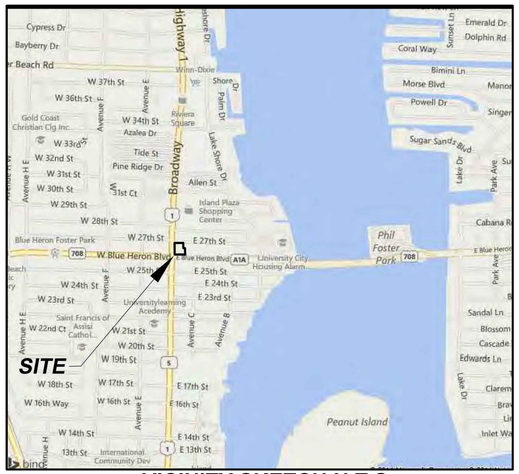
2600 BROADWAY
BEAUTIFICATION PROJECT

CITY OF RIVIERA BEACH CRA
CITY OF RIVIERA BEACH, FLORIDA

CONSTRUCTION DOCUMENTS

MARCH 19, 2021



VICINITY SKETCH N.T.S.

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LANDSCAPE ARCHITECT OF RECORD:

Christopher W. Dellago, RLA
Florida Reg. # LA-6666678

Project No. 21-403.01

REVISIONS

CWA
LANDSCAPE ARCHITECTS • CONTRACTORS

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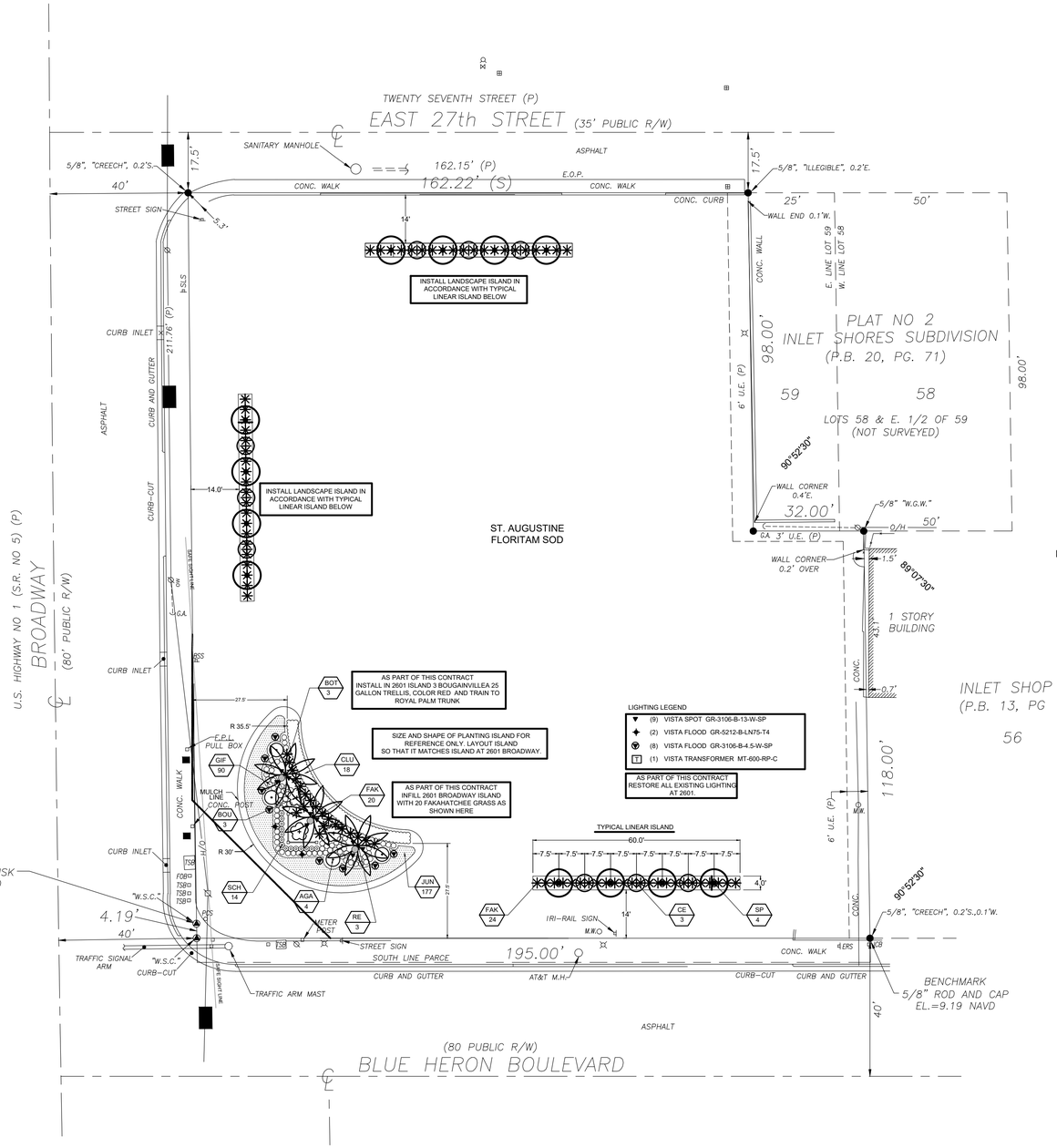
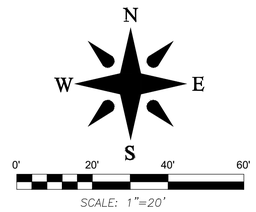
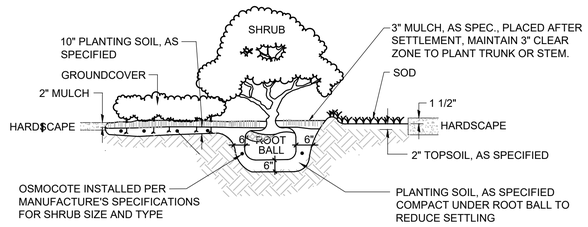




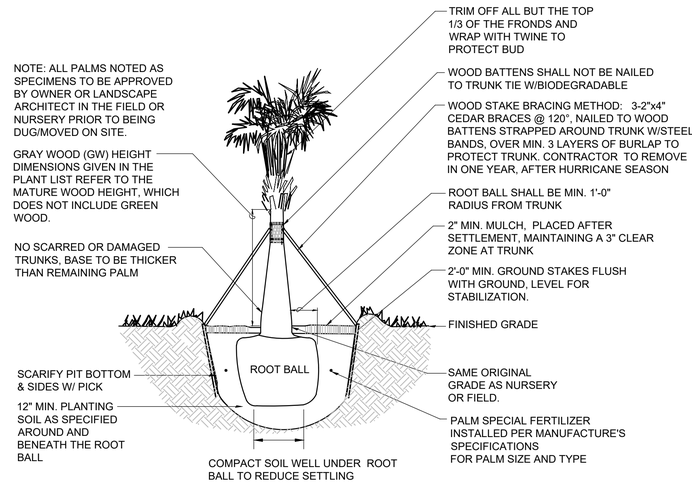
PLANT SCHEDULE

SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS
PALMS				
RE	3	Roystonea elata	Florida Royal Palm	FG, 25' OA HT , Space as Shown Matched Height, Florida Fancy
SP	12	Sabal Palm	Cabbage Palm	FG, 15' CT, Space as Shown Slick Trunk, Matched Height
TREES				
CE	9	Conocarpus erectus sericeus	Silver Buttonwood	25G, 9' OA HT, Space as shown
SHRUBS				
BOT	6	Bougainvillea sp.	Red Bougainvillea	25G., 12' Trellis
SCH	14	Schefflera arboricola 'Trinette'	Trinette	3G, 18" x 12", 18" OC
BOU	3	Bougainvillea spp. (Purple)	Bougainvillea Std.	6' OA HT, Tree form
AGA	4	Agave americana (Blue)	American Agave	25G, Full, Space as shown
GIF	90	Ficus microcarpa var. Green Island	Green Island Fig	3G, 12" x 12", 18" OC
CRO	32	Codiaeum variegatum	Croton	3G, 18" x 12", 2' OC
FAK	112	Tripsacum dactyloides	Fakahatchee Grass	3G, 18" x 18", 2.5' OC
CLU	18	Clusia guttifera 'Nana'	Dwarf Clusia	7G, 24" x 24", 3' OC Hedge
JUN	177	Juniperus chinensis 'Parsonii'	Parson's Juniper	3G, 12" x 12", 18" OC
SOD	36,000	Stenotaphrum secundatum	St. Augustine Floratam	Solid Sod



2 TYPICAL SHRUB PLANTING DETAIL

N.T.S.



1 TYPICAL PALM PLANTING DETAIL

N.T.S.

GENERAL LANDSCAPE NOTES:

1. THIS PLAN IS BASED ON A BOUNDRY SURVEY FOR: RIVIERA BEACH CRA, PREPAIRED BY WALLACE SURVEYORS, DATE 12/02/14. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PROPERTY LINES, UTILITIES AND SITE ELEMENTS PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL PROVIDE 6 INCHES (LIGHTLY COMPACTED) OF 50-50 MIX SOIL UNDER ALL SOD. SHRUB AND TREE PLANT PITS SHALL BE DUG 3 TIMES THE WIDTH OF THE ROOT BALLS AND BACKFILLED WITH 50-50 MIX SOIL FROM ATLAS PEAT AND SOILS, OR APPROVED EQUAL
3. MULCH ALL PLANTING BEDS WITH A 2" DEPTH OF CHOCOLATE DESIGNER MULCH
4. AFTER LAYING SOD, ROLL WITH A MIN. 400LB ROLLER, MIN. 2 PASSES
5. CITY TO PROVIDE 120V POWER TO SITE, LANDSCAPE CONTRACTOR SHALL COORDINATE POWER REQUIREMENTS AND LOCATION OF LIGHTING TRANSFORMERS

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L1
SHEET

NO.	DATE	REVISION	BY	APPROVED

CLIENT:

2600 BROADWAY

RIVIERA BEACH, FL 33404

LANDSCAPE PLAN

CAD FILE: 2600 L1 3_19_21
DESIGN: CD
DRAWN BY: SB
CHECKED: CD
APPROVED: CD
DATE: 3/19/2021
DRAWING STATUS: BID
SCALE: 1"=20'

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1.0 Part 1 - GENERAL

1.01 DESCRIPTION OF WORK INCLUDED

A. Extent of Planting work is shown on drawings and in schedules.

B. Subgrade Elevations: Excavation, filling and grading required to establish elevations 4" lower than elevations and contours shown on drawings are not specified in this Section.

C. Finish Grade Elevations: 1 inch below top of sidewalk.

1.02 QUALITY ASSURANCE

A. Subcontract landscape work to a single firm specializing in landscape work.

B. Source Quality Control:

1. General: Ship landscape materials with certificates of inspection required by governing authorities. Comply with regulations applicable to landscape materials.
2. Do not make substitutions. If specified landscape material is not obtainable, submit to Landscape Architect proof of non-availability and proposal for use of equivalent material. When authorized, adjustment of contract amount will be made.
3. Analysis and Standards: Package standard products with manufacturer's certified analysis. For other material, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agricultural Chemists, wherever applicable.
4. Trees, Palms and Shrubs: Provide trees, palms and shrubs grown in a recognized nursery in accordance with good horticultural practice. Provide healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as decay, knots, sun-scald, injuries, abrasions disfigurement. Provide trees, palms and shrubs for grade needed as outlined under Grades and Standards for Nursery Plants, State Plant Board of Florida, unless otherwise noted.
   a. Sizes: Provide trees and shrubs of sizes shown or specified. Trees, palms and shrubs of larger size may be used if acceptable to Landscape Architect, and if sizes of roots or balls are increased proportionately.

C. Inspection: Landscape Architect reserves right to inspect trees, palms and shrubs either at place of growth or at site before planting, for compliance with requirements for name, variety, size and quality.

1.03 SUBMITTALS

A. Certification: Submit certificates manufacturers or vendor's certified analysis for soil substantiating that materials comply with specified amendments and fertilizer materials. Submit other data requirements.

B. Submit sod vendor's certificate statement for each grass species required, stating botanical and common name, percentage by weight, and percentage of purity.

C. Submit written warranty. See specification 1.06

D Planting Schedule:
Submit planting schedule showing schedules dates for each type of planting in each area of site.

E. Maintenance Instructions:
Submit typewritten procedures for maintenance of landscape work.

F. Contractor to provide Florida Department of Agriculture Certification on sod that is free of any noxious material.

1.04 DELIVERY, STORAGE AND HANDLING

A. Packaged Materials: Deliver packaged materials in original containers showing weight analysis and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.

B. Sod: Time delivery so that sod will be placed within 24 hours after stripping. Protect sod against drying and breaking of rolled strips.

C. Trees, palms and shrubs: Provide freshly dug trees, palms and shrubs. Do not prune prior to delivery. Do not bend or bind-tie trees or shrubs in such a manner as to damage bark, break branches or destroy natural shape. Provide protective covering during delivery.

D. Deliver trees, palms and shrubs after preparations for planting have been completed and plant immediately. If planting is delayed more than 6 hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist.

E. Do not remove container grown stock from containers until planting time.

F. Label at least one tree, one palm and one shrub of each variety with a securely attached waterproof tag bearing legible designation of botanical and common name.

1.05 JOB CONDITIONS

A. Proceed with and complete landscape work as rapidly as portions of site become available.

B. Utilities: Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned. Contractor is responsible for repairing or replacing utilities damaged during construction.

C. Planting Schedule: Where applicable, prepare a proposed planting schedule. Schedule dates to establish a logical sequence for completing each type of landscape work to avoid damage to other landscape work and work performed by other disciplines. Correlate with specified maintenance periods to provide maintenance from date of substantial completion. Once accepted, revise dates only as approved in writing, after documentation of reasons for delays.

D. Coordination with Lawns: Plant trees, palms and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to Landscape Architect. If planting of trees, palms and shrubs occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.

1.06 SPECIAL PROJECT WARRANTY

A. Warrant lawns through specified maintenance period, and until one full year following final acceptance.

B. Warrant trees, palms & shrubs for a period of one year after final acceptance against defects including death and satisfactory growth, except for defects resulting from neglect by Owner, abuse or damage by others, or unusual phenomena or incidents which are beyond Landscape Contractor's control.

C. Remove and replace trees, shrubs or other plants found to be dead or in unhealthy condition during warranty period. Replace trees, palms and shrubs which are in doubtful condition at end of warranty period; unless, in opinion of

Part 2 PRODUCTS

2.01 TOPSOIL/PLANTING SOIL

A. Topsoil/Planting soil must be furnished as specified for use as planting pit backfill and 2" min. under new sod areas. Soil can be derived from one or both of the following:

1. Existing topsoil stockpiled on site during the clearing and grubbing phase of construction. It should be free of road base limerock, heavy clay, silt, stone, extraneous lime, plant roots and other foreign matter greater than 1 1/2" in diameter. It shall not contain noxious plant growth such as bermuda or nut grass. It shall test in neutral pH range of 5.0 to 6.75 and contain no toxic substance that can be deemed to impede plant growth. The contractor shall be prepared to have soil lab-tested at his expense.
2. Borrow topsoil/planting soil shall be a 50/50 Mix from Atlas Peat & Soil of Boynton Beach, Florida, or approved to be used for planting pit backfill and under sod.

2.02 SOIL AMENDMENTS

If necessary to bring soil into above specified limits:

A. Peat Humus or Peat Moss: Texture, moisture and pH range suitable for intended use.

B. Commercial Fertilizer: Complete fertilizer of neutral character, with 40% - 50% of the total nitrogen in a water insoluble form. It shall be uniform in composition, dry and free flowing.

1. For trees, palms and shrubs, provide fertilizer with not less than 6% available phosphoric acid, 6% nitrogen and 6% soluble potash.
2. For lawns, provide fertilizer with not less than 6% phosphoric acid, and 6% potassium, and 6% percentage of nitrogen required to provide not feet of lawn area. Provide nitrogen in a form that will be available to lawn during initial period of growth.

2.03 PLANT MATERIALS

A. Plant list is part of this specification section.

B. Quality: Trees, palms, shrubs and other plants shall conform to the standards for Florida No. 1 or better as given in the latest edition of Grades and Standards for Nursery Plants, State Plant Board of Florida.

2.04 SODDING

A. Sod: Provide fresh, clean, new-crop sod complying with standard proportions and minimum percentages of purity.

2.05 MISCELLANEOUS LANDSCAPE MATERIALS

A. Ground Cover: Provide plants established and well-rooted in removable containers or integral peat pots and with not less than minimum number and length of runners specified.

B. Mulch: Recycled Hard Wood Mulch, (no red mulch).

C. 'OSMOCOTE' indoor outdoor plant food. Apply as per manufacturer's specifications.

Part 3 EXECUTION

3.01 LAYOUT

A. Layout individual tree and shrub locations and areas for multiple plantings. Stake locations and outline areas and secure Landscape Architect's acceptance before start of planting work. Make adjustments as may be requested.

3.02 PREPARATION OF PLANTING SOIL

A. Before mixing, clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful or toxic to plant growth.

B. Mix specified soil amendments and fertilizers with topsoil at rates specified. Delay mixing of fertilizer if planting will not follow placing of planting soil within a few days.

3.03 PREPARATION FOR PLANTING LAWNS

A. Preparation of Unchanged Grades: Where lawns are to be planted in areas that have not been altered or disturbed by excavation, grading, or stripping operations, prepare soil for lawn planting as follows: Till to a depth of not less than 6"; apply soil amendments and initial fertilizers; remove high areas and fill in depressions; till soil to a homogenous mixture of fine texture, free of lumps, clods, stones, roots and other extraneous matter.

1. Prior to preparation of unchanged areas, remove existing grass, vegetation and turf. Dispose of such material outside of Owner's property; do not turn over into soil being prepared for lawns.

B. Elsewhere: Loosen subgrade of lawn areas to a minimum depth of 4". Remove stones over 1 1/2" in any dimension and sticks, roots, rubbish and other extraneous matter. Limit preparation to areas which will be planted promptly after preparation.

1. Spread planting soil mixture to minimum depth required to meet lines, grades and elevations shown, after light rolling and natural settlement.
2. Place approximately 1/2 of total amount of planting soil required. Work into top of loosened subgrades to create a transition layer and then place remainder of planting soil.
3. Allow for sod thickness in areas to be sodded.

C. Grade lawn areas to smooth, even surface with loose, uniformly fine texture. Roll and rake and remove ridges and fill depressions, as required to meet finish grades. Limit fine grading to areas which can be planted immediately after grading.

D. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.

E. Restore lawn areas to specified condition if eroded or otherwise disturbed after fine grading and prior to planting.

3.04 PREPARATION OF PLANTING BEDS

A. Loosen subgrade of planting bed areas to a minimum depth of 10" using a cultimulcher or similar equipment. Remove stones over 1 1/2" in dimension, and sticks, planting soil mixture to minimum depth required to meet lines, grades and elevations shown, after light rolling and natural settlement. Place approximately 1/2 of total amount of planting soil required. Work into top of loosened subgrade to create a transition layer, then place remainder of the planting soil. Add soil amendment.

B. Excavation for Trees and Shrubs: Excavate pits, beds and trenched with vertical sides and with bottom of excavation slightly raised at center to provide property drainage. Loosen hard subsoil in bottom of excavation.

1. Make excavations at least half again as wide as the ball diameter and equal to the ball depth, plus following allowances for setting of ball on a layer of compacted backfill: Allow for 3" setting layer of planting soil mixture. (See planting details)

C. Dispose of subsoil removed from landscape excavations. Do not mix with planting soil or use as backfill. Fill excavation for trees and shrubs with water and allow to percolate out before planting.

3.05 PLANTING TREES, PALMS AND SHRUBS

A. Lay out individual tree, palm and shrub locations and areas for multiple plantings where required. Stake locations and outline areas and secure Landscape Architect's acceptance before start of planting work. Make adjustments as may be required.

B. Set balled and burlapped (B&B) stock on layer of compacted planting soil mixture, plump and in center of pit or trench with top of ball at same elevation as adjacent finished landscape grades or slightly higher than finished grade but in no instances lower. Remove burlap from sides of balls; retain on bottoms. When set, place additional backfill around base and sides of ball, and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill.

C. Set container grown stock as specified for balled and burlapped stock, except cut cans on 2 sides with an approved can cutter; remove bottoms of wooden boxes after partial backfilling so as not to damage root balls.

D. Dish top of backfill to allow for mulching.

E. Mulch pits, trenches and planting areas. Provide not less than following thickness of mulch and work into top of backfill and finish level with adjacent finish

3.07 SODDING NEW LAWNS

A. Lay sod within 24 hours from time of stripping.

B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Tamp or roll tightly to ensure contact with subgrade. Work sifted soil into minor cracks between pieces to sod; remove excess to avoid smothering of adjacent grass.

C. Water sod thoroughly with a fine spray immediately after planting.

3.08 MAINTENANCE

A. Begin maintenance immediately after planting.

B. Maintain trees, palms, shrubs and other plants until final acceptance.

C. Maintain trees, palms, shrubs and other plants by watering, pruning, cultivating and weeding as required for healthy growth. Tighten and repair stake and guy supports and reset trees and shrubs to property grades or vertical position as required. Restore or replace damaged wrappings. Spray as required to keep trees and shrubs free of insects and disease.

E. Maintain lawns for not less than the period stated below, and longer as required to establish an acceptable lawn.

1. Sodded lawns, until final acceptance

F. Maintain lawns by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading and replanting as required to establish a smooth, acceptable lawn, free of eroded or bare areas.

3.09 CLEANUP AND PROTECTION

A. During landscape work, keep pavement clean and work area in an orderly condition. Leave site clean on a daily basis.

B. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work as directed.

3.10 INSPECTION AND ACCEPTANCE

A. When landscape work is completed, the Landscape Architect will review the installation to insure that it meets the plans and specifications. The Owner will be notified in writing of the inspection results.

B. The landscape will be acceptable provided requirements, including maintenance, have been complied with, and healthy, uniform stand of specified plants are established, in good condition, free of weeds and irregularities. Sod requires 100% coverage required for acceptance.

L2
SHEET

NO.	DATE	REVISION	BY	APPROVED

CLIENT:

2600 BROADWAY

RIVIERA BEACH, FL 33404

LANDSCAPE SPECIFICATIONS

CAD FILE: 2600 L2_3_19_21
DESIGN: CD
DRAWN BY: SB
CHECKED: CD
APPROVED: CD
DATE: 3/19/2021
DRAWING STATUS: BID
SCALE: 1"=20'

CHRISTOPHER W. DELLAGO
FL LA 6666678

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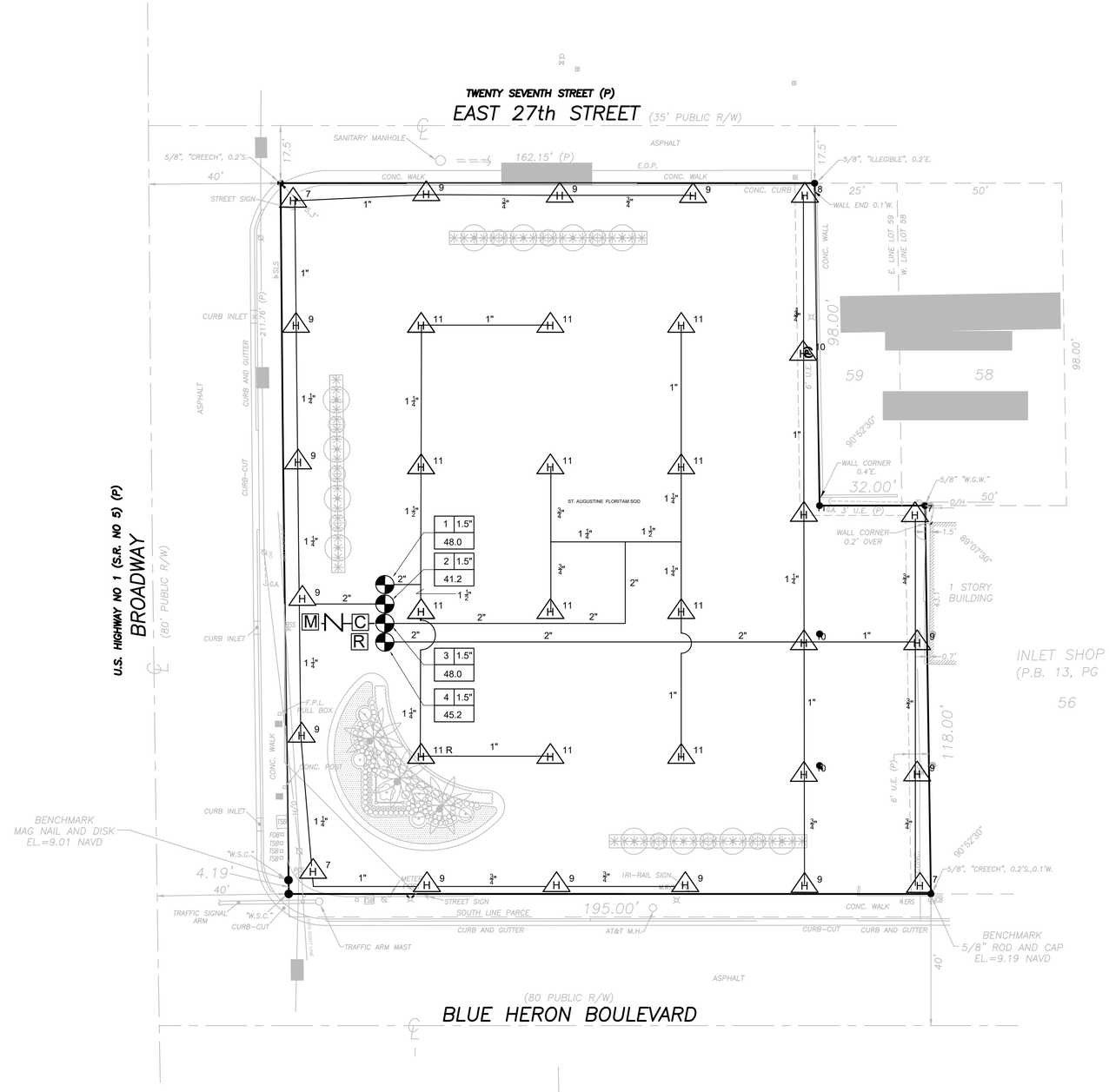

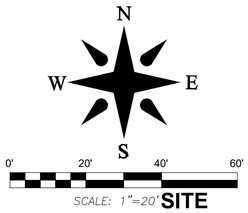

IRRIGATION LEGEND

Main Line - Size noted on plans	SCH 40 PVC
Lateral Pipe - See Pipe Sizing Chart	CLASS 160 PVC

- C — Hunter 4 Station Battery Operated Node - BT. Note: If power is provided install Hunter Pro - C controller
- N — Backflow Prevention Device size 1.5"
- M — 1.5" Meter by City
- R — Hunter Mini-Clik Rain Sensor
- H 4R — Nozzle #; Install on Riser. Hunter PGP-ADJ Rotary Sprinkler - See plan for nozzle type
- Hunter PGV 1.5" Remote Control Valve Install in Valve Box
- Zone Station # / Control Valve Size / GPM

PGP-ADJ NOZZLE CHART

#7	@40PSI	2.6 GPM	RADIUS 38'	4	10.4 GPM
#8	@40PSI	3.2 GPM	RADIUS 39'	1	3.2 GPM
#9	@40PSI	3.6 GPM	RADIUS 41'	13	46.8 GPM
#10	@40PSI	6.0 GPM	RADIUS 44'	3	18 GPM
#11	@40PSI	8.0 GPM	RADIUS 46'	13	104 GPM
			TOTAL # NOZZLES	34	182.4 GPM

GENERAL IRRIGATION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ELECTRICAL ENGINEERING SHOP DRAWINGS, FOR THE CONTROL CLOCK CONNECTION. SHOP DRAWINGS SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ELECTRICAL SERVICE, AND COORDINATE SERVICE POINTS, CONNECTION METHODS AND CONTROL CLOCK LOCATION WITH THE CITY PRIOR TO BIDDING
2. THE CONTRACTOR SHALL VERIFY THE POTABLE WATER SOURCE PRESSURE AND FLOW WITH THE CITY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE POINT OF CONNECTION AND ANY BACKFLOW PREVENTER UPGRADES NECESSARY TO PROVIDE THE SYSTEM WITH ADEQUATE SERVICE. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE CITY FOR REVIEW AND APPROVAL FOR IRRIGATION SYSTEM ELEMENTS THAT REQUIRE DESIGN REVISIONS DUE TO WATER SOURCE PRESSURE AND FLOW
3. THE WATER SOURCE SHALL BE THE EXISTING POTABLE WATER LOCATION SHOWN ON THIS SHEET. THE CONTRACTOR SHALL COORDINATE THE WATER LINE CONNECTION WITH THE CITY AND INSTALL THE SOURCE CONNECTION. CONTRACTOR SHALL PROVIDE A BACKFLOW PREVENTER.
4. CONTRACTOR SHALL COORDINATE AND PROVIDE ANY NECESSARY RELATED PERMITS AND FEES FOR THE WATER CONNECTION.
5. SIZE PIPES TO RESTRICT WATER FLOW TO 5 FEET PER SECOND.

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I1
SHEET

NO.	DATE	REVISION	BY	APPROVED

CLIENT:

2600 BROADWAY

RIVIERA BEACH, FL 33404

IRRIGATION PLAN

CAD FILE: 2600_I1_3_19_21
DESIGN: CD
DRAWN BY: SB
CHECKED: CD
APPROVED: CD
DATE: 3/19/2021
DRAWING STATUS: BID
SCALE: 1"=20'

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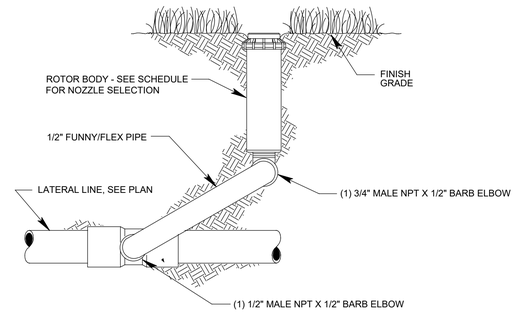
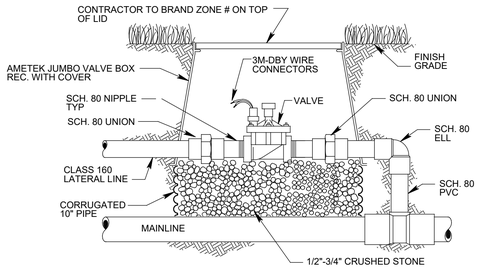


1 ROTOR SPRAY HEAD DETAIL

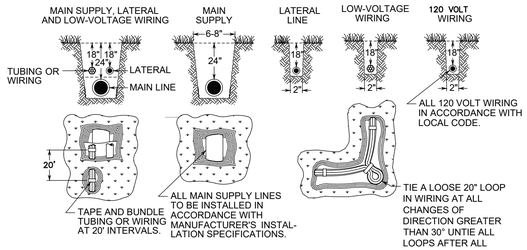
N.T.S.



2 ZONE VALVE DETAIL

N.T.S.

CONTRACTOR TO COMPLY WITH ALL LOCAL CODES AND ORDINANCES IN REFERENCE TO THE INSTALLATION OF PVC PIPING AND LOW VOLTAGE WIRING.



3 PIPE TRENCHING DETAIL

N.T.S.

1.0 GENERAL

1.01 DESCRIPTION

A. Provide an underground irrigation system as specified. The work includes:
1. Irrigation design, and installation including one mainline connection
2. Automatic irrigation system, including piping, fittings, sprinkler heads, and accessories.
3. Trenches for control wire.
4. Testing.
5. Excavating and backfilling irrigation system work.
6. Pipe sleeves.
7. Valve boxes and installation.
8. Zone valves and isolation valves.
9. Controllers, actuators, and wiring. (Controller installed by owner)
10. Rain shut–off switches.
11. Electrical connection installation, permit and coordination.
12. Mainline potable water connection installation, permit and coordination including tap, meter and backflow prevention devise..

B. Also provide equipment listed in the Performance Specifications on the landscape sheets.

1.02 QUALITY ASSURANCE

A. Site Work:
1. Protect existing buildings, paving, and other services or facilities on–site & adjacent to the site from damage caused by site work operations. Cost of repair & restoration of damaged items at Contractor's expense.
2. Protect and maintain street lights, utility poles and services; traffic signal control boxes; curb boxes; valves and other services; except items designated for removal.

B. Materials, equipment, and methods of installation shall comply with the following codes and standards:
1. City of Riviera Beach
2. American Society for Testing Materials (ASTM).
3. Nation Sanitation Foundation (NSF).
4. The Florida Irrigation Society.
5. Florida Plumbing Code

C. Excavating, backfilling, and compacting operations: Comply with Section requirements and as specified.

D. Obtain Landscape Architect's or designated inspector's acceptance of installed and tested irrigation system prior to installing backfill materials.

E. Coordinate with City of Riviera Beach Electrical Inspector.

1.03 SUBMITTALS

A. Prepare & submit shop drawings for review and approval.

B. Submit manufacturer's product data and installation instructions for each of the system components.

C. Provide irrigation system Record drawings:
1. Legibly mark drawings to record actual construction.
2. Indicate horizontal and vertical locations, referenced to permanent surface improvements.
3. Identify field changes of dimension & detail and changes made by Change Order.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver irrigation system components in manufacturer's original undamaged & unopened containers with labels intact & legible.

B. Deliver plastic piping in bundles, packaged to provide adequate protection of pipe ends, both threaded or plain.

C. Store and handle materials to prevent damage and deterioration.

1.05 PROJECT CONDITIONS

A. Protect existing trees, plants, lawns, and other features designated to remain as part of the final landscape work.

B. Promptly notify the Inspector of unexpected subsurface conditions.

1.06 SUBSTITUTIONS

A. Changes or substitutions of equipment or material types or sizes shall be done only when written approval has been obtained from the Landscape Architect.

PART 2 – PRODUCTS

2.01 MATERIALS

A. General:
1. Provide only new materials, without flaws or defects & of the highest quality of their specified class kind.
2. Remove damaged and defective pipe.
3. Provide pipe continuously and permanently marked with manufacturer's name or trademark, size schedule & type of pipe, working pressure of 40 degC & National Sanitation Foundation (NSF) approval.

B. Plastic Pipe, Fittings, and Connections:
1. Polyvinyl Chloride Pipe (PVC): ASTM D 2241, rigid, unplasticized PVC, extruded from virgin parent material. Provide pipe homogeneous throughout & free from visible cracks, holes, foreign materials, blisters, wrinkles, and dents.
a. Main Line – Schedule 40 PVC pipe.
b. Lataral Line – Class 160 PVC pipe.
2. PVC pipe fittings: ASTM D 2241, Schedule 40 PVC molded fittings suitable for solvent weld, slip joint ring tight seal, or screwed connections. Fittings made of other materials are not permitted.
a. Size slip fitting socket taper to permit a dry unsoftened pipe end to be inserted no more than halfway into the socket. Saddle and cross fittings are not permitted.
3. Polyethylene Pipe (PVC): ASTM D 2239, thick walled. Flexible swing joints shall be thick–walled with a minimum pressure rating of 75 psi. Use fittings manufactured specifically for the type and dimensions of polyethylene pipe used.

C. Sprinkler Heads, Valves, and Associated Equipment:
1. Spray Heads: Hunter Pro–spray series
2. Rotor Heads: Hunter PGP

D. Controls:
1. Rain Sensor: Hunter Mini–Clik Rain Sensor (or equal)
2. Controller: Hunter Node – BT
3. Valves: Hunter PGV

E. Control Wire:
1. Common: 12–gauge low voltage control wire.
2. Hot Wires: AWG 14.

F. Sleeves: Schedule 40 PVC.

2.02 ACCESSORIES

A. Valve Box Drainage Fill: washed pea gravel.

B. Fill: Clean soil free of stones larger than 2" diameter foreign matter, organic material, and debris.

C. Valve Access Boxes: Tapered enclosure of rigid plastic material comprised of fibrous components chemically inert and unaffected by moisture corrosion and temperature changes. Provide lid of same material, purple in color.

D. All irrigation equipment to be color coded purple for reclaimed water.

PART 3 – EXECUTION

3.01 INSPECTION

A. Examine final grades and installation conditions. Do not start irrigation system work until unsatisfactory conditions are corrected.

3.02 PREPARATION

A. Contractor will provide and install all components, including: pump discharge connection valves, valve boxes, trenching, backfilling, piping, heads, wiring, etc. Schedule with the Inspector.

B. Layout and stake the location of each pipe run and all sprinkler heads and sprinkler valves. Obtain Inspector's acceptance of layout prior to excavating.

C. Place sleeves as indicated on approved shop drawings for installation of piping and control wire prior to installation of walks, paver areas, or pavement installation.

A. Excavating and Backfilling:
1. Excavation shall include all materials encountered, except materials that cannot be excavated by normal mechanical means.
2. Excavate trenches of sufficient depth and width to permit proper handling and installation of pipe and fittings; 24" below grade for main lines, 18" below grade for lateral lines.
3. Excavate to depths required to provide 2" depth of earth fill or sand bedding for piping when rock or other unsuitable bearing material is encountered.
4. Fill to match adjacent grade elevations with approved earth fill material. Place and compact fill in layers not greater than 8" depth.
a. Provide approved earth fill or sand to a point 4" above the top of pipe.
b. Provide clean topsoil fill, free of rocks and debris for top fill.
5. Install irrigation lines with specified minimum cover and based on finished grades.
6. Excavate trenches and install piping and fill during the same working day. Do not leave open trenches or partially filled trenches open overnight.
7. Install new well, valves and unions in location indicated on the irrigation plans.

B. Sprinklers, Fittings, Valves, and Accessories:
1. Install fittings, valves, sprinkler heads, risers, and accessories as indicated on approved shop drawings in accordance with manufacturer's instructions.
2. Set sprinkler heads perpendicular to finish grades.
3. Locate sprinkler heads to assure proper coverage of indicated areas. Do not exceed sprinkler head spacing distances indicated.
4. Coordinate installation of the electrical connection & controllers with FPL and City of Riviera Beach electrical inspectors.
5. Install in–ground valve access box as indicated on approved shop drawings.
6. Install valve access boxes on a suitable base of gravel to provide a level foundation at proper grade and to provide drainage of the access box.
7. Seal threaded connections on pressure side of control valves with Teflon tape or approved plastic joint type compound.
8. Rain sensor to have 8" wire protruding from highest point, to discourage birds from sitting on rain sensor.

C. Control Wiring:
1. Install control wiring in accordance with manufacturer's instructions.
2. Provide trenches for control wire and backfill after installation.
3. Indicate control wire location on Record drawings.

D. Sleeves:
1. Install and locate sleeves under all pavement areas.

E. Flushing, Testing, and Adjustment:
1. After sprinkler piping and risers are installed and before sprinkler heads are installed, open control valves and flush out the system with full head of water.
2. Perform system testing upon completion of each section. Capped mains shall be required to maintain 100 psi for a minimum of 1 hour. Make necessary repairs and retool repaired sections as required.
3. Tighten nozzles on spray type sprinklers after installation. Adjust sprinkler adjusting screw on lateral line of circuit as required for proper radius. Interchange nozzles patterns as directed by the Landscape Architect, to give best arc of coverage.
4. Adjust all remote control valve flow control stems for system balance.
5. Coordinate with the Landscape Architect to test, and demonstrate the controller by operating appropriate day, hour, and station selection features as required to automatically start shut down irrigation cycles to accommodate plant requirements and weather conditions.

3.04 RESPONSIBILITY PRIOR TO FINAL ACCEPTANCE

A. The Contractor shall be responsible for maintaining the system until final acceptance. The responsibilities include but are not limited to the following:
1. Repair of all damage to installation material and equipment.
2. Adjustment of all sprinkler heads with regard to height, arc, coverage and radius.
3. Cleaning, repair and adjustment of all valves and other controls.

3.05 DISPOSAL OF WASTE MATERIAL

A. Stockpile, haul from site, and legally dispose of waste materials, including unsuitable excavated materials, rock, trash, and debris.

3.06 ACCEPTANCE

A. TESTING:
1. GENERAL: Notify owner in writing when testing will be conducted. Conduct test in presence of General Contractor, Landscaping subcontractor, and Owners representative
2. HYDROSTATIC TEST: Test water piping & valves, before backfilling trenches, to a hydrostatic pressure of not less than 100 psi psi maintained over four consecutive hours. Piping may be tested in sections to expedite work. Remove & repair piping, connections, valves which do not pass hydrostatic testing.
3. OPERATIONAL TESTING: Perform operational testing after hydrostatic testing is completed, backfill is in place, & sprinkler heads adjusted to final position.
a. Demonstrate to Owner's representative, General Contractor, and Landscaping subcontractor that system meets coverage requirements and that automatic controls function properly.
b. Coverage requirements are based on operation of one circuit at a time.

3.07 CLEANING

A. Perform cleaning during installation of the Work and upon completion of the Work. Removal from site all excess materials, soil, debris, and equipment. Repair damage resulting from irrigation system installation.

4: 01 SPECIAL PROVISIONS

A. Contractor is required to provide 100% coverage, with 50% overlap, with no direct spray on sidewalks, buildings or pavement. Provide flood bubblers for oak trees & spray heads for grass & shrubs. Flood bubblers to be on separate zone.

B. For the first three months, after final acceptance City of Riviera Beach shall regularly check the irrigation system to insure complete functioning. The service box, controllers and electric valves to be checked for proper functioning.

C. After initial three months establishment period, the water requirements shall be lowered by 25 percent; during December, January, February, lower by 40 percent.

D. Each zone shall be turned on and checked on a monthly basis min., to insure full functioning of all heads, nozzles & bubblers.

E. The landscape contractor is responsible for the proper watering of plant material to insure healthy plants.

F. All landscaped areas shall be maintained by a 100% automatic irrigation system, and a rain sensor installed per Florida Statute SECTION 373.62.

G. All irrigation work shall comply with "Florida Irrigation Society Standards & Specifications For Turf & Landscape Irrigation Systems".

H. Contractor to install irrigation system prior to installation of plant materials and be responsible for maintaining uninterrupted water service to all plant material.

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SHEET

NO.	DATE	REVISION	BY	APPROVED

CLIENT:

2600 BROADWAY

RIVIERA BEACH, FL 33404

IRRIGATION DETAILS AND SPECIFICATIONS

CAD FILE: L01_BID
DESIGN: CD
DRAWN BY: SB
CHECKED: CD
APPROVED: CD
DATE: 3/18/2021
DRAWING STATUS: BID
SCALE: 1"=20'

CHRISTOPHER W. DELLAGO
FL LA 6666678

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