STORM WATER CALCULATIONS

FOR

PROPOSED MULTI-FAMILY DEVELOPMENT 1916-1926 FLETCHER STREET LLC 191626 FLETCHER LLC HOLLYWOOD, FLORIDA 33020

PREPARED BY:

AYLWARD ENGINEERING & SURVEYING, INC. (EB 5183) 465 ARCHAIC DRIVE WINTER HAVEN, FLORIDA 33880



This item has been digitally signed and sealed by Sharon Aylward Cox, P.E. on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

1916-1926 FLETCHER STREET Drainage and Water Management Calculations May 12, 2021

I.	Acreage	
-		

1. Total 0.60 Acres

	Existing (to be demo)	Proposed
2. Impervious		
Buildings	0.161	0.013(Ground Floor)
Walkways/Drives	0.121	0.483
Total Impervious	0.282	0.496
•		

3. Pervious

Pervious Ground 0.318(53.00%) 0.107(17.83%)

Minimum Elevations

Crown of Road 10 year 1 day
Finish Floors 18" above Crown

Allowable discharge 25 year 3 day storm

Water Elevations
Wet Season Water Table 1.50

Design Rainfall

Roads - 10 yr 24 hr 8.3 inches Design - 25 yr 1 day 7.88 in (Note: (10.3 in x 1.359)=13.99 in - 3.28 = 10.71/1.359 = 7.88) Floors - 100 yr 1 day 10.09 in (Note: (12.5 in x 1.359)=16.99 in - 3.28 = 13.71/1.359 = 10.09)

II. Design Criteria – Water Quality

Retention

- a) 1 inch of Runoff
- b) 2 ½ times % Impervious

Water Quality

1 inch x 0.60 Ac = 0.60 Ac-in = 0.05 Ac-ft

Check 2.5 x % impervious

 $2.5 \times 0.8217 \times 0.60 = 1.23 \text{ Ac-in} = 0.103 \text{ Ac-ft}$

Water Quantity

One hour storm over site = 0.60 Acres x 3.28" = 1.968 ac-in = 0.164 ac-ft

therefore: 1.968 Ac-in

IV. Provide 1.23 Acre inches of dry pre-treatment in exfiltration trench for water quality.

V. Surface Storage criteria See spread sheet

V. Soil Storage

Average ground @ el. 7.0 and water table @ el. 1.5

Depth to Water Table = +4.0 feet

Soil Storage Capacity (SSC) = 6.75" for flatwoods and 5.10" for depressional soil = 5.93" average

Potential max. Retention

VI. Check seepage trench design for water quality and water quantity excess.

$$L = \frac{FS[(\%WQ)(V_{wq})+V_{add}]}{K(2H_2D_u-D_u^2+2H_2D_S) + (1.39 \times 10^{(-4)}) WD_u}$$

A = Drainage Area of 0.20 Acres

V_{wq} = Volume of water quality treatment provided by trench in one hour(ac-in/hr)

V_{att} =volume of storage provided in addition to V_{wq} in one hour (ac-in/hour)

L = Length of trench provided = 130 LF

FS=factor of safety (2)

%WC=50%

W = Trench Width = 4

 $K = Hydraulic Conductivity = 5.03 \times 10^{(-4)}$

 H_2 = Depth to water table = 6.3 - 1.5 = 4.8

 $D_u = Non$ saturated trench depth = 5.3 - 1.5 = 3.8

 D_S = Saturated trench depth = 1.5- (-0.5) = 2.0

$$L = \frac{2[.5(1.23) + V_{add}]}{5.03 \times 10^{(-4)} (2*4.8*3.8-3.8^2 + 2*4.8*2) + 1.39 \times 10^{(-4)} \times 4*3.8}$$

$$130 = \underline{2(0.615 + V_{add})}_{0.02074372 + 0.0021128}$$

Solving for V(add) = 0.87 Acre inches over and above water quality requirement

V total = V quality + V add = 1.23 + 0.87 = 2.10 Acre inches, 1.968 req OK

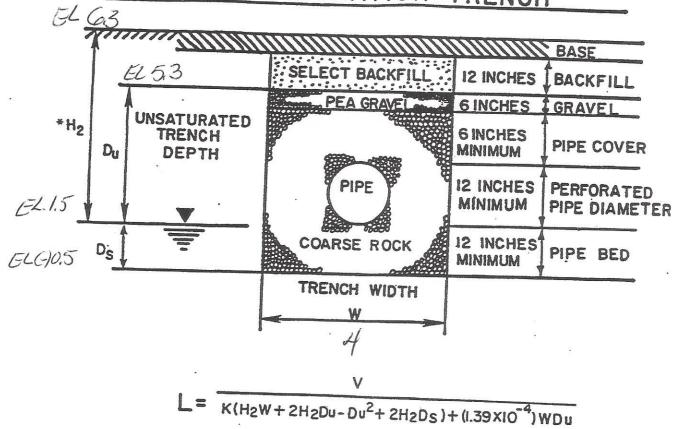
Calculate rainfall depth, d(exf) = V/A = 1.968 / 0.60 = 3.50 inches

(Max allowable reduction = 3.28 inches)

Subtract d(exf) from rainfall = P(exf) = 10.3 - 3.28 = 7.02 inches for 25 year storm = 12.5 - 3.28 = 9.22 inches for 100 year storm

See 25 year 3 day stage elevation at elevation 8.15, Pre Development stage = 8.25 OK See 100 year 3 day stage elevation at elevation 8.44, Pre Development stage = 8.58 OK Finish Floor elevation set at 8.50

TYPICAL EXFILTRATION TRENCH



L= LENGTH OF TRENCH REQUIRED (FEET)

V= VOLUME TREATED (ACRE-INCHES)

W=TRENCH WIDTH (FEET)

K = HYDRAULIC CONDUCTIVITY (CFS/FT.2-FT.HEAD)

*H2 = DEPTH TO WATER TABLE (FEET)

Du = NON-SATURATED TRENCH DEPTH (FEET)

DS = SATURATED TRENCH DEPTH (FEET)

*The value of H_2 to be used in the equation is the effective head on the saturated surface. In most cases it will be less than the distance between the water table and the pavement elevation. For purposes of this example, the diagram above assumes no outfall from the exfiltration trench system.

1858 FLETCHER STREET PRE DEVELOPMENT STAGE-STORAGE CALCULATIONS

Total Site Area Total Building Area 0.60 Acres

0.16 Acres

Net Surface Area Less Buildings = $0.60 \text{ Ac} - 0.16 \text{Ac} = \underline{0.44 \text{ Ac}}$.

Stage-Storage

1916-1926 Fletcher Street - Pre Development

		-	-	-	-	_	_	_	_	-				
Stage			Elevations	(NAVD)		6.25	7.00	7.77	8.00	9.00	10.00	11.00		
Total Storage						0.000	0.081	0.334	0.436	0.876	1.316	1.756		
							10							
Site	Storage	0.440	ac-ft		M. Wallet	0.000	0.081	0.334	0.436	0.876	1.316	1.756		
Stage			Elevations	(NAVD)		6.25	7.00	7.77	8.00	9.00	10.00	11.00		

File: routing-1916-1926Fletchert-pre Date: May 16, 2021

Project Name: 1916-1926 Fletcher Street Pre Devel

Reviewer:

Project Number:

Period Begin: Jan 01, 2000;0000 hr End: Jan 04, 2000;0000 hr Duration: 72 hr

Time Step: 0.2 hr, Iterations: 10

Basin 1: site

Method: Generalized Unit Hydrograph Rainfall Distribution: SFWMD - 3day

Design Frequency: 25 year 1 Day Rainfall: 10.3 inches

Area: 0.6 acres

Ground Storage: 3.14 inches

Time of Concentration: 0.17 hours

Peak Rate Factor: 0

Initial Stage: 0 ft NAVD

Stage	Storage
(ft NGVD)	(acre-ft)
6.25	0.00
7.00	0.08
7.77	0.33
8.00	0.43
9.00	0.87
10.00	1.31
11.00	1.75

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

1000000								
Struc	May	(cfc)	Timo	(hr)	Min	1afal	Time	1 h 1
DULLUC	LIGA	(CIS)	1 TIME	(111)	MITI	(CIS)	TIME	(III)

BASIN MAXIMUM AND MINIMUM STAGES

=======	=======			======					====
	Basin	Max	(ft)	Time	(hr)	Min	(ft)	Time	(hr)
=======	======			======				======	====
	site		8.25	7	72.00		0.00		0.00

BASIN WATER BUDGETS (all units in acre-ft)

 Basin	Total Runoff		Structure Outflow		Final Storage	Residual
site	0.54	0.00	0.00	0.00	0.54	0.00

File: routing-1916-1926Fletchert-pre Date: May 16, 2021

Project Name: 1916-1926 Fletcher Street Pre Devel

Reviewer:

Project Number:

Period Begin: Jan 01, 2000;0000 hr End: Jan 04, 2000;0000 hr Duration: 72 hr

Time Step: 0.2 hr, Iterations: 10

Basin 1: site

Method: Generalized Unit Hydrograph Rainfall Distribution: SFWMD - 3day

Design Frequency: 100 year 1 Day Rainfall: 12.5 inches Area: 0.6 acres

Ground Storage: 3.14 inches

Time of Concentration: 0.17 hours

Peak Rate Factor: 0

Initial Stage: 0 ft NAVO

Stage (ft NGVD)	Storage (acre-ft)
6.25	0.00
7.00	0.08
7.77	0.33
8.00	0.43
9.00	0.87
10.00	1.31
11.00	1.75

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

C+xxx	7.4	/ · C ·					======	
Struc	Max	(cfs)	Time	(hr)	Min	(cfe)	Time	1 h = 1
000000000000000000000000000000000000000		A		1/	r17711	(CIO)	TIME	(IIII)

BASIN MAXIMUM AND MINIMUM STAGES

	=====	=====	======	=====	======	=====		
Basin		(ft)	Time	(hr)	Min	(ft)	Time	(hr)
		=====		=====		=====	======	====
site		8.58	7	2.00		0.00		0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basir	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
site	0.68	0.00	0.00	0.00	0.68	0.00

1858 FLETCHER STREET POST DEVELOPMENT STAGE-STORAGE CALCULATIONS

Total Site Area Total Building Area

0.60 Acres 0.013 Acres

Net Surface Area Less Buildings = $0.60 \text{ Ac} - 0.013 \text{Ac} = \underline{0.587 \text{ Ac}}$.

Stage-Storage

1916-1926 Fletcher Street - Post Development

Stage	2000		Flevations	(NAVD)	6 30	2002	00.7	0.00	8.45	9.00	10.00	11.00		
Total Storage	000				0000	0.067	0.305	0.333	0.031	0.954	1.541	2.128		
Site	Storage	0.587	ac-ft		0.000	0.067	0.395	0.631	0.954	1000	1.541	2.128		
Stage			Elevations	(NAVD)	6.30	7.00	8.00	8.45	00.6	2000	10.00	11.00		

File: routing-1916-1926Fletcher-post Date: May 16, 2021

Project Name: 1916-1926Fletcher-Post Devel

Reviewer:

Project Number:

Period Begin: Jan 01, 2000;0000 hr End: Jan 04, 2000;0000 hr Duration: 72 hr

Time Step: 0.2 hr, Iterations: 10

Basin 1: site

Method: Generalized Unit Hydrograph Rainfall Distribution: SFWMD - 3day

Design Frequency: 25 year 1 Day Rainfall: 7.88 inches

Area: 0.6 acres

Ground Storage: 1.06 inches

Time of Concentration: 0.17 hours

Peak Rate Factor: 0

Initial Stage: 0 ft NAVD

Stage (ft NGVD)	Storage (acre-ft)
6.30	0.00
7.00	0.07
8.00	0.40
8.45	0.63
9.00	0.95

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

227							======	
Struc	Max	(cfs)	Time	(hr)	Min	(cfe)	Time	/hrl
		(/	A 44410	(111)	11711	(CIS)	TIME	(1117)
=======	=====	=====		=====	=====			

BASIN MAXIMUM AND MINIMUM STAGES

		=====	-====	======	=====	=====	=====:		
	Basin	Max	(ft)	Time	(hr)	Min	(ft)	Time	(hr)
======	=======	=====		======			=====	======	
	site		8.15	7	72.00		0.00		0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff		Structure Outflow	Initial Storage	Final Storage	Residual
site	0.48	0.00	0.00	0.00	0.48	0.00

File: routing-1916-1926Fletcher-post Date: May 16, 2021

Project Name: 1916-1926Fletcher-Post Devel

Reviewer:

Project Number:

Period Begin: Jan 01, 2000;0000 hr End: Jan 04, 2000;0000 hr Duration: 72 hr

Time Step: 0.2 hr, Iterations: 10

Basin 1: site

Method: Generalized Unit Hydrograph Rainfall Distribution: SFWMD - 3day

Design Frequency: 100 year 1 Day Rainfall: 10.09 inches

Area: 0.6 acres

Ground Storage: 1.06 inches

Time of Concentration: 0.17 hours

Peak Rate Factor: 0

Initial Stage: 0 ft NATOD

Stage (ft NGVD)	Storage (acre-ft)
6.30	0.00
7.00	0.07
8.00	0.40
8.45	0.63
9.00	0.95

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

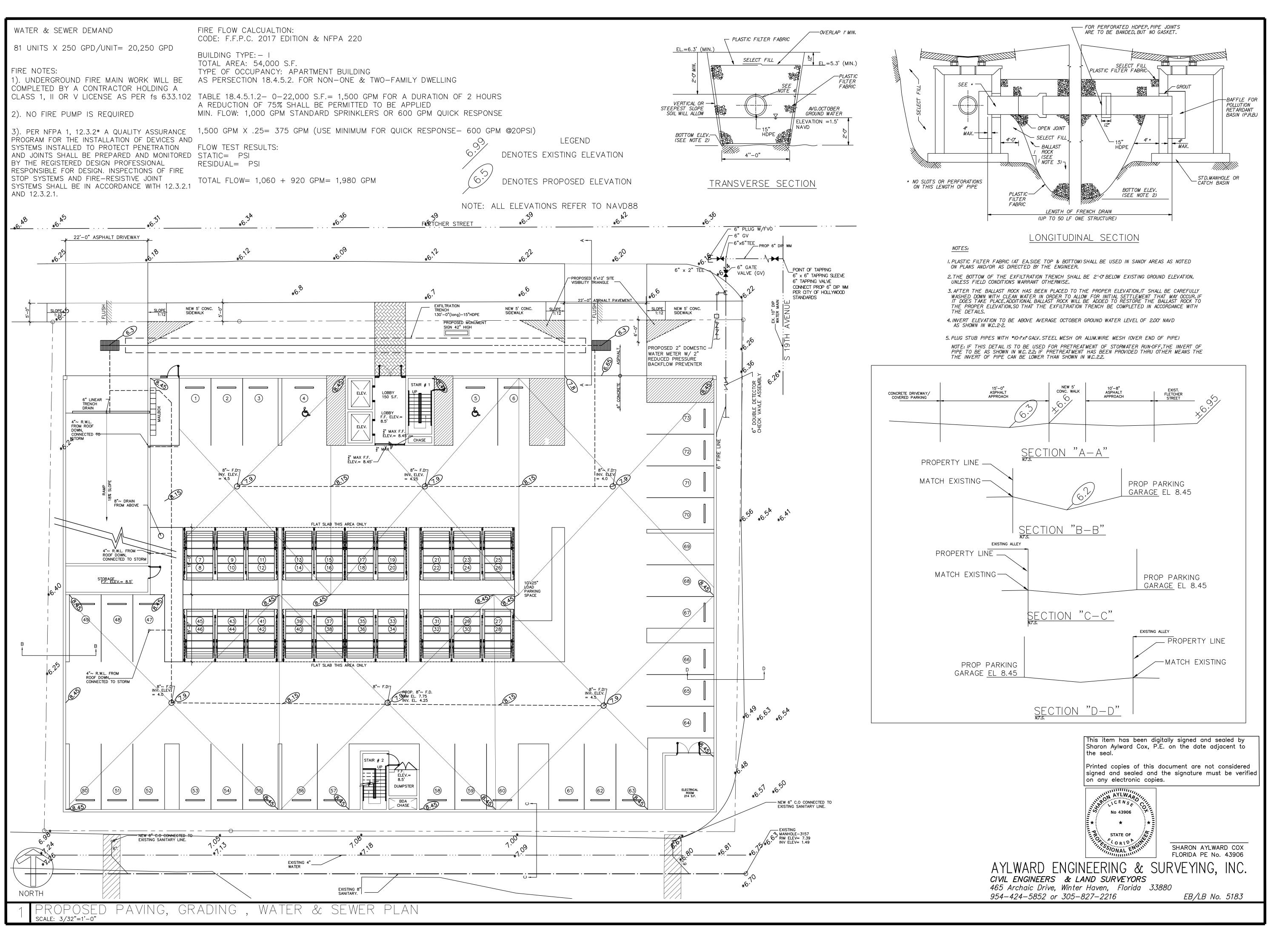
Struc	3.5		637				======	====
struc	Max	(cfs)	Time	(hr)	Min	(cfs)	Time	/ h == 1
			200	, /	*1771	(013)	TIME	(III)

BASIN MAXIMUM AND MINIMUM STAGES

		=====	=====	======	======	======	====-		
======	Basin =======		(ft)	Time		Min	(ft)	Time	(hr)
				======	=====	=====	=====	======	===-
	site		8.44	7	72.00		0.00		0.00

BASIN WATER BUDGETS (all units in acre-ft)

		m - + - 3		========	========	=======	
B ========	asin ======	Total Runoff =======	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
	site	0.62	0.00	0.00	0.00	0.62	0.00





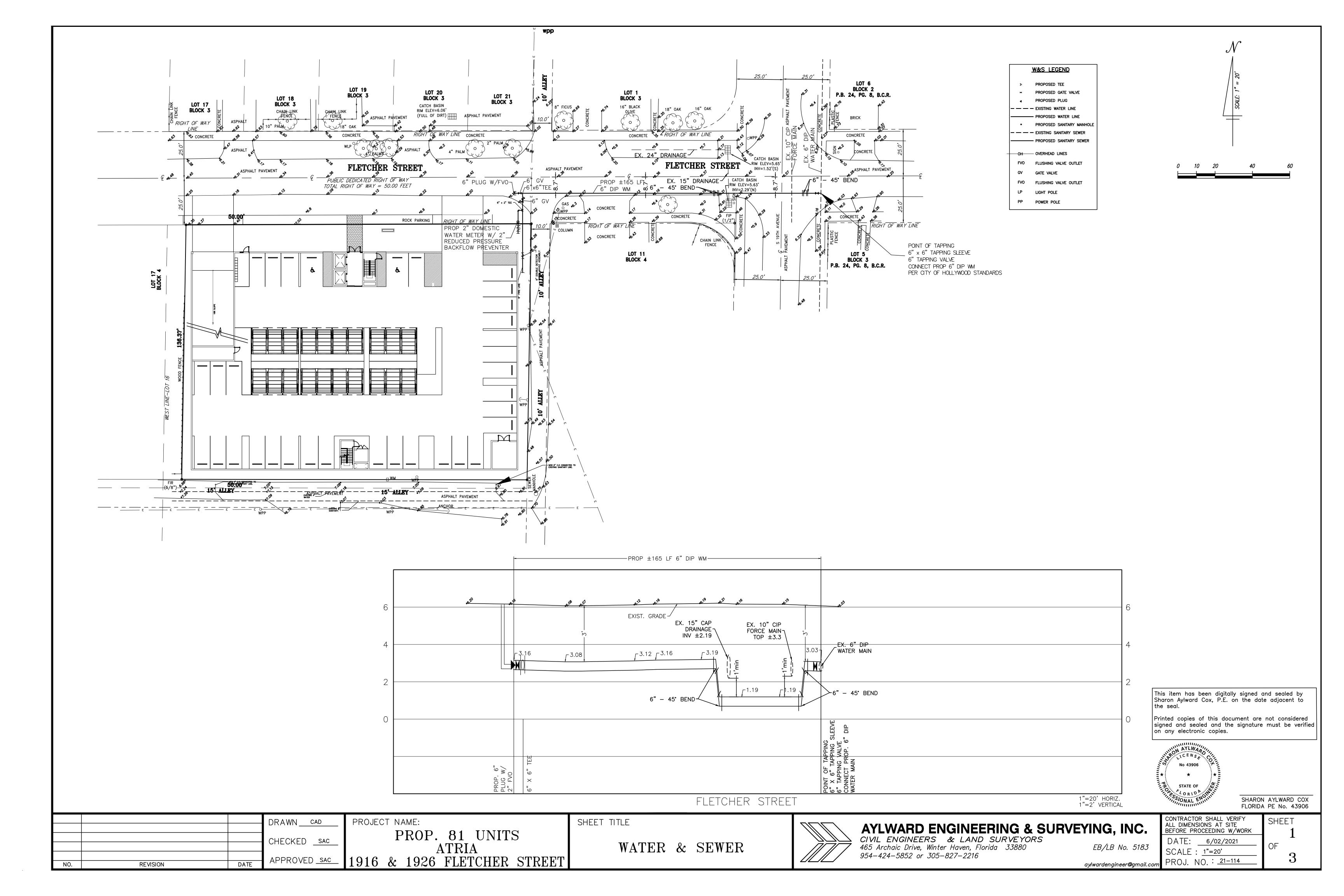
LaRosa—Registered Architect AR#-0017852 AA#-26003693

REVISION: BY:

 \bigcirc AMIL 4 ∞

SEAL: AR 0017852 LUIS LA ROSA DRAWN C.C. CHECKED L.L.R. 03/08/21 SCALE AS NOTED JOB. NO. 020-025 SHEET

SHEETS



GENERAL NOTES:

- 1. THE INFORMATION PROVIDED IN THESE DRAWINGS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF THE WORK, THE CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH BIDS WILL BE BASED.
- 2. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO APPLICABLE STANDARDS AND SPECIFICATIONS OF THE CITY OF HOLLYWOOD DEPARTMENT OF PUBLIC UTILITIES, ENGINEERING AND CONSTRUCTION SERVICES DIVISION (ECSD), AND ALL OTHER LOCAL, STATE AND NATIONAL CODES, WHERE APPLICABLE.
- 3. LOCATIONS, ELEVATIONS, SIZES, MATERIALS, ALIGNMENTS, AND DIMENSIONS OF EXISTING FACILITIES. UTILITIES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS; AND DO NOT PURPORT TO BE ABSOLUTELY CORRECT. ALSO, THERE MAY HAVE BEEN OTHER IMPROVEMENTS, UTILITIES, ETC., WITHIN THE PROJECT AREA WHICH WERE CONSTRUCTED AFTER THE PREPARATION OF THESE PLANS AND/OR THE ORIGINAL SITE SURVEY. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND OTHER FEATURES AFFECTING HIS/HER WORK PRIOR TO CONSTRUCTION, AND NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICT BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ANY FACILITIES SHOWN OR NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL WORK AS NEEDED TO AVOID CONFLICT WITH EXISTING UTILITIES (NO ADDITIONAL COST SHALL BE PAID FOR THIS WORK). EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE RESPECTIVE UTILITY OWNER.
- 4. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES TO ARRANGE FOR THE RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC. AS NECESSARY TO COMPLETE THE WORK.
- 5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ANY AND ALL EXISTING UTILITIES ON THIS PROJECT, AND TO ENSURE THAT EXISTING UTILITIES ARE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS APPROVED OTHERWISE BY THE UTILITY OWNER.
- 6. CONTRACTOR SHALL ADJUST ALL EXISTING UTILITY CASTINGS INCLUDING VALVE BOXES, MANHOLES, HAND-HOLES, PULL-BOXES, STORMWATER INLETS, AND SIMILAR STRUCTURES IN CONSTRUCTION AREA TO BE OVERLAID WITH ASPHALT PAVEMENT.
- 7. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL APPLICABLE CONSTRUCTION AND ENVIRONMENTAL PERMITS PRIOR TO THE START OF CONSTRUCTION.
- 8. THE CONTRACTOR SHALL NOTIFY ECSD AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
- 9. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND INSTALLATION OF THE PROPOSED IMPROVEMENTS, SHOP DRAWINGS SHALL BE SUBMITTED TO ECSD IN ACCORDANCE WITH THE CONTRACT DOCUMENT'S REQUIREMENTS, FOR APPROVAL. IN ADDITION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY OTHER AGENCY SHOP DRAWING APPROVAL, IF REQUIRED.
- 10. THE CONTRACTOR SHALL NOTIFY ECSD IMMEDIATELY FOR ANY CONFLICT ARISING DURING CONSTRUCTION OF ANY IMPROVEMENTS SHOWN ON THESE DRAWINGS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
- 11. ELEVATIONS SHOWN ARE IN FEET AND ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

DIAMOND OF THE GOLD COAST	ISSUED:	03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: E	EAM	GENERAL NOTES	DRAWING NO.
	APPROVED): XXX	GENERAL NOTES	G-00

GENERAL NOTES (CONTINUED):

- 12. CITY OF HOLLYWOOD SHALL NOT PROVIDE STAGING / STORAGE AREA. CONTRACTOR SHALL SECURE STAGING / STORAGE AREA AS NECESSARY FOR CONSTRUCTION WORK.
- 13. CONTRACTOR SHALL HAUL AWAY EXCESSIVE STOCKPILE OF SOIL FOR DISPOSAL EVERY DAY. NO STOCKPILE SOIL IS ALLOWED TO BE LEFT ON THE CONSTRUCTION SITE OVER NIGHT.
- 14. CONTRACTOR SHALL CLEAN / SWEEP THE ROAD AT LEAST ONCE DAY OR AS REQUIRED BY THE ENGINEER.
- 15. CONTRACTOR SHALL PROTECT CATCH BASINS WITHIN / ADJACENT TO THE CONSTRUCTION SITE AS REQUIRED BY NPDES REGULATIONS.
- 16. THE CITY OF HOLLYWOOD HAS A NOISE ORDINANCE (CHAPTER 100) WHICH PROHIBITS EXCAVATION AND CONSTRUCTION BEFORE 8:00 A.M. AND AFTER 6:00 P.M., MONDAY THROUGH SATURDAY AND ALL DAY
- 17. SUITABLE EXCAVATED MATERIAL SHALL BE USED IN FILL AREAS. NO SEPARATE PAY ITEM FOR THIS WORK, INCLUDE COST IN OTHER ITEMS.
- 18. ALL ROAD CROSSINGS ARE OPEN CUT AS PER THE REQUIREMENTS OF THE ECSD UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 19. THE CONTRACTOR SHALL REPLACE ALL PAVING, STABILIZING EARTH, DRIVEWAYS, PARKING LOTS, SIDEWALKS, ETC. TO SATISFY THE INSTALLATION OF THE PROPOSED IMPROVEMENTS WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY ECSD FIELD
- 20. THE CONTRACTOR SHALL NOT ENCROACH INTO PRIVATE PROPERTY WITH PERSONNEL, MATERIAL OR EQUIPMENT. IN CASE WORK ON PRIVATE PROPERTY IS NEEDED, A CITY OF HOLLYWOOD "RIGHT OF ENTRY" FORM MUST BE SIGNED BY PROPERTY OWNER AND THE DIRECTOR OF PUBLIC UTILITIES. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ACCESS AT ALL TIMES TO PRIVATE HOMES/BUSINESSES.
- 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE, REMOVAL OR MODIFICATION, CAUSED TO ANY IRRIGATION SYSTEM (PRIVATE OR PUBLIC) ACCIDENTALLY OR PURPOSELY. THE CONTRACTOR SHALL REPLACE ANY DAMAGED, REMOVED OR MODIFIED IRRIGATION PIPES, SPRINKLER HEADS OR OTHER PERTINENT APPURTENANCES TO MATCH OR EXCEED EXISTING CONDITIONS AT NO ADDITIONAL COST TO
- 22. MAIL BOXES, FENCES OR OTHER PRIVATE PROPERTY DAMAGED DURING THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE REPLACED TO MATCH OR EXCEED EXISTING CONDITION.
- 23. CONTRACTOR SHALL PROVIDE MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH FDOT STANDARDS AND CITY OF HOLLYWOOD DEPARTMENT OF PUBLIC UTILITIES STANDARDS.
- 24. NO TREES ARE TO BE REMOVED OR RELOCATED WITHOUT PRIOR APPROVAL FROM THE ECSD FIELD
- 25. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE NECESSARY TREE REMOVAL OR RELOCATION PERMITS FROM THE CITY OF HOLLYWOOD BUILDING DEPARTMENT FOR TREES LOCATED IN THE PUBLIC RIGHT OF WAY.
- 26. IT IS THE INTENT OF THESE PLANS TO BE IN ACCORDANCE WITH APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. ANY DISCREPANCIES BETWEEN THESE PLANS AND APPLICABLE REGULATORY STANDARDS / REQUIREMENTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF ECSD.

HOLLYWOOD, AND	ISSUED:	03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED:	11/06/2017
DIAMOND OF THE	DRAWN:	EAM	GENERAL NOTES	DRAWING N	0.
GOLD COAST	APPROVED): XXX	(CONTINUED)	G-0	0.1

GENERAL NOTES (CONTINUED):

- 27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF AND MAKING THE REPAIRS TO EXISTING PAVEMENT, SIDEWALKS, PIPES, CONDUITS, CURBS, CABLES, ETC., WHETHER OR NOT SHOWN ON THE PLANS DAMAGED AS A RESULT OF THE CONTRACTORS OPERATIONS AND/OR THOSE OF HIS SUBCONTRACTORS, AND SHALL RESTORE THEM PROMPTLY AT NO ADDITIONAL EXPENSE TO THE OWNER. CONTRACTOR SHALL REPORT ANY DAMAGE TO SIDEWALK, DRIVEWAY, ETC., PRIOR TO BEGINNING WORK IN ANY AREA.
- 28. WHERE NEW PAVEMENT MEETS EXISTING, CONNECTION SHALL BE MADE IN A NEAT STRAIGHT LINE AND FLUSH WITH EXISTING PAVEMENT TO MATCH EXISTING CONDITIONS.
- 29. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR LEAVE EXCAVATED TRENCHES, OR PARTS OF, EXPOSED OR OPENED AT THE END OF THE WORKING DAY, WEEKENDS, HOLIDAYS OR OTHER TIMES, WHEN THE CONTRACTOR IS NOT WORKING. UNLESS OTHERWISE DIRECTED. ALL TRENCHES SHALL BE COVERED. FIRMLY SECURED AND MARKED ACCORDINGLY FOR PEDESTRIAN / VEHICULAR TRAFFIC.
- 30. ALL EXCAVATED MATERIAL REMOVED FROM THIS PROJECT SHALL BE DISPOSED OF OFF THE PROPERTY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- 31. ALL DUCTILE IRON PRODUCTS SHALL BE DOMESTIC MADE HEAVY DUTY CLASSIFICATION SUITABLE FOR HIGHWAY TRAFFIC LOADS, OR 20,000 LB.
- 32. ALL GRASSED AREAS AFFECTED BY CONSTRUCTION SHALL BE RE-SODDED.
- 33. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION, INSTALLATION AND MAINTENANCE OF ALL TRAFFIC CONTROL AND SAFETY DEVICES, IN ACCORDANCE WITH SPECIFICATIONS OF THE LATEST REVISION OF FDOT DESIGN STANDARDS. IN ADDITION, THE CONTRACTOR IS RESPONSIBLE FOR THE RESETTING OF ALL TRAFFIC CONTROL AND INFORMATION SIGNAGE REMOVED DURING THE CONSTRUCTION PERIOD.
- 34. EXCAVATED OR OTHER MATERIAL STORED ADJACENT TO OR PARTIALLY UPON A ROADWAY PAVEMENT SHALL BE ADEQUATELY MARKED FOR TRAFFIC SAFETY AT ALL TIMES.
- 35. TEMPORARY PATCH MATERIAL MUST BE ON THE JOB SITE WHENEVER PAVEMENT IS CUT. OR THE CITY'S INSPECTOR WILL SHUT THE JOB DOWN.
- 36. CONTRACTOR MUST PROVIDE FLASHER ARROW SIGNAL FOR ANY LANE THAT IS CLOSED OR DIVERTED.
- 37. CONTRACTOR SHALL NOTIFY LAW ENFORCEMENT AND FIRE PROTECTION SERVICES TWENTY-FOUR (24) HOURS IN ADVANCE OF TRAFFIC DETOUR IN ACCORDANCE WITH SECTION 336.07 OF FLORIDA STATUTES.
- 38. CONTRACTOR TO RESTORE PAVEMENT TO ORIGINAL CONDITION AS REQUIRED.
- 39. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DEWATERING PER SPECIFICATION SECTION 02140

OF HOLLYWOOD, ATO	ISSUED:	03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
DIAMOND OF THE	DRAWN:	EAM	GENERAL NOTES	DRAWING NO.
GOLD COAST	APPROVED): XXX	(CONTINUED)	G-00.2

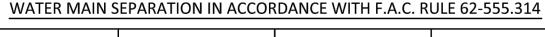
GENERAL NOTES (CONTINUED):

40. THE CONTRACTOR SHALL GIVE AT LEAST 48 HOURS NOTICE TO UTILITY COMPANIES TO PROVIDE FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION. CONTACT UTILITIES NOTIFICATION CENTER AT 811 OR 1-800-432-4770 (SUNSHINE ONE-CALL OF FLORIDA).



- 41. WHEN PVC PIPE IS USED, A METALLIZED MARKER TAPE SHALL BE INSTALLED CONTINUOUSLY 18" ABOVE THE PIPE. THE MARKER TAPE SHOULD BE IMPRINTED WITH A WARNING THAT THERE IS BURIED PIPE BELOW. THE TAPE SHALL BE MAGNA TEC, AS MANUFACTURED BY THOR ENTERPRISES INC. OR APPROVED EQUAL.
- 42. ALL CONNECTIONS TO EXISTING MAINS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. WATER CONNECTIONS SHALL BE METERED, AND THE COST OF WATER AND TEMPORARY METER SHALL BE BORNE BY THE CONTRACTOR.
- 43. A COMPLETE AS-BUILT SURVEY SHALL BE ACCURATELY RECORDED OF THE UTILITY SYSTEM DURING CONSTRUCTION. AS-BUILT SURVEY SHALL BE SUBMITTED TO ECSD SIGNED AND SEALED BY A FLORIDA REGISTERED SURVEYOR PRIOR TO FINAL INSPECTION AND ACCEPTANCE OF PROJECT. THE COST OF SIGNED AND SEALED AS-BUILTS SHALL BE COVERED IN OVERALL BID. THE AS-BUILT SURVEY SHALL INCLUDE:
- a. PLAN VIEW SHOWING THE HORIZONTAL LOCATIONS OF EACH MANHOLE, INLET, VALVE, FITTING, BEND AND HORIZONTAL PIPE DEFLECTIONS WITH COORDINATES AND IN REFERENCE TO A SURVEY BASELINE OR RIGHT-OF-WAY CENTERLINE.
- b. THE PLAN VIEW SHALL ALSO SHOW SPOT ELEVATIONS OF THE TOP OF THE MAIN (WATER MAIN AND FORCE MAIN) OR PIPE INVERTS (GRAVITY MAINS) AT INTERVALS NOT TO EXCEED 100 FEET AS MEASURED ALONG MAIN. THE PLAN VIEW SHALL ALSO INCLUDE SPOT ELEVATIONS AT EACH MANHOLE, INLET, VALVE, FITTING, BEND AND VERTICAL PIPE DEFLECTION.
- THE PLAN VIEW SHALL ALSO SHOW THE HORIZONTAL SEPARATION FROM UNDERGROUND UTILITIES IMMEDIATELY ADJACENT OR PARALLEL TO THE NEW MAIN.
- d. PROFILE VIEW WITH SPOT ELEVATIONS OF THE TOP OF THE MAIN (WATER MAIN AND FORCE MAIN) OR PIPE INVERT (GRAVITY MAIN) AND OF THE FINISHED GRADE OR MANHOLE RIM DIRECTLY ABOVE THE MAIN AT INTERVALS NOT TO EXCEED 100 FEET AS MEASURED ALONG THE MAIN. THE PROFILE VIEW SHALL ALSO INCLUDE SPOT ELEVATIONS AT EACH MANHOLE, INLET, VALVE, FITTING, BEND AND VERTICAL PIPE DEFLECTION.
- THE PROFILE VIEW SHALL SHOW ALL UNDERGROUND UTILITIES CROSSING THE NEW MAIN AND THE VERTICAL SEPARATION PROVIDED BETWEEN THAT UNDERGROUND UTILITY AND THE NEW MAIN.
- ALL CADD FILES MUST BE CREATED FOLLOWING THE CITY OF HOLLYWOOD "SURVEY / AS-BUILT CAD DRAWING STANDARDS"

O HOLLY WOOD AND	ISSUED:	03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED:	11/06/2017
DIAMOND OF THE	DRAWN:	EAM	GENERAL NOTES	DRAWING N	10.
GOLD COAST	APPROVE	D: XXX	(CONTINUED)	G-0	0.3



OTHER PIPE	HORIZONTAL SEPARATION	CROSSING (1), (4)	JOINT SPACING @ CROSSING (FULL JOINT CENTERED) (8)
STORM SEWER, STORM WATER FORCE MAIN, RECLAIMED WATER (2)	3 ft minimum	WATER MAIN 12 inches is the minimum except for storm sewer, then 6 inches is the minimum and 12 inched is preferred	Alternate 3 ft minimum L WATER MAIN L L L L L L L L L L
GRAVITY SANITARY SEWER, (3) SANITARY SEWER FORCE MAIN, RECLAIMED WATER	WATER MAIN 10 ft prefered 6 ft minimum	WATER MAIN 12 inches is the minimum except for gravity sewer, then 6 inches is the minimum and 12 inched is preferred	Alternate 6 ft minimum
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 ft minimum		

- WATER MAIN SHOULD CROSS ABOVE OTHER PIPE, WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM
- SEPARATION IS 12 INCHES.
- RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
- . 18" VERTICAL MINIMUM SEPARATION REQUIRED BY CITY OF HOLLYWOOD, UNLESS OTHERWISE APPROVED. A MINIMUM 6 FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN

REVISION

NO.

IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 18 INCHES IN A PARALLEL INSTALLATIONS. THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SANITARY SEWER OR FORCE MAIN SHALL BE CONSTRUCTED OF DIP WITH A

MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE

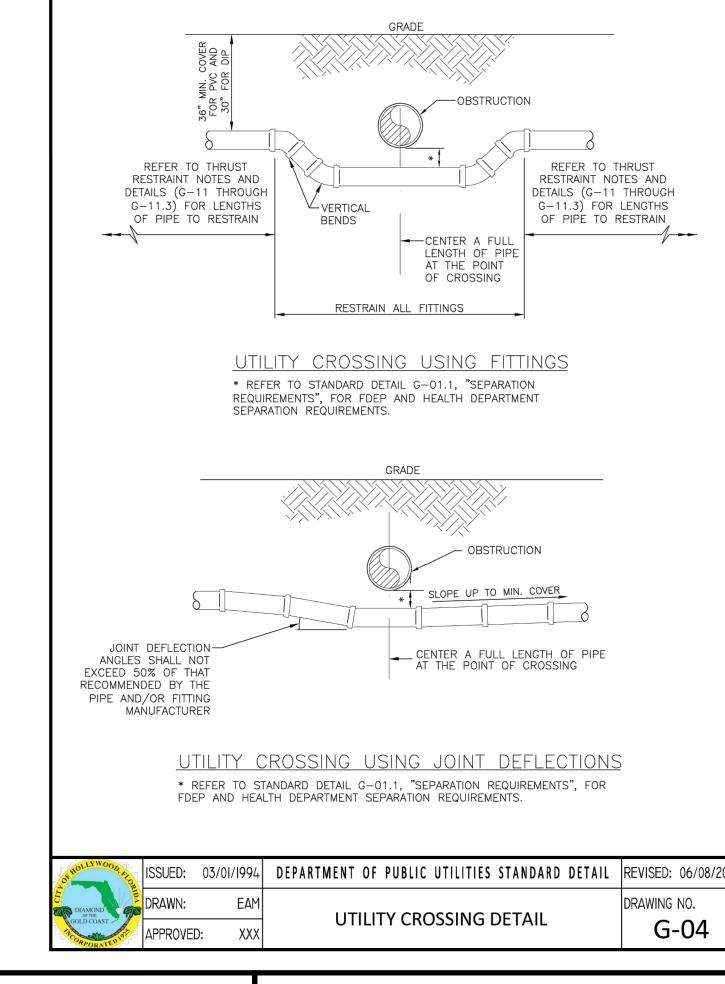
WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED 8. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALY RESTRAINED.

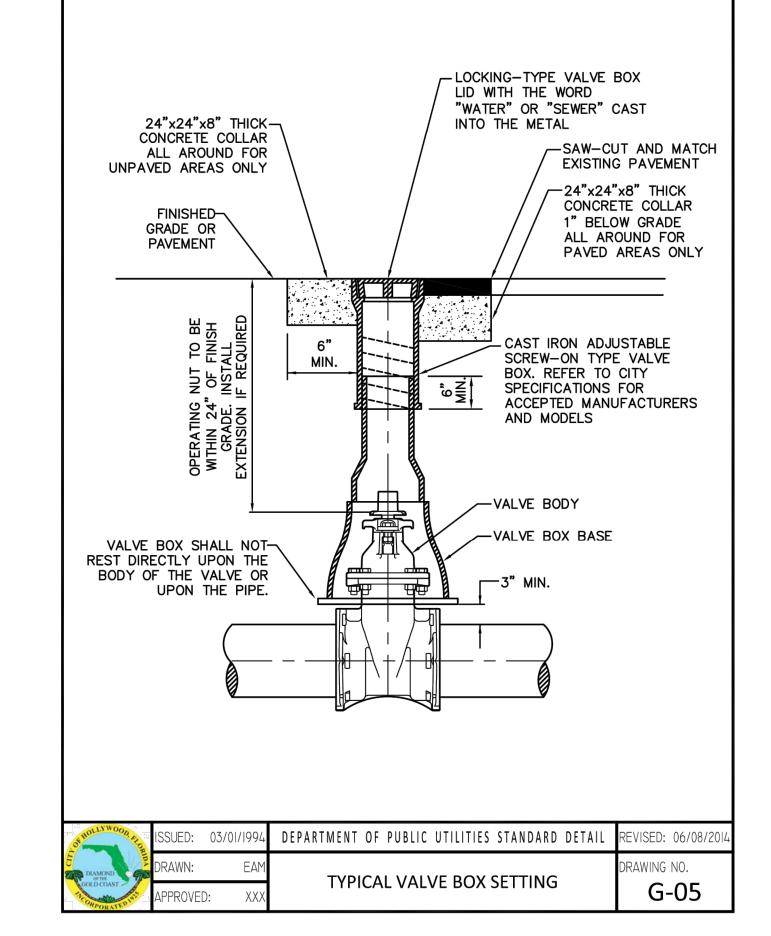
				_
HOLLYWOOD ATO	ISSUED:	03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED:
DIAMOND STEE	DRAWN:	EAM	SEPARATION REQUIREMENTS	DRAWING
GOLD COAST	APPROVED	: XXX	F.D.E.P.	G-(

DRAWN CAD

11/06/20

REFER TO FDOT, BROWARD COUNTY PUBLIC WORKS, OR BOTTOM OF ROADWAY BASE -RIGHT-OF-WAY OWNER'S OR EXISTING GROUND PAVEMENT RESTORATION DETAILS PLACED IN LAYERS NOT TO EXCEED 12" IN THICKNESS. EACH LAYER SHALL BE COMPACTED TO 100% OF MAXIMUM DRY DENSITY SELECT BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 6" IN THICKNESS. EACH LAYER SHALL BE COMPACTED TO 98% C MAXIMUM DRY DENSITY BACKFILL CONSOLIDATED TO CENTERLINE OF PIPE (SEE NOTE 1 BELOW). BEDDING FOR-PIPE O.D. + 2' MAXIMUM FLAT OR RESTORED UNSUITABLE TRENCH BOTTOM SOIL ONLY PIPE O.D. + 1' MINIMUM TRENCH WIDTH 1. WHEN PIPE INSTALLATION IS ABOVE THE GROUND WATER TABLE ELEVATION, OR WHENEVER BEDDING COPPER PIPE UNDER ANY CONDITION, BEDDING MATERIAL SHALL BE CLEAN SANDY SOIL IF AVAILABLE WITHIN THE LIMITS OF CONSTRUCTION. IMPORTED BEDDING SHALL BE WELL GRADED, WASHED CRUSHED STONE (OR DRAINFIELD LIMEROCK). CRUSHED STONE SHALL CONSIST OF HARD, DURABLE, SUB-ANGULAR PARTICLES OF PROPER SIZE AND GRADATION, AND SHALL BE FREE FROM ORGANIC MATERIAL, WOOD, TRASH, SAND, LOAM, CLAY, EXCESS FINES, AND OTHER DELETERIOUS MATERIALS. 2. ALL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY BEFORE ANY PIPE IS LAID, FOR ADDITIONAL MATERIAL SPECIFICATIONS REFER TO SPECIFICATION SECTION 02222, "EXCAVATION AND BACKFILL FOR UTILITIES" 3. DENSITY TESTING SHALL BE IN ACCORDANCE WITH AASHTO T-180 AND ASTM D-3017. 4. BACKFILL TO COMPLY WITH FDOT DESIGN STANDARDS 125-8. ISSUED: 03/01/1994 DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL REVISED: 06/08/20 DRAWING NO. PIPE LAYING CONDITION TYPICAL SECTION (D.I.P.) G-02





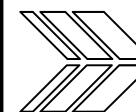
CHECKED SAC APPROVED <u>sac</u>

PROJECT NAME: PROP. 81 UNITS **ATRIA** 1916 & 1926 FLETCHER STREET

SHEET TITLE

FOR PAVEMENT RESTORATION

WATER & SEWER **DETAILS**

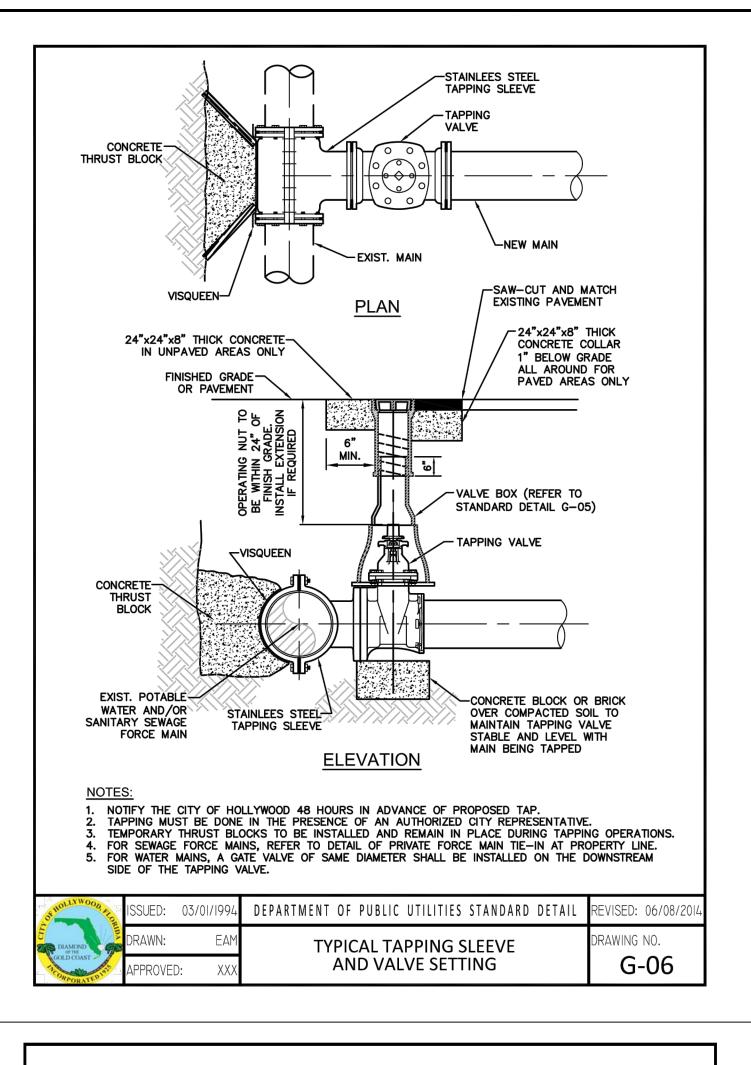


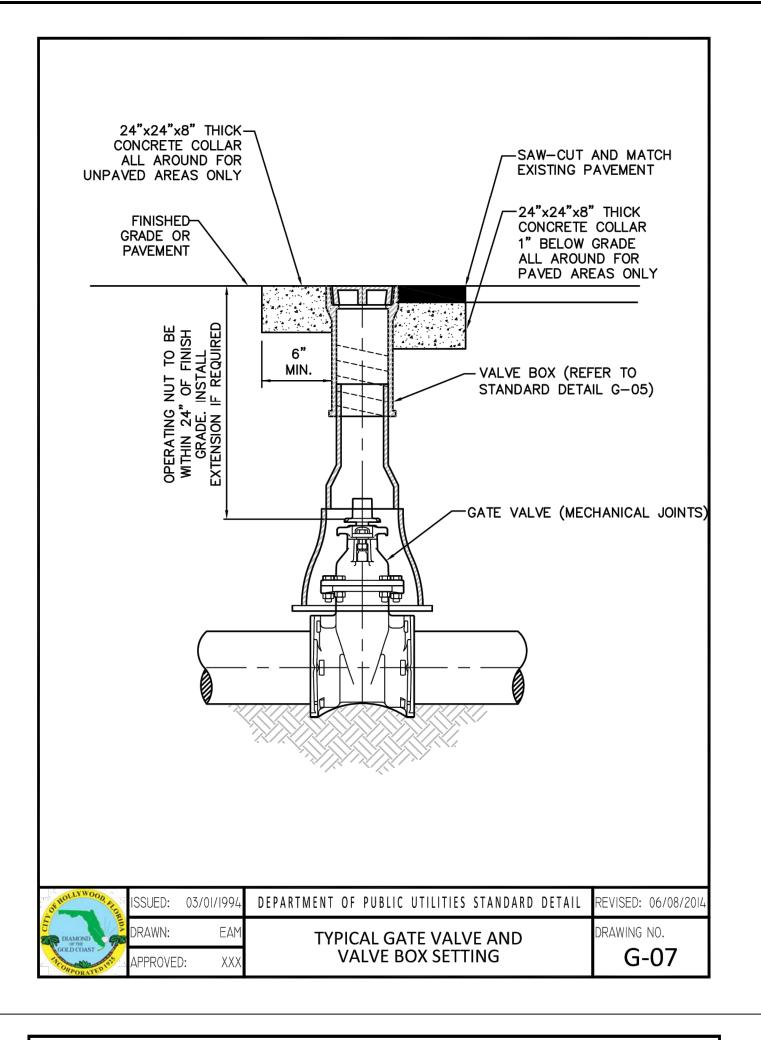
AYLWARD ENGINEERING & SURVEYING, INC.

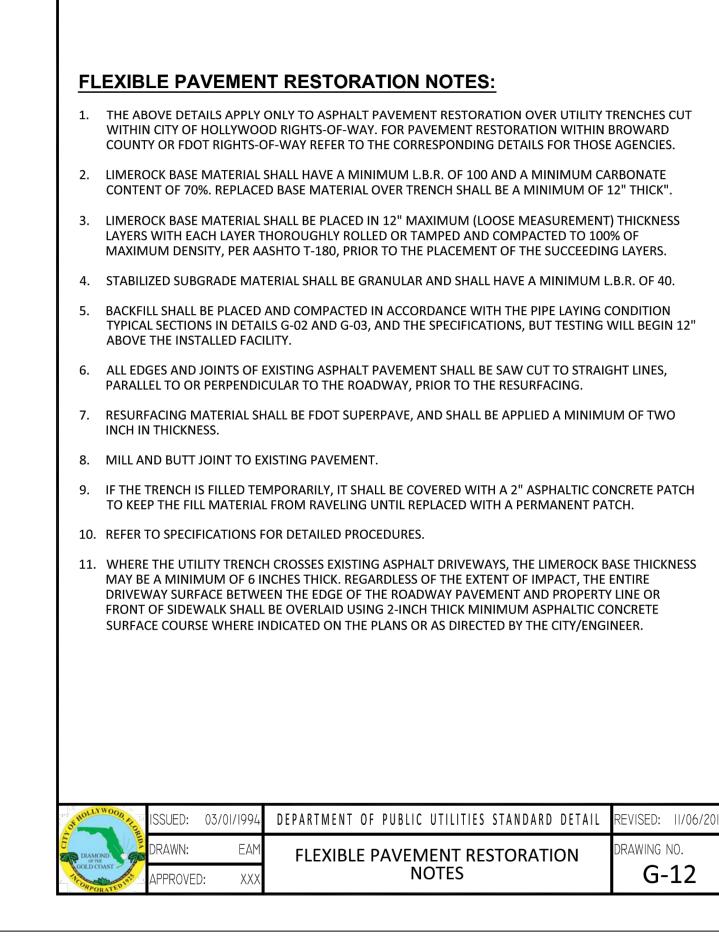
CIVIL ENGINEERS & LAND SURVEYORS 465 Archaic Drive, Winter Haven, Florida 33880 954-424-5852 or 305-827-2216

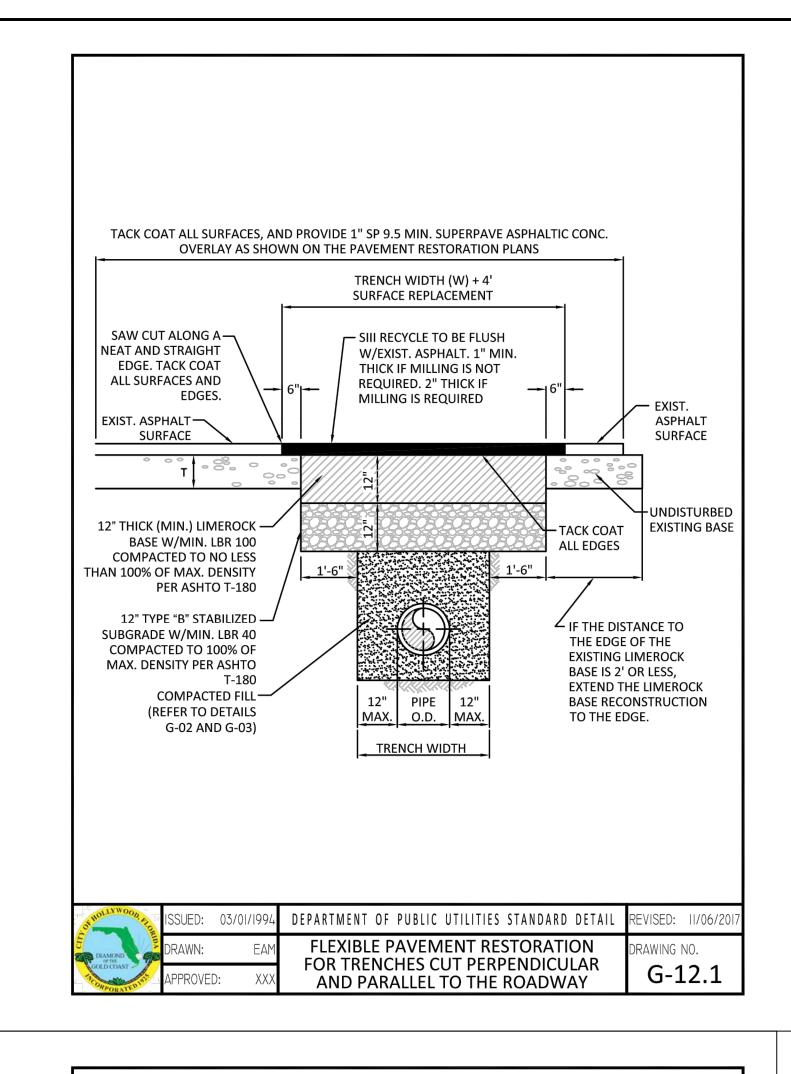
EB/LB No. 5183 aylwardengineer@gmail.cor

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT SITE BEFORE PROCEEDING W/WORK DATE: 6/02/2021 SCALE : <u>1"=20'</u> PROJ. NO.: 21-114









WATER SYSTEM NOTES:

- 1. NEW OR RELOCATED UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT THAT WILL CROSS ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OTHER PIPELINE OR AT LEAST 12 INCHES BELOW THE OTHER PIPELINE.
- 2. NEW OR RELOCATED UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT THAT WILL CROSS ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OTHER PIPELINE. [FAC 62-555.314(2); EXCEPTIONS ALLOWED UNDER FAC 62-555.314(5)].
- 3. AT ALL UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE WILL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE, OR THE PIPES WILL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. [FAC 62-555.314(2); EXCEPTIONS ALLOWED UNDER FAC 62-555.314(5)].
- 4. NEW UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT TO BE DUCTILE IRON PIPE (D.I.P.) WHEN CROSSING BELOW SANITARY SEWER MAINS.
- 5. POLYETHYLENE ENCASEMENT MATERIAL SHALL BE USED TO ENCASE ALL BURIED DUCTILE IRON PIPE, FITTINGS, VALVES, RODS, AND APPURTENANCES IN ACCORDANCE WITH AWWA C105, METHOD A. THE POLYETHYLENE TUBING SHALL BE CUT TWO FEET LONGER THAN THE PIPE SECTION AND SHALL OVERLAP THE ENDS OF THE PIPE BY ONE FOOT. THE POLYETHYLENE TUBING SHALL BE GATHERED AND LAPPED TO PROVIDE A SNUG FIT AND SHALL BE SECURED AT QUARTER POINTS WITH POLYETHYLENE TAPE. EACH END OF THE POLYETHYLENE TUBING SHALL BE SECURED WITH A WRAP OF POLYETHYLENE TAPE.
- 6. THE POLYETHYLENE TUBING SHALL PREVENT CONTACT BETWEEN THE PIPE AND BEDDING MATERIAL, BUT IS NOT INTENDED TO BE A COMPLETELY AIRTIGHT AND WATERTIGHT ENCLOSURE. DAMAGED POLYETHYLENE TUBING SHALL BE REPAIRED IN A WORKMANLIKE MANNER USING POLYETHYLENE TAPE, OR THE DAMAGED SECTION SHALL BE REPLACED. POLY WRAP WILL NOT BE PAID FOR AS A SEPARATE BID ITEM. IT SHALL BE CONSIDERED TO BE A PART OF THE PRICE BID FOR WATER MAINS.
- 7. FIRE HYDRANT BARRELS SHALL BE ENCASED IN POLY WRAP UP TO THE GROUND SURFACE AND THE WEEP HOLES SHALL NOT BE COVERED BY THE POLY WRAP.
- 8. GATE VALVES FOR USE WITH PIPE LESS THAN THREE INCHES (3") IN DIAMETER SHALL BE RATED FOR TWO HUNDRED (200) PSI WORKING PRESSURE, NON-SHOCK, BLOCK PATTERN, SCREWED BONNET, NON-RISING STEM, BRASS BODY, AND SOLID WEDGE. THEY SHALL BE STANDARD THREADED FOR PVC PIPE AND HAVE A MALLEABLE IRON HANDWHEEL. GATE VALVES 3" THROUGH 16" IN DIAMETER SHALL BE RESILIENT SEAT AND BIDIRECTIONAL FLOW ONLY. VALVES FOR SPECIAL APPLICATIONS WILL REQUIRE CITY UTILITY APPROVAL.
- 9. VALVE BOXES AND COVERS FOR ALL SIZE VALVES SHALL BE OF CAST IRON CONSTRUCTION AND ADJUSTABLE SCREW-ON TYPE. THE LID SHALL HAVE CAST IN THE METAL THE WORD "WATER" FOR THE WATER LINES. ALL VALVE BOXES SHALL BE SIX INCH (6") NOMINAL DIAMETER AND SHALL BE SUITABLE FOR DEPTHS OF THE PARTICULAR VALVE. THE STEM OF THE BURIED VALVE SHALL BE WITHIN TWENTY-FOUR INCHES (24") OF THE FINISHED GRADE UNLESS OTHERWISE APPROVED BY THE CITY.
- 10. ALL WATER MAIN INSTALLATIONS SHALL COMPLY WITH THE COLOR CODING REQUIREMENTS OF CHAPTER 62-555.320 F.A.C.

-	TOY OF	TOOOLD.	00/01/1//4	DEFARTMENT OF TODERC OTTENTES STANDARD DETAIL	TE \$102B: 007 007 201-	т
	DIAMOND OF THE	DRAWN:	EAM	WATER SYSTEM NOTES	DRAWING NO.	
	GOLD COAST	APPROVED): XXX	WATER STSTEIN NOTES	W-01	
				D D A IAN		

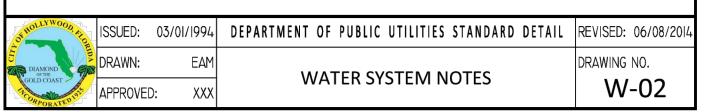
ISSUED: 03/01/1994 DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL REVISED: 06/08/2014

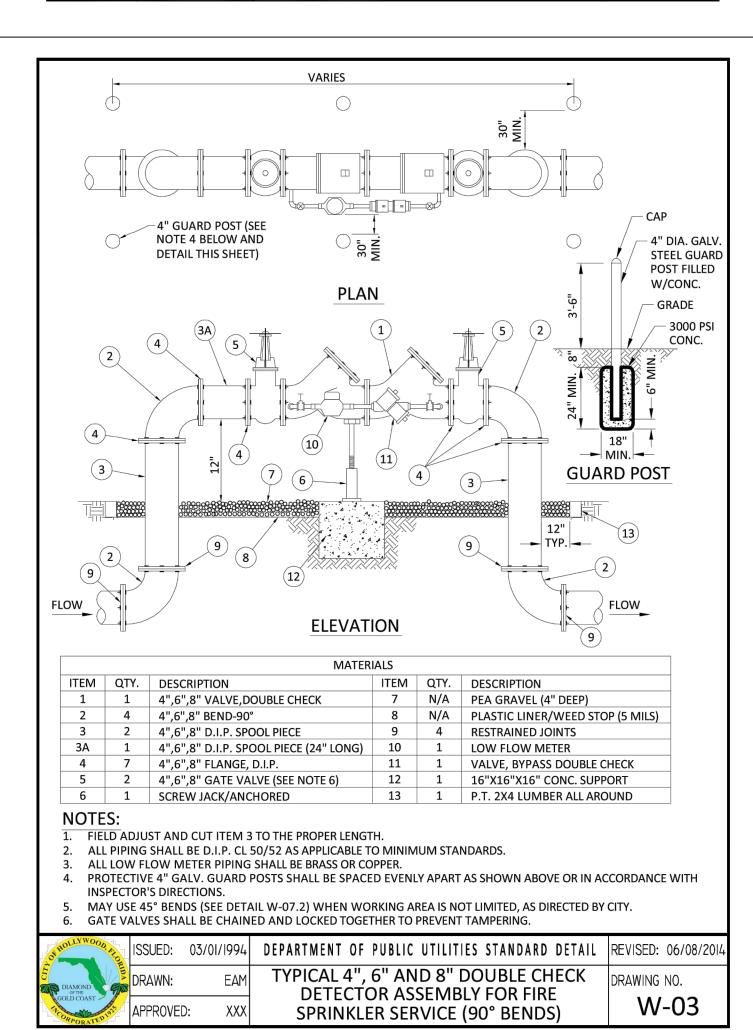
WATER SYSTEM NOTES (CONTINUED):

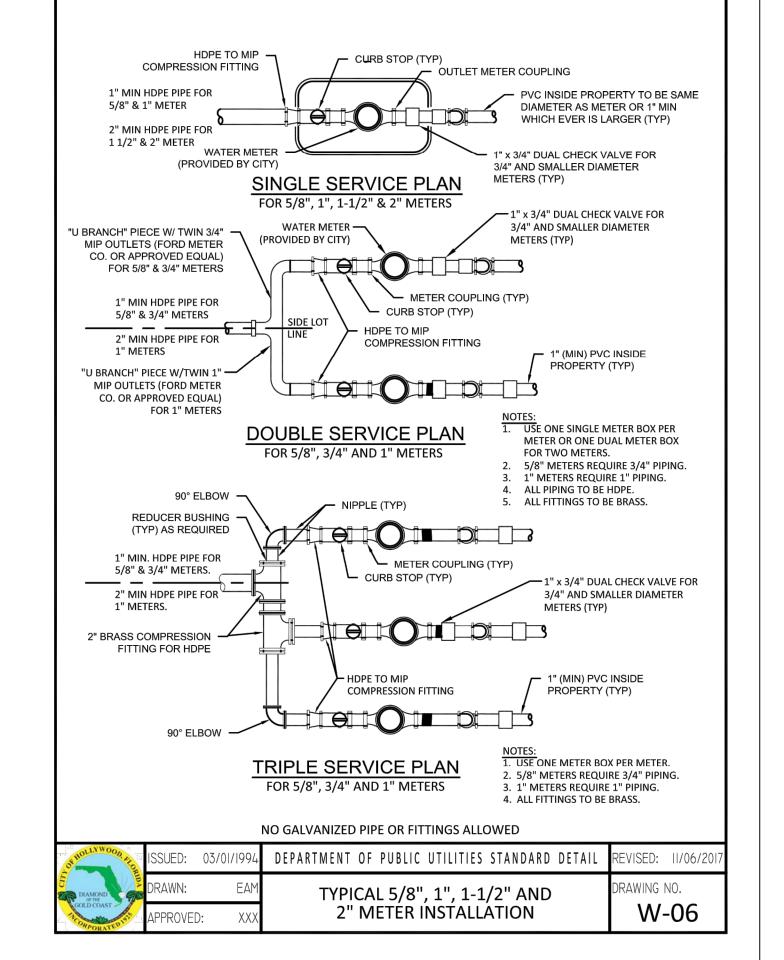
- 11. ALL WATER MAIN INSTALLATIONS SHALL COMPLY WITH THE COLOR CODING REQUIREMENTS OF CHAPTER 62-555.320 F.A.C.
- 12. ALL PVC PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA C900 LATEST REVISION AND CLASS DR 18. ALL DIP WATER MAINS SHALL BE DUCTILE IRON PRESSURE CLASS 350, WITH WALL THICKNESS COMPLYING WITH CLASS 52. ALL DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA C151/A21.51-02 AND BE CEMENT LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-03.
- 13. FITTINGS SHALL BE DUCTILE IRON, MEETING ANSI/AWWA C153/A21.53-00 SPECIFICATIONS, WITH 350 PSI MINIMUM WORKING PRESSURE. FITTINGS MUST BE CEMENT LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-03. ALL DUCTILE IRON PIPE AND FITTINGS MUST BE MANUFACTURED IN THE UNITED STATES OF
- 14. ALL DUCTILE IRON PIPE TO BE MECHANICAL JOINTS, WRAPPED IN POLY. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY DESIGN.
- 15. PAVEMENT RESTORATION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY.
- 16. ALL TRENCHING, PIPE LAYING, BACKFILL, PRESSURE TESTING, AND DISINFECTING MUST COMPLY WITH THE CITY OF HOLLYWOOD SPECIFICATIONS.
- 17. THE MINIMUM DEPTH OF COVER OVER WATER MAINS IS 30" (DIP) OR 36" (PVC).

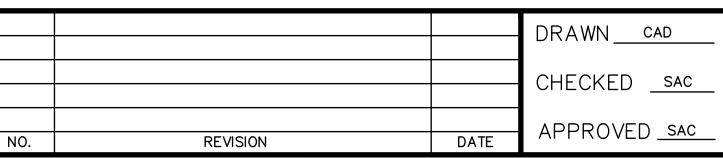
(MAXIMUM) WHERE DEFLECTION IS REQUIRED.

- 18. MINIMUM HORIZONTAL SEPARATION BETWEEN STORM STRUCTURES AND WATER MAINS SHALL BE 3'
- 19. MAXIMUM DEFLECTION PER EACH JOINT SHALL BE 50% OF MANUFACTURES RECOMMENDATION
- 20. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING CONFLICTS WITH WATER MAINS PLACED AT MINIMUM COVER. IN CASE OF CONFLICT, WATER MAIN SHALL BE LOWERED TO PASS UNDER CONFLICTS WITH 18" MINIMUM VERTICAL SEPARATION. NO ADDITIONAL PAYMENT SHALL BE DUE TO CONTRACTOR FOR LOWERING THE MAIN OR THE ADDITIONAL FITTINGS USED THEREON.
- 21. PIPE JOINT RESTRAINT SHALL BE PROVIDED BY THE USE OF DUCTILE IRON FOLLOWER GLANDS MANUFACTURED TO ASTM A 536-80. TWIST-OFF NUTS SHALL BE USED TO ENSURE PROPER ACTUATING OF THE RESTRAINING DEVICES. THE MECHANICAL JOINT RESTRAINING DEVICES SHALL HAVE A WORKING PRESSURE OF 250 PSI MINIMUM, WITH A MINIMUM SAFETY FACTOR OF 2:1, AND SHALL BE EBAA IRON INC., MEGALUG OR APPROVED EQUAL. JOINT RESTRAINTS SHALL BE PROVIDED AT A MINIMUM OF THREE JOINTS (60 FEET) FROM ANY FITTING.
- 22. WHENEVER IT IS NECESSARY, IN THE INTEREST OF SAFETY, TO BRACE THE SIDES OF A TRENCH, THE CONTRACTOR SHALL FURNISH, PUT IN PLACE AND MAINTAIN SUCH SHEETING OR BRACING AS MAY BE NECESSARY TO SUPPORT THE SIDES OF THE EXCAVATION TO ENSURE PERSONNEL SAFETY, AND TO PREVENT MOVEMENT WHICH CAN IN ANY WAY DAMAGE THE WORK OR ENDANGER ADJACENT STRUCTURES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SEQUENCE, METHODS AND MEANS OF CONSTRUCTION, AND FOR THE IMPLEMENTATION OF ALL OSHA AND OTHER SAFETY REQUIREMENTS.









SHEET TITLE

WATER & SEWER DETAILS



AYLWARD ENGINEERING & SURVEYING, INC.

CIVIL ENGINEERS & LAND SURVEYORS 465 Archaic Drive, Winter Haven, Florida 33880 954-424-5852 or 305-827-2216

,	
EB/LB No. 5183	
aylwardengineer@gmail.com	F

	CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT SITE BEFORE PROCEEDING W/WORK	SHEET 3
	DATE:6/02/2021	٥
	SCALE : 1"=20'	OF O
om	PROJ. NO.: 21-114	3

Landscape Notes:

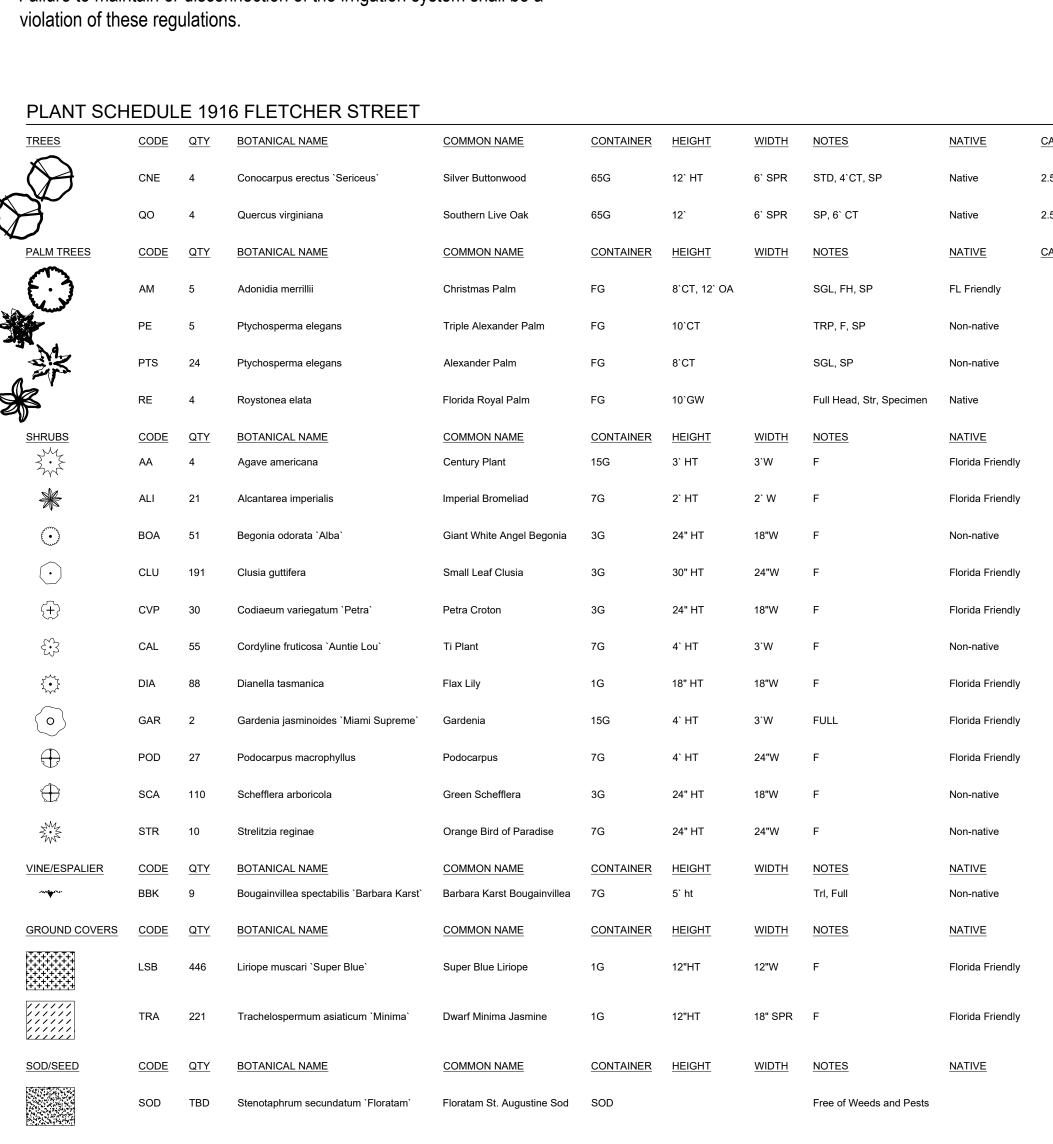
- Alternative plant species for required landscape may be permitted subject to review and approval by the City of Hollywood Planning Department prior to installation.
- All prohibited exotic or invasive species shall be removed from the entire site prior to the issuance of a Certificate of Occupancy.
- All required landscaping shall be installed prior to the issuance of a Certificate of Occupancy.
- No Cypress Mulch is to be used on site. Eucalyptus or Melaleuca Mulch is to be used in a 3" consistent layer in all planting beds.
- Enhanced landscaping beyond minimum requirements will conform to all applicable sections of the City of Hollywood Landscape Manual.
- This plan has been designed to meet the tree planting requirements contained within the FPL document entitled 'Plant the Right Tree in the Right Place' and City of Hollywood Landscape Manual.
- For existing or proposed utilities, no tree shall be planted where it could, at mature height conflict with overhead power lines.
- Tree species shall be selected as to minimize conflicts with existing or proposed utilities.
- See engineer's plans for all underground & overhead utilities and field locate all prior to installation; contact Landscape Designer/Owner regarding any conflicts.
- All site drainage by others.
- City assumes liability and maintenance of trees placed outside of property line.
- Landscape adjacent to vehicular traffic to be maintained to preserve site line visibility.

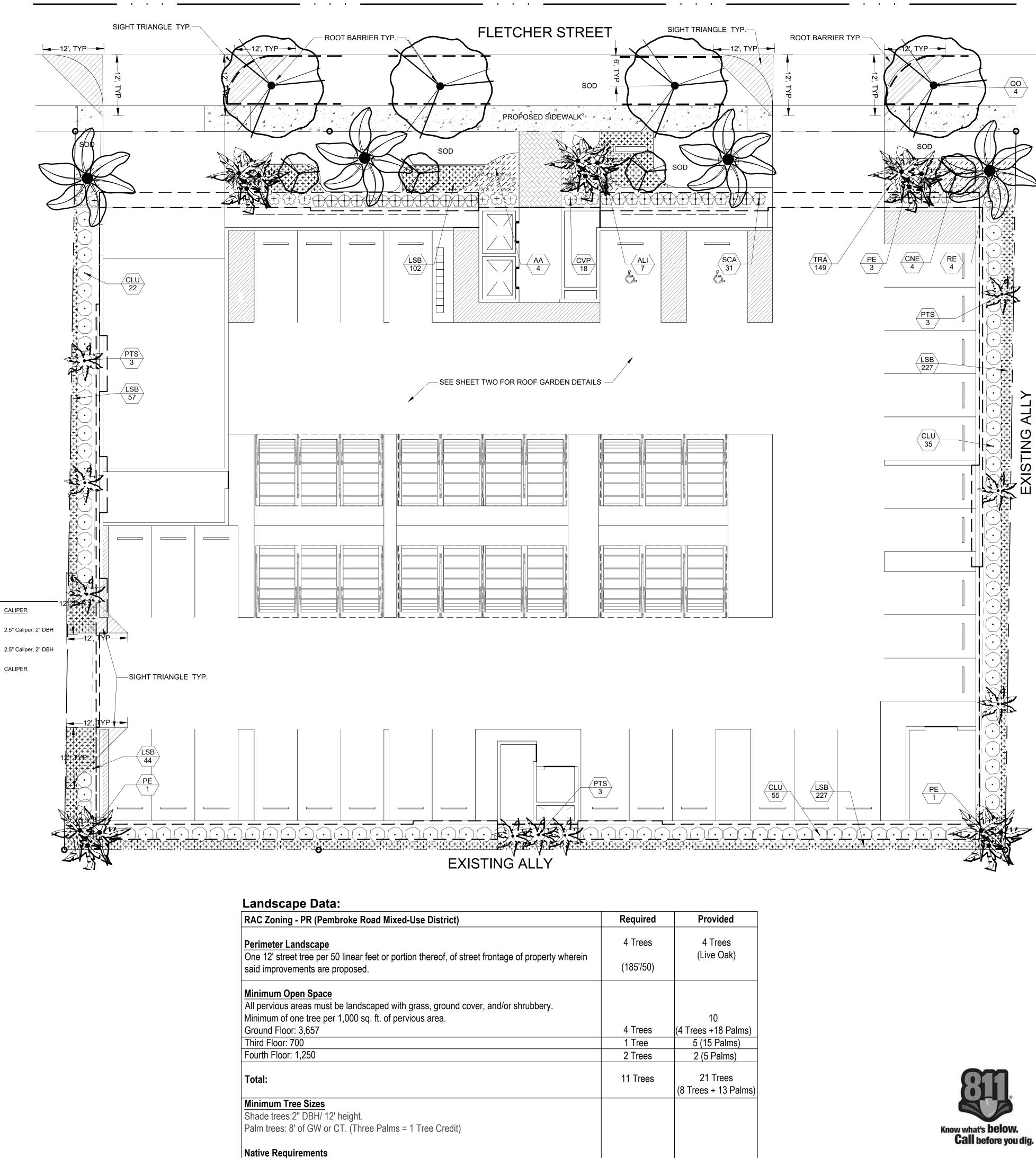
-Tree Relocation Note: Do not relocate without obtaining permit from the City of Hollywood. Existing tree(s) to be relocated require root pruning by a qualified professional prior to relocation. If the tree(s) does not survive after relocation and is dead or in poor health at time of final inspection, mitigation will be required through payment into the tree preservation fund, equal to \$350 per every 2" tree mitigation owed.

-Irrigation Note: Per Article 9: 9.4(4): Irrigation. All landscaped areas shall receive 100% coverage by means of an automatic sprinkler system designed and constructed in accordance with the City of Hollywood Code of Ordinances, the Florida Building Code, State Law, and the regulations of the South Florida Water Management District. Failure to maintain or disconnection of the irrigation system shall be a

*PLANT SCHEDULE INCLUDES ROOF GARDENS; SEE

SHEET TWO FOR ROOF GARDEN DETAILS.





A minimum of 60% of required trees and 50% of required shrubs must be native species.

Landscape Architect:

1708 SE Joy Haven Street

Port St. Lucie, Fl. 34983 2) 834-1357 | brandon@las-fl.con

LLR Architects, Inc.

12980 S.W. 52 STREET

(OFF.) - 305-403-7926

(CELL)- 786-543-0851

MIRAMAR, FLORIDA 33027

ARCHITECTURE & PLANNING

E-MAIL: LLAROSA@LAROSAARCHITECTCTS

33020

Hollywood,

Street,

Fletcher

1926

916

cap

and

Submittal

Submittal

TCHER

ATRIA

03.08..21 PG

STATE OF

FLORIDA REG. # LA6666807

NORTH

SCALE: 1/8" = 1'-0"

PAUL GOULAS, RLA

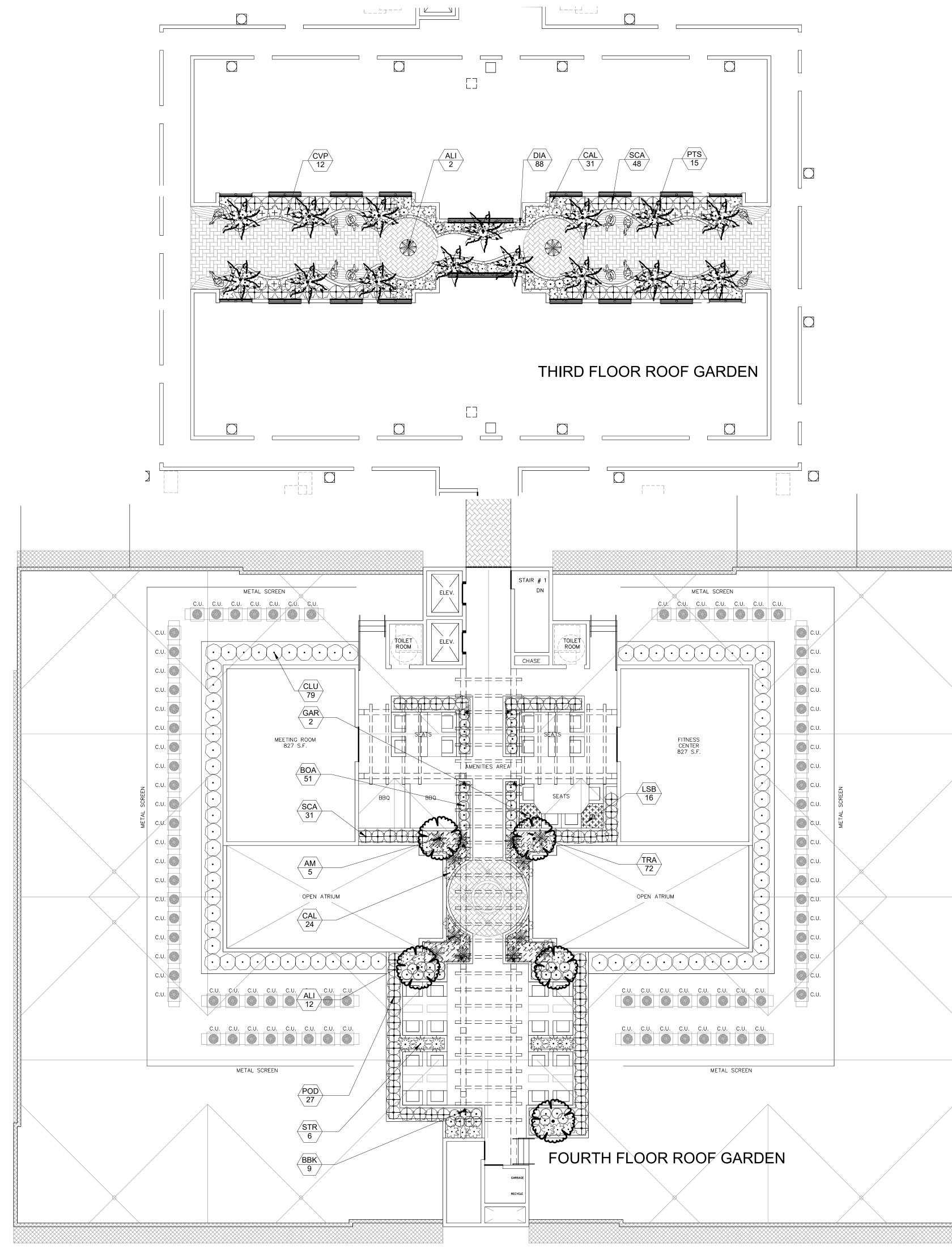
Drawn By:

Checked By:

Municipal Project:

05.14.21

ARCHITECTURAL





PALM TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	NATIVE
£3	AM	5	Adonidia merrillii	Christmas Palm	FG	8°CT, 12° OA		SGL, FH, SP	FL Friendly
Market State of the State of th	PTS	15	Ptychosperma elegans	Alexander Palm	FG	8'CT		SGL, SP	Non-native
SHRUBS	CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	CONTAINER	<u>HEIGHT</u>	WIDTH	NOTES	NATIVE
	ALI	14	Alcantarea imperialis	Imperial Bromeliad	7G	2` HT	2` W	F	Florida Friendly
0	ВОА	51	Begonia odorata `Alba`	Giant White Angel Begonia	3G	24" HT	18"W	F	Non-native
\odot	CLU	79	Clusia guttifera	Small Leaf Clusia	3G	30" HT	24"W	F	Florida Friendly
(+)	CVP	12	Codiaeum variegatum `Petra`	Petra Croton	3G	24" HT	18"W	F	Florida Friendly
£ 3	CAL	55	Cordyline fruticosa `Auntie Lou`	Ti Plant	7G	4` HT	3.M	F	Non-native
, • } },	DIA	88	Dianella tasmanica	Flax Lily	1G	18" HT	18"W	F	Florida Friendly
0	GAR	2	Gardenia jasminoides `Miami Supreme`	Gardenia	15G	4` HT	3,M	FULL	Florida Friendly
	POD	27	Podocarpus macrophyllus	Podocarpus	7G	4` HT	24"W	F	Florida Friendly
	SCA	79	Schefflera arboricola	Green Schefflera	3G	24" HT	18"W	F	Non-native
W.	STR	10	Strelitzia reginae	Orange Bird of Paradise	7G	24" HT	24"W	F	Non-native
VINE/ESPALIER	CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	CONTAINER	<u>HEIGHT</u>	<u>WIDTH</u>	<u>NOTES</u>	NATIVE
watere.	BBK	9	Bougainvillea spectabilis `Barbara Karst`	Barbara Karst Bougainvillea	7G	5` ht		Trl, Full	Non-native
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	<u>NATIVE</u>
**************************************	LSB	16	Liriope muscari `Super Blue`	Super Blue Liriope	1G	12"HT	12"W	F	Florida Friendly
///// ///// /////	TRA	72	Trachelospermum asiaticum `Minima`	Dwarf Minima Jasmine	1G	12"HT	18" SPR	F	Florida Friendly

*ALL STRUCTURAL & WATERPROOFING DETAILS BY OTHERS.

*ALL ROOF GARDEN PLANTERS TO BE FILLED WITH POTTING SOILS SUITABLE FOR PLANT HEALTH & GROWTH; ALL SOILS TO BE APPROVED BY STRUCTURAL ENGINEER & LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

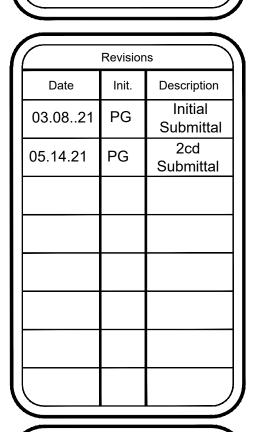


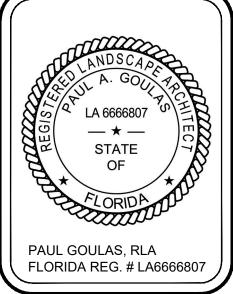
PROPOSED 84-UNIT MULTI FAMILY DEVELOPMENT FOR:
ATRIA 191626 FLETCHER LLC
1916 & 1926 Fletcher Street, Hollywood, FL 33020

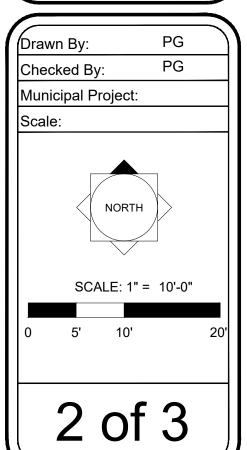
andscape

arden

Roof







LANDSCAPE SPECIFICATIONS:

PART 1: GENERAL CONDITIONS

1.01 SCOPE:

A. The landscape contract includes the supplying and planting of all trees, shrubs, vines, and ground cover together with all necessary labor, equipment, tools and materials needed for the successful completion, execution and maintenance of the landscape plans.

1.02 AGENCY STANDARDS:

A. Grades and standards of plant materials to be used shall be true to name, size, condition and graded Florida #1 or better as stated in: Grades and Standards of Florida Plant Materials published by the State of Florida Department of Agriculture, Tallahassee, Florida.

1.03 SITE EXAMINATION:

A. The Landscape Contractor shall personally examine the site and fully acquaint him/herself with all of the existing conditions in order that no mis-understanding may afterwards arise as to the character or extent of the work to be performed, and additionally, in order to acquaint him/herself with all precautions to be taken in order to avoid injury to property or persons. No additional compensation will be granted because of any unusual difficulties which may be encountered in the execution or maintenance of any portion of the work.

1.04 ERRORS AND OMISSIONS:

A. The plant list is a part of the drawings and is furnished as a convenience. The plant list indicates the name, size and quantities of specific plant materials as called for and is located on the drawings. The Landscape Contractor is responsible for his/her own quantity count, and any discrepancy between drawings and plant list shall be considered as correct on the drawings.

B. The Landscape Contractor shall not take advantage of errors or omissions in the specifications or contract drawings. Full instruction will be given if such errors are discovered. Upon the discovery of any discrepancies in, or omissions from the drawings or documents, or should the Landscape Contractor be in doubt as to their meaning, the Landscape Architect shall be notified and will determine the actions necessary to each query.

C. If plans and specifications are found to disagree after the contract is awarded, the Landscape Architect shall be the judge as to which was intended.

1.05 EXECUTION OF THE WORK:

A. The Landscape Contractor shall have his labor crews controlled and directed by a Foreman well versed in plant materials, planting methods, reading blueprints, and coordination between job and nursery in order to execute installation correctly and in a timely manner.

B. The Landscape Contractor shall provide a competent English-speaking Foreman on the project at all times, who shall be fully authorized as the Contractor's agent on the work. The Superintendent shall be capable of reading and thoroughly understanding the Plans, Specifications and other Contract Documents. If the Superintendent is deemed incompetent by the Landscape Architect, he (the superintendent) shall be immediately replaced.

C. The Landscape Contractor shall be available for any meetings with the Owner and/or Landscape Architect during implementation of the job. Any additional work or changes required as a result of failure to communicate with the Owner or Landscape Architect during implementation will be the responsibility of the Landscape Contractor.

1.06 PROTECTION OF PUBLIC AND PROPERTY

A. The Landscape Contractor shall protect all materials and work against injury from any cause and shall provide and maintain all necessary safeguards for the protection of the public. He shall be held responsible for any damage or injury to persons or property which may occur as a result of his fault or negligence in the execution of the work, i.e. damage to underground pipes or cables.

1.07 CHANGES AND EXTRAS:

A. The Contractor shall not start work on any changes or "extras" in the project until a written agreement setting forth the adjusted prices has been executed by the Owner and the Contractor. Any work performed on changes or "extras" prior to execution of a written agreement may or may not be compensated for by the Owner at his discretion.

108 GUARANTEE

A. The Landscape Contractor shall furnish a written guarantee warranting all materials, workmanship and plant materials, except sod, for a period of ONE (1) YEAR from the time of completion and acceptance by the Landscape Architect and Owner. Sod shall be guaranteed to 90 calendar days after acceptance by the Landscape Architect and Owner. All plant material shall be alive and in satisfactory condition and growth for each specific kind of plant at the end of the guarantee period. The guranteeing of plant material shall be construed to mean complete and immediate replacement with plant material of the same variety, type, size, quality and grade as that of the originally specified material. During the guarantee period it shall be the Landscape Contractor's responsibility to immediately replace any dead or unhealthy material as determined by the Landscape Architect. The guarantee will be null and void if plant material is damaged by lightning, hurricane force winds, or any other acts of God, as well as vandalism or lack of proper maintenance.

B. At the end of the specified guarantee period, any plant required under this contract that is dead or not in satisfactory condition, as determined by the Landscape Architect, shall be replaced. The Landscape Contractor shall be responsible for the full replacement cost of plant materials for the first replacement and share subsequent replacement (s) costs equally with the Owner, should the replacement plant fail to survive.

1.09 CARE AND MAINTENANCE:

A. The Landscape Contractor shall be responsible for the care and maintenance of all

B. The Owner agrees to execute the instructions for such care and maintenance.

A. It shall be the responsibility of the Landscape Contractor to protect all persons from injury and to avoid property damage. Adequate warning devices shall be placed and maintained during the

B. It shall be the contractor's responsibility to conform to all local, state, and federal safety laws and codes including the Federal Occupational Safety And Health Act (O.S.H.A.) .

1.11 CONTRACTOR QUALIFICATION:

A. The Owner may require the apparent contractor (s) to qualify him/herself to be a responsible entity by furnishing any or all of the following documentary data: A financial statement showing assets and liabilities of the company current to date. A listing of not less than (3) completed projects of similar scope and nature.

Permanent name and address of place of business. 4. The number of regular employees of the organization and length of time the organization has been in business under the present name.

1.12 INSURANCE AND BONDING:

A. The contractor (s) shall submit proof of insurance for this job for the time period that the work is done. The minimum amount of insurance shall be \$300,000.00 per person and \$300,000.00 per aggregate or as required by owner and agreed to in the contract. The successful bidder shall be required to have this coverage in effect before beginning work on the site.

B. The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

1.13 PERMITS AND CERTIFICATES:

A. All contractors shall secure and pay for all permits and certificates required for his/her class of work.

PART 2: MATERIALS

2 01 PLANT MATERIALS

A. A complete list of plants is shown on the drawings, including a schedule of quantities, sizes, and such other requirements deemed necessary. In the event discrepancies occur, the specifications on the drawings shall govern.

B. Substitutions: Substitutions of plant materials or changes in size or spacing of materials will be permitted ONLY upon written authorization by the Owner or the Landscape Architect. If plant material is not of sufficient size to meet applicable codes, a letter of variance from the appropriate agency must be obtained by the Contractor prior to issuance of any change order. If material of smaller size is to be accepted, the quantity of material shall be increased, at no additional cost to the Owner, to meet the intent of the drawings.

C. All plant materials shall have a habit of growth that is normal for the species and shall be healthy, vigorous and equal to or exceed the measurements specified in the plant list, which are the minimum acceptable sizes. Plants shall be measured before pruning with branches in normal position. Any necessary pruning shall be done at the time of planting.

D. All plant materials shall be nursery grown, unless otherwise noted, Florida #1 or better and shall comply with all required inspections, grading standards and plant regulations as set forth by the Florida Department of Agriculture's Grades and Standards for Nursery Plants, most current addition and Grades and Standards for Nursery Plants, most current addition.

E. Plants that do not have the normal balance of height and spread typical for the respective plant shall not be acceptable.

F. The Landscape Contractor shall install each plant to display its best side. Adjustments may be required if plants are not installed properly and/or approved by the Landscape Architect at no additional cost to owner.

2.02 INSPECTION A. The Landscape Architect and Owner may inspect trees and shrubs at place of growth or at site before planting, for compliance with requirements for genus, species, variety, size and quality. The Landscape Architect and Owner retain the right to further inspect trees and shrubs for size and condition of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. Rejected plant materials shall be immediately removed from project site.

2.03 PROTECTION OF PLANT MATERIALS: A. Balled and burlapped plants (B & B) shall be dug with firm natural balls of earth of

sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Balls shall be firmly wrapped with burlap similar materials and bound with cord, rope, or wire mesh. All collected plants shall be balled and burlapped.

B. Plants with broken, damaged or insufficient rootballs will be rejected.

C. All plant material shall be protected from possible bark injury or breakage of branches. All plants transported by open trucks shall be adequately covered to prevent windburn, drying or

D. Plants which cannot be planted immediately on delivery to the site shall be covered with moist soil, mulch or other protection from the drying of wind and sun. All plants shall be watered as necessary by the Landscape Contractor until planted.

2.04 STORAGE:

A. All plant materials shall be stored on the site in designated areas, specified by the Landscape Architect or Owner's agent.

B. No plant material shall be stored longer than seventy-two (72) hours unless approved by by Landscape Architect and/or owner

C. The Landscape Architect reserves the right to reject any plant materials not in conformance with these specifications.

D. All rejected material shall be immediately removed from the site and replaced with

acceptable material at no cost to the Owner.

2.05 PROTECTION DURING PLANTING: A. Trees moved by winch or crane shall be thoroughly protected from chain marks, girdling or bark slippage by means of burlap, wood battens or other approved methods. Battens shall NOT be attached to the tree with nails.

2.06 PLANTING SOIL:

A. Planting soil for all plantings shall consist of existing native soil and shall be free of debris, roots, clay, stones, plants or other foreign materials which might be a hindrance to planting operations or be detrimental to good growth.

A. Commercial fertilizer shall comply with the state fertilizer laws. Nitrogen shall not be less than 40% from organic source. Inorganic chemical nitrogen shall not be derived from the sodium form of nitrate. Fertilizers shall be delivered to the site in unopened original containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer that becomes caked or otherwise damaged

B. Thoroughly mixed 3 lbs. of commercial fertilizer

C. Tabletized fertilizer shall be Agriform planting tablets 20-10-5 formula, 21 gram or equal. All trees and shrubs shall be fertilized with tabletized fertilizer as follows. While backfilling plant holes, fertilizer tablets shall be equally spaced and placed adjacent to the ball mid-way in depth in accordance with the following rates:

to each cubic yard of planting soil.

1 gallon container 1 tablet 3 gallon container 2 tablets 5 gallon container 3 tablets 5 tablets

Large tubs, wire baskets, grow bags, and balled and burlapped material shall have 1 tablet for each 1/2 inch of trunk diameter (measured 3 feet from ground) or for each foot of height or spread of The Landscape Architect reserves the right to inspect and review the application of fertilizer.

A. Mulch material shall be clean, dry, free of weeds, seeds and pests, moistened at the time of application to prevent wind displacement. Cypress &/or Red mulch is prohibited

B. All trees and shrub beds shall receive 3" mulch immediately after planting and thoroughly watered. Apply 2" max on tree & palm rootballs, keep away from tree & palm trunks or as required by local jusidiction.

PART 3: EXECUTION

A. The Landscape Contractor shall exercise care in digging and other work so as not to damage existing work, including overhead wires, underground pipes and cables and the pipes and hydrants of watering systems. Should such overhead or underground obstructions be encountered which interfere with planting, the Owner shall be consulted and contractor will adjust the location of plants to clear such obstruction. The Contractor shall be responsible for the immediate repair of any damage caused by his work.

3.02 GRADING:

A. Grading for drainage, swales, etc. to within 4 inches of the finished grade to be provided by others.

B. It shall be the responsibility of the Landscape Contractor to provide the final grading during the course of landscape installation so as to bring sod and planting areas to their proper elevations in relation to walks, paving, drain structures, and other site conditions. The site grading plan must be checked prior to installation of sod to insure that drainage and other conditions will NOT be modified.

A. Planting shall take place during favorable weather conditions.

B. The Contractor shall call for utility locates and ascertain the location of all utilities and easements so proper precautions can be taken not to damage or encroach on them.

C. Tree Planting shall be located where it is shown on the plan. No planting holes shall be dug until the proposed locations have been staked on the ground by the Contractor.

D. Excavation of holes shall extend to the required subgrades as specified on the planting diagrams located in the planting plans. Plant pits shall be circular in outline and shall have a profile which conforms to the aforementioned "Tree and Shrub Planting Diagrams".

E. A representative number of planting pits (a minimum of one in every 25 feet throughout the entire site) shall be tested for proper drainage. See Landscape Plan for complete testing methods and requirements.

F. Planting pits shall be excavated to the following dimensions and refilled with a mixture of (1/2) planting soil (1/2) existing native soil];

1 Gallon material (1 gal.): 12" x 12" x 12" min 3 Gallon material (3 gal.): 20" x 20" x 18" min. Lerio material (7 gal.): 30" x 30" x 24" min.

Field grown material and trees: 1-1/2 times width of ball and depth of ball plus 12" min. G. No planting or laying of sod shall be initiated until the area has been cleaned of existing sod or other plant materials, rough grass, weeds, debris, stones etc. and the ground has been brought to an

even grade, with positive drainage away from buildings and towards drain inlets and swales

and approved by Landscape Architect or owner's rep. H. Each plant shall be planted in an individual hole as specified for trees, shrubs, and vines.

I. All plants shall be set to ultimate finished grade. No filling will be permitted around trunks or stems. All ropes, wire, stakes, etc., shall be removed from sides and top of the ball and removed from hole before filling in.

J. All flagging ribbon shall be removed from trees and shrubs before planting.

K. Excess excavation (fill) from all holes shall be removed from the site, at no additional expense to

L. All palms shall be backfilled with sand, thoroughly washed in during planting operations and with a

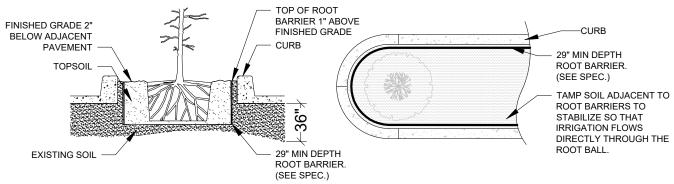
shallow saucer depression left at the soil line for future waterings. Saucer areas shall be topdressed two (2") inches deep with topsoil raked and left in a neat, clean manner. 3.04 PRUNING:

A. Remove dead and broken branches from all plant material. Prune to retain typical growth habit of individual plants with as much height and spread as possible in a manner which will preserve the plant's natural character.

B. Make all cuts with sharp instruments flush with trunk or adjacent branch, in such a manner as to insure elimination of stubs. Cuts made at right angles to line of growth will not be permitted.

C. Trees shall not be poled or topped.

D. Remove all trimmings from site.



SPECIAL APPLICATIONS ROOT BARRIER DETAIL <u>NOTES:</u> 1- ROOT BARRIER SHALL BE "BIO-BARRIER 29" DEPTH OR APPROVED EQUAL. 2- ROOT BARRIER SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS

BATTENS IN PLACE DURING PLANTING PROJECT. DO NOT NAIL — (5) LAYERS OF BURLAP BATTENS TO TRUNK, HEIGHT OF BATTENS SHALL BE LOCATED IN RELATION TO THE HEIGHT OF THE TREE FOR ADEQUATE BRACING. STEEL BANDS

(5) 2x4x16" WOOD BATTENS

CARBON STEEL BANDS TO HOLD

3.05 GUYING:

3.06 WATER

3.07 SOD:

3.08 SEEDING:

3.09 CLEANING UP:

3.10 MAINTENANCE:

manufacturer's instructions.

completed with his work.

operations shall be repaired promptly.

Contractor's responsibility to remove them.

3.11 COMPLETION, INSPECTION AND ACCEPTANCE:

inspection and acceptance.

all planting and at the request of the Landscape Contractor.

DRAINAGE TESTING/DRAINAGE CHANNEL REQUIREMENTS

A. DIG EACH PLANTING PIT TO THE MINIMUM SPECIFIED SIZE.

SHALL BE TESTED IN THE FOLLOWING MANNER

PLANTING PIT AND DRAINAGE CHANNEL.

PRIOR TO PLANTING ALL PLANTING PITS SELECTED FOR TESTING

B. FILL PLANTING PIT WITH TWELVE INCHES (12") OF WATER. IF THE

FOUR (4) HOUR PERIOD, A DRAINAGE CHANNEL IS REQUIRED.

NON POROUS SOIL AND INTO POROUS SOIL. (SEE DETAIL)

WATER LEVEL DROPS FOUR (4") OR MORE WITHIN FOUR (4) HOURS, THE

DRAINAGE IS SUFFICIENT AND A DRAINAGE CHANNEL IS NOT REQUIRED

C. WHERE REQUIRED, THE DRAINAGE CHANNEL MUST EXTEND DOWN THROUGH THE

D. ALL MATERIAL REMOVED FROM THE DRAINAGE CHANNEL SHALL BE DISCARDED.

TAKEN TO KEEP THE CONSISTENCY OF THE SOIL MIX THE SAME THROUGHOUT THE

E. WHEN BACKFILLING PLANTING PITS WITH PLANTING MIXTURE, CARE MUST BE

IF THE WATER LEVEL DROPS LESS THAN FOUR INCHES (4") WITHIN THE

rate of 2,500 pounds per acre.

A. All trees over six (6') feet in height shall, immediately after setting to proper grade, be guyed with

three sets of two strands, No. 12 gauge malleable galvanized iron, in tripod fashion. See Detail.

at all contact points. Wires shall be fastened in such a manner as to avoid pulling crotches apart.

Stakes shall be 2" x 2" lumber of sufficient length to satisfactorily support each tree

plant materials shall be the responsibility of the Landscape Contractor until final acceptance by the

A. Each plant or tree shall be thoroughly watered in after planting. Watering of all newly installed

B. It shall be the responsibility of the Landscape Contractor to fine grade all landscape areas,

root development. It shall contain no noxious weeds, or any other objectionable vegetation,

fungus, insects, or disease. The soil embedded in the sod shall be good clean earth, free from

lawn mower, with the final mowing not more than seven days before the sod is cut. The sod shall

6-6-6 fertilizer with all trace elements is to be applied at the rate of 40 lbs. per 1,000 sq. ft. prior

F. Solid sod shall be laid with closely abutting, staggered joints with a tamped or rolled, even surface.

H. If in the opinion of the Landscape Architect, top dressing is necessary after rolling, clean yellow

sand will be evenly applied over the entire surface and thoroughly washed in.

A. The Landscape Contractor shall remove all vegetation and rocks larger than (1") in

D. Apply fertilizer at the rate of 150 lbs. per acre 45-60 days after seeding.

Application: Argentine Bahia Grass seed - 200 Pounds per acre mixed with common

hulled Bermuda seed - 30 lbs. per acre. All other seed mixtures shall be applied per the

C. Roll immediately after seeding with a minimum 500 pound roller, then apply straw mulch at the

A. The contractor shall at all times keep the premises free from accumulations of waste materials or

Maintenance shall begin immediately after each plant is installed and shall continue until all

watering, weeding, removal of dead materials, resetting plants to proper grades or upright

B. Proper protection to lawn areas shall be provided and any damage resulting from planting

D. In the event that weeds or other undesirable vegetation become prevalent, it shall be the

A. Completion of the work shall mean the full and exact compliance and conformity with the

removal of all trash, debris, soil or other waste created by the Landscape Contractor.

Inspection of work to determine completion of contract, exclusive of the possible

E. Trees or other plant material which fall or are blown over during the maintenance period will be

positions, spraying, restoration of planting saucer and/or any other necessary

planting has been accepted by the Owner or Landscape Architect. Maintenance shall include

Replacement of plants during the maintenance period shall be the responsibility of the Contractor,

excluding vandalism or damage on the part of others, lighting, or hurricane force winds, until final

reset by the Contractor at no additional expense to the Owner, the only exception being hurricane

provisions expressed or implied in the Drawings and in the Specifications, including the complete

replacement of plants, will be made by the Owner and/or Landscape Architect at the conclusion of

All plant material shall be alive and in good growing condition for each specified kind of plant at

D. After inspection, the Landscape Contractor will be notified by the Owner of the acceptance of all

plant material and workmanship, exclusive of the possible replacement of plants subject to

the time of acceptance. The rating of each plant according to Florida Grades and Standards shall

be equal to or better than that called for on the plans and in these Specifications at the time of final

rubbish caused by his employees or work. He shall leave all paved areas "broom clean" when

The finished level of all sod areas after settlement shall be one (1") inch below the top of abutting

diameter from areas to be seeded, scarify the area, then apply fertilizer at a rate of 500 lbs, per acre.

C. The sod shall be firm, tough texture, having a compacted growth of grass with good

D. Before being cut and lifted, the sod shall have been mowed at least three times with a

E. Turnbuckles for guying trees shall be galvanized or cadmium plated and shall be of

adequate size and strength to properly maintain tight guy wires.

A. The Landscape Contractor shall sod all areas indicated on the drawings

eliminating all bumps, depressions, sticks, stones, and other debris.

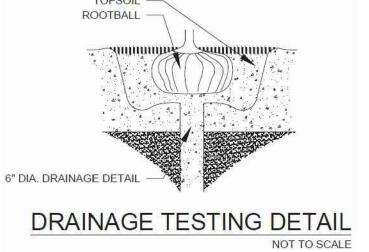
D. Stake & Brace all treess larger than 12' oa. See detail.

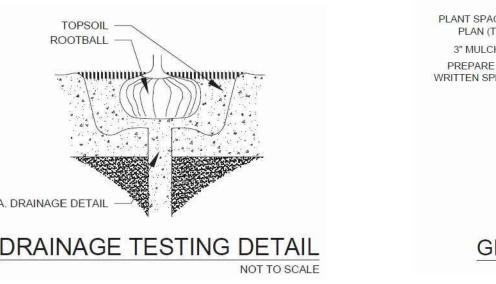
B. See General Notes of Landscape Plan for water source.

be carefully cut into uniform dimensions.

walks, paving and wood borders to allow for building turf.

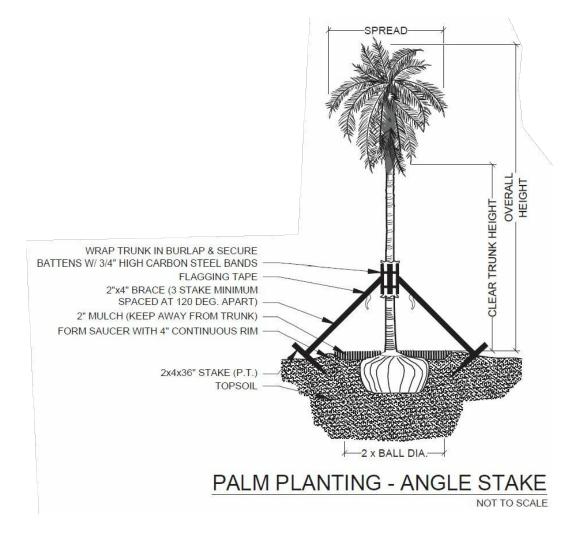
B. Wires shall not come in direct contact with the tree but shall be covered with an approved protection device

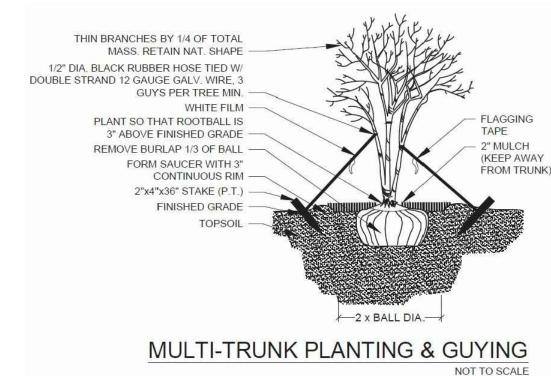


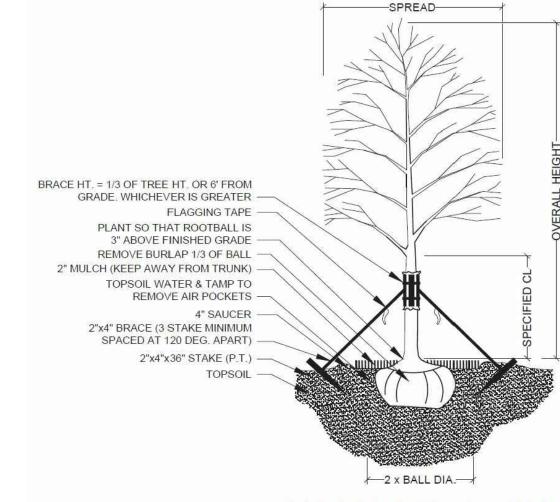


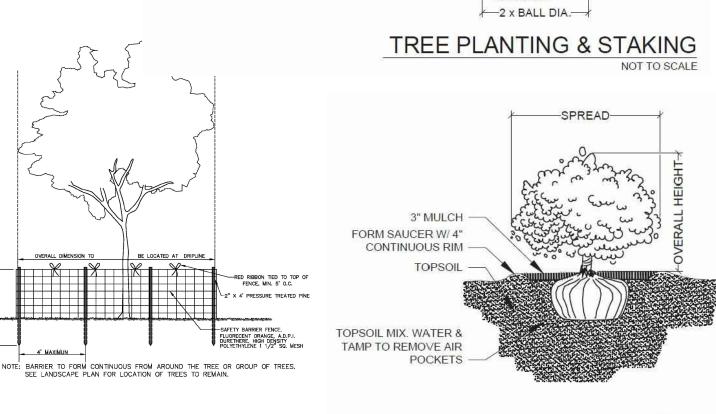
SEE LANDSCAPE PLAN FOR LOCATION OF TREES TO REMA

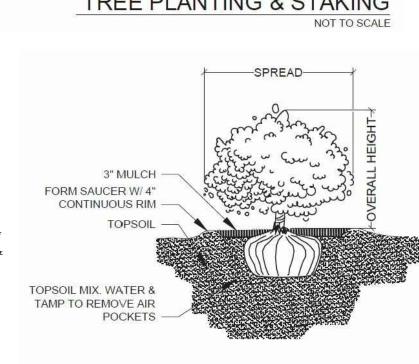
TREE PROTECTION DETAIL



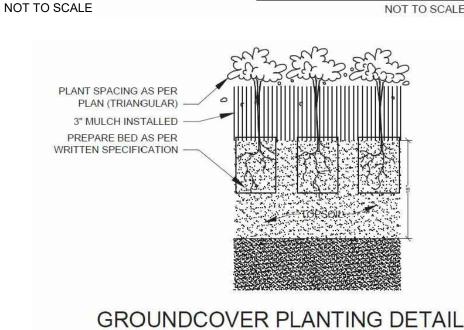














3020 On # \mathcal{C} C Cifi 9 တ တ **∞**୪ 7 9 0

0

 \mathbf{C}

