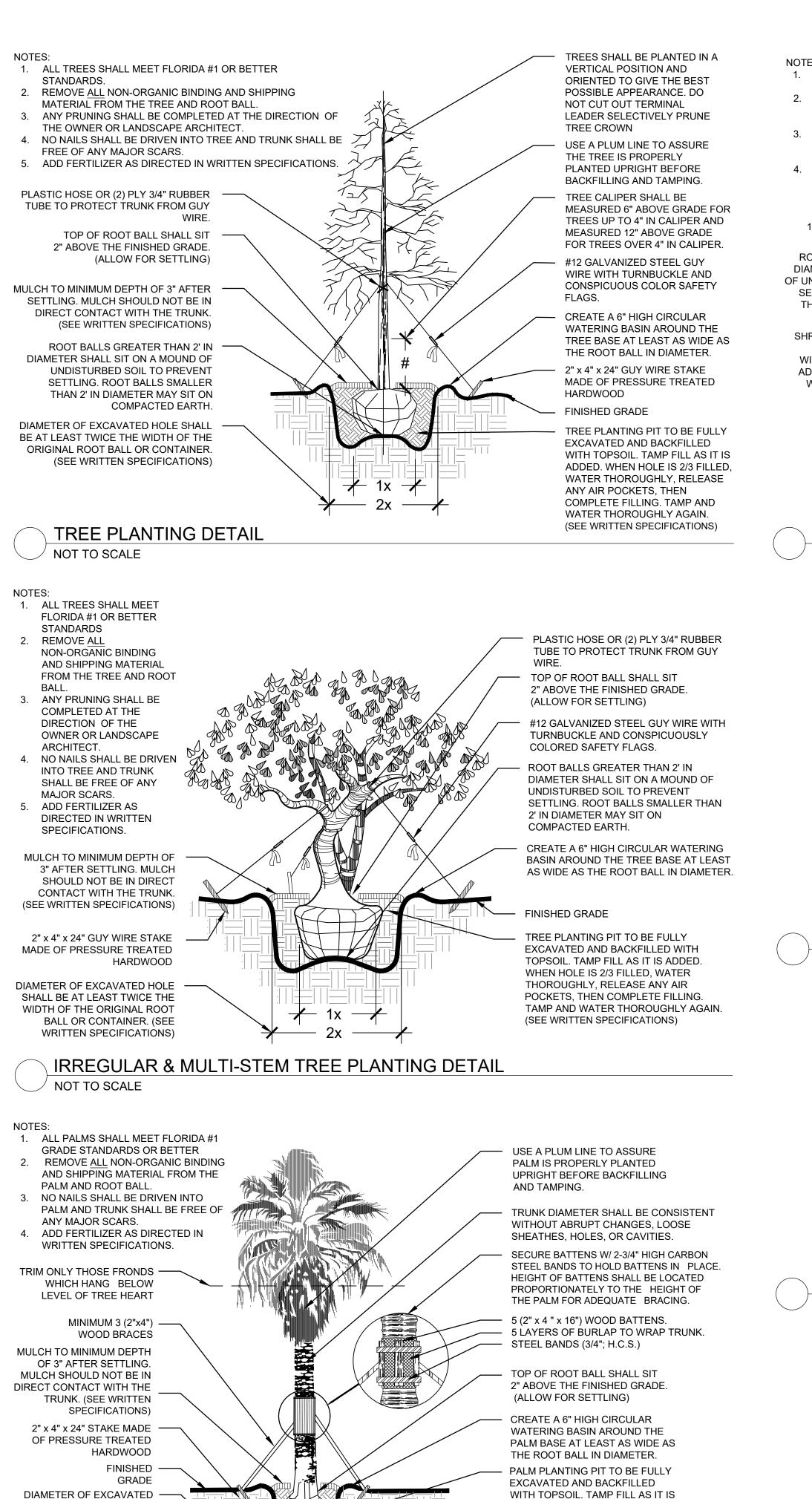
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NORTH

**Scale:** 1" = 30'-0" 03/19/2022 **Project No.:** Drawn By: JWB/WJT Checked By: **Revision Dates:** 

2022-08-24-LMB

2023-01-19



HOLE SHALL BE AT LEAST

TWICE THE WIDTH OF THE

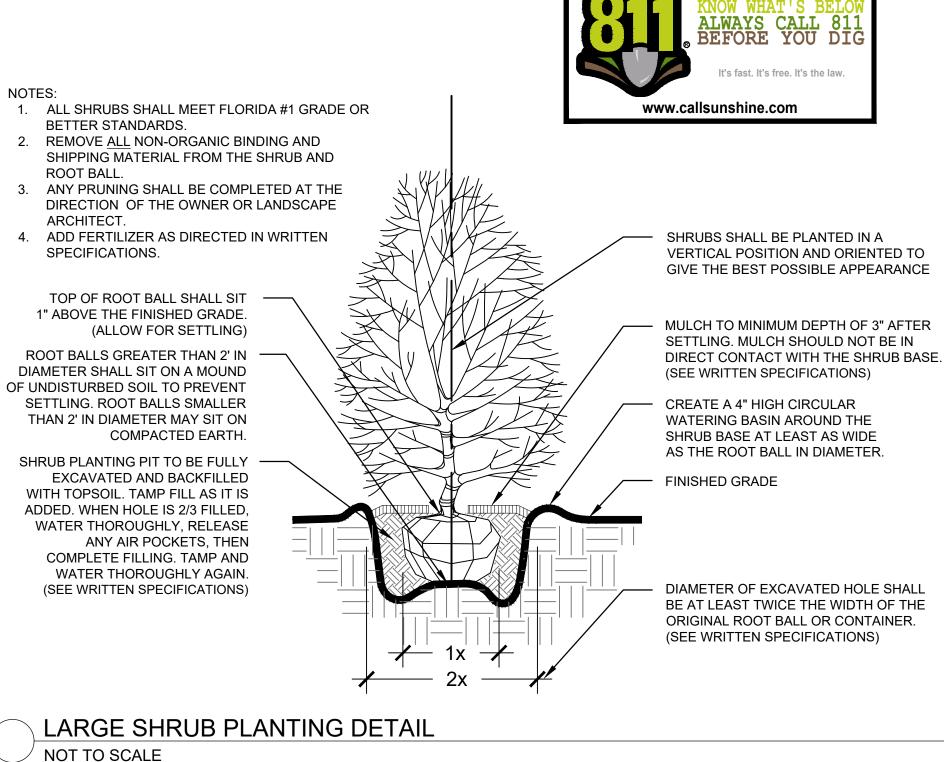
ORIGINAL ROOT BALL OR

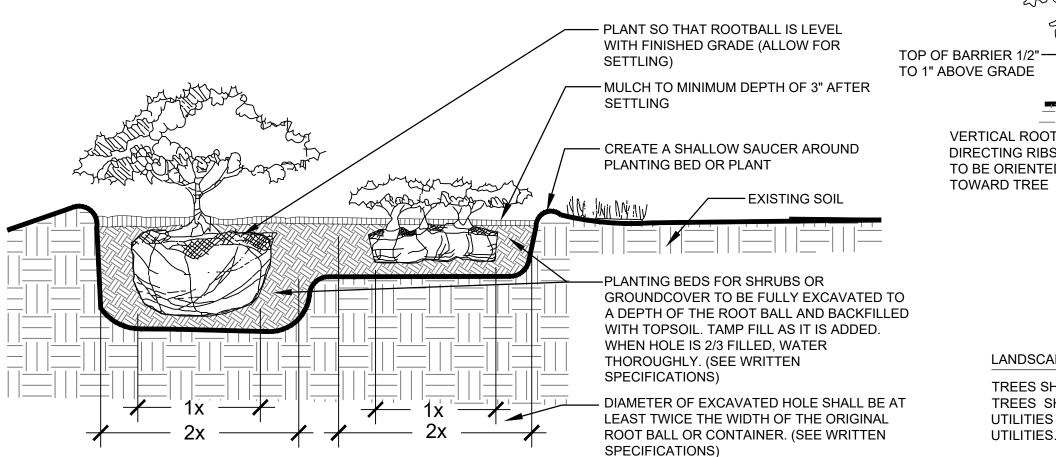
SPECIFICATIONS)

PALM PLANTING DETAIL

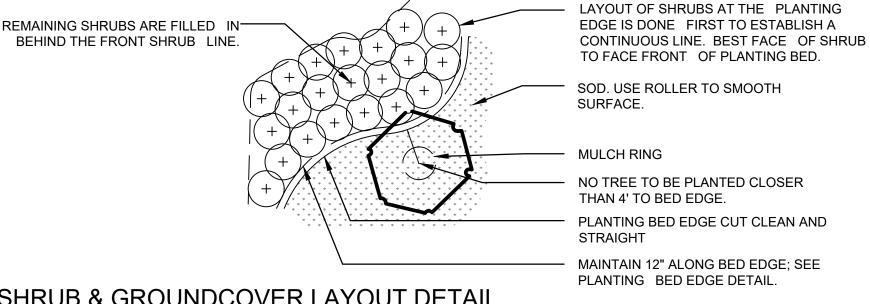
CONTAINER. (SEE WRITTEN

NOT TO SCALE

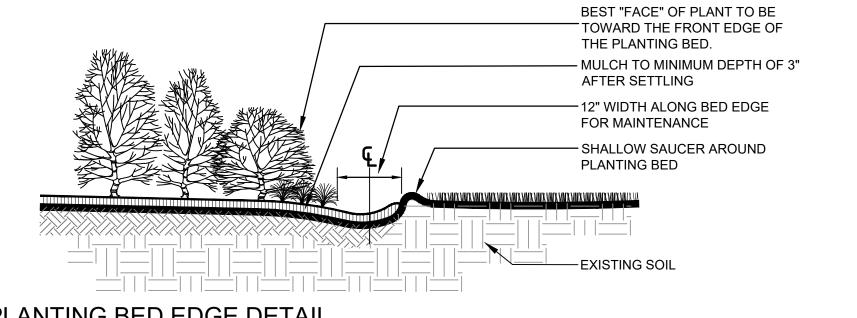




SHRUB AND GROUND COVER PLANTING DETAIL NOT TO SCALE



### SHRUB & GROUNDCOVER LAYOUT DETAIL NOT TO SCALE



PLANTING BED EDGE DETAIL

NOT TO SCALE

ADDED. WHEN HOLE IS 2/3 FILLED,

WATER THOROUGHLY, RELEASE

WATER THOROUGHLY AGAIN.

(SEE WRITTEN SPECIFICATIONS)

ANY AIR POCKETS, THEN COMPLETE FILLING, TAMP AND **UB 48-2 SPECIFICATIONS** 48" DEEPROOT TREE ROOT BARRIER SPECIFIED TREE ROOT BARRIERS ARE A MECHANICAL

BARRIER AND ROOT DEFLECTOR TO PREVENT TREE ROOTS FROM DAMAGING HARDSCAPES, AND LANDSCAPES. ASSEMBLED IN 2 FOOT (61 CM) LONG MODULES TO CREATE VARYING LENGTHS FOR LINEAR APPLICATION DIRECTLY BESIDE A HARDSCAPE ELEMENT, ADJACENT TO ONE SIDE OF A TREE, OR FOR LARGE PERIMETER SURROUND APPLICATIONS WITH A MINIMUM 8 FOOT (2.43 M) DIAMETER USING 12 PANELS.

A. MATERIALS

(121.92CM)

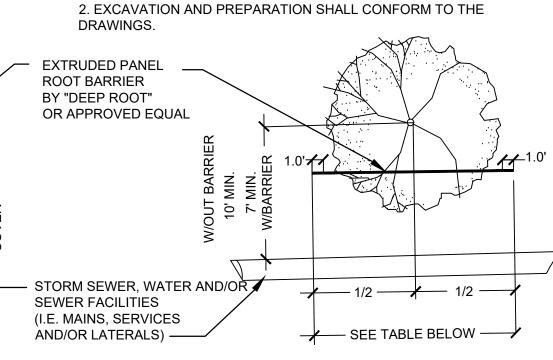
1. THE CONTRACTOR SHALL FURNISH AND INSTALL TREE ROOT BARRIERS AS SPECIFIED. THE TREE ROOT BARRIERS SHALL BE EITHER PRODUCT UB 48-2 AS MANUFACTURED BY DEEPROOT PARNTERS, L.P., 81 LANGTON STREET, SUITE 4. SAN FRANCISCO, CA 94103 (800.458.7668), OR APPROVED EQUAL. THE BARRIER SHALL BE BLACK, EXTRUDE PANELS, OF 0.80" (2.03MM) WALL THICKNESS IN MODULES 24" (61CM) LONG 48" (122 CM) DEEP: MANUFACTURED WITH HOMOPOLYMER POLYETHYLENE WITH ADDED ULTRAVIOLET INHIBITORS; RECYCLABLE. EACH 2 FOOT (61CM) SECTION SHALL HAVE:

NOT LESS THAN 4 MOLDED INTEGRAL VERTICAL ROOT DIRECTING RIBS OF A MINIMUM 0.080" (2.03MM) THICKNESS PROTRUDING 1/2" (12.7MM) AT 90° FROM INTERIOR OF THE BARRIER PANEL, SPACED 6" (154 MM) APART. SEE PANEL DRAWING.

AN INTEGRATED JOINING SYSTEM PROVIDING FOR INSTANT ASSEMBLY BY SLIDING ONE PANEL INTO ANOTHER.

B. CONSTRUCTION AND INSTALLATION

1. THE CONTRACTOR SHALL INSTALL THE TREE ROOT BARRIERS WITH THE NUMBER OF PANELS AND IN THE MANNER SHOWN ON THE DRAWINGS. THE VERTICAL ROOT DIRECTING RIB SHALL BE FACING INWARDS TO THE ROOT BALL AND THE TOP EDGE SHALL BE 1/2" TO 1" ABOVE GRADE. EACH OF THE REQUIRED NUMBER OF PANELS SHALL BE JOINED IN A LINEAR FASHION AND PLACED ALONG THE ADJACENT HARDSCAPE OR WHERE SPECIFIED TO FORM A CIRCLE AROUND THE ROOT BALL.



ROOT BARRIER LENGTH					
SMALL TREE	16'	(8 PANELS)			
LARGE TREE	24'	(12 PANELS)			
PALM TREE	12'	(6 PANELS)			

LANDSCAPE AND ROOT BARRIER NOTE

′2' MIN. /— 5' MIN.

— 7' MIN. W/BARRIER 🛶

🖰 10' MIN W/O BARRIER 🚽

90° ROOT DEFLECTING RIBS

INTEGRAL PART OF PANEL

HOMOPOLYMER POLYETHYLENE

VERTICAL ROOT

**DIRECTING RIBS** 

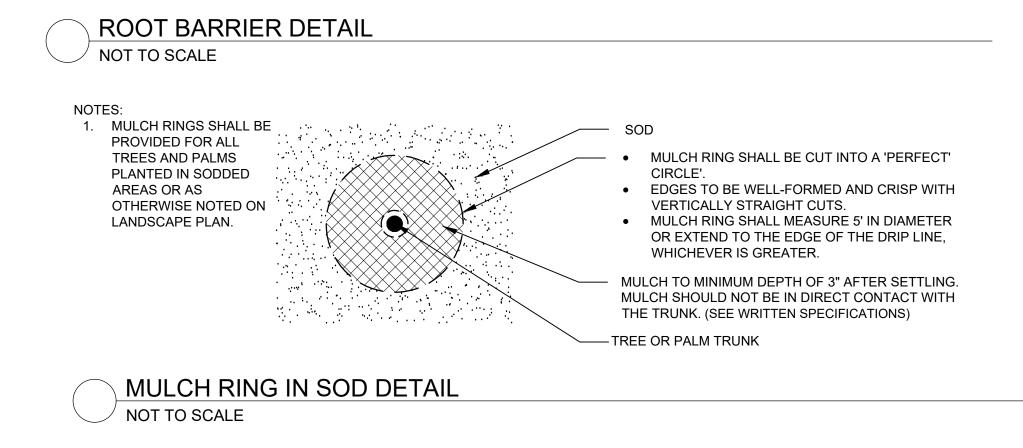
TO BE ORIENTED

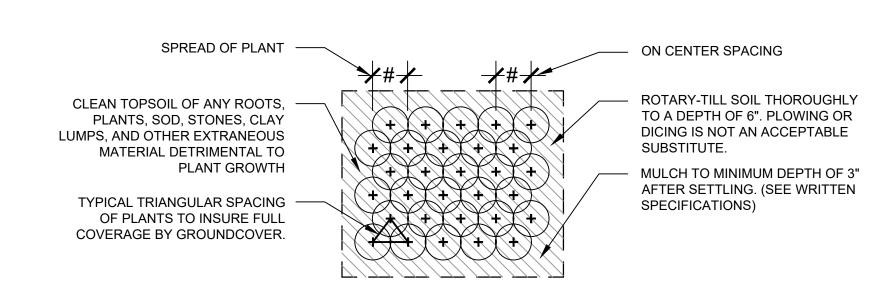
TOWARD TREE

PANEL 0.080" (2.03MM) THICK

TREES SHOWN ON THIS PLAN ARE FOR GRAPHIC REPRESENTATION ONLY. TREE SPACING IS BASED ON DESIGN REQUIREMENTS AND THE TREES SHOWN ON THESE PLANS ATTEMPT TO ACCOMPLISH THAT SPACING WHILE MAINTAINING THE REQUIRED SETBACKS FROM UTILITIES AND OTHER INFRASTRUCTURE. TREES MAY BE FIELD ADJUSTED TO AVOID CONFLICTS WITH DRIVEWAYS AND UNDERGROUND UTILITIES. IN ANY CASE THE TREES SHALL BE LOCATED IN THE FIELD IN ACCORDANCE WITH THE PLANTING DETAILS SHOWN HEREON.

ADDITIONALLY, TREES ARE TO BE INSTALLED WITH A TEN FOOT (10') SEPARATION FROM ANY STORM SEWER, WATER AND OR SEWER MAIN AND/OR SERVICE, HYDRANTS, AND LIFT STATIONS. IF A TEN FOOT (10') SEPARATION CANNOT BE ACHIEVED, THE TREE CAN BE INSTALLED WITH A ROOT BARRIER SYSTEM. REFER TO THE "ROOT BARRIER" DETAIL FOR INSTALLATION REQUIREMENTS. HOWEVER, IN NO CASE SHALL A TREE ENCROACH INTO A UTILITY EASEMENT WITHOUT PRIOR APPROVAL FROM THE UTILITY PROVIDER AND ONLY SOD CAN BE INSTALLED WITHIN 7.5' OF A FIRE HYDRANT UNLESS PRIOR APPROVAL BY THE FIRE MARSHAL AND UTILITY PROVIDER.





**GROUND COVERS & ROOTED CUTTING PLANTING DETAIL** NOT TO SCALE

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a (1) O

**NORTH** 

**Scale:** 1" = 30'-0" 03/19/2022 **Project No.:** 15-057.000

**Designed By:** Drawn By: JWB/WJT

Checked By:

**Revision Dates:** 2022-08-24-LMB 2023-01-19

#### NADTI OFNEDAL

By bidding on this project and/or signing a contract for landscape work, the Contractor acknowledges that he/she has read and understood these specifications in their entirety, that he/she has inspected the site, and that he/she will abide by all plans, specifications, and conditions found herein. Any perceived conflicts or concerns within the specifications or on the plant list, including unavailability of materials, are to be brought to the attention of the Landscape Architect prior to bid submission.

#### 1.01 WORK INCLUDED

- A. Contractor shall obtain or ensure that all necessary permits have been granted to the Owner for work on the Owner's properties or in any adjacent easements prior to commencement of work
- B. All planting and construction work shall be executed as shown on the provided drawings, schedules, and specifications.
- C. Any additional work or materials required to install landscape elements as called for on the plans, specifications or plant list shall be provided and installed by the Contractor.
- D. Finish Grade Elevations: 2 inch below top of pathway edging.
  E. The Contractor shall be entirely responsible for all work until final acceptance by the Owner.
  The Contractor shall protect all materials and work against injury and shall provide and maintain all necessary guards for the protection of the public. He shall be held responsible for any negligence during the execution of the work.

#### 1.02 QUALITY ASSURANCE

- A. All work specified herein shall be performed by a single firm specializing in landscape work. The Landscape Architect and the Owner retain the right to approve any proposed subcontractors prior to awarding the contract.
- B. Ship landscape materials with certificates of inspection required by governing authorities. Comply with all regulations applicable to landscape materials.
- C. Package standard products with manufacturers certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agricultural Chemists, wherever applicable.
- D. Provide trees, palms, shrubs and groundcover grown in a recognized nursery in accordance with good horticultural practice. Materials must be healthy and vigorous, free of disease, insects, eggs, larvae, and defects such as decay, rot, knots, sun scald, injuries, abrasions, and poor or unusual form. No collected material will be permitted unless specific written approval is granted.
- E. Do not make substitutions. If specified landscape material is not available at time of planting, submit proof of non-availability and provide a list of proposed equivalent material. Once authorized, adjustments to the contract will be made. Owner is not financially responsible for unauthorized substitutions.
- F. Plant materials of larger size than specified may be used if acceptable to Landscape Architect and if sizes of root balls are increased proportionately. Installation of larger sizes will not increase contract amount unless specifically authorized by Owner.
- G. Owner and Landscape Architect reserve the right to inspect, approve or reject at any time plant materials or work either at the nursery or at the site which does not meet the condition in the plans, plant list or specifications.
- H. The Contractor shall be responsible for planting the landscape in complete accordance with all applicable codes, ordinances, and laws. Any modification made to conform with said codes, laws and ordinances, after the bid is awarded, shall be completed at the Contractor's expense at no additional cost to the Owner.

### 1.03 SUBMITTALS

- A. Certification: Submit certificates of inspections as required by governmental authorities, and manufacturers or vendor's certified analysis for soil amendments and fertilizer materials. Submit other data substantiating that materials comply with specified requirements.
   B. Submit seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentage by weight, and percentage of purity, germination,
- and weed seed for each grass seed species.C. Planting Schedule: Submit planting schedule showing schedule dates for each type of planting in each area of site.
- Maintenance Instructions: Submit typewritten procedures for maintenance of landscape work, through final acceptance.

#### 1.04 DELIVERY, STORAGE AND HANDLING

A. Packaged Materials: Deliver packaged materials in original containers showing manufacturer's guaranteed weight analysis and name of manufacturer. Protect materials from damage and deterioration during delivery and storage.

- B. Trees, shrubs, and ground covers: Provide freshly dug trees, palms, and shrubs. Do not prune prior to delivery. All plants shall be handled and stored so that they are adequately protected from drying out, from sun or wind burn, and from any other injury at all times. Any plant determined to be wilted or burned may be rejected at any time, whether in the ground or not. Plants shall be handled only by their containers or root balls, not by stems or trunks. Trees that are scraped or scarred during delivery, storage, or planting will be rejected. The on-site storage area shall be approved prior to the delivery of any plant materials. Do not bend or bind plants in such a manner as to damage bark, break branches, or destroy natural shape. Provide protective covering during delivery.
- C. Deliver plant materials after preparations for planting are complete, and plant immediately. Roots or balls of all plants shall be adequately protected at all times from sun and/or wind. Balled and burlapped (B&B) plants that cannot be planted immediately upon delivery shall be set on the ground and protected by having soil, wet peat, or other acceptable material covering the roots or balls keeping them moist.
- D. Do not remove container grown stock from containers until planting time.
  E. Label at least one tree, one palm and one shrub of each variety with a securely attached
- waterproof tag bearing legible designation of botanical and common name, if requested by Owner.
- F. Sod: Time delivery so that sod will be placed within 24 hours after stripping. Protect sod against drying and breaking of rolled strips.

### 1.05 JOB CONDITIONS

- A. Proceed with and complete landscape work as rapidly as portions of site become available.
   B. Utilities: Determine location of overhead and underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Forty eight (48) hours prior to digging, call the appropriate Utility Authority to have all utilities identified and marked in order to avoid conflicts.
- C. Protection of Existing Structures: All existing buildings, walks, walls, paving, piping, and other items of construction and planting already completed or established shall be protected from damage. All damage resulting from negligence shall be repaired or replaced, including but not limited to marks on pavers and cracks within existing walkways caused by the Contractor. The Owner may, at his discretion have any damage repaired by others and subsequently costs back-charged to the Contractor.
- D. Protection of Existing Plant Material: The Contractor shall be responsible for all unauthorized cutting or damage to existing trees or shrubs caused by careless operation of equipment, stockpiling of materials, etc. This shall include compaction by driving or parking inside the drip-line of any tree, or spilling of oil, gasoline, or other deleterious materials within the drip-line of any tree. No materials shall be burned.
- E. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Landscape Architect before planting.

## PART II - PRODUCTS

Nematodes

### A. The Contractor is required to obtain a soil sample and perform a soil analysis test to

- determine the existing soil composition and conclude whether it complies with the composition criteria below.B. Where topsoil does not meet the specified limits within the project site, it shall be furnished.
- Throughout all parts of site where finish grades and contour lines differ from existing contour lines, bring to finish grade contours shown on "Grading Plan."

  C. Topsoil shall be friable, fertile soil with representative characteristics of local soils. It shall be
- free of heavy clay, marl, stone, extraneous lime, plant roots, refuse and/or solid waste, sticks, brush, construction demolition debris, and any other deleterious materials. There shall be no noxious weeds or weed seeds (i.e., nut grass, Bermuda grass and the like). In no case shall there be more than five percent (5%) by dry weight of clay lumps or stones larger than 1". It shall test in the pH range of 6.0 to 7.2 and shall contain no substance that will impede plant growth. The Contractor shall have topsoil laboratory-tested at his expense and approved by Landscape Architect or Owner prior to material delivery.

DRY WEIGHT MEASURE PARTICLE SIZE

### Topsoil shall conform to the following specifications:

none

Organio mattoi	270 170	
Silt/Clay	2% - 10%	< 0.074 mm
Sand	85% - 98%	0.075 - 3.00 mm
Gravel	0% - 5%	4.75 mm - 1 inch
The analysis shall a	lso show the following ranges:	
Soluble salt	.2 - 1.0mmmhos/cm	
Nitrogen	25-150 PPM	
Phosphorus	26 - 39 PPM	
Potassium	50 - 250 PPM	
Calcium	500 - 2500 PPM	
Magnesium	50 - 500 PPM	
Iron	2.5 - 25 PPM	
Manganese	2.5 - 25 PPM	
Zinc	2.5 - 25 PPM	
Copper	1.3 - 5 PPM	
Boron	0.5 - 1.5 PPM	
Sulphur	15 - 200 PPM	
Chlorine	less than 100 PPM	
Sodium	less than 10	

- 2.02 SOIL AMENDMENTS AND FERTILIZERS

  A. Peat Moss: Peat moss shall be a commercial, baled sphagnum material, free of woody
- material, minerals, or foreign matter, with a pH range of 3.0 5.5.
- B. Sand: Sand shall be clean, sharp, and free of all deleterious material.
  C. Lime: Natural limestone (Dolomite) containing not less than 85% of total carbonates, ground so that not less than 90% passes a 10-mesh sieve and not less than 50% passes a 100-mesh
- D. Humus Soil Conditioner: Consisting of yard trimmings and biosolids co-compost.E. Fertilizer: Fertilizer shall be a commercial grade, granular, slow release "pre-plant" type
- Fertilizer shall be delivered to the site in the original unopened container, bearing the manufacturer's guaranteed analysis. Any opened, caked, or damaged fertilizer will be rejected.
- rejected.

  2. Tree, palm, shrub and grass fertilizer shall be "UF (University of Florida) Formulated" product 8-2-12 or 8-2-13 with minor elements as an all-purpose fertilizer or equal, and
- product 8-2-12 or 8-2-13 with minor elements as an all-purpose fertilizer, or equal, and applied according to the manufacturer's direction.

  3. Application of fertilizer shall be consistent with the current recommendations of the Green
- Industries Best Management Practices.
  4. Fertilizer shall be applied by an individual who has successfully completed the GI-BMP program and holds a current Urban Fertilizer License or as required by the State and Local Ordinances.

#### **2.03 WATER**

A. All water necessary for planting and maintenance shall be of satisfactory quality to sustain adequate growth of plants and shall not contain harmful, natural or man-made elements

approved equal, free of foreign materials and weed seeds. Minimum depth after settling shall

- 2.04 OTHER LANDSCAPE PRODUCTS

  A. Mulch: Mulch shall be shredded Melaleuca, Eucalyptus, Grade "A" Pine Bark Nuggets, or
- B. Guying and Bracing: Tree guying and bracing shall be the responsibility of the Contractor in accordance with the planting details to insure stability and maintain plants in an upright
- position.

  C. Anti-desiccant: Anti-desiccant shall be "Wiltpruf" or equal, if specified on plans.

  D. Tree Wound Paint: Tree wound paint shall be an asphaltic base paint containing an
- antibacterial agent, specially prepared for tree surgery work.
   E. Super Absorbent Polymer: "Terra Sorb" or approved equal as packaged in 3 oz. Handy Pac composed of synthetic acriamide copolymer, potassium, acrylate. Particle size of 1.0 mm to

3.0 mm and absorption rate of 300 times its weight in water, if specified on plans.

#### Apply dry, using the following amounts:

- For trees and palms up to 36" diameter root ball, use one 3 oz. Handy Pac.
   For trees and palms over 36" diameter root ball use two 3 oz.
- 3. Handy Pacs. Broadcast throughout planting hole and backfill as per manufacturers specifications.

#### For container grown plants:

Container Size Application Rate
1 Gallon 1 Handy Pac / 9 Containers
3 Gallons 1 Handy Pac / 4 Containers
7-10 Gallons 1 Handy Pac / 2 Containers
20 Gallons 1 Handy Pac / 1 Container

#### 2.05 PLANT MATERIAL

- A. Plant list is part of this specification section. The Contractor shall be responsible for furnishing and installing all plant materials shown on the drawings and plant list. In case of conflict between the two documents, the drawings shall rule.
- B. Quality: Trees, palms, shrubs, and other plants shall be Florida #1 or better as defined in the latest edition of Grades and Standards for Nursery Plants, Florida Department of Agriculture and Consumer Services. Multi-trunked trees will not be accepted unless they are specifically specified in the planting plans. All plants shall have a normal habit of growth and shall be sound, healthy, and vigorous. Trees shall have normal well-developed branching structures and vigorous root systems that are not root or container bound.
- 1. Balled and burlapped plants (BB or b&b) shall be dug with firm, natural balls of earth, of sufficient depth and diameter to include the fibrous and feeding roots. Plants with cracked, dry, or broken balls will not be accepted, nor will plants with root balls of insufficient size.
- All plants, other than those collected on site, shall be nursery grown in accordance with good horticultural practices and under climatic conditions similar to the site for at least two years. Transplanting or root pruning shall have taken place during growth.
- C. Size: Plant sizes shown in the plant list are minimums. When a plant size is given by height and spread or by container size, all specifications are minimums to be met or exceeded. All trees and shrubs shall be measured when their branches are in a normal position. Spread dimensions specified refer to the main body of the plant and not from extreme branch tip to tip. Height is measured from the soil line to the average height of the canopy. Measurement does not include any terminal growth; the container or root ball is also not included.

Unless otherwise specified, the determining measurement for trees shall be caliper, which shall be measured 6" above the ground for trees up to 4" in caliper, and 12" above the ground for trees over 4" caliper.

### 2.06 GRASS MATERIALS

- A. Types: Sod type shall be as specified on the provided landscape plan and associated plant schedule.
- B. Dimensions: The sod shall be taken up in commercial size rectangles, preferably 12-inch x 24-inch.
- C. Measurement: Sod shall be measured on the basis of square footage. Contractor shall be responsible for complete coverage based on the square footage shown on plans; therefore,
- Contractor shall factor in cutting and shrinkage of materials.

  D. The sod shall be sufficiently thick to provide a dense stand of live grass. The sod shall be live, fresh and uninjured, at the time of planting. It shall be a soil mat of sufficient thickness, at least 2" thick, adhering firmly to the roots to withstand all necessary handling. It shall be free of weeds and other grasses. It shall be planted as soon as possible after being dug, and shall be shaded and kept moist from the time it is dug until it is planted. After approval, the area from which the sod is to be harvested shall be closely mowed and raked as necessary to remove excessive top growth and debris.

### 2.07 REJECTION, SUBSTITUTION, AND RELOCATION

- A. All plants not conforming to the requirements herein specified shall be considered defective and such plants shall be marked as rejected and removed from the site whether in the ground or not, at the Contractor's expense. Such removal shall take place immediately and new plants shall be brought in as replacements. The plant materials must meet all applicable inspections required by law.
- B. The Owner or Landscape Architect also reserves the right to require that plants be relocated after installation if their initial installation does not conform to the plans or the intent of the plans, or if the original location poses an unforeseen threat to other facilities, human life, health, or safety, or to site utilities. Such relocation shall be at the Contractor's expense.

### PART III - EXECUTION

### 3.01 GENERAL A Proceed with

- A. Proceed with and complete landscape work as rapidly as portions of the site become available.B. No planting shall be done until all operations in conjunction with the installation of the sprinkler system have been completed, final grades have been established, planting areas have been
- C. Adverse Conditions: When conditions potentially detrimental to plant growth are encountered during work, such as rubble or refuse fill, adverse drainage conditions, or obstructions, notify

  Owner or Landscape Architect before planting.
- Owner or Landscape Architect before planting.

  D. Work Scheduling: Work is to be scheduled to establish a logical sequence of steps for
- completion of each type and phase of landscape work, in such a way as to correspond with, and avoid damage and conflict with, other disciplines on site.

  E. Coordination with Sod/Lawn: Plant trees, palms, and shrubs only after final grades are established, and prior to sodding or lawn establishment. If such planting must be done after
- lawn work, protect lawn/sod areas during planting and promptly repair any resulting damage.

  F. Timing:

  1. Planting work shall not be started until the final subgrade has been established, berms
- Under no conditions shall work be done if weather or soil conditions are not satisfactory.
   Clean-up:
   At all times during the construction and installation, the site shall be maintained in a clean, orderly and safe condition. Streets and pavements shall be kept clean. Materials

have been constructed and fine finished grading completed.

and equipment for planting work shall be limited to the quantity required for the particular phase of work currently underway on the job site.
Protect landscape work and materials from damage due to landscape installation and maintenance operations, operations by other contractors and trades, and trespassers. Maintain protection during installation, Maintenance and Establishment periods. Treat, repair or replace damaged landscape work as directed.

### 3.02 SOIL PREPARATION

- A. Grading and soil preparation work shall be performed only during periods when best results can be obtained. If the moisture content of the soil is high enough that work would damage soil structure, grading and tilling operations shall be suspended.
- B. Before mixing in soil amendments, clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful or toxic to plant growth. Apply Herbicide for weed control as needed.
- C. Mix specified soil amendments and fertilizers with topsoil at rates specified. Delay mixing of fertilizer if planting will not follow placing of planting soil within a few days.

- For planting beds, mix planting soil either prior to planting or apply on surface of topsoil and mix thoroughly before planting.
- Mix lime with dry soil prior to mixing of fertilizer.
   Prevent lime from contacting roots of acid-loving plants.
- E. Unless drawings indicate otherwise, berms shall not exceed a 3:1 slope. Berms near buildings or in potentially troublesome drainage situations shall be checked for correct drainage by the project Engineer or Owner prior to planting.
- F. Tree and shrub planting beds which fall within or near parking lot areas shall be completely excavated and back-filled with topsoil. All shell-rock or other base materials, and all subsoil and debris, shall be completely removed from beneath such planting areas, to a minimum depth of 24".
- G. All tree and/or shrub planting areas within 36" of building foundations, and any other planting areas where significant buried construction debris is encountered, shall be excavated to a minimum depth of 24" and backfilled with topsoil as specified elsewhere in these specifications.

### 3.03 TILLING

- A. Before mixing, clean soil of roots, plants, clay lumps, stones in excess of 1" in diameter, and other extraneous or potentially harmful materials.
- B. After all soil conditioning (and topsoil if called for on plans) has been spread at specified rates, the areas to be planted should be thoroughly rotary-tilled to a depth of six (6) inches. Plowing or dicing is not an acceptable substitute for rotary-tilling.
- If the sprinkler system is installed after grading and tilling is completed, the backfill shall be retilled in the affected areas.
- When the subsoil, grading, topsoil addition, soil conditioning, and tilling have been accomplished, all areas so treated shall be compacted and settled by application of heavy irrigation to a minimum depth of twelve (12) inches. Erosion scars shall be repaired.

#### 3.04 FINE FINISH GRADING

- A. When preliminary grading has been completed and the soil has dried sufficiently to be readily worked, all lawn and planting areas shall be graded to the elevations indicated on the Engineering Plans. The top four (4) inches shall be completely free of stones larger than one (1) inch. Grades not otherwise indicated shall be uniform levels or slopes between points where elevations are given. Positive drainage away from buildings shall always be maintained. Surface drainage shall be directed as indicated on the drawings by remodeling surfaces to facilitate the natural run-off of water. All depressions where water will stand, all voids, erosion, settled trenches and excavations, and all ridges and rises shall be amended and/or removed leaving a smooth, even finish grade. If additional amended topsoil is required to accomplish the intent of this specification, it shall be according to the foregoing specifications for topsoil.
- All area shall be graded so that the final grades are 2" below adjacent paved areas, sidewalks, valve boxes, mowing strips, clean-outs, drains, etc., with appropriate adjustments for varying sod thicknesses. The intent is for water always to drain away from paving into lawn/sod areas.
- Eliminating all erosion scars prior to beginning planting.
   The Owner and/or his representative shall approve all final finish grades prior to planting.
- B. Prior to fine grading or the installation of plant material the Contractor shall obtain certification that the project area is at the grade levels proposed by the Civil Engineer or Landscape Architect from a licensed Surveyor. The Contractor shall fine grade the lawn and planting areas to bring the rough grade up to final finished grade allowing for thickness of sod and/or mulch depth.

### 3.05 PLANTING TREES AND PALMS

- A. Layout individual tree locations and areas for multiple plantings. Stake all locations and outline areas, then secure Landscape Architect's acceptance before the start of planting work.
  B. Prior to preparation of tree pits, ascertain the location of all electrical cables, all conduits, all utility lines, oil tanks and supply lines, so that proper precautions may be taken not to disturb
- or damage any existing conditions. Properly maintain and protect existing utilities. Should such underground or overhead obstructions be encountered that interfere with planting, the Contractor will inform the Landscape Architect or Owner's representative and shall be consulted as to the adjustment of the location of plants to clear such obstruction or the relocation of the obstruction.

  C. Tree pit locations shall be staked by the Contractor and approved by the Owner or Landscape
- Architect before digging. Pits shall be excavated to the depth and width indicated and all subsoil removed.
- D. Protect all areas from excessive compaction by foot traffic or machinery when bringing trees to the planting area.E. All excavated holes shall have vertical sides with roughened surfaces and shall be of a size
- that is at least twice the width of the original plant container or ball. In all cases the holes shall be large enough to permit handling and planting without damage to the roots or root ball.

  F. Excess soil shall be removed or utilized as directed by Owner or the Owner's representative. If the excess soil will not be used, it is the responsibility of the Contractor to remove and dispose
- of the discarded soil off site in an acceptable manner.

  G. Tree pits shall be backfilled with a topsoil mixture as specified elsewhere in these specifications Palm tree pits will be backfilled with a mixture of up to 95% sand and 5% organic material.
- H. Add fertilizer to tree pits as specified elsewhere in these specifications.
  I. Set balled and burlapped stock on a layer of 50% native soil and 50% topsoil compacted to a 6" depth. Loosen burlap from top of sides of the ball but no burlap shall be pulled from underneath. Remove non-organic binding material (if any) from tree ball. Immediately cut any damaged roots with clean shears. Using a plumb to assure that the tree is properly upright, begin filling the hole and tamping the fill material. When the hole is 2/3 filled, water thoroughly
- hole, re-tamp, and water again.
  J. Set container-grown stock as above, taking care not to damage roots when removing the container
  K. During planting, do not cover the top of the root ball with the soil mixture. All rope, wires, burlap mesh etc., shall be removed from the root ball. No synthetic burlap is allowed on any plant material. Synthetic burlap is unacceptable for rootballs. Trees shall be planted so that

and probe with a stick to be sure that no air pockets remain. Re-plumb, complete filling the

higher must be either reset or replaced at the discretion of the Owner or Landscape Architect; such work shall be at the Contractor's expense.

Create a watering basin around each tree at least as wide as the root ball in diameter formed

the top of the root ball is 2" above final grade. Allow for settling. Any trees resting deeper or

- by a circular ridge of soil at least 6" high.

  M. Each planting basin shall be mulched to a minimum depth of 3" (after settling). Mulch shall not be applied until the tree has been thoroughly watered and two days have elapsed. Mulch
- should be placed so that it is not in direct contact with trunks.

  N. All trees are to be staked or guyed per these specifications. All stakes shall be painted a conspicuous color or shall be flagged for visibility and public safety; guy wires shall be
- flagged.

  O. Palms shall be planted per above specifications.

### 3.06 PLANTING SHRUBS, VINES, AND GROUND COVERS

- A. The locations of all plants, bed outlines and all other areas to be planted shall be clearly marked with agricultural gypsum or landscape marking paint then approved by the Owner or Landscape Architect before any holes are dug.
- B. No planting shall be done until the area concerned has been satisfactorily prepared in accordance with these specifications.
- accordance with these specifications.C. No more plants shall be distributed in the planting area on any work day than can be planted and watered in that day.D. Unless otherwise indicated, all plants shall be planted in pits, centered as called for on the
- plant list, and set in 24" depth of topsoil as specified elsewhere in these specifications to such depth that the soil line of the plants will match the surrounding grade after settling. Plants shall be planted in a vertical position and oriented to give the best possible appearance or relationship to adjacent structures or features. Remove all inorganic containers or binding. All damaged roots shall be cut away cleanly. Planting soil shall be placed and compacted carefully to fill all voids and avoid root injury. When the hole is 2/3 filled, water thoroughly. The hole shall then be filled to finish grade and a shallow saucer shall be formed around each bed.
- After settling, soil shall be added as needed to bring the hole to grade level.

  E. Azaleas and other ericaceous and acid-loving plants shall be backfilled with a mixture of 20% topsoil and 80% acid peat. They shall be set so that the bases of the plants are slightly higher than they grew in the container or nursery after settling. At no time shall lime in any form be brought into contact with the plants or their roots. Mulch with pine straw unless noted otherwise.
- F. Add fertilizer to plants as outlined in section 2.02.
  G. Vines shall be planted in pits containing at least 2 cubic feet of prepared topsoil. They shall be
- planted in the same manner as shrubs, and shall be mulched. Vine stems shall be fastened to walls, trellises, etc. as specified in the drawings.
  H. Groundcover plants shall be laid out in their proposed planting locations without being removed from their containers after the soil is properly prepared per these specifications. Planting methodology is the same as for other shrubs.

Any plants which, after settling, rest significantly higher or even slightly lower than they grew

in the nursery or container are subject to resetting or replacement at the discretion of the

J. If called for in the plans, landscape edging shall be installed as specified.
 K. All planting beds and individual plantings shall be mulched with a minimum of 3" (after settling) of mulch as specified in this document. Mulch shall be free of weed seeds and other foreign matter.

OWNER or Landscape Architect. Such work shall be at the Contractor's expense.

## 3.07 ANNUAL AND SEASONAL COLOR BEDS A. Beds shall be mounded to a height 6" on top of the existing grade and composed of 50%

3.08 PRUNING

B. Soil shall be covered with ½" - 1" deep layer of Pine Fines Mulch or comparable product.

# A. All pruning shall be done in the presence of, and with the approval of, the Owner or

- Landscape Architect. Only clean, sharp tools designed for the purpose shall be used. The goal of pruning is always to preserve and enhance the natural character of the plant. Pruning shall be done per modern horticultural practice (see National Arborist Standards, latest
- B. Pruning shall be limited to the minimum necessary to remove injured twigs, branches, and fronds, to compensate for root loss suffered during digging and transplanting, and to thin and shape shrubs and trees. In no case shall more than 1/3 of the branching structure be removed. Damaged, scarred, frayed, split, or skinned twigs, branches, or limbs shall be pruned back to the next sound outside lateral bud, branch or limb. The terminal bud or leader shall never be removed.
- C. Prune trees and shrubs to retain required height and spread. Remove the minimal amount of wood necessary on flowering trees and shrubs. Remove only dead or dying fronds from palms. Cuts over 3/4" in diameter shall be treated with tree wound paint; all exposed living tissue shall be covered.
- tissue shall be covered.

  D. Existing Trees: If indicated on drawings, Contractor shall prune and thin existing trees on site.
  The use of climbing spurs is prohibited. All diseased, dead branches and those interfering with healthy plant growth shall be removed. Also, remove root suckers, low branches, and any others as directed by the Owner or Landscape Architect. Cuts shall be flush with the trunk or

limb and shall be painted with tree paint. Remove any nails, wires, etc. fastened to the tree.

### 3.09 PLANTERS - DECORATIVE OR STRUCTURAL

Install 3" of mulch over planting soil.

the edge of all paving and shrub areas.

- A. If specified, landscaping in planters shall be installed using the following method:
- Install 4" deep layer of fine crushed stone in bottom of planter.
   Install filter fabric over stone layer. Turn up edges of fabric all around.
   Install planting soil mix over filter fabric to within 3½" of top for planter. Do not compact
- planting soil.

  4. Install plant material as specified elsewhere in these specifications.

### 3.10 SODDING NEW LAWNS

- A. The Contractor shall sod all areas indicated and noted on the drawings. No sodding shall occur until areas to be sodded are cleared of any rough grass, weeds and debris, the ground brought to an even grade and specified amendments have been added. See details for specific amendments as per sod type.
- B. Whenever a suitable area has been graded and is ready for sodding the Contractor shall, when directed by the Landscape Architect, proceed at once with the sodding of the available areas. Sodding shall be incorporated into the project at the earliest practical time in the life of the contract. No sod which has been cut for more than seventy two (72) hours shall be used unless specifically authorized by the Landscape Architect or Owner after his careful inspection thereof. Any sod which is not planted within twenty four (24) hours after cutting shall be stacked in an approved manner and maintained properly moistened.
- C. The sod shall be placed on the prepared surface, with edges in close contact, and shall be firmly and smoothly embedded by light tamping with appropriate tools. Sod shall be rolled with 1,000 lbs. roller unless waived by the Landscape Architect or Owner.
- D. Where sodding is used in drainage ditches, sod panels shall be set in a staggered pattern, such as to avoid a continuous seam along the line of flow. Offsets of individual strips shall not exceed six (6) inches. At the inside of the curbs, sod shall abut squarely and evenly.
  E. On areas where the sod may slide, due to height and slope, the Landscape Architect or
- Owner may direct that the sod be pegged, with pegs driven through the sod blocks into firm earth, at suitable intervals.

  F. Any pieces of sod which, after placing, show an appearance of extreme dryness shall be
- removed from the work.

  G. Where placement of new sod abuts existing sodded areas, new sod must be placed in such a manner as to produce an even transition to existing sodded areas.

  H. It shall be the responsibility of the Contractor to bring the sod edge in a neat, clean manner to

### PART IV MAINTENANCE, ESTABLISHMENT AND WARRANTY PERIODS 4.01 MAINTENANCE AND ESTABLISHMENT PERIOD

- A. The Maintenance Period shall begin immediately after each plant is planted, and the Contractor shall continuously maintain all areas involved in this contract during the progress
- B. The Establishment Period shall begin on the first day after all planting and installation of all landscape elements is completed and initially accepted. The Contractor shall continuously maintain all areas from initial acceptance until final acceptance by the Owner. The Establishment Period shall continue for not less than ninety (90) continuous calendar days. Hurricane cut Sabal Palms shall have an Establishment Period of not less than one hundred and eighty (180) continuous calendar days. The Establishment Period will end at the time the project is given final acceptance. An inspection shall be made by the Owner or Landscape Architect to accept the completed work and issue a determination of substantial completion. Inspections may be performed on all or partially completed phased work under the Contract, as directed by the Owner.
- C. Maintenance of new plantings shall consist of, but not necessarily be limited to, pruning, watering, cultivating, weeding, mulching, tightening or replacing guys and stakes, resetting plants to proper grades or upright positions, furnishing and applying sprays as necessary to combat insects and disease, litter control, rolling, fertilizing and replanting.
  D. Planting areas and plants shall be protected at all times against damage of any kind for the

duration of the maintenance and establishment periods. If any plants are injured or damaged,

operations. Erect signs and barriers if required and remove when lawn and plantings are well

- they shall be treated or replaced as directed by the Owner or Landscape Architect at no additional cost. The Contractor is responsible for acts of vandalism or theft during the maintenance and establishment period unless this responsibility is assumed in writing by another party.

  E. Restrict foot and vehicular traffic from all lawn and planting areas after seeding and planting
- established and accepted by Owner.
  F. The Contractor shall be responsible for maintaining adequate protection of the site. Areas damaged by the Landscape Contractor's men or equipment, or the men or equipment of his Subcontractor's, shall be repaired at the Landscape Contractor's expense.
  G. The Contractor is responsible for keeping all plant materials adequately watered after installation even if the irrigation system is not operational. Plants shall receive a thorough watering immediately after planting. Afterwards, plants shall be watered during the maintenance and establishment periods per the requirements set forth in "Water
- irrigation system will not be provided, the Contractor is responsible for implementing the Watering Program identified in the Landscape Plans.
  H. The Landscape Contractor is responsible for keeping all plant materials adequately fertilized throughout the Maintenance and Establishment Periods. Fertilizer shall be applied at a rate to

Requirements for Newly Planted Grass, Ground Covers, Shrubs and Trees in Florida",

distributed by South Florida Water Management District. In those areas where a permanent

- keep plant materials healthy. All fertilizer shall be done under the direction of a licensed fertilizer operator.

  I. The Landscape Contractor shall control disease and pest infestations in the planting area. Upon approval, the Contractor shall implement the control measures, exercising extreme caution in using hazardous materials and taking all necessary steps to protect others on and near the job site. All disease and pest control shall be done under the direction of a licensed
- disease and pest control operator.

  J. Herbicide Weed Control: All landscape areas shall be free of nut grass, torpedo grass, and other noxious weeds until final acceptance of work.
- "Round-up" shall be applied to all planting areas as needed and determined on-site by the Owner for weed control. Apply per manufacturers specifications.
   "Ronstar" pre-emergent or OWNER - approved equal, shall be applied 2 weeks before
- planting. Apply per manufacturers specifications.

  3. Apply "Fusilade" in all areas where torpedo grass has emerged. Apply per manufacturers

4. Apply "Basagram" or "Marage" in all areas where nutgrass has emerged. Apply per

- manufacturers specifications.K. Mowing of turf will commence ten (10) days after installation. The height of cut will be 3". After the first cut, the Contractor shall adjust the frequency of mowing so that at each
- operation no more than 1/3 of the grass blade is removed per cutting.

  L. If the lawn surface becomes uneven or develops any low spots or gaps in the sod at any time during the maintenance or establishment periods, contractor to provide clean sand to fill all low spots and gaps to level the lawn surface. Roll the lawn immediately afterwards with a 1,000 lb. roller after thoroughly irrigating lawn. If required, level the lawn again, using the same procedure until a uniform level lawn surface is provided. Between the 15th and 20th day of the Establishment Period, the Contractor shall re-sod all spots or areas within the lawn where normal turf growth is not evident. Turf must be well established and free of bare spots and weeds to the satisfaction of the OWNER or Landscape Architect prior to final acceptance.
- All planted areas other than lawn shall be weeded at intervals of not more than ten (10) days.

  M. Application of fertilizer to be done between the fortieth (40) and fiftieth (50) day of the establishment period. Landscape Architect or Owner are to be notified a minimum of forty
- N. Improper maintenance or poor condition of any planting at the time of the termination of the scheduled Establishment Period may cause postponement of the final acceptance of the contract. Any material found to be dead, missing, or in poor condition during the establishment period shall be replaced immediately. Maintenance shall be continued by the Contractor until the work is acceptable.
- O. Inspection and Final Acceptance:
- In all cases the Landscape Architect will perform an initial and final inspection at the beginning and end of the Establishment Period, respectively. It is the responsibility of the Contractor to notify the Owner or Landscape Architect of the beginning and end of this period and to submit a written request for an inspection ten (10) days in advance.
- Following inspection(s), Landscape Architect will prepare a listing of outstanding items to be addressed prior to final acceptance. Final acceptance will be given once the outstanding items are completed, and the work performed to the satisfaction of the Landscape Architect and OWNER.
   Any material that is 25% or more dying shall be considered dead and must be replaced

at no charge. A tree shall be considered dead when the main leader has died or when

25% of the crown is dead. A tree that has suffered significant leaf drop but shows signs

of life may be left for later re-inspection. Such trees shall be subject to removal and replacement at any time up to and including the first re-inspection, as requested by the Owner or Landscape Architect. The Warranty Period for such trees shall not begin until after the second re-inspection.

#### 4.02 WARRANTY PERIOD

- A. Unless a different agreement is reached in writing between the Owner and the Contractor, all trees and other plant material, including ground covers, installed under this agreement shall be guaranteed to live and grow, and shall be warranted against defects, death and unsatisfactory growth for a period of one (1) year from the day of final acceptance of contract
- work.

  B. Non-living landscape elements shall also carry a one (1) year guarantee on materials, labor,
- and workmanship.

  C. Material found to be dead or in poor condition within the Warranty Period shall be replaced by
- the Contractor within fifteen (15) days of written notification by the Owner's representative. The Owner or Landscape Architect shall be the sole judges as to the condition of the material.
- D. Materials and labor involved in the replacing of materials shall be supplied by the Contractor at no additional cost to the Owner.E. Soil Testing: Should plant materials show yellowing or other signs of soil and/or nutritional

problems, the Owner or Landscape Architect may request soil testing and analysis. Such

- testing will be at the expense of the Contractor.

  1. Soil problems (as revealed by testing) shall be corrected by application of corrective chemicals and nutrients, removal and replacement of soil, or other measures as agreed upon by all parties. All such measures shall be at the Contractor's expense unless clear evidence establishes that the soil problem is not pre-existing and is caused by factors
- beyond the Contractor's control.

  F. Replacement and Conditions:
- Materials will be replaced as many times as necessary to satisfy the OWNER'S representative and the specifications. All replacement costs will be the responsibility of the Contractor.
- Replacements will be of the same size, species, and specifications as the original. No additional soil additives will be required unless significant amounts of soil mix are lost before or during replacement.
- Plant losses due to abnormal weather conditions such as floods, excessive wind damage (on properly staked or guyed trees), severe freezing, or hail will not be the responsibility of the Contractor.
- Deciduous materials will be guaranteed to break dormancy at the proper season.
   Materials planted during their normal dormant period will be guaranteed to resume normal growth at the proper time for that species.

### LANDSCAPE NOTI

installation practice.

or conflicts.

- 1. All proposed material shall be Florida No. 1 or better as set forth in "Grades & Standards for Nursery Plants," Part 1&2, Florida Dept. of Agriculture and Consumer Services, latest edition. No deviations will be permitted.
- By submitting a bid, the landscape contractor is responsible for providing the material specified on the plans. No substitutions will be accepted without prior written approval and acceptance by the Owner or his representative, or Landscape Architect.
- 3. Materials to be hand-selected at the discretion of the Owner or his representative, or Landscape Architect.4. All work shall proceed in a professional manner in accordance with standard nursery and
- Quantities on plant list are for convenience only. Landscape Contractor is responsible for all plants shown on planting plans. When discrepancies occur between plant list and planting plans, the plans are to override the plant list in all cases. Contractor is responsible for
- confirming sod quantities and certifying such to the Owner or his representative.

  6. Contractor is responsible for locating all underground utilities prior to digging. Notify the Owner or his representative, or the Landscape Architect immediately regarding discrepancies
- 7. Landscape Contractor to notify the Owner or his representative, or Landscape Architect at least three (3) working days prior to beginning any stage of work.
- Owner or Landscape Architect to be immediately notified of any discrepancies found in field.
   Owner or his representative, or Landscape Architect reserve the right to field adjust plant material on-site to avoid conflicts or discrepancies not anticipated in the planning process.

### TREES & PALMS

10. Existing plant material to be removed, except as noted.

- All trees, new and relocated, to be staked and guyed as detailed.
   No double or multi-trunk trees unless otherwise specified.
   Face of trees and palms to be located a minimum of 2'-0" off all sidewalks/bike paths or other
- paved surface, unless otherwise notated on plans.
  4. Root suckers on Live Oaks are not acceptable.
  5. All trees falling within grassed areas to have a mulch ring 3' in diameter, mulched 3" deep

### with no more than 1" deep directly adjacent to the trunk of the tree.

Architect.

- PLANTING BEDS1. Groundcover and shrubs to be laid out in a uniform and consistent pattern.
- All planting beds to receive mulch per plans.
   Landscape Contractor is responsible for verifying that clean top soil, meeting the attached specifications, exists in each planting bed prior to planting. Contractor shall add or amend top soil if necessary. Tree pits shall be backfilled as noted in attached specifications. Excavate all shrub and groundcover beds as specified and backfill with planting soil per
- specifications.

  4. All existing paving base material to be removed from planting areas and replaced with clean top soil prior to planting. Final grade within planting areas to be 2" below adjacent paved areas or top of curb.

Soil in landscaped areas shall be free of debris, including paving base or fill material, and

calcareous materials such as shell, lime rock, concrete, plaster and stucco. Planting areas

system providing 120% coverage with 50% overlap or utilizing a drip irrigation/low volume

watering system. No landscape installation shall occur until the irrigation system is

operational, unless approval is granted by Owner or his representative, or Landscape

containing excessive calcareous materials shall be excavated to a minimum depth of (2') two feet.

1. Landscape Contractor is responsible for replacing any damaged sod.

### IRRIGATION1. All landscape areas (including sod) shall be irrigated with an underground automatic sprinkler



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Jelray PUD

th County, Florida

**Planting** 

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Villa Delray F

NORTH

0 15' 30'

**Scale:** 1" = 30'-0"

03/19/2022

Project No.: 15-057.000

Designed By: JWB

Drawn By: JWB/WJT

2022-08-24-LMB 2023-01-19

**Revision Dates:** 

LP- 23

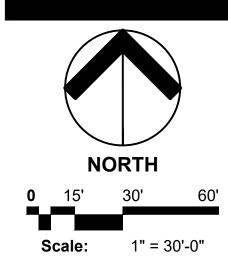
PLANT SCHEDULE			Іротания достигання	I	Inneuser
REES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	BS	54	Bursera simaruba / Gumbo Limbo 12` Ht., 5` Spr., 2.5" Cal., 5` CT.	Yes	High
	СВ	18	Calophyllum brasiliense / Brazilian Beautyleaf 12` Ht., 5` Spr., 2.5" Cal., 5` Clear trunk.	No	Very
	CE	34	Conocarpus erectus / Buttonwood 12` Ht., 5` Spr., 2.5" Cal., 5` Clear trunk.	Yes	High
	CS	66	Conocarpus erectus sericeus / Silver Button Wood 12` Ht., 2.5" Cal., 5` Clear trunk.	Yes	High
Control of the contro	IC	115	llex cassine / Dahoon Holly 12` ht., 5` spr., 2" cal.,single straight trunk	Yes	High
	LJ	33	Ligustrum japonicum / Japanese Privet 6` Ht., 6` Spr., 5-6 trunks, Tree form, Matched	No	Very
	PD3	14	Pinus elliotti densa / Slash Pine 14` Ht., 2.5" Cal., 5` Clear trunk.	Yes	High
	PD	5	Pinus elliotti `Densa` / Slash Pine 10` Ht., 2.25" Cal., 5` Clear trunk.	Yes	High
A A A A A A A A A A A A A A A A A A A	PD2	55	Pinus elliotti `Densa` / Slash Pine 12` Ht., 2.5" Cal., 4.5` Clear trunk.	Yes	High
	QV	200	Quercus virginiana / Southern Live Oak 12` Ht., 5` Spr., 2.5" Cal., 5` Clear trunk.	Yes	High
KISTING TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	BSE	6	Bursera simaruba / Gumbo Limbo Varying sizes	Yes	High
ALM TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	CG	34	Cocos nucifera `Green Malayan` / Coconut Palm 4` Of Clear Wood, Heavy Caliper	No	Very
	PE	6	Ptychosperma elegans / Alexander Palm 10-14` C.W., No Scarred Trunk	No	Medium
Sis	RR	62	Roystonea regia / Royal Palm 6-10` Clear Wood, no Scars on trunk, 20" Cal., Matched	Yes	Medium
The state of the s	SP	297	Sabal palmetto / Cabbage Palmetto 8' C.t. Min., Hurricane cut, 12-14" Cal.	Yes	High
ELOCATED TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
BSR	BSR	2	Bursera simaruba / Gumbo Limbo Relocated Tree	Yes	High
QVR	QVR	8	Quercus virginiana / Southern Live Oak Relocated tree	Yes	High
KISTING FLOWERING TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	DPE	12	Delonix poinciana / Royal Poinciana Varying sizes	No	High
	LME	1	Lagerstroemia x `Muskogee` / Lavender Crape Myrtle Multi-Trunk	No	High
KISTING PALMS	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	EAC	11	Adonidia merrillii / Christmas Palm	No	Medium
LOWERING TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	CS2	39	Cordia sebestena / Orange Geiger Tree 8` Ht OA., 1.5" Cal., 3-4' CT.	Yes	High
	DP	6	Delonix poinciana / Royal Poinciana 12` Ht., 2.5" Cal. 5` Single straight trunk	No	High
	LN	39	Lagerstroemia x `Natchez` / White Crape Myrtle Multi-Trunk 12` Ht., 4-6 Trunks, 3" Cal., 5` Clear trunk.	No	High
	ТН	27	Tabebuia heterophylla / Pink Tabebuia 12` Ht., 5` Spr., 5` Clear Trunk, 2.5" Cal.	No	High
	TI	35	Tabebuia impetiginosa / Pink Trumpet Tree 12` Ht., 2.5" Cal., 5` Clear trunk.	No	High
IITIGATION TREES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	M-CE	322	Conocarpus erectus / Buttonwood 12' Ht. x 5' Spr., 2.5" Cal,, 5' Clear Trunk	Yes	High
	M-PD	271	Pinus elliotti densa / Mitigation Slash Pine 12` Ht., 8` Trunk, 2.5" D.B.H.	Yes	High
	M-TD	224	Taxodium distichum / Bald Cypress 12' Ht. x 5' Spr., 2.5" Cal., 5' Clear Trunk	Yes	High
ELOCATED PALM	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
RRR	RRR	11	Roystonea regia / Royal Palm Relocated Palm	Yes	Moderate

				i	<u> </u>
RRR	RRR	11	Roystonea regia / Royal Palm Relocated Palm	Yes	Moderate
SPR	SPR	99	Sabal palmetto / Cabbage Palmetto Relocated Palm	Yes	High
ACCENT PLANTS	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	TI2	8	Cordyline fruticosa Red Hawaiian / Red Hawaiian Ti Plant 24" Ht., 3 Plant Per Pot, Full dense plant	No	Very
LARGE SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
$\odot$	CHR7	105	Chrysobalanus icaco `Red Tip` / Red Tip Cocoplum 5' HT., 36" SPR., 36" O.C., Full dense plant,	Yes	High
•	CLU8	595	Clusia flava / Small Leaf Clusia 42" HT., 36" SPR., 48" O.C., Full dense shrub	Yes	High
MEDIUM SHRUBS	CLU7 CODE	646 QTY	Clusia flava / Small Leaf Clusia 36" HT., 34" SPR., 36" O.C., Full dense shrub BOTANICAL / COMMON NAME	Yes NATIVE	Very DROUGHT TOLERANT
·	CHR	275	Chrysobalanus icaco `Red Tip` / Red Tip Cocoplum 24" ht., 24" Spr., 30" O.C., Full dense shrub	Yes	High
$\odot$	CLU3	361	Clusia flava / Small Leaf Clusia 24" HT., 24" Spr., 30" O.C., Full dense shrub	Yes	High
SMALL SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	CHS	239	Chrysobalanus icaco `Red Tip` / Red Tip Cocoplum 18" ht., 16" Spr., 24" O.C., Full dense shrub	Yes	High
$\odot$	FMG2	1,189	Ficus microcarpa `Green Island` / Green Island Ficus 24" Ht. x 24" Spr., 24" O.C. Full and Dense Shrub, Full to Base	No	Medium
SHRUB AREAS	CODE ACA3	QTY 68	BOTANICAL / COMMON NAME  Acalypha wilkesiana `Louisiana Red` / Louisiana Red Copperleaf 18" HT., 18" SPR., 48" O.C., Full dense plant	NATIVE No	DROUGHT TOLERANT
	ALO	278	Alocasia gageana `California` / Dwarf Elephant Ears 18" HT., 18" SPR., 24" O.C., Full dense plant,	No	Low
	COD	137	Codiaeum variegatum `Curlyboy` / Curlyboy Croton 18" HT., 18" SPR., 20" O.C., Full dense plant,	No	High
	COR	35	Cordyline fruticosa Red Pepper / Red Pepper Ti Plant 18" HT., 18" SPR., 36" O.C., 3-5 STEMS, Full dense plant	No	High
		405	Jasminum volubile / Wax Jasmine 18" HT., 18" SPR., 24" O.C., Full dense plant	No	Moderate
GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	MUH1	95	Muhlenbergia capillaris / Pink Muhly 24" HT., 24" SPR., 36" O.C., Full dense plant	Yes	High
	PEN	111	Pennisetum rubrum / Purple Fountain Grass 24" HT., 28" SPR., 30" O.C., Full dense plant	No	
	SPA1	202	Spartina bakeri / Sand Cord Grass 24" HT., 22" SPR., 36" O.C., Full rooted and dense plant	Yes	High
	FAK1	259	Tripsacum dactyloides / Fakahatchee Grass 24" HT., 22" SPR., 36" O.C., Fully rooted and dense plant	Yes	High
MEDIUM SHRUB 	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
\_\_\_\_\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	CRM	674	Chrysobalanus icaco `Red Tip` / Red Tip Cocoplum 24" HT., 18" SPR., 30" O.C., Full dense plant	Yes	Very
	COV	399	Codiaeum variegatum `Mammy` / Mammy Croton 18" HT., 18" SPR., 30" O.C., Full dense plant	No	Very
	FAK	243	Tripsacum dactyloides / Fakahatchee Grass 24" HT., 24" SPR., 36" O.C., Fully rooted and dense plant	Yes	High
LARGE SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME Philodendron bipinnatifidum selloum / Cut Leaf Philodendron	NATIVE	DROUGHT TOLERANT
PMALL CURING	PHI7	14 OTV	36" HT., 36" SPR., 48" O.C., Full dense plant	No	DDOUGUT TO: 55 ···
SMALL SHRUBS	CHR3	QTY 671	BOTANICAL / COMMON NAME  Chrysobalanus icaco `Red Tip` / Red Tip Cocoplum	NATIVE	DROUGHT TOLERANT High
	CHR3 HAM3	247	18" HT., 18" SPR., 18" O.C., Full dense plant  Hamelia patens `Compacta` / Dwarf Scarlet Bush	Yes Yes	High
	IXY	128	18" HT., 18" SPR., 24" O.C., Full dense plant  Ixora coccinea `Maui Yellow` / Maui Ixora Yellow  18-24" HT. 18" SPR., DISEASE FREE, FULL Dense Shrub, 24"	No	Medium
GROUND COVERS	CODE	QTY	O.C.  BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
)	ILX3	1,755	llex vomitoria `Stokes Dwarf` / Dwarf Yaupon 12" HT., 12" SPR., 24" O.C., Full dense plant	Yes	High
	JUN3	111	Juniperus chinensis `Parsonii` / Parsoni Juniper 12" HT., 12" SPR., 24" O.C., Full dense plant	No	Very
	LIR	294	Liriope muscari `Super Blue` / Super Blue Liriope 16" HT., 16" SPR, 18" O.C.FULL DENSE CLUMP	No	Medium
GROUNDCOVERS	CODE	QTY	BOTANICAL / COMMON NAME	NATIVE	DROUGHT TOLERANT
	CYR	52	Cyrtomium falcatum / Holly Fern 18" HT., 18" SPR., 18 O.C., Full dense plant	No	Medium
	ERN	330	Ernodea littoralis / Golden Creeper 12" HT., 10" SPR., 12" O.C. Full dense plant	Yes	High
		841	Trachelospermum asiaticum `Minima` / Minima Jasmine 6" HT., 6" SPR., 18" O.C., Full dense plant	No	Low
SOD	CODE	QTY TBD	BOTANICAL NAME / COMMON NAME  Stenotaphrum secundatum 'Floratam' / St. Augustine	NATIVE	DROUGHT TOLERANT
NO SYMBOL	SOD	IN FIELD	Sod 'Floratam' 2" Thick Mat and Fully Rooted, Disease and weed free, laid tightly, Stagger Joints, contractor to verify quantity	N/A	N/A



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