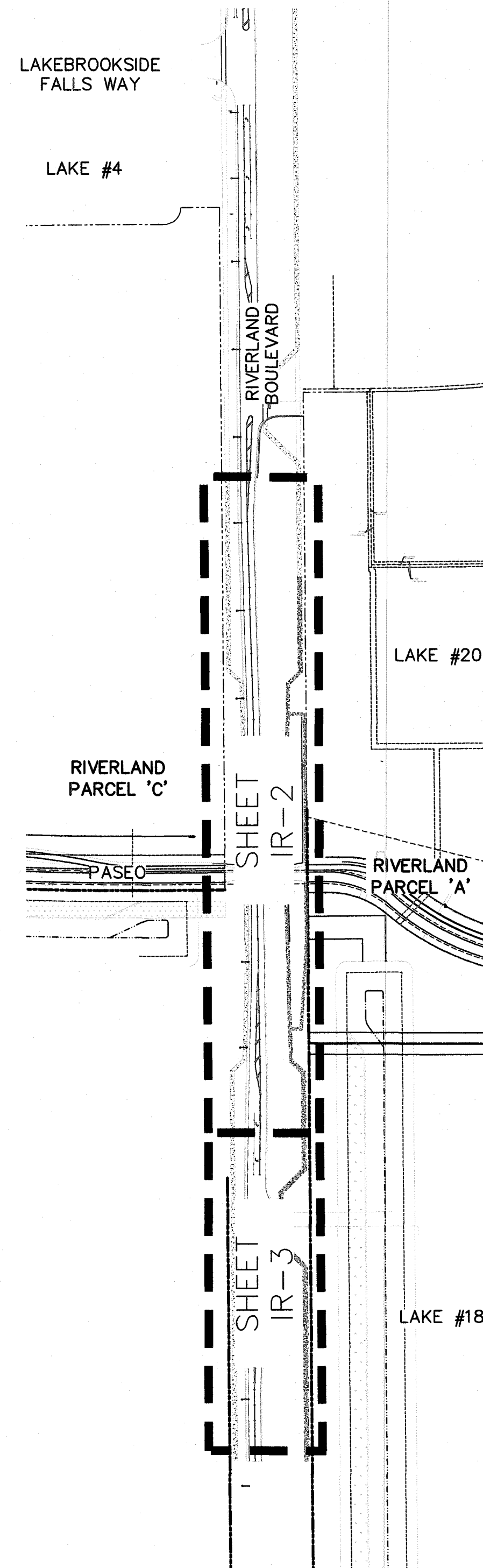


RIVERLAND BOULEVARD AT THE RIVERLAND PASEO OVERPASS

(RIVERLAND MPUD) IRRIGATION PLANS



Irrigation Plans for:

| | |
|-------------|--|
| Sheet IR-1 | COVER SHEET |
| Sheet IR-1a | DETAILS AND SPECIFICATIONS |
| Sheet IR-2 | RIVERLAND BOULEVARD R.O.W. IRRIGATION PLAN |
| Sheet IR-3 | RIVERLAND BOULEVARD R.O.W. IRRIGATION PLAN |

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PROJECT TITLE : **RIVERLAND BOULEVARD AT
THE RIVERLAND PASEO OVERPASS**
Developer: Riverland Development Company, LLC
PORT ST. LUCIE, FLORIDA
R.O.W. IRRIGATION COVER SHEET

SEAL

Kenneth DiDonato
P.E. Lic. #20892

PROJECT NO. 2017-24
DRAWN BY KMD
DESIGNED BY KMD
SCALE: N.T.S.
DATE : NOVEMBER 2020
DWG. NO. IR-1
SHT. NO. ___ of ___
REVISIONS :

LEGEND

| SYMBOL | MODEL NO. | DESCRIPTION | * EST. QUANTITY |
|-----------|-------------------------|---|-----------------|
| ▲ | 1404 | RAIN BIRD FLOOD BUBBLER | 90 |
| ○ | 1806-SAM-PRS-10V | RAIN BIRD 6" POP-UP SPRAY | 02 |
| ○ | 1806-SAM-PRS-10Q | RAIN BIRD 6" POP-UP SPRAY | 02 |
| ○ | 1806-SAM-PRS-10H | RAIN BIRD 6" POP-UP SPRAY | 04 |
| ○ | 1806-SAM-PRS-10F | RAIN BIRD 6" POP-UP SPRAY | 03 |
| ○ | 1806-SAM-PRS-12Q | RAIN BIRD 6" POP-UP SPRAY | 02 |
| ○ | 1806-SAM-PRS-12H | RAIN BIRD 6" POP-UP SPRAY | 36 |
| ○ | 1806-SAM-PRS-12F | RAIN BIRD 6" POP-UP SPRAY | 04 |
| ○ | 1806-SAM-PRS-RCS515RAIN | RAIN BIRD 6" POP-UP SPRAY | 02 |
| ○ | 1806-SAM-PRS-LCSS15RAIN | RAIN BIRD 6" POP-UP SPRAY | 02 |
| ○ | 1806-SAM-PRS-15SS1T | RAIN BIRD 6" POP-UP SPRAY | 23 |
| ○ | 1806-SAM-PRS-15V | RAIN BIRD 6" POP-UP SPRAY | 23 |
| ○ | 1806-SAM-PRS-15Q | RAIN BIRD 6" POP-UP SPRAY | 12 |
| ○ | 1806-SAM-PRS-15T | RAIN BIRD 6" POP-UP SPRAY | 13 |
| ○ | 1806-SAM-PRS-15H | RAIN BIRD 6" POP-UP SPRAY | 290 |
| ○ | 1806-SAM-PRS-15TT | RAIN BIRD 6" POP-UP SPRAY | 10 |
| ○ | 1806-SAM-PRS-15F | RAIN BIRD 6" POP-UP SPRAY | 30 |
| ○ | 1812-SAM-PRS-12Q | RAIN BIRD 12" POP-UP SPRAY | 10 |
| ○ | 1812-SAM-PRS-12T | RAIN BIRD 12" POP-UP SPRAY | 09 |
| ○ | 1812-SAM-PRS-12H | RAIN BIRD 12" POP-UP SPRAY | 17 |
| ○ | 1812-SAM-PRS-RCS515RAIN | RAIN BIRD 12" POP-UP SPRAY | 02 |
| ○ | 1812-SAM-PRS-LCSS15RAIN | RAIN BIRD 12" POP-UP SPRAY | 02 |
| ○ | 1812-SAM-PRS-15V | RAIN BIRD 12" POP-UP SPRAY | 09 |
| ○ | 1812-SAM-PRS-15Q | RAIN BIRD 12" POP-UP SPRAY | 10 |
| ○ | 1812-SAM-PRS-15T | RAIN BIRD 12" POP-UP SPRAY | 10 |
| ○ | 1812-SAM-PRS-15H | RAIN BIRD 12" POP-UP SPRAY | 114 |
| ⊙ | I-20-06-SB-3 | HUNTER 6" POP-UP ROTOR | 25 |
| ⊙ | I-20-06-SB-6 | HUNTER 6" POP-UP ROTOR | 83 |
| ⊙ | I-20-06-SB-6 | HUNTER 6" POP-UP ROTOR | 25 |
| ● | PESB SERIES | RAIN BIRD 24 VAC SOLENOID VALVE | |
| | 1" | | 01 |
| | 1 1/2" | | 07 |
| | 2" | | 15 |
| NOT SHOWN | | PAIGE THHN WIRE | |
| | #12AWG COMMON | | 4,000LF |
| | #14AWG CONTROL | | AS REQUIRED |
| → | PG19RW | NIBCO MAIN LINE GATE VALVE | 01 |
| ● | T 113 | NIBCO ZONE ISOLATION GATE VALVE | 23 |
| NOT SHOWN | | LEMCO DUCTILE IRON MAIN LINE FITTINGS AS REQUIRED | |
| | SCH 40 PVC | | |
| NOT SHOWN | | LATERAL PVC FITTINGS | AS REQUIRED |
| | | WIRE CONDUIT | 2,000LF |
| | | TYPE 1120 PVC LATERALS | |
| | | 4" MAIN LINE (GASKET) | 2,000LF |
| | | LATERALS | AS REQUIRED |
| | | SLEEVES | AS REQUIRED |
| △ | | AIR RELIEF VALVE | 01 |
| ⊙ | | NDS VALVE BOX | 25 |
| NOT SHOWN | | SPLICE BOX | AS REQUIRED |
| NOT SHOWN | | METALLIC MARKING TAPE | AS REQUIRED |
| NOT SHOWN | | JOINT RESTRAINTS | AS REQUIRED |
| ⊥ | | CAPPED STUB-OUT | 01 |
| ⊙ | | POINT-OF-CONNECTION | 01 |

NOTE: ABOVE QUANTITIES ARE FOR COMPARISON ONLY. CONTRACTOR SHALL VERIFY PRIOR TO SUBMITTING BID.

ZONE SUMMARY CHART

| VALVE NUMBER | PLANT TYPE | SPRINKLER TYPE | VALVE SIZE | WATER DEMAND** | RUN TIME | WEEKLY USAGE |
|--------------|------------|----------------|------------|----------------|------------|----------------|
| 1 | SOD | ROTOR | 2" | 90 GPM | 120 MIN/WK | 10,800 GAL/WK |
| 2 | SOD | ROTOR | 2" | 90 GPM | 120 MIN/WK | 10,800 GAL/WK |
| 3 | SOD | SPRAY | 2" | 105 GPM | 40 MIN/WK | 4,200 GAL/WK |
| 4 | TREES | BUBBLER | 1 1/2" | 41 GPM | 20 MIN/WK | 820 GAL/WK |
| 5 | SOD | SPRAY | 2" | 130 GPM | 40 MIN/WK | 5,200 GAL/WK |
| 6 | SHRUBS | SPRAY | 1 1/2" | 55 GPM | 40 MIN/WK | 2,200 GAL/WK |
| 7 | SOD | ROTOR | 2" | 94 GPM | 120 MIN/WK | 10,080 GAL/WK |
| 8 | SOD | ROTOR | 2" | 94 GPM | 120 MIN/WK | 10,080 GAL/WK |
| 9 | SOD | SPRAY | 2" | 110 GPM | 40 MIN/WK | 4,400 GAL/WK |
| 10 | SHRUBS | SPRAY | 1 1/2" | 55 GPM | 40 MIN/WK | 2,200 GAL/WK |
| 11 | SOD | SPRAY | 2" | 90 GPM | 40 MIN/WK | 3,600 GAL/WK |
| 12 | SHRUBS | SPRAY | 1 1/2" | 55 GPM | 40 MIN/WK | 2,200 GAL/WK |
| 13 | TREES | BUBBLER | 1 1/2" | 49 GPM | 20 MIN/WK | 980 GAL/WK |
| 14 | SOD | SPRAY | 2" | 95 GPM | 40 MIN/WK | 3,800 GAL/WK |
| 15 | SHRUBS | SPRAY | 1 1/2" | 55 GPM | 40 MIN/WK | 2,200 GAL/WK |
| 16 | SOD | SPRAY | 2" | 120 GPM | 40 MIN/WK | 4,800 GAL/WK |
| 17 | SOD | ROTOR | 2" | 100 GPM | 120 MIN/WK | 12,000 GAL/WK |
| 18 | SOD | ROTOR | 2" | 102 GPM | 120 MIN/WK | 12,240 GAL/WK |
| 19 | SOD | SPRAY | 1 1/2" | 55 GPM | 40 MIN/WK | 2,200 GAL/WK |
| 20 | SHRUBS | SPRAY | 1" | 22 GPM | 40 MIN/WK | 880 GAL/WK |
| 21 | SOD | ROTOR | 2" | 93 GPM | 120 MIN/WK | 11,160 GAL/WK |
| 22 | SOD | ROTOR | 2" | 83 GPM | 120 MIN/WK | 9,960 GAL/WK |
| 23 | SOD | SPRAY | 2" | 100 GPM | 40 MIN/WK | 4,000 GAL/WK |
| | | | | | | 130,800 GAL/WK |

**TO APPLY 1.0 IN/WK

IRRIGATION NOTES & SPECIFICATIONS

AUTOMATIC IRRIGATION SYSTEM WATER DEMAND / ZONE WATER SOURCE PRESSURE AVAILABLE REFER TO PLAN EXISTING SYSTEM 70 PSI

GENERAL

IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF PORT ST LUCIE PUBLIC WORKS IRRIGATION SPECIFICATIONS SECTION 828400, CONTRACT DRAWINGS, AND APPENDIX "F" OF THE FLORIDA BUILDING CODE.

IRRIGATION DESIGN BASED ON PARKER YANETTE "PLANTING PLANS" DATED AUGUST 2020. CONTRACTOR SHALL REFER TO THESE PLANS TO COORDINATE SPRINKLER LOCATIONS AND PIPE ROUTING WITH NEW AND EXISTING PLANT LOCATIONS.

THIS IRRIGATION PLAN SHALL BE USED AS A GUIDE ONLY. CONTRACTOR SHALL INSTALL IRRIGATION TO MATCH ON SITE CONDITIONS AND TO OVERCOME THE INHERENT INACCURACIES THAT RESULT WHEN DESIGNING FROM BASE PLANS SCALED AT 1" = 20'.

THE SOURCE SHALL BE THE EXISTING SYSTEM FOR THE WEST SECTOR OF DISCOVERY WAY. REFER TO DISCOVERY WAY IRRIGATION PLANS FOR ADDITIONAL INFORMATION.

THIS IRRIGATION HAS BEEN DESIGNED AS A TYPICAL BLOCK VALVE TYPE USING HUNTER ROTOR SPRINKLERS AND RAIN BIRD BUBBLERS, SPRAY SPRINKLERS, AND IN-LINE VALVES. THE CONTROL SYSTEM IS AN EXISTING RAIN BIRD MAXCOM TYPE.

IRRIGATION SHALL BE INSTALLED AND MAINTAINED TO MINIMIZE UNDESIRABLE OVERTHROW ONTO PAVEMENT AND SIDEWALKS.

CONTRACTOR IS ADVISED TO STUDY THE PLANS FOR ADDITIONAL INFORMATION AND TO VISIT THE SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS.

TO ENSURE PROPER OPERATION, PROGRAMMING, VALVE SIZES, ZONE CAPACITIES, SPRINKLER SPACING, PIPE AND WIRE SIZES, AND INSTALLATION NOTES AND DETAILS SHALL BE FOLLOWED AS SHOWN.

PIPING

PIPE ROUTING IS SCHEMATIC ONLY AND SHALL BE ADJUSTED FOR ON SITE CONDITIONS.

PIPE SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES AND PIPE MANUFACTURER'S INSTRUCTIONS.

PIPE ROUTED UNDER HARDSCAPED AREAS SHALL BE SLEEVED IN SDR 21, CLASS 200 PVC. EACH SLEEVE SHALL BE: (1) BURIED TO A MINIMUM DEPTH OF 36" (2) TWO PIPE SIZES LARGER THAN CARRIER PIPE, AND (3) EXTENDED 3' BEYOND HARDSCAPED AREA ON EACH END. CONTRACTOR SHALL VERIFY THE SIZE, DEPTH, AND LOCATION OF ALL EXISTING SLEEVES.

ALL PIPING SHALL BE SDR 21, CLASS 200 TYPE 1120 PVC. MAIN LINE SHALL BE GASKET TYPE AND LATERALS SHALL BE SOLVENT WELD TYPE.

MAIN LINE DIRECTIONAL FITTINGS SHALL BE DUCTILE IRON MANUFACTURED BY LEMCO OR APPROVED EQUAL. LATERAL PIPE FITTINGS SHALL BE SCH 40 PVC.

ALL MAIN DIRECTIONAL FITTINGS SHALL BE RESTRAINED WITH MEG-A-LUG JOINT RESTRAINTS.

PIPE SIZED TO LIMIT FLOW VELOCITIES TO 5 FEET/SECOND AND TO LIMIT FRICTION LOSS IN THE PIPING NETWORK.

PIPE SHALL BE INSTALLED AT SUFFICIENT DEPTH BELOW GROUND TO PROTECT IT FROM HAZARD SUCH AS VEHICULAR TRAFFIC OR ROUTINE OCCURRENCES WHICH OCCUR IN THE NORMAL USE AND MAINTENANCE OF THE PROPERTY. DEPTHS OF COVER SHALL MEET OR EXCEED SSC CODE 430-DD. REFER TO THE APPLICABLE DETAIL FOR ADDITIONAL INFORMATION.

BACKFILL SHALL BE OF SUITABLE MATERIAL, FREE OF ROCKS, STONES, AND OTHER DEBRIS THAT WOULD DAMAGE IRRIGATION SYSTEM COMPONENTS. BACKFILL AROUND ALL PIPE SHALL BE 6" OF CLEAN SAND.

GATE VALVES SHALL BE INSTALLED FOR MAIN LINE AND ZONE ISOLATION. EACH VALVE SHALL BE TO LINE SIZE AND INSTALLED IN A NDS VALVE BOX. POROUS MATERIAL SHALL BE INSTALLED PER BOX TO PROMOTE DRAINAGE.

AN AIR RELIEF VALVE SHALL BE INSTALLED TO PROTECT THE PIPING NETWORK FROM EXCESSIVE PRESSURES THAT DEVELOP WHEN COMPRESSING ENTRAPPED AIR. THIS UNIT SHALL BE INSTALLED IN A NDS VALVE BOX.

METALLIC DETECTION TAPE SHALL BE INSTALLED IN ALL MAIN LINE TRENCHES.

SPRINKLERS

SPRINKLER LOCATIONS ARE SCHEMATIC ONLY AND SHALL BE ADJUSTED FOR LANDSCAPING, SITE LIGHTING, PREVAILING WIND, MOUNDING, ETC., TO ENSURE PROPER COVERAGE WITH MINIMAL UNDESIRABLE OVERTHROW. A PRIME OBJECTIVE SHALL BE TO ELIMINATE OVERTHROW ONTO PAVEMENT AND SIDEWALKS.

SPRAY HEADS SHALL BE RAIN BIRD 1800 SERIES, SIX INCH POP-UP TYPE SHALL BE INSTALLED IN AREAS LANDSCAPED WITH SOD, TWELVE INCH POP-UP TYPE SHALL BE INSTALLED IN AREAS LANDSCAPED WITH SHRUBS, AND BUBBLERS SHALL BE INSTALLED AT TREES.

POP-UP TYPE LOCATED IN SOD, MULCH, AND GROUND COVERS SHALL BE INSTALLED ON FLEXIBLE SWING JOINTS CONSISTING OF THICKWALLED POLY PIPE AND INSERT ELBOWS.

BUBBLERS SHALL BE INSTALLED WITH THICKWALLED POLY PIPE. TWO BUBBLERS SHALL BE INSTALLED PER TREE.

EACH SPRAY HEAD SHALL BE EQUIPPED WITH THE APPROPRIATE SPRAY NOZZLE AND SHALL BE PRESSURE REGULATED TO 30 PSI.

ROTOR HEADS SHALL BE HUNTER I-20, 6" POP-UP TYPE WHICH SHALL BE INSTALLED ON PVC SWING JOINTS.

ADJUSTMENT FEATURES OF SPRINKLERS SPECIFIED SHALL BE UTILIZED TO ENSURE PROPER COVERAGE WITH MINIMAL UNDESIRABLE OVERTHROW. LOW ANGLE, FLAT SPRAY, AND ADJUSTABLE ARC NOZZLES SHALL BE USED TO MINIMIZE OVERTHROW.

SPRINKLERS LOCATED ADJACENT TO HARDSCAPED AREAS SHALL BE INSTALLED AWAY FROM HARDSCAPED AREAS TO MINIMIZE OVERTHROW AND THE CHANCE OF DAMAGE BY VEHICLES, PEDESTRIANS, AND LAWN MAINTENANCE PERSONNEL. AS A GENERAL RULE, 6" POP-UP SPRAY HEADS SHALL BE INSTALLED IN 4" AND ROTOR HEADS SHALL BE INSTALLED IN 6".

CONTROL SYSTEM

SPARE STATIONS ON AN EXISTING MAXI COM CONTROLLER LOCATED AT THE WEST PUMP STATION ON DISCOVERY WAY SHALL BE USED TO CONTROL THIS IRRIGATION. THE POINT-OF-CONNECTION TO CAPPED SPARE WIRES SHALL BE VERIFIED ON SITE.

NEW CONTROL LINES TO IN-LINE AUTOMATIC VALVES SHALL BE #14 AWG THHN TYPE WHICH SHALL BE: (1) INSTALLED IN ACCORDANCE WITH LOCAL CODES, (2) INSTALLED IN SCH 40 PVC WIRE CONDUIT, (3) BURIED TO A MINIMUM DEPTH OF 3", (4) COLOR CODED TO FACILITATE TROUBLESHOOTING AND (5) SPICED MOSTLY AT VALVE LOCATIONS. SPICES NOT LOCATED AT VALVE LOCATIONS SHALL BE INSTALLED IN A SPLICE BOX. SPICES SHALL BE MADE WATERPROOF USING APPROVED METHODS. SPARE WIRES SHALL BE ROUTED FROM THE CONTROLLER IN ALL DIRECTIONS TO THE FARTHEST VALVES CONTROLLED. REFER TO PLAN FOR THE NUMBER OF SPARE COMMON AND CONTROL WIRE REQUIRED.

AUTOMATIC VALVE LOCATIONS ARE SCHEMATIC ONLY AND SHALL BE ADJUSTED FOR ON SITE CONDITIONS. EACH VALVE SHALL BE INSTALLED IN A NDS VALVE BOX. A MINIMUM OF ONE CUBIC FOOT OF GRAVEL SHALL BE PROVIDED PER BOX TO PROMOTE DRAINAGE. A GATE VALVE SHALL BE INSTALLED WITH EACH ZONE VALVE FOR ISOLATION.

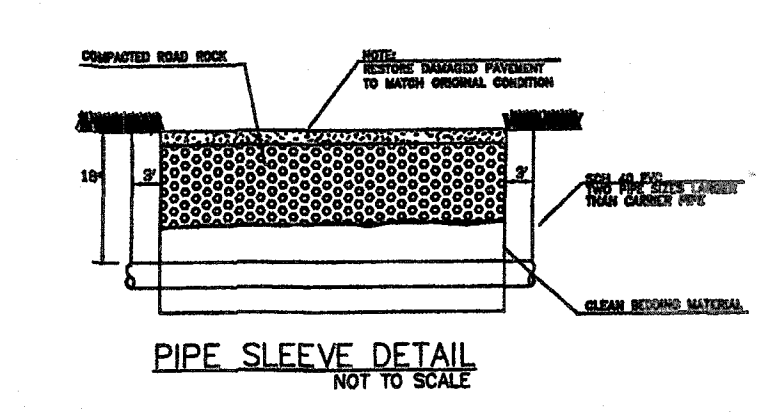
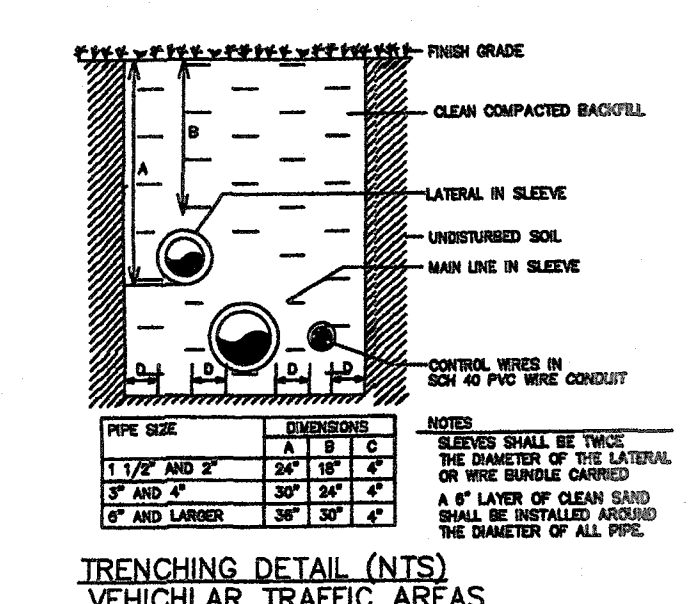
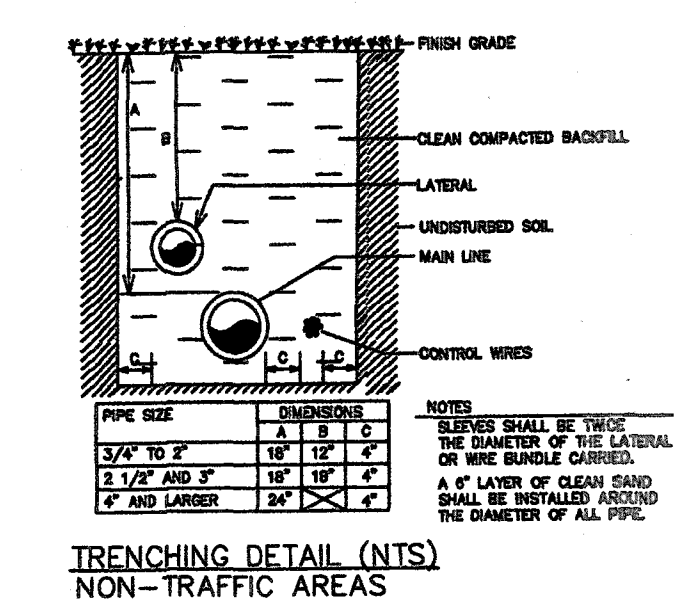
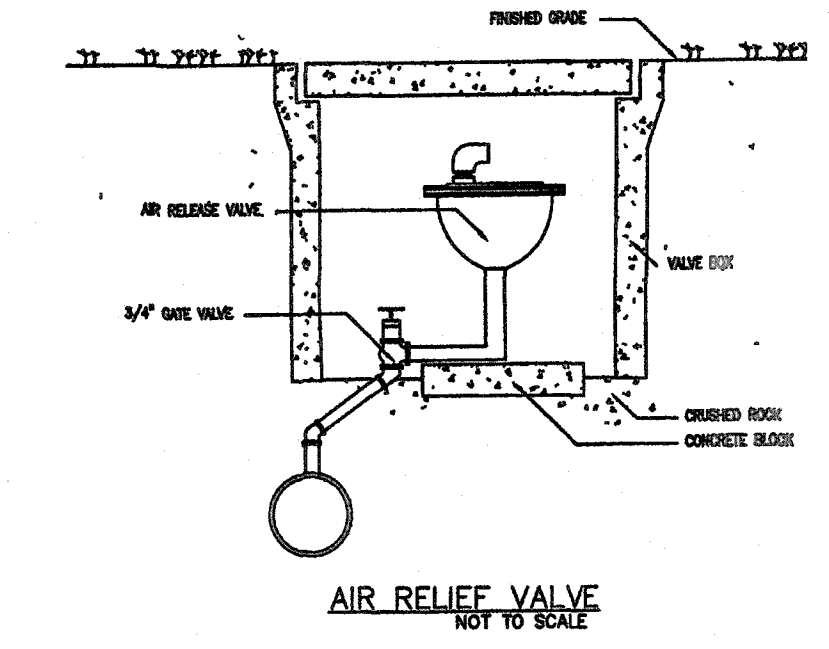
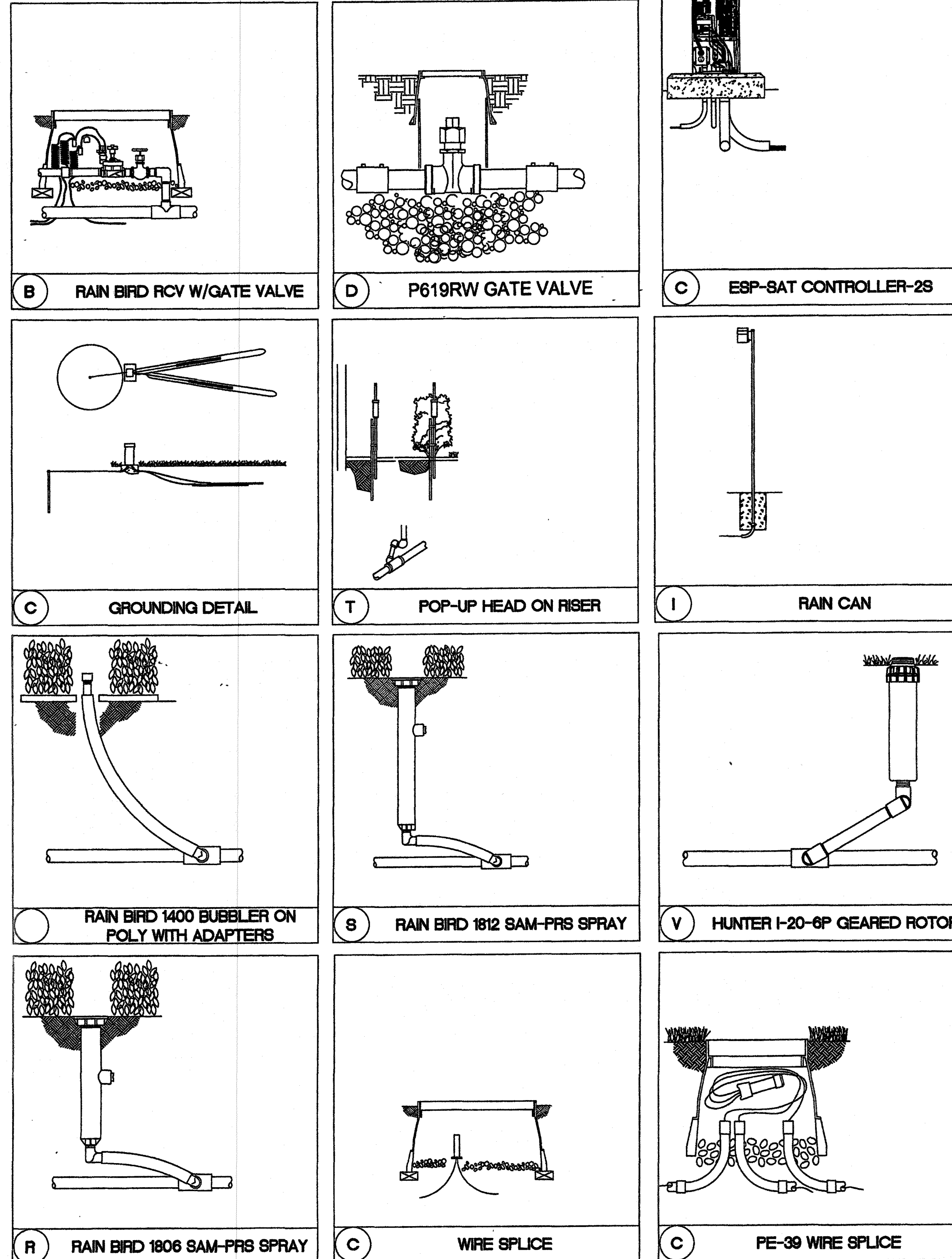
PROGRAMMING

SYSTEM SHALL BE PROGRAMMED TO ENSURE THE CAPACITIES OF THE PIPING NETWORK AND PUMP STATION ARE NOT EXCEEDED.

SYSTEM SHALL ALSO BE PROGRAMMED TO OPERATE UNDER THE WATER RESTRICTION GUIDELINES ESTABLISHED BY LOCAL AUTHORITIES.

TIMING AND PRECIPITATION

TIMING OF EACH STATION SHALL BE SET IN THE FIELD TO MATCH LOCAL REQUIREMENTS. REFER TO ZONE SUMMARY CHART FOR RECOMMENDED RUN TIMES.



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KMD

PROJECT TITLE : RIVERLAND BOULEVARD AT THE RIVERLAND PASEO OVERPASS
 Developer: Riverland Development Company, LLC
 PORT ST. LUCIE, FLORIDA
R.O.W. IRRIGATION LEGEND, NOTES, AND DETAILS

PROJECT NO. 2017-24

DRAWN BY KMD

DESIGNED BY KMD

SCALE: N.T.S.

DATE : NOVEMBER 2020

DWG. NO. **IR-1a**

SHT. NO. ___ of ___

REVISIONS : _____

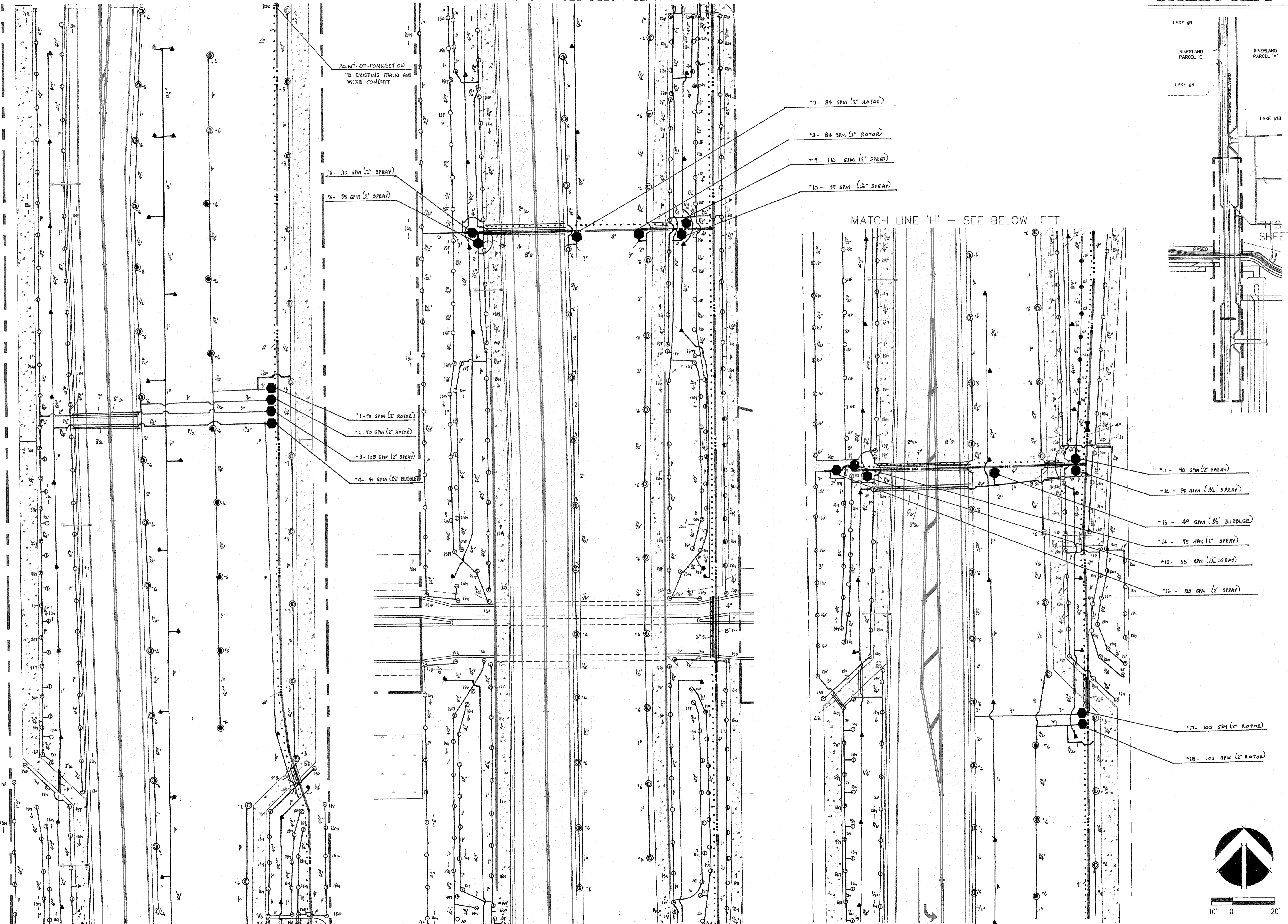
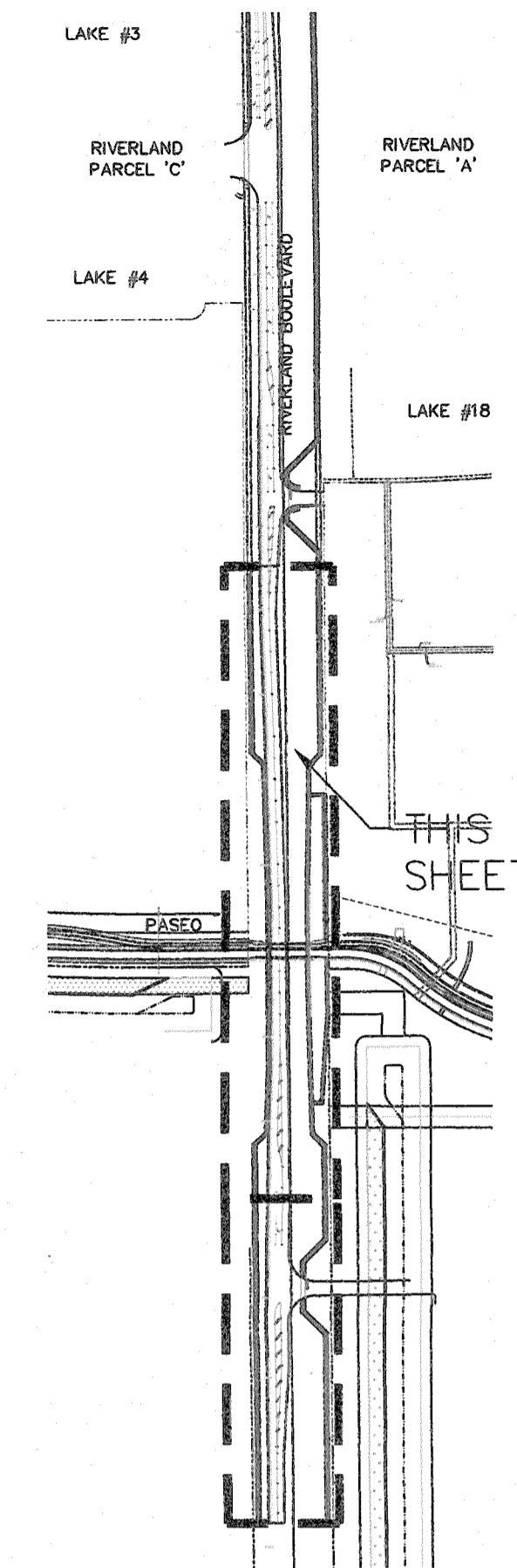
Kenneth DiDonato
P.E. Lic. #20892

PSL#: P19-143
PSLUSD#: 5267A

EXTENT OF THIS SUBMITTAL - SEE RIVERLAND BOULEVARD AT PARCEL C PLANS, SHEET IR-4

MATCH LINE 'G' - SEE BELOW LEFT

SHEET KEY



MATCH LINE 'G' - SEE ABOVE RIGHT

MATCH LINE 'H' - SEE ABOVE RIGHT

MATCH LINE 'I' - SEE SHEET IR-3

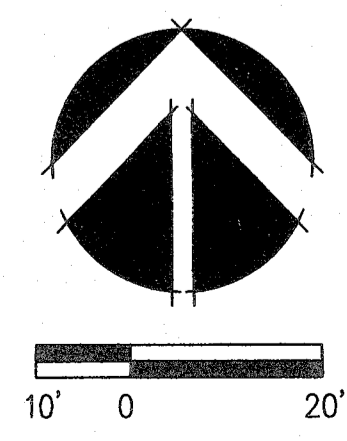
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PROJECT TITLE : RIVERLAND BOULEVARD AT THE RIVERLAND PASEO OVERPASS
Developer: Riverland Development Company, LLC
 PORT ST. LUCIE, FLORIDA
R.O.W. IRRIGATION PLAN

SEAL

 Kenneth DiDonato
 P.E. Lic. #20892

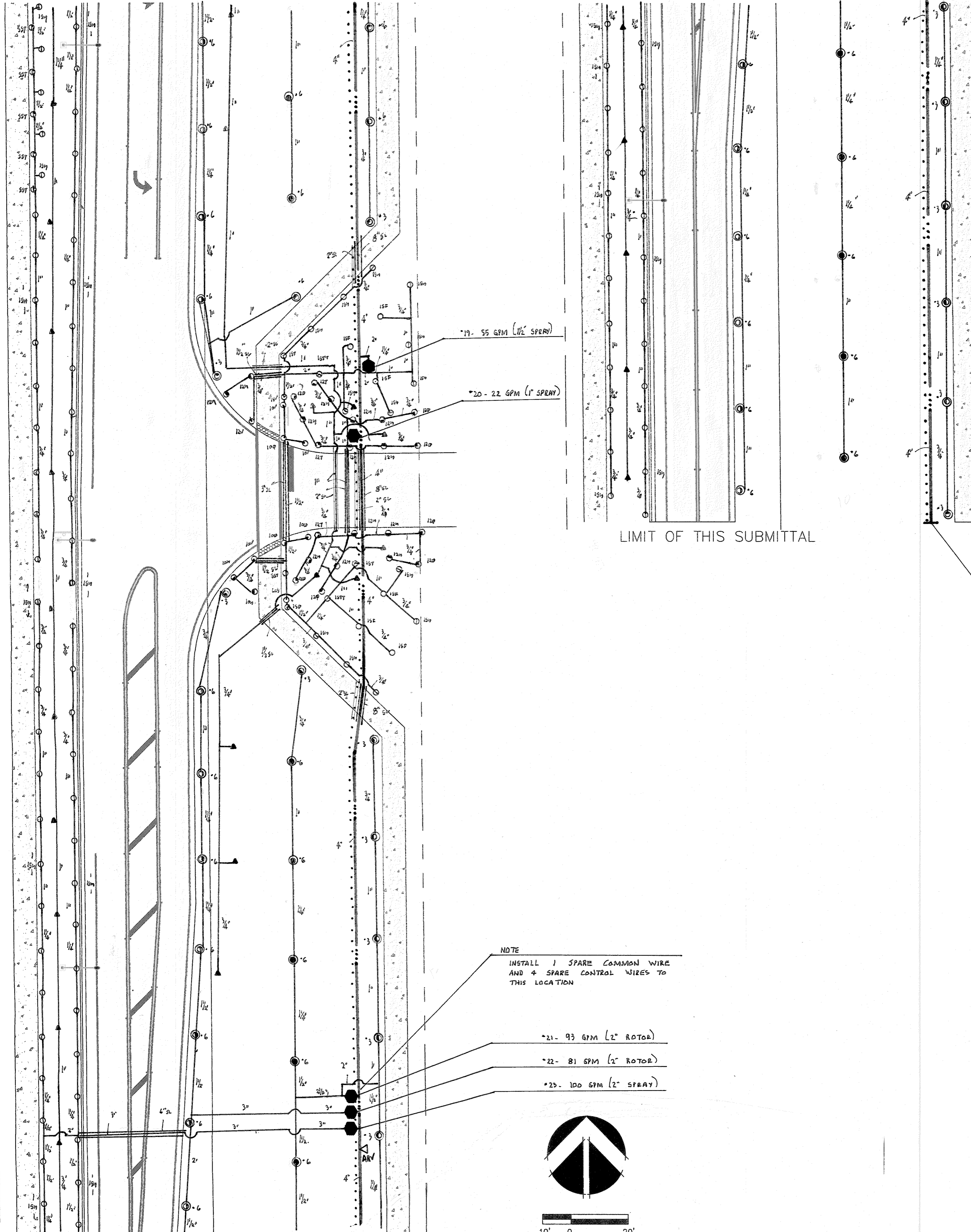
PROJECT NO. 2017-24
 DRAWN BY KMD
 DESIGNED BY KMD
 SCALE: 1"=20'-0"
 DATE: NOVEMBER 2020
 DWG. NO. IR-2
 SHT. NO. of
 REVISIONS:



PSL#: P19-143
 PSLUSD#: 5267A
 CRL:

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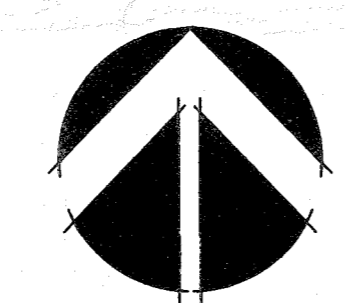
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LIMIT OF THIS SUBMITTAL

NOTE
CAP FOR FUTURE EXPANSION

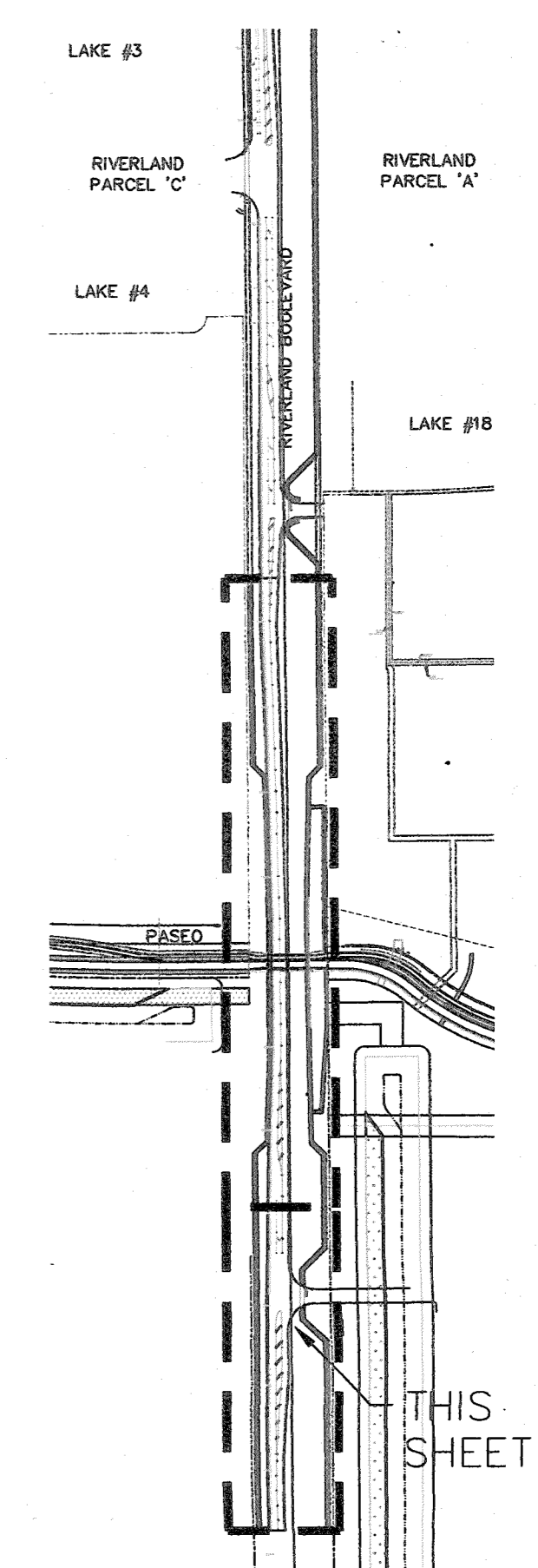
NOTE
INSTALL 1 SPARE COMMON WIRE
AND 4 SPARE CONTROL WIRES TO
THIS LOCATION



10' 0 20'

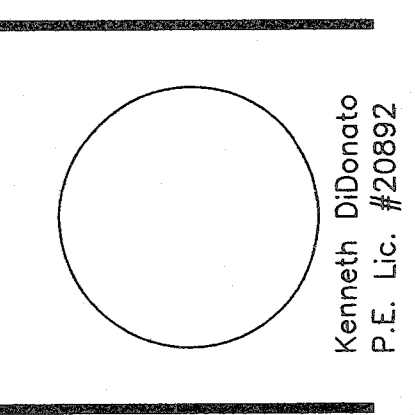
MATCH LINE 'J' - SEE ABOVE RIGHT

SHEET KEY



**RIVERLAND BOULEVARD AT
THE RIVERLAND PASEO OVERPASS**
 Developer: Riverland Development Company, LLC
 PORT ST. LUCIE, FLORIDA
R.O.W. IRRIGATION PLAN

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 (954) 923-2555



PROJECT NO. 2017-24
 DRAWN BY KMD
 DESIGNED BY KMD
 SCALE: 1"=20'-0"
 DATE: JULY 2020
 DWG. NO. IR-3
 SHT. NO. of
 REVISIONS:

PSL#: P19-143
PSLUSD#: 5287A

FILE: