SECTION NO: 86039000
S.R. NO(S): 814 (Atlantic Blvd)
COUNTY: Broward
FM NO.(S): 426010-1-58-01
426011-1-58-01

DISTRICT FOUR (4) AMENDMENT # THREE (3)
TO STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION AND
THE CITY OF COCONUT CREEK LANDSCAPE
INCLUSIVE MEMORANDUM OF AGREEMENT

This is Amendment Number Three to the Agreement dated May 27, 2009, made and entered into this 23 day of May 2011 by and between the State of Florida Department of Transportation hereinafter called the "DEPARTMENT" and the City of Coconut Creek, a political subdivision of the State of Florida, hereinafter called the "AGENCY".

WHEREAS, the parties entered into the Inclusive Maintenance Agreement dated May 27, 2009, for the purpose of maintaining the landscape improvements by the AGENCY on various State Roads including State Road 814 (Atlantic Blvd); and,

WHEREAS, the DEPARTMENT and AGENCY have agreed to add additional landscape improvements to be installed on State Road 814 (Atlantic Blvd) in accordance with the above referenced Agreement;

NOW THEREFORE, for and in consideration of mutual benefits that flow each to the other, the parties covenant and agree as follows:

1. Pursuant to paragraph 6 of the Inclusive Agreement for State Road 814 (Atlantic Blvd) dated May 27, 2009, the AGENCY has decided to construct additional landscape improvements or to modify an improvement located as indicated in Exhibit A, on SR 814 (Atlantic Blvd) from 1,750ft west of Lyons Road (M.P. 0.899) to Florida's Turnpike (M.P. 1.715) in accordance with the plans attached as Exhibit B.

2. The AGENCY has received two (2) grants on SR 814 (Atlantic Blvd), one for two hundred thousand dollars and no cents ($200,000.00) from 1750ft west of Lyons Road (M.P. 0.899) to Lyons Road (M.P. 1.230); and another for three hundred thousand dollars and no cents ($300,000) from Lyons Road (M.P. 1.230) to Florida's Turnpike (M.P. 1.715).

3. The AGENCY shall agree to install landscape as provided in Exhibit B; and maintain the landscape improvements in accordance with the Inclusive Maintenance Agreement dated May 27, 2009 and as provided in the attached Exhibit C, Maintenance Plan.

4. AGENCY shall utilize the U.S. Department of Homeland Security's E-Verify system, in accordance with the terms governing use of the system, to confirm the employment eligibility of;

(1) All persons employed by the AGENCY during the term of the Contract to perform employments duties within Florida; and

(2) All persons, including subcontractors, assigned by the AGENCY to perform work pursuant to the contract with the DEPARTMENT.

Except as modified by this amendment, all terms and conditions of the Agreement shall remain in full force and effect.

Exhibits

Exhibit A – Landscape Improvements Location & Maintenance Boundaries
Exhibit B – Landscape Improvements Plans
Exhibit C – Maintenance Plan for Landscape Improvements
Exhibit D – Approximate Cost for Landscape Improvements

In Witness whereof, the parties hereto have executed with this Amendment effective the 23 day May year written and approved.

CITY OF COCONUT CREEK

BY:

City Manager

State of Florida
Department of Transportation

BY:

Director of Transportation Development

STATE OF FLORIDA • DEPARTMENT OF TRANSPORTATION

ATTEST:

City Clerk — Date 5/16/11

District General Counsel — Date 5/23/2011

Agency Attorney — Date 5/16/11

NANCY A. COUSINS

SECTION NO: 86039000
S.R. NO(S): 814 (Atlantic Blvd)
COUNTY: Broward
FM NO.(S): 426010-1-58-01
426011-1-58-01

EXHIBIT A

PROJECT LOCATION AND LANDSCAPE IMPROVEMENTS MAINTENANCE BOUNDARIES

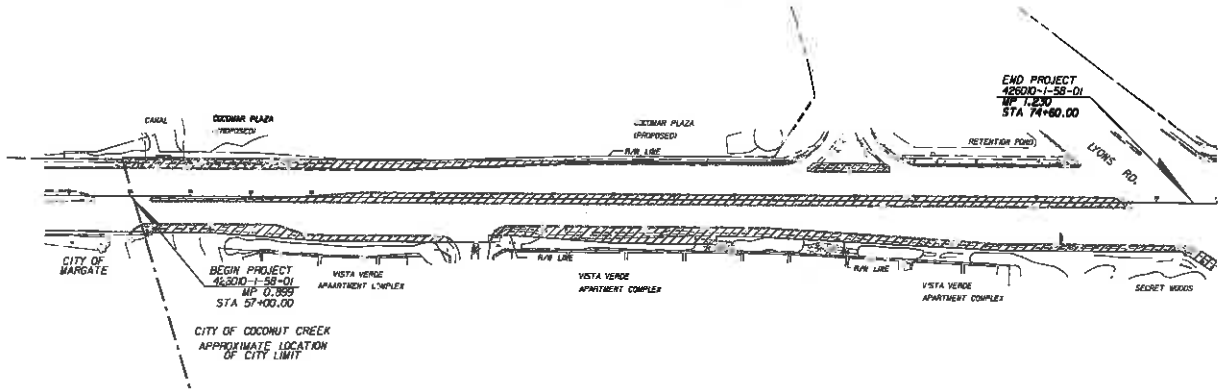
I. GRANT PROJECT LOCATION(S) INCLUDE THE FOLLOWING:

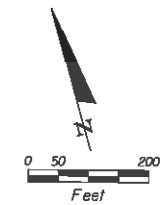
State Road 814 (Atlantic Blvd) from 1,750ft west of Lyons Road (M.P. 0.899) to Florida's Turnpike (M.P. 1.715)

II. INCLUSIVE LIMITS OF LANDSCAPE IMPROVEMENTS MAINTENANCE FOR SR 814 (ATLANTIC BLVD):

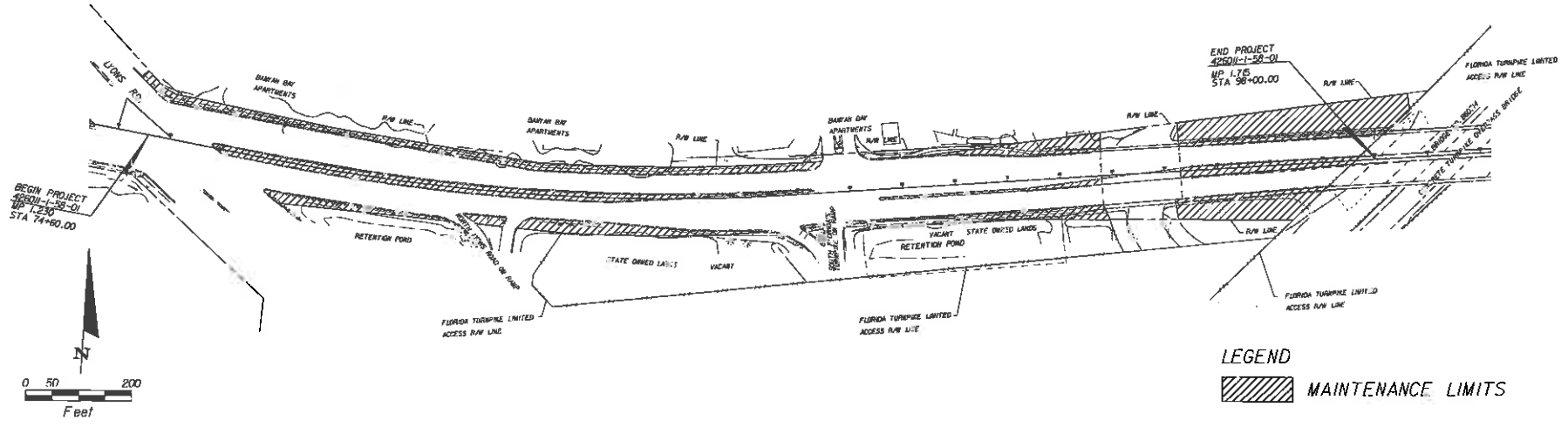
State Road 814 (Atlantic Blvd) from East Hemingway Court (M.P. 0.753) to Florida's Turnpike (M.P. 1.715)

III. LANDSCAPE IMPROVEMENTS MAINTENANCE MAP FOR THIS GRANT PROJECT: SEE ATTACHED





FM# 426010-1-58-01



FM# 426011-1-58-01

LEGEND

MAINTENANCE LIMITS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

MILLER LEGG
5747 North Andrews Way · Fort Lauderdale, Florida · 33309-2364
954-436-7800 · Fax: 954-436-8664 · www.millerlegg.com
Cert. of Auth.: LC0000337 · L.A. of Record: Brian R. Shaw LA-6666770

CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

MAINTENANCE MAP

SHEET NO. A

4/3/2011 9:00:35 AM V:\Projects\2010\10-00249 - SR-814 Atlantic Blvd LA Svcs\426010-1-58-01\landsap\plan\LDLmp.dgn

SECTION NO: 86039000
S.R. NO(S): 814 (Atlantic Blvd)
COUNTY: Broward
FM NO.(S): 426010-1-58-01
426011-1-58-01

EXHIBIT B

LANDSCAPE IMPROVEMENT PLANS

The AGENCY agrees to install the landscape improvements in accordance with the plans and specifications attached hereto and incorporated herein.

Please see attached plans prepared by: Miller Legg and Associates
Brian Shore, RLA

Dated: March 8, 2011

CONTRACT PLANS

BROWARD COUNTY

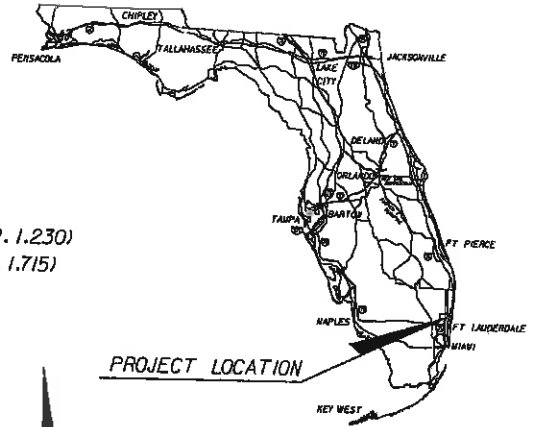
STATE ROAD NO. 814 / ATLANTIC BOULEVARD

FM 426010-1-58-01 FROM WEST OF LYONS ROAD (M.P. 0.899) TO LYONS ROAD (M.P. 1.230)
FM 426011-1-58-01 FROM LYONS ROAD (M.P. 1.230) TO FLORIDA'S TURNPIKE (M.P. 1.715)

LANDSCAPE BEAUTIFICATION PROJECT

INDEX OF PROJECT PLANS

SHEET NO.	SHEET DESCRIPTION
LD-1	KEY SHEET
LD-2	TABULATION OF QUANTITIES/PLANT SCHEDULE
LD-3	LANDSCAPE GENERAL NOTES
LD-4 and LD-6	HARDSCAPE DETAILS
LD-7 and LD-8	LANDSCAPE DETAILS
LD-9 thru LD-15	LANDSCAPE PLAN
LD-16 and LD-20	IRRIGATION NOTES
LD-21 thru LD-27	IRRIGATION PLAN
LD-28	TRAFFIC CONTROL NOTES
LD-29 and LD-31	TRAFFIC CONTROL DETAIL



CORAL SPRINGS

R-41-E
R-42-E

END PROJECT
FM 426011-1-58-01
MP 1.715 STA. 98+00.00

BEGIN PROJECT
FM 426011-1-58-01
MP 1.230 STA. 74.60.00

TAMARAC

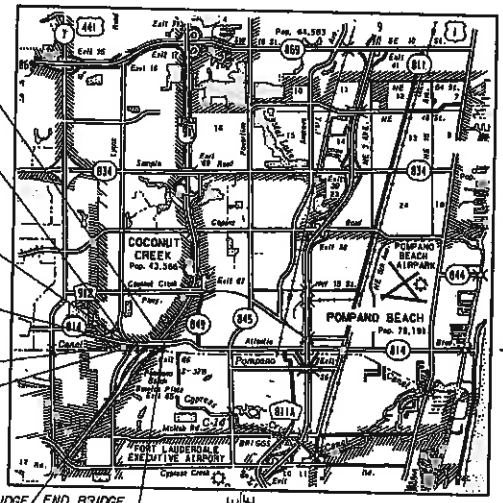
END PROJECT
FM 426010-1-58-01
MP 1.230 STA. 74+60.00

BEGIN PROJECT
FM 426010-1-58-01
MP 0.899 STA. 57+00.00

T-48-S
T-49-S

BEGIN BRIDGE
Sta. 92+79.72

END BRIDGE
Sta. 94+29.54



T-48-S
T-49-S

POMPANO BEACH

BEGIN BRIDGE
Sta. 98+03.00

END BRIDGE
Sta. 102+92.35

R-41-E
R-42-E

LAUDERDALE LAKES

PROJECT LENGTH: 0.816 MILES

N

0 1 2
Miles

City of Coconut Creek
4800 West Copans Road
954-973-6770 · Fax: 954-973-6794
www.coconutcreekgov.net

Mayor: Lisa K. Aronson
Vice Mayor: Lou Sarbone
Commissioner: Marilyn Gerber
Commissioner: Becky Tooley
Commissioner: Mikkie Belvedere
City Manager: David J. Rivera

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
DESIGN STANDARDS DATED 2010,
AND STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION DATED 2010,
AS AMENDED BY CONTRACT DOCUMENTS.

APPLICABLE DESIGN STANDARDS MODIFICATIONS: 01-01-11
For design standard modifications click on "Design Standards" at the following web site:
http://www.dot.state.fl.us/rddesign/DesignStandards/Standards.shtm

WESTERN HALF FM# 426010-1-58-01
EASTERN HALF FM# 426011-1-58-01

PLANS PREPARED BY:
MILLER LEGG
5747 N Andrews Way · Fort Lauderdale, Florida · 33309-2364
954-436-7000 · Fax: 954-436-8664 · www.millerlegg.com
Certification of Authorization: LC0000937

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

DESIGN SPEED: 45 MPH

CITY OF COCONUT CREEK PROJECT MANAGER: PAMELA STANTON, RLA
MILLER LEGG PROJECT MANAGER: BRIAN R. SHORE, RLA

3-8-11

SHEET NO.
LD-1

TABULATION OF QUANTITIES / PLANT SCHEDULE

PAY ITEM NO.	PAYSIZE	SYM	BOTANICAL NAME	COMMON NAME	INSTALLED SIZE	MAX. MAINTAINED SIZE	SPACING	REMARKS	NATIVE	DROUGHT TOLERANCE	UNIT	SHEET NUMBERS														TOTAL THIS SHEET	
												LD-8		LD-9		LD-10		LD-11		LD-12		LD-13		LD-14			
107-1 LITTER REMOVAL AND DISPOSAL												PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL
1			Litter Removal and Disposal								AC	0.11		0.22		0.16		0.17		0.13		0.02		0.13		0.93	
107-2 MOWING																											
1			Mowing								AC	0.11		0.22		0.16		0.17		0.13		0.02		0.13		0.93	
285-70 LIME ROCK BASE																											
1			New concrete base								SY											14		33		47	
522-2 6" SIDEWALK																											
1			New concrete								SY											14		33		47	
523-1-2 PATTERN CONCRETE																											
1			pattern and color								SY											14		33		47	
2			Overlay treatment								SY											14		33		47	
526-1-1 ARCHITECTURAL PAVERS (CONCRETE PAVERS)																											
1			Architectural pavers								SY	75.9								40		126		285		538	
570-1 PERFORMANCE TURF																											
1		SOD	Stenotaphrum secundatum	St. Augustine Sod							SY	127.2		16.7		51		42		7				81		325	
580-1-1 SHRUBS & GROUND COVERS (SMALL)																											
1	SMALL	CHR	Chrysobalanus icaco 'Horizontal'	Horizontal Cocoplum	MIN. 18"x24", 3 GAL. Bush Form	" 18"	24" O.C.	FULL	N	VERY	AC			0.12		0.10		0.11		0.08				0.06		0.47	
2	SMALL	DIA	Dianella Tasmanica	Blueberry Flax Lily	MIN. 24"x20", 1 - 3 GAL	Natural Size	24" O.C.	FULL	N	VERY	EA	210												195		405	
3	SMALL	JUN	Juniperus chinensis 'Parsoni'	Parsons Juniper	min. 24" x 24", 3 Gal.	" 18"	2.1"OC	FULL	Y	MODERATE	EA	90				46		45		30		20				230	
4	SMALL	IVS	Ilex vomitoria 'Stokes Dwarf'	Stokes DwarfYaupon	MIN. 18"x20", 1 - 3 GAL	" 18"	24"OC	FULL	Y	MODERATE	EA	145				70		85		109		60		102		568	
5	SMALL	MUH	Muhlenbergia capillaris	Muhly Grass	MIN. 30"x24", 1 - 3 GAL.	Natural Size	24" O.C.	FULL	Y	VERY	EA	30		95		5				65						198	
6	SMALL	TRI	Tripsacum dactyloides	Fakahatchee Grass	MIN. 30"x24", 1 - 3 GAL.	Natural Size	24" O.C.	FULL	Y	VERY	EA			65		66		65								196	
7			Additional Mulch		3" Mulch area around Sabal Palm Bosque						SY	25		131		58		59		53		53				379	
580-1-2 TREES & PALMS (LARGE)																											
1	LARGE	JM	Jacaranda mimosifolia	Jacaranda	MIN. 16' Ht. x 7' spr., 4" Cal.	Natural Size	As Shown	B&B, Full	N	VERY	EA	4				3		4						5		16	
2	LARGE	LI	Lagerstroemia indica'Muskogee'	Crape Myrtle	MIN. 14' ht. x 7' spr., 4" CT Multi	Natural Size	As Shown	B&B, Full	N	VERY	EA	6		22						14						42	
3	LARGE	QV	Quercus virginiana	Live Oak	MIN. 9" Cal, 26'-30' Ht, 15' spr., 5' CT	Natural Size	As Shown	B&B, Full	Y	VERY	EA			8		4		4		4						20	
PALMS																											
4	LARGE	SP	Sabal palmetto	Sabal Palm	MIN. 14' CT, 14'-20' O.A.H., Straight with Boots	Natural Size	As Shown	B&B, Full	Y	MODERATE	EA			14		14		14								42	

NOTE: * MAX MAINTAINED SIZE WITHIN INDEX 546 SIGHTLINE TO BE 18", NON-SIGHTLINE AREAS MAX MAINTAINED SIZE TO BE NATURAL

Pay Items:

101-1: MOBILIZATION - Includes all the cost of all activities associated with preparatory work and operations in mobilizing for beginning work on the project.

102-1: MAINTENANCE OF TRAFFIC - Includes all the cost of all activities associated with but not limited to the maintenance /replacement of existing signs during construction, workzone signs, arrow panels, off-duty officer, barricades, dust control, and operations for maintaining traffic flow.

107-1: LITTER REMOVAL - Includes all activities associated with litter removal within proposed landscape areas as shown in landscape plans and notes.

107-2: MOWING - Includes all activities associated with mowing in medians within project limits as shown in landscape plans and notes.

110-1-1: CLEARING AND GRUBBING - Includes all Clearing and Grubbing activities associated within proposed project limits as shown in landscape plans and notes.

285-701: LIME ROCK BASE - Includes installation of base material as shown in plans and details.

522-2: 6" SIDEWALK - Includes installation of concrete sidewalk as shown in plans and details.

523-1-2: PATTERN CONCRETE - Includes installation of patterned concrete as shown in plans and details.

570-1: PERFORMANCE TURF - Includes installation and establishment of sod within project limits as outlined within general notes, plans. Sod to be St. Augustine Sod (Stenotaphrum secundatum).

580-1-1: LANDSCAPE SMALL - Includes all activities associated with installation and maintenance of landscape as shown in landscape plans and notes. Mowing to be done twice a month or when sod is greater than 6".

580-1-2: LANDSCAPE LARGE - Includes all activities associated with installation and maintenance of landscape as shown in landscape plans and notes. Mowing to be done twice a month or when sod is greater than 6".

590-70: IRRIGATION - Includes all activities associated with installation and maintenance of irrigation as shown in irrigation plans and notes.

Pam Blue 3-8-11

REVISIONS						
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

MILLER LEGG
5747 North Andrews Way - Fort Lauderdale, Florida - 33309-3164
954-486-2000 - Fax: 954-486-8664 - www.millerlegg.com
Cert. of Auth.: LC0000357 - L.A. of Record: Brian R. Shaw FLA-0666670

CITY OF COCONUT CREEK			TABULATION OF QUANTITIES / PLANT SCHEDULE	SHEET NO.
ROAD NO.	COUNTY	MILLER LEGG PROJECT ID		
814	BROWARD	10-00249		LD-2

PROJECT GENERAL NOTES:

1. The Contractor shall visit the site prior to placing his bid to assess the amount of planting required for the general conditions as they relate to traffic control, access to the site and other challenges of the Project.

2. All base survey sketch information shown per FDOT Project FM# 423002-1-52 is the best available information available at the time of preparation of plans. The Contractor shall notify the City of any discrepancies in the information provided. Base map is a sketch of corridor and data is not geographically located within any survey datums. Features such as right of way lines, and utilities, have been compiled and incorporated from as-built data obtained from various sources. Geometric survey of median has been conducted to aide contractor in construction of hardscape features. Contractor to use back of curb dimensions as reference. Baseline shown on plans is provided for reference only and is an assumed centerline of corridor.

3. All Public land corners and monuments within the limits of construction are to be protected by Contractor as follows: Corners and monuments in conflict with the work and in danger of being damaged, destroyed or covered shall be properly referenced by a registered-land surveyor in accordance with the minimum technical standards of the Florida Board of Professional Land Surveyor prior to beginning work at that site. The Contractor shall retain the land surveyor to reference, and restore upon completion of the work, all such corners and monuments and shall furnish to Florida Department of Transportation (FDOT) a signed and sealed copy of the Land Surveyor's reference drawing.

4. The Contractor shall comply with all state codes and ordinances. Contractor shall be responsible for obtaining all applicable permits unless otherwise directed by the City.

6. The Contractor shall submit a an inventory list of the existing signs including photos to the City prior to mobilization. Any existing signs damaged by the contractor during construction, shall be replaced by the Contractor at no additional cost to the City or FDOT.

7. Contractor is to notify the City/FDOT, who shall notify the State Permits Office at 850-488-4961 at least 7 calendar days in advance of a MOT Set-up that will impact Overweight/Overheight Vehicles.

8. Contractor shall remove and dispose of existing sod and surplus materials off-site or as directed by the City. All existing soil within the medians that is removed for hardscape treatments or removed for tree installation shall be re-used in the formation of the proposed "wave" land-forms.

9. CLEARING and GRUBBING:
a. SOD: includes removal of existing sod within medians and areas where proposed plant material is specified within the right-of-way unless otherwise noted.

9. IRRIGATION: includes protection of existing irrigation systems within the right of way. Contractor shall be responsible for repair of damaged systems.

10. SIGHT VISIBILITY CLEAR ZONES: on the main travel/through lanes for this project are based on a design speed of 45 mph.

ENVIRONMENTAL NOTES:
1. The Contractor shall review environmental requirements of any proposed staging areas with the City and submit to the City and submit to the FDOT District Environmental Permits Coordinator at least seventy-two (72) hours prior to use.

2. Contractor shall submit to City a Stormwater Prevention Pollution Protection Plans (S.W.P.P.P.) to City for review and submittal to appropriate agencies with copies to FDOT.

3. Any material to be stockpiled for periods greater than 24 hours shall be protected by appropriate erosion control devices. No material shall be stockpiled between silt fences and water bodies.

4. All excess material as designated by the City is to be disposed by the Contractor in areas provided by him within 72 hours of being deposited in the construction area and at the Contractor's expense.

5. The Contractor is responsible for keeping existing and new inlets clean of planting soil, debris, etc. during the construction at no additional cost to the City. Contractor shall submit plan for protection of inlets and /or erosion during construction.

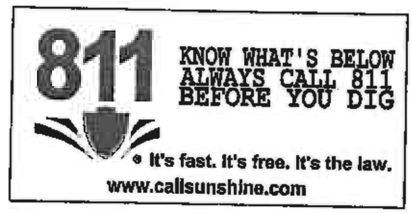
6. If necessary the Contractor shall use a street sweeper (using water) or other equipment capable of controlling and removing dirt or dust. Approval of the use of such equipment is contingent upon its demonstrated ability to do the work.

UTILITIES GENERAL NOTES:

1. Two full business days prior to digging, the Contractor shall call Sunshine State One Call of Florida, telephone number 811, and the utility owner and request utility locations. A Contractor's representative must be present when utility companies locate their facilities.

2. All existing utilities are to remain.

3. Contractor shall explore by hand digging and expose all utilities located within 5' of all proposed trees and palms.



UTILITIES GENERAL NOTES:

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2. All existing utilities are to remain.

3. Contractor shall explore by hand digging and expose all utilities located within 5' of all proposed trees and palms.

GOVERNING STANDARDS:
Florida Department of Transportation (FDOT) DESIGN STANDARDS and SPECIFICATIONS: Contractor to refer to the following:

1. FDOT Standard Specifications for Road and Bridge construction 2010

2. FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System 2010 (English Units)

3. FDOT 2010 Interim Design Standard (01/01/11)

LANDSCAPE GENERAL NOTES:

1. LANDSCAPE: Installation of plant material shall be performed by a Contractor certified by the Florida Nurserymen, Growers and Landscape Association (FNGLA) as a Certified Landscape Contractor. Any pruning activities of trees and/or palms shall be supervised by a Certified Arborist, as certified by The International Society of Arboriculture (ISA) and licensed in Broward County.

2. SOIL:
a). For Trees and Shrubs and Groundcover beds: Provide a consistent mix consisting of 50% Sand / 40% Muck / 10% Peat for the planting soil mix.
b). For Palms: Provide a consistent mix consisting of 70% Sand / 30% Muck for the planting soil mix.
c). For Sod area: Provide a 6" to 12" veneer / layer of soil consisting of 70% Sand / 30% Peat mix.

LANDSCAPE GENERAL NOTES Continued:

3. SOD:
a). Provide specified species of sod as shown on plans. All existing turf areas within the medians shall be removed. Replace sod within the medians, outside of proposed planting beds, as indicated on plans. Contractor shall include a 6" to 12" layer or veneer of suitable planting soil in the areas within the median that are to be sodded. The soil material and placement of the soil shall be part of the pay item for the sod. Should any new sod be damaged during the course of construction, the Contractor shall be responsible to re-sod the damaged areas and restore the proposed grade. Cost of replacement material shall be included within Mobilization and at the Contractor's expense.
b). All existing areas within swale areas shall remain unless otherwise specified. The Contractor shall be responsible to re-sod any areas damaged by construction activities. Restoration sod (re-sodding damaged areas) shall match the species of the existing/surrounding sod.

4. MULCH: A consistent 3" layer of shredded Grade A mulch or better shall be spread over all planting beds. All mulch beds shall extend to bedline shown on plans. Contractor to submit sample of mulch to City for acceptance.

5. FERTILIZATION: Contractor shall provide at a minimum, one (1) application at time of planting. A schedule of fertilization based upon the Manufacturer's recommended rates shall be submitted by the Contractor at the pre-construction meeting.

AT TIME OF PLANTING: Fertilize with planting tablets 20-10-5 plus minors. Do not place tablets in bottom of hole; tablet shall be 1/3 from the bottom of the rootball.

ESTABLISHMENT PERIOD OF PLANT MATERIAL: Fertilizer for dicot trees, shrubs and ground covers shall be of 6% nitrogen, 6% phosphorus and 6% potassium with minor elements composition analysis. Fertilizer for palms shall be "palm fertilizer" of 13% nitrogen, 3% phosphorous, and 13% of potassium composition analysis with minor elements. Contractor shall apply granular fertilizer at the manufacturer's recommended rates. Contractor reserves the right to modify N-P-K ratio and shall submit product data sheets for review and acceptance prior to any installation of plant material consistent with the above criteria.

6. WATERING: At a minimum, the Contractor shall provide the following recommended watering schedule beginning immediately after installation of plant material. At the pre-construction meeting, the Contractor shall submit a watering schedule based upon the following recommended rates:

All watering applications required during Plant Establishment Period and Warranty Period and it's source shall be included as part of the unit price for each plant material. Contractor shall adjust watering schedule during heavy rain season upon approval by Project Engineer.

7. WARRANTY: Install, establish and maintain landscaping as indicated in the contract documents. Take responsibility for the proper maintenance, survival and condition of all plants for a period of one year after final acceptance in accordance with FDOT Standard Specifications for Road and Bridge Construction Section 580.

8. REPLACEMENT MATERIAL: shall be subject to all the requirements of the FDOT Standard Specifications for Road and Bridge Construction Section 580.

9. MAINTENANCE: Begin maintenace of all plants immediately after each planting as indicated in the contract documents and in accordance with Standard Specifications Section 580.

A. Keep all plants watered, fertilized, mulched, pruned and staked and guyed as necessary to assure specified minimum grade of Florida No. 1 thruought the duration of the project construction period and establishment period.

B. During the establishment period, keep the individual planting locations and planting beds free of litter and undesirable vegetation.

C. Ensure that the plants are maintened so that they are healthy, vigorous, and undamaged throughout the duration of the project construction period and establishment period.

D. For the duration of the establishment period, operate and maintain in good operating condition, all components of any irrigation system installed in compliance with the Contract Documents.

E. During the establishment period, replace any plants that fall below specified minimum grade. Use replacement plants of the same species, size and planting medium as the plant being replaced and as specified in the Contract Documents.

10. The Contractor shall furnish to the City a unit price breakdown for all materials. The City may, at its discretion, add or delete from the materials utilizing the unit price breakdown submitted. This unit price breakdown shall be provided by the Contractor at the Pre-Construction meeting.

11. No plant material will be accepted showing evidence of cable, chain marks, equipment scars, or when the ball of earth surrounding its roots has been cracked, broken or otherwise damaged.

BMRS 2-8-11

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

MILLER LEGG
5747 North Andrews Way · Fort Lauderdale, Florida · 33309-2364
954-436-7000 · Fax: 954-436-8664 · www.millerlegg.com
Cert. of Auth.: LC0000337 · L.A. of Record: Brian R. Shore LA-6666770

CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

LANDSCAPE GENERAL NOTES

SHEET NO. LD-3

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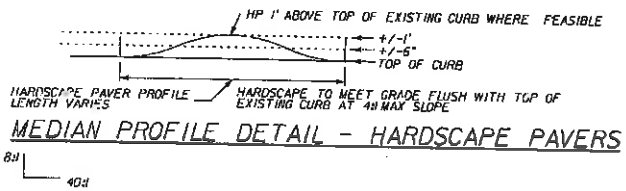
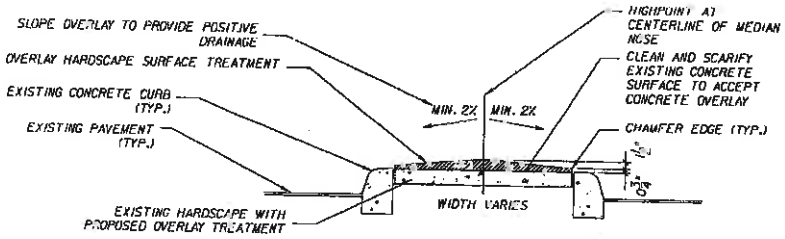
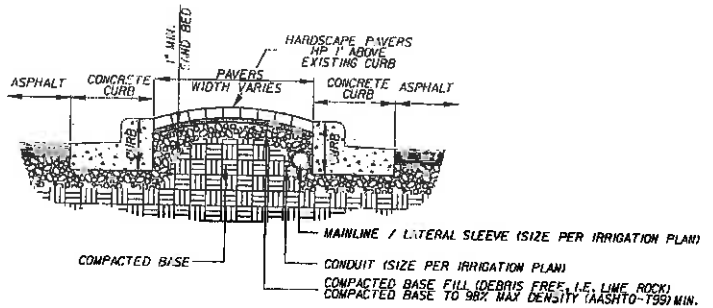


MEDIAN PROFILE DETAIL - HARDSCAPE PAVERS



HARDSCAPE OVERLAY
SECTION
NTS



TYPICAL MEDIAN CROSS SECTION - HARDSCAPE PAVERS
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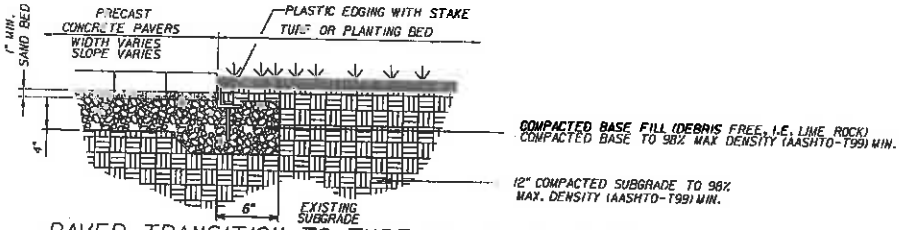

PAVER TRANSITION TO TURF OR PLANTING BED
N.T.S.

Bm R Shue
3-8-11

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CITY OF COCONUT CREEK

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814	BROWARD	10-00249

HARDSCAPE DETAILS

SHEET NO.
LD-4

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HARDSCAPE PAVER TREATMENT

PLAN NTS

BLUE PAVER: BLUE GLASS IMBEDDED PAVER BY ARTISTIC PAVER OR EQUAL

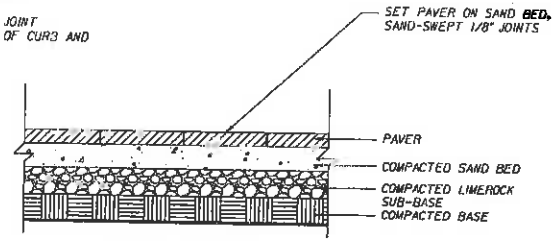
SAND PAVER: SHELL IMBEDDED PAVER BY ARTISTIC PAVER OR EQUAL

SET PAVER(S) ON MORTAR BED ON A 3" COMPACTED SAND BED, SAND-SWEEP JOINTS

PAVER FIELD: 12"X12" SET AT 45-DEG ANGLE TO BACK OF CURB, CUT TO FIT.

1/2" EXPANSION JOINT BETWEEN BACK OF CURB AND PAVER

NOTE: 1. CONTRACTOR TO SUBMIT SAMPLES OF ALL HARDSCAPE MATERIALS FOR REVIEW AND APPROVAL.
2. CONTRACTOR TO PROVIDE 10'X10' MOCK-UPS OF EACH HARDSCAPE TREATMENT FOR REVIEW AND APPROVAL.



PAVER DETAIL

SECTION NTS

OVERLAY TREATMENT: COLOR SURFACE TREATMENT

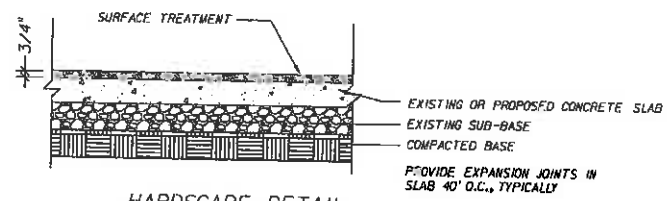
PLAN NTS

INTERGRALLY COLOR CONCRETE SLAB. COLOR BY L.M. SCOFIELD OR EQUAL
COLOR: TAN AND BLUE COLORS TO BE DETERMINED

LIGHT TO MEDIUM SANDBLAST 'WAVE'. RIPPLE INTENSITY TO CREATE SAND-LIKE RIPPLES IN CONCRETE

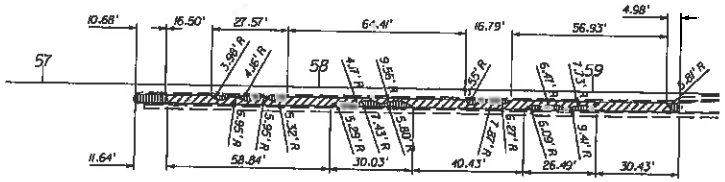
1/2" EXPANSION JOINT BETWEEN BACK OF CURB AND PAVER

REFER TO HARDSCAPE PLANS AND DETAILS FOR SURFACE HARDSCAPE TREATMENT AND LOCATION / LAYOUT

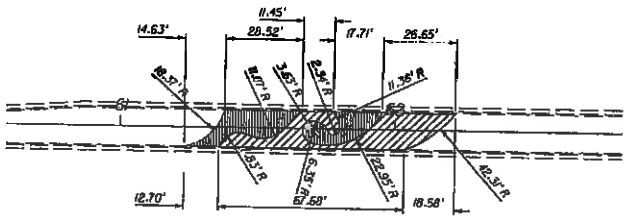


HARDSCAPE DETAIL

SECTION NTS



HARDSCAPE DETAIL - STA. 57+00 - 60+00



HARDSCAPE DETAIL - STA. 61+00 - 62+00

HARDSCAPE LEGEND

BLUE HARDSCAPE COLOR

SAND HARDSCAPE COLOR

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HARDSCAPE DETAILS

SHEET NO. LD-5

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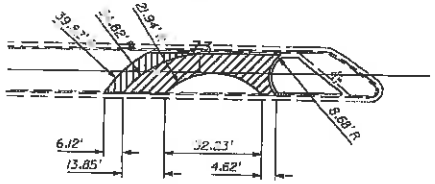
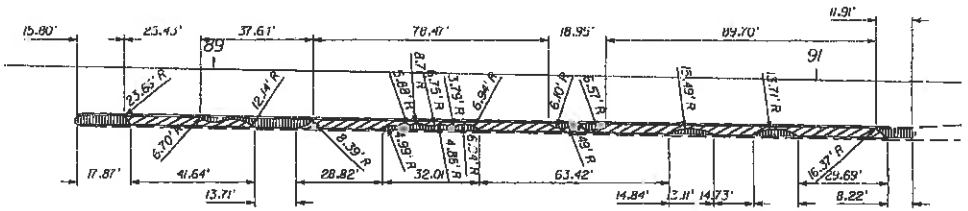
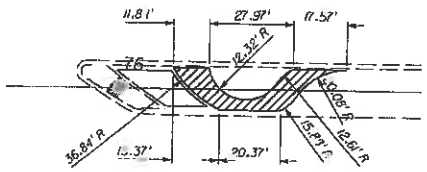


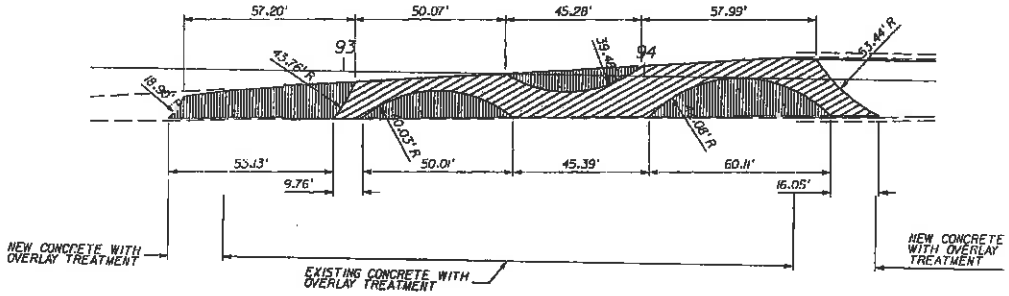
HARDSCAPE DETAIL - STA. 61+00 - 62+00



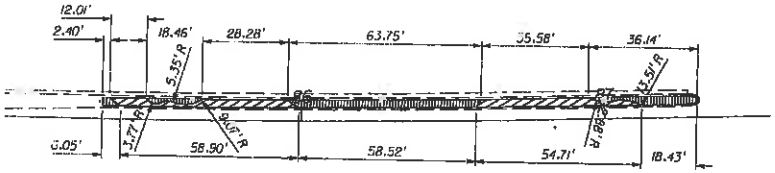
HARDSCAPE DETAIL - STA. 89+00 - 91+00



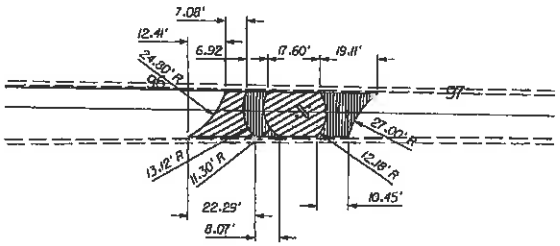
HARDSCAPE DETAIL - STA. 76+00



HARDSCAPE DETAIL - STA. 93+000 - 94+00



HARDSCAPE DETAIL - STA. 86+00 - 87+00



HARDSCAPE DETAIL - STA. 96+000 - 97+00

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HARDSCAPE LEGEND

BLUE HARDSCAPE COLOR

SAND HARDSCAPE COLOR

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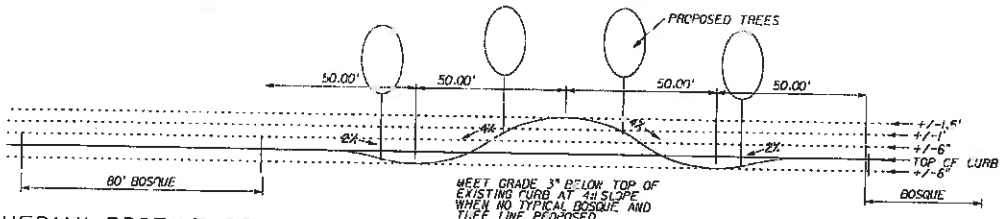
CITY OF COCONUT CREEK

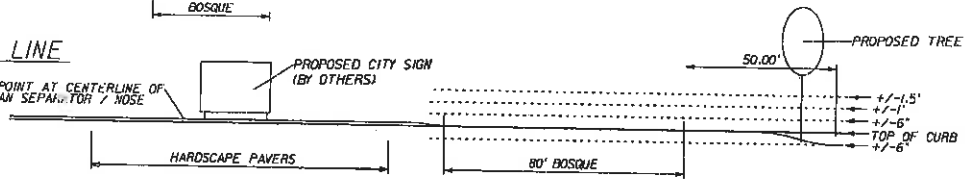
ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

HARDSCAPE DETAILS

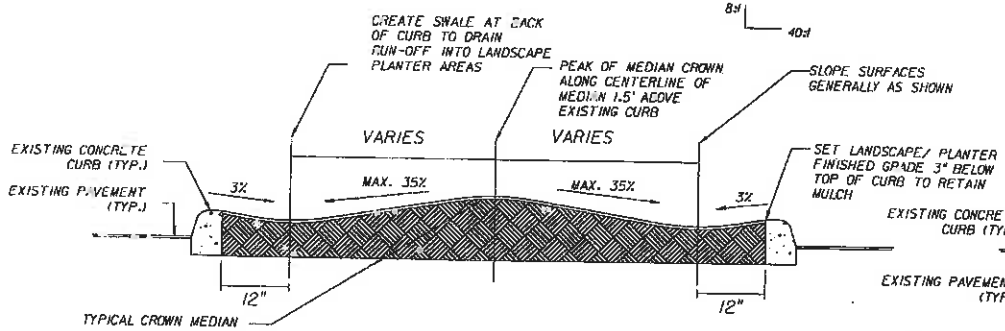
SHEET NO. LD-6



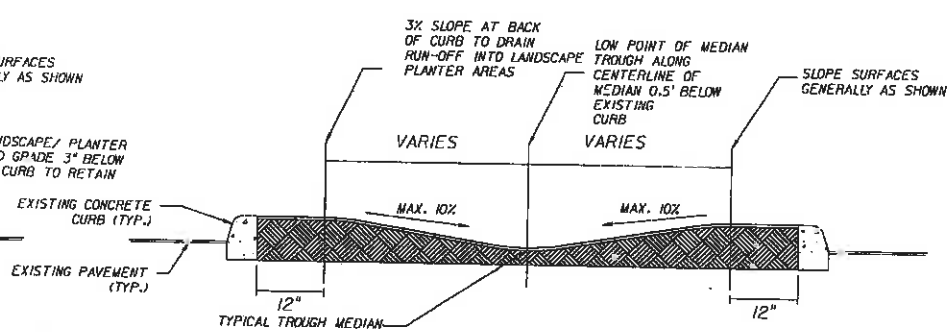
MEDIAN PROFILE DETAIL - TYPICAL BOSQUE AND TREE LINE



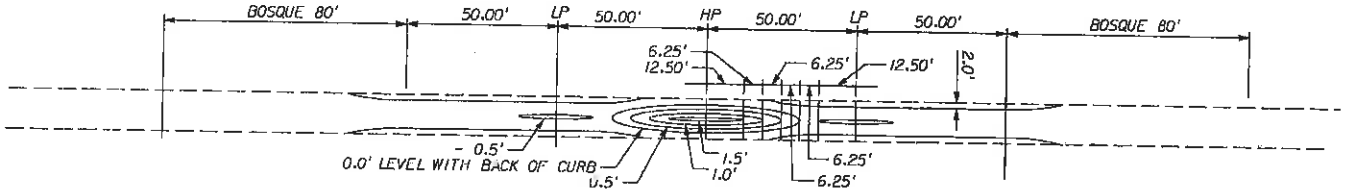
MEDIAN PROFILE DETAIL - BOSQUE AND CITY SIGN



TYPICAL MEDIAN CROSS SECTION - SOD WAVE CREST
N.T.S.



TYPICAL MEDIAN CROSS SECTION - SOD WAVE TROUGH
N.T.S.



MEDIAN CONTOUR DETAIL - TYPICAL BOSQUE AND TREE LINE

3-8-11

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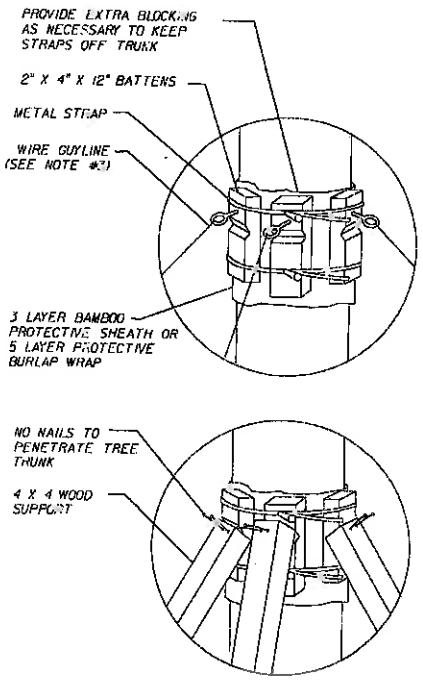
CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

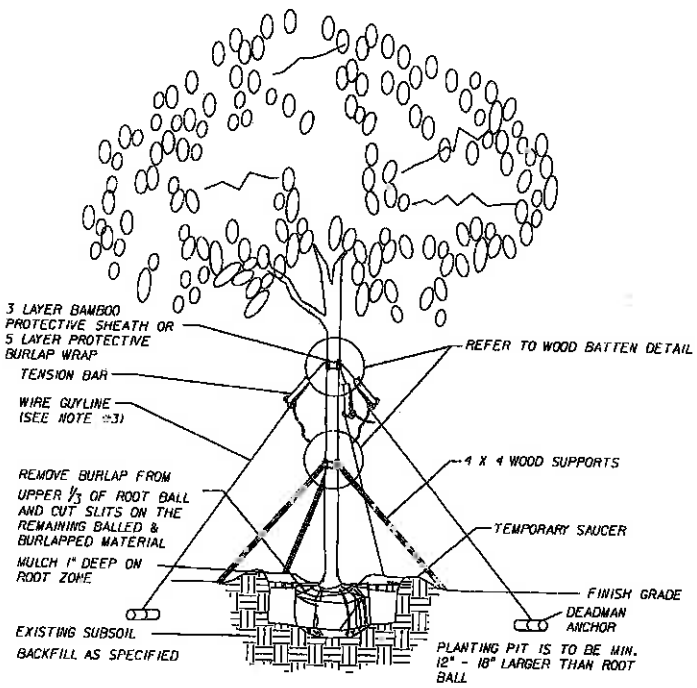
LANDSCAPE DETAILS

SHEET NO. LD-7



WOOD BATTEN DETAIL

N.T.S.



LARGE CALIPER TREE PLANTING DETAIL

N.T.S.

NOTES:

1. Submit shop drawing of staking/support detail.
2. Provide narrative of installation and care of trees during establishment period.
3. Optional tree rootball anchoring system can be specified to supplement bracing of tree. Provide shop drawing as necessary.

BmR Shuns 3-8-11

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LANDSCAPE DETAILS

SHEET NO. LD-8

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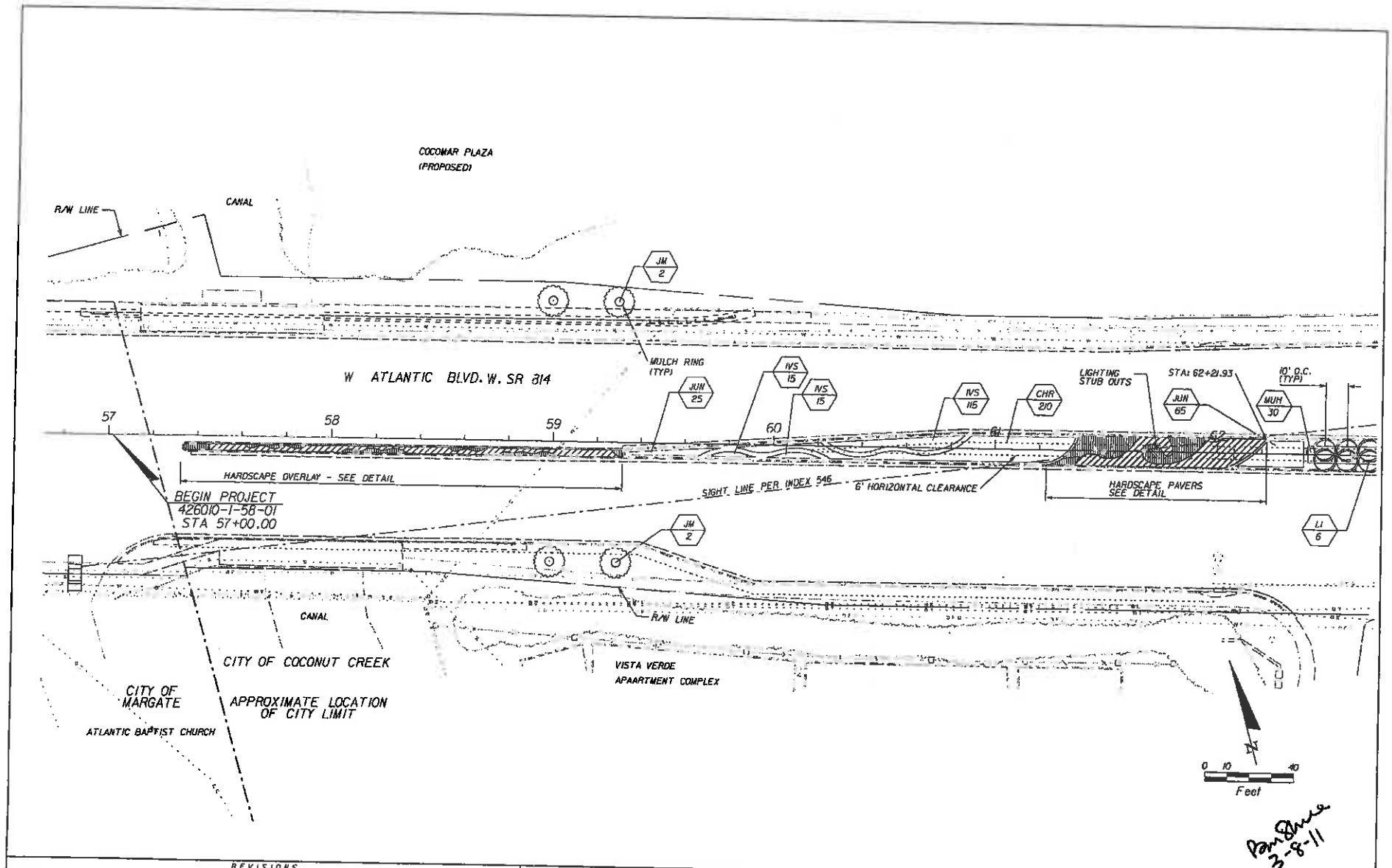

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CITY OF COCONUT CREEK

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814	BROWARD	10-00249

LANDSCAPE PLAN

SHEET NO. LD-9

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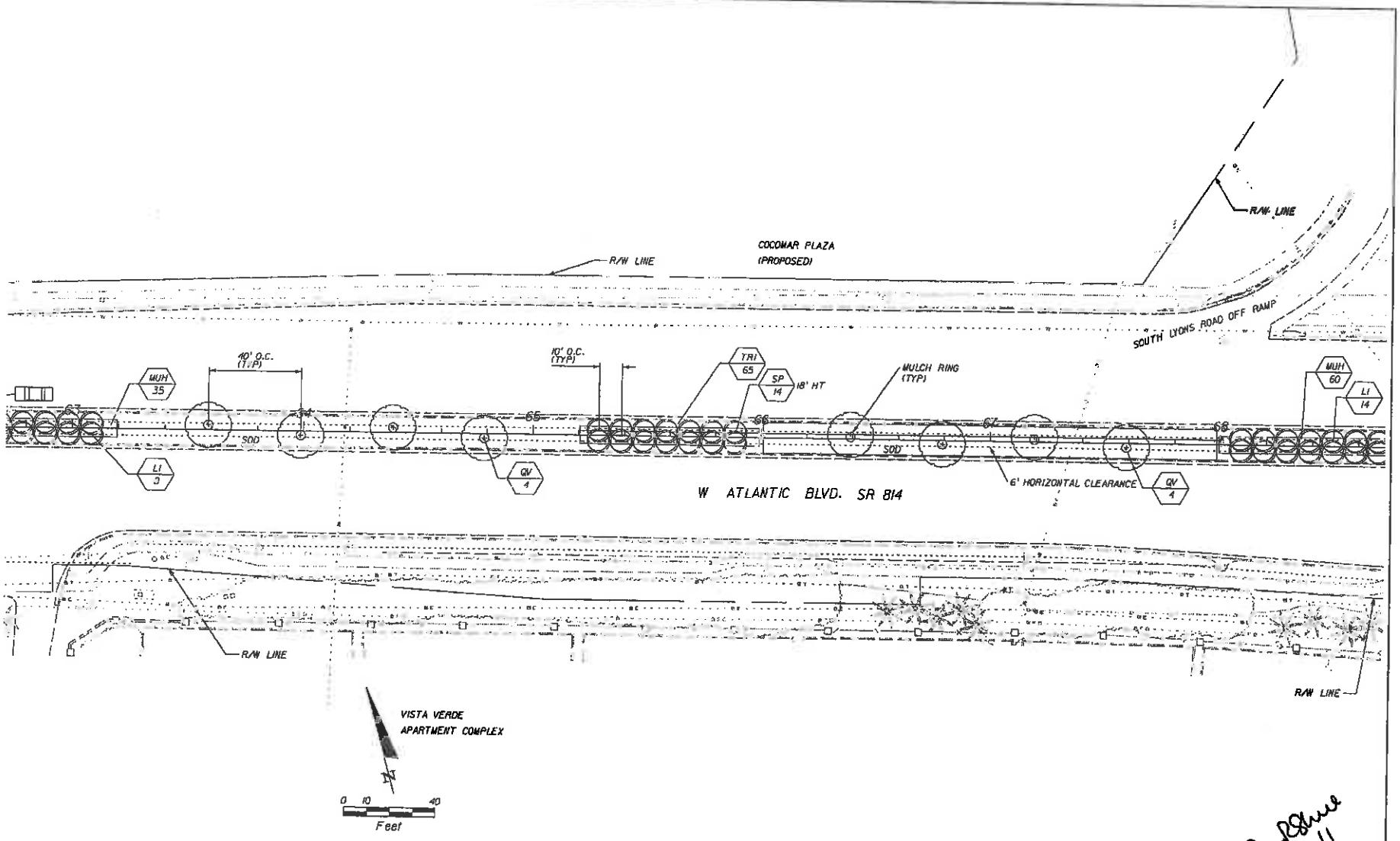

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CITY OF COCONUT CREEK

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814	BROWARD	10-00249

LANDSCAPE PLAN

SHEET NO.
LD-10

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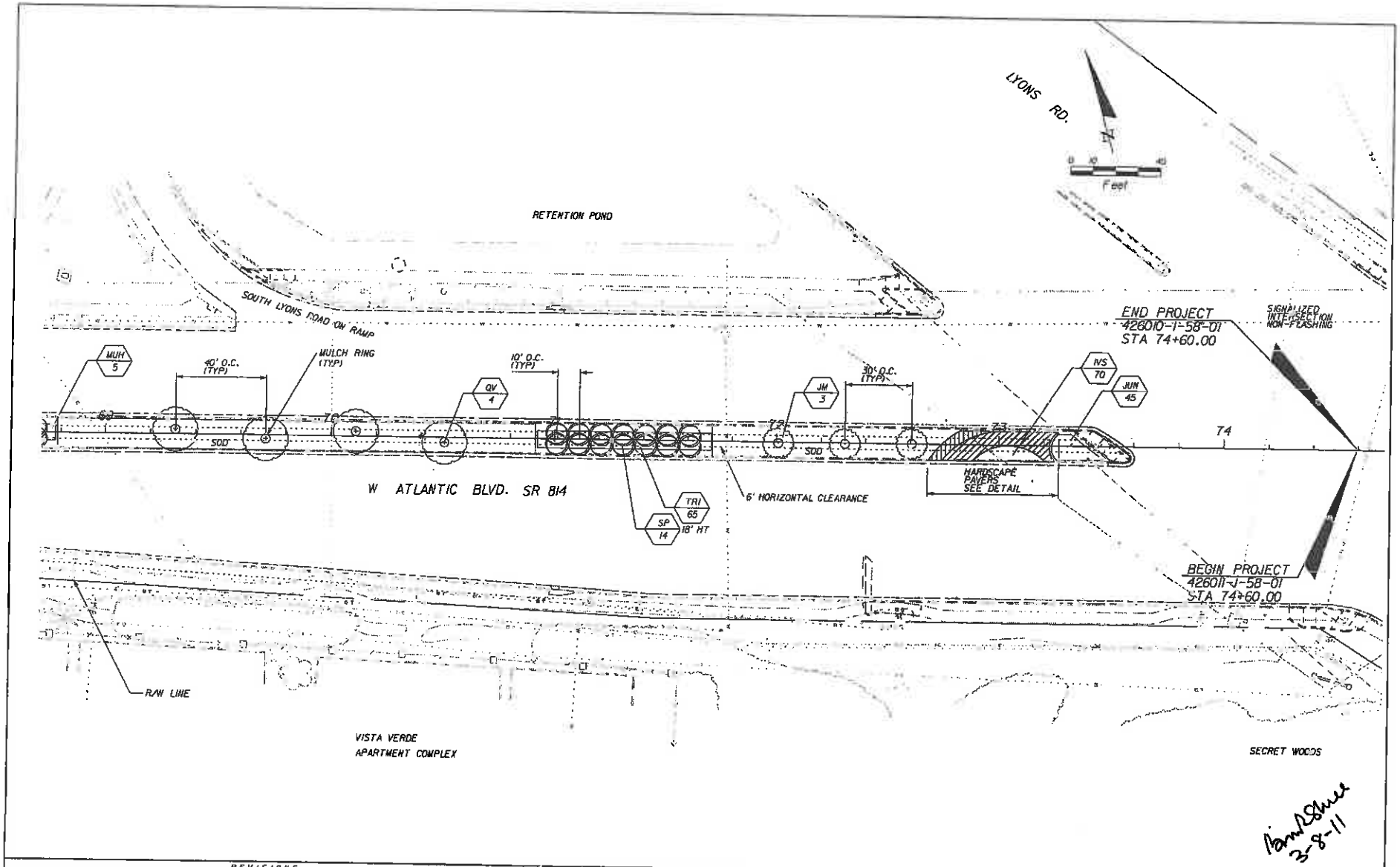

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CITY OF COCONUT CREEK

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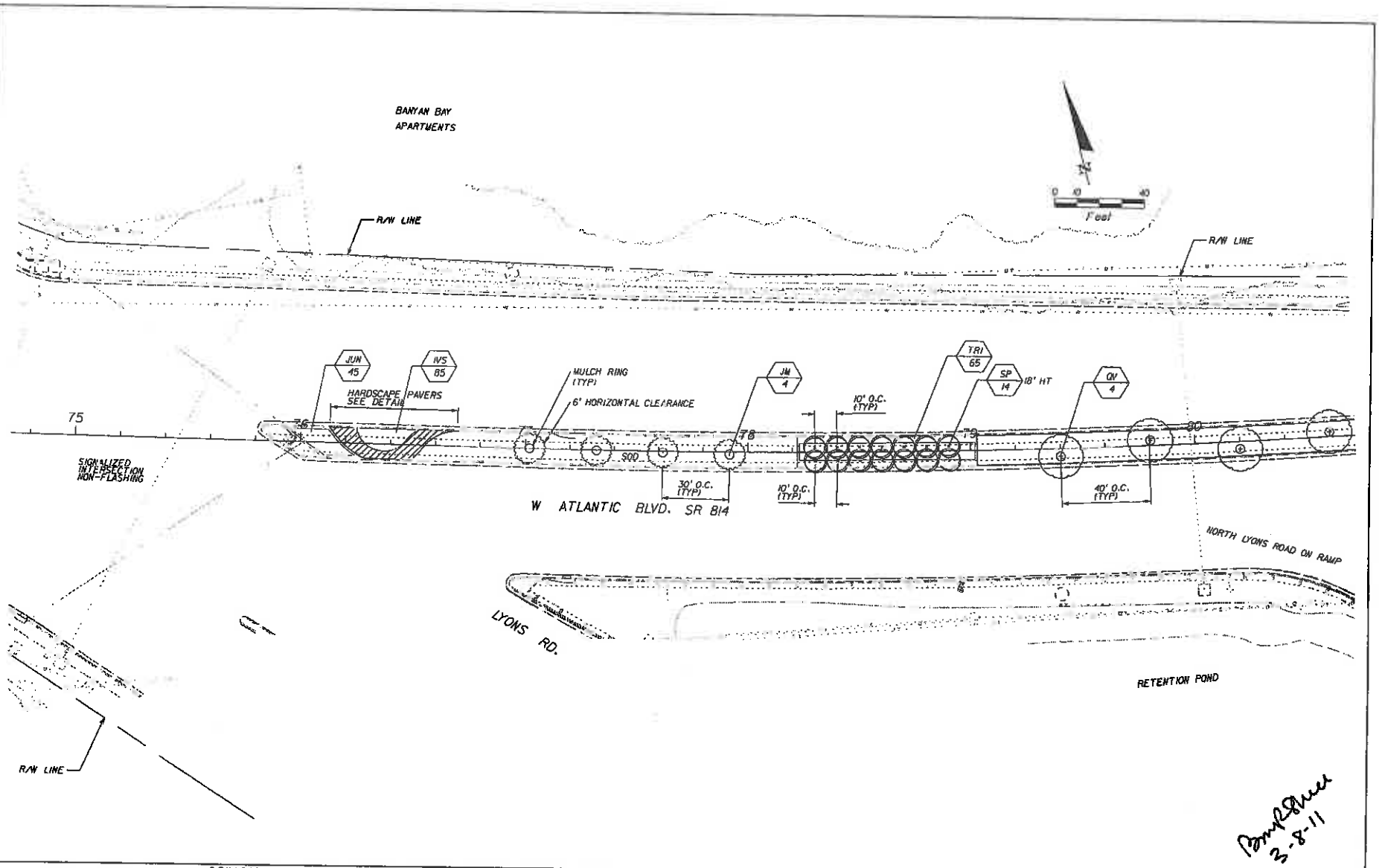
814	BROWARD	10-00249

LANDSCAPE PLAN

SHEET NO.
LD-11



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CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

LANDSCAPE PLAN

SHEET NO.
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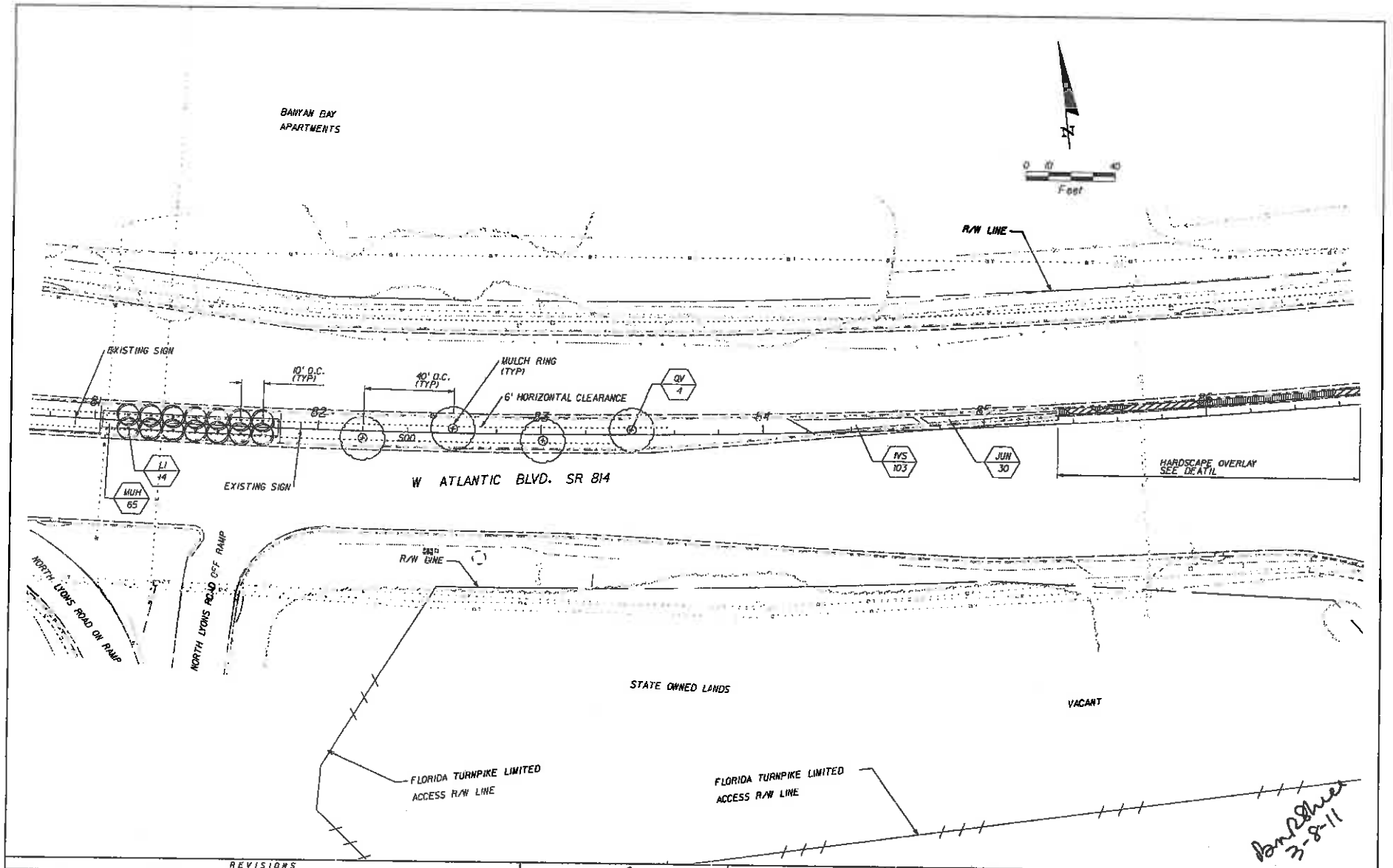

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CITY OF COCONUT CREEK			LANDSCAPE PLAN	SHEET NO.
ROAD NO.	COUNTY	MILLER LEGG PROJECT ID		
814	BROWARD	10-00249		LD-13

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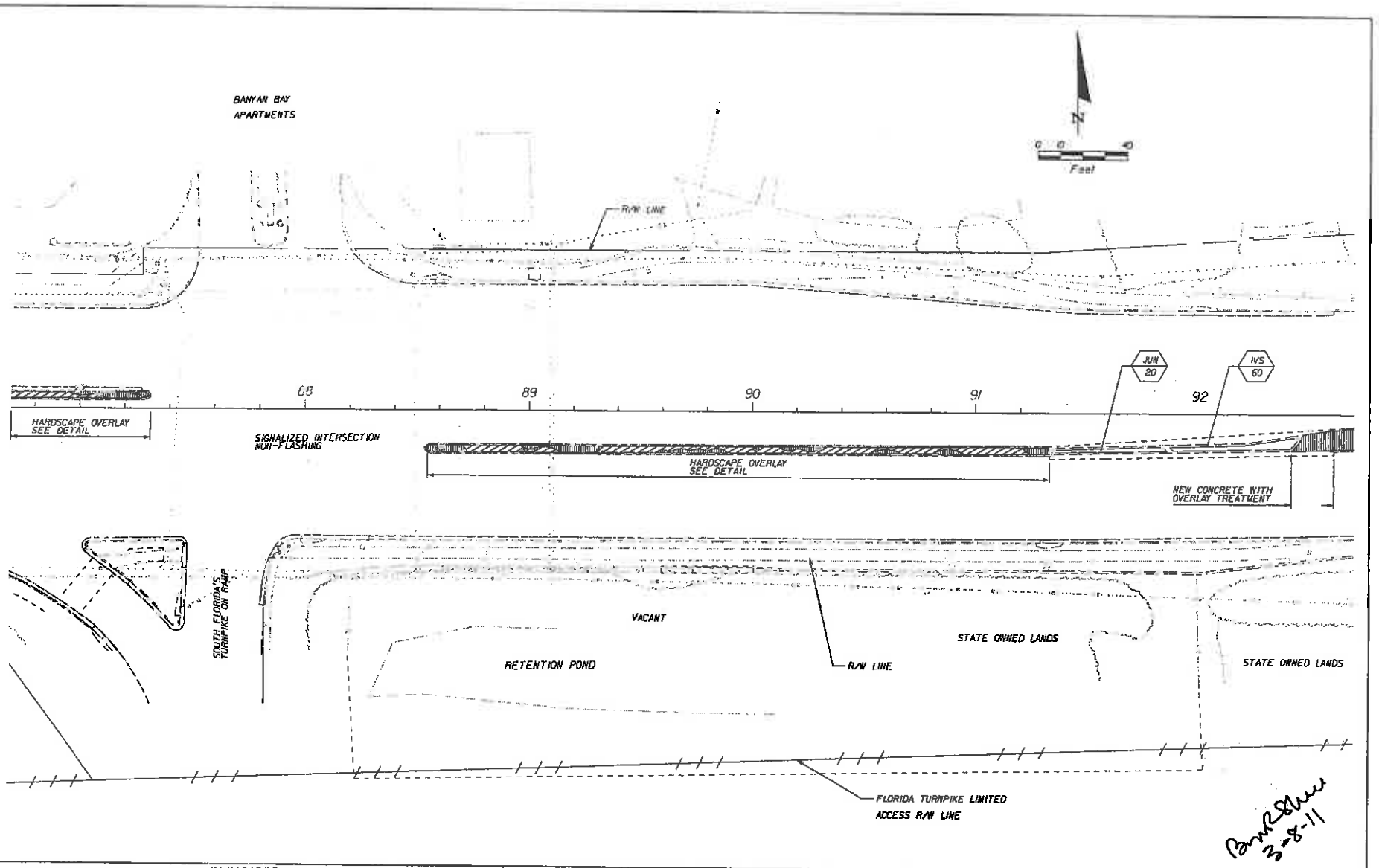

BmRShue
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CITY OF COCONUT CREEK

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LANDSCAPE PLAN

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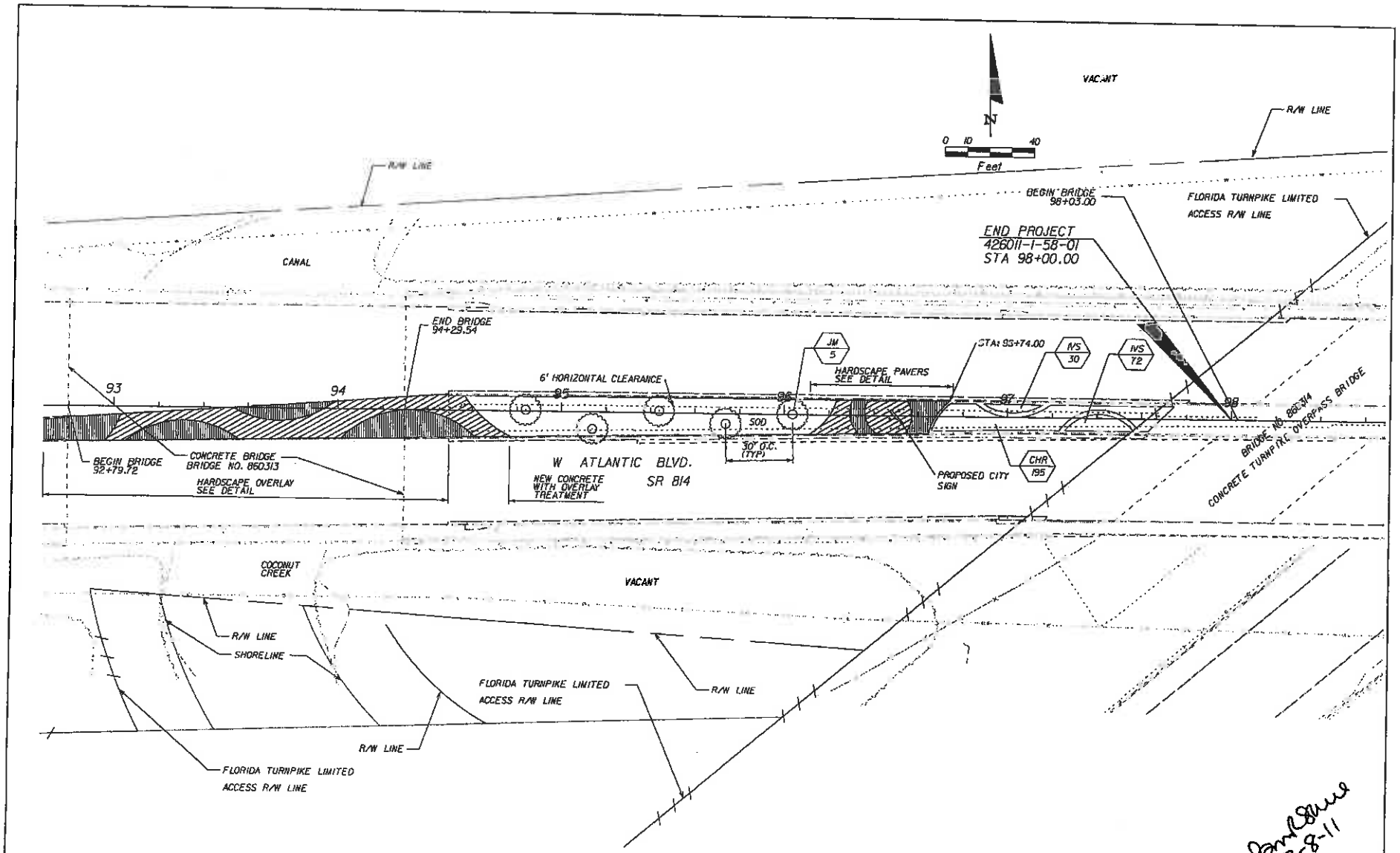

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814	BROWARD	10-00249	

LANDSCAPE PLAN

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IRRIGATION GENERAL NOTES and SPECIFICATIONS

The system has been designed to conform with the requirements of all applicable codes. Should any conflict exist, the requirements of the codes shall prevail. It is the responsibility of the owner/installation contractor to insure the entire system is installed according to all applicable laws, rules, regulations and conventions. Irrigation contractor responsible for obtaining all required permits according to federal, state and local laws.

The scope of work is shown on the plans, notes and details. The Irrigation Contractor shall be certified as a CERTIFIED IRRIGATION CONTRACTOR by the Irrigation Association. The certification shall be current and in good standing.

THE WORK

The work specified in this section consists of furnishing all components necessary for the installation, testing, and delivery of a complete, fully functional automatic landscape irrigation system that completely complies with the irrigation plans, specifications, notes, details and all applicable laws, regulations, codes and ordinances. This work shall include, but not be limited to, the providing of all required material (pipe, valves, fittings, controllers, wire, primer, glue, etc.), layout, protection to the public, excavation, assembly, installation, back filling, compacting, repair of road surfaces, controller and low voltage feeds to valves, cleanup, maintenance, guarantee and as-built plans.

All irrigated areas shall provide 100% head-to-head coverage from a fully automatic irrigation system with a rain sensor. The rain sensor shall be installed to prevent activation of rain sensor by adjacent heads. All watering procedures shall conform to local codes, as well as this project's regional Water Management District restrictions and regulations. Zones are prioritized first by public safety and then by hydraulic concerns. This sequencing will be a mandatory punch list item. These plans have been designed to satisfy/exceed the Florida Building Code (FBC) Appendix F and the Florida Irrigation Society Standards and Specifications for Turf and Landscape Irrigation Systems, fourth edition.

Contractor shall verify all underground utilities 72 hours prior to commencement of work.

It is the responsibility of the irrigation contractor to familiarize themselves with all grade differences, location of walls, retaining walls, structures and utilities. Do not willfully install the sprinkler system as shown on the drawings when it is obvious in the field that unknown obstruction, grade differences or differences in the area dimensions exist that might not have been considered in the engineering. Such obstructions, or differences, should be brought to the attention of the owner' authorized representative. In the event this notification is not performed, the irrigation contractor shall assume full responsibility for any revisions necessary.

Irrigation Contractor shall repair or replace all items damaged by their work. Irrigation Contractor shall coordinate their work with other Contractors for the location and installation of pipe sleeves and laterals under roadways and paving, etc.

The contractor shall take immediate steps to repair, replace, or restore all services to any utilities which are disrupted due to their operations. All costs involved in disruption of service and repairs due to negligence on the part of the contractor shall be their responsibility.

POINT OF CONNECTION (P.O.C.)

The P.O.C. is a proposed 5HP centrifugal pump station, Hoover Pumping model HCF-5CS-230/3-D,E-24,W,Z or equal, utalizing an well source as specificed on plan details. The P.O.C. must be capable of delivering a minimum of 55 GPM at 50 PSI. Contractor shall verify these minimum conditions can be met prior to the begin irrigation system installation.

If the conditions can not be met, the contractor must notify the designer prior to proceeding with the work. If the Contractor does not do so, the contractor proceeds at their own risk and becomes responsible for any future work required to make the system perform as required.

THE PIPE

Pipe locations shown on the plan are schematic and shall be adjusted in the field. When laying out mainlines place a 18"-24" away from either the back of curb, front of walk, back of walk, or other hardscape to allow for ease in locating and protection from physical damage. Install all lateral pipe near edges of pavement or against buildings whenever possible to allow space for plant root balls. Always install piping inside project properties boundary.

Pipe sizes shall conform to those shown on the plans. No substitutions of smaller pipe sizes shall be permitted, but substitutions of larger sizes may be approved. All damaged / rejected pipe shall be removed from the site at the time of said rejection.

All pipes are to always be placed in planting beds. If it is necessary to have piping under hardscapes, such as roads, pavers, and walks, the pipes must be sleeved using High Density Polyethelene (HDPE) under existing roadways and sidewalks where directional bore is utilized and Sch 40 PVC elsewhere with the sleeve diameter being twice the size of the pipe it is carrying with a minimum sleeve size of 2".

Mainline shall be Class 200 gasketed 'O' ring PVC with ductile iron fittings (sized per plans).

Contractor to ensure all mainline piping is properly restrained using mechanical joint fittings, restraining collars, etc., as and where required. Contractor shall refer to pipe manufacturers recommended installation practices for further direction.

PVC pipe joint compound and primer. slow-drying, heavy duty cement and tinted (purple) primer that is compatible with the cement. The PVC cement shall be Weld-On 2711 grey and the primer shall be Weld-On P70 purple primer, or approved equals.

ELECTRICAL POWER SUPPLY

Electrical supply and phone line for pumps and controllers to be provided by irrigation contractor. Contractor to coordinate with local utilities for the installation of, and connection to, site available power supply's for required electrical components as set forth in the irrigation plans. Provide electrical shop drawings signed and sealed by Electrical Engineer.

All electrical to comply with the National Electrical Code and any, and all, other applicable electrical codes, laws and regulations. A licensed electrician shall perform all electrical hook-ups. Power for the controller shall be 120 volts. Power for pump station shall be 208 volts Phase 3.

WIRING

Irrigation control wire shall be thermoplastic solid copper, single conductor, low voltage irrigation controller wire; suitable for direct burial and continuous operation at rated voltages.

Tape and bundle control wires every 10' and run alongside the mainline. At all turns in direction make a 2' coil of wire. At all valve boxes coil wire around a 3/4" piece of PVC pipe to make a coil using 30 linear inches of wire. Make electrical connections with 3M-DBY,DBR connectors.

Number all wires, using an electrical book of numbers, according to the plans. Number wires in all valve boxes, junction boxes and at the controller.

Wire sized, numbered and colored as follows:

- #14 white for common
- #14 spare black common
- #14 red for hot wires
- #14 spare yellow hot wire

SPARE WIRES

Run spare wires into every RCV valve box. Install a minimum of 2 common and 4 hot wires, in all directions, to every RCV connected to its respective controller.

CONTROLLER GROUNDING

Contractor to utilize 4"X8'X5/8" copper grounding plates, 5/8"X10' copper clad grounding rods, 'One Strike' CAD wells at all connection points, #6 bare copper wire, and earth contact material. Install these and other required components as outlined in the detail. Contractor to verify that the earth to ground resistance does not exceed 10 ohms. Contractor shall provide a written certification, on a licensed electrical contractors letter head, showing the date of the test, controller location, and test results. Each controller shall be so grounded and tested.

LAYOUT

Lay out irrigation system mainlines and lateral lines. Make the necessary adjustments as required to take into account all site obstructions and limitations prior to excavating trenches.

Stake all sprinkler head locations. Adjust location and make the necessary modifications to nozzle types, etc. required to insure 100 % head to head coverage. Refer to the Edge of Pavement Detail on the Irrigation Detail Sheet.

Spray heads shall be installed 4" from sidewalks or curbed roadways and 12" from uncurbed roadways and building foundations. Rotors shall be installed 4" from sidewalks or curbed roadways, 12" from building foundations, and 36" from uncurbed roadways.

Shrub heads shall be installed on 3/4" Sch 40 PVC risers. The risers shall be set at a minimum of 18" off sidewalks, roadway curbing, building foundations, and/or any other hardscaped areas. Shrub heads shall be installed to a standard height of 4" below maintained height of plants and shall be installed within planted masses to be less visible and offer protection. Paint all shrub risers with flat black or forest green paint, unless irrigation system will be installed from a reuse water system with purple PVC risers.

3-8-11

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5947 North Andrews Way · Fort Lauderdale, Florida · 33309-2366
954-426-2000 · Fax: 954-436-6364 · www.millerlegg.com
Cert. of Auth.: LC0000357 · L.A. of Record: Brian R. Shore LA-6666770

CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT NO
814	BROWARD	10-00247

IRRIGATION NOTES

SHEET NO. LD-16

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IRRIGATION GENERAL NOTES and SPECIFICATIONS (CONTINUED)
Locate valves prior to excavation. Insure that their location provides for easy access and that there is no interference with physical structures, plants, trees, poles, etc. Valve boxes must be placed a minimum of 12" and a maximum of 15" from the edge of pavement, curbs, etc. and the top of the box must be 2" above finish grade. No valve boxes shall be installed in turf areas without approval by the irrigation designer - only in shrub beds. Never install in sport field areas.

VALVES
Sequence all valves so that the farthest valve from the P.O.C. operates first and the closest to the P.O.C. operates last. The closest valve to the P.O.C. should be the last valve in the programmed sequence.

Adjust the flow control on each RCV to ensure shut off in 10 seconds after deactivation by the irrigation controller.

VALVE BOXES

Valve boxes shall be standard unless otherwise noted to be traffic rated boxes.

Using 3" high number stencils paint the valve number in white on the lid of each valve box.

EQUIPMENT
Bubblers shall be installed using Sch 80 nipples and shall be placed at the base of trees for low level watering.

All pop-up heads and shrub risers shall be pressure compensating. All pop-up heads shall be mounted on flex-type swing joints.

All sprinkler equipment not otherwise detailed or specified shall be installed as per manufacturer's recommendations and specifications, and according to local and state laws.

TRENCHING
Excavate straight and vertical trenches with smooth, flat or sloping bottoms. Trench width and depth should be sufficient to allow for the proper vertical and horizontal separation between piping as shown in the pipe installation detail on the detail sheet.

Protect existing landscaped areas. Remove and replant any damaged plant material upon job completion. The replacement material shall be of the same genus and species, and of the size of the material it is replacing. The final determination as to what needs to be replaced and the acceptability of the replacement material shall be solely up to the owner or owner's representative.

INSTALLATION
Cut all pipe square and deburr. Clean pipe and fittings of foreign material; then apply a small amount of primer while ensuring that any excess is wiped off immediately. Primer should not puddle or drip from pipe or fittings. Next apply a thin coat of PVC cement; first apply a thin layer to the pipe, next a thin layer inside the fitting, and finally another very thin layer on the pipe. Insert the pipe into the fitting. Insure that the pipe is inserted to the bottom of the fitting, then turn the pipe a 1/4 turn and hold for 10 seconds. Make sure that the pipe doesn't recede from the fitting. If the pipe isn't at the bottom of the fitting upon completion, the glue joint is unacceptable and must be discarded.

Pipes must cure a minimum of 30 minutes prior to handling and placing into trenches. A longer curing time may be required; refer to the manufacturer's specifications. The pipe must cure a minimum of 24 hours prior to filling with water.

BACK FILL
The Back fill 6" below and 6" above all piping shall be of clean sand and anything beyond that in the trench can be of native material but nothing larger than 2" in diameter.

Main line pipe depth measured to the top of pipe shall be 18" minimum, 36" minimum at vehicular crossings.

Lateral line depths measured to top of pipe shall be 12" minimum, 36" minimum at vehicular crossings.

Contractor shall backfill all piping, both mainline and laterals, prior to performing any pressure tests. The pipe shall be backfilled with the exception of 2' on each side of every joint (bell fittings, 90's, tees, 45's, etc.). These joints shall not be backfilled until all piping has satisfactorily passed its appropriate pressure test as outlined below.

FLUSHING
Prior to the placement of heads, flush all lines for a minimum of 10 minutes or until lines are completely clean of debris, whichever is longer.

Use screens in heads and adjust heads for proper coverage avoiding excess water on walls, walks and paving.TESTING
Remove all remote control valves and cap using a threaded cap. Fill mainline with water and pressurize the system to 125 PSI. Monitor the system pressure at two gauge locations; the gauge locations must be at opposite ends of the mainline. With the same respective pressures, monitor the gauges for two hours. There can be no loss in pressure at either gauge for solvent-welded pipe. Gasketed piping shall lose no more water than allowed per the Florida State Building Code, Volume II Plumbing, Part VI, Appendix 'F'. Refer to this section for the formula to be used to calculate the maximum allowable water loss during the testing time. If these parameters are exceeded, locate the problem; repair it; wait 24 hours and retry the test. This procedure must be followed until the mainline passes the test.

The lateral lines must be filled and visually checked for leaks. Any leaks detected must be repaired. No pressure test of the lateral lines is required.

Once the mainline and lateral lines have passed their respective tests, and the system is completely operational, a coverage test and demonstration of the system is required. The irrigation contractor must demonstrate to the owner, or his/her representative that proper coverage is obtained and that the system works automatically from the controller. This demonstration requires that each zone is turned on, in the proper sequence as shown on the plans, from the controller. Each zone will be inspected for proper coverage and function. The determination of proper coverage and function is at the sole discretion of the owner or owner's representative.

Operational Testing - Upon completion of back filling, finish grading and contouring, test the entire system for proper operation; including electrically actuating the remote control valves. Run each zone until water begins to puddle or run off. This will allow you to determine the number of irrigation start times necessary to meet the weekly evapotranspiration requirements of the planting material in each zone. In sandy soils no puddling will occur, instead; calculate the required run times.

SUBMITTALS
The contractor must submit for approval, prior to installation, copies of the manufacturer's cut sheets/specifications for all components to be used in the irrigation system. Minimum submittal items are: Irrigation Heads, Valves, Controller, Pump (Pump, Flow Sensor, Valves, Pipe, Fiberglass Enclosure), Lateral / Main line, Sleeves, Swing Joint assembly, Fittings, Wires, Waterproof Connection, Valve Boxes, Rain Sensor and Grounding Kit.

Record Drawings - After project completion, and as a condition of final acceptance, the irrigation contractor shall provide the owner with a high quality, accurate, and legible set of as-built drawings. The as-builts must identify all remote control valves, gate valves, ball valves, splice boxes, controllers, mainline, sleeving, and low voltage wiring. Each of these items is to be located using a submeter GPS system. The irrigation contractor must also provide accurate, informative, and easy to follow and understand operation and maintenance manuals for all components of the irrigation system.

Controller charts - Upon completion of "as-built" prepare controller charts; one per controller. Indicate on each chart the area controlled by a remote control valve (using a different color for each zone). This chart shall be reduced to a size that will fit inside of the controller door. The reduction shall be hermetically sealed inside two 2mil pieces of clear plastic.

Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Include tools to service these products.
1. Sprinkler Units: Five of each unit for each type and size installed, but no fewer than two units.
2. Emitter Units: Five of each unit for each type and size installed, but no fewer than two units.
3. Drip Tube Units: Five of each unit for each type and size installed, but no fewer than two units.

FINAL ACCEPTANCE
Final acceptance of the irrigation system will be given after the following documents and conditions have been completed and approved. Final payment will not be released until these conditions are satisfied.
1. Final walk-thru and correction of all punch list items.
2. Completion and acceptance of 'as-built' drawings.
3. Acceptance of required controller charts and placement inside of controllers.
4. Turn over of all required parts and tools as outlined in the project specifications.

GUARANTEE AND MAINTENANCE
The irrigation systems shall be guaranteed and maintained for a minimum of one calendar year from the time of final acceptance.

2-8-11

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MILLER LEGG
5741 North Andrews Way - Fort Lauderdale, Florida - 33309-2364
954-435-3008 - Fax: 954-426-8664 - www.millerlegg.com
Cert. of Auth.: LC0008357 - L.A. of Record: Brian R. Shaw LA-6668770

CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00247

IRRIGATION NOTES

SHEET NO. LD-17

IRRIGATION SCHEDULE

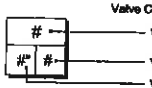
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	ARC	PSI	GPM	RADIUS
	Rain Bird 1806-SAM-PRS-NP 15 Strip Series 6" popup with check valve, pressure regulator, purple cap.	3	EST	30	0.61	4'x15'
	Rain Bird 1806-SAM-PRS-NP 15 Strip Series 6" popup with check valve, pressure regulator, purple cap.	11	SST	30	1.21	4'x30'
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR 6" popup with check valve, pressure regulator, purple cap.	42	180	30	0.79	10'
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR 6" popup with check valve, pressure regulator, purple cap.	5	90	30	0.39	10'
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR 6" popup with check valve, pressure regulator, purple cap.	1	120	30	0.53	10'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR 6" popup with check valve, pressure regulator, purple cap.	278	180	30	1.85	15'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR 6" popup with check valve, pressure regulator, purple cap.	12	90	30	0.92	15'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR 6" popup with check valve, pressure regulator, purple cap.	11	120	30	1.23	15'
▲	Rain Bird 1800-1400 Flood Food bubbler on flex pipe.	207	360	30	1.00	1'

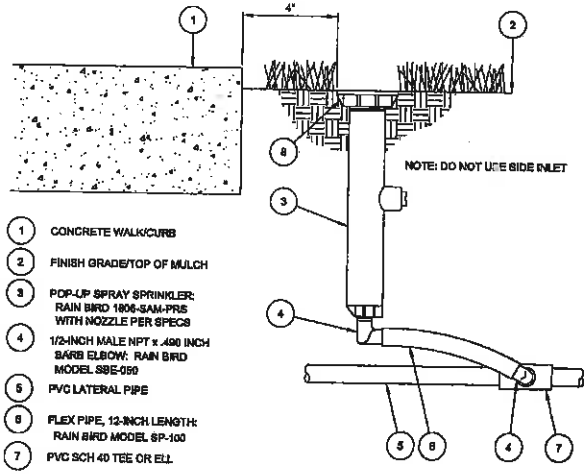
VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	PSI	PSI @ POC	GPM	PRECIP
1	Rain Bird PESB	1-1/2"	Turf Spray	37.64	39.00	51.86	1.35 in/h
2	Rain Bird PESB	1-1/2"	Bubbler	36.86	36.86	48.00	30.64 in/h
3	Rain Bird PESB	1-1/2"	Turf Spray	37.06	39.30	51.80	1.46 in/h
4	Rain Bird PESB	1-1/2"	Turf Spray	36.92	39.76	51.80	1.48 in/h
5	Rain Bird PESB	1-1/2"	Turf Spray	37.06	40.55	51.80	1.47 in/h
6	Rain Bird PESB	1-1/2"	Bubbler	40.01	43.69	51.00	30.64 in/h
7	Rain Bird PESB	1-1/2"	Turf Spray	37.07	41.15	51.80	1.47 in/h
8	Rain Bird PESB	1-1/2"	Bubbler	39.64	42.68	42.00	30.64 in/h
9	Rain Bird PESB	1-1/2"	Turf Spray	36.91	41.15	48.80	1.36 in/h
10	Rain Bird PESB	1-1/2"	Turf Spray	36.91	42.79	50.30	1.37 in/h
11	Rain Bird PESB	1-1/2"	Turf Spray	37.04	43.91	51.80	1.44 in/h
12	Rain Bird PESB	1-1/2"	Bubbler	40.09	47.53	52.00	30.64 in/h
13	Rain Bird PESB	1-1/2"	Turf Spray	36.91	44.41	51.80	1.44 in/h
14	Rain Bird PESB	1-1/2"	Turf Spray	36.31	48.01	50.33	1.42 in/h
15-A	Rain Bird PESB	1"	Turf Spray	34.62	35.54	13.46	1.39 in/h
15-B	Rain Bird PESB	1-1/2"	Turf Spray	36.17	41.37	32.35	1.70 in/h
16	Rain Bird PESB	1-1/2"	Turf Spray	36.62	45.52	45.75	1.55 in/h

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird PESB Electric Remote Control Scrubber Valve	17
	Nibco T-113 Class 125 bronze gate shut off valve with wheel handle, same size as pipe diameter, Size Range - 1/4" - 3"	±
C	Rain Bird ESP-24SITE-W Rain Bird ESP-SITE-SAT satellite controller with 24 stations, wall mount.	1
SHP	5HP Centrifugal Pump Station	1
	Irrigation Lateral Line: PVC Schedule 40	6,619 l.f.
	Irrigation Mainline: PVC Schedule 40	4,225 l.f.
	Pipe Sleeve: PVC Schedule 40 Typical pipe sleeve for irrigation pipe. Pipe sleeve size shall allow for irrigation piping and their related couplings to easily slide through sleeving material. Extend sleeves 18 inches beyond edges of paving or construction.	1,685 l.f.

Valve Callout

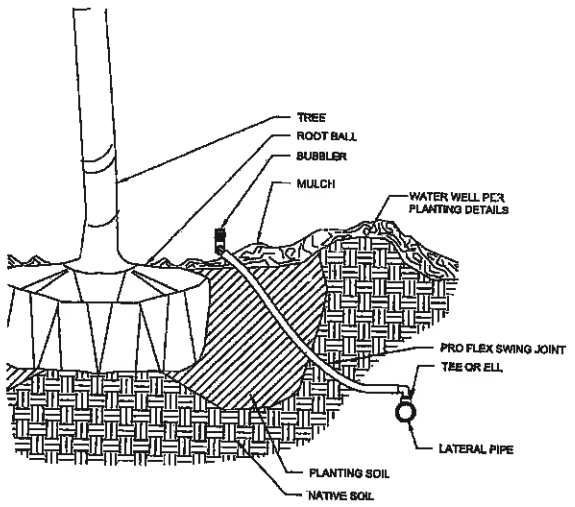




1. CONCRETE WALK/CURB
2. FINISH GRADE/TOP OF MULCH
3. POP-UP SPRAY SPRINKLER: RAIN BIRD 1806-SAM-PRS WITH NOZZLE PER SPECS
4. 1/2-INCH MALE NPT x .490 INCH BARB ELBOW: RAIN BIRD MODEL SBE-050
5. PVC LATERAL PIPE
6. FLEX PIPE, 12-INCH LENGTH: RAIN BIRD MODEL SP-100
7. PVC SCH 40 TEE OR ELL
8. RECLAIMED CAP, AS REQUIRED

NOTE: DO NOT USE SIDE INLET

1 6" POP-UP SPRAY



2 TREE BUBBLER

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954-435-7000 · Fax: 954-436-8664 · www.millerlegg.com
Cert. of Auth.: LC0000337 · L.A. of Record: Brian R. Shaw LA-6666770

CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00247

IRRIGATION NOTES

SHEET NO. LD-18

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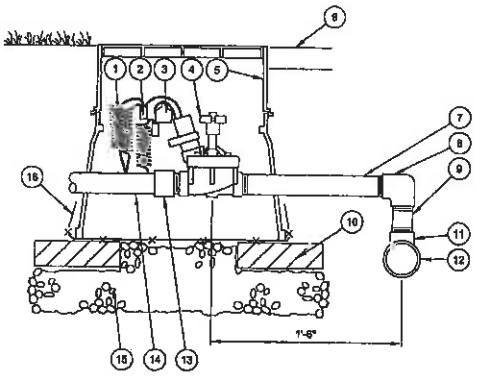


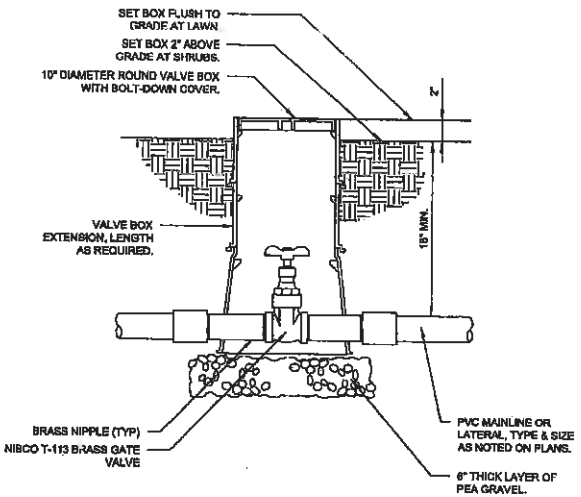
1. 30-INCH LINEAR LENGTH OF WIRE, COILED
2. WATERPROOF CONNECTION (1 OF 2)
3. ID TAG
4. REMOTE CONTROL VALVE RAIN BIRD PESB WITH PURPLE HANDLE
5. STANDARD VALVE BOX PURPLE
6. FINISH GRADE
7. PVC SCH 80 NIPPLE (CLOSE)
8. PVC SCH 40 ELL
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
10. BRICK (1 OF 4)
11. DUCTILE IRON TEE
12. PVC MAINLINE PIPE
13. PVC SCH 40 MALE ADAPTER
14. PVC LATERAL PIPE
15. 6.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
16. 1/2" WIRE CLOTH GOPHER SCREEN, WRAP UP ALL SIDES

ELECTRICAL SPECIFICATIONS

- 24 VAC 50/60 Hz (CYCLES/SEC.) SOLENOID
- INRUSH CURRENT: 0.41 A (9.84 VA) AT 60 Hz
- HOLDING CURRENT: 0.28 A (6.72 VA) AT 60 Hz
- COIL RESISTANCE: 30-39 OHMS

PESB SERIES VALVE PRESSURE LOSS			
FLOW GPM	100-PESB PSI LOSS	150-PESB PSI LOSS	200-PESB PSI LOSS
5	1.7		
10	1.8		
20	2.9		
30	5.6	3.6	
40		3.5	
50		3.6	
75		5.4	4.5
100			5.2
125			8.2

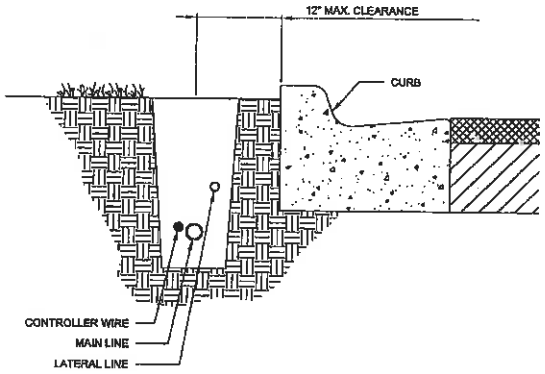
3 REMOTE CONTROL VALVE



4 BRASS ISOLATION VALVE

NOTES:

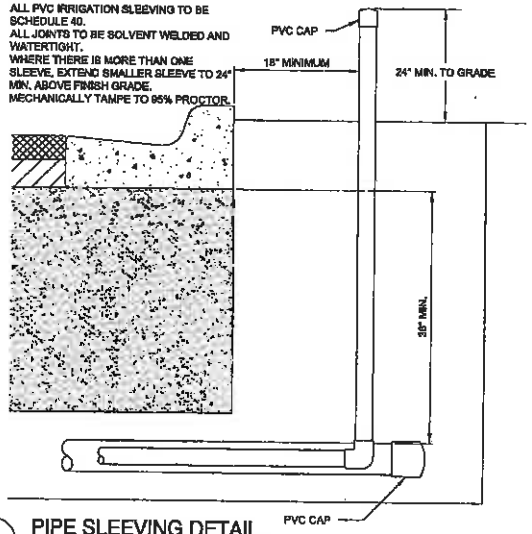
BACKFILL MINIMUM DEPTHS:
1. MAIN LINE - 18"
2. LATERAL PIPE - 12"



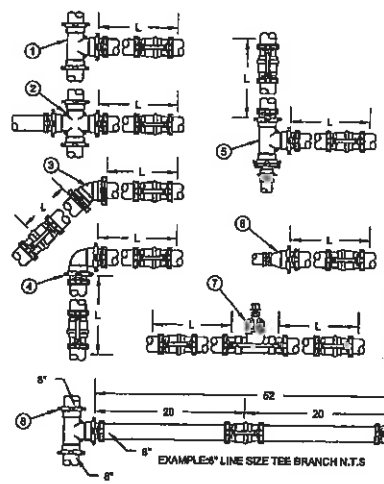
5 MAINLINE AND LATERAL PIPING DETAIL

NOTES:

1. ALL PVC IRRIGATION SLEEVING TO BE SCHEDULE 40.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND SMALLER SLEEVE TO 24" MIN. ABOVE FINISH GRADE.
4. MECHANICALLY TAMPE TO 95% PROCTOR.



6 PIPE SLEEVING DETAIL



1. LINE SIZE TEE
2. LINE SIZE CROSS
3. 11",22",45" BEND (TYP)
4. 90° BEND
5. REDUCING TEE
6. LINE REDUCER
7. GATE VALVE
8. LINE SIZE TEE EXAMPLE

NOTES:

1. ALL PVC MAINLINE PIPING SHALL RECEIVE LEEMCO JOINT RESTRAINTS OR EQUAL.
2. REFERENCE ONLY REFER TO JOINT MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION INSTRUCTIONS.

7 JOINT RESTRAINTS

3-8-11

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CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00247

IRRIGATION NOTES

SHEET NO. LD-19

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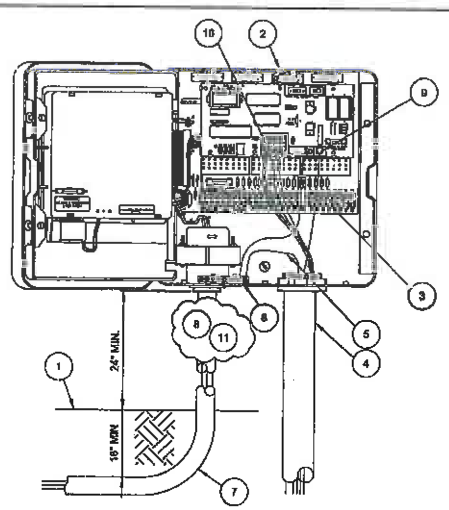
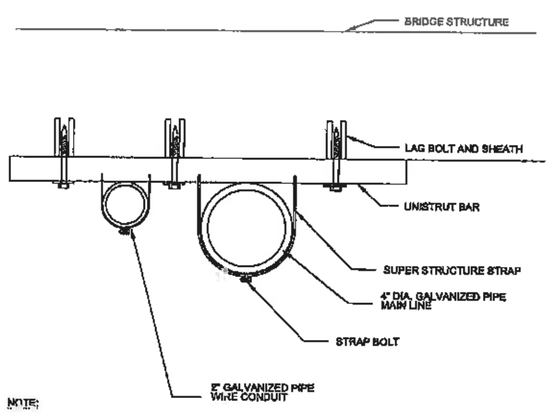


1. FINISH GRADE
2. RAIN BIRD ESP-SITE FIELD SATELLITE CONTROLLER, WALL MOUNT (METAL / PLASTIC)
3. WIRE TERMINAL CONNECTORS TO REMOTE CONTROL VALVES
4. CONDUIT - SIZE AS REQUIRED
5. #8 COPPER GROUND WIRE FROM ESP-SITE FIELD SATELLITE CONTROLLER GROUNDING BUSS BAR TO GROUNDING GRID (SEE GROUNDING DETAIL)
6. ESP-SITE FIELD SATELLITE CONTROLLER GROUNDING BUSS BAR
7. 120 VOLT POWER SUPPLY
8. REFER TO LOCAL ELECTRICAL CODE FOR CONNECTIONS
9. TELEPHONE LINE INPUT
10. ESP-SITE SATELLITE SENSOR INPUT
11. RAIN BIRD WARRANTY REQUIRES PROPER SURGE PROTECTION. USE INTERMATIC AG2401 OR TRIPPLITE ISOBAR

8 MAXICOM ESP-SITE FIELD SATELLITE CONTROLLER

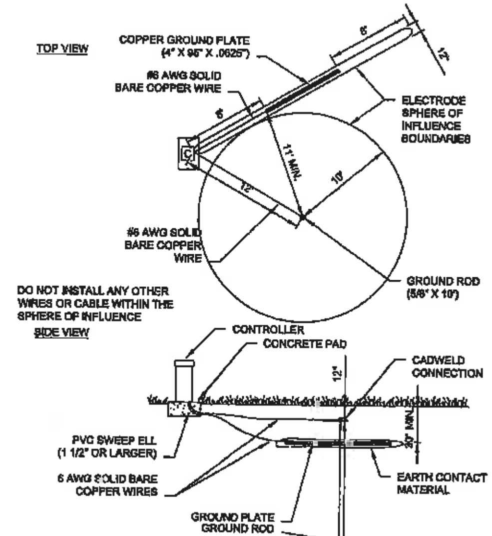


NOTE:

SUBMIT MANUFACTURE SHOP DRAWING

SUBMIT NARRATIVE ADDRESSING THE NUMBER OF PIPE SUPPORTS NECESSARY TO CROSS BRIDGE. MINIMUM 4' O.C.

9 EXPOSED PIPE SUPPORT



* OR BELOW FROSTLINE, WHICHEVER IS DEEPER

10 ASIC GROUNDING DETAIL

NOTE:

SUCTION PIPES AND FITTINGS SHALL BE HDPE HEAT FUSED. CHECK VALVE 3" AND LARGER SHALL BE SWING TYPE, 2" AND SMALLER SHALL BE POPPET STYLE.

ALL EXPOSED SUCTION & DISCHARGE PIPE ADJACENT TO THE PUMP SYSTEM SHALL BE GALVANIZED STEEL. BUTTERFLY OR BALLVALVE PROVIDED AT EACH PUMP.

PROVIDE MINIMUM OF 4' CLEARANCE ON ALL SIDES OF PUMP SYSTEMS

IRRIGATION CONTROLLER:

RAIN BIRD ESP-24SITE-W WITH RAINGAUGE AND FLOW SENSOR

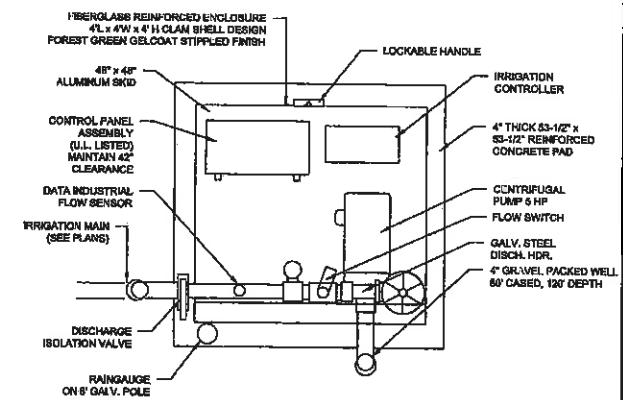
FEATURES:

CLOCK START
TRANSIENT SURGE
LOSS OF PRIME
NO FLOW

PUMP PERFORMANCE:

55 GPM @ 140 TDH

HOOVER PUMPING MODEL: HCF-5CS-230/3-D,E-24,W,Z PN11845 OR EQUAL



11 5 HP FIBERGLASS ENCLOSED WELL PUMP

3-8-11

REVISIONS					
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CITY OF COCONUT CREEK		
ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00247

IRRIGATION NOTES

SHEET NO. LD-20

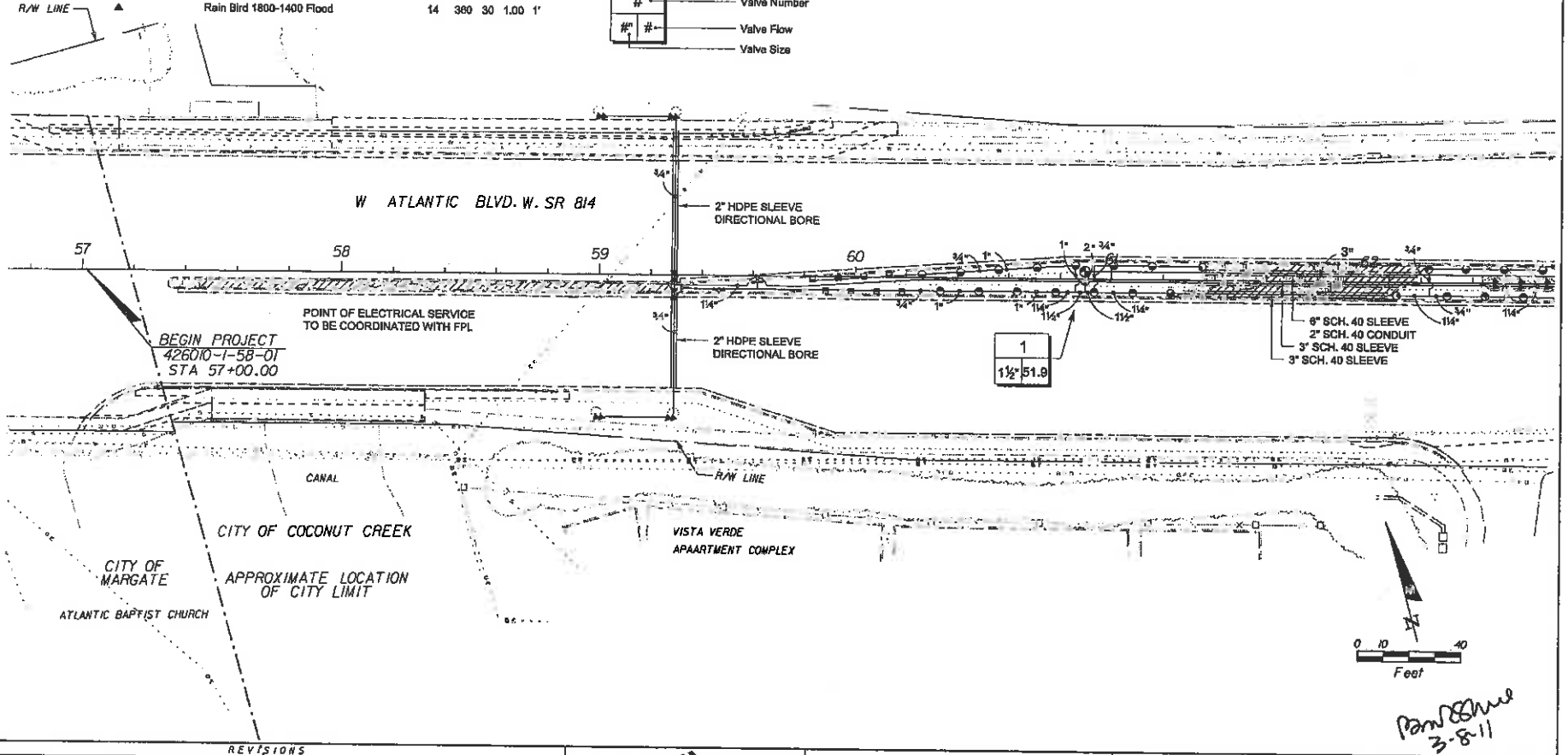
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	APC	PSI	GPM	RADIUS
	Rain Bird 1806-SAM-PRS-NP 15 Strip Series	1	EST	30	0.61	4'x15'
	Rain Bird 1806-SAM-PRS-NP 15 Strip Series	3	SST	30	1.21	4'x30'
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR	8	180	30	0.79	10'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	19	180	30	1.85	15'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	2	90	30	0.92	15'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	2	120	30	1.23	15'
	Rain Bird 1800-1400 Flood	14	360	30	1.00	1'

SYMBOL	MANUFACTURER/MODEL	QTY
	Rain Bird PESB	1
	Nibco T-113	2
	Irrigation Lateral Line: PVC Schedule 40	1,104 l.f.
	Irrigation Mainline: PVC Schedule 40	181 l.f.
	Pipe Sleeve	330 l.f.

Valve Callout

- # — Valve Number
- #" # — Valve Flow
- Valve Size



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CITY OF COCONUT CREEK		
ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

IRRIGATION PLAN

SHEET NO. LD-21

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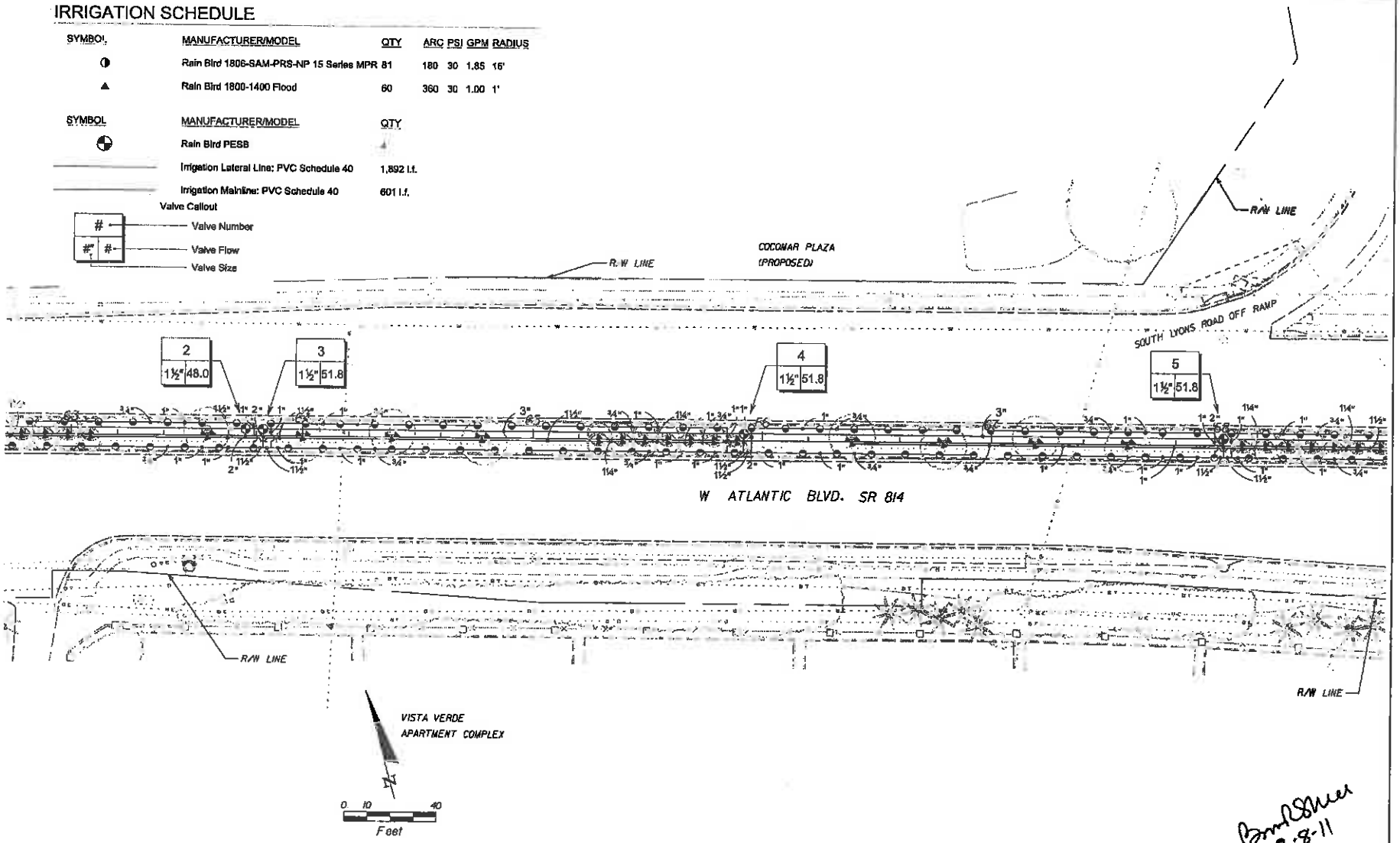
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
◑	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	81	180	30	1.85	15'
▲	Rain Bird 1800-1400 Flood	60	360	30	1.00	1'

SYMBOL	MANUFACTURER/MODEL	QTY
⊕	Rain Bird PESB	4
	Irrigation Lateral Line: PVC Schedule 40	1,892 l.f.
	Irrigation Mainline: PVC Schedule 40	601 l.f.

Valve Callout

#	Valve Number
#" #	Valve Flow
	Valve Size



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CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

IRRIGATION PLAN

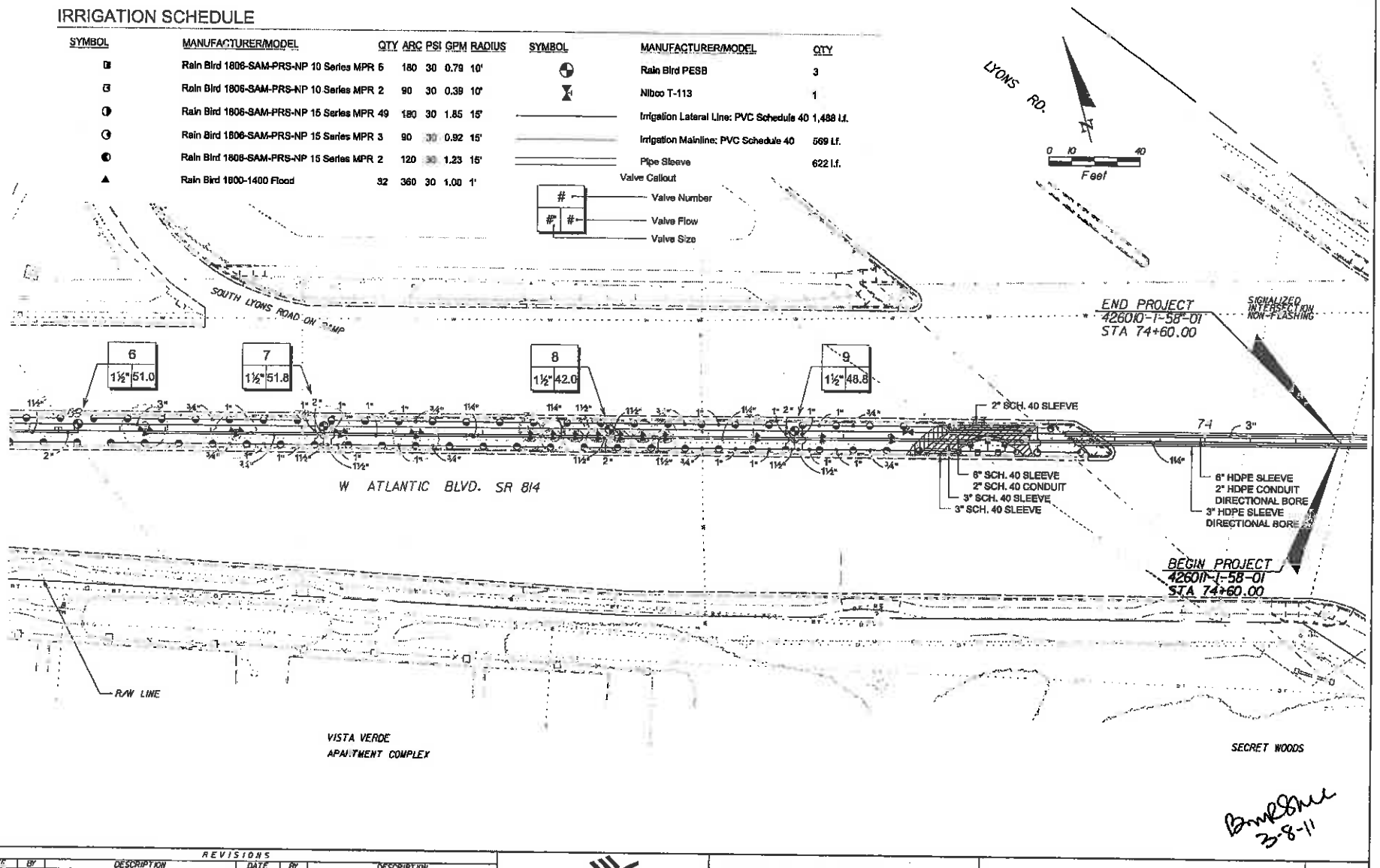
SHEET NO. LD-22

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR	6	180	30	0.79	10'
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR	2	90	30	0.39	10'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	49	180	30	1.85	15'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	3	90	30	0.92	15'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	2	120	30	1.23	15'
	Rain Bird 1800-1400 Flood	32	360	30	1.00	1'

SYMBOL	MANUFACTURER/MODEL	QTY
	Rain Bird PESB	3
	Nibco T-113	1
	Irrigation Lateral Line: PVC Schedule 40	1,488 l.f.
	Irrigation Mainline: PVC Schedule 40	569 l.f.
	Pipe Sleeve	622 l.f.

Valve Callout
- # — Valve Number
- # / # — Valve Flow / Valve Size



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CITY OF COCONUT CREEK		
ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

IRRIGATION PLAN

SHEET NO. LD-23

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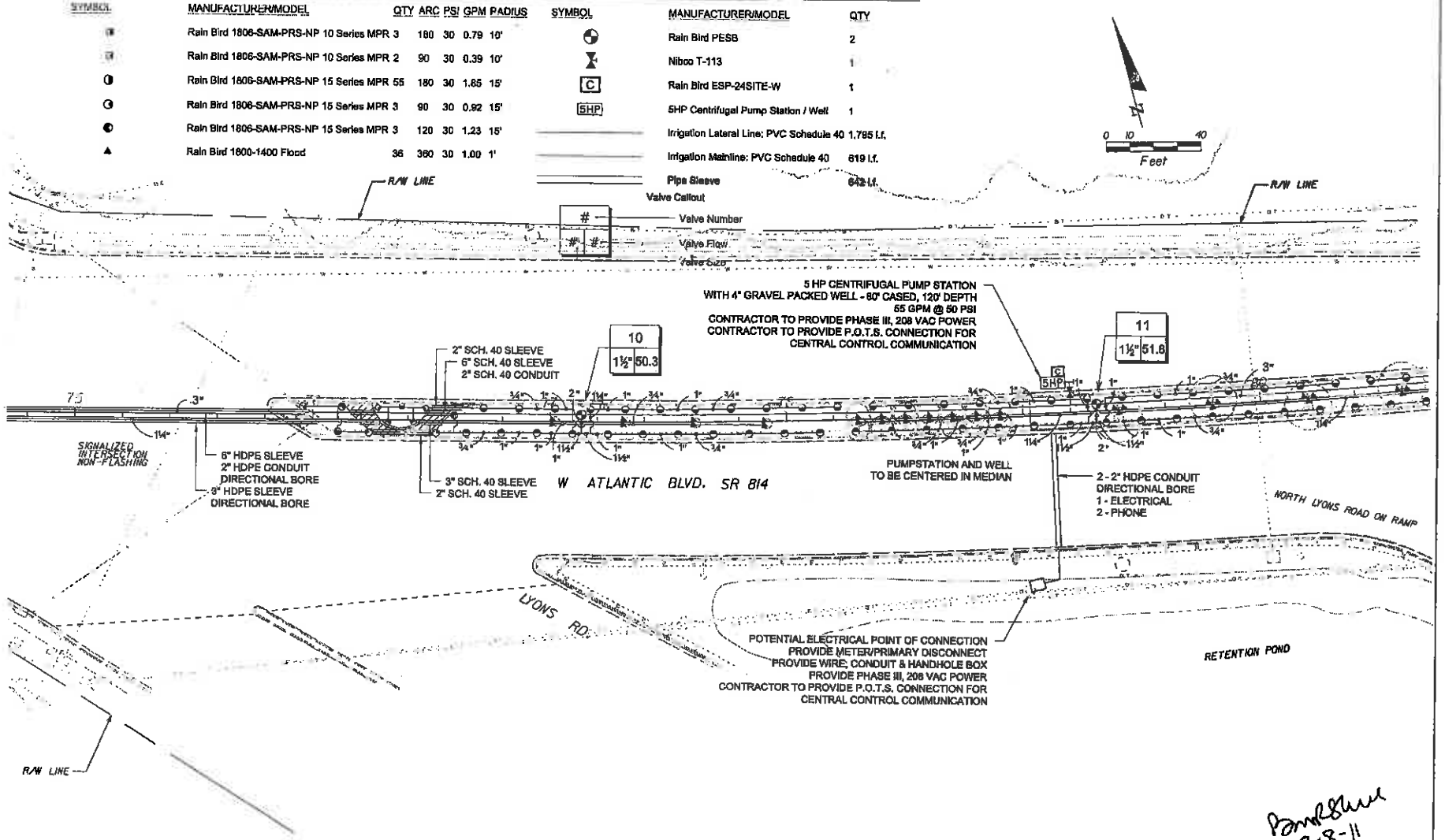
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR	3	180	30	0.79	10'
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR	2	90	30	0.39	10'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	55	180	30	1.85	15'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	3	90	30	0.92	15'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	3	120	30	1.23	15'
	Rain Bird 1800-1400 Flood	36	360	30	1.00	1'

SYMBOL	MANUFACTURER/MODEL	QTY
	Rain Bird PESB	2
	Nibco T-113	1
C	Rain Bird ESP-24SITE-W	1
5HP	5HP Centrifugal Pump Station / Well	1
	Irrigation Lateral Line: PVC Schedule 40	1,795 l.f.
	Irrigation Mainline: PVC Schedule 40	619 l.f.
	Pipe Sleeve	642 l.f.



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CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

IRRIGATION PLAN

SHEET NO. LD-24

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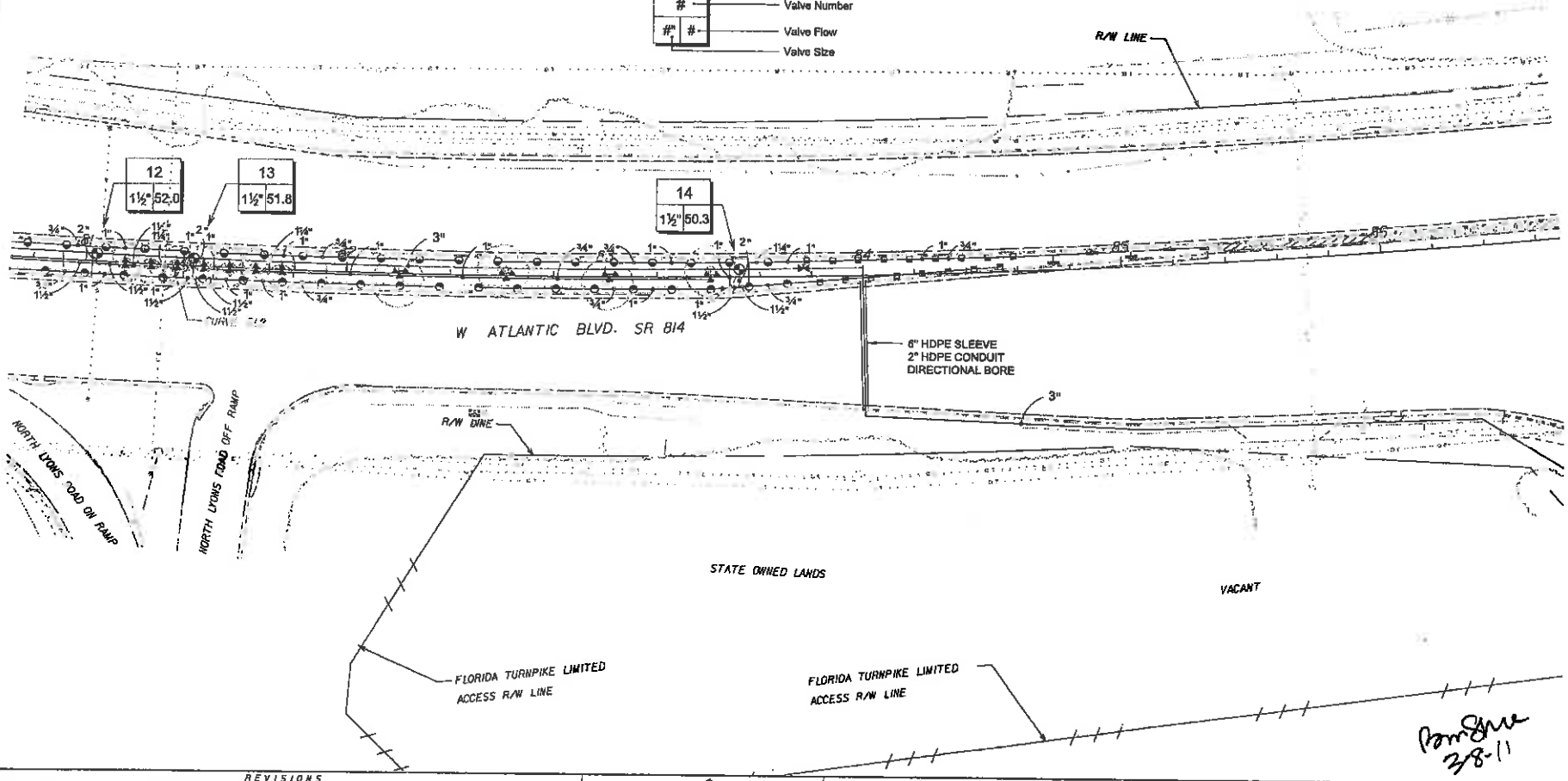
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
	Rain Bird 1806-SAM-PRS-NP 15 Strip Series	1	EST	30	0.61	4'x15'
	Rain Bird 1806-SAM-PRS-NP 15 Strip Series	4	SST	30	1.21	4'x30'
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR	17	180	30	0.79	10'
	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	41	180	30	1.85	15'
	Rain Bird 1800-1400 Flood	26	360	30	1.00	1'

SYMBOL	MANUFACTURER/MODEL	QTY
	Rain Bird PESB	3
	Nibco T-113	1
	Irrigation Lateral Line: PVC Schedule 40	1,197 l.f.
	Irrigation Mainline: PVC Schedule 40	671 l.f.
	Pipe Sleeve	50 l.f.

Valve Callout

- # — Valve Number
- #" # — Valve Flow
- Valve Size



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REVISIONS					
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CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

IRRIGATION PLAN

SHEET NO. LD-25

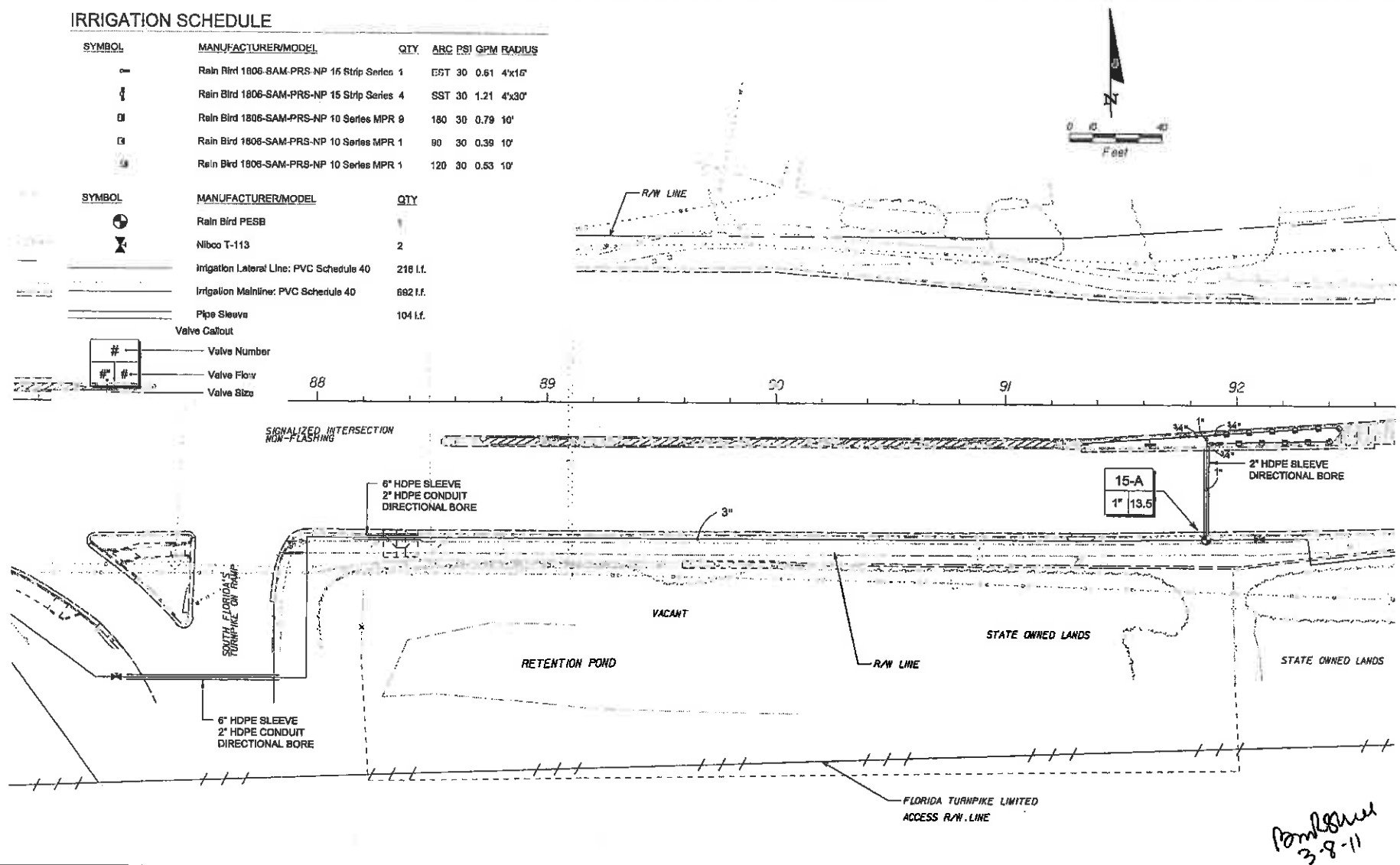
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
	Rain Bird 1806-SAM-PRS-NP 15 Strip Series	1	EST	30	0.61	4'x15'
	Rain Bird 1806-SAM-PRS-NP 15 Strip Series	4	SST	30	1.21	4'x30'
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR	9	180	30	0.79	10'
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR	1	90	30	0.39	10'
	Rain Bird 1806-SAM-PRS-NP 10 Series MPR	1	120	30	0.53	10'

SYMBOL	MANUFACTURER/MODEL	QTY
	Rain Bird PESB	1
	Nibco T-113	2
	Irrigation Lateral Line: PVC Schedule 40	216 l.f.
	Irrigation Mainline: PVC Schedule 40	692 l.f.
	Pipe Sleeve	104 l.f.

Valve Callout

#	Valve Number
#" #	Valve Flow
	Valve Size



3-8-11

REVISIONS					
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CITY OF COCONUT CREEK		
ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

IRRIGATION PLAN

SHEET NO. LD-26

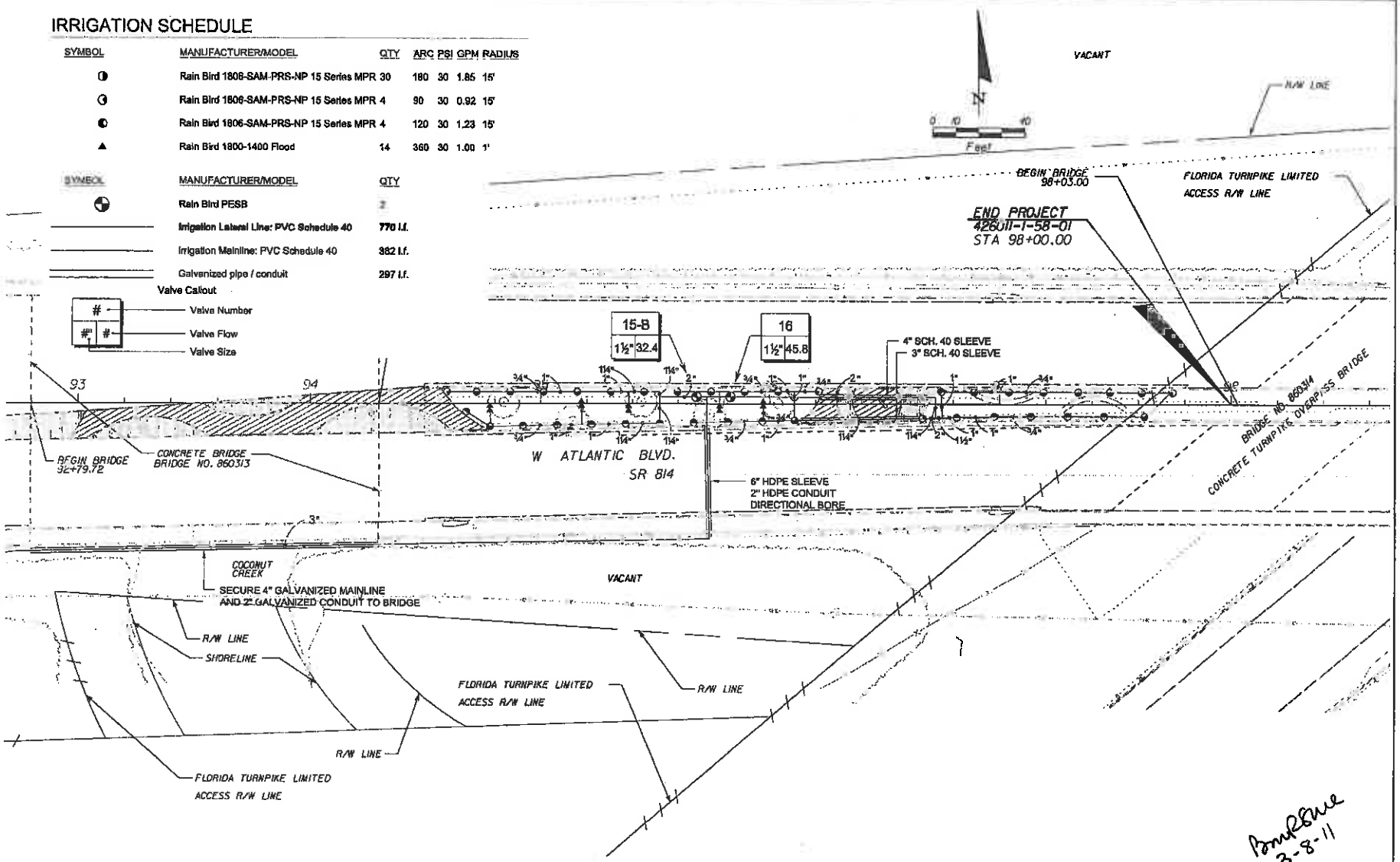
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
◑	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	30	180	30	1.85	15'
◑	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	4	90	30	0.92	15'
◐	Rain Bird 1806-SAM-PRS-NP 15 Series MPR	4	120	30	1.23	15'
▲	Rain Bird 1800-1400 Flood	14	360	30	1.00	1'

SYMBOL	MANUFACTURER/MODEL	QTY
⊕	Rain Bird PESB	2
	Irrigation Lateral Line: PVC Schedule 40	770 l.f.
	Irrigation Mainline: PVC Schedule 40	382 l.f.
	Galvanized pipe / conduit	297 l.f.

Valve Callout

#	Valve Number
#" #	Valve Flow
	Valve Size



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REVISIONS					
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CITY OF COCONUT CREEK		
ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00247

IRRIGATION PLAN

SHEET NO. LD-27

PROJECT SPECIFIC GENERAL NOTES:

1. Traffic controls shall be in accordance with the project plans, the current edition of the Florida Department of Transportation (FDOT) Design Standards (600 series), the Standard Specification for Road and Bridge Construction, and the current Manual on Uniform Traffic Control Devices as minimum criteria.

2. Notification of lane closures shall be accompanied 14 working days prior to closure submitting the required lane closure form, sketches, calculations, and other data through the Engineer to the District Traffic Operations Office.

3. Traffic disruptions which are not shown by the traffic control plan, but which are necessary to construct the project shall be submitted in writing to the engineer 14 days prior to the commencement of work. Submittal material shall include sketches, calculations and other data required by the Engineer.

4. The traffic and travel ways shall not be altered by the Contractor to create a work zone until all labor and material are available for the construction in that area.

5. Lane closings shall occur only during non-peak hours. Peak hours are from: 7:00-9:00am and 4:00-6:00pm.

6. The regulatory speed through the work zone shall be posted 45 mph.

7. As approved by the Engineer, the Contractor shall cover work zone signs when conditions no longer warrant their use. Cost of covering and uncovering the signs, daily maintenance and monitoring shall be included in maintenance of traffic.

8. Contractor shall remove, relocate or cover any existing or proposed signs that conflict with the traffic control plans. When the conflict no longer exists, the contractor shall restore the signs to their original position. Cost of temporarily removing, relocating,covering and restoring the signs shall be included in maintenance of traffic.

9. Uniformed, off-duty law enforcement officers can be used only as approved by the Engineer and use is limited to construction operations for setting and removing traffic control devices, night work, moving operations, or other situations specifically approved by the Engineer. All cost for the officer(s) shall be included in the maintenance of traffic.

10. All existing signage shall be maintained in an appropriate location for the duration of the project.

11. The contractor shall maintain a minimum of one lane of traffic at all times for minor side streets. During one lane operation a flag man shall be used. If operation exceeds one work period, contractor shall cover excavation and return two way traffic at the end of each work period.

12. If temporary lane closure causes extended congestion, the contractor shall, at the direction of the Engineer, reopen the closed lane(s) at no additional cost until such time the traffic flow has returned to an acceptable level.

13. Provisions for traffic control plan which are not anticipated in the traffic control plans, but are necessary for project construction shall be submitted to the engineer at least 72 hours prior to using such provisions.

14. A certified maintenance of traffic supervisors shall be available to the project at all times when the contractor is working and shall be on call for emergencies when the Contractor is not working. All work shall cease when MOT Supervisor is not present.

15. Access shall be provided to all places of business and residences whenever construction interferes with the existing means of access. Adequate accommdations for intersecting and crossing traffic shall be provided and maintained by the contractor. No road or street crossings within the project shall be blocked or unduly restricted as determined by the engineer.

16. Contractor shall be responsible for the immediate removal of storm water from roadways utilized for maintaining traffic in a manner approved by the Engineer. Cost for removing the water shall be included in maintenance of traffic.

17. Arrows provided on details denote direction of traffic only and do not reflect pavement markings unless specifically noted.

Markings:

1. The contractor shall maintain all existing pavement markings during construction. If necessary, Contractor shall submit to the Engineer any modifications or temporary markings to the existing pavement markings during construction. Cost of removal of temporary pavement markings, regardless of method, is included in the related pavement marking maintenance of traffic. Use of black paint to cover existing and/or temporary pavement markings is prohibited.

Drop offs:

1. For drop offs, the contractor's attention is directed to fdot standard index no. 600, sheet 6 of 10.

Signals:

1. The contractor shall have full responsibility for the normal maintenance of existing traffic signal(s) within the project limits. All signals shall remain in full operation unless deemed necessary for construction activities. The contractor shall notify Broward County Traffic Engineering Division (BCTED) (Telephone number (954) 847-2600) a minimum of 10 working days prior to any modification and/or changes of an existing traffic signal (i.e. Taking signals off-line, removing or replacing loop assemblies or rearranging traffic signal heads). The contractor shall install the temporary signalization system and have the system in operation before taking the existing system out of service. Portable temporary units shall not be used. The temporary signal system shall be adjusted to the traffic needs of each construction phase. Signal heads are to be located with respect to approach lanes. Cost of adjusting temporary signal for the required tcp phases shall be included in maintenance of traffic.

2. The contractor shall utilize the existing signal equipment or provide all necessary signalization components and appurtenances, including but not limited to; poles, temporary electric service connections, temporary conduits and wires, relocation of existing controllers or temporary controllers, and necessary signal timing coordination with Broward County Traffic. The contractor shall provide maintenance of the temporary signal system until the permanent system is installed and functional. Cost to be included in maintenance of traffic.

Pedestrian, bicycles & wheelchairs:

1. The contractor shall maintain pedestrian, bicycle, and wheel chair traffic on at least one side of the roadway at all times during construction. This shall be done in accordance to index 660 1Of1.

2. At the end of each work day or whenever the work zone becomes inactive, any drop-off adjacent to pedestrian travel paths shall be backfilled flush with the travel path or shall be protected with barricades, temporary barrier wall or approved handrail.

3. Pedestrian, bicycles, and wheelchair traffic shall be guided and maintained using approved warning lights, signing, markings, and channelization devices. Such control devices shall be installed and maintained in accordance with, fdot standards and the current mutcd. All ada requirements must be maintained.

4. The contractor shall maintain access and signs for existing bus stop locations within the project limits. If existing bus stops need to be relocated, provisions to accomodate bus stops must be coordinated with the Broward County Mass Transit Agency, telephone number (954) 357-8400.

5. The maintenance of traffic shall include provisions for school pedestrian traffic with the following minimum requirements: The safe walk route for all schools within the vicinity of the construction zone shall be maintained during the times students are arriving at or leaving school. All construction equipment around any designated crosswalk shall cease to operate during the times students are arriving at or leaving school. All construction equipment adjacent to a designated walk route shall cease operating unless satisfactorily barricaded from the walk route. In the case that a designated crossing or any portion of the designated walk route cannot be maintained. Then the contractor shall notify the 'school safety coordinator' at Broward County Traffic Engineering Division, (954.' 847-2600, a minimum of ten (10) working days prior to closing that route so that an alternate crossing/route can be established. Thirty (30) days prior to the beginning of construction the contractor shall notify the school safety coordinator' at Broward County Traffic Engineering Division, (954) 847-2600, to arrange a 'pre-construction school safety' meeting.

Landscape plan specific notes:

1. For landscape work within or near median, reference sheets LD-26 and LD-27 (Index 613). For landscape work along outer edges and ramp area, reference sheet LD-8 (Index 612).

2. INTERSECTIONS: Vista Verde Entrance, South Lyons Road on and off ramps, North Lyons Road on and off ramps, Lyons Road, Florida's Turnpike on ramp:

a. FDOT standard index 616 must be implemented when median work near intersection condition exists.

b. Traffic control at intersections must provide sight distances for the road user to perceive potential conflicts and to traverse the intersection safely.

c. Contractor to cover signal heads or make signal head revisions where impacted as required due to maintnance of traffic per FDOT standard index 600 and fdot traffic operations office. Broward county transit Rout 42 runs along SR 814,

d. Maintenance of traffic shall include provisions for pedestrians and / or school traffic as well as vehicular traffic. Contractor to comply with all school safety requirements as outlined in the BCTED Maintenence of traffic school / pedestrian criteria.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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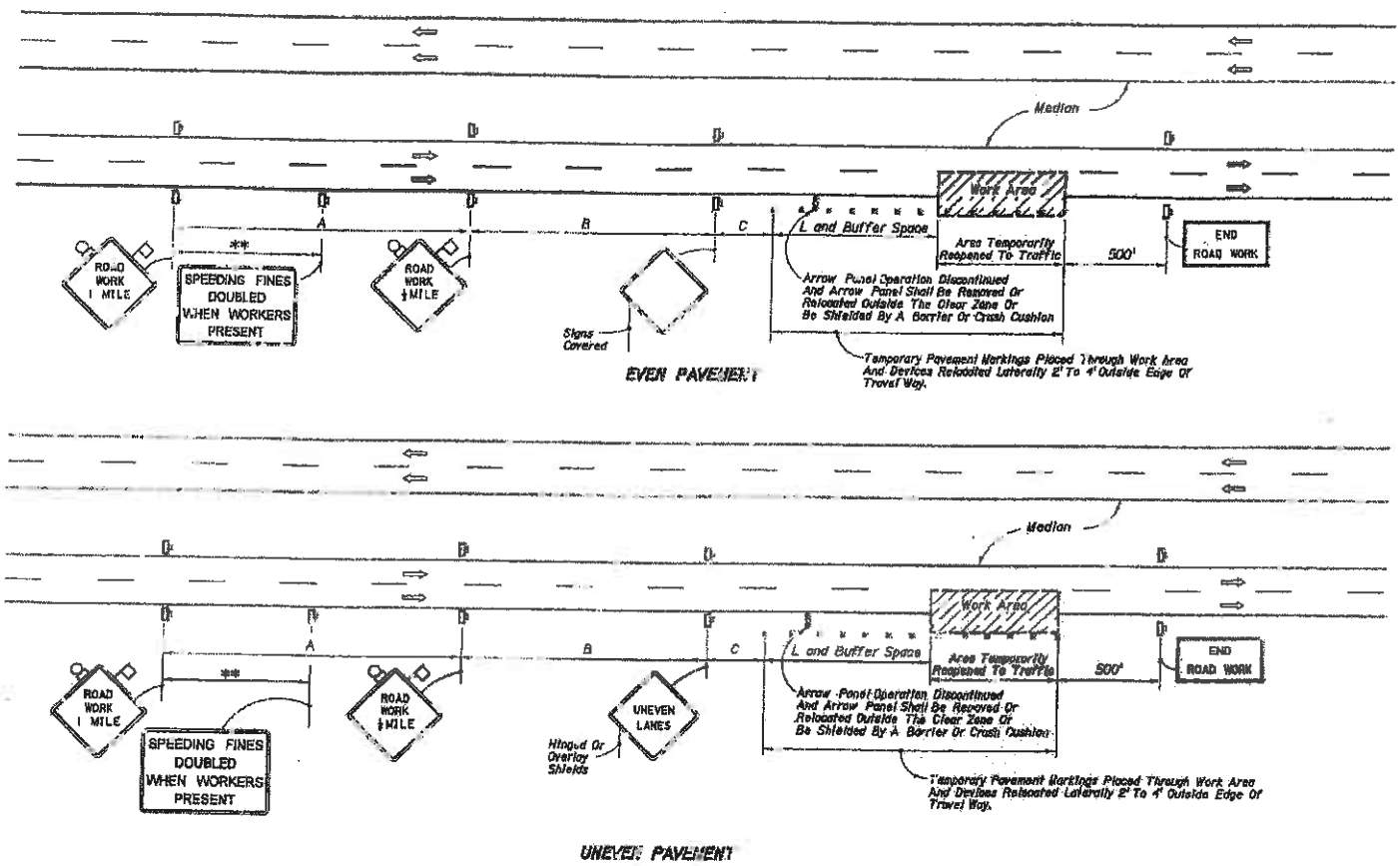
CITY OF COCONUT CREEK			TRAFFIC CONTROL NOTES	SHEET NO.
ROAD NO.	COUNTY	MILLER LEGG PROJECT ID		
814	BROWARD	10-00247		LD-28



INTERMITTENT WORK STOPPAGE - LANE REOPENED TO TRAFFIC

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

TRAFFIC CONTROL DETAIL

SHEET NO. LD-29

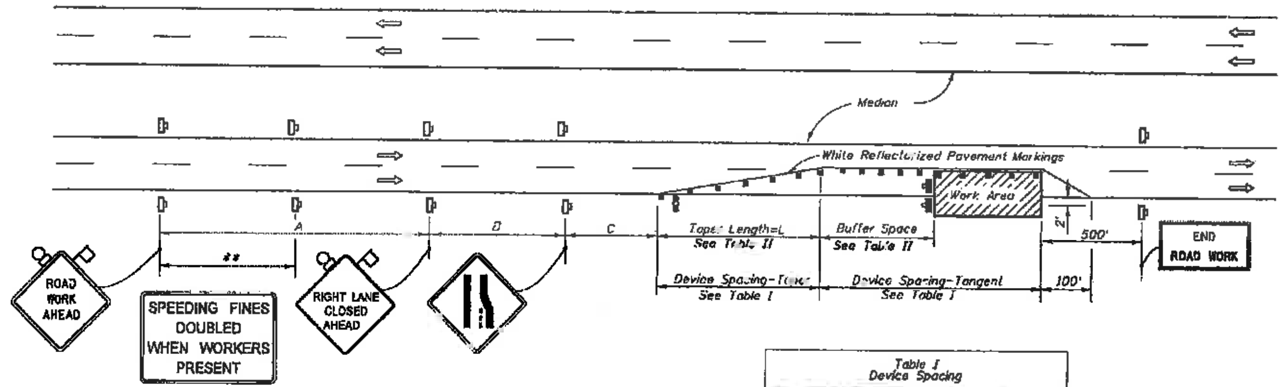

Table II Buffer Space and Taper Length			
Speed (mph)	Buffer Space Dist. (ft.)	Taper Length (12' Lateral Transition) L (ft.)	Notes (Merge)
25	155	125	$L=\frac{WS^2}{60}$
30	200	180	
35	250	245	
40	305	320	
45	360	540	L=WS
50	425	600	
55	495	660	
60	570	720	
65	645	780	
70	730	840	

When Buffer Space cannot be attained due to geometric constraints, the greatest attainable length shall be used, but not less than 200 ft.

For lateral transitions other than 12', use formula for L shown in the notes column.
Where:
L= Length of taper in feet
W= Width of lateral transition in feet
S= Posted speed limit (mph)

Table I Device Spacing				
	Max Distance Between Devices (ft.)			
Speed (mph)	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

DISTANCE BETWEEN SIGNS			
Speed	Spacing (ft.)		
	A	B	C
40 mph or less	200	200	200
45 mph	350	350	350
50 mph	500	500	500
*55 mph or greater	2640	1640	1000

* The ROAD WORK 1 MILE sign may be used as an alternate to the ROAD WORK AHEAD sign and the RIGHT LANE CLOSED 1/2 MILE sign may be used as an alternate to the RIGHT LANE CLOSED AHEAD sign.

** 500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

GENERAL NOTES

1. Work operations shall be confined to one traffic lane, leaving the adjacent lane open to traffic.
2. On undivided highways the median signs as shown are to be omitted.
3. When work is performed in the median lane on divided highways, the channelizing device plan is inverted and left lane closed and lane ends signs substituted for the right lane closed and lane end signs.

   The same applies to undivided highways with the following exceptions:
   (a) Work shall be confined within one median lane.
   (b) Additional barricades, cones, or drums shall be placed along the centerline abutting the work area and across the trailing end of the work area.

   When work on undivided highways occurs across the centerline so as to encroach on both median lanes, the inverted plan is applied to the approach of both roadways.
4. Signs and traffic control devices are to be modified in accordance with INTERMITTENT WORK STOPPAGE details (sheet 2 of 2) when no work is being performed and the highway is open to traffic.
5. The two channelizing devices directly in front of the work area may be omitted provided vehicles in the work area have high-intensity rotating, flashing, oscillating, or strobe lights operating.
6. When paved shoulders having a width of 8 ft. or more are closed, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the travel way. See Index No. 612 for shoulder taper formulas.
7. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
8. This TCZ plan does not apply when work is being performed in the middle lane(s) of a six or more lane highway. See Index No. 614.
9. For general TCZ requirements and additional information, refer to Index No. 600.

DURATION NOTES

1. Temporary white edgeline may be omitted for work operations less than 3 days.
2. Signs, arrow panel and buffer space may be omitted if all of the following conditions are met:
   a) Work operations are 60 minutes or less.
   b) Speed limit is 45 mph or less.
   c) No sight obstructions to vehicles approaching the work area for a distance equal to the buffer space and the taper length combined.
   d) Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.
   e) Volume and complexity of the roadway has been considered.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE LANE ADJACENT TO EITHER SHOULDER AND THE AREA 2' OUTSIDE THE EDGE OF TRAVEL WAY.

SYMBOLS

- Work Area
- Sign With 18"x 18" (Min.) Orange Flag And Type B Light
- Channelizing Device (See Index No. 600)
- Type I Type II Or Type III Barricade Or Vertical Panel Or Drum (With Flashing Light)
- Work Zone Sign
- Advance Warning Arrow Panel

03/15/11

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

MILLER LEGG
6801 N.W. 5th Way · Suite 1400 · Fort Lauderdale, Florida · 33309
954-491-2800 · Fax: 954-491-0788 · www.millerlegg.com
Cert. of Auth.: 00007318 · Engineer of Record: Eric S. Czerniejewski PE-58002

CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

TRAFFIC CONTROL DETAIL

SHEET NO. LD-30

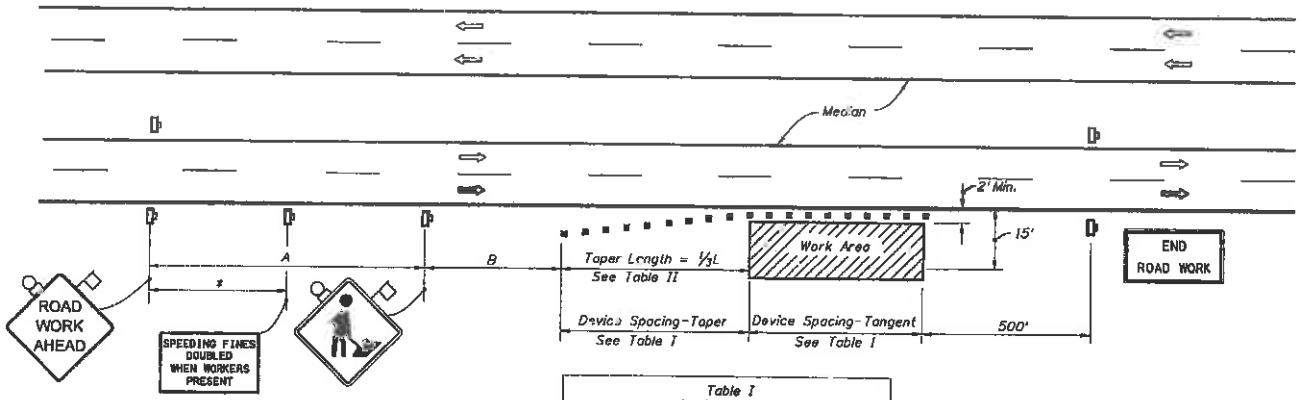

Table I Device Spacing				
Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

DISTANCE BETWEEN SIGNS		
Speed	Spacing (ft.)	
	A	B
40 mph or less	200	200
45 mph	350	350
50 mph or greater	500	500

* 500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

Table II Taper Length – Shoulder				
Speed (mph)	1/3L (ft.)			Notes
	8' Shldr.	10' Shldr.	12' Shldr.	
25	28	35	42	
30	40	50	60	$L = \frac{WS^2}{60}$
35	55	68	82	
40	72	90	107	
45	120	150	180	
50	133	167	200	
55	147	183	220	
60	160	200	240	L=WS
65	173	217	260	
70	187	233	280	

8' minimum shoulder width.

1/3L= Length of shoulder taper in feet

W= Width of total shoulder in feet (combined paved and unpaved width)

S= Posted speed limit (mph)

SYMBOLS

- Work Area
- Sign With 18"x18" (Min.) Orange Flag And Type B Light
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- Lane Identification + Direction of Traffic

GENERAL NOTES

1. If the work operation encroaches on the through traffic lanes or when four or more work vehicles enter the through traffic lanes in a one hour period (excluding establishing and terminating the work area), a flagger shall be provided and a FLAGGER sign shall be substituted for the WORKERS sign. The flagger shall be positioned at the point of vehicle entry or departure from the work area.
2. This TCZ plan also applies to work performed in the median more than 2' but less than 15' from the edge of travelway.
3. When work is being performed on a multilane undivided roadway the signs normally mounted in the median (as shown) shall be omitted.
4. WORKERS signs to be removed or fully covered when no work is being performed.
5. SHOULDER WORK sign may be used as an alternate to the WORKER symbol sign.
6. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
7. For general TCZ requirements and additional information, refer to Index No. 600.

DURATION NOTES

1. Signs and channelizing devices may be omitted if all of the following conditions are met:
   a) Work operations are 60 minutes or less.
   b) Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH THE AREA CLOSER THAN 15' BUT NOT CLOSER THAN 2' TO THE EDGE OF TRAVEL WAY.

02/15/11

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

MILLER LEGG
6301 N.W. 5th Way · Suite 1400 · Fort Lauderdale, Florida · 33309
954-491-2800 · Fax: 954-491-0723 · www.millerlegg.com
Cert. of Auth.: EB0007318 · Engineer of Record: Eric S. Czarniejewski PE-58002

CITY OF COCONUT CREEK

ROAD NO.	COUNTY	MILLER LEGG PROJECT ID
814	BROWARD	10-00249

TRAFFIC CONTROL DETAIL

SHEET NO. LD-31

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SECTION NO: 86039000
S.R. NO(S): 814 (Atlantic Blvd)
COUNTY: Broward
FM NO.(S): 426010-1-58-01
426011-1-58-01

EXHIBIT C

MAINTENANCE PLAN FOR LANDSCAPE IMPROVEMENTS

This Exhibit forms an integral part of the DISTRICT FOUR (4) Amendment to the State of Florida Department of Transportation and The City of Coconut Creek Inclusive Maintenance Memorandum of Agreement between the State of Florida, Department of Transportation and the AGENCY.

Dated: March 8, 2011

MAINTENANCE PLAN
Landscape Improvements

Project State Road No(s):	**814**
Project Limits:	**MP 0.899 to MP 1.230 and MP 1.230 to MP 1.715**
FM No(s):	**426010-1-58-01 and 426011-1-58-01**
Maintaining Agency:	**City of Coconut Creek**
RLA of Record:	**Brian Shore**
Date:	**03-08-11**

I. General Maintenance Requirements and Recommendations:

The purpose of a plan for the landscape improvements maintenance practices is to allow the plant material on your project to thrive in a safe and vigorous manner while fulfilling their intended purpose and conserving our natural resources. Plantings and all other landscape improvements shall be maintained to avoid potential roadway hazards and to provide required clear visibility, accessibility, clearance, and setbacks as set forth by Florida Department of Transportation (FDOT) governing standards and specifications: *FDOT Design Standards, FDOT Plans Preparation Manual Vol. I, Chapter 2.11* and *FDOT Standard Specifications for Road and Bridge Construction,* as amended by the contract documents, and all other requirements set forth by the District 4 Operations Maintenance Engineer. The initial portion of the Maintenance Plan describes general maintenance requirements and recommendations. The concluding section provides recommendations prepared by the Registered Landscape Architect of Record specific to the attached approved plans.

Watering Requirements:
Watering is a critical concern for not only the maintenance of healthy plant material but also for observing water conservation practices. The amount of water to apply at any one time varies with the weather, drainage conditions and water holding capacity of the soil. For plant materials that have been established, it is imperative that any mandated water restrictions be fully conformed to on FDOT roadways.

Proper watering techniques should provide even and thorough water dispersal to wet the entire root zone, but not saturate the soil or over-spray onto travel lanes.

Irrigation System:
The Agency shall ensure there are no roadway overspray or irrigation activities during daytime hours (most notably "rush hour" traffic periods). It is imperative the irrigation controller is properly set to run early enough that the watering process will be entirely completed before high traffic periods, while adhering to mandated water restrictions. To ensure water conservation, the Agency shall monitor the system for water leaks and the rain sensors to ensure they are functioning properly so that the system shuts down when there is sufficient rainfall.

Integrated Plant Management:
An assessment of each planting area's soil is recommended to periodically determine the nutrient levels needed to sustain healthy, vigorous plant growth.

Palms, shrubs, trees and turf areas shall be fertilized in such a manner and frequency to ensure that the plant material remains healthy and vigorously growing. Establishment of an integrated pest management program is encouraged to ensure healthy plants, which are free of disease and pests.

Mulching:
Mulch planting beds in such a manner as to prevent weed growth, retain moisture to the plants, protect against soil erosion and nutrient loss, maintain a more uniform soil temperature, and improve the appearance of the planting beds. Avoid mulch mounded up on the trunks of trees, palms, and the base of shrubs to encourage air movement in this area which aids in lowering disease susceptibility. Cypress mulch is prohibited on state right of way.

Pruning:
All pruning, and the associated safety criteria, shall be performed according to American National Standard Institute (ANSI) A300 standards and shall be supervised by an International Society of Arboriculture (ISA) Certified Arborist. Pruning shall be carried out with the health and natural growth of plant materials in mind, to specific pruning heights maintaining clear visibility for motorists, and provide vertical clearance for pedestrian, bicyclist, and truck traffic where applicable. Visibility windows must be maintained free of view obstructions, and all trees and palms (with particular attention to fronds and fruit) must be maintained to prevent potential roadway and pedestrian hazards. The specific pruning heights are determined by understanding the designer's intent when selecting and placing the plants. The intended mature maintained height and spread of plants are noted on the planting plans. (See Part II. Specific Requirements and Recommendations per approved landscape & irrigation design for these guidelines). The understory plant materials selected for use within the restricted planting areas (Limits of Clear Sight) are to be maintained at a height in compliance with *FDOT Design Standards* Index 546; Page 6 of 6, Window Detail. Vertical tree heights must meet *FDOT Maintenance Rating Program* (MRP) standards.

Staking and Guying:
All staking materials, except for replacements, are to be removed by the completion of FDOT warranty period or at one year (whichever comes first). Any subsequent staking and guying activities by the Agency must adhere to *FDOT Design Standards* guidelines (See Index 544). The Agency shall closely monitor staking and guying attachment materials so that they are securely fastened to avoid potential roadway hazards.

Turf Mowing:
All grassed areas are to be mowed and trimmed with sufficient frequency to maintain a deep, healthy root system while providing a neat and clean appearance to the urban landscape. All turf efforts, mowing, curb/sidewalk edging and turf condition, must meet *FDOT Maintenance Rating Program* (MRP).

Litter Control:
The project site shall remain as litter free as practicable. It is recommended to recycle this litter to avoid unnecessary waste by its reuse. Litter removal efforts must meet *FDOT Maintenance Rating Program* (MRP) standards.

Weeding/Herbicide:
All planting areas shall be maintained as weed free as practicable by enlisting integrated pest management practices in areas specified on the plans and maintaining proper mulch levels. Extreme care is recommended if using a chemical herbicide to avoid overspray onto plant materials. It is the applicator's responsibility to restore any damage, resulting from overspray to the plantings, per the approved plans.

Plant Replacement:
Plant replacement shall be the same species and specification as the approved plan. Move and replace all plant materials that may conflict with utility relocations and service. Only plants graded Florida #1 or better, per the *Florida Department of Agriculture and Consumer Services, Grades and Standards for Nursery Plants* are permitted on FDOT roadways. Should it become necessary to change the species, a general use permit is required from FDOT for approval by the FDOT District Landscape Architect.

Hardscape (Specialty Surfacing):
All specialty surfacing shall be maintained in such a manner as to prevent any potential tripping hazards and protect damage to the pavers. Final surface tolerance from grade elevations shall, at a minimum, meet the most current *Interlocking Concrete Pavement Institute (ICPI), Guide Specifications for Pavers on an Aggregate Base, Section 23 14 13 Interlocking Concrete Pavers*, Part 3.05. If the specialty surfacing or tree grates become damaged, they shall be replaced with the same type and specification as the approved plan.

Maintenance of Traffic Control :
Reference the FDOT website regarding the selection of the proper traffic control requirements to be provided during routine maintenance and / or new installations of this DOT roadway.

II. Specific Project Site Maintenance Requirements and Recommendations:

Hardscape Surfaces: a. Integrally-Colored Overlay surfaces; b. Pavers.

Routine maintenance of hardscape surfaces shall include inspections to determine color stability, cleanliness, potential trip hazard issues or settling issues, and chipping / cracking or delamination problems.

Remove efflorescence from the surfaces, as needed, with a mild acid solution or efflorescence remover. Apply a colored curing compound after efflorescence removal, matching the color of the concrete or paver. Re-seal the surface (with a clear sealer) following the efflorescence removal and curing.

Color-conditioned concrete flatwork / horizontal surfaces should be maintained by sweeping. On overlay surfaces, use low-pressure water or scrub surfaces with a mild detergent to remove surface dirt. Heavily soiled areas may be cleaned by scrubbing with a stiff bristle brush and properly diluted, high-quality commercial detergent.

Re-seal overlay surfaces as necessary or after the sealer coat is weathered or worn from the surface. Sealer should be a clear industry-approved concrete sealer suitable for colored-concrete surfaces. Follow manufacturer's instruction on application procedures.

Repair damaged areas to concrete surfaces (overlay areas) as needed with an integrally-colored concrete patch. Patch color to match existing surface color.

For pavers: sweep polymer sand in between the joints periodically or replace joint sand as needed. Remove weeds that appear in the paver field or between paver joints. Re-set pavers, as necessary, that become loose. Replace damaged pavers with a matching paver (match color and type). Seal pavers as needed with an industry-approved sealer.

REFERENCES

This reference list is provided as a courtesy. The list may not contain the most current websites. The most current references must be accessed for up to date information.

Accessible Sidewalk Videos (ADA)
http://www.access-board.gov/news/sidewalk-videos.htm

Americans with Disabilities Act (ADA) (ADAAG)
http://www.ada.gov/NPRM2008/adastandards/adastds08.pdf

American National Standard Institute, *ANSI A300, (Part 1) for Tree Care Operations – Trees, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning)*, available for purchase
http://www.treespecialists.com/pdfs/pruningstandards.pdf

Florida Department of Agriculture and Consumer Services, Division of Plant Industry, *Florida Grades and Standards for Nursery Plants*, available for purchase
http://www.doacs.state.fl.us/pi/pubs.html

Florida Department of Community Affairs (DCA), *Florida Board of Building Codes & Standards, 2007 Florida Building Code, Chapter 11 Florida Accessibility Code for Building Construction Part A*
http://www2.iccsafe.org/states/florida_codes/

Florida Department of Transportation, *FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System, Index 544 Landscape Installation*
http://www.dot.state.fl.us/rddesign/rd/RTDS/10/544.pdf

Florida Department of Transportation, *FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System, Index 546 Sight Distance at Intersections*
http://www.dot.state.fl.us/rddesign/rd/RTDS/10/546.pdf

Florida Department of Transportation, *FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System, Index 600 Traffic Control through Work Zones*
http://www.dot.state.fl.us/rddesign/rd/rtds/10/600.pdf

Florida Department of Transportation, *FDOT Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System, Index 700 Roadside Offsets*
http://www.dot.state.fl.us/rddesign/rd/RTDS/10/700.pdf

Florida Department of Transportation, *FDOT Plans Preparation Manual (PPM) Vol. I Chapters 2.11.5, Horizontal Clearance to Trees; Table 2.11.9 Horizontal Clearance and Clear Zone; Figure 4.1.2 Clear Zone; and Table 25.4.11.1 Clear Zone Width (feet) and Table 25.4.14.6 (for existing) trees*
http://www.dot.state.fl.us/rddesign/PPMManual/2009/Volume1/zChap02.pdf

Florida Department of Transportation, *FDOT Standard Specifications for Road and Bridge Construction, Section 580 Landscape Installation*
ftp://ftp.dot.state.fl.us/LTS/CO/Specifications/SpecBook/2010Book/580.pdf

Florida Department of Transportation, Landscape Architecture Website
http://www.dot.state.fl.us/emo/beauty/FLA.shtm

Florida Department of Transportation, *Maintenance Rating Program Handbook*
http://ombnet.dot.state.fl.us/procedures/bin/850065002.pdf

Florida Department of Transportation, *Maintenance Rating Program Standards*
http://www.dot.state.fl.us/statemaintenanceoffice/MRPHandbook2009Final.pdf

Florida Department of Transportation Outdoor Advertising Database
http://www2.dot.state.fl.us/rightofway/Default.aspx

Florida Irrigation Society
http://www.fisstate.org

Florida Power and Light (FPL), *Plant the Right Tree in the Right Place*
www.FPL/trees

Guide to Roadside Mowing and Guide to Turf Management, available for purchase http://infonet.dot.state.fl.us/SupportServicesOffice/plist.htm

Interlocking Concrete Pavement Institute (ICPI)
http://www.icpi.org/

International Society of Arboriculture (ISA)
www.isa-arbor.com

U.S. Department of Transportation, Federal Highway Administration, *Manual on Uniform Traffic Control Devices*
http://www.mutcd.fhwa.dot.gov

SECTION NO: 86039000
S.R. NO(S): 814 (Atlantic Blvd)
COUNTY: Broward
FM NO.(S): 426010-1-58-01
426011-1-58-01

EXHIBIT D

APPROXMIATE COST FOR LANDSCAPE IMPROVEMENTS

This Exhibit forms an integral part of the DISTRICT FOUR (4) Amendment to the HIGHWAY MAINTENANCE MEMORANDUM OF AGREEMENT between the State of Florida, Department of Transportation and the AGENCY.

Anticipated Terms of Separate Agreement

FM No. 426010-1-58-01

FDOT PARTICIPATION Via Separate Agreement	Up to	$200,000.00
Estimated Project Cost Dated March 16, 2011		$208,328.00

FM No. 426011-1-58-01

FDOT PARTICIPATION Via Separate Agreement	Up to	$300,000.00
Estimated Project Cost Dated March 16, 2011		$240,569.41

TOTAL APPROXIMATE PROJECT COST DATED MARCH 16, 2011		**$448,897.41**
TOTAL FDOT PARTICIPATION VIA SEPARATE AGREEMENT	**UP TO**	**$500,000.00**

OPINION OF PROBABLE COST

SR 814 / ATLANTIC BOULEVARD - CITY OF COCONUT CREEK

FM 426010-1-58-01

FROM WEST OF LYONS ROAD (WESTERN CITY LIMITS) (MP 0.889) TO LYONS ROAD (MP 1.230)

DETAILED QUANTITY SUMMARY

	QUANTITY	UNIT		TOTAL COST
MISCELLANEOUS PROJECT				
MOBILIZATION	1	LS	=	$6,698 54
CLEARING AND GRUBBING	1	LS	=	$2,232 86
MAINTENANCE OF TRAFFIC	1	LS	=	$3,349 27
SUBTOTAL			=	**$12,280 66**
LANDSCAPING				
LARGE CANOPY TREES & SOIL & STAKING & MULCH	12	EA	=	$35,000 00
FLOWERING CANOPY TREES & SOIL & STAKING & MULCH	3	EA	=	$11,200 00
ACCENT TREES IN BOSQUES & SOIL & STAKING & MULCH	28	EA	=	$26,100 00
PALMS & SOIL & STAKING & MULCH	28	EA	=	$9,450 00
HORIZONTAL COCOPLUM & SOIL & MULCH	210	EA	=	$3,570 00
BLUEBERRY FLAX LILY & SOIL & MULCH	0	EA	=	$0 00
PARSONS JUNIPER & SOIL & MULCH	135	EA	=	$1,620 00
DWARF YAUPON HOLLY & SOIL & MULCH	215	EA	=	$3,655 00
MUHLY GRASS & SOIL & MULCH	130	EA	=	$1,300 00
FAKAHATCHEE GRASS & SOIL & MULCH	130	EA	=	$1,300 00
PERFORMANCE TURF - SOD & SOIL	0 24	AC	=	$11,818 00
MOWING (DURING CONSTRUCTION)	0 47	AC	=	$5,000 00
LITTER REMOVAL & DISPOSAL	0 47	AC	=	$2,500 00
PLANT ESTABLISHMENT & MAINTENANCE	1	LS	=	$15,000 00
LANDSCAPING SUBTOTAL			=	**$124,513 00**
IRRIGATION				
PUMP STATION & CONTROLLER (shared cost)	1	EA	=	$6,250 00
WELL (shared cost)	1	EA	=	$2,250 00
IRRIGATION MAINLINE	1,358	LF	=	$5,433 33
LATERAL LINES & FITTINGS	2,873	LF	=	$5,746 00
BRIDGE CROSSING	0	LF	=	$0 00
HEADS & MISC RISERS & ACCESSORIES	143	EA	=	$2,850 00
REMOTE CONTROL VALVES & VALVE BOXES	8	EA	=	$1,200 00
CONTROL WIRE	2500	LF	=	$1,250 00
ISOLATION GATE VALVES & VALVE BOXES	2	EA	=	$350 00
SLEEVING	250	LF	=	$2,000 00
DIRECTIONAL BORE	315	LF	=	$12,600 00
IRRIGATION MAINTENANCE	1	LS	=	$4,000 00
IRRIGATION SUBTOTAL			=	**$43,929 33**
HARDSCAPE				
DECORATIVE OVERLAY - PATTERN CONCRETE MEDIAN NOSES	76	SY	=	$4,180 00
DECORATIVE OVERLAY - PATTERN CONCRETE BRIDGE MEDIAN	0	SY	=	$0 00
NEW HARDSCAPE TREATMENT - ARCHITECTURAL PAVERS	195	SY	=	$17,550 00
NEW HARDSCAPE TREATMENT - PATTERN CONCRETE OVERLAY	0	SY	=	$0 00
NEW HARDSCAPE TREATMENT - NEW CONCRETE BASE	0	SY	=	$0 00
NEW HARDSCAPE TREATMENT - NEW LIMEROCK SUBBASE	195	SY	=	$4,875 00
HARDSCAPE MAINTENANCE	1	LS	=	$1,000 00
HARDSCAPE SUBTOTAL			=	**$27,605.00**
TOTAL PROJECT				**$208,328.00**

OPINION OF PROBABLE COST

SR 814 / ATLANTIC BOULEVARD - CITY OF COCONUT CREEK

FM 426011-1-58-01
FROM LYONS ROAD (MP 1.230) TO FLORIDA'S TURNPIKE (MP 1.715)

DETAILED QUANTITY SUMMARY

	QUANTITY	UNIT		TOTAL COST
MISCELLANEOUS PROJECT				
MOBILIZATION	1	LS	=	$9,279 31
CLEARING AND GRUBBING	1	LS	=	$3,093 10
MAINTENANCE OF TRAFFIC	1	LS	=	$4,639 66
SUBTOTAL			=	**$17,012.08**
LANDSCAPING				
LARGE CANOPY TREES & SOIL & STAKING & MULCH	8	EA	=	$35,000 00
FLOWERING CANOPY TREES & SOIL & STAKING & MULCH	9	EA	=	$11,200 00
ACCENT TREES IN BOSQUES & SOIL & STAKING & MULCH	14	EA	=	$23,100 00
PALMS & SOIL & STAKING & MULCH	14	EA	=	$9,450 00
HORIZONTAL COCOPLUM & SOIL & MULCH	195	EA	=	$3,315 00
BLUEBERRY FLAX LILY & SOIL & MULCH	0	EA	=	$0 00
PARSONS JUNIPER & SOIL & MULCH	95	EA	=	$1,140 00
DWARF YAUPON HOLLY & SOIL & MULCH	350	EA	=	$5,950 00
MUHLY GRASS & SOIL & MULCH	65	EA	=	$650 00
FAKAHATCHEE GRASS & SOIL & MULCH	65	EA	=	$650 00
PERFORMANCE TURF - SOD & SOIL	0 24	AC	=	$11,818 00
MOWING (DURING CONSTRUCTION)	0 47	AC	=	$5,000 00
LITTER REMOVAL & DISPOSAL	0 47	AC	=	$2,500 00
PLANT ESTABLISHMENT & MAINTENANCE	1	LS	=	$15,000 00
LANDSCAPING SUBTOTAL			=	**$124,773.00**
IRRIGATION				
PUMP STATION & CONTROLLER	1	EA	=	$6,250 00
WELL	1	EA	=	$2,250 00
IRRIGATION MAINLINE	1,358	LF	=	$5,435 33
LATERAL LINES & FITTINGS	2,873	LF	=	$5,748 00
BRIDGE CROSSING	150	LF	=	$2,250 00
HEADS & MISC RISERS & ACCESSORIES	143	EA	=	$2,850 00
REMOTE CONTROL VALVES & VALVE BOXES	5	EA	=	$1,200 00
CONTROL WIRE	2500	LF	=	$1,250 00
ISOLATION GATE VALVES & VALVE BOXES	2	EA	=	$350 00
SLEEVING	250	LF	=	$2,000 00
DIRECTIONAL BORE	315	LF	=	$12,600 00
IRRIGATION MAINTENANCE	1	LS	=	$4,000 00
IRRIGATION SUBTOTAL			=	**$46,179.33**
HARDSCAPE				
DECORATIVE OVERLAY - PATTERN CONCRETE MEDIAN NOSES	76	SY	=	$4,180 00
DECORATIVE OVERLAY - PATTERN CONCRETE BRIDGE MEDIAN	295	SY	=	$16,225 00
NEW HARDSCAPE TREATMENT - ARCHITECTURAL PAVERS	207	SY	=	$18,630 00
NEW HARDSCAPE TREATMENT - PATTERN CONCRETE OVERLAY	47	SY	=	$2,585 00
NEW HARDSCAPE TREATMENT - NEW CONCRETE BASE	47	SY	=	$2,585 00
NEW HARDSCAPE TREATMENT - NEW LIMEROCK SUBBASE	256	SY	=	$6,400 00
HARDSCAPE MAINTENANCE	1	LS	=	$2,000 00
HARDSCAPE SUBTOTAL			=	**$52,605.00**
TOTAL PROJECT				**$240,569.41**