

*INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS*

ROADWAY CONTRACT PLANS

66TH AVENUE ROADWAY WIDENING

INDEX OF PLANS

SHEET NO.	SHEET DESCRIPTION
LD-1	KEY SHEET
LD-2 - LD-2A	LANDSCAPE SPECS AND NOTES
LD-3 - LD-5	66th AVENUE SUMMARY OF QUANTITIES
LD-6 - LD-7	OMITTED
LD-8 - LD-22	66th AVENUE LANDSCAPE PLANS
LD-23	66th AVENUE LANDSCAPE DETAILS
LD-24 - LD-29	66th AVENUE IRRIGATION DETAILS AND NOTES
LD-30 - LD-45	66th AVENUE IRRIGATION PLANS

PHASE IB 49th STREET TO 69th STREET
INDIAN RIVER COUNTY PROJECT No. 1505
FDOT FPID 436379-1-52-01

LANDSCAPE SHOP DRAWINGS
TO BE SUBMITTED TO:
MATTHEW FRANKO, P.L.A.
KIMLEY-HORN AND ASSOCIATES, INC.
445 24th STREET, SUITE 200
VERO BEACH, FL 32960
(772) 794-4100

PLANS PREPARED BY:

Kimley»Horn

445 24th STREET, SUITE 200
VERO BEACH, FL 32960
(772) 794-4100
PROJECT NUMBER: 047035041
CERTIFICATE OF AUTHORIZATION: LC-C000219

LANDSCAPE PLANS
LANDSCAPE ARCHITECT OF RECORD: MATTHEW FRANKO

P.L.A. NO.: 6667292

LANDSCAPE / IRRIGATION CONTRACT PLANS

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

BID PLANS
DECEMBER 2020

P R E P A R E D F O R



Department of Public Works

RICHARD B. SZPYRKA P.E., DIRECTOR

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
"DESIGN STANDARDS" DATED JANUARY 2015,
AND "STANDARDS SPECIFICATIONS FOR ROAD
AND BRIDGE CONSTRUCTION" DATED 2015, AS
AMENDED BY CONTRACT DOCUMENTS.

SHEET
NO.

LD-1

LANDSCAPE SPECIFICATIONS

PART 1: GENERAL CONDITIONS

- 1.01 **SCOPE:**
A. The landscape contract includes the supplying and planting of all trees, shrubs, vines, and ground cover together with all necessary labor, equipment, tools and materials needed for the successful completion, execution and maintenance of all plants on the landscape plans.
- 1.02 **AGENCY STANDARDS:**
A. Grades and standards of plant materials to be used shall be true to name, size, condition and graded Florida #1 or better as stated in: Grades and Standards of Florida Plant Materials published by the State of Florida Department of Agriculture, Tallahassee, Florida.
- 1.03 **SITE EXAMINATION:**
A. The Landscape Contractor shall personally examine the site and fully acquaint him/herself with all of the existing conditions in order that no misunderstanding may afterwards arise as to the character or extent of the work to be performed, and additionally, in order to acquaint him/herself with all precautions to be taken in order to avoid injury to property and/or persons. No additional compensation will be granted because of any unusual difficulties which may be encountered in the execution or maintenance of any portion of the work.
- 1.04 **ERRORS AND OMISSIONS:**
A. The plant list is a part of the drawings and is furnished as a convenience. The plant list indicates the name, size and quantities of specific plant materials as called for and as located on the drawings. The Landscape Contractor is responsible for his/her own quantity count. If there is a discrepancy between drawings and plant list, the drawing shall be considered as correct.

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

C. If plans and specifications are found to disagree after the contract is awarded, the Landscape Architect shall be the judge as to what was intended.
- 1.05 **EXECUTION OF THE WORK:**
A. The Landscape Contractor shall have his labor crews controlled and directed by a Foreman well versed in plant materials, planting methods, reading blueprints, and coordination between job and nursery in order to execute installation correctly and in a timely manner.

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

C. The Landscape Contractor shall be available for any meetings with the Owner and/or Landscape Architect during implementation of the job. Any additional work or changes required as a result of failure to communicate with the Owner or Landscape Architect during implementation will be the responsibility of the Landscape Contractor.
- 1.06 **PROTECTION OF PUBLIC AND PROPERTY:**
A. The Landscape Contractor shall protect all materials and work against injury from any cause, and shall provide and maintain all necessary safeguards for the protection of the public. He shall be held responsible for any damage or injury to persons or property which may occur as a result of his fault or negligence in the execution of the work, i.e. damage to underground pipes or cables.
- 1.07 **CHANGES AND EXTRAS:**
A. The Contractor shall not start work on any changes or "extras" in the project until a written agreement setting forth the adjusted prices has been executed by the Owner and the Contractor. Any work performed on changes or "extras" prior to execution of a written agreement may or may not be compensated for by the Owner at the Owner's discretion.
- 1.08 **GUARANTEE:**
A. The Landscape Contractor shall furnish a written guarantee warranting all materials, workmanship and plant materials, except sod, for a period of ONE (1) YEAR from the time of completion and acceptance by the Landscape Architect and Owner. Sod shall be guaranteed to 90 calendar days after acceptance by the Landscape Architect and Owner. All plant material shall be alive and in satisfactory condition and growth for each specific kind of plant at the end of the guarantee period. The guaranteeing of plant material shall be construed to mean complete and immediate replacement with plant material of the same variety, type, size, quality and grade as that of the originally specified material. During the guarantee period it shall be the Landscape Contractor's responsibility to immediately replace any dead or unhealthy material as determined by the Landscape Architect. The guarantee will be null and void if plant material is damaged by lightning, hurricane force winds, or any other acts of God, as well as vandalism or lack of proper maintenance.

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

C. All replacements shall be plants of the same kind and size as specified in the plant list. They shall be furnished and planted as specified.
- 1.09 **CARE AND MAINTENANCE:**
A. The Landscape Contractor shall be responsible for the care and maintenance of all plant materials until final acceptance by the Owner or Landscape Architect.

B. Upon final acceptance of the work, the Landscape Contractor shall furnish the Owner with a written and detailed description for the care and maintenance of all plant material at the time of final acceptance.

C. The Owner agrees to execute the instructions for such care and maintenance.
- 1.10 **SAFETY:**
A. It shall be the responsibility of the Landscape Contractor to protect all persons from injury and to avoid property damage. Adequate warning devices shall be placed and maintained during the progress of the work.

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

- 1.11 **CONTRACTOR QUALIFICATION:**
A. The Owner may require the apparent contractor (s) to qualify him/herself to be a responsible entity by furnishing any or all of the following documentary data:
1. A financial statement showing assets and liabilities of the company current to date.
2. A listing of not less than three (3) completed projects of similar scope and nature.
3. Permanent name and address of place of business.
4. The number of regular employees of the organization, and length of time the organization has been in business under the present name.
 - 1.12 **INSURANCE AND BONDING:**
A. The contractor (s) shall submit proof of insurance for this job for the time period that the work is done. The minimum amount of insurance shall be \$300,000.00 per person and \$300,000.00 per aggregate. The successful bidder shall be required to have this coverage in effect before beginning work on the site.

B. The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the contract.
 - 1.13 **PERMITS AND CERTIFICATES:**
A. All contractors shall secure and pay for all permits and certificates required for his/her class of work.
- PART 2: MATERIALS**
- 2.01 **PLANT MATERIALS:**
A. A complete list of plants is shown on the drawings, including a schedule of quantities, sizes and such other requirements deemed necessary. In the event discrepancies occur, the specifications on the drawings shall govern.

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

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

D. All plant materials shall be nursery grown, unless otherwise noted, Florida #1 or better and shall comply with all required inspections, grading standards and plant regulations as set forth by the Florida Department of Agriculture's Grades and Standards for Nursery Plants, Part I revised edition 1973, and Grades and Standards for Nursery Plants, Part II, for Palms and Trees, revised edition 1972. (Updated May 2005).

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

F. The Landscape Contractor shall install each plant to display its best side. Adjustments may be required if plants are not installed properly and/or approved by the Landscape Architect.
 - 2.02 **INSPECTION**
A. The Landscape Architect and/or Owner may inspect trees and shrubs at place of growth or at project site prior to planting, for compliance with requirements for genus, species, variety, size and quality. The Landscape Architect and/or Owner retain the right to further inspect trees and shrubs for size and condition of root ball systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. Rejected plant materials shall be immediately removed from project site.
 - 2.03 **PROTECTION OF PLANT MATERIALS:**
A. Balled and burlapped plants (B&B) shall be dug with firm natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Root ball shall be firmly wrapped with burlap or similar materials, and bound with cord, rope, or wire mesh. All collected plants shall be balled and burlapped.

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

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

D. Plants which cannot be planted immediately on delivery to the site shall be covered with moist soil, mulch or other protection from the drying of wind and sun. All plants shall be watered as necessary by the Landscape Contractor until planted.
 - 2.04 **STORAGE:**
A. All plant materials shall be stored on the site in designated areas, specified by the Landscape Architect or Owner's agent.

B. No plant material shall be stored longer than seventy-two (72) hours.

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

D. All rejected material shall be immediately removed from the site and replaced with acceptable material at no cost to the Owner.
 - 2.05 **PROTECTION DURING PLANTING:**
A. Trees moved by winch or crane shall be thoroughly protected from chain marks, girdling or bark slippage by means of burlap, wood battens or other approved methods. Battens shall NOT be attached to the tree with nails.

- 2.06 **PLANTING SOIL:**
A. Planting soil for all plantings shall consist of existing native soil and shall be free of debris, roots, clay, stones, plants or other foreign materials which might be a hindrance to planting operations or be detrimental to good growth. All undesirable backfill to be removed from planting areas/islands.

B. Planting soil backfill for raised planters, if applicable, shall consist of 40% potting soil, 40% builders sand and 20% perlite.

C. Planting soil ph (potential of hydrogen) to be suitable for plant materials or modified to meet the appropriate (ph) range with soil amendments.
 - 2.07 **FERTILIZER:**
A. Commercial slow release fertilizer shall comply with the state fertilizer laws. A 12-4-12 blend with minors shall be applied to the outside portion of the root ball and up to twelve inches (12") beyond the edge of the root ball. Any fertilizer that becomes caked or otherwise damaged shall be rejected.

B. Fertilizer application is at or shortly after planting for a one year establishment period.

C. Fertilizer rate is for trees that do not systematically receive turf fertilizer in accordance with the following rates:

Diameter of Canopy	Rate per Tree
3'	0.53 lbs
4'	0.95 lbs
5'	1.47 lbs
6'	2.12 lbs
7'	2.89 lbs
8'	3.78 lbs
9'	4.78 lbs
10'	5.91 lbs

The Landscape Architect reserves the right to inspect and review the application of fertilizer.
 - 2.08 **MULCH:**
A. Mulch material shall be clean, Earthwise Mulch free of weeds, seeds and pests, and shall contain no Cypress. Mulch to be moistened at the time of application. Keep mulch at six inches (6") minimum from trunk.

B. All trees and shrub beds shall receive 3" mulch immediately after planting. Provide thin layer of mulch over the root ball. Tree mulch circles to be minimum six feet (6") diameter.
- PART 3: EXECUTION**
- 3.01 **DIGGING:**
A. The Landscape Contractor shall exercise care in digging and other work so as not to damage existing work, including overhead wires, underground pipes and cables and the pipes and hydrants of watering systems. Should such overhead or underground obstructions be encountered which interfere with planting, the Landscape Architect shall be consulted and will adjust the location of plants to clear such obstruction. The Contractor shall be responsible for the immediate repair of any damage caused by his or her work.
 - 3.02 **GRADING:**
A. Grading for drainage, swales, etc. to be provided by others to within two inches (2") of the finished grade.

B. It shall be the responsibility of the Landscape Contractor to provide the final grading during the course of landscape installation so as to bring sod and planting areas to their proper elevations in relation to walks, paving, drain structures, and other site conditions. The site grading plan must be checked prior to installation of sod to insure that drainage and other conditions will NOT be modified.
 - 3.03 **PLANTING:**
A. Planting shall take place during favorable weather conditions. Thoroughly wet root ball prior to planting.

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

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

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

E. A representative number of planting pits (a minimum of one per 25 feet throughout the entire site) shall be tested for proper drainage. See Landscape Details and Section 4.0 for complete testing methods and requirements.

F. Planting pits shall be excavated to the following dimensions (1.5 times root ball width), and refilled with existing native soil;

1 Gallon material:	12" diameter
3 Gallon material:	18" diameter
7 Gallon material:	20" diameter
10 Gallon material:	24" diameter
15 Gallon material:	26" diameter
30 Gallon material:	35" diameter
45 Gallon material:	45" diameter
65 Gallon material:	53" diameter
100 Gallon material:	63" diameter
200 Gallon material:	72" diameter

Field grown material and trees: 1.5 times width of root ball (light, coarse texture soil)
Field grown material and trees on slope: 2.5 times width of root ball (light, coarse texture soil)

R E V I S I O N S				
	DESCRIPTION	DATE	BY	DESCRIPTION

<p style="font-size: 8px; margin-top: 5px;">MATTHEW T. FRANKO, P.L.A. No. 6667292 445 24TH STREET, SUITE 200 VERO BEACH, FL 32960 (772) 794-4000 CA Number: LC-C000219</p>	<p style="font-size: 10px; margin: 0;"><i>INDIAN RIVER COUNTY</i></p> <p style="font-size: 10px; margin: 0;"><i>BOARD OF COUNTY COMMISSIONERS</i></p> <p style="font-size: 12px; margin: 5px 0 0 0;">66th AVENUE ROADWAY WIDENING -</p> <p style="font-size: 12px; margin: 0 0 0 0;">PHASE IB 49th STREET TO 69th STREET</p>	<p style="font-size: 14px; margin: 0;"><i>LANDSCAPE SPECS AND</i></p> <p style="font-size: 18px; margin: 0;"><i>NOTES</i></p>	<p style="font-size: 8px; margin: 0;">SHEET NO.</p> <p style="font-size: 12px; margin: 5px 0 0 0;">LD-2</p>
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- G. No planting or laying of sod shall be initiated until the area has been cleaned of existing sod or other plant materials, rough grass, weeds, debris, stones etc., and the ground has been brought to an even grade approved by the Landscape Architect.
- H. Each plant shall be planted in an individual hole as specified for trees, shrubs, and vines. Manually or mechanically (tractor forks) lift/roll the root ball into the hole. Do NOT cinch the trunk. Remove air pockets during watering.
- I. All plants shall be set in center of hole to ultimate finished grade. No filling will be permitted around trunks or stems. All ropes, wire, stakes, etc., shall be removed from sides and top of the root ball and removed from the planting hole before backfilling.
- J. All flagging ribbon shall be removed from trees and shrubs before planting.
- K. Excess excavation (fill) from all holes shall be removed from the site, at no additional expense to Owner.
- L. All palms shall be planted in sand, thoroughly washed in during planting operations, and with a shallow saucer depression left at the soil line for future waterings.
- 3.04 PRUNING:
 - A. Remove dead and broken branches from all plant material. Prune only as required to retain typical growth habit of individual plants with as much height and spread as possible. Prune only in a manner which will preserve the plant's natural character.
 - B. Make all cuts with sharp instruments and flush with trunk or adjacent branch, in such a manner as to insure elimination of stubs. Cuts made at right angles to line of growth will not be permitted.
 - C. Trees shall not be hat raked, topped or otherwise trimmed into unnatural shapes.
 - D. Remove all trimmings from site at time of trimming and/or daily basis.
- 3.05 GUYING:
 - A. All trees over eight feet (8') in height shall, immediately after setting to proper grade, be guyed with one inch (1") wide polypropylene strapping as per the planting details.
 - B. Trees between 1" caliper to less than or equal to 2" caliper to be staked with a minimum of one vertical 2" x 2" P.T. wood stake with approved straps as per the planting details.
 - D. Trees larger than 2" caliper to less than or equal to 4" caliper to be staked with three (3) 'Arborbrace' anchors/strapping or approved equivalent as per the planting details.
 - E. Trees larger than 4" caliper to be staked with four (4) 'Arborbrace' anchors or approved equivalent.
 - F. Stakes/anchors and guying attachments to remain in place for one growing season. Remove the attachments only after inspection of the tree for stability. Reattach if the root system moves or stem bends excessively.
- 3.06 WATER:
 - A. Each plant or tree shall be thoroughly watered--in during and after planting. Watering of all newly installed plant materials shall be the responsibility of the Landscape Contractor until final acceptance by the Landscape Architect.
 - B. All trees shall be deep watered for a period of ninety (90) days after planting. (see water application schedule)
 - C. Water shall be potable and furnished by Owner unless contracted otherwise.
- 3.07 SOD:
 - A. The Landscape Contractor shall sod all areas as indicated on the drawings.
 - B. Additional areas, if not specified on the drawings, to be sodded at a predetermined per square foot cost.
 - C. It shall be the responsibility of the Landscape Contractor to fine grade all landscape areas, and eliminate all bumps, depressions, sticks, stones, and other debris. General Contractor to provide rough site grade to +/- 1/10th of a foot.
 - D. The sod shall be solid, and have a compacted growth of grass with good root development. It shall contain no weeds, or any other objectionable vegetation, fungus, insects, or disease. The soil embedded in the sod shall be good clean earth, and free from all stones and debris.
 - E. The field sod shall have been mowed at least three times with a lawn mower prior to being cut and lifted. The sod shall be carefully cut into uniform dimensions for ease of installation.
 - F. 5--2-0 'Milorganite' fertilizer or equivalent with trace elements is to be applied, after laying sod, at the rate of 40 lbs. per 5,000 square feet.
 - G. Lay solid sod with closely abutting joints, and tamp or roll surface.
 - H. The finished level of all sodded areas after settlement shall be one inch (1") below the top of abutting curbs, sidewalks, paving and/or wood borders to allow for building turf.
 - I. If in the opinion of the Landscape Architect, top dressing is necessary after rolling, clean yellow sand will be evenly applied over the entire surface and thoroughly washed in.
- 3.08 SEEDING:
 - A. The Landscape Contractor shall remove all vegetation and rocks in the proposed seeded area.
 - B. Application: Argentine Bahia Grass seed - 200 Pounds per acre mixed with common hulled Bermuda seed - 30 lbs. per acre. All other seed mixtures shall be applied per the manufacturer's instructions.

- C. Apply fertilizer at the rate of 150 lbs. per acre 45--60 days after seeding.
- D. Roll immediately after seeding with a minimum 500 pound roller, then apply straw mulch cover.
- 3.09 SITE CLEAN UP:
 - A. The contractor shall at all times keep the premises free from accumulations of waste materials and/or trash caused by his employees or work. He shall leave all paved areas "broom clean" when completed with his work.
- 3.10 MAINTENANCE:
 - A. Maintenance shall begin immediately after each plant is installed and shall continue until all planting has been accepted by the Owner or Landscape Architect. Maintenance shall include watering, weeding, removal of dead materials, resetting plants to proper grades or upright positions, spraying, restoration of planting saucer and/or any other necessary operations.
 - B. Proper protection to lawn areas shall be provided, and any damage resulting from planting operations shall be repaired promptly.
 - C. Replacement of plants during the maintenance period shall be the responsibility of the Contractor, excluding vandalism or damage on the part of others, lighting, or hurricane force winds, until final acceptance.
 - D. In the event that weeds or other undesirable vegetation become prevalent, it shall be the Landscape Contractor's responsibility to remove them.
 - E. Trees or other plant material which fall or are blown over during the maintenance period will be reset by the Landscape Contractor at no additional expense to the Owner. Hurricane force wind damage is the only exception to the wind damage rule.
- 3.11 COMPLETION, INSPECTION AND ACCEPTANCE:
 - A. Completion of the work shall mean the full and exact compliance and conformity with the provisions expressed or implied in the Drawings and in the Specifications, including the complete removal of all trash, debris, soil or other waste created by the Landscape Contractor.
 - B. Inspection of work to determine completion of contract, exclusive of the possible replacement of plants, will be made by the Landscape Architect. The Landscape Contractor shall notify the Landscape Architect and request final inspection upon completion of the work.
 - C. All plant material shall be alive and in good growing condition for each specified kind of plant at inspection and acceptance. The grading of each plant according to Florida Grades and Standards shall be equal to or better than that called for on the plans and in these Specifications at the time of final inspection.
 - D. The Landscape Contractor shall be notified by the Landscape Architect of the acceptance of all plant material and workmanship, exclusive of the possible replacement of plants subject to guarantee.
- 4.01 DRAINAGE TESTING/DRAINAGE CHANNEL REQUIREMENTS

PRIOR TO PLANTING ALL PLANTING PITS SELECTED FOR TESTING SHALL BE TESTED IN THE FOLLOWING MANNER:

 - A. Dig each planting pit to the minimum specified size.
 - B. Fill planting pit with twelve inches (12") of water. If the water level drops four inches (4") or more within four (4) hours, a drainage channel is not required. If the water level drops less than four inches (4") within the four (4) hour period, a drainage channel is required.
 - C. Where required, the drainage channel must extend down through the non porous soil and into porous soil. (See Detail)
 - D. All material removed from the drainage channel shall be discarded.
 - E. When backfilling planting pits with yellow sand, care must be taken to keep the consistency the same throughout the planting pit and drainage channels.

R E V I S I O N S				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn

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*INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS*

**66th AVENUE ROADWAY WIDENING -
PHASE IB 49th STREET TO 69th STREET**

*LANDSCAPE SPECS AND
NOTES*

SHEET
NO.

LD-2A

TABULATION OF QUANTITIES/PLANT SCHEDULE

PAY ITEM NO.	PAYSIZE	SYM	BOTANICAL NAME	COMMON NAME	INSTALLED SIZE	MAX. MAINTAINED SIZE	SPACING	REMARKS	UNIT	SHEET NUMBERS										TOTAL THIS SHEET		SUB TOTAL		REF. SHEET
										LD-08		LD-09		LD-10		LD-11		LD-12		PLAN	FINAL	PLAN	FINAL	
										PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL					
162-1-3				PREPARED SOIL LAYER				(SPECIAL DEPTH) SEE SPECIFICATIONS	CY	47		99		65		78		150		439		439		
570-1-2B		SOD	STENOTAPHRUM SECUNDATUM 'FLORATAM'	ST. AUGUSTINE FLORATAM GRASS	2"-4"	4"		Laid tight, rolled	SY	540		1885		490		920		1430		5265		5265		
580-1-1	SMALL	ARA	ARACHIS GLABRATA	ORNAMENTAL PEANUT	4"-6"	8"x12"		60"x30", Laid tight, rolled	SY	285				306		304				895		895		
	SMALL	BUL	BULBINE FRUTESCENS	HALLMARK BULBINE	10"-12"x10"-12"	24"x24"	18" o.c.	Full to ground	EA			246				106		1271		1623		1623		
	SMALL	CAP	CAPPARIS CYNAPHALLOPHORA	JAMACIAN CAPER	18"-24"x18"-24"	36"-48"x36"-48"	30" o.c.	Full to ground	EA							28				28		28		
	SMALL	FOR	FORESTIERA SEGREGATA	FLORIDA PRIVET	18"-24"x18"-24"	36"-48"x36"-48"	30" o.c.	Full to ground	EA			16								16		16		
	SMALL	HAC	HAMELIA PATENS 'COMPACTA'	DWARF FIREBUSH	14"-18"x14"-18"	30"x30"	30" o.c.	Full	EA							239				239		239		
	SMALL	MUH	MUHLENBERGIA CAPILLARIS	PINK MUHLY	12"-14"x12"-14"	30"	30" o.c.	Full	EA			208								208		208		
	SMALL	MYR	MYRCIANTHES FRAGRANS	SIMPSON'S STOPPER	18"-24"x18"-24"	36"-48"x36"-48"	30" o.c.	Full to ground	EA			12								12		12		
	SMALL	PHX	PHILODENDRON XANADU	PHILODENDRON	24"-30"x24"-30"	30"x30"	30" o.c.	Full	EA			98								98		98		
	SMALL	PSY	PSYCHOTRIA NERVOSA 'NANA'	DWARF WILD COFFE	12"-14"x12"-14"	36"x36"	30"	Full to ground	EA						10	18				28		28		
	SMALL	TRI	TRIPSACUM DACTYLOIDES	DWARF FAKAHATCHEE GRASS	18"-24"x18"-24"	36"x36"	36" o.c.	Full to ground	EA			82								82		82		
	SMALL	VIO	VIBURNUM OBOVATUM 'WHORLED CLASS'	DWARF WALTER'S VIBURNUM	12"-14"x12"-14"	24"x24"	24" o.c.	Full to ground	EA			237			16	495				748		748		
580-1-2	LARGE	ED	ELAEOCARPUS DECIPIENS	JAPANESE BLUEBERRY TREE	12'x5', 3" cal., 4' c.t.		As shown	Standard, straight, single trunk	EA			2			2	1				5		5		
	LARGE	LE	LAGERSTROEMIA INDICA 'TUSKEGEE'	TUSKEGEE CRAPE MYRTLE	10'x6'-8'		As shown	Multi-trunk, tree form, full head	EA															
	LARGE	LI1	LAGERSTROEMIA INDICA 'NATCHEZ'	NATCHEZ CRAPE MYRTLE	10'x6'-8'		As shown	Multi-trunk, tree form, full head	EA			24				18				42		42		
	LARGE	LM	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSGOKEE CRAPE MYRTLE	10'x6'-8'		As shown	Multi-trunk, tree form, full head	EA							5				5		5		
	LARGE	LT	LAGERSTROEMIA INDICA 'TUSCARORA'	TUSCARORA CRAPE MYRTLE	10'x6'-8'		As shown	Multi-trunk, tree form, full head	EA	6			8	11		3				28		28		
	LARGE	SP1	SABAL PALMETTO	CABBAGE PALM	14'-22' o.a.		As shown	Booted, hurricane cut, Stagger heights by 3' when planting clusters of 3 or more	EA			10								10		10		
	LARGE	QV	QUERCUS VIRGINIANA 'CATHEDRAL'	CATHEDRAL LIVE OAK	12'x5'-7', 3"-4" cal.		As shown	Full head, straight, central leader	EA			5		1	8					14		14		
580-12-10	MULCH		FLORA-MULCH					3" Layer, Shredded, Flora-Mulch or equivalent for planting beds and tree rings	CY	24		49		33		40		75		221		221		

REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn
MATTHEW T. FRANKO, P.L.A. No. 6667292
 445 24TH STREET, SUITE 200
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 (772) 794-4000
 CA Number: LC-C000219

**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 SUMMARY OF QUANTITIES**

SHEET NO.
LD-3

TABULATION OF QUANTITIES/PLANT SCHEDULE

PAY ITEM NO.	PAYSZ	SYM	BOTANICAL NAME	COMMON NAME	INSTALLED SIZE	MAX. MAINTAINED SIZE	SPACING	REMARKS	UNIT	SHEET NUMBERS										TOTAL THIS SHEET		SUB TOTAL		REF. SHEET
										LD-13		LD-14		LD-15		LD-16		LD-17		PLAN	FINAL	PLAN	FINAL	
										PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
162-1-3				PREPARED SOIL LAYER				(SPECIAL DEPTH) SEE SPECIFICATIONS	CY	96		105		64		95		142		502		941		
570-1-2B		SOD	STENOTAPHRUM SECUNDATUM 'FLORATAM'	ST. AUGUSTINE FLORATAM GRASS	2"-4"	4"		Laid tight, rolled	SY	1090		1690		450		1045		1370		5645		10910		
580-1-1	SMALL	ARA	ARACHIS GLABRATA	ORNAMENTAL PEANUT	4"-6"	8"x12"		60"x30", Laid tight, rolled	SY			53		298		260		350		961		1856		
	SMALL	BUL	BULBINE FRUTESCENS	HALLMARK BULBINE	10"-12"x10"-12"	24"x24"	18" o.c.	Full to ground	EA	2045		258				106		106		2515		4138		
	SMALL	CAP	CAPPARIS CYNAPHALLOPHORA	JAMACIAN CAPER	18"-24"x18"-24"	36"-48"x36"-48"	30" o.c.	Full to ground	EA							6		22		28		56		
	SMALL	FOR	FORESTIERA SEGREGATA	FLORIDA PRIVET	18"-24"x18"-24"	36"-48"x36"-48"	30" o.c.	Full to ground	EA			16								16		32		
	SMALL	HAC	HAMELIA PATENS 'COMPACTA'	DWARF FIREBUSH	14"-18"x14"-18"	30"x30"	30" o.c.	Full	EA						3		235		238		477			
	SMALL	MUH	MUHLENBERGIA CAPILLARIS	PINK MUHLY	12"-14"x12"-14"	30"	30" o.c.	Full	EA	53		155								208		416		
	SMALL	MYR	MYRCIANTHES FRAGRANS	SIMPSON'S STOPPER	18"-24"x18"-24"	36"-48"x36"-48"	30" o.c.	Full to ground	EA			12								12		24		
	SMALL	PHX	PHILODENDRON XANADU	PHILODENDRON	24"-30"x24"-30"	30"x30"	30" o.c.	Full	EA													98		
	SMALL	PSY	PSYCHOTRIA NERVOSA 'NANA'	DWARF WILD COFFE	12"-14"x12"-14"	36"x36"	30"	Full to ground	EA						16		12		28		56			
	SMALL	TRI	TRIPSACUM DACTYLOIDES	DWARF FAKAHATCHEE GRASS	18"-24"x18"-24"	36"x36"	36" o.c.	Full to ground	EA	4		77								81		163		
	SMALL	VIO	VIBURNUM OBOVATUM 'WHORLED CLASS'	DWARF WALTER'S VIBURNUM	12"-14"x12"-14"	24"x24"	24" o.c.	Full to ground	EA			390				256		256		902		1650		
580-1-2	LARGE	ED	ELAEOCARPUS DECIPIENS	JAPANESE BLUEBERRY TREE	12'x5', 3" cal., 4' c.t.			As shown Standard, straight, single trunk	EA			2			2		3		7		12			
	LARGE	LE	LAGERSTROEMIA INDICA 'TUSKEGEE'	TUSKEGEE CRAPE MYRTLE	10'x6'-8'			As shown Multi-trunk, tree form, full head	EA	3		9								12		12		
	LARGE	LI1	LAGERSTROEMIA INDICA 'NATCHEZ'	NATCHEZ CRAPE MYRTLE	10'x6'-8'			As shown Multi-trunk, tree form, full head	EA			12			6		12		30		72			
	LARGE	LM	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CRAPE MYRTLE	10'x6'-8'			As shown Multi-trunk, tree form, full head	EA	9							4		13		18			
	LARGE	LT	LAGERSTROEMIA INDICA 'TUSCARORA'	TUSCARORA CRAPE MYRTLE	10'x6'-8'			As shown Multi-trunk, tree form, full head	EA			2		7	12		3		24		52			
	LARGE	SP1	SABAL PALMETTO	CABBAGE PALM	14'-22' o.a.			As shown Booted, hurricane cut, Stagger heights by 3' when planting clusters of 3 or more	EA	1		9							10		20			
	LARGE	QV	QUERCUS VIRGINIANA 'CATHEDRAL'	CATHEDRAL LIVE OAK	12'x5'-7', 3"-4" cal.			As shown Full head, straight, central leader	EA			4			3		6		13		27			
580-12-10	MULCH		FLORA-MULCH					3" Layer, Shredded, Flora-Mulch or equivalent for planting beds and tree rings	CY	48		53		32		48		72		253		474		

R E V I S I O N S				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn

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**INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS**

**66th AVENUE ROADWAY WIDENING -
PHASE IB 4th STREET TO 6th STREET**

66TH AVENUE

SUMMARY OF QUANTITIES

SHEET NO.
LD-4

TABULATION OF QUANTITIES/PLANT SCHEDULE

PAY ITEM NO.	PAYSIZE	SYM	BOTANICAL NAME	COMMON NAME	INSTALLED SIZE	MAX. MAINTAINED SIZE	SPACING	REMARKS	UNIT	SHEET NUMBERS										TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET				
										LD-18		LD-19		LD-20		LD-21		LD-22		PLAN	FINAL	PLAN	FINAL		PLAN	FINAL	PLAN	FINAL
										PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL									
162-1-3				PREPARED SOIL LAYER				(SPECIAL DEPTH) SEE SPECIFICATIONS	CY	90		108		60		106		120		484		1425						
570-1-2B		SOD	STENOTAPHRUM SECUNDATUM 'FLORATAM'	ST. AUGUSTINE FLORATAM GRASS	2"-4"	4"		Laid tight, rolled	SY	1230		1450		420		1145		1200		5445		16355						
580-1-1	SMALL	ARA	ARACHIS GLABRATA	ORNAMENTAL PEANUT	4"-6"	8"x12"		60x30", Laid tight, rolled	SY	350		105		186		105		231		977		2833						
	SMALL	BUL	BULBINE FRUTESCENS	HALLMARK BULBINE	10"-12"x10"-12"	24"x24"	18" o.c.	Full to ground	EA			311		414		585		637		1947		6085						
	SMALL	CAP	CAPPARIS CYNAPHALLOPHORA	JAMACIAN CAPER	18"-24"x18"-24"	36"-48"x36"-48"	30" o.c.	Full to ground	EA							12		16		28		84						
	SMALL	FOR	FORESTIERA SEGREGATA	FLORIDA PRIVET	18"-24"x18"-24"	36"-48"x36"-48"	30" o.c.	Full to ground	EA			16								16		48						
	SMALL	HAC	HAMELIA PATENS 'COMPACTA'	DWARF FIREBUSH	14"-18"x14"-18"	30"x30"	30" o.c.	Full	EA			98			147		91			336		813						
	SMALL	MUH	MUHLENBERGIA CAPILLARIS	PINK MUHLY	12"-14"x12"-14"	30"	30" o.c.	Full	EA	104		104								208		624						
	SMALL	MYR	MYRCIANTHES FRAGRANS	SIMPSON'S STOPPER	18"-24"x18"-24"	36"-48"x36"-48"	30" o.c.	Full to ground	EA			12								12		36						
	SMALL	PHX	PHILODENDRON XANADU	PHILODENDRON	24"-30"x24"-30"	30"x30"	30" o.c.	Full	EA													98						
	SMALL	PSY	PSYCHOTRIA NERVOSA 'NANA'	DWARF WILD COFFE	12"-14"x12"-14"	36"x36"	30"	Full to ground	EA						16		12			28		84						
	SMALL	TRI	TRIPSACUM DACTYLOIDES	DWARF FAKAHATCHEE GRASS	18"-24"x18"-24"	36"x36"	36" o.c.	Full to ground	EA	41		41								82		245						
	SMALL	VIO	VIBURNUM OBOVATUM 'WHORLED CLASS'	DWARF WALTER'S VIBURNUM	12"-14"x12"-14"	24"x24"	24" o.c.	Full to ground	EA			237				256		256		749		2399						
580-1-2	LARGE	ED	ELAEOCARPUS DECIPIENS	JAPANESE BLUEBERRY TREE	12'x5', 3" cal., 4' c.t.			As shown Standard, straight, single trunk	EA	3		2			2		3			10		22						
	LARGE	LE	LAGERSTROEMIA INDICA 'TUSKEGEE'	TUSKEGEE CRAPE MYRTLE	10'x6'-8'			As shown Multi-trunk, tree form, full head	EA	6		6								12		24						
	LARGE	LI1	LAGERSTROEMIA INDICA 'NATCHEZ'	NATCHEZ CRAPE MYRTLE	10'x6'-8'			As shown Multi-trunk, tree form, full head	EA			12			9		9			30		102						
	LARGE	LM	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CRAPE MYRTLE	10'x6'-8'			As shown Multi-trunk, tree form, full head	EA	4							4			8		26						
	LARGE	LT	LAGERSTROEMIA INDICA 'TUSCARORA'	TUSCARORA CRAPE MYRTLE	10'x6'-8'			As shown Multi-trunk, tree form, full head	EA			4		7	10		3			24		76						
	LARGE	SP1	SABAL PALMETTO	CABBAGE PALM	14'-22' o.a.			As shown Booted, hurricane cut, Stagger heights by 3' when planting clusters of 3 or more	EA	5		5								10		30						
	LARGE	QV	QUERCUS VIRGINIANA 'CATHEDRAL'	CATHEDRAL LIVE OAK	12'x5'-7', 3"-4" cal.			As shown Full head, straight, central leader	EA			5			5		4			14		41						
580-12-10	MULCH		FLORA-MULCH					3" Layer, Shredded, Flora-Mulch or equivalent for planting beds and tree rings	CY	45		54		30		54		60		243		717						

R E V I S I O N S

NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn

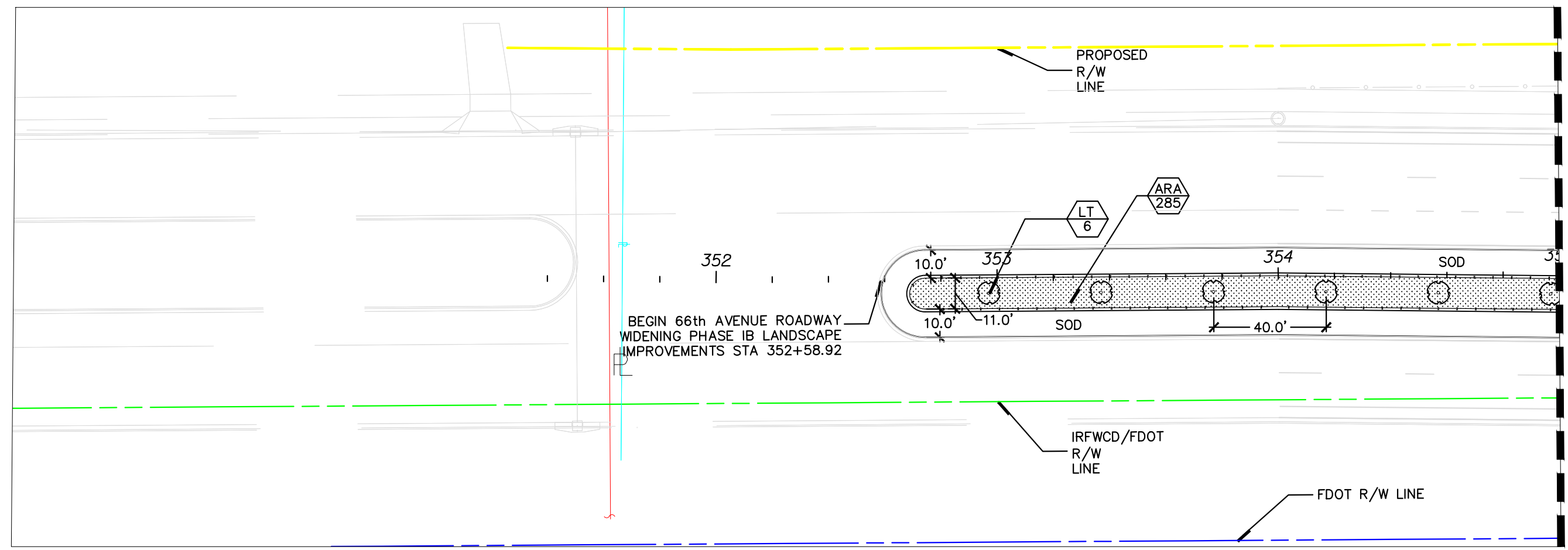
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**INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
PHASE IB 4th STREET TO 6th STREET**

66TH AVENUE
SUMMARY OF QUANTITIES

SHEET NO.

LD-5



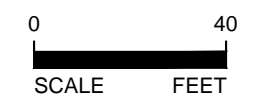
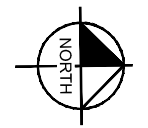
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TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, staight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



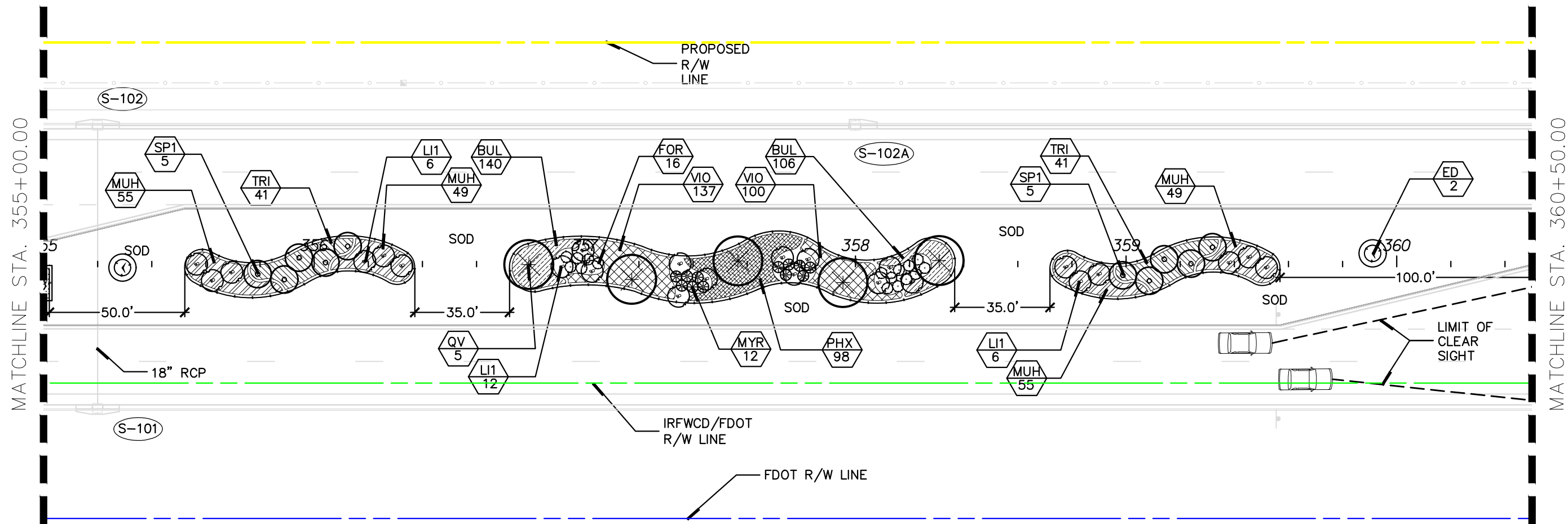
REVISIONS				
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**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
LD-8

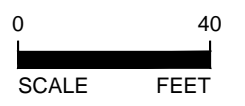
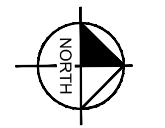


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI1	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, straight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffee	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



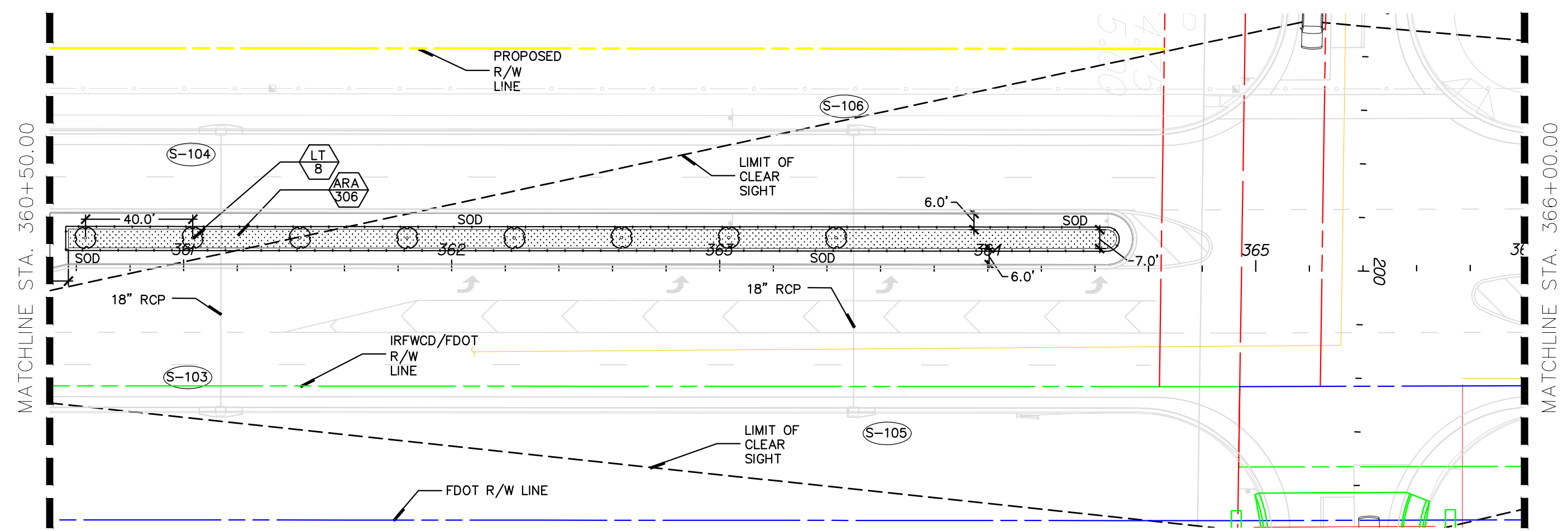
REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

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**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-9

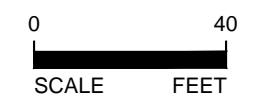
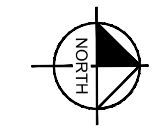


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI1	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, staight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



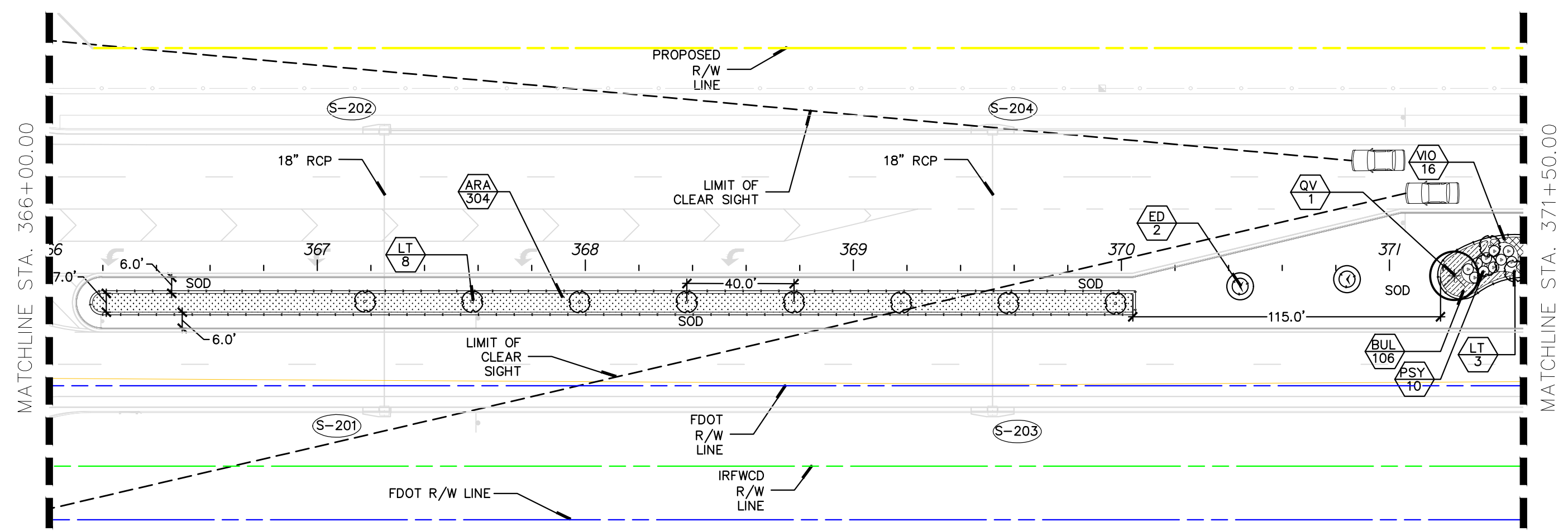
REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

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**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-10

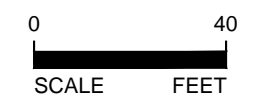
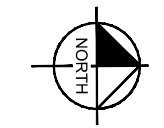


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, straight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamaican Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffee	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



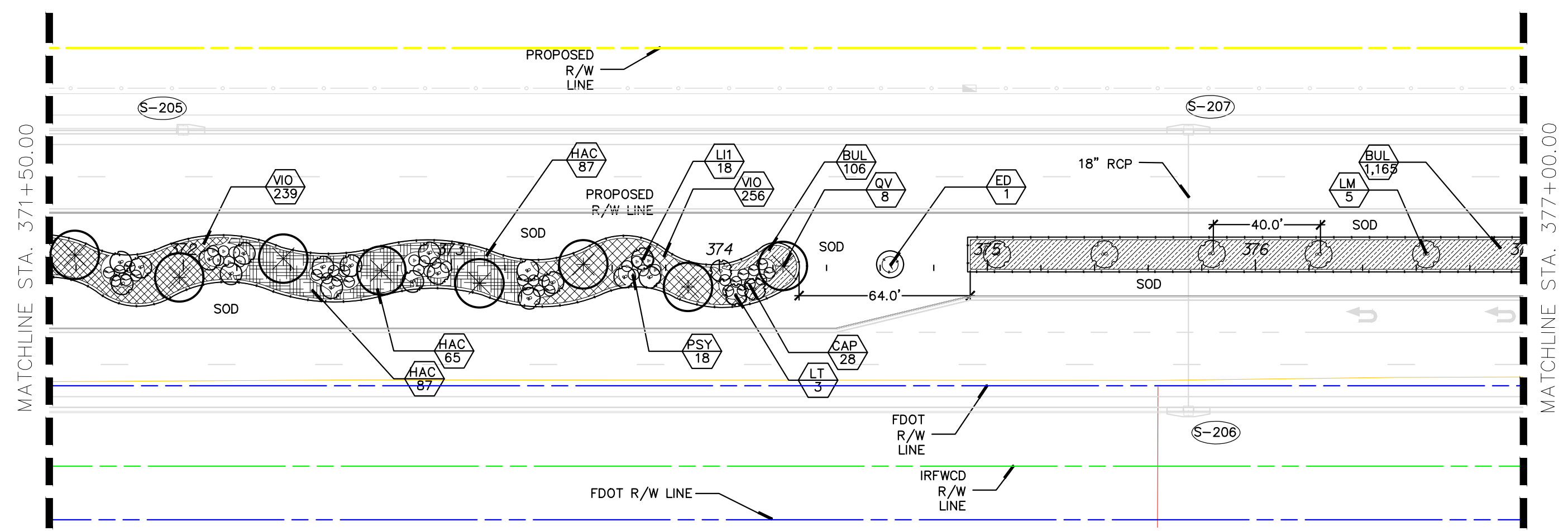
REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn
MATTHEW T. FRANKO, P.L.A. No. 6667292
 445 24TH STREET, SUITE 200
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 (772) 794-4000
 CA Number: LC-C000219

**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-II

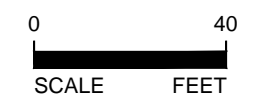
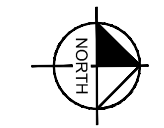


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI1	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, straight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffee	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



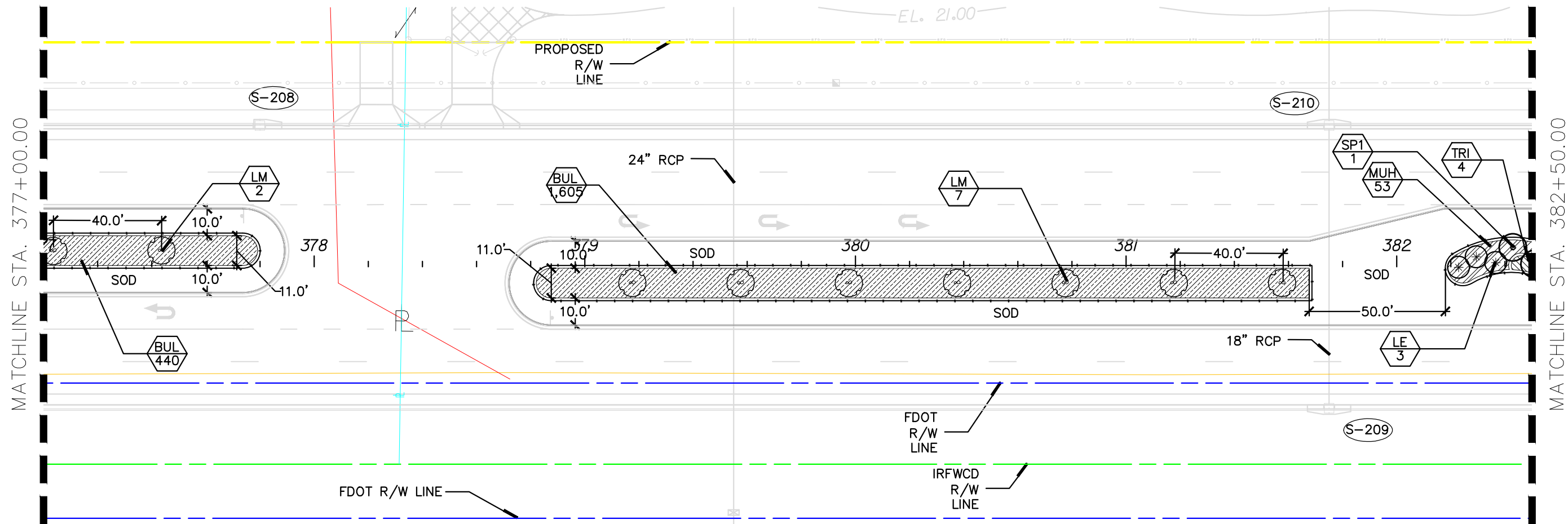
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**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-12

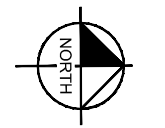


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	<i>Elaeocarpus decipiens</i>	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	<i>Lagerstroemia indica</i> 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI	<i>Lagerstroemia indica</i> 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	<i>Lagerstroemia indica</i> 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	<i>Lagerstroemia indica</i> 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	<i>Sabal palmetto</i>	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	<i>Quercus virginiana</i> 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, straight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	<i>Arachis glabrata</i> 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	<i>Bulbine frutescens</i>	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	<i>Capparis cynaphallophora</i>	Jacquin Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	<i>Forestiera segregata</i>	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	<i>Hamelia patens</i> 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	<i>Muhlenbergia capillaris</i>	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	<i>Myrcianthes fragrans</i>	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	<i>Philodendron xanadu</i>	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	<i>Psychotria nervosa</i> 'Nana'	Dwarf Wild Coffee	12"-14" x 12"-14", 30" o.c., full to ground
TRI	<i>Tripsacum dactyloides</i>	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	<i>Viburnum obovatum</i> 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



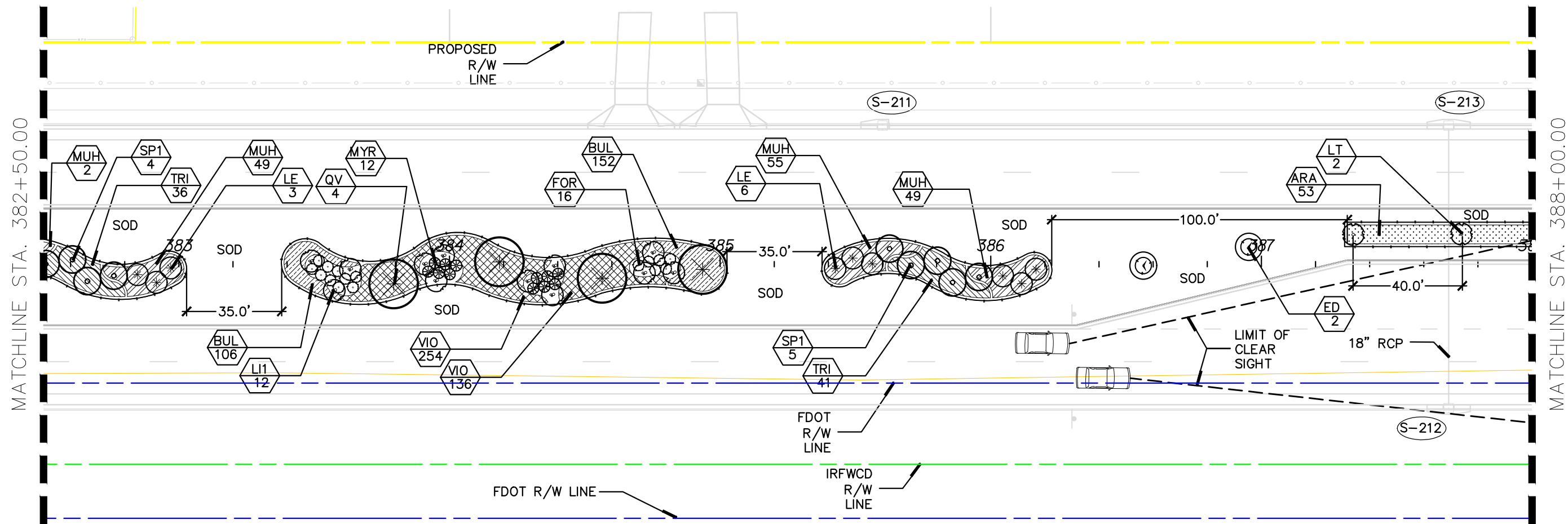
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**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-13

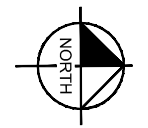


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI1	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, staight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



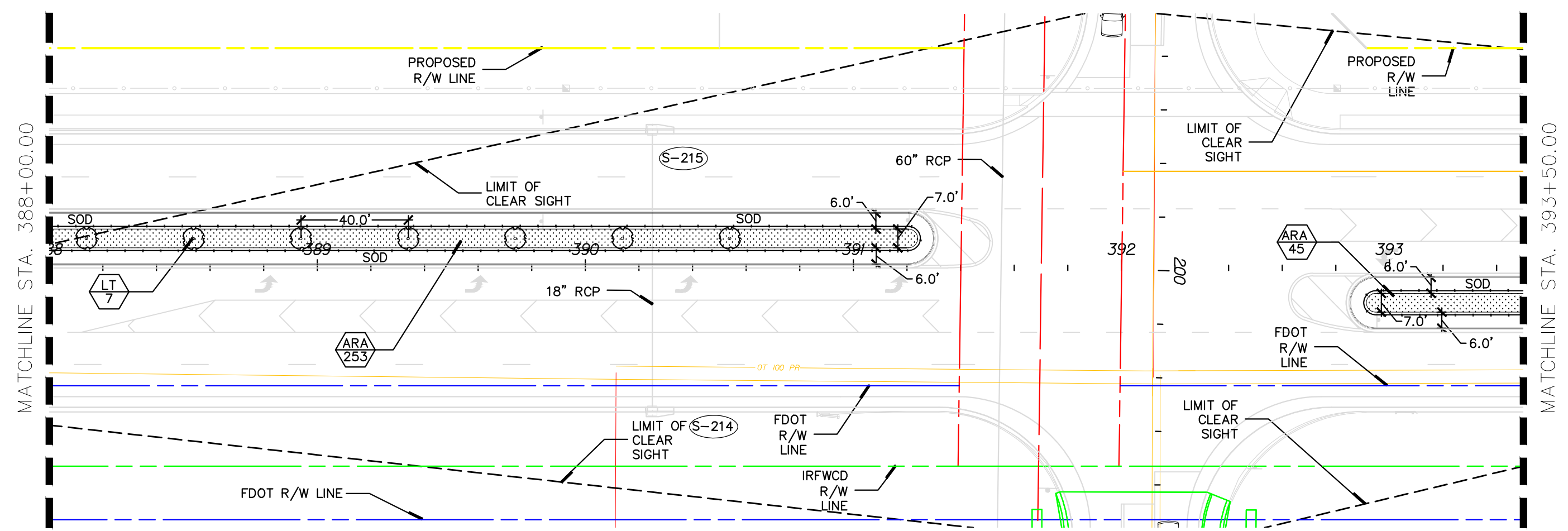
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**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-14

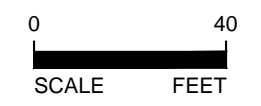
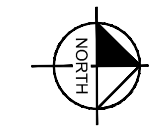


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12" x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI1	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, staight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60" x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



REVISIONS				
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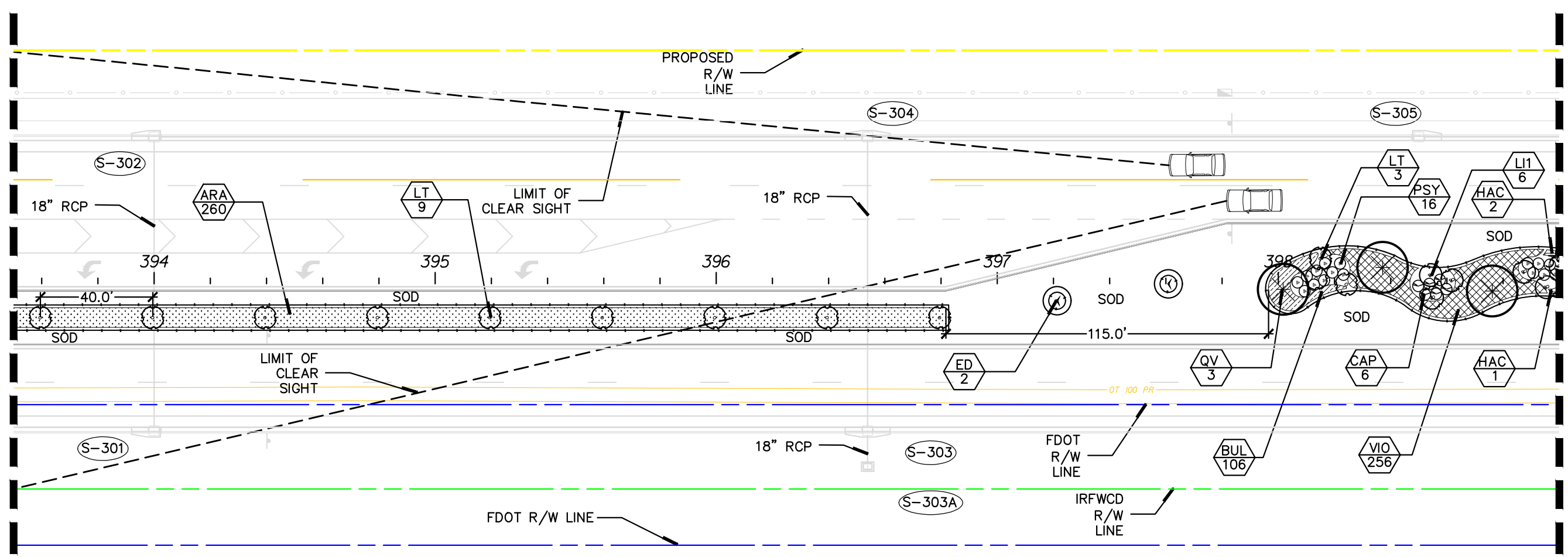
**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-15

MATCHLINE STA. 393+50.00

MATCHLINE STA. 399+00.00

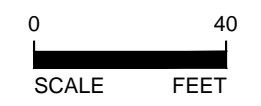
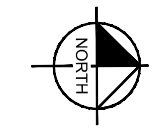


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI1	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, staight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



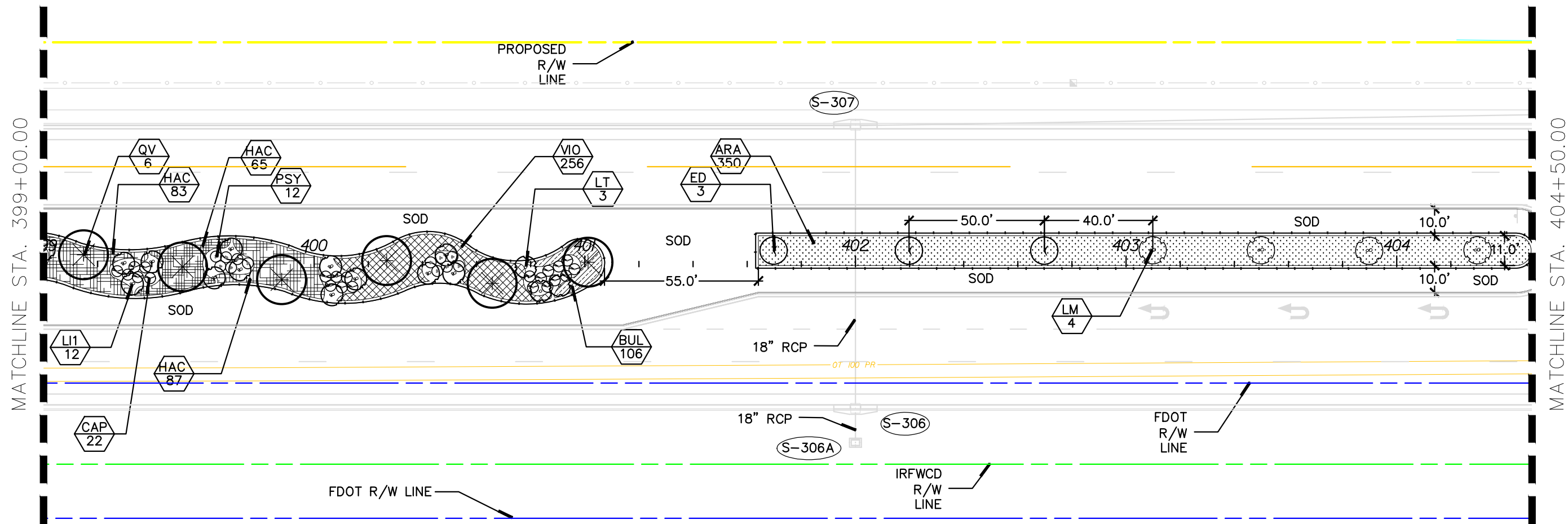
REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

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**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-16

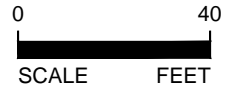
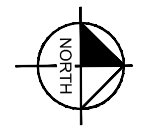


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI1	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, straight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



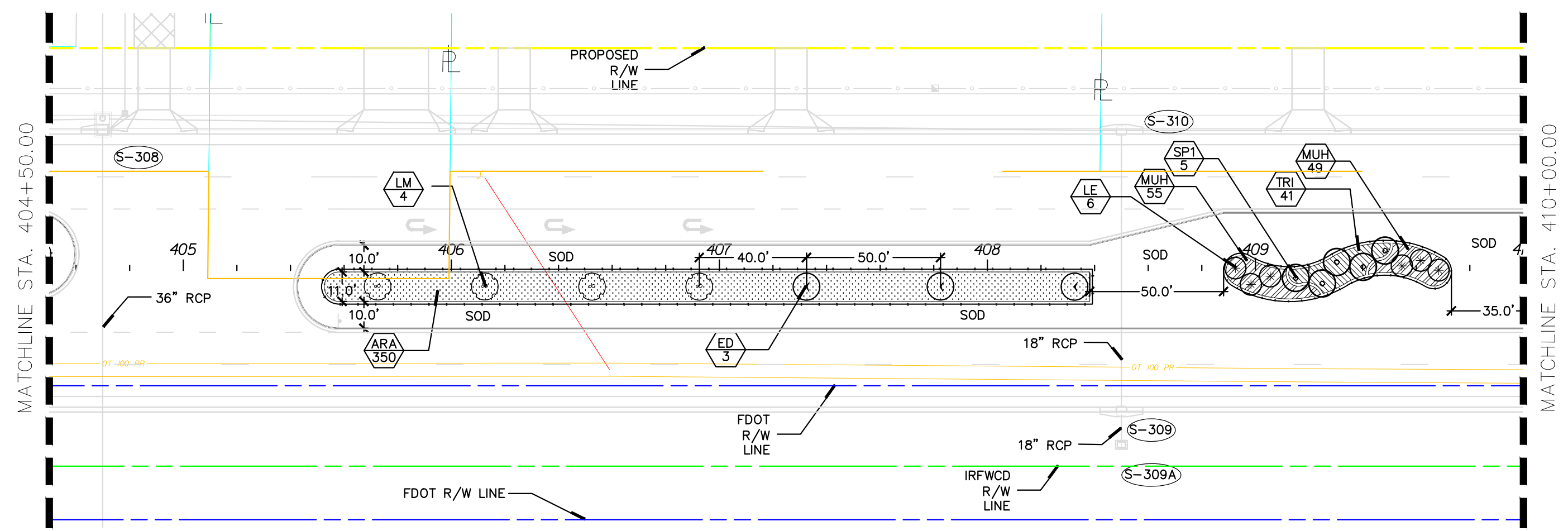
REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

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 445 24TH STREET, SUITE 200
 VERO BEACH, FL 32960
 (772) 794-4000
 CA Number: LC-C000219

**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-17

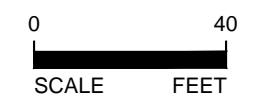
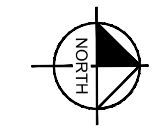


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, staight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



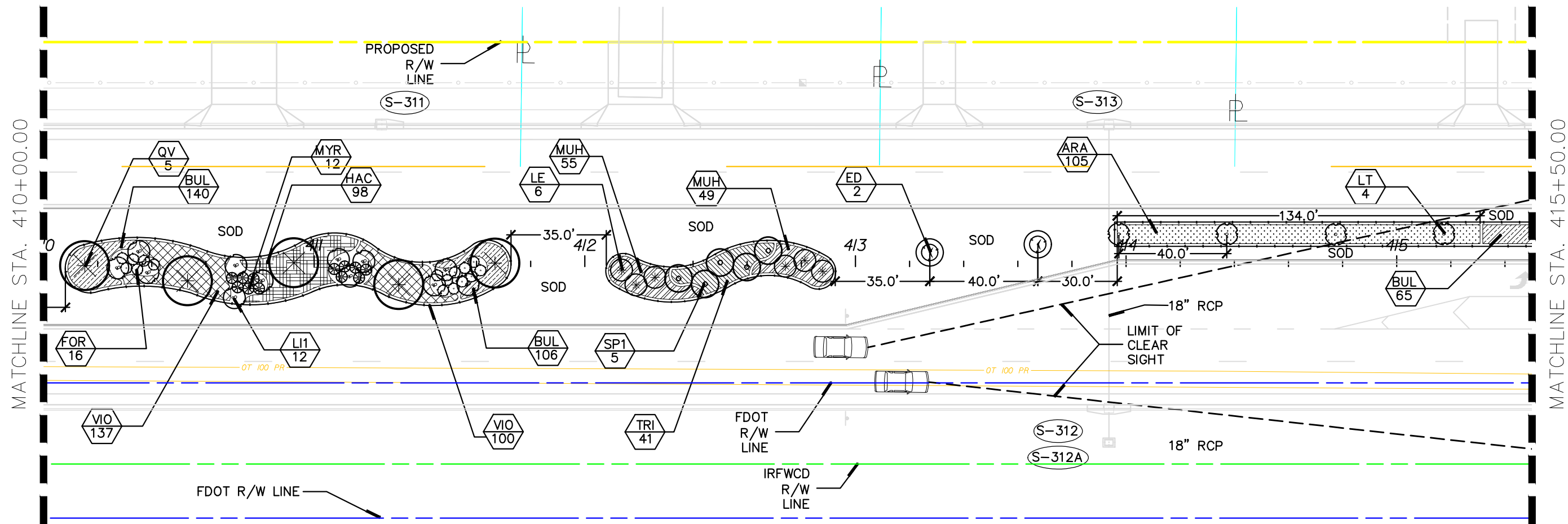
REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn
 MATTHEW T. FRANKO, P.L.A. No. 6667292
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**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-18

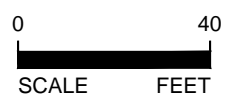
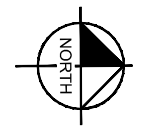


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI1	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, staight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



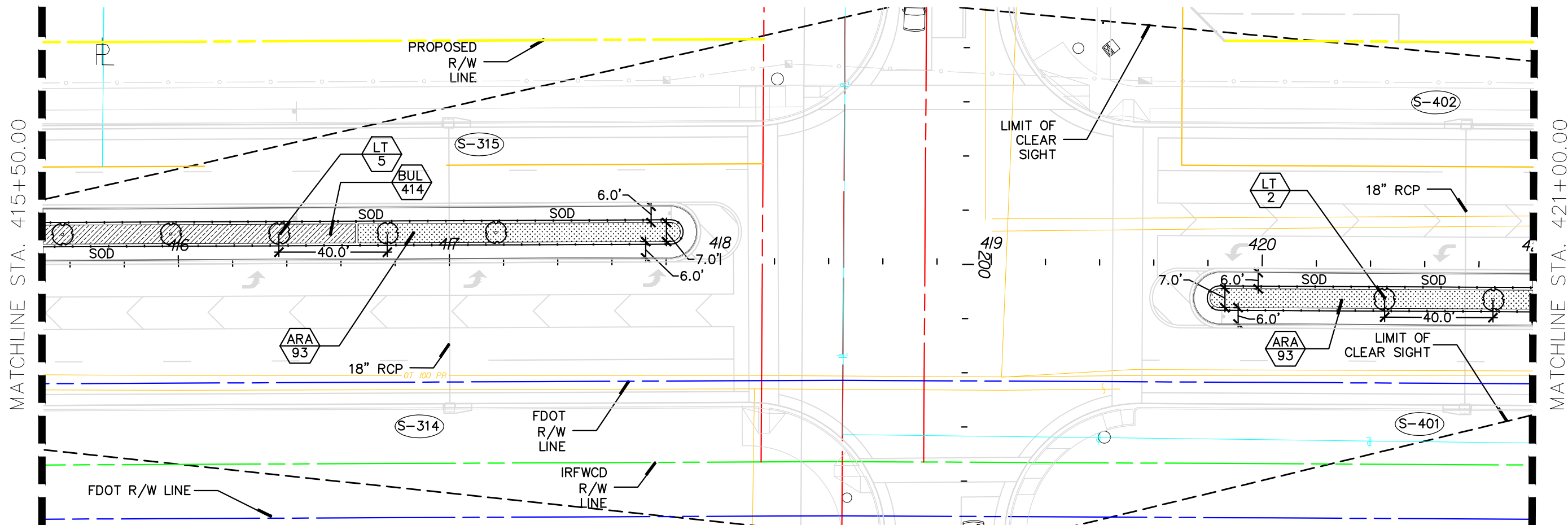
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 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
LD-19

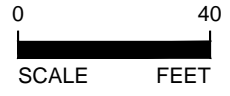
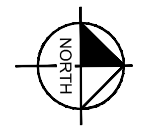


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, staight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jacmain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



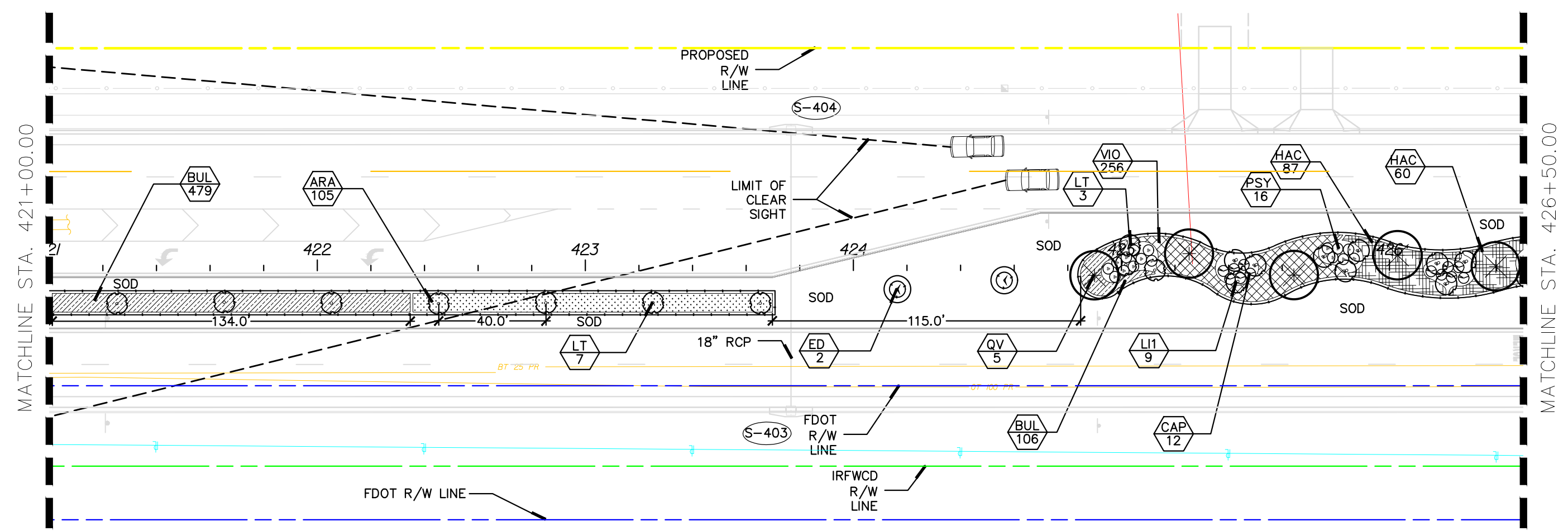
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 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-20

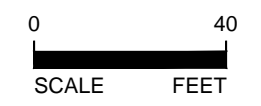
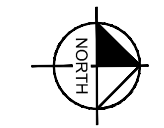


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI1	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, staight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



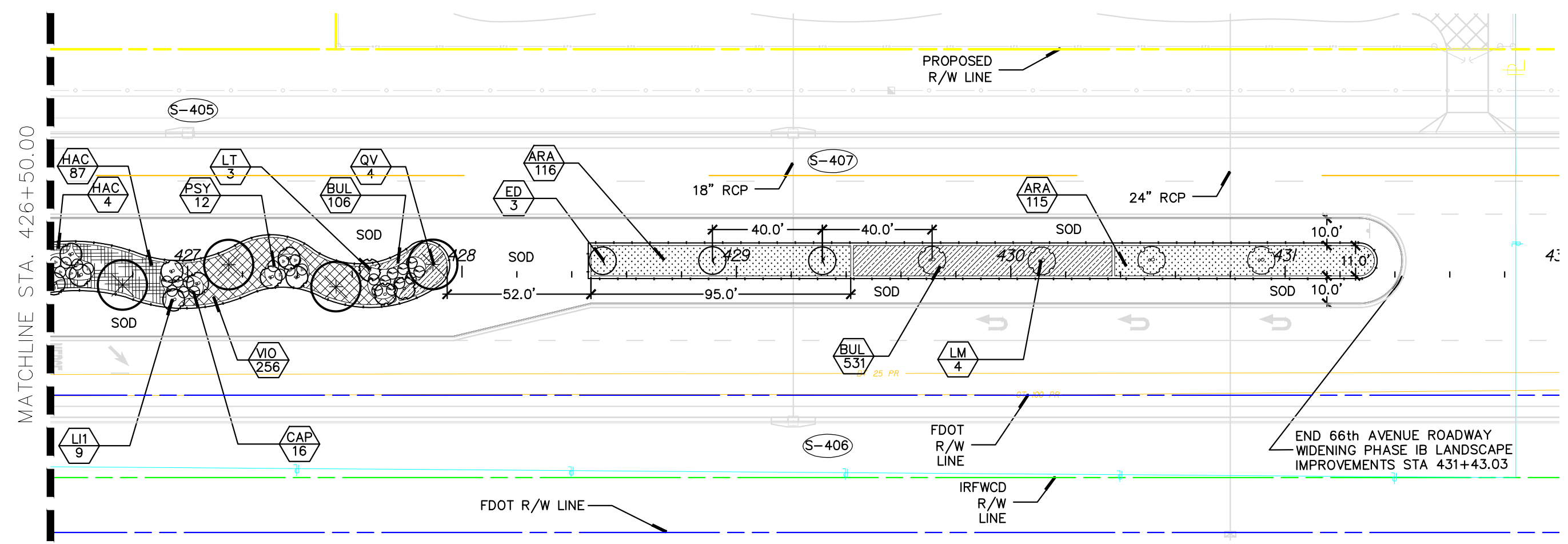
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 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
 LD-21

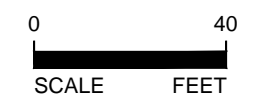
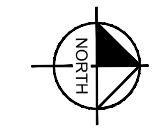


TREE AND PALM SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ED	Elaeocarpus decipiens	Japanese Blueberry Tree	12' x 5', 3" cal., 4' c.t., standard, straight trunk
LE	Lagerstroemia indica 'Tuskegee'	Tuskegee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LI1	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LT	Lagerstroemia indica 'Tuscarora'	Tuscarora Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
LM	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	10' x 6'-8', multi-trunk, tree form, full head
SP1	Sabal palmetto	Cabbage Palm	14'-22' o.a., booted, hurricane cut, stagger heights by 3' when planting clusters of 3 or more
QV	Quercus virginiana 'Cathedral'	Cathedral Live Oak	12' x 5'-7', 3"-4" cal., full head, staight trunk, central leader

SHRUB AND GROUND COVER SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
ARA	Arachis glabrata 'Ecoturf'	Ornamental Peanut	60' x 30", roll
BUL	Bulbine frutescens	Hallmark Bulbine	10"-12" x 10"-12", 18" o.c., full to ground
CAP	Capparis cynaphallophora	Jamcain Caper	18"-24" x 18"-24", 30" o.c., full to ground
FOR	Forestiera segregata	Florida Privet	18"-24" x 18"-24", 30" o.c., full to ground
HAC	Hamelia patens 'Compacta'	Dwarf Firebush	14"-18" x 14"-18", 30" o.c., full
MUH	Muhlenbergia capillaris	Pink Muhly	12"-14" x 12"-14", 30" o.c., full
MYR	Myrcianthes fragrans	Simpson's Stopper	18"-24" x 18"-24", 30" o.c., full to ground
PHX	Philodendron xanadu	Philodendron	24"-30" x 24"-30", 30" o.c., full
PSY	Psychotria nervosa 'Nana'	Dwarf Wild Coffe	12"-14" x 12"-14", 30" o.c., full to ground
TRI	Tripsacum dactyloides	Fakahatchee Grass	18"-24" x 18"-24", 36" o.c., full to ground
VIO	Viburnum obovatum 'Whorled Class'	Dwarf walter's Viburnum	12"-14" x 12"-14", 24" o.c., full to ground



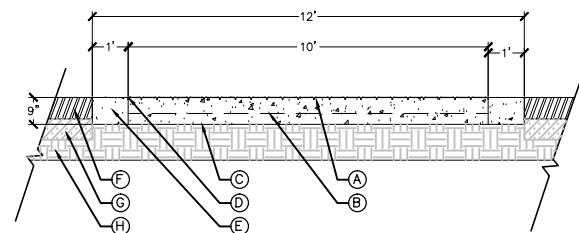
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**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 LANDSCAPE PLAN**

SHEET NO.
LD-22

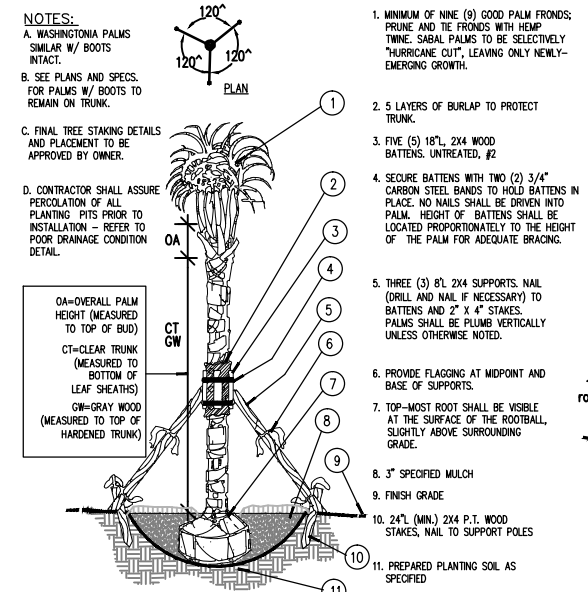


- A. STAMPED CONCRETE PATTERN
- B. 6" X 6" WELDED WIRE MESH, PROVIDE 3" CLEARANCE TOP AND BOTTOM
- C. 8" DEPTH OF CONCRETE 3,000 PSI
- D. 3/4" RADIUS TOOLED JOINT (NO SAWCUTS)
- E. 12" WIDE SMOOTH FINISH CONCRETE
- F. ASPHALT PAVEMENT
- G. ASPHALT BASE COURSE
- H. 12" STABILIZED SUBGRADE

STAMPED AND COLORED CONCRETE

SECTION

N.T.S.

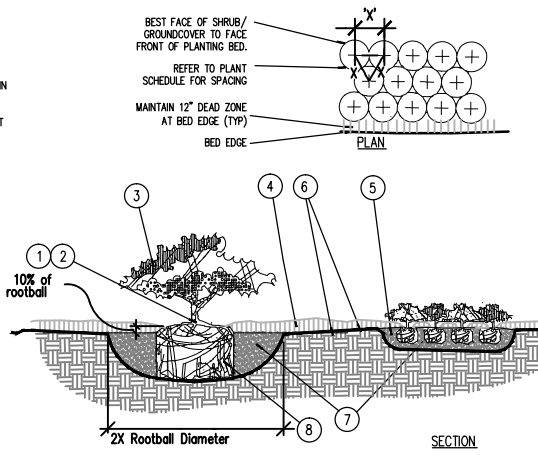


- NOTES:**
- A. WASHINGTONIA PALMS SIMILAR W/ BOOTS INTACT.
 - B. SEE PLANS AND SPECS. FOR PALMS W/ BOOTS TO REMAIN ON TRUNK.
 - C. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
 - D. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION - REFER TO POOR DRAINAGE CONDITION DETAIL.
1. MINIMUM OF NINE (9) GOOD PALM FRONDS; PRUNE AND TIE FRONDS WITH HEMP TWINE. SABAL PALMS TO BE SELECTIVELY "HURRICANE CUT", LEAVING ONLY NEWLY-EMERGING GROWTH.
 2. 5 LAYERS OF BURLAP TO PROTECT TRUNK.
 3. FIVE (5) 18" L. 2X4 WOOD BATTENS, UNTREATED, #2
 4. SECURE BATTENS WITH TWO (2) 3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED PROPORTIONATELY TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
 5. THREE (3) 8' L. 2X4 SUPPORTS, NAIL (DRILL AND NAIL IF NECESSARY) TO BATTENS AND 2" X 4" STAKES. PALMS SHALL BE PLUMB VERTICALLY UNLESS OTHERWISE NOTED.
 6. PROVIDE FLAGGING AT MIDPOINT AND BASE OF SUPPORTS.
 7. TOP-MOST ROOT SHALL BE VISIBLE AT THE SURFACE OF THE ROOTBALL, SLIGHTLY ABOVE SURROUNDING GRADE.
 8. 3" SPECIFIED MULCH
 9. FINISH GRADE
 10. 24" L. (MIN.) 2X4 P.T. WOOD STAKES, NAIL TO SUPPORT POLES
 11. PREPARED PLANTING SOIL AS SPECIFIED

PALM PLANTING AND STAKING

SECTION

NTS

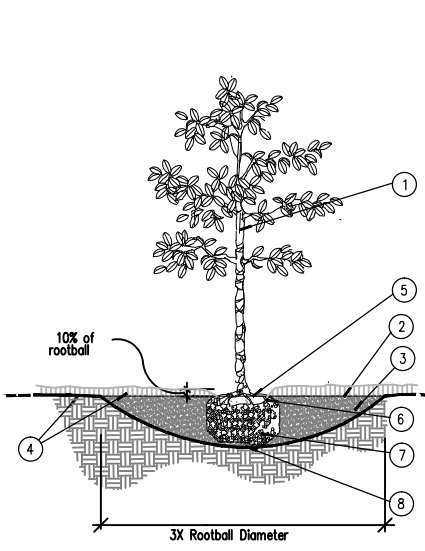


- NOTES:**
1. FIND POINT WHERE TOPMOST ROOT EMERGES FROM TRUNK WITHIN 2" OF SURFACE. CLEAR EXCESS SOIL IF NECESSARY.
 2. TOP 10% OF SHRUB AND GROUNDCOVER ROOTBALLS TO BE PLANTED ABOVE THE LANDSCAPE GRADE. DO NOT COVER EXPOSED 10% ON SIDES WITH SOIL.
 3. PRUNE ALL LIKE SHRUBS WITHIN A PLANTED MASS TO ACHIEVE A UNIFORM MASS/HEIGHT.
 4. 3" MINIMUM MULCH AS SPECIFIED - DO NOT COVER ENTIRE SHRUB ROOTBALL OR CREATE "WATER RINGS" ONLY COVER SIDES OF ROOTBALL WITH MULCH
 5. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
 6. FINISHED GRADE (SEE GRADING PLAN).
 7. PREPARED PLANTING SOIL AS SPECIFIED. NOTE: WHEN GROUND-COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
 8. SCARIFY ROOTBALL SIDES AND BOTTOM.

SHRUB / GROUNDCOVER PLANTING

PLAN/SECTION

NTS



1. TRUNK
2. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOIL, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW WIDE PLANT HOLE; TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE - LANDSCAPE SOIL
5. FIND TOP-MOST ROOT ON ROOTBALL; POSITION ROOTBALL SO THIS TOP ROOT IS 1-2" ABOVE LANDSCAPE SOIL. (APPROX. 10% OF ROOTBALL SHALL BE ABOVE LANDSCAPE SOIL)
6. B & B OR CONTAINER (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS).
7. REMOVE ALL SYNTHETIC MATERIALS FROM ROOTBALL.
8. ROOTBALLS SHALL BE PLACED ON UNDISTURBED SOIL TO PREVENT SETTLING.

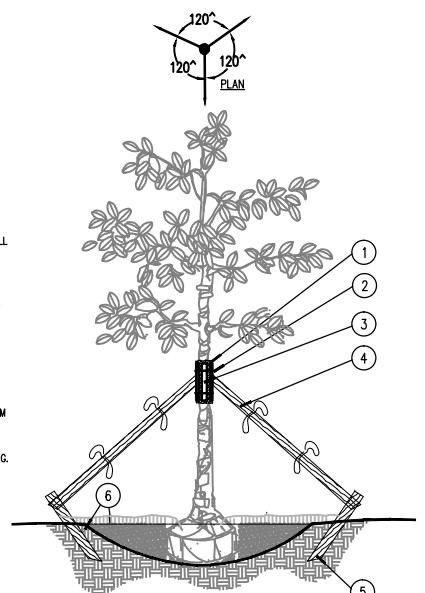
NOTES:

- A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
- B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
- C. SEE PRE-APPROVED STAKING METHODS, THIS SHEET

TREE PLANTING

SECTION

NTS



1. FIVE (5) LAYERS OF BURLAP TO PROTECT TRUNK
2. TWO STEEL BANDS TO SECURE BATTENS
3. FIVE 2 X 4 X 18" L. WOOD BATTENS
4. THREE (3) 2" X 8" LODGE POLES, DRILL USING GALVANIZED SCREWS, TO BATTENS AND 2" X 4" STAKES. NO SCREWS SHALL PENETRATE TREE. FLAG AT MIDPOINT AND AT BASE.
5. 2" X 4" X 3" (MIN.) P.T. WOOD STAKES BURIED 3" BELOW FINISHED GRADE.
6. FINISHED GRADE (SEE GRADING PLAN)

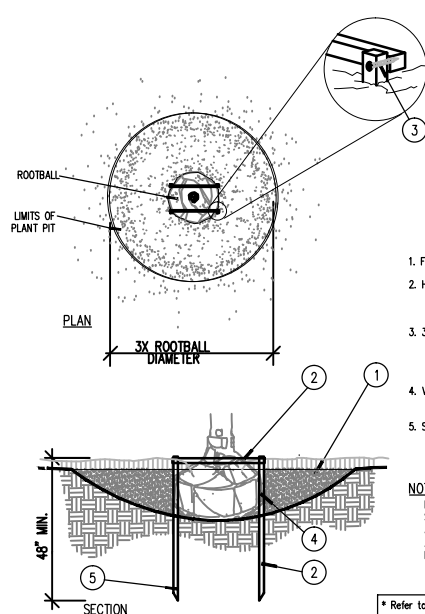
NOTES:

- A. ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.
- B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
- C. ALTERNATE TREE ANCHORING SYSTEMS MAY BE SUBSTITUTED FOR WOOD STAKING SYSTEM UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE.
- D. RUBBER HOSE/WIRE SYSTEMS ARE NOT ALLOWED.

LARGE TREE STAKING - 100 GAL + OR B&B 4" +

SECTION

NTS



1. FINISH GRADE
2. HORIZONTAL 2X2 SCREWED TO 2X2 STAKE. ALL WOOD SHALL BE #2 UNTREATED.
3. 3-1/2" DRYWALL SCREW, THREAD SIZE 12, SHARP POINT, FULL THREAD, BLACK PHOSPHATE FINISH
4. VERTICAL STAKES SHALL ABUT SIDE OF ROOTBALL
5. STAKES TO EXTEND INTO NATIVE SOIL BY 1-1/2 X THE ROOTBALL DEPTH MIN.

STAKING - UP TO 65 GAL. OR B&B TO 3-1/2" CAL.

PLAN/SECTION

NTS

REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

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INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS

66th AVENUE ROADWAY WIDENING - PHASE IB 49th STREET TO 69th STREET

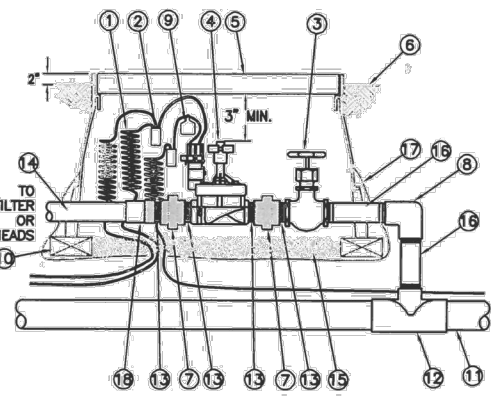
66TH AVENUE LANDSCAPE DETAILS

SHEET NO. LD-23

NOTE:
REFER TO PRODUCT LITERATURE FOR ADDITIONAL
INSTALLATION AND ADJUSTMENT INFORMATION.

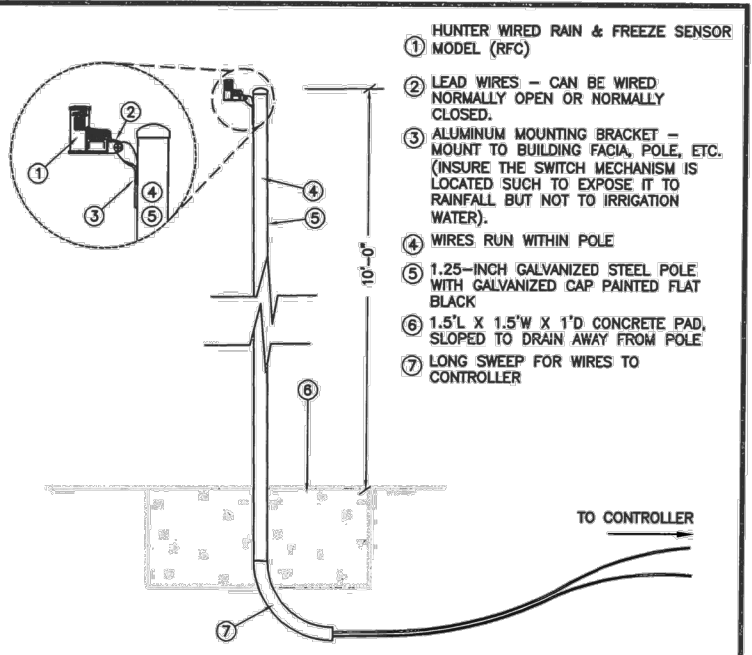
ALL SCH 80 NIPPLES ARE TO BE CONTINUOUS AND
THREADED ON BOTH SIDES

THE INTENT OF THE FABRIC IS TO KEEP THE VALVE BOX
FREE OF DIRT/DEBRIS. FILTER FABRIC SHOULD SPAN BASE
OF VALVE BOX AND BE SECURED A MINIMUM OF 6" UP
FROM BASE VIA DUCT TAPE AROUND SIDES OF VALVE BOX.
FABRIC SHOULD CONTAIN NO HOLES EXCEPT FOR
WIRE/PIPES AS APPLICABLE.



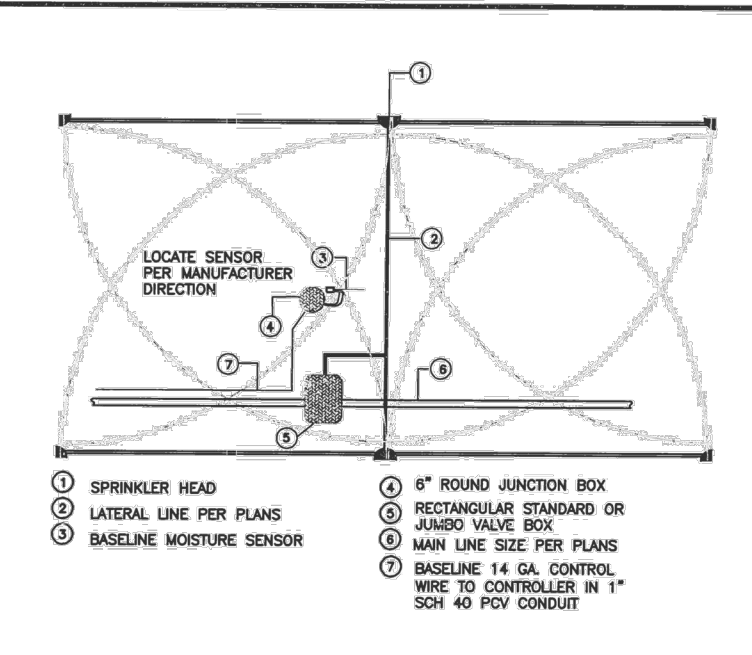
- 1 30-INCH LINEAR LENGTH OF WIRE, COILED.
- 2 3M-DBY/R CONNECTORS PER MANUFACTURER SPEC
- 3 NIBCO T-113 BRASS GATE VALVE
- 4 REMOTE CONTROL VALVE: RAINBIRD PEB OR PEB-PRS-D (AS DENOTED IN LEGEND)
- 5 CARSON 1220 JUMBO VALVE BOX W/ BOLT DOWN LID
- 6 FINISH GRADE/TOP OF MULCH
- 7 SCH 80 PVC UNION
- 8 PVC SCH 80 ELL
- 9 CHRISTY I.D. TAG (STATION/CONTROLLER)
- 10 COMMON BRICK (1 OF 4)
- 11 IRRIGATION MAINLINE - SIZE AND TYPE AS SPECIFIED
- 12 SERVICE TEE - SIZE, TYPE AND MAKE PER MAINLINE SPEC.
- 13 PVC SCH 80 CLOSE NIPPLE
- 14 SOLVENT WELDED PVC LATERAL PIPE
- 15 3.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 16 PVC SCH 80 NIPPLE (SIZE AS REQUIRED)
- 17 US SB3 LANDSCAPE FABRIC TO BE DUCT TAPED TO VALVE BOX EXTERIOR.
- 18 PVC SCH 80 THREADED X SLIP FEMALE ADAPTER

B RAIN BIRD RCV W/GATE VALVE



- 1 HUNTER WIRED RAIN & FREEZE SENSOR MODEL (RFC)
- 2 LEAD WIRES - CAN BE WIRED NORMALLY OPEN OR NORMALLY CLOSED.
- 3 ALUMINUM MOUNTING BRACKET - MOUNT TO BUILDING FACIA, POLE, ETC. (INSURE THE SWITCH MECHANISM IS LOCATED SUCH TO EXPOSE IT TO RAINFALL BUT NOT TO IRRIGATION WATER).
- 4 WIRES RUN WITHIN POLE
- 5 1.25-INCH GALVANIZED STEEL POLE WITH GALVANIZED CAP PAINTED FLAT BLACK
- 6 1.5'L X 1.5'W X 1'D CONCRETE PAD, SLOPED TO DRAIN AWAY FROM POLE
- 7 LONG SWEEP FOR WIRES TO CONTROLLER

C2 POLE MOUNTED RAIN/FREEZE SENSOR

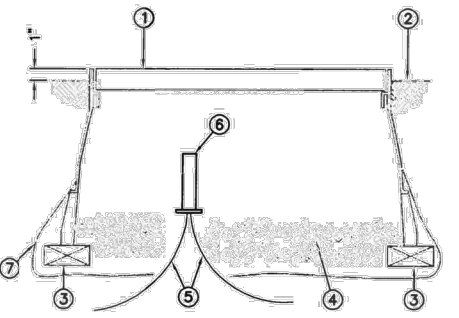


- 1 SPRINKLER HEAD
- 2 LATERAL LINE PER PLANS
- 3 BASELINE MOISTURE SENSOR
- 4 6" ROUND JUNCTION BOX
- 5 RECTANGULAR STANDARD OR JUMBO VALVE BOX
- 6 MAIN LINE SIZE PER PLANS
- 7 BASELINE 14 GA. CONTROL WIRE TO CONTROLLER IN 1" SCH 40 PCV CONDUIT

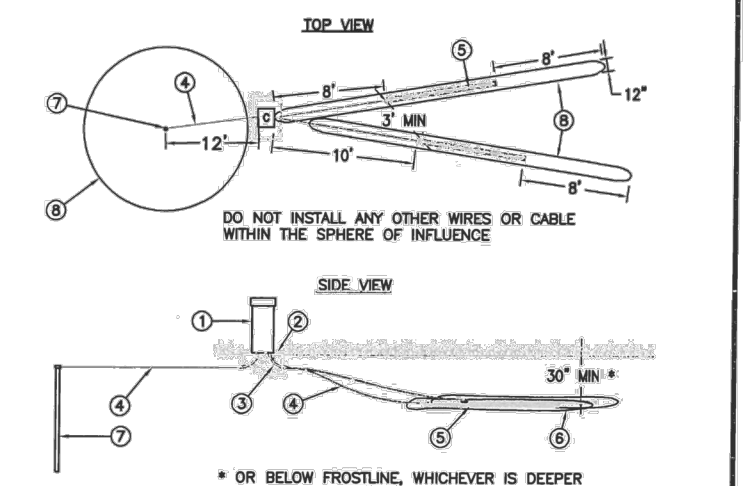
C3 SOIL MOISTURE SENSOR

FILTER FABRIC SHOULD SPAN
BASE OF VALVE BOX AND BE
SECURED A MINIMUM OF 6" UP
FROM BASE VIA DUCT TAPE
AROUND SIDES OF VALVE BOX.
FABRIC SHOULD CONTAIN NO
HOLES EXCEPT FOR WIRE AND
PIPES (IF APPLICABLE) AS
SHOWN.

- 1 SPLICE BOX WITH COVER: 12-INCH SIZE
- 2 FINISH GRADE/TOP OF MULCH
- 3 BRICK (1 OF 4)
- 4 3.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 5 DIRECT BURIAL LOW VOLTAGE CONTROL WIRE (TYP.)
- 6 3M-DBY WATER PROOF CONNECTOR (TYP.)
- 7 US SB3 LANDSCAPE FABRIC TO BE DUCT TAPED TO VALVE BOX EXTERIOR.



C WIRE SPLICE

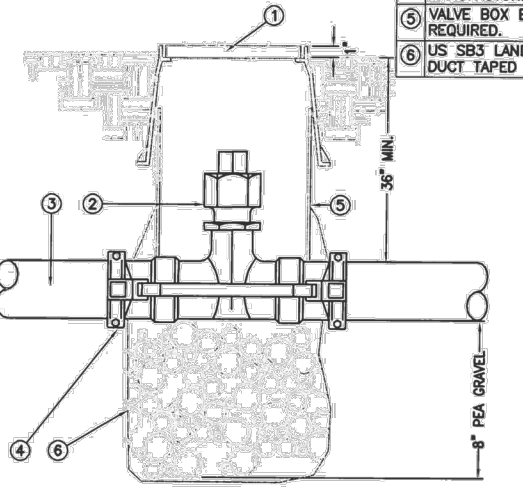


- 1 CONTROLLER/PUMP CONTROL PANEL (IF APPLICABLE)
- 2 CONCRETE PAD
- 3 PVC SWEEP ELL (1 1/2" OR LARGER)
- 4 #6 AWG INSULATED COPPER WIRES.
- 5 GROUND PLATE (4" X 96" X .0625")
- 6 EARTH CONTACT MATERIAL
- 7 GROUND ROD (5/8" X 10')
- 8 ELECTRODE SPHERE OF INFLUENCE BOUNDARIES

C GROUNDING DETAIL

THE INTENT OF THE FABRIC IS TO KEEP THE
VALVE BOX FREE OF DIRT/DEBRIS. FILTER
FABRIC SHOULD SPAN BASE OF VALVE BOX AND
BE SECURED A MINIMUM OF 6" UP FROM BASE
VIA DUCT TAPE AROUND SIDES OF VALVE BOX.
FABRIC SHOULD CONTAIN NO HOLES EXCEPT
FOR WIRE/PIPES AS APPLICABLE.

- 1 CARSON 1419-18 VALVE BOX W/ BOLT-DOWN COVER (SEE VALVE NOTES)
- 2 NIBCO P619-RW GASKETED 'O' RING CAST IRON GATE VALVE
- 3 IRRIGATION MAINLINE, SIZE AND TYPE AS SPECIFIED IN IRRIGATION PLANS. RESTRAIN AS REQUIRED
- 4 LEEMCO JOINT RESTRAINT PER MANUFACTURERS SPECS
- 5 VALVE BOX EXTENSION LENGTH AS REQUIRED.
- 6 US SB3 LANDSCAPE FABRIC TO BE DUCT TAPED TO VALVE BOX EXTERIOR.



D P-619-RW GATE VALVE

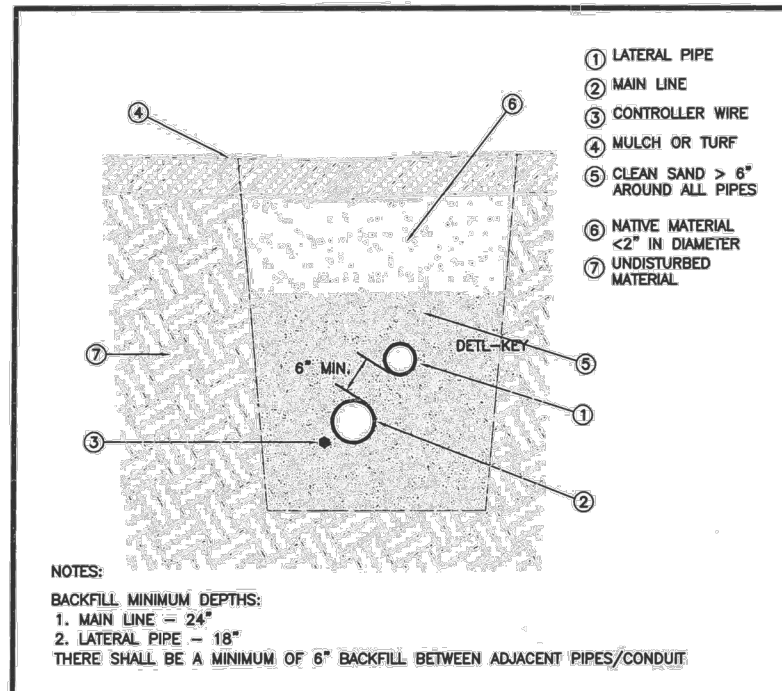
REVISIONS			
DESCRIPTION	DATE	BY	DESCRIPTION

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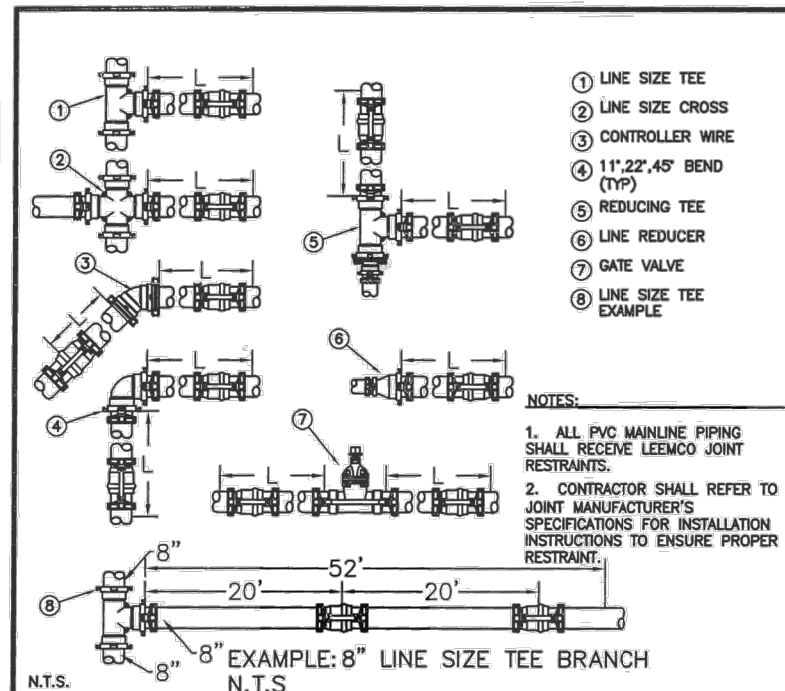
**INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
IRRIGATION DETAILS AND
NOTES**

SHEET
NO.
LD-24



L MAINLINE AND LATERAL BACKFILL DETAIL

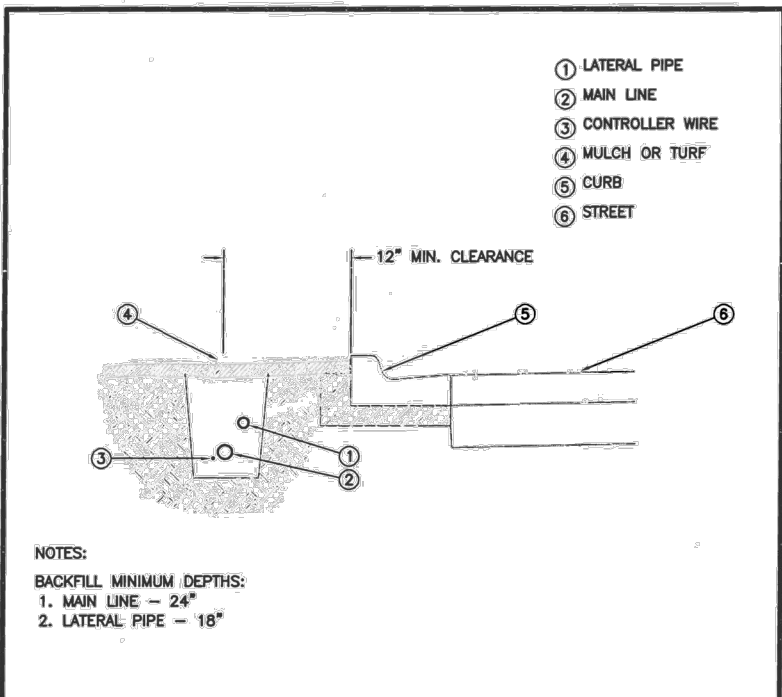


L LEEMCO JOINT RESTRAINTS

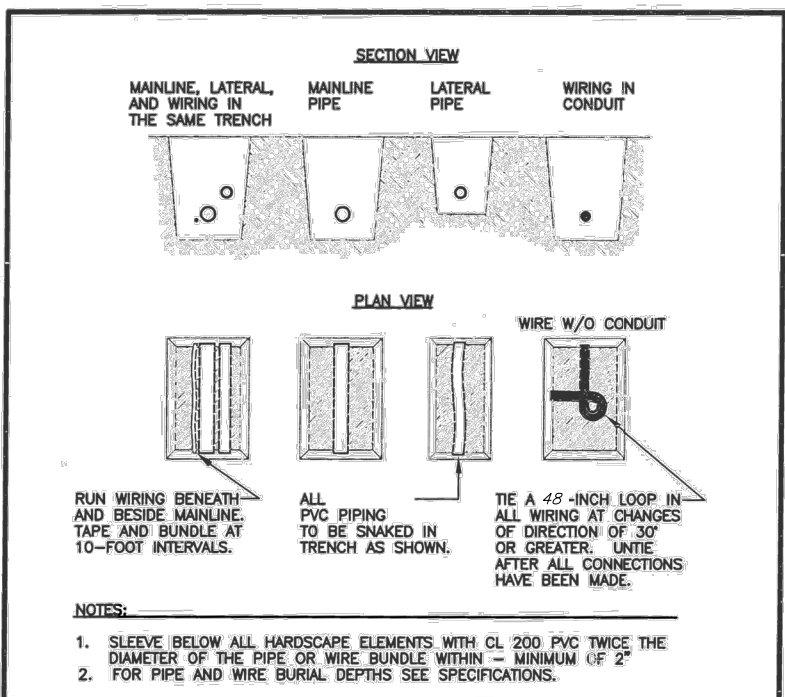
MINIMUM RESTRAINED LENGTH IN FEET

PIPE SIZE	DEGREE OF BEND				TEE	GATE VALVE	REDUCERS			DEAD END
	11	22	45	90			1 STEP	2 STEP	3 STEP	
2"	0'	3'	8'	24'	24'	33'	0'	0'	0'	43'
2.5"	1'	4'	9'	27'	27'	36'	23'	0'	0'	56'
3"	3'	5'	12'	29'	29'	41'	27'	0'	0'	83'
4"	4'	7'	15'	35'	35'	49'	32'	67'	0'	99'
6"	5'	9'	20'	49'	49'	69'	71'	92'	107'	139'
8"	5'	11'	21'	52'	52'	73'	61'	105'	119'	147'
10"	7'	12'	25'	63'	63'	87'	59'	108'	143'	173'
12"	7'	15'	31'	72'	72'	104'	101'	109'	149'	207'
14"	8'	16'	33'	81'	81'	117'	60'	145'	152'	235'
16"	9'	19'	37'	91'	91'	131'	60'	112'	187'	260'

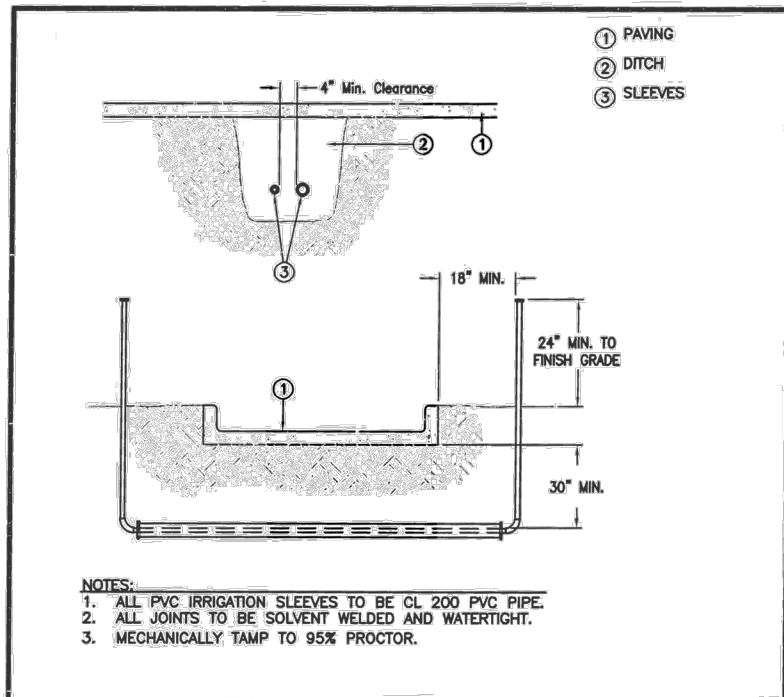
TABLE A ESTABLISHES VALUES FOR THE MINIMUM LENGTH OF PIPE (L) WITHIN WHICH OTHER JOINTS MUST BE RESTRAINED. TABLE A VALUES (IN FEET) ARE BASED ON 200 PSI LINE PRESSURE, 36" COVER, SAND-CLAY TYPE SOIL, AND A SAFETY FACTOR OF 2.



L MAINLINE AND LATERAL PIPING DETAIL



L PIPE AND WIRE TRENCHING



O SLEEVING

REVISIONS

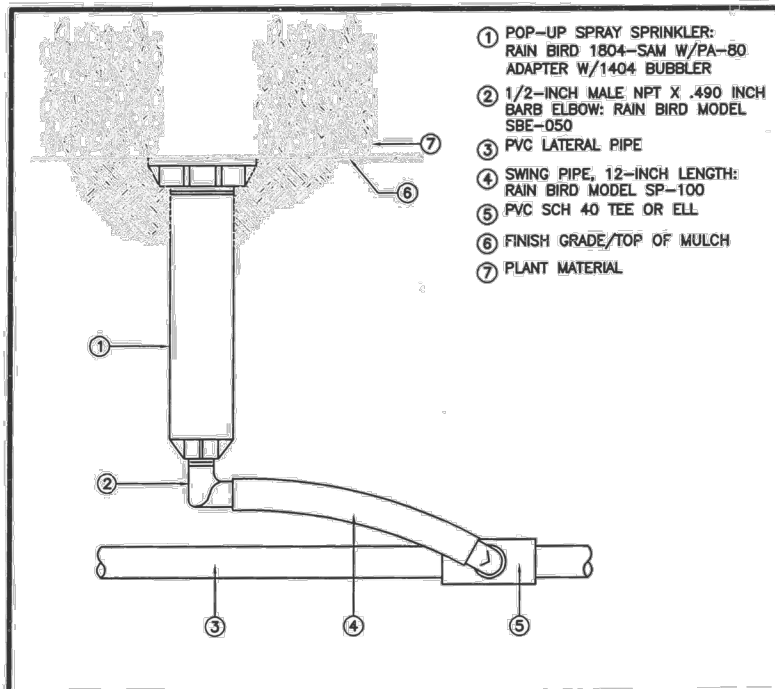
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INDIAN RIVER COUNTY
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66th AVENUE ROADWAY WIDENING -
PHASE IB 49th STREET TO 69th STREET

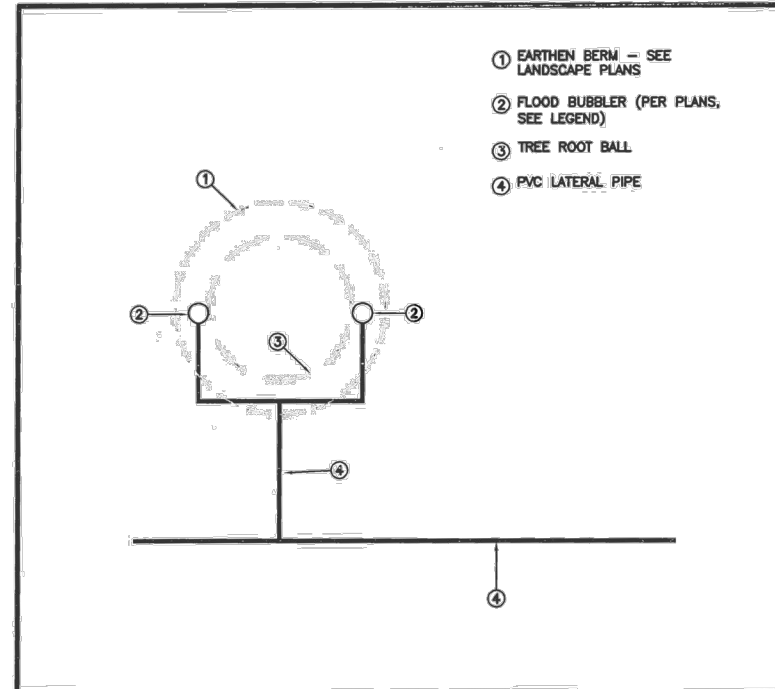
66TH AVENUE
IRRIGATION DETAILS AND
NOTES

SHEET NO.
LD-25



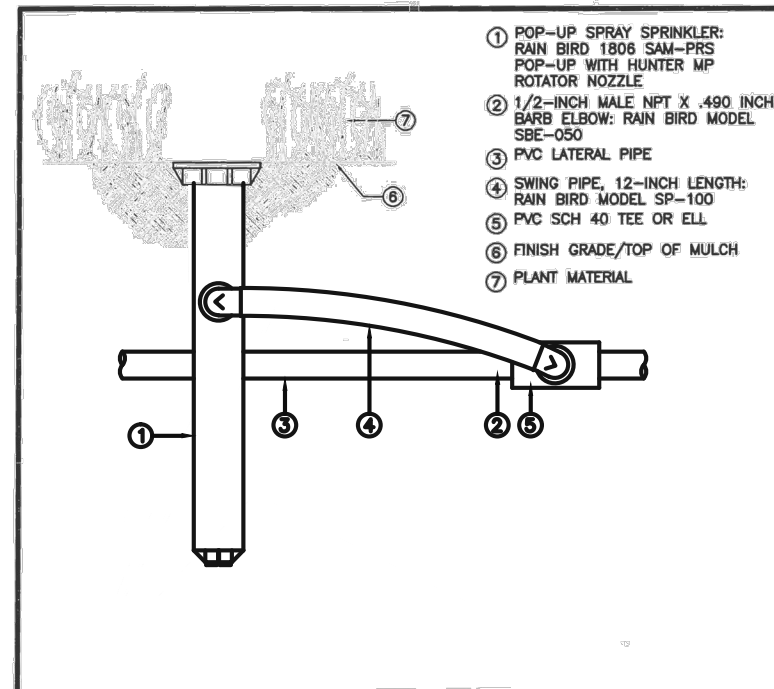
- ① POP-UP SPRAY SPRINKLER: RAIN BIRD 1804-SAM W/PA-80 ADAPTER W/1404 BUBBLER
- ② 1/2-INCH MALE NPT X .490 INCH BARB ELBOW: RAIN BIRD MODEL SBE-050
- ③ PVC LATERAL PIPE
- ④ SWING PIPE, 12-INCH LENGTH: RAIN BIRD MODEL SP-100
- ⑤ PVC SCH 40 TEE OR ELL
- ⑥ FINISH GRADE/TOP OF MULCH
- ⑦ PLANT MATERIAL

Q RAIN BIRD 1804-SAM POP-UP WITH 1404 BUBBLER



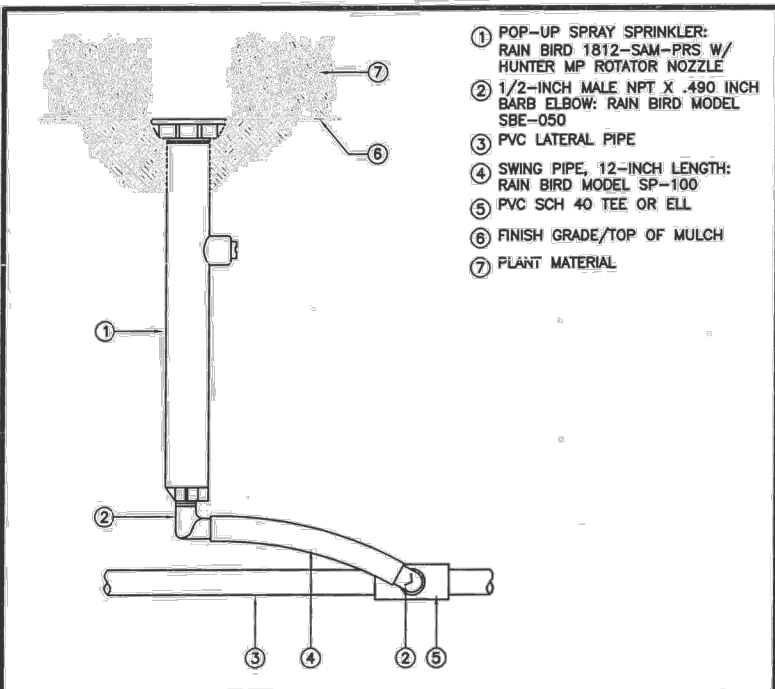
- ① EARTHEN BERM - SEE LANDSCAPE PLANS
- ② FLOOD BUBBLER (PER PLANS, SEE LEGEND)
- ③ TREE ROOT BALL
- ④ PVC LATERAL PIPE

Q BUBBLER PLACEMENT



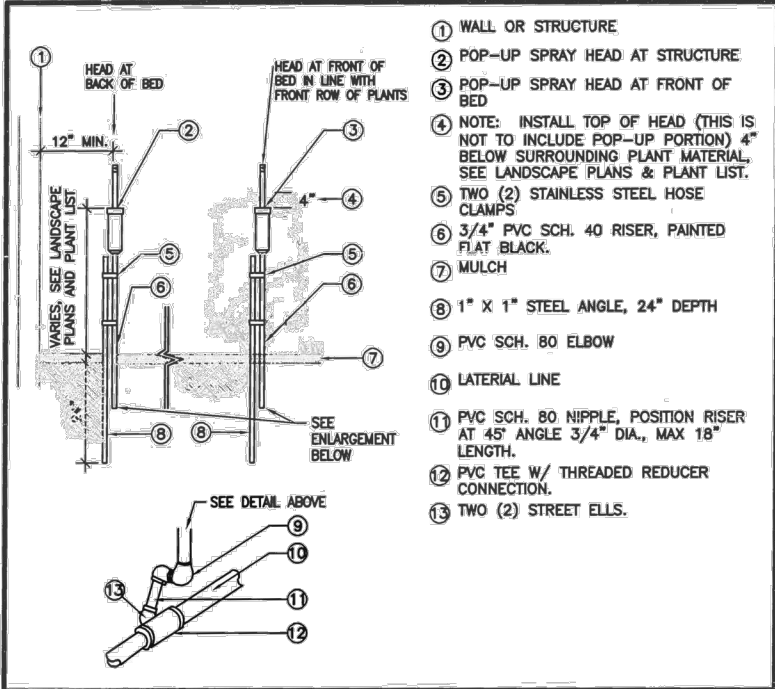
- ① POP-UP SPRAY SPRINKLER: RAIN BIRD 1806 SAM-PRS POP-UP WITH HUNTER MP ROTATOR NOZZLE
- ② 1/2-INCH MALE NPT X .490 INCH BARB ELBOW: RAIN BIRD MODEL SBE-050
- ③ PVC LATERAL PIPE
- ④ SWING PIPE, 12-INCH LENGTH: RAIN BIRD MODEL SP-100
- ⑤ PVC SCH 40 TEE OR ELL
- ⑥ FINISH GRADE/TOP OF MULCH
- ⑦ PLANT MATERIAL

R RAIN BIRD 1806 SAM-PRS SPRAY



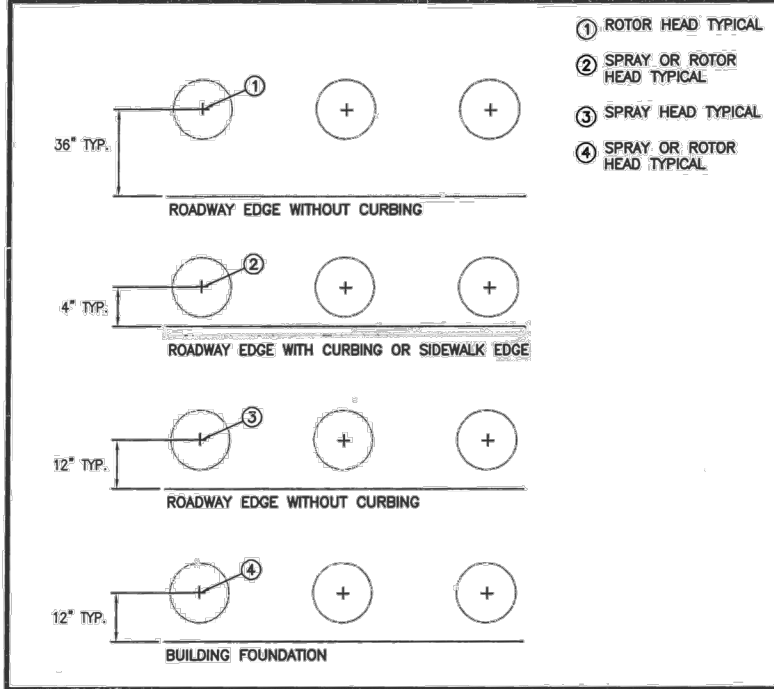
- ① POP-UP SPRAY SPRINKLER: RAIN BIRD 1812-SAM-PRS W/ HUNTER MP ROTATOR NOZZLE
- ② 1/2-INCH MALE NPT X .490 INCH BARB ELBOW: RAIN BIRD MODEL SBE-050
- ③ PVC LATERAL PIPE
- ④ SWING PIPE, 12-INCH LENGTH: RAIN BIRD MODEL SP-100
- ⑤ PVC SCH 40 TEE OR ELL
- ⑥ FINISH GRADE/TOP OF MULCH
- ⑦ PLANT MATERIAL

S RAIN BIRD 1812 SAM-PRS SPRAY



- ① WALL OR STRUCTURE
- ② POP-UP SPRAY HEAD AT STRUCTURE
- ③ POP-UP SPRAY HEAD AT FRONT OF BED
- ④ NOTE: INSTALL TOP OF HEAD (THIS IS NOT TO INCLUDE POP-UP PORTION) 4" BELOW SURROUNDING PLANT MATERIAL, SEE LANDSCAPE PLANS & PLANT LIST.
- ⑤ TWO (2) STAINLESS STEEL HOSE CLAMPS
- ⑥ 3/4" PVC SCH. 40 RISER, PAINTED FLAT BLACK.
- ⑦ MULCH
- ⑧ 1" X 1" STEEL ANGLE, 24" DEPTH
- ⑨ PVC SCH. 80 ELBOW
- ⑩ LATERAL LINE
- ⑪ PVC SCH. 80 NIPPLE, POSITION RISER AT 45° ANGLE 3/4" DIA., MAX 18" LENGTH.
- ⑫ PVC TEE W/ THREADED REDUCER CONNECTION.
- ⑬ TWO (2) STREET ELLS.

T POP-UP HEAD ON RISER



- ① ROTOR HEAD TYPICAL
- ② SPRAY OR ROTOR HEAD TYPICAL
- ③ SPRAY HEAD TYPICAL
- ④ SPRAY OR ROTOR HEAD TYPICAL

T POP-UP HEAD TO HARDSCAPE LOCATION DETAIL-A

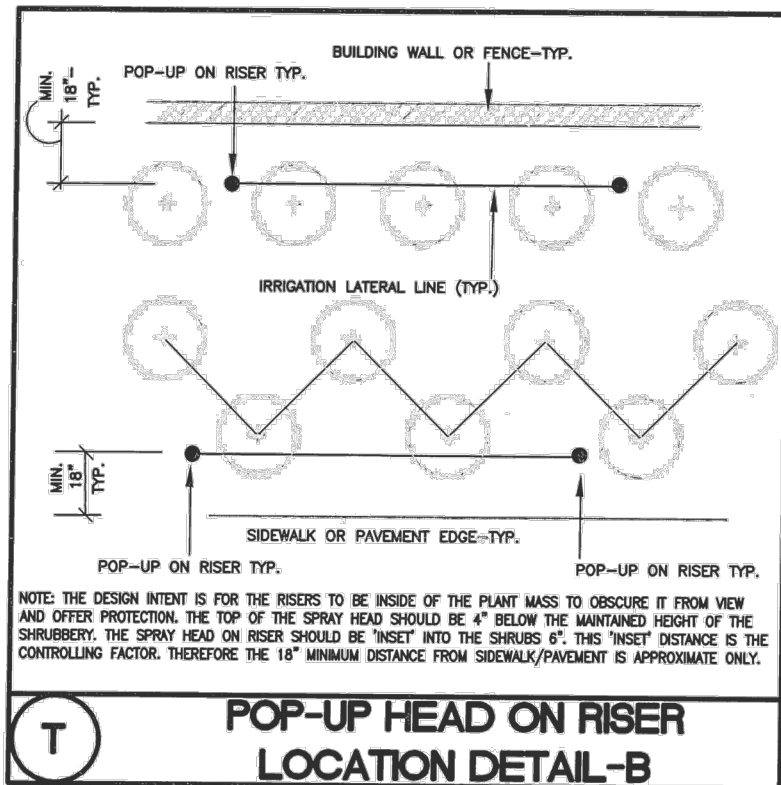
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**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 IRRIGATION DETAILS AND
 NOTES**

SHEET NO.
 LD-26



IRRIGATION NOTES & SPECIFICATIONS

Irrigation design based on the Lucido & Associates Landscape Plan dated August 2016. Contractor shall refer to these plans to coordinate sprinkler and pipe locations.

The system has been designed to conform with the requirements of all applicable codes, laws, ordinances, rules, regulations and conventions. Should any conflict exist, the requirements of the codes shall prevail. It is the responsibility of the owner/installation contractor to ensure the entire system is installed as designed. 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 complies with the irrigation plans, specifications, notes, and details. This work shall include, but not be limited to, the providing of all required material if applicable (pump(s), backflows, pipes, 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/freeze shut off device. If the shut off device is a rain sensor, it shall be installed to prevent activation by adjacent heads and in a visually un-obtrusive location approved by owner. 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. All products should be installed per manufacturer's recommendation. 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's 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 through walls, 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.)

There are two P.O.C.s on this project. Both P.O.C.s are new Sullivan Electric 5hp Pump Stations model #EPS-1-5-230-3-VFD-S-ECON each utilizing a new 4" well as the water source. Each P.O.C. must be capable of delivering a minimum of 65 GPM at 50 PSI downstream of the pump discharge.

Contractor to verify these minimum conditions can be met prior to ordering of materials and the beginning of 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 maximum of 18" 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's property boundary.

All pipes are to be placed in planting beds. If it is necessary to have piping under hardscapes, such as roads, walks, and patios, the pipes must be sleeved using Class 200 PVC with the sleeve diameter being twice the size of the pipe it is carrying with a minimum sleeve size of 2". No sleeve shall have turns or fittings that prevent a pipe from being manually pushed/pulled through after it is installed.

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

Mainline shall be Class 200 gasketed 'pantone purple' PVC with Leemco Ductile iron fittings and mechanical joint restraints (sized per plans).

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

PVC pipe joint compound and primer: The PVC cement shall be Weld-On 711 (grey, slow-drying, heavy duty) and the primer shall be Weld-On P70 (purple tinted, compatible with cement), or approved equals.

ELECTRICAL POWER SUPPLY

Electrical supply for irrigation pumps, controllers, sensors, & relays to be provided by irrigation contractor. Contractor to coordinate with local utilities for the installation of, and connection to, site available power supplies for required electrical components as set forth in the irrigation plans.

All electrical work is 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 each controller shall be a dedicated 120 volt, 20 amp circuit unless otherwise specified in the plans. Power for each pump to be according to pump specifications indicated in these plans.

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. There shall be no wire splices between valve boxes.

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 3MDBY/R connectors. All zone wires for pumps/irrigation shall be placed in conduit.

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:

South Pump 'P1' control system:

- #10 white for common
- #10 spare black common
- #10 individual color coded hot wire
- #10 spare yellow hot wire

North Pump 'P2' control system:

- #12 white for common
- #12 spare black common
- #12 individual color coded hot wire
- #12 spare yellow hot wire

Spare wires

Leaving each controller, run three spare wires in both directions (six spare wires total). Install as 1 common spare (2 total) and 2 hot wires (4 total). Loop these wires into each RCV along their path and terminate in the last valve box controlled by the wires respective controller. The loop into each valve box shall extend up into the valve box a minimum of 8" and be readily accessible by opening the valve box lid. These wires must be all numbered and color coded as required in these plans.

Controller and Pump Station Control Panel grounding - Contractor to utilize 4"x96"x0.0625" copper grounding plates, 5/8"x10' copper clad grounding rods, 'One Strike' CAD wells at all connection points, #6 insulated 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 /pump location, and test results. Each controller /pump shall be so grounded and tested. Each component must have its own separate grounding grid, unless they are sitting side by side, in which case up to two controllers can share a common grounding grid.

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 ensure 100% head to head coverage. Refer to the Edge of Pavement Detail on the Irrigation Detail Sheet.

REVISIONS				
DESCRIPTION	DATE	BY	DESCRIPTION	

Kimley»Horn

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 BOARD OF COUNTY COMMISSIONERS

**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 IRRIGATION DETAILS AND
 NOTES**

SHEET NO.
 LD-27

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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 a minimum of 6" 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 utilize reuse water; in this case the risers shall be purple PVC and shall not be painted.

Locate valves prior to excavation. Ensure 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.

Using an electric branding iron, brand the valve I.D. letter/number on the lid of each valve box. This brand must be 2"-3" tall and easily legible.

EQUIPMENT

All pop-up heads and shrub risers shall be pressure compensating. All pop-up heads shall be mounted on flex-type swing joints. All rotors shall be installed with PVC triple swing joints unless otherwise detailed.

All sprinkler equipment, not otherwise detailed or specified on these plans, 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 same size as 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

Solvent Weld Pipe: 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.

Gasketed Pipe: With pipe in the trench, cut pipe square, deburr, and place beveled edge on male portion of pipe, if not using a piece with a factory bevel. Clean pipe and fittings of foreign material; then apply a small amount of pipe grease to the rubber gasket on the female end. Fully insert the male end of the pipe into the bell end of adjacent pipe until the bevel is fully seated into the bell. Restrain pipe as required.

BACK FILL

The Back fill 6" below, 6" above, and around 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. All piping and excavations shall be backfilled and compacted to a density of 95% modified Proctor, or greater.

Main line pipe depth measured to the top of pipe shall be:
 24" minimum for 3/4"-2 1/2" PVC with a 30" minimum at vehicular crossings;
 30" minimum for 3" & 4" PVC with a 36" minimum at vehicular crossings.

Lateral line depths measured to top of pipe shall be:
 18" minimum for 3/4"-3" PVC with a 30" 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 valves, flush all mainlines for a minimum of 10 minutes or until lines are completely clean of debris, whichever is longer.

Prior to the placement of heads, flush all lateral 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

Soil: At a minimum of 2 locations on the site, soil tests for infiltration and texture shall be performed according to the USDA Soil Quality Test Kit Guide. The tests shall be documented in a USDA Soil Worksheet. (All of the above is available at http://soils.usda.gov/sqi/assessment/test_kit.html) The completed worksheet shall be submitted to the owners representative for review/approval. Do not proceed without written direction from the owner/owner's representative.

Schedule testing with Owner's Representative a minimum of three (3) days in advance of testing.

Mainline: Remove all remote control valves and cap using a threaded cap on SCH 80 nipple. Hose bibs and gate valves shall not be tested against during a pressure test unless authorized by written permission from the owner. Fill mainline with water and pressurize the system to 125 PSI using a hydrostatic pump. 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. For gasketed pipe, testing requires measurement of the water pumped into the mainline system, using a hydrostatic pump, to maintain 125 PSI - this water volume shall be no more than the result of the following formula:

$$L=(ND/P)/7400$$

where L=Allowable leakage in gallons per hour
 N=Number of joints in pipe tested
 D=Nominal diameter of pipe (in inches)
 P=Average Test Pressure (in PSI)

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.

Lateral Lines: The lateral lines must be fully filled to operational pressure and visually checked for leaks. Any leaks detected must be repaired.

Operational Testing -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 the system works automatically from the controller. This demonstration requires each zone to be 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.

Upon completion of the operational test, 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 fine sandy soils, it is possible no puddling will occur. If this is experienced, then theoretical calculations for run times will be required for controller programming.

SUBMITTALS

Pre-Construction: Deliver five (5) copies of submittals to Owner's Representative within ten (10) working days from date of Notice to Proceed. Furnish information in 3-ring binder with table of contents and index sheet. Index sections for different components and label with specification section number and name of component. Furnish submittals for components on material list. Indicate which items are being supplied on catalog cut sheets when multiple items are shown on one sheet. Incomplete submittals will be returned without review. In lieu of hardcopies, an electronic package in PDF format can be submitted.

After project completion:

As a condition of final acceptance, the irrigation contractor shall provide the owner with:

1. Irrigations As-builts - shall be provided utilizing a sub-foot Global Navigation Satellite System (GNSS) to accurately locate all mainlines, sleeves, remote control valves, gate valves, independent wire runs, wire splice boxes, controllers, high voltage supply sources/conduit path, control mechanisms, sensors, wells and water source connections in Florida East State Plane, NAD 83, and CORS 96 format. The data collected shall be in POINT format and include an ID for each data point with Manufacturer, Type, Size, and Depth. All mainline and independent runs of wire shall be located every 30' for straight runs and at every change of direction. Sleeves will be located at end points and every 20' of length. All underground items shall include depth in inch format. These POINTS once collected shall be imported into an AutoCAD DWG geo-referenced base file to be labeled accordingly. The completed AS-Built shall be a Geo-Referenced DWF file and delivered to the owner on a compact disk (CD).
2. 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 2ml pieces of clear plastic.

R E V I S I O N S				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn
 MATTHEW T. FRANKO, P.L.A. No. 6667292
 445 24TH STREET, SUITE 200
 VERO BEACH, FL 32960
 (772) 794-4000
 CA Number: LC-C000219

**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 IRRIGATION DETAILS AND
 NOTES**

SHEET NO.
 LD-28

AMERICAN SOCIETY OF IRRIGATION CONSULTANTS COPYRIGHT 2001

3. Grounding Certification – Provide ground certification results for each controller and pump panel grounding grid installed. This must be on a licensed electrician letter head indicating location tested (using IR plan symbols), date, time, test method, and testing results.

INSPECTIONS AND COORDINATION MEETINGS REQUIRED – Contractor is required to schedule, perform, and attend the following, and demonstrate to the owner and/or owners representative to their satisfaction, as follows:

1. Pre-construction meeting – Designer and contractor to review entire install process and schedule with owner/general contractor.
2. Mainline installation inspection(s) – all mainline must be inspected for proper pipe, fittings, depth of coverage, backfill, and installation method
3. Mainline pressure test – All mainline shall be pressure tested according to this design's requirements
4. Flow Meter calibration – All flow meters must be calibrated, provide certified calibration report for all flow meters.
5. USDA Soil Quality Tests for infiltration/texture
6. Coverage and operational test
7. Final inspection
8. Punch list inspection

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. All above inspections are completed, documented, and approved by owner.
2. Completion and acceptance of 'as-built' drawings.
3. Acceptance of required controller charts and placement inside of controllers.
4. All other submittals have be made to the satisfaction of the owner.

GUARANTEE: The irrigation system shall be guaranteed for a minimum of one calendar year from the time of final acceptance.

MINIMUM RECOMMENDED IRRIGATION MAINTENANCE PROCEDURES

1. Every irrigation zone should be checked monthly and written reports generated describing the date(s) each zone was inspected, problems identified, date problems repaired, and a list of materials used in the repair. At minimum, these inspections should include the following tasks:
 - A. Turn on each zone from the controller to verify automatic operation.
 - B. Check schedules to ensure they are appropriate for the season, plant and soil type, and irrigation method. Consult an I.A. certified auditor for methods used in determining proper irrigation scheduling requirements.
 - C. Check remote control valve to ensure proper operation.
 - D. Check setting on pressure regulator to verify proper setting, if present.
 - E. Check flow control and adjust as needed; ensure valve closure within 10–15 seconds after deactivation by controller.
 - F. Check for leaks – mainline, lateral lines, valves, heads, etc.
 - G. Check all heads as follows:
 1. Proper set height (top of sprinkler is 1" below mow height)
 2. Verify head pop-up height – 6" in turf, 12" in ground cover, and pop-up on riser in shrub beds.

3. Check wiper seal for leaks – if leaking, clean head and re-inspect.
4. If still leaking, replace head with the appropriate head with pressure regulator and built-in check valve.
5. All nozzles checked for proper pattern, clogging, leaks, correct make model, etc. – replace as needed
6. Check for proper alignment – perfectly vertical; coverage area is correct; minimize over spray onto hardscapes.
7. Riser height raised/lowered to accommodate plant growth patterns and ensure proper coverage.
8. Verify the pop-up riser retracts after operation. If not, repair/replace as needed.
- H. Check controller/C.C.U. grounds for resistance (10 ohms or less) once per year. Submit written reports.
- I. Check rain shut-off device monthly to ensure it functions properly.
- J. Inspect all filters monthly and clean/repair/replace as needed.
- K. Inspect backflow devices by utilizing a properly licensed backflow inspector. This should be done annually, at minimum.
- L. Inspect all valve boxes to ensure they are in good condition, lids are in place and locked.
- M. Check pump stations for proper operation, pressures, filtration, settings, etc. – refer to pump station operations manual.
- N. Check and clean intake screens on all suction lines quarterly, at minimum. Clean and/or repair, as needed.
- O. Winterize, if applicable, as weather in your area dictates. Follow manufacturer recommendations and blow out all lines and equipment using compressed air. Perform seasonal startup of system as per manufacturer recommendations.
- P. Conduct additional inspections, maintenance tasks, etc. that are particular for your site.

Soil Moisture Sensor

1. Place all soil moisture sensor wiring in 1" SCH 40 PVC conduit
2. Soil moisture sensor should be placed in the middle of a spray or drip area as per manufacturer's recommendations.
3. Controller shall be set to the Florida Automated Weather Network's urban scheduler settings using the SMS as a moisture cut off device (like a rain switch) per manufacturer directions.

REVISIONS

DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn

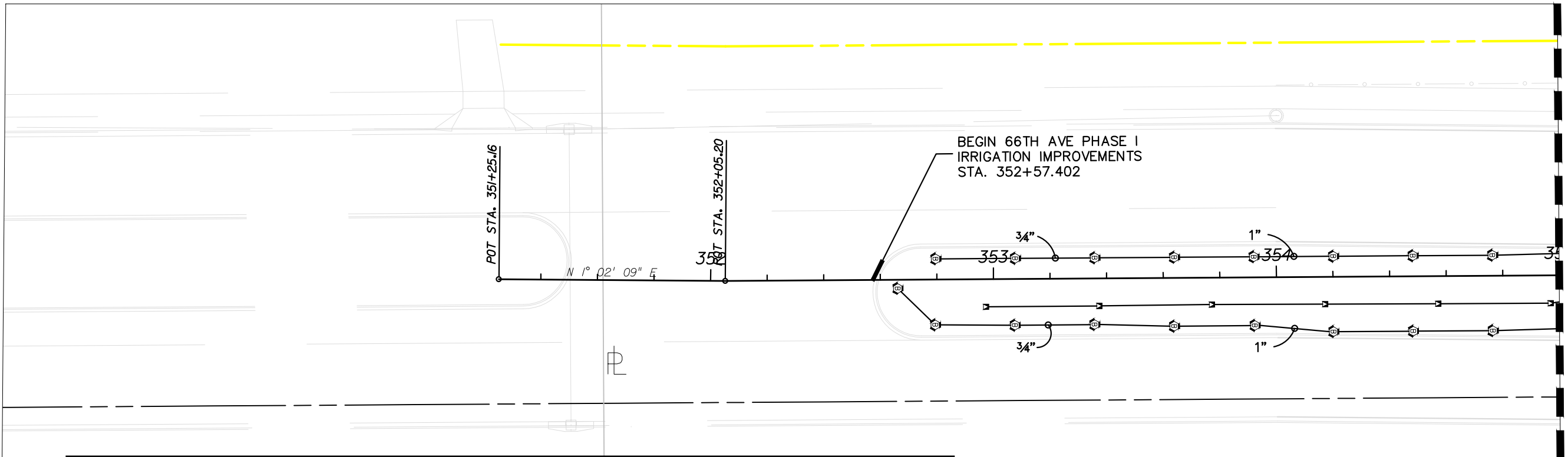
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**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 IRRIGATION DETAILS AND
 NOTES**

SHEET NO.

LD-29



SUMMARY OF QUANTITIES			
590-70	IRRIGATION SYSTEM (COMPLETE)	LS 2	REFER TO SHEETS LD-39 & LD-44

NOTES:

- CONTRACTOR TO PROVIDE NEW WELL UP TO 100' DEEP, WITH DIAMETER AS SPECIFIED. PROVIDE A LINE ITEM 'PER FOOT' COST FOR EACH ADDITIONAL FOOT OF DEPTH, IF NEEDED. CONTRACTOR SHALL NOT DRILL THE WELL DEEPER THAN 100' WITHOUT RECEIVING PRIOR WRITTEN AUTHORIZATION. IF PRIOR AUTHORIZATION IS NOT OBTAINED, IN WRITING, NO ADDITIONAL MONIES WILL BE PAID.
- AFTER THE WELL IS DRILLED, A STEP TEST MUST BE PERFORMED ON THE WELL TO VERIFY THE WELL CAN PRODUCE THE REQUIRED VOLUME OF WATER ON A CONTINUAL BASIS. THE STEP TEST MUST LAST 8 HOURS WITH WATER LEVEL MEASURED EACH HALF HOUR. PEAK DEMAND IS THE GPM IDENTIFIED IN THE POC NOTE ON THE NOTES SHEET:
 HOURS 1-2 - PUMP AT 50% OF PEAK DEMAND
 HOURS 3-4 - PUMP AT 75% OF PEAK DEMAND
 HOURS 5-6 - PUMP AT 100% PEAK DEMAND
 HOURS 7-8 - PUMP AT 125% OF PEAK DEMAND
 THE RESULTS OF THIS TEST MUST BE APPROVED BY THE OWNER/OWNERS REPRESENTATIVE PRIOR TO THE INSTALLATION OF THE PUMP OR IRRIGATION SYSTEM COMPONENTS. IF THE CONTRACTOR DOES NOT FOLLOW THESE REQUIREMENTS AND THE WELL PROVES TO BE INSUFFICIENT, THE CONTRACTOR BEARS 100% OF THE RESPONSIBILITY AND COSTS TO CORRECT/MODIFY THE SYSTEM TO ACCOMMODATE THE EVENTUAL WATER SOURCE.
- AFTER DRILLING THE WELL, CHECK THE WATER QUALITY TO ENSURE IT IS SUITABLE FOR LANDSCAPE PLANTINGS. USE THE SERVICES OF A REPUTABLE, LICENSED LABORATORY ONLY. WATER QUALITY TESTING MUST INCLUDE pH, CONDUCTIVITY, SODIUM, POTASSIUM, CALCIUM, MAGNESIUM, CARBONATE, BICARBONATE, CHLORIDE, PHOSPHOROUS, NITRATE NO3, SULFATE SO4, BORON, IRON, TOTAL DISSOLVED SOLIDS, SODIUM ABSORPTION RATIO, AND HARDNESS. IF THE WATER IS DETERMINED SUITABLE CONTINUE IRRIGATION INSTALLATION. IF THE WATER QUALITY IS UNSUITABLE, DO NOT PROCEED WITHOUT WRITTEN DIRECTION FROM THE OWNER/OWNER'S REPRESENTATIVE.
- IF A HIGH IRON CONTENT (OR OTHER STAIN PRODUCING COMPOUND) IS DETECTED, ADVISE THE OWNER/OWNER'S REPRESENTATIVE. DO NOT PROCEED WITHOUT WRITTEN PERMISSION. IF A CHEMICAL INJECTION SYSTEM IS REQUIRED BY THE OWNER, IT MUST BE DIRECTED BY THE OWNER AND INSTALLED BY THE PUMP SYSTEM MANUFACTURER.
- THE WELL CASING SHALL BE GALVANIZED STEEL PIPE (SIZED PER PLAN).
- THE PUMP DROP PIPE SHALL BE 2" CERTA LOCK PVC PIPE.
- PRIOR TO INSTALLING ANY IRRIGATION SYSTEM COMPONENTS, THE CONTRACTOR SHALL OBTAIN A WATER SAMPLE FROM THE PROPOSED WATER SUPPLY. CONDUCT A PARTICLE SIZE AND COUNT ANALYSIS ON THE SAMPLE USING THE SERVICES OF A REPUTABLE LAB CERTIFIED IN SUCH ANALYSES. SUBMIT THE TEST RESULTS TO THE OWNER/OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL. DO NOT PROCEED FURTHER WITH SYSTEM INSTALLATION UNTIL GIVEN WRITTEN APPROVAL TO DO SO. IF CONTRACTOR DOES NOT COMPLY WITH THIS REQUIREMENT, ANY COSTS TO MAKE THE IRRIGATION SYSTEM OPERATE AS REQUIRED (WHICH WOULD NOT HAVE BEEN INCURRED HAD THESE REQUIREMENTS BEEN COMPLIED WITH), WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE FUTURE INTENDED IRRIGATION WATER SOURCE IS RECLAIMED WATER IF IT BECOMES AVAILABLE. ALL IRRIGATION MATERIAL SHALL BE COLOR CODED 'PANTONE PURPLE' AS REQUIRED BY FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

CONTROL NOTES:

- CONTRACTOR TO PROGRAM THE CONTROLLER(S) TO RUN BUBBLER AND SHRUB ZONES TWO AT A TIME (BUBBLER WITH BUBBLER AND SHRUB WITH SHRUB) TO MAINTAIN FLOW ABOVE THE PUMP'S MINIMUM 5 GPM FLOW AND BELOW 65 GPM.

IRRIGATION LEGEND

▼	RB1804-SAM-1404 FLOOD BUBBLES W/NP COVER	0.25 GPM @ 30 PSI
⊙	RB1806-SAM-PRS-30 W/HUNTER MPRSS530	0.44 GPM @ 40 PSI
⊙	RB1806-SAM-PRS-30 W/ HUNTER MP1000	0.19-0.43 GPM @ 40 PSI
⊙	RB1806-SAM-PRS-30 W/HUNTER MP1000360	0.37 GPM @ 40 PSI
⊙	RB1806-SAM-PRS-30 W/HUNTER MP2000	0.40-1.10 GPM @ 40 PSI
⊙	RB1806-SAM-PRS-30 W/HUNTER MP200090	1.47 GPM @ 40 PSI
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⊙	RB1806-SAM-PRS-30 W/HUNTER MP3000	adj. arc 90°-210°
⊙	RB PEB SERIES RCV	with flow control
WP	SULLIVAN ELECTRIC 5HP	
P.O.C.	WELL POINT - 4" SHALLOW WELL - 100FT MAX DEPTH	
---	CLASS 200 PANTONE PURPLE PVC LATERAL LINE W/SCH 40 SOLVENT WELD PVC FITTING (SIZE PER PLAN MIN. PIPE SIZE 3/4")	
---	CLASS 200 PANTONE PURPLE PVC GASKETED 'O' RING MAINLINE W/LEEMKO DUCTILE IRON FITTING WITH MECHANICAL JOIN RESTRAINTS (SIZE PER PLAN)	
---	IRRIGATION PIPE SLEEVE - SCH 40 W/SCH 40 SOLVENT-WELD PVC FITTING	
---	SCH40 GREY PVC CONDUIT W/SCH0 SOLVENT-WELD PVC FITTING	

SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
3/4"	1-1/2"
1"	2"
1-1/4"	2-1/2"
1-1/2"	3"
2"	4"
2-1/2"	6"
3, 4"	6"

NOTES

- MAINLINE HAS BEEN SHOWN FOR CLARITY ONLY. MAINLINE SHALL BE LOCATED WITHIN THE ROADWAY MEADIAN.
- PIPE SLEEVES SHALL ALLOW FOR IRRIGATION PIPING AND THEIR RELATED COUPLINGS TO EASILY SLIDE THROUGH SLEEVING PIPE. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING. REFER TO SLEEVE SIZE SCHEDULE.

- NIBCO P-619-RW MAINLINE ISO VALVE
- ACC HUNTER ACC 18STATION CONTROLLER
- R HUNTER RFC POLE MOUNTED
- FS DATA INDUSTRIES MODEL #220 BR.
- BF HUNTER AVB BACKFLOW PREVENTER



REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

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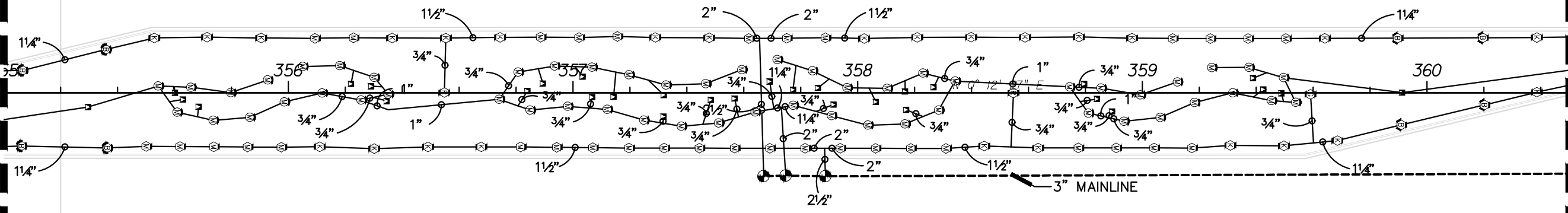
**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
LD-30

MATCHLINE STA. 355+00.00

MATCHLINE STA. 360+50.00



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IRRIGATION LEGEND

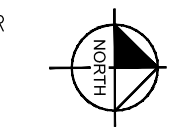
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⊙	RB PEB SERIES RCV	with flow control
WP	SULLIVAN ELECTRIC 5HP	
P.O.C.	WELL POINT - 4" SHALLOW WELL - 100FT MAX DEPTH	
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---	IRRIGATION PIPE SLEEVE - SCH 40 W/SCH 40 SOLVENT-WELD PVC FITTING	
---	SCH40 GREY PVC CONDUIT W/SCH0 SOLVENT-WELD PVC FITTING	

SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
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2"	4"
2-1/2"	6"
3, 4"	6"

NOTES

- MAINLINE HAS BEEN SHOWN FOR CLARITY ONLY. MAINLINE SHALL BE LOCATED WITHIN THE ROADWAY MEADIAN.
- PIPE SLEEVES SHALL ALLOW FOR IRRIGATION PIPING AND THEIR RELATED COUPLINGS TO EASILY SLIDE THROUGH SLEEVING PIPE. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING. REFER TO SLEEVE SIZE SCHEDULE.



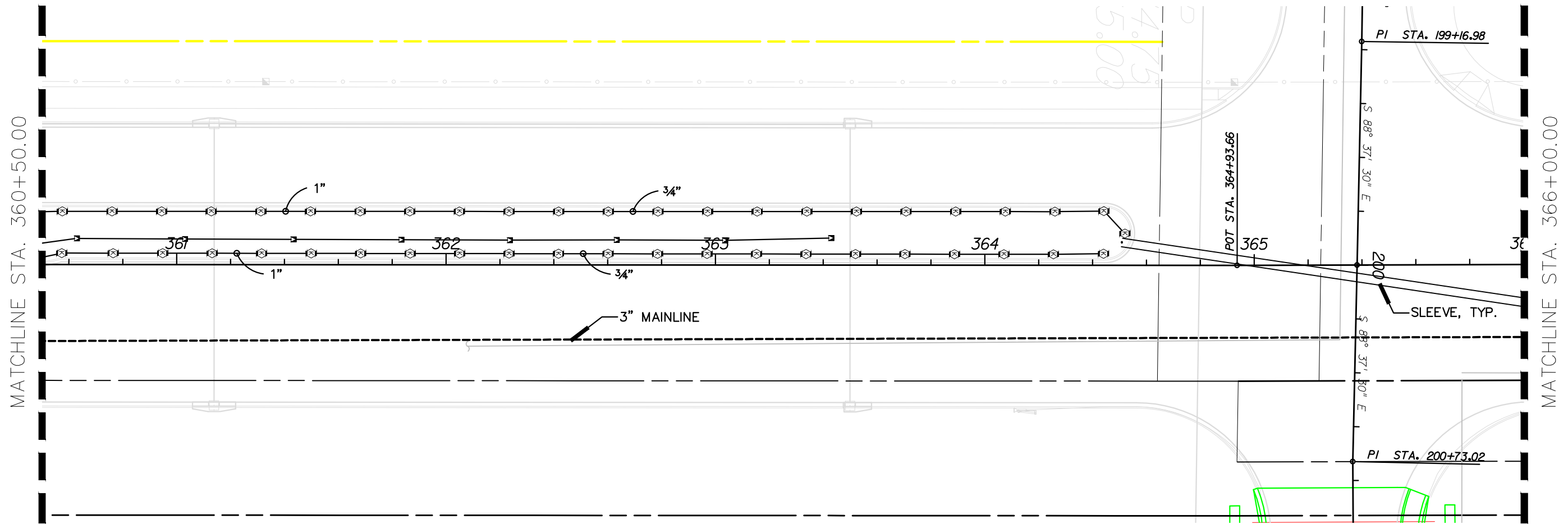
REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn
 MATTHEW T. FRANKO, P.L.A. No. 6667292
 445 24TH STREET, SUITE 200
 VERO BEACH, FL 32960
 (772) 794-4000
 CA Number: LC-C000219

**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
 LD-31



NOTES:

- CONTRACTOR TO PROVIDE NEW WELL UP TO 100' DEEP, WITH DIAMETER AS SPECIFIED. PROVIDE A LINE ITEM 'PER FOOT' COST FOR EACH ADDITIONAL FOOT OF DEPTH, IF NEEDED. CONTRACTOR SHALL NOT DRILL THE WELL DEEPER THAN 100' WITHOUT RECEIVING PRIOR WRITTEN AUTHORIZATION. IF PRIOR AUTHORIZATION IS NOT OBTAINED, IN WRITING, NO ADDITIONAL MONIES WILL BE PAID.
- AFTER THE WELL IS DRILLED, A STEP TEST MUST BE PERFORMED ON THE WELL TO VERIFY THE WELL CAN PRODUCE THE REQUIRED VOLUME OF WATER ON A CONTINUAL BASIS. THE STEP TEST MUST LAST 8 HOURS WITH WATER LEVEL MEASURED EACH HALF HOUR. PEAK DEMAND IS THE GPM IDENTIFIED IN THE POC NOTE ON THE NOTES SHEET:
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 HOURS 7-8 - PUMP AT 125% OF PEAK DEMAND
 THE RESULTS OF THIS TEST MUST BE APPROVED BY THE OWNER/OWNERS REPRESENTATIVE PRIOR TO THE INSTALLATION OF THE PUMP OR IRRIGATION SYSTEM COMPONENTS. IF THE CONTRACTOR DOES NOT FOLLOW THESE REQUIREMENTS AND THE WELL PROVES TO BE INSUFFICIENT, THE CONTRACTOR BEARS 100% OF THE RESPONSIBILITY AND COSTS TO CORRECT/MODIFY THE SYSTEM TO ACCOMMODATE THE EVENTUAL WATER SOURCE.
- AFTER DRILLING THE WELL, CHECK THE WATER QUALITY TO ENSURE IT IS SUITABLE FOR LANDSCAPE PLANTINGS. USE THE SERVICES OF A REPUTABLE, LICENSED LABORATORY ONLY. WATER QUALITY TESTING MUST INCLUDE pH, CONDUCTIVITY, SODIUM, POTASSIUM, CALCIUM, MAGNESIUM, CARBONATE, BICARBONATE, CHLORIDE, PHOSPHOROUS, NITRATE NO3, SULFATE SO4, BORON, IRON, TOTAL DISSOLVED SOLIDS, SODIUM ABSORPTION RATIO, AND HARDNESS. IF THE WATER IS DETERMINED SUITABLE CONTINUE IRRIGATION INSTALLATION. IF THE WATER QUALITY IS UNSUITABLE, DO NOT PROCEED WITHOUT WRITTEN DIRECTION FROM THE OWNER/OWNER'S REPRESENTATIVE.
- IF A HIGH IRON CONTENT (OR OTHER STAIN PRODUCING COMPOUND) IS DETECTED, ADVISE THE OWNER/OWNER'S REPRESENTATIVE. DO NOT PROCEED WITHOUT WRITTEN PERMISSION. IF A CHEMICAL INJECTION SYSTEM IS REQUIRED BY THE OWNER, IT MUST BE DIRECTED BY THE OWNER AND INSTALLED BY THE PUMP SYSTEM MANUFACTURER.
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CONTROL NOTES:

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IRRIGATION LEGEND

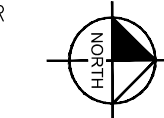
▼	RB1804-SAM-1404 FLOOD BUBBLES W/NP COVER	0.25 GPM @ 30 PSI
⊙	RB1806-SAM-PRS-30 W/HUNTER MPRSS530	0.44 GPM @ 40 PSI
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⊙	RB PEB SERIES RCV	with flow control
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SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
3/4"	1-1/2"
1"	2"
1-1/4"	2-1/2"
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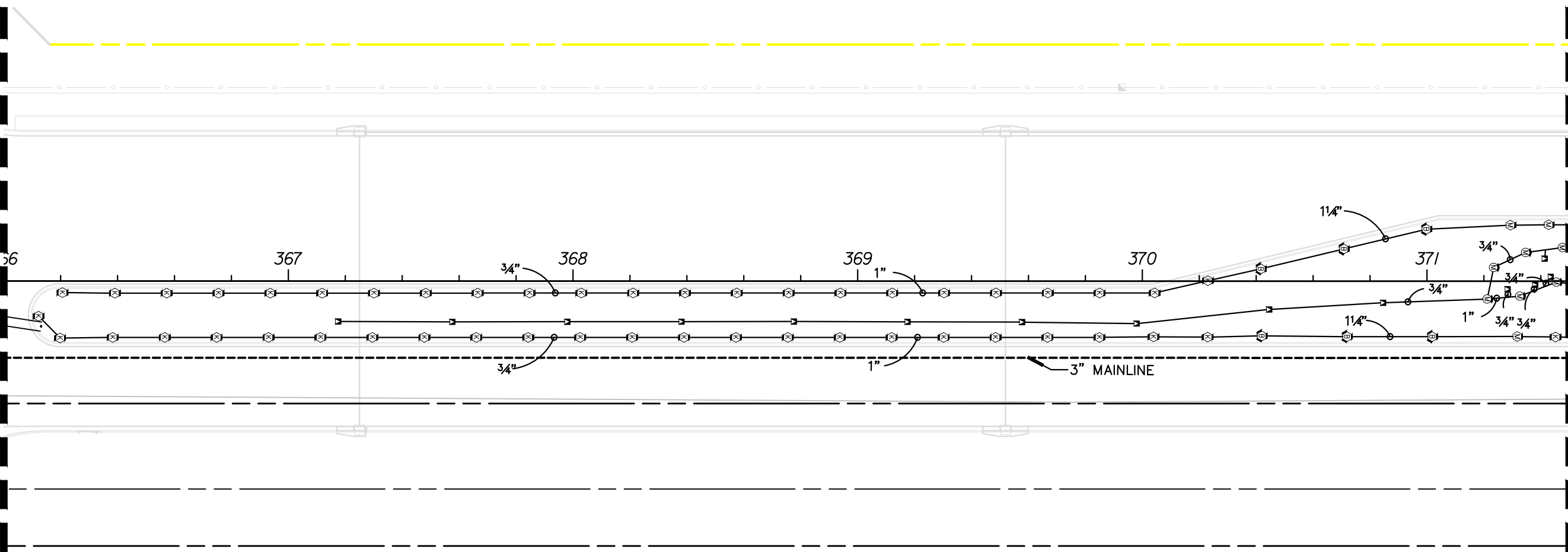
**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
LD-32

MATCHLINE STA. 366+00.00

MATCHLINE STA. 371+50.00



NOTES:

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IRRIGATION LEGEND

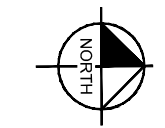
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SLEEVE SIZE SCHEDULE

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 CA Number: LC-C000219

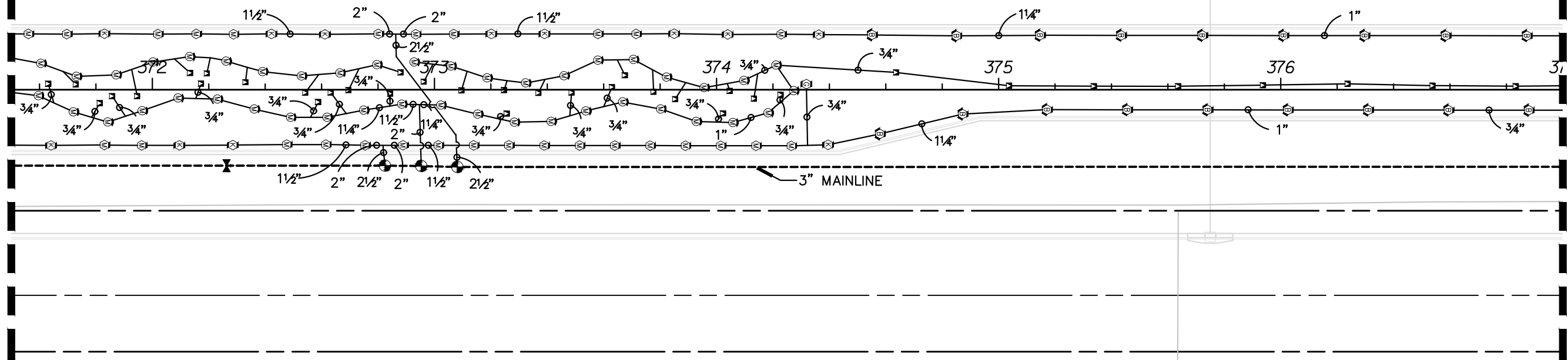
**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
 LD-33

MATCHLINE STA. 371+50.00

MATCHLINE STA. 377+00.00



NOTES:

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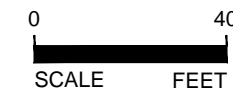
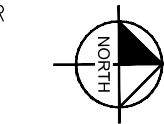
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⚡	NIBCO P-619-RW MAINLINE ISO VALVE	
ACC	HUNTER ACC 18STATION CONTROLLER	
Ⓡ	HUNTER RFC POLE MOUNTED	
FS	DATA INDUSTRIES MODEL #220 BR.	
BF	HUNTER AVB BACKFLOW PREVENTER	

SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
3/4"	1-1/2"
1"	2"
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REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

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 CA Number: LC-C000219

**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

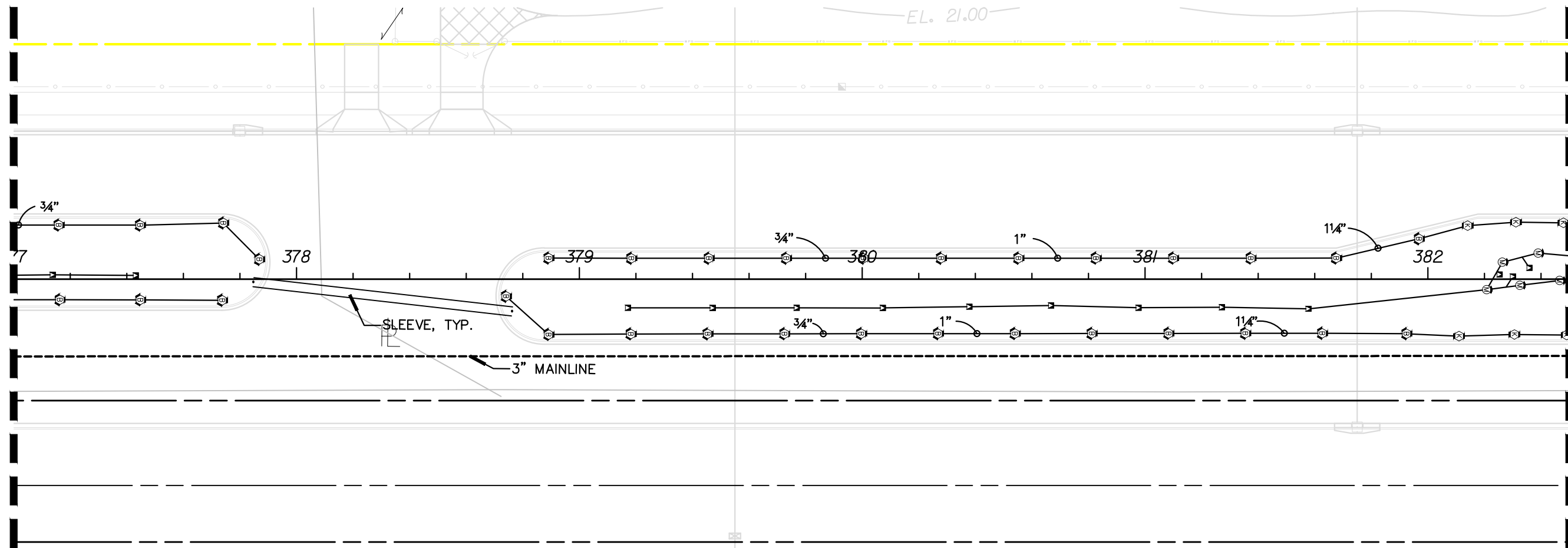
**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.

LD-34

MATCHLINE STA. 377+00.00

MATCHLINE STA. 382+50.00



NOTES:

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CONTROL NOTES:

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IRRIGATION LEGEND

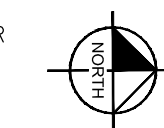
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P.O.C.	WELL POINT - 4" SHALLOW WELL - 100FT MAX DEPTH	
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SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
3/4"	1-1/2"
1"	2"
1-1/4"	2-1/2"
1-1/2"	3"
2"	4"
2-1/2"	6"
3, 4"	6"

NOTES

- MAINLINE HAS BEEN SHOWN FOR CLARITY ONLY. MAINLINE SHALL BE LOCATED WITHIN THE ROADWAY MEADIAN.
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 MATTHEW T. FRANKO, P.L.A. No. 6667292
 445 24TH STREET, SUITE 200
 VERO BEACH, FL 32960
 (772) 794-4000
 CA Number: LC-C000219

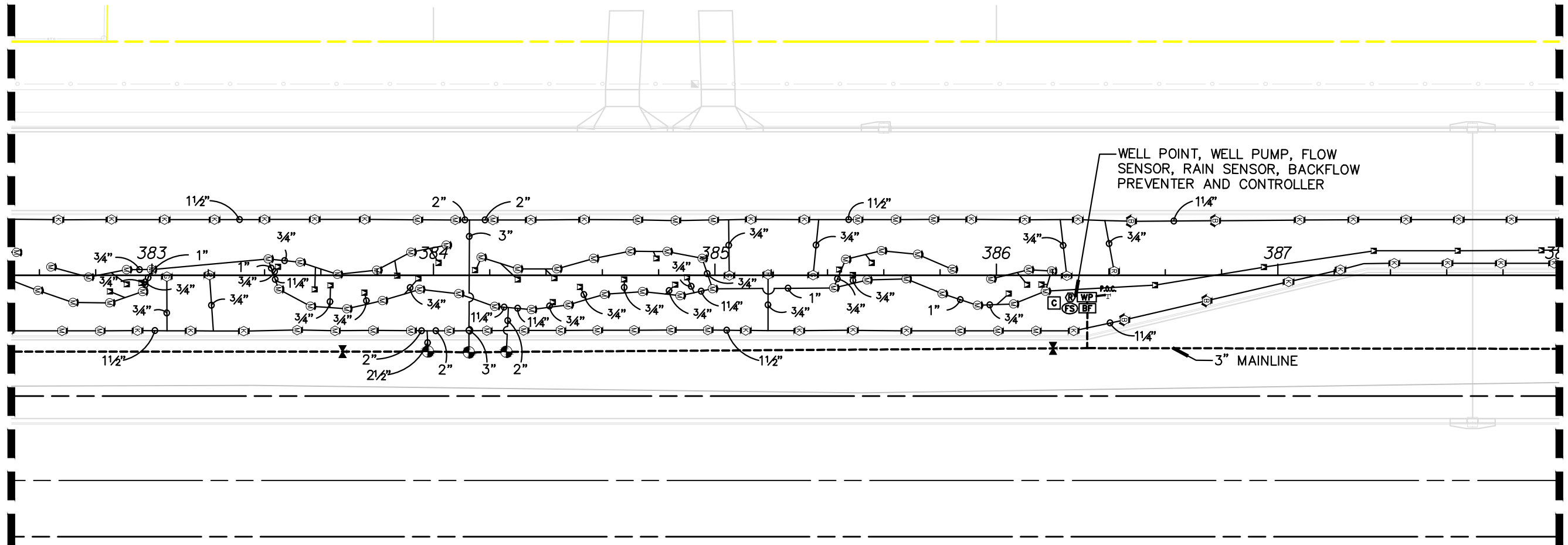
**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
 LD-35

MATCHLINE STA. 382+50.00

MATCHLINE STA. 388+00.00



WELL POINT, WELL PUMP, FLOW SENSOR, RAIN SENSOR, BACKFLOW PREVENTER AND CONTROLLER

3" MAINLINE

NOTES:

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- AFTER THE WELL IS DRILLED, A STEP TEST MUST BE PERFORMED ON THE WELL TO VERIFY THE WELL CAN PRODUCE THE REQUIRED VOLUME OF WATER ON A CONTINUAL BASIS. THE STEP TEST MUST LAST 8 HOURS WITH WATER LEVEL MEASURED EACH HALF HOUR. PEAK DEMAND IS THE GPM IDENTIFIED IN THE POC NOTE ON THE NOTES SHEET:
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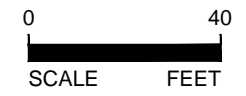
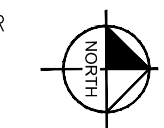
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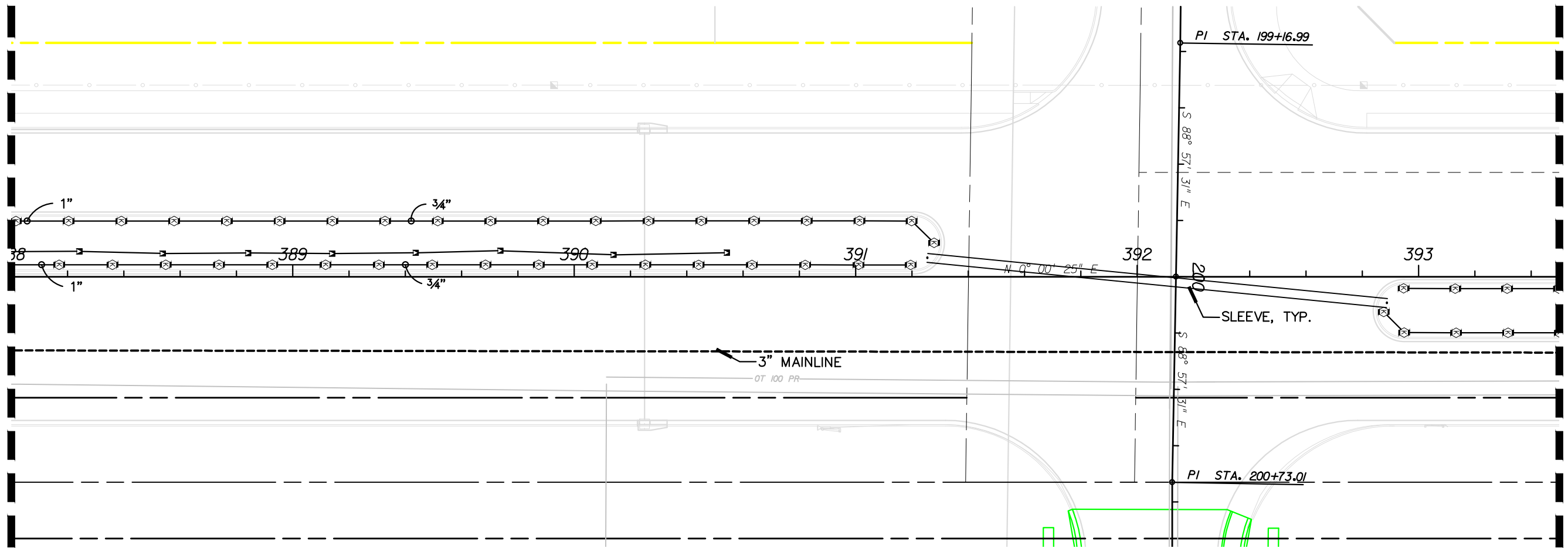
**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
LD-36

MATCHLINE STA. 388+00.00

MATCHLINE STA. 393+50.00



NOTES:

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IRRIGATION LEGEND

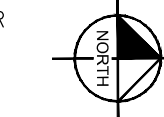
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P.O.C.	WELL POINT - 4" SHALLOW WELL - 100FT MAX DEPTH	
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ACC	HUNTER ACC 18STATION CONTROLLER	
R	HUNTER RFC POLE MOUNTED	
FS	DATA INDUSTRIES MODEL #220 BR.	
BF	HUNTER AVB BACKFLOW PREVENTER	

SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
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**66th AVENUE ROADWAY WIDENING -
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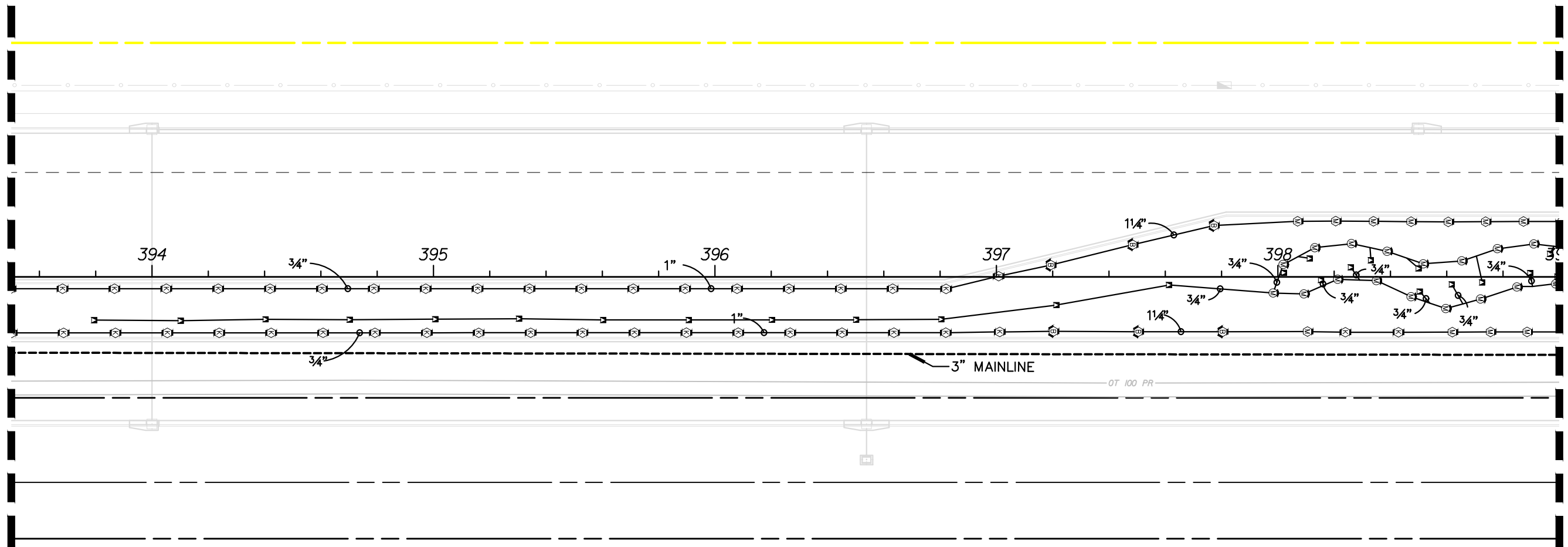
**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.

LD-37

MATCHLINE STA. 393+50.00

MATCHLINE STA. 399+00.00



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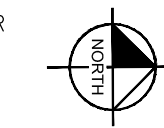
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1-1/2"	3"
2"	4"
2-1/2"	6"
3, 4"	6"

NOTES

- MAINLINE HAS BEEN SHOWN FOR CLARITY ONLY. MAINLINE SHALL BE LOCATED WITHIN THE ROADWAY MEADIAN.
- PIPE SLEEVES SHALL ALLOW FOR IRRIGATION PIPING AND THEIR RELATED COUPLINGS TO EASILY SLIDE THROUGH SLEEVING PIPE. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING. REFER TO SLEEVE SIZE SCHEDULE.



REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn

MATTHEW T. FRANKO, P.L.A. No. 6667292
 445 24TH STREET, SUITE 200
 VERO BEACH, FL 32960
 (772) 794-4000
 CA Number: LC-C000219

**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

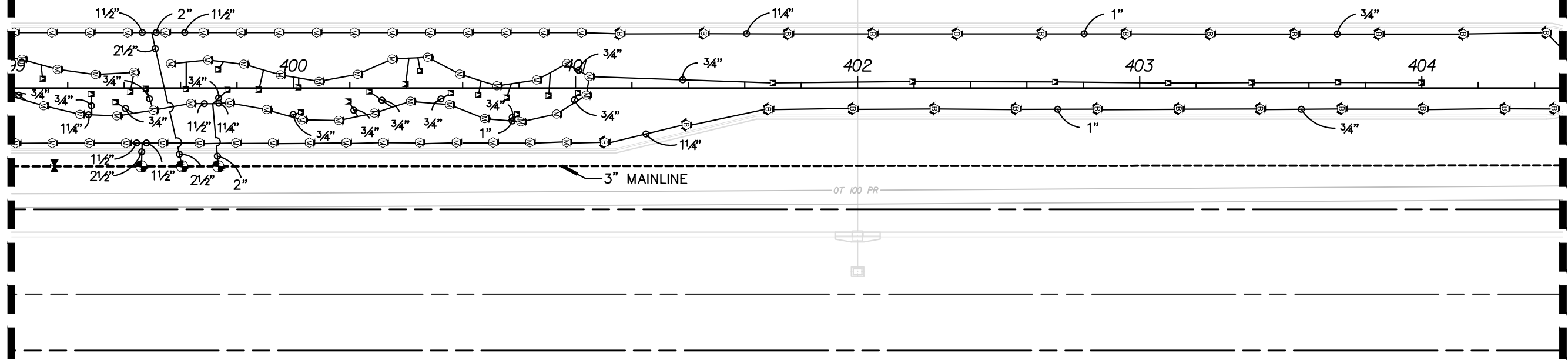
**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.

LD-38

MATCHLINE STA. 399+00.00

MATCHLINE STA. 404+50.00



NOTES:

- CONTRACTOR TO PROVIDE NEW WELL UP TO 100' DEEP, WITH DIAMETER AS SPECIFIED. PROVIDE A LINE ITEM 'PER FOOT' COST FOR EACH ADDITIONAL FOOT OF DEPTH, IF NEEDED. CONTRACTOR SHALL NOT DRILL THE WELL DEEPER THAN 100' WITHOUT RECEIVING PRIOR WRITTEN AUTHORIZATION. IF PRIOR AUTHORIZATION IS NOT OBTAINED, IN WRITING, NO ADDITIONAL MONIES WILL BE PAID.
- AFTER THE WELL IS DRILLED, A STEP TEST MUST BE PERFORMED ON THE WELL TO VERIFY THE WELL CAN PRODUCE THE REQUIRED VOLUME OF WATER ON A CONTINUAL BASIS. THE STEP TEST MUST LAST 8 HOURS WITH WATER LEVEL MEASURED EACH HALF HOUR. PEAK DEMAND IS THE GPM IDENTIFIED IN THE POC NOTE ON THE NOTES SHEET:
 HOURS 1-2 - PUMP AT 50% OF PEAK DEMAND
 HOURS 3-4 - PUMP AT 75% OF PEAK DEMAND
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 HOURS 7-8 - PUMP AT 125% OF PEAK DEMAND
 THE RESULTS OF THIS TEST MUST BE APPROVED BY THE OWNER/OWNERS REPRESENTATIVE PRIOR TO THE INSTALLATION OF THE PUMP OR IRRIGATION SYSTEM COMPONENTS. IF THE CONTRACTOR DOES NOT FOLLOW THESE REQUIREMENTS AND THE WELL PROVES TO BE INSUFFICIENT, THE CONTRACTOR BEARS 100% OF THE RESPONSIBILITY AND COSTS TO CORRECT/MODIFY THE SYSTEM TO ACCOMMODATE THE EVENTUAL WATER SOURCE.
- AFTER DRILLING THE WELL, CHECK THE WATER QUALITY TO ENSURE IT IS SUITABLE FOR LANDSCAPE PLANTINGS. USE THE SERVICES OF A REPUTABLE, LICENSED LABORATORY ONLY. WATER QUALITY TESTING MUST INCLUDE pH, CONDUCTIVITY, SODIUM, POTASSIUM, CALCIUM, MAGNESIUM, CARBONATE, BICARBONATE, CHLORIDE, PHOSPHOROUS, NITRATE NO3, SULFATE SO4, BORON, IRON, TOTAL DISSOLVED SOLIDS, SODIUM ABSORPTION RATIO, AND HARDNESS. IF THE WATER IS DETERMINED SUITABLE CONTINUE IRRIGATION INSTALLATION. IF THE WATER QUALITY IS UNSUITABLE, DO NOT PROCEED WITHOUT WRITTEN DIRECTION FROM THE OWNER/OWNER'S REPRESENTATIVE.
- IF A HIGH IRON CONTENT (OR OTHER STAIN PRODUCING COMPOUND) IS DETECTED, ADVISE THE OWNER/OWNER'S REPRESENTATIVE. DO NOT PROCEED WITHOUT WRITTEN PERMISSION. IF A CHEMICAL INJECTION SYSTEM IS REQUIRED BY THE OWNER, IT MUST BE DIRECTED BY THE OWNER AND INSTALLED BY THE PUMP SYSTEM MANUFACTURER.
- THE WELL CASING SHALL BE GALVANIZED STEEL PIPE (SIZED PER PLAN).
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CONTROL NOTES:

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IRRIGATION LEGEND

▽	RB1804-SAM-1404 FLOOD BUBBLES W/NP COVER	0.25 GPM @ 30 PSI
⊙	RB1806-SAM-PRS-30 W/HUNTER MPRSS530	0.44 GPM @ 40 PSI
Ⓜ	RB1806-SAM-PRS-30 W/ HUNTER MP1000	0.19-0.43 GPM @ 40 PSI
⊙	RB1806-SAM-PRS-30 W/HUNTER MP1000360	0.37 GPM @ 40 PSI
Ⓚ	RB1806-SAM-PRS-30 W/HUNTER MP2000	0.40-1.10 GPM @ 40 PSI
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Ⓚ	RB PEB SERIES RCV	with flow control
WP	SULLIVAN ELECTRIC 5HP	
P.O.C.	WELL POINT - 4" SHALLOW WELL - 100FT MAX DEPTH	
---	CLASS 200 PANTONE PURPLE PVC LATERAL LINE W/SCH 40 SOLVENT WELD PVC FITTING (SIZE PER PLAN MIN. PIPE SIZE 3/4")	
---	CLASS 200 PANTONE PURPLE PVC GASKETED 'O' RING MAINLINE W/LEEMKO DUCTILE IRON FITTING WITH MECHANICAL JOIN RESTRAINTS (SIZE PER PLAN)	
---	IRRIGATION PIPE SLEEVE - SCH 40 W/SCH 40 SOLVENT-WELD PVC FITTING	
---	SCH40 GREY PVC CONDUIT W/SCH0 SOLVENT-WELD PVC FITTING	
⚡	NIBCO P-619-RW MAINLINE ISO VALVE	
ACC	HUNTER ACC 18STATION CONTROLLER	
Ⓚ	HUNTER RFC POLE MOUNTED	
FS	DATA INDUSTRIES MODEL #220 BR.	
BF	HUNTER AVB BACKFLOW PREVENTER	

SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
3/4"	1-1/2"
1"	2"
1-1/4"	2-1/2"
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NOTES

- MAINLINE HAS BEEN SHOWN FOR CLARITY ONLY. MAINLINE SHALL BE LOCATED WITHIN THE ROADWAY MEADIAN.
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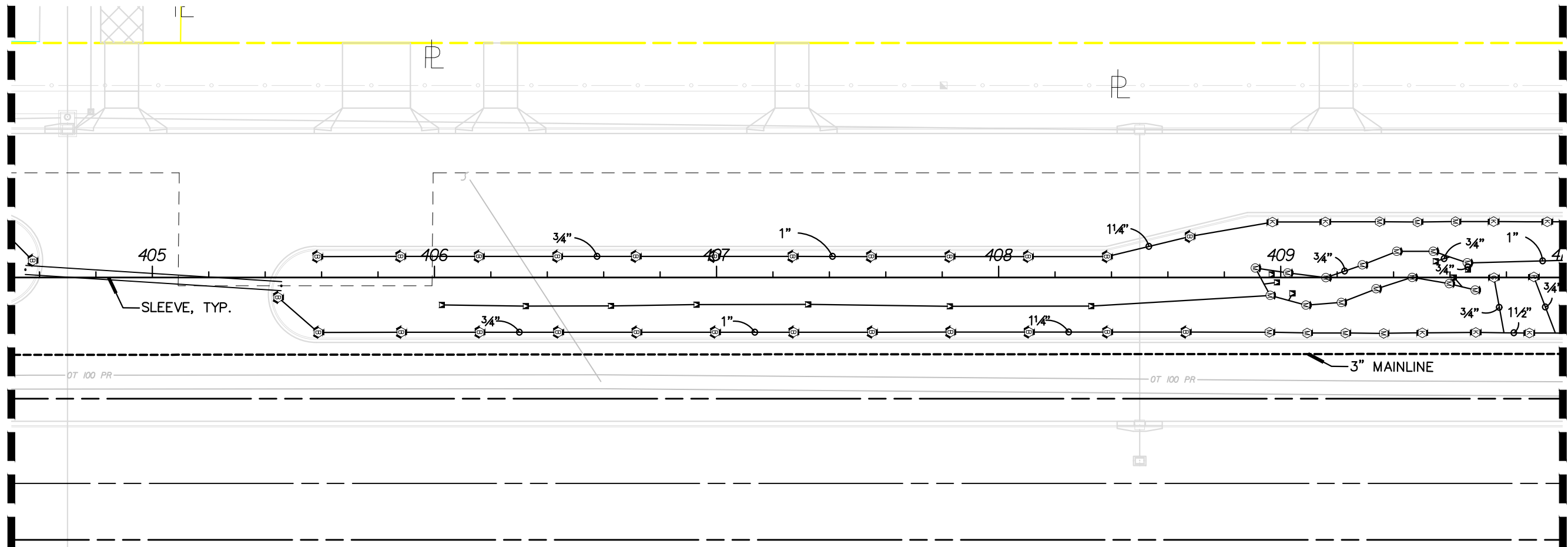
**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
 LD-39

MATCHLINE STA. 404+50.00

MATCHLINE STA. 410+00.00



NOTES:

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IRRIGATION LEGEND

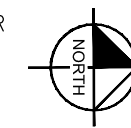
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⊙	RB1806-SAM-PRS-30 W/HUNTER MPRSS530	0.44 GPM @ 40 PSI
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WP	SULLIVAN ELECTRIC 5HP	
P.O.C.	WELL POINT - 4" SHALLOW WELL - 100FT MAX DEPTH	
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⊙	NIBCO P-619-RW MAINLINE ISO VALVE	
ACC	HUNTER ACC 18STATION CONTROLLER	
R	HUNTER RFC POLE MOUNTED	
FS	DATA INDUSTRIES MODEL #220 BR.	
BF	HUNTER AVB BACKFLOW PREVENTER	

SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
3/4"	1-1/2"
1"	2"
1-1/4"	2-1/2"
1-1/2"	3"
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NOTES

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REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn

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 445 24TH STREET, SUITE 200
 VERO BEACH, FL 32960
 (772) 794-4000
 CA Number: LC-C000219

**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

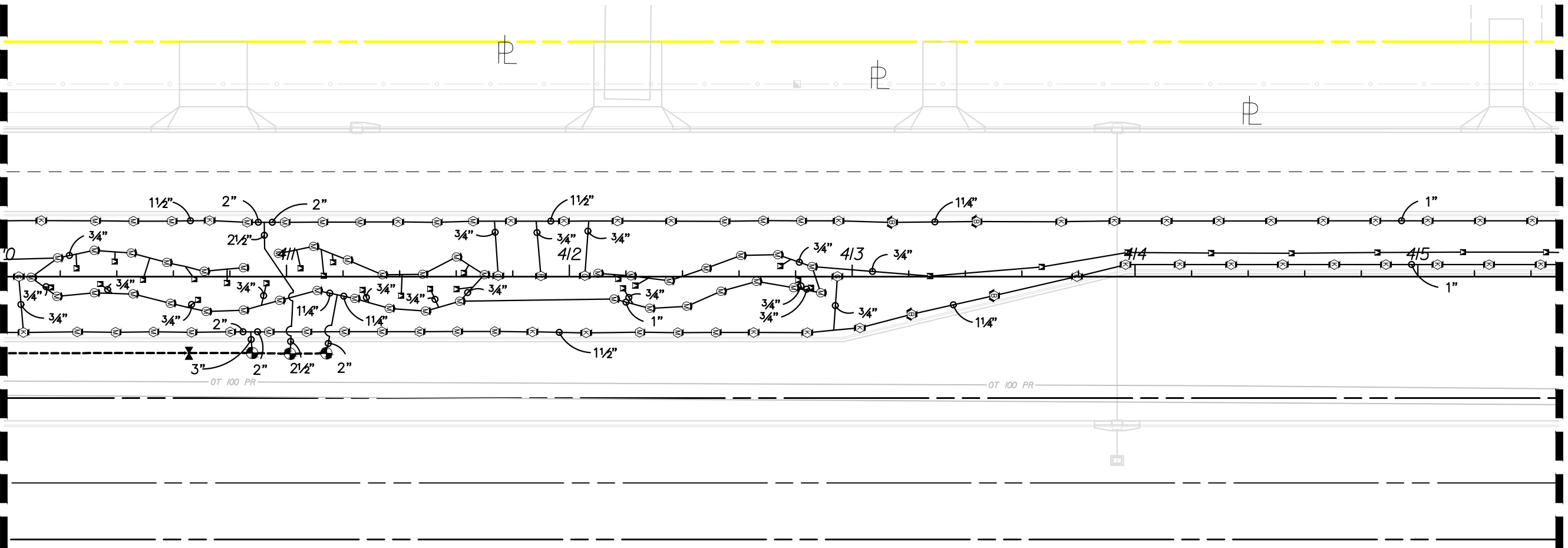
**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.

LD-40

MATCHLINE STA. 410+00.00

MATCHLINE STA. 415+50.00



NOTES:

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IRRIGATION LEGEND

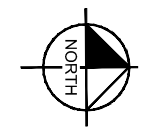
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SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
3/4"	1-1/2"
1"	2"
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NOTES

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REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

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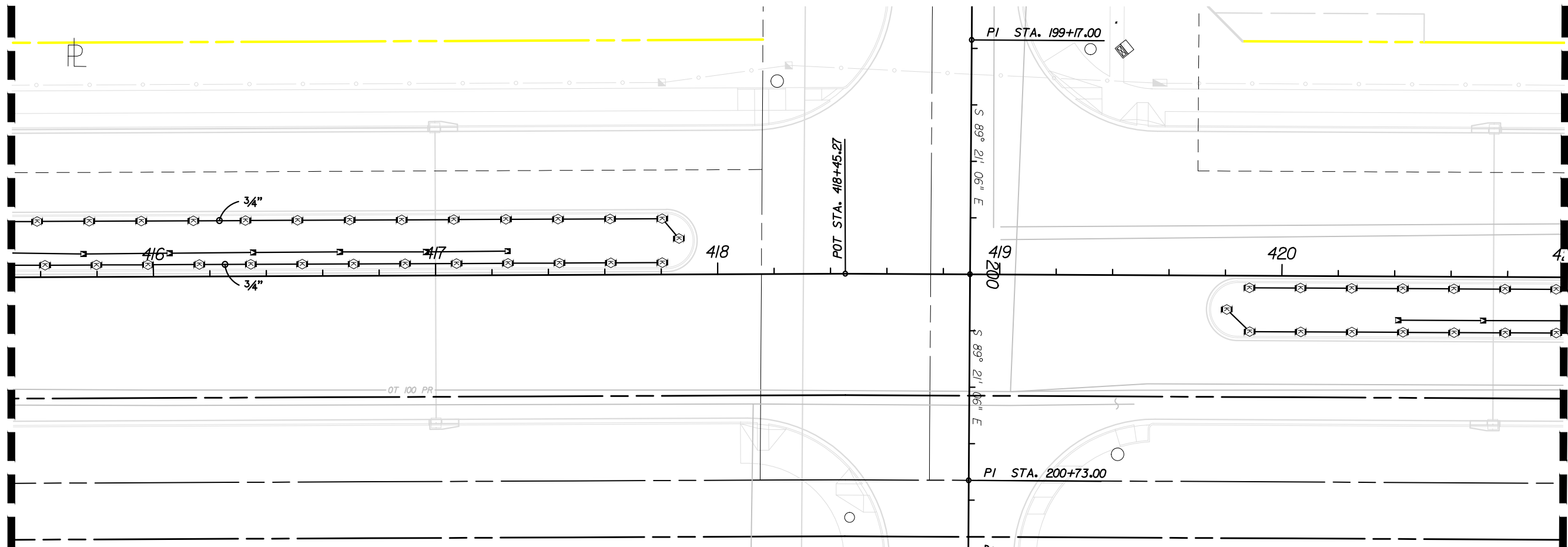
**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
LD-41

MATCHLINE STA. 415+50.00

MATCHLINE STA. 421+00.00



NOTES:

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CONTROL NOTES:

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IRRIGATION LEGEND

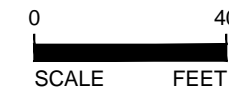
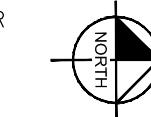
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WP	SULLIVAN ELECTRIC 5HP	
P.O.C.	WELL POINT - 4" SHALLOW WELL - 100FT MAX DEPTH	
---	CLASS 200 PANTONE PURPLE PVC LATERAL LINE W/SCH 40 SOLVENT WELD PVC FITTING (SIZE PER PLAN MIN. PIPE SIZE 3/4")	
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ACC	HUNTER ACC 18STATION CONTROLLER	
R	HUNTER RFC POLE MOUNTED	
FS	DATA INDUSTRIES MODEL #220 BR.	
BF	HUNTER AVB BACKFLOW PREVENTER	

SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
3/4"	1-1/2"
1"	2"
1-1/4"	2-1/2"
1-1/2"	3"
2"	4"
2-1/2"	6"
3, 4"	6"

NOTES

- MAINLINE HAS BEEN SHOWN FOR CLARITY ONLY. MAINLINE SHALL BE LOCATED WITHIN THE ROADWAY MEADIAN.
- PIPE SLEEVES SHALL ALLOW FOR IRRIGATION PIPING AND THEIR RELATED COUPLINGS TO EASILY SLIDE THROUGH SLEEVING PIPE. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING. REFER TO SLEEVE SIZE SCHEDULE.



REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

Kimley»Horn

MATTHEW T. FRANKO, P.L.A. No. 6667292
 445 24TH STREET, SUITE 200
 VERO BEACH, FL 32960
 (772) 794-4000
 CA Number: LC-C000219

**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

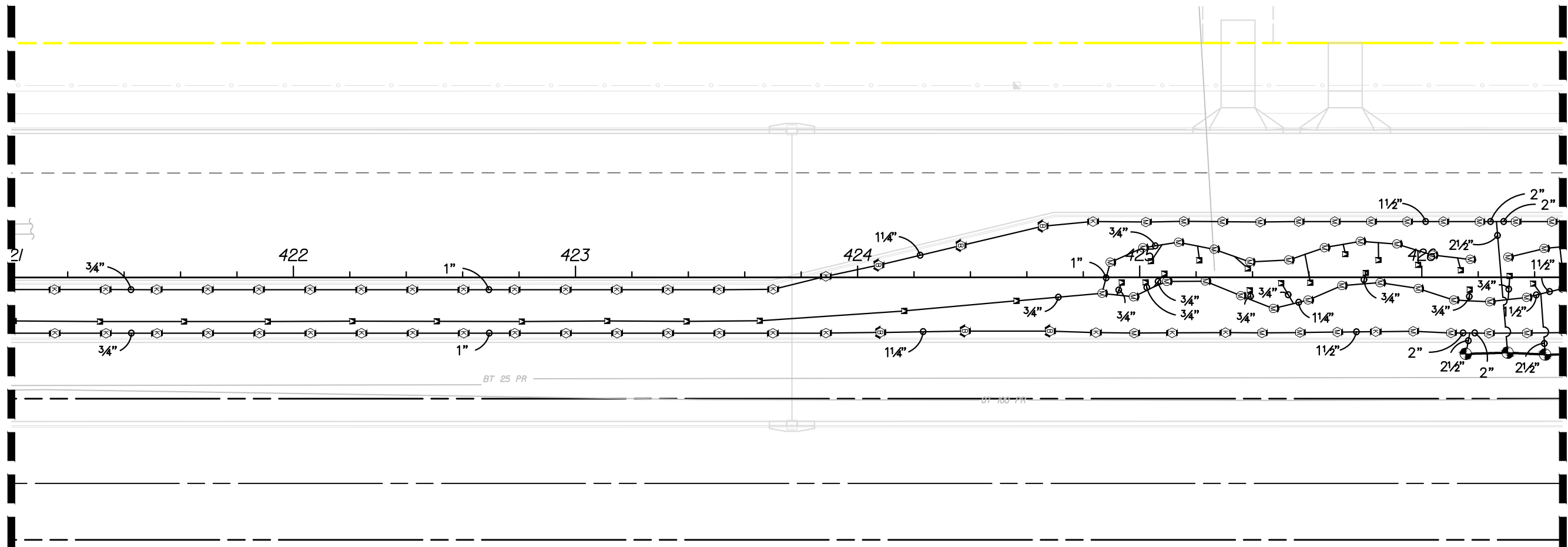
**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.

LD-42

MATCHLINE STA. 421+00.00

MATCHLINE STA. 426+50.00



NOTES:

- CONTRACTOR TO PROVIDE NEW WELL UP TO 100' DEEP, WITH DIAMETER AS SPECIFIED. PROVIDE A LINE ITEM 'PER FOOT' COST FOR EACH ADDITIONAL FOOT OF DEPTH, IF NEEDED. CONTRACTOR SHALL NOT DRILL THE WELL DEEPER THAN 100' WITHOUT RECEIVING PRIOR WRITTEN AUTHORIZATION. IF PRIOR AUTHORIZATION IS NOT OBTAINED, IN WRITING, NO ADDITIONAL MONIES WILL BE PAID.
- AFTER THE WELL IS DRILLED, A STEP TEST MUST BE PERFORMED ON THE WELL TO VERIFY THE WELL CAN PRODUCE THE REQUIRED VOLUME OF WATER ON A CONTINUAL BASIS. THE STEP TEST MUST LAST 8 HOURS WITH WATER LEVEL MEASURED EACH HALF HOUR. PEAK DEMAND IS THE GPM IDENTIFIED IN THE POC NOTE ON THE NOTES SHEET:
 HOURS 1-2 - PUMP AT 50% OF PEAK DEMAND
 HOURS 3-4 - PUMP AT 75% OF PEAK DEMAND
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 THE RESULTS OF THIS TEST MUST BE APPROVED BY THE OWNER/OWNERS REPRESENTATIVE PRIOR TO THE INSTALLATION OF THE PUMP OR IRRIGATION SYSTEM COMPONENTS. IF THE CONTRACTOR DOES NOT FOLLOW THESE REQUIREMENTS AND THE WELL PROVES TO BE INSUFFICIENT, THE CONTRACTOR BEARS 100% OF THE RESPONSIBILITY AND COSTS TO CORRECT/MODIFY THE SYSTEM TO ACCOMMODATE THE EVENTUAL WATER SOURCE.
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- IF A HIGH IRON CONTENT (OR OTHER STAIN PRODUCING COMPOUND) IS DETECTED, ADVISE THE OWNER/OWNER'S REPRESENTATIVE. DO NOT PROCEED WITHOUT WRITTEN PERMISSION. IF A CHEMICAL INJECTION SYSTEM IS REQUIRED BY THE OWNER, IT MUST BE DIRECTED BY THE OWNER AND INSTALLED BY THE PUMP SYSTEM MANUFACTURER.
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IRRIGATION LEGEND

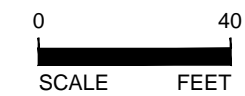
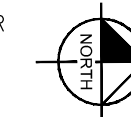
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SLEEVE SIZE SCHEDULE

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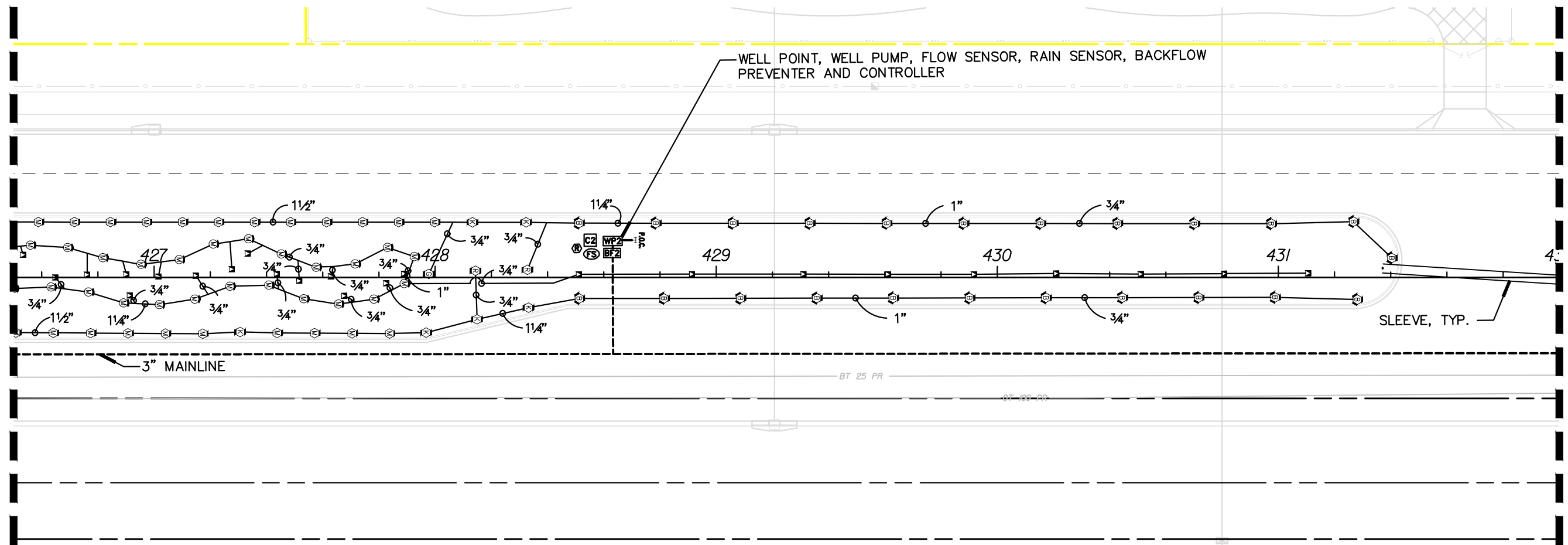
**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
LD-43

MATCHLINE STA. 426+50.00

MATCHLINE STA. 432+00.00



WELL POINT, WELL PUMP, FLOW SENSOR, RAIN SENSOR, BACKFLOW PREVENTER AND CONTROLLER

3" MAINLINE

SLEEVE, TYP.

BT 25 PR

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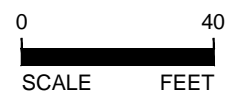
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SLEEVE SIZE SCHEDULE

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REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

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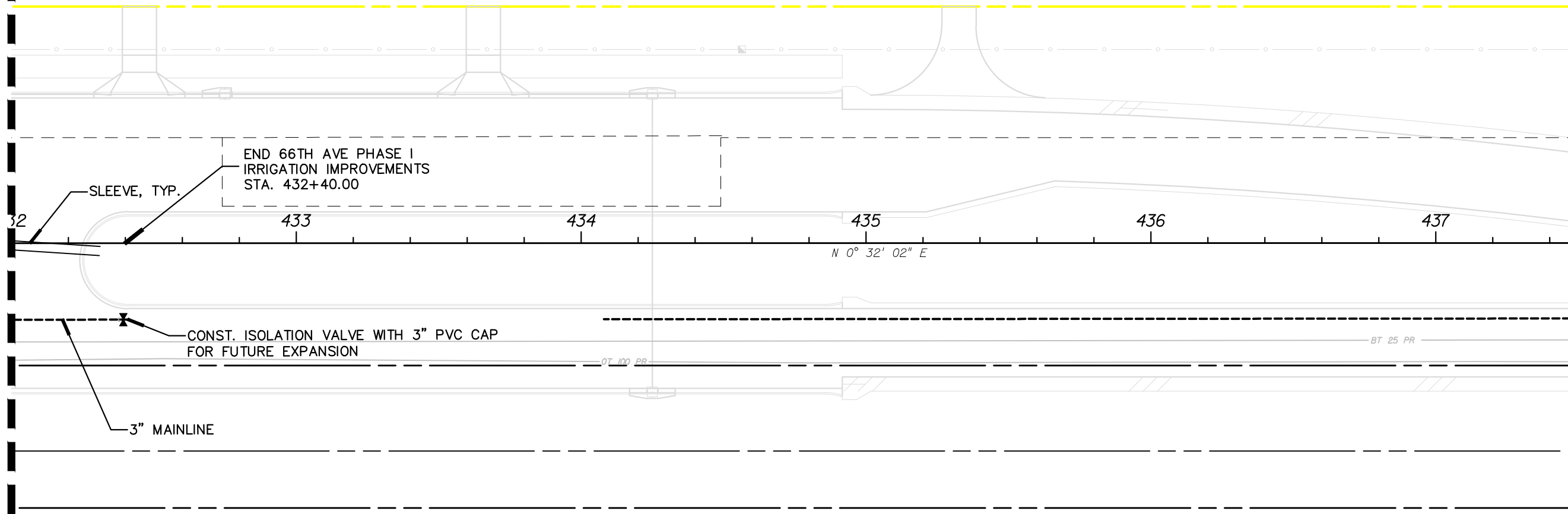
**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 49th STREET TO 69th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
 LD-44

EL: 22.00; L: 17 @ 5.18%

MATCHLINE STA. 432+00.00



NOTES:

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---	CLASS 200 PANTONE PURPLE PVC GASKETED 'O' RING MAINLINE W/LEEMKO DUCTILE IRON FITTING WITH MECHANICAL JOIN RESTRAINTS (SIZE PER PLAN)	
---	IRRIGATION PIPE SLEEVE - SCH 40 W/SCH 40 SOLVENT-WELD PVC FITTING	
---	SCH40 GREY PVC CONDUIT W/SCH0 SOLVENT-WELD PVC FITTING	

SLEEVE SIZE SCHEDULE

PIPE SIZE (CLASS 200)	SLEEVE SIZE (SCHEDULE 40)
3/4"	1-1/2"
1"	2"
1-1/4"	2-1/2"
1-1/2"	3"
2"	4"
2-1/2"	6"
3, 4"	6"

NOTES

- MAINLINE HAS BEEN SHOWN FOR CLARITY ONLY. MAINLINE SHALL BE LOCATED WITHIN THE ROADWAY MEADIAN.
- PIPE SLEEVES SHALL ALLOW FOR IRRIGATION PIPING AND THEIR RELATED COUPLINGS TO EASILY SLIDE THROUGH SLEEVING PIPE. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING. REFER TO SLEEVE SIZE SCHEDULE.



REVISIONS				
NO.	DESCRIPTION	DATE	BY	DESCRIPTION

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**INDIAN RIVER COUNTY
 BOARD OF COUNTY COMMISSIONERS**
**66th AVENUE ROADWAY WIDENING -
 PHASE IB 4th STREET TO 6th STREET**

**66TH AVENUE
 IRRIGATION PLAN**

SHEET NO.
 LD-45