#### **GENERAL NOTES:**

- THE CONTRACTOR AND C/M ARE SYNONYMOUS.
- 2. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION ACTIVITY FOR DIG PERMITS, ELECTRICAL PERMITS OR OTHER PERMITS AS APPLICABLE. CONTRACTOR IS ALSO TO COORDINATE FULLY WITH UTILITY COMPANIES ON EXACT LOCATION OF UNDERGROUND UTILITIES AND ANY UTILITY ADJUSTMENT REQUIRED. UTILITY COMPANIES SHALL BE NOTIFIED A MINIMUM OF THREE WORKING DAYS PRIOR TO EXCAVATION.
- 3. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS WERE DEPICTED FROM INFORMATION PROVIDED BY CITY OF FRUITLAND PARK UTILITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND CONFIRM THE LOCATION OF EXISTING UTILITIES TO DETERMINE IF THERE ARE ANY CONFLICTS WITH THE PROPOSED CONSTRUCTION AND TO COORDINATE WITH THE UTILITY OWNERS TO RESOLVE THESE CONFLICTS.
- 4. THE SUBSURFACE INFORMATION FOR THIS PROJECT WAS OBTAINED FOR DESIGN PURPOSES AND MAY NOT BE AN ADEQUATE REPRESENTATION OF ACTUAL CONDITIONS FOR PROJECT CONSTRUCTION INFORMATION SHOWN, INCLUDING WATER LEVELS, REPRESENTS EXISTING CONDITIONS AT THE SPECIFIC BORING LOCATIONS AT THE TIME THE BORINGS WERE MADE.
- 5. GEOTECHNICAL REPORT INFORMATION:
  - 1) PREPARED BY: ARDAMAN & ASSOCIATES, INC.
  - 2) DATE: APRIL 6, 2021
  - 3) PROJECT #: 21-6331
  - 4) TITLE: SUBSURFACE SOIL EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION NEW FRUITLAND PARK ELEMENTARY SCHOOL SITE URICK STREET AND OLIVE AVENUE
    - FRUITLAND PARK, LAKE COUNTY, FLORIDA
- 6. ANY DIFFERING SITE CONDITIONS FROM THAT WHICH IS REPRESENTED HEREON. WHETHER ABOVE. ON OR BELOW THE SURFACE OF THE GROUND, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER, IN WRITING, PER CONTRACT DOCUMENTS. NO CLAIM FOR EXPENSES INCURRED BY THE CONTRACTOR DUE TO SUCH DIFFERING CONDITIONS WILL BE ALLOWED IF HE OR SHE FAILS TO PROVIDE THE WRITTEN NOTIFICATION.
- 7. ALL MATERIALS, INSTALLATION AND TESTING SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS ALONG WITH CITY OF FRUITLAND PARK AND FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. WHERE THE SPECIFICATIONS CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
- 8. THE CONTRACTOR SHALL PROVIDE ALL SHEETING, SHORING AND BRACING REQUIRED TO PROTECT ADJACENT STRUCTURES AND UTILITIES OR MINIMIZE TRENCH WIDTH AS REQUIRED. SHEETING AND SHORING SHALL BE DESIGNED BY A STATE OF FLORIDA PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR.
- 9. THE CONTRACTOR SHALL ENSURE THAT ALL REQUIRED CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCING WORK.
- 10. ALL DEBRIS AND WASTE MATERIALS GENERATED BY CLEARING OR SUBSEQUENT CONSTRUCTION
- ACTIVITIES SHALL BE DISPOSED OFF-SITE IN A LEGAL MANNER AT AN APPROVED DISPOSAL FACILITY. 11. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED FOR CLEARING, CONSTRUCTION WORK AND HAULING WASTE MATERIAL. ALL ASSOCIATED COSTS AND PERMIT FEES SHALL BE THE
- RESPONSIBILITY OF THE CONTRACTOR. 12. ANY PUBLIC LAND CORNER, WITHIN THE LIMITS OF CONSTRUCTION, IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING ALTERED AND HAS NOT YET BEEN PROPERLY REFERENCED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT WITHOUT DELAY.
- 13. COORDINATE VALUES ARE BASED ON A LOCAL GRID ESTABLISHED BY THE SURVEY. 14. ALL REFERENCES TO PROPOSED CONSTRUCTION INDICATES CONSTRUCTION INCLUDED IN THIS
- CONTRACT. 15. ALL PIPING TO HAVE A MINIMUM OF THREE (3) FEET COVER UNLESS OTHERWISE NOTED ON PLANS. 16. EXISTING ROADWAY BASE MATERIALS SUCH AS SHELL OR LIMEROCK MAY BE UTILIZED IN
- STABILIZATION IF SUITABLE FOR MIXING. 17. THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL NECESSARY STRIPING, TRAFFIC CONTROL AND SAFETY DEVICES IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," LATEST EDITION, AND THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION "ROADWAY DESIGN
- STANDARDS." 18. MAINTENANCE OF TRAFFIC: ACCESS FOR LOCAL TRAFFIC SHALL BE MAINTAINED. IF. DURING CONSTRUCTION, ACCESS FOR LOCAL TRAFFIC IS CHANGED, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE JURISDICTIONAL AGENCY A MINIMUM OF THREE (3) WORKING DAYS IN ADVANCE. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH INDEX NO. 102-000 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS AND POLK COUNTY. CONTRACTOR IS ADVISED THAT TEMPORARY CONSTRUCTION ACCESS WILL BE PROVIDED, AND MAINTAINED, BY THE DEVELOPER, THROUGHOUT THE DURATION OF CONSTRUCTION. CONTRACTOR IS
- REQUIRED TO COORDINATE WITH DEVELOPER AS REQUIRED. 19. REFER TO FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS FOR THE FOLLOWING:
  - \* TYPE C INLET (INDEX NO. 425-010 & 425-052)
  - \* TYPE E INLET (INDEX NO. 425-010 & 425-052)
  - \* TYPE G INLET (INDEX NO. 425-010 & 425-053) \* CURB RAMP (INDEX NO. 522-002)
  - \* TYPE D CURB (INDEX NO. 520-001)
  - \* TYPE F CURB & GUTTER (INDEX NO. 520-001)
  - \* CURB TRANSITION (INDEX NO. 520-001)
  - \* CROSSWALK, STOP BAR (INDEX NO. 711-001)
  - \* PAVEMENT ARROWS (INDEX NO. 711-001)
  - \* SPECIAL MARKING AREAS (INDEX NO. 711-001) \* CONCRETE PAVEMENT JOINTS (INDEX NO. 350-001)
  - \* CONCRETE SIDEWALK (INDEX NO. 522-001)
  - \* SIGHT DISTANCE (FDM 212)
- \* MAINTENANCE OF TRAFFIC (INDEX NO. 102-000)
- 20. ALL STORM. SANITARY AND WATER INSTALLATION NOT LOCATED ON PUBLIC R.O.W. OR DEEDED EASEMENTS SHALL COMPLY WITH FLORIDA BUILDING CODES-PLUMBING.
- 21. VIBRATORY COMPACTION IS NOT PERMITTED.

#### GRADING AND DRAINAGE NOTES:

- 1. ALL GRADING AND SITE PREPARATION SHALL CONFORM TO SPECIFICATIONS CONTAINED IN THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATION SECTIONS 31 AND 33, UNLESS INDICATED OTHERWISE. MOST STRINGENT REQUIREMENT SHALL APPLY.
- 2. CONTRACTOR SHALL VERIFY EXISTING TOPOGRAPHIC DATA, LOCATION OF EXISTING UTILITIES AND ALL OTHER SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
- 3. ALL CONSTRUCTION WITHIN STREET RIGHT-OF-WAY SHALL CONFORM TO CITY OF FRUITLAND PARK CODE AND REQUIREMENTS
- 4. ALL GRADES SHOWN, WITH THE EXCEPTION OF THOSE INDICATED ON THE SURVEY BASE DRAWING, ARE FINISHED GRADES UNLESS INDICATED OTHERWISE
- 5. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE GRADED TO ORIGINAL GROUND LINES AND FINISHED WITH SOD PER PROJECT SPECIFICATIONS UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL MAINTAIN ALL AREAS
- 6. STORMWATER COLLECTION SYSTEM TO BE PRIVATELY OWNED AND MAINTAINED.
- 7. CONTRACTOR SHALL GRADE FROM GRADE POINT TO GRADE POINT IN A UNIFORM MANNER UNLESS OTHERWISE INDICATED ON THE PLANS. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE
- 8. CONTRACTOR IS RESPONSIBLE TO DEVELOP, CONSTRUCT AND MAINTAIN ANY TEMPORARY DEWATERING REQUIRED FOR CONSTRUCTION OF PROJECT IMPROVEMENTS. NO OFFSITE DISCHARGE OF DEWATERING IS ALLOWED, UNLESS ALLOWED BY SJRWMD AND FDEP. ANY TEMPORARY IMPROVEMENTS SHALL BE REMOVED AFTER USE AND THE AREA RESTORED TO THE CONDITION SHOWN ON THE PLANS.

#### **EROSION CONTROL NOTES**

- 1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO STANDARDS OF THE CITY OF FRUITLAND PARK, AND ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.
- 2. EROSION AND SEDIMENT CONTROL BEST PRACTICES ARE DICTATED BY FDEP NPDES CONSTRUCTION GENERIC PERMIT, 62-621.300(4)(a) FAC. BEST MANAGEMENT PRACTICES (BMP)S USED ON SITE MUST MEET THE MINIMUM SPECIFICATIONS IN THE 2013 STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL. (REFER TO PART 5.1 OF THE NPDES CONSTRUCTION GENERIC PERMIT.)
- 3. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP, IN CONSTRUCTION. SEDIMENT CONTROL PRACTICES WILL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTATION OF SILT OFF THE SITE.
- 4. SOIL MATERIALS FROM WORK ON THIS PROJECT SHALL BE CONTAINED AND NOT ALLOWED TO COLLECT ON ANY OFF-PERIMETER AREAS OR IN WATERWAYS. THESE INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
- 5. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR TO DETERMINE THE EFFECTIVENESS OF EROSION/SEDIMENT CONTROL EFFORTS. ANY NECESSARY REMEDIES SHALL BE PERFORMED WITHOUT DELAY.
- 6. ALL MUD, DIRT, OR OTHER MATERIALS TRACKED OR SPILLED ONTO EXISTING PUBLIC OR PRIVATE ROADS AND FACILITIES FROM THIS SITE, DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR
- 7. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN A STABILIZED CONSTRUCTION ACCESS/ SOIL TRACKING PREVENTION DEVICE (STPD) TO ASSIST WITH THE REMOVAL OF SOIL MATERIAL CAPTURED ON VEHICLE TIRES ENTERING AND LEAVING THE CONSTRUCTION SITE. THE SOIL TRACKING PREVENTION DEVICE SHALL MEET THE MINIMUM SPECIFICATIONS OF THE 2013 STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWERS MANUAL AND FDOT INDEX 106.
- 8. ALL PERMANENT EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS AND ANY DISTURBED LAND AREAS SHALL BE COMPLETED WITHIN 7 CALENDAR DAYS AFTER FINAL GRADING.
- 9. ALL TEMPORARY PROTECTION SHALL BE MAINTAINED UNTIL PERMANENT MEASURES ARE IN PLACE AND ESTABLISHED. TIME FRAMES FOR PERMANENT AND TEMPORARY STABILIZATION MUST CONFORM WITH REQUIREMENTS SET FORTH IN THE NPDES CONSTRUCTION GENERIC PERMIT SECTION 5.4. STABILIZATION MEASURES MUST BE INITIATED WITHIN 7 CALENDAR DAYS WHERE ACTIVITIES HAVE EITHER PERMANENTLY OR TEMPORARILY CEASED.
- 10. THE EROSION CONTROL MEASURES ARE INTENDED AS MINIMUM STANDARDS. ANY EROSION CONTROL REQUIRED BEYOND THAT SPECIFIED SHALL BE CONSIDERED AS INCLUDED WITHIN THIS CONTRACT.

## VERTICAL DATUM NOTE:

- 1. ALL ELEVATIONS SHOWN WITHIN THIS PLAN SET ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF
- 2. BASED ON THE VERTCON SOFTWARE, THE VERTICAL DATUM CONVERSION IS -0.886' FOR THIS PROJECT SITE.
- 3. DATUM CONVERSION EXAMPLE: 100.00' NAVD 88 -0.886' = 100.886' NGVD 29.
- 4. CONTRACTOR SHALL CONFIRM THAT ALL WORK BY THE DEVELOPER IN OFF-SITE PERIMETER AREA ARE COORDINATED AND ARE BEING CONSTRUCTED ON THE SAME DATUM.

#### NPDES PERMIT:

1. CONTRACTOR SHALL PREPARE AND SUBMIT TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, THE "NOTICE OF INTENT" AND "NOTICE OF TERMINATION" FOR "STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES," PER FLORIDA ADMINISTRATIVE CODE 62-621.300(4). IN ACCORDANCE WITH FDEP REQUIREMENTS, THE CONTRACTOR SHALL PREPARE AND SUBMIT WITH THE APPLICATION, AN APPROVED "STORMWATER POLLUTION PREVENTION PLAN" AND PERFORM/CERTIFY ALL INSPECTIONS AND RETAIN ALL INSPECTION REPORTS AND DOCUMENTATION ON FILE AS REQUIRED FOR DEP REVIEW. ALL FEES SHALL BE PAID BY THE CONTRACTOR, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PENALTIES OR FINES DEP MAY LEVY FOR FAILURE TO COMPLY WITH THE PERMITTING REQUIREMENTS. CONTRACTOR SHALL PROVIDE A COPY OF THE NOI AND THE NOT TO THE MS4 OPERATOR.

#### **DEWATERING NOTES:**

1. IF ONSITE DEWATERING MAY OCCUR DURING CONSTRUCTION, THE CONTRACTOR SHALL REFER TO THE DEWATERING REQUIREMENTS IN 62-621.300(4)(a) CONSTRUCTION GENERIC PERMIT OR 62-621.300(2)(a) DEWATERING GENERIC PERMIT AS APPLICABLE. APPROPRIATE BEST MANAGEMENT PRACTICES MUST BE IMPLEMENTED TO ENSURE THAT DISCHARGES DO NOT EXCEED SURFACE WATER QUALITY STANDARDS PER THE CONSTRUCTION GENERIC PERMIT. IF DEWATERING OFFSITE OR INTO THE COUNTY MS4, TURBIDITY MUST BE MONITORED TO ENSURE THAT DISCHARGES DO NOT EXCEED 29 NTU OVER BACKGROUND PER 62-302.530 FAC. THE DISCHARGE OF GROUNDWATER DURING DEWATERING ACTIVITIES TO COUNTY RIGHT-OF-WAY REQUIRES A RIGHT-OF-WAY UTILIZATION PERMIT.

# **GEOMETRY NOTES:**

- 1. THREE (3) FOOT CURB TRANSITIONS SHALL BE PROVIDED AT ALL CURB TERMINATIONS AND DROP CURB
- DETECTABLE SURFACE ON CURB RAMP WALKING SURFACE (REFER TO FDOT INDEX 522-002).
- POINTS SHOWN ON THE PLANS HAVE BEEN SET AT EDGE OF PAVEMENT PC, PT, CURB MIDPOINT AND INTERSECTION LOCATIONS. POINTS SHOWN ON UTILITY STRUCTURES ARE AT THE CENTER OF THE STRUCTURE.

## STORM LEGEND:

# M.E.G. MATCH EXISTING GRADE \_12.00 PROPOSED SPOT GRADE ×11.00 EXISTING SPOT GRADE

→ PROPOSED DRAINAGE FLOW

MANHOLE

NYLO/LAST DRAIN

CLEANOUT

#### WATER / SEWER LEGEND:

-----WM----- WATER LINE ---- SANITARY LINE ---FIRE-FIRE LINE 

> FIRE HYDRANT ASSEMBLY FIRE DEPARTMENT CONNECTION

SANITARY MANHOLE

GATE VALVE

SANITARY CLEANOUT

## **UTILITY NOTES:**

- 1. ALL WATER MAIN MATERIALS AND APPURTENANCES SHALL CONFORM TO AND SHALL BE INSTALLED, TESTED AND CLEARED FOR SERVICE IN ACCORDANCE WITH THE STANDARDS OF CITY OF FRUITLAND PARK AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.
- A. WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE (3) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER, REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- B. WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN (10) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.
- C. WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN (10) FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE (3) FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST TWELVE (12) INCHES ABOVE THE TOP OF THE SEWER.
- D. WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN (10) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM.
- 3. VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.
  - A. WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST TWELVE (12) INCHES ABOVE THE OUTSIDE OF THE OTHER PIPELINE.
  - B. WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST TWELVE (12) INCHES ABOVE THE OUTSIDE OF THE OTHER PIPELINE.
  - C. AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE (3) FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER AND AT LEAST SIX (6) FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610 F.A.C.
- 4. ALL UTILITIES LOCATED OUTSIDE PUBLIC RIGHT-OF-WAYS AND PUBLIC EASEMENTS SHALL BE PRIVATELY OWNED AND MAINTAINED.
- 5. BACTERIOLOGICAL SAMPLE POINTS SHALL BE AS DESCRIBED IN THE FDEP PERMIT CONDITIONS.
- 6. A MINIMUM COVER OF THREE (3) FEET SHALL BE PROVIDED OVER ALL PROPOSED UTILITIES.
- 7. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF CONNECTION POINTS TO WATER AND WASTEWATER WITH THE DEVELOPER. POINTS SHOWN ARE BASED ON LATEST AVAILABLE DESIGN INFORMATION.
- CONTRACTOR TO PROVIDE TEMPORARY SUPPORT. ADEQUATE PROTECTION. AND MAINTENANCE OF ALL UNDERGROUND AND SURFACE UTILITY STRUCTURES DURING CONSTRUCTION.

JAY A. KLIMA, P.E. FL P.E. #49945

CIVIL ENGINEERING

## **SCHENKEL**SHULTZ □ □ □ ARCHITECTURE □ □

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REVISIONS

DESCRIPTION

FRUITLAND PARK **ELEMENTARY SCHOOL** REPLACEMENT

Fruitland Park, FL



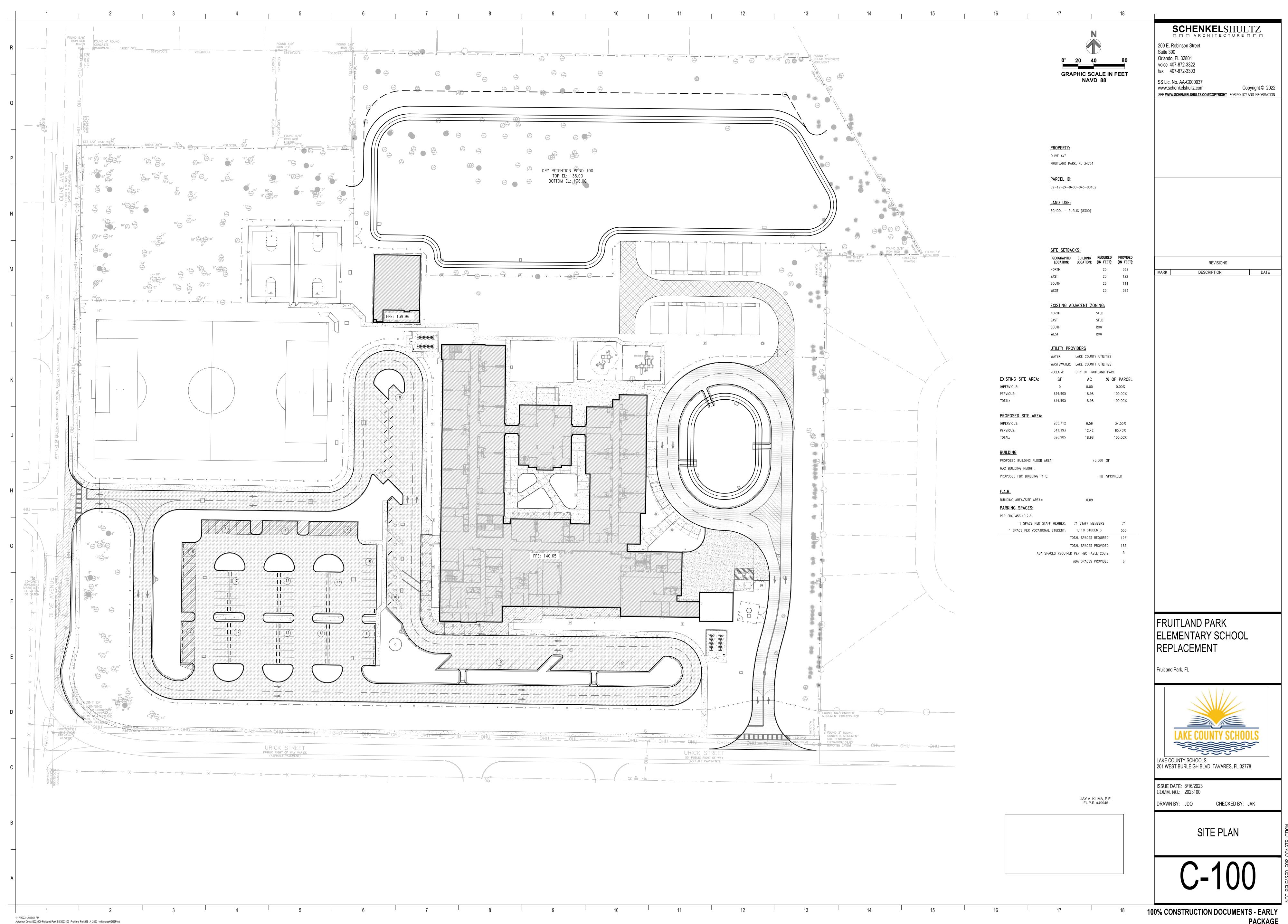
ISSUE DATE: 8/16/2023 COMM. NO.: 2023100

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GENERAL NOTES

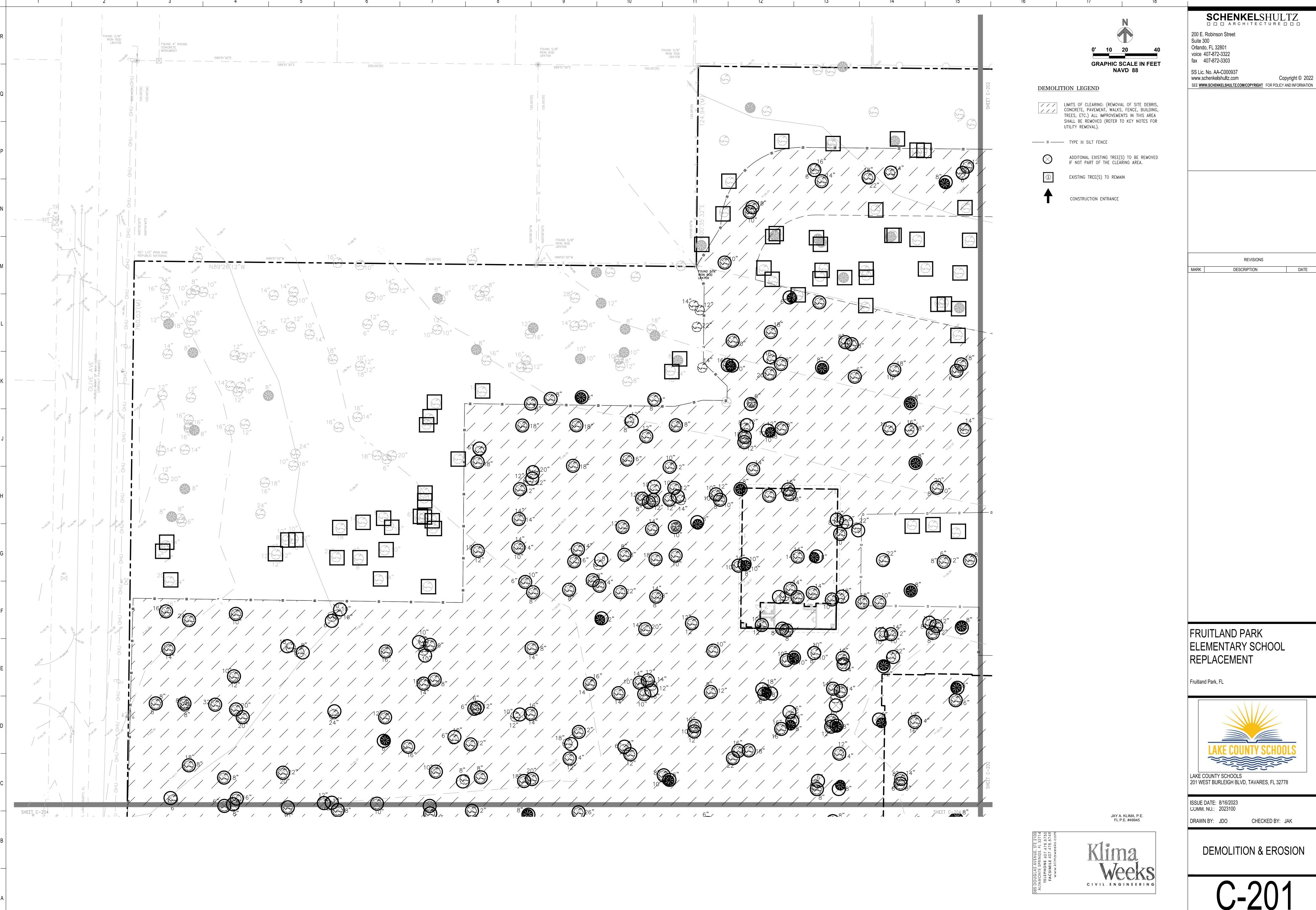
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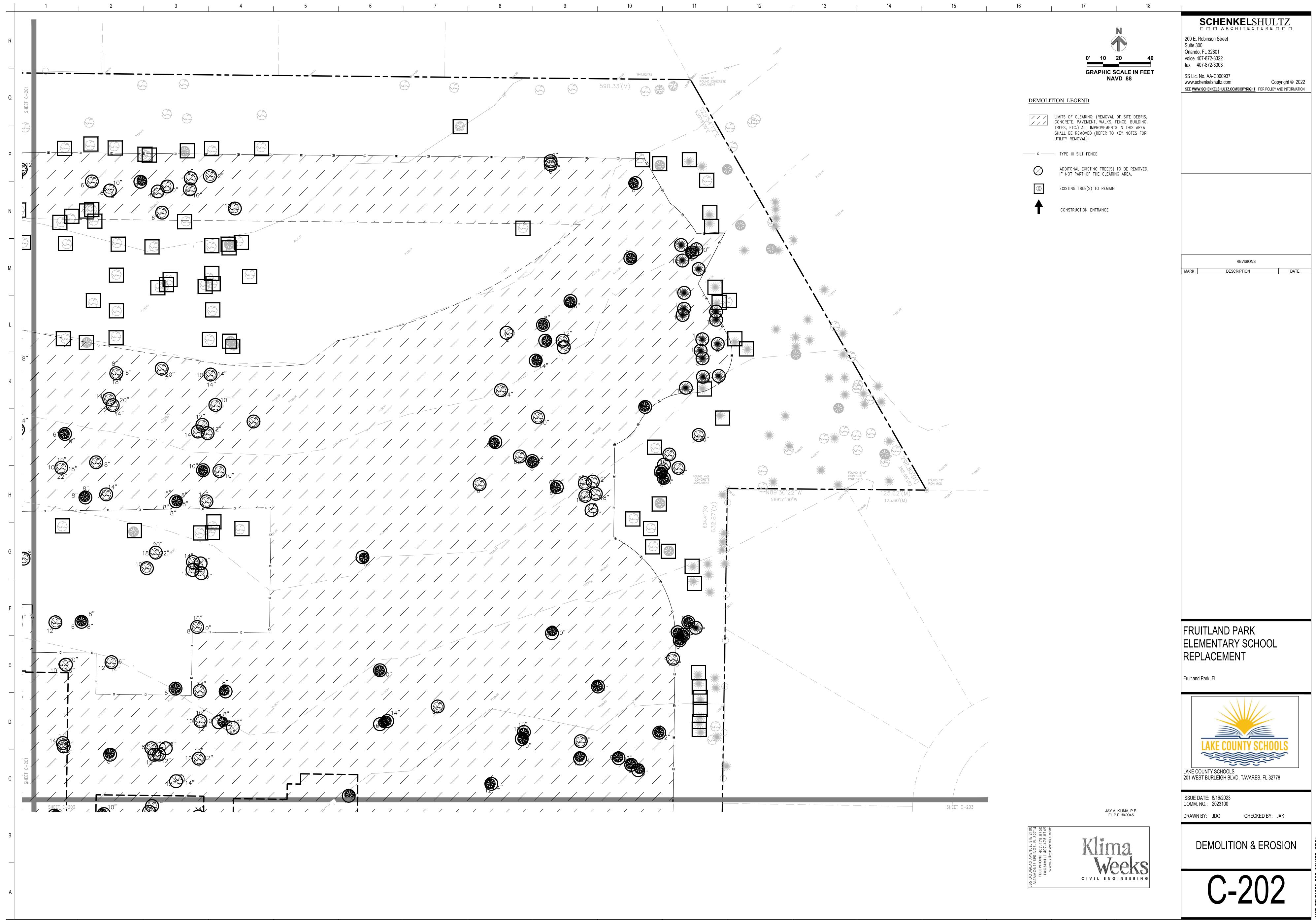




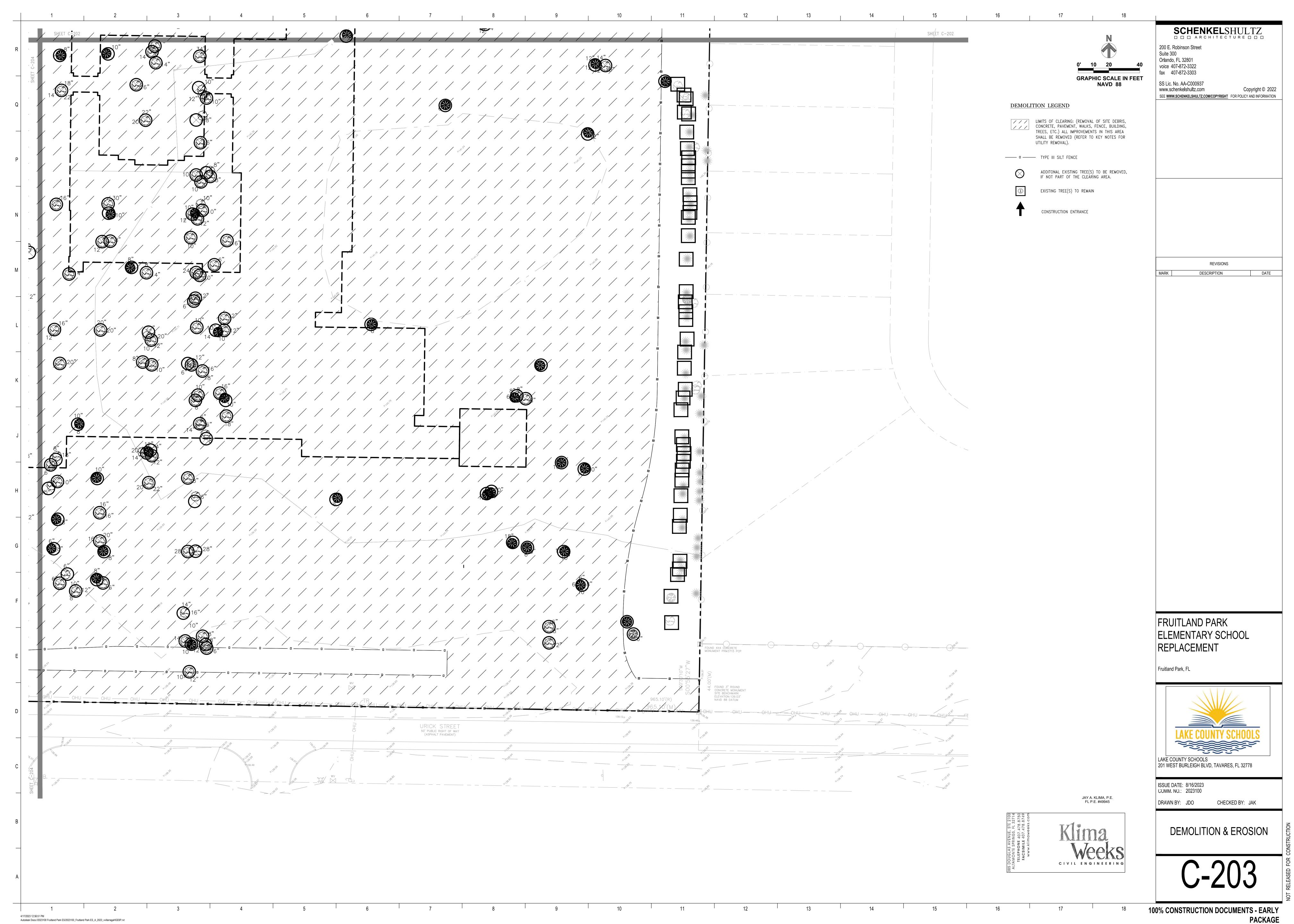
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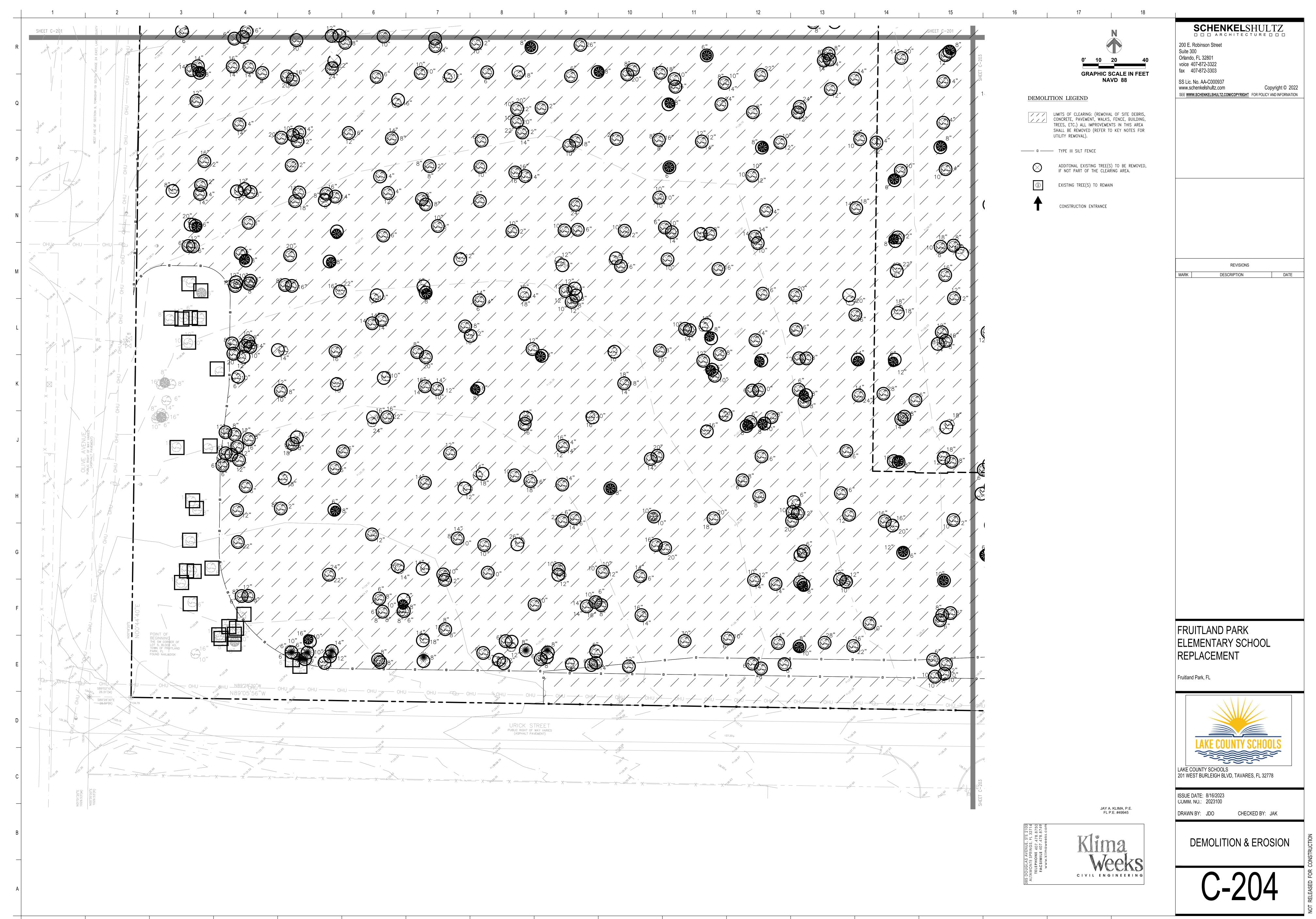






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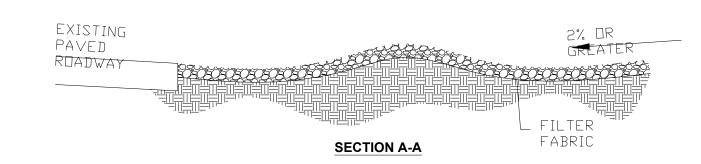


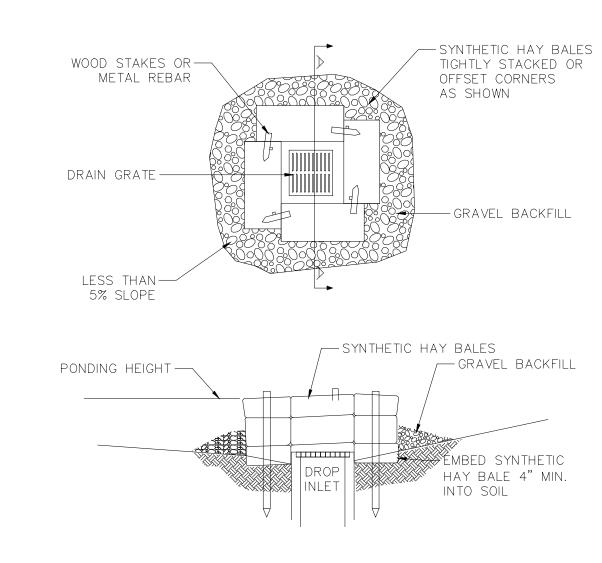


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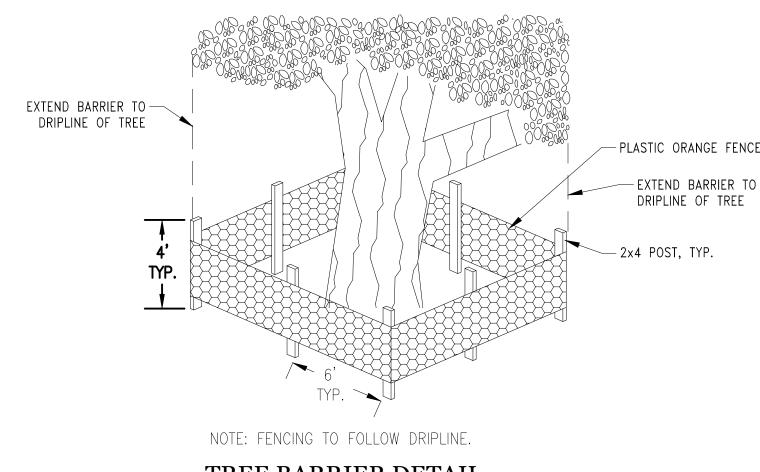
ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. 3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA -\*DIVERSION RIDGE STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED Sediment trap or sediment 4. TEMPORARY ENTRANCE SHALL BE IN ACCORDANCE WITH FDOT INDEX NO. \*DIVERSION RIDGE REQUIRED WHERE GRADE EXCEEDS 2% 106.

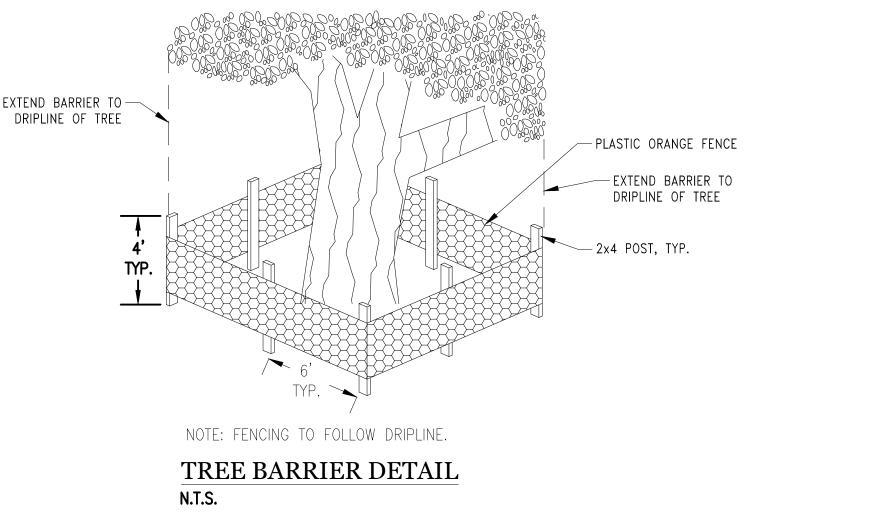
#### TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

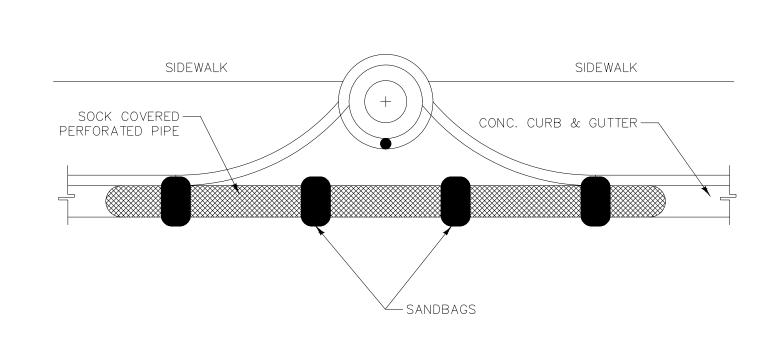




- 1 DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL
- DRAINAGE AREAS. (LESS THAN 5%)
- 2. EMBED THE BALES 4" INTO THE SOIL AND OFFSET CORNERS OR PLACE BALES WITH ENDS TIGHTLY ABUTTING. GRAVEL BACKFILL WILL PREVENT EROSION OR FLOW AROUND THE BALES.
- 3. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWN SLOPE TO PREVENT RUNOFF FROM BY-PASSING THE INLET. EXCAVATION OF A BASIN ADJACENT TO THE DROP INLET OR A TEMPORARY DIKE ON THE DOWN SLOPE OF THE STRUCTURE MAY BE NECESSARY.

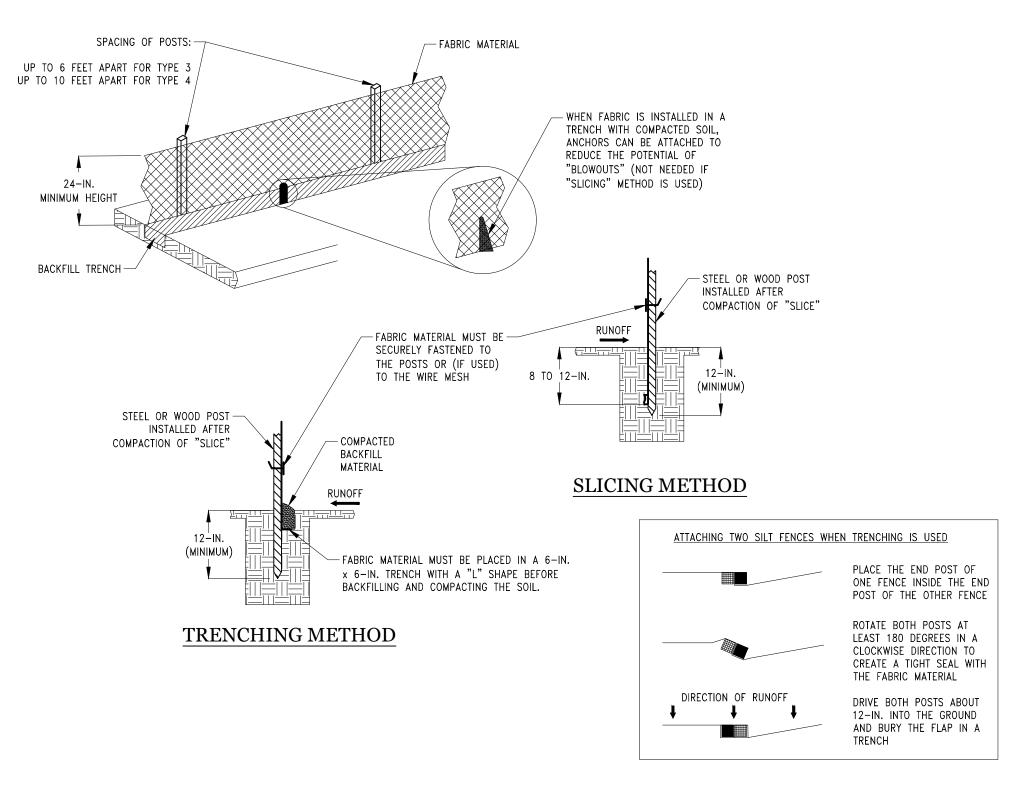






- 1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
- 2. SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC ARE FILLED WITH GRAVEL LAYERED AND PACKED TIGHTLY.
- 3. LEAVE A ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW.
- 4. INSPECT BARRIERS AND REMOVED SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.
- 5. AT THE END OF EACH WORKDAY, SWEEP OR SCRAPE UP SOIL TRACKED ONTO THE STREET.

INLET PROTECTION DETAIL



SILT FENCE BARRIER INSTALLATION

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ISSUE DATE: 8/16/2023 COMM. NO.: 2023100

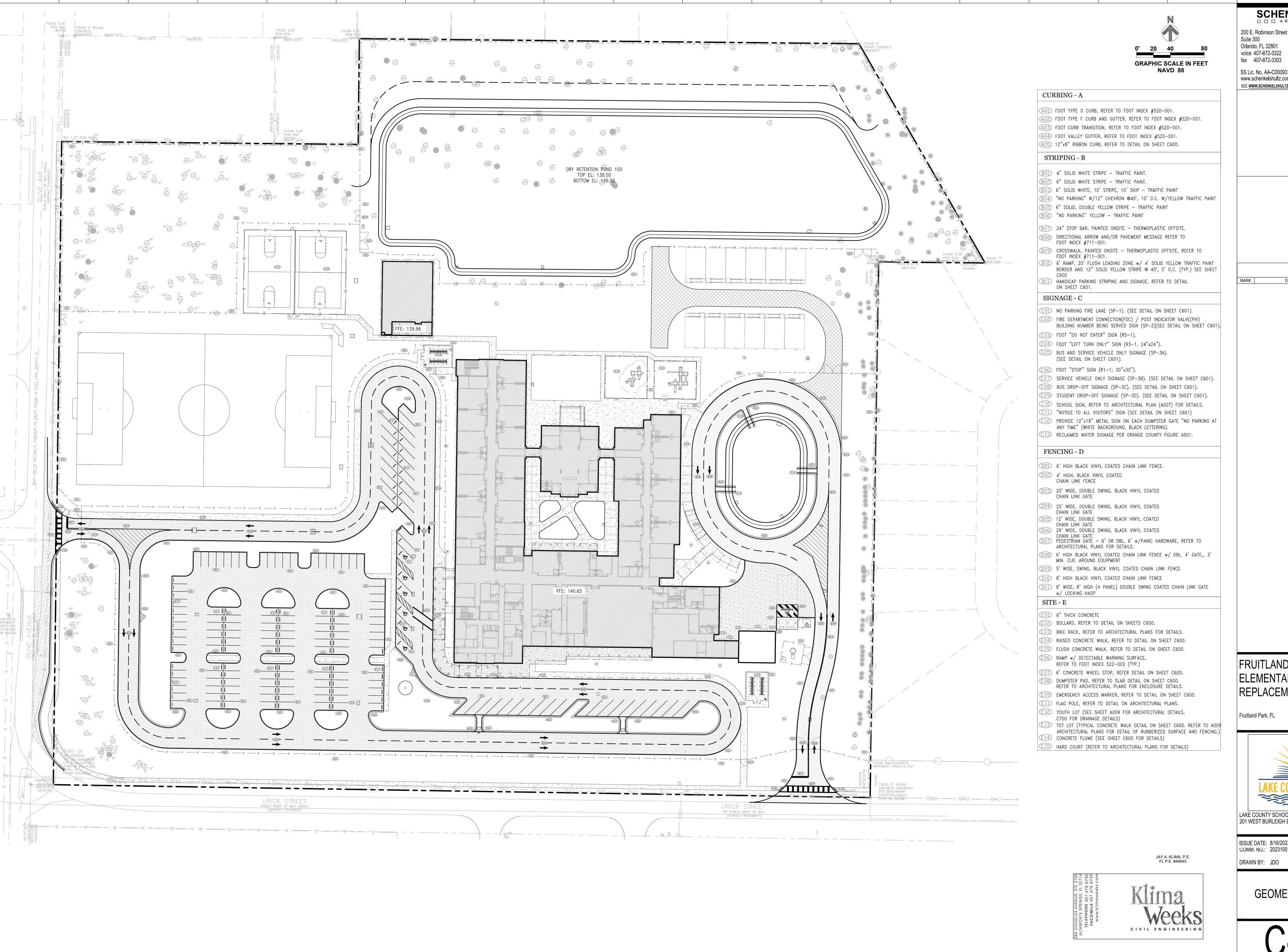
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**DEMOLITION & EROSION DETAILS** 

CIVIL ENGINEERING

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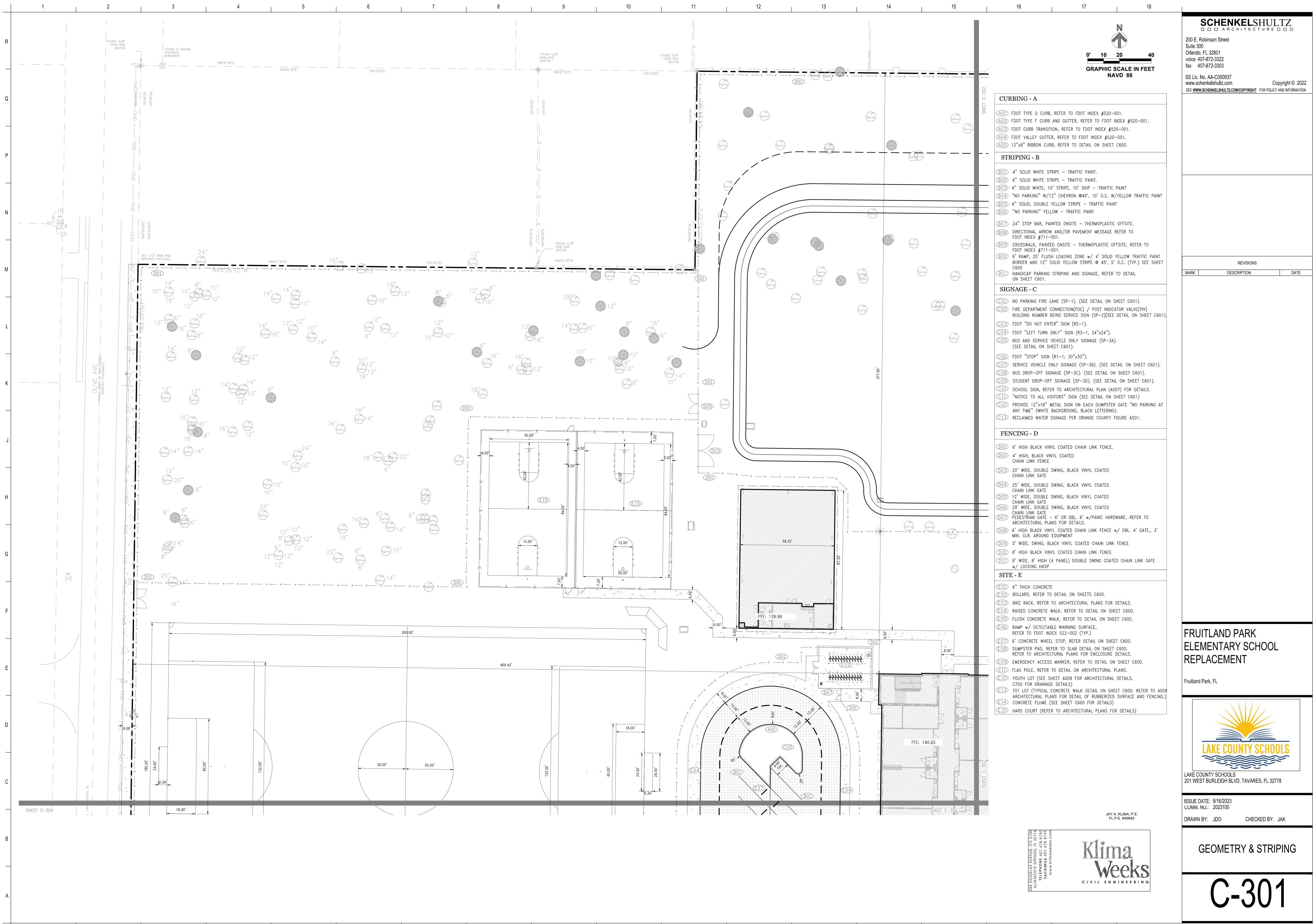


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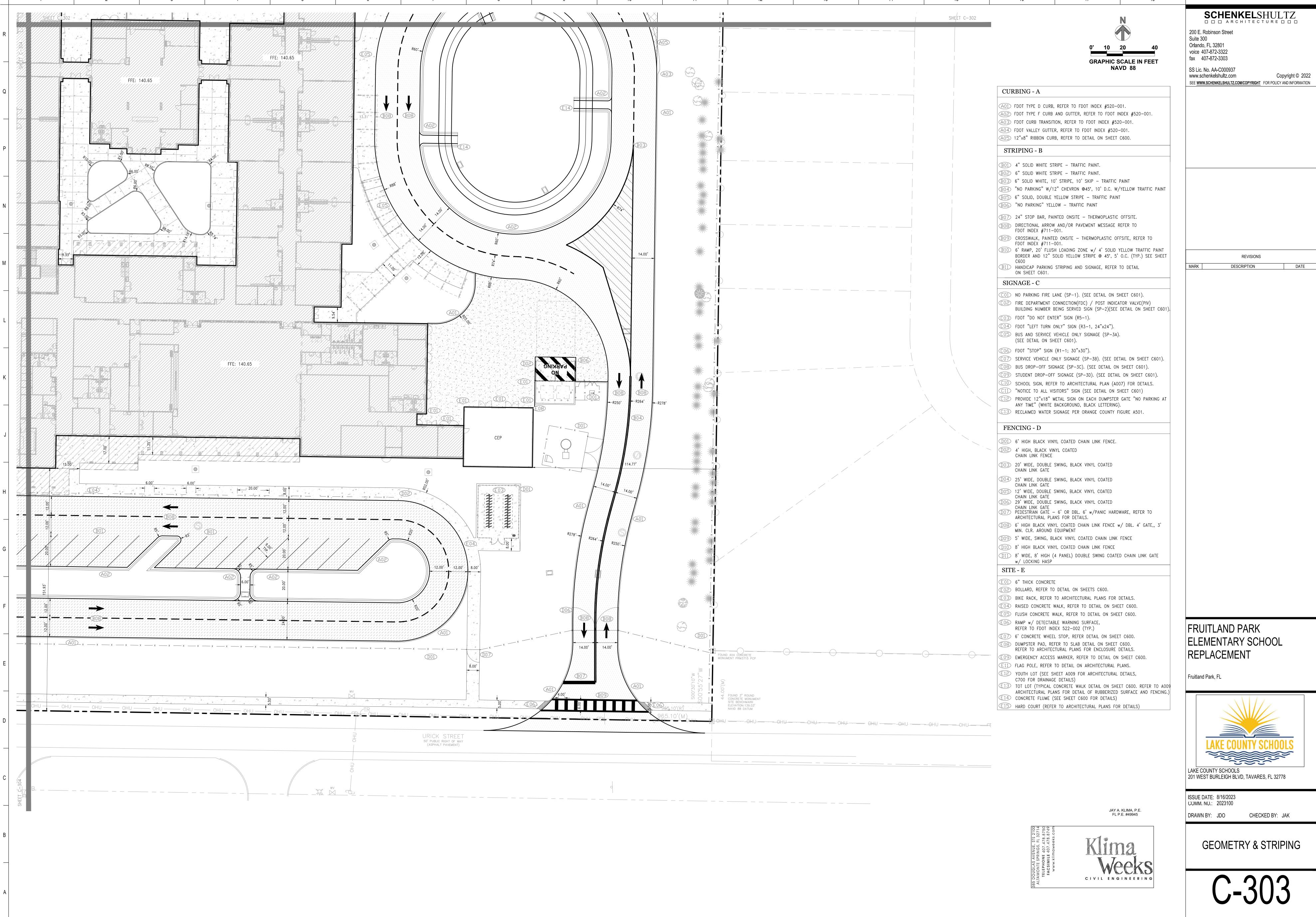
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**GEOMETRY & STRIPING** 

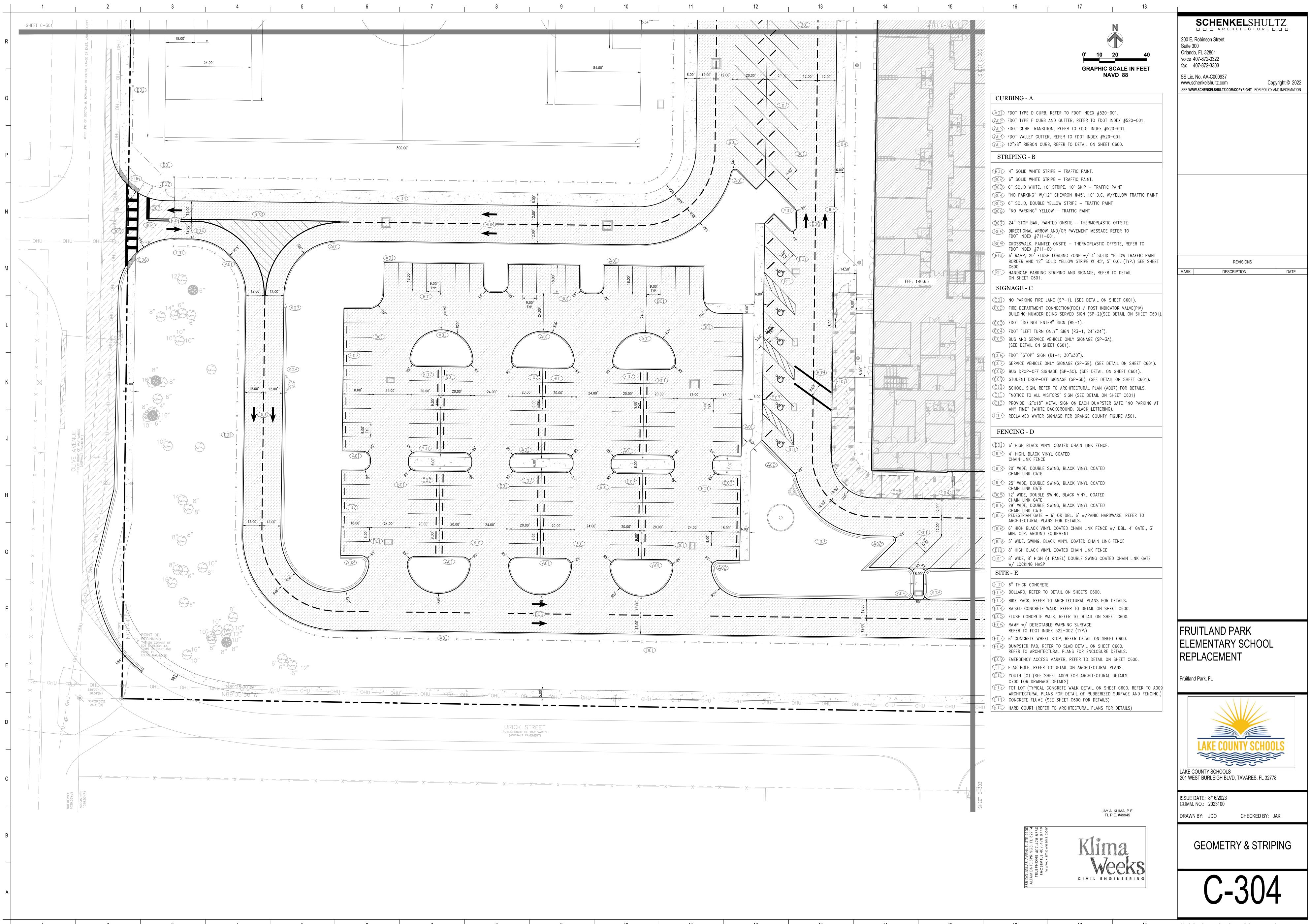
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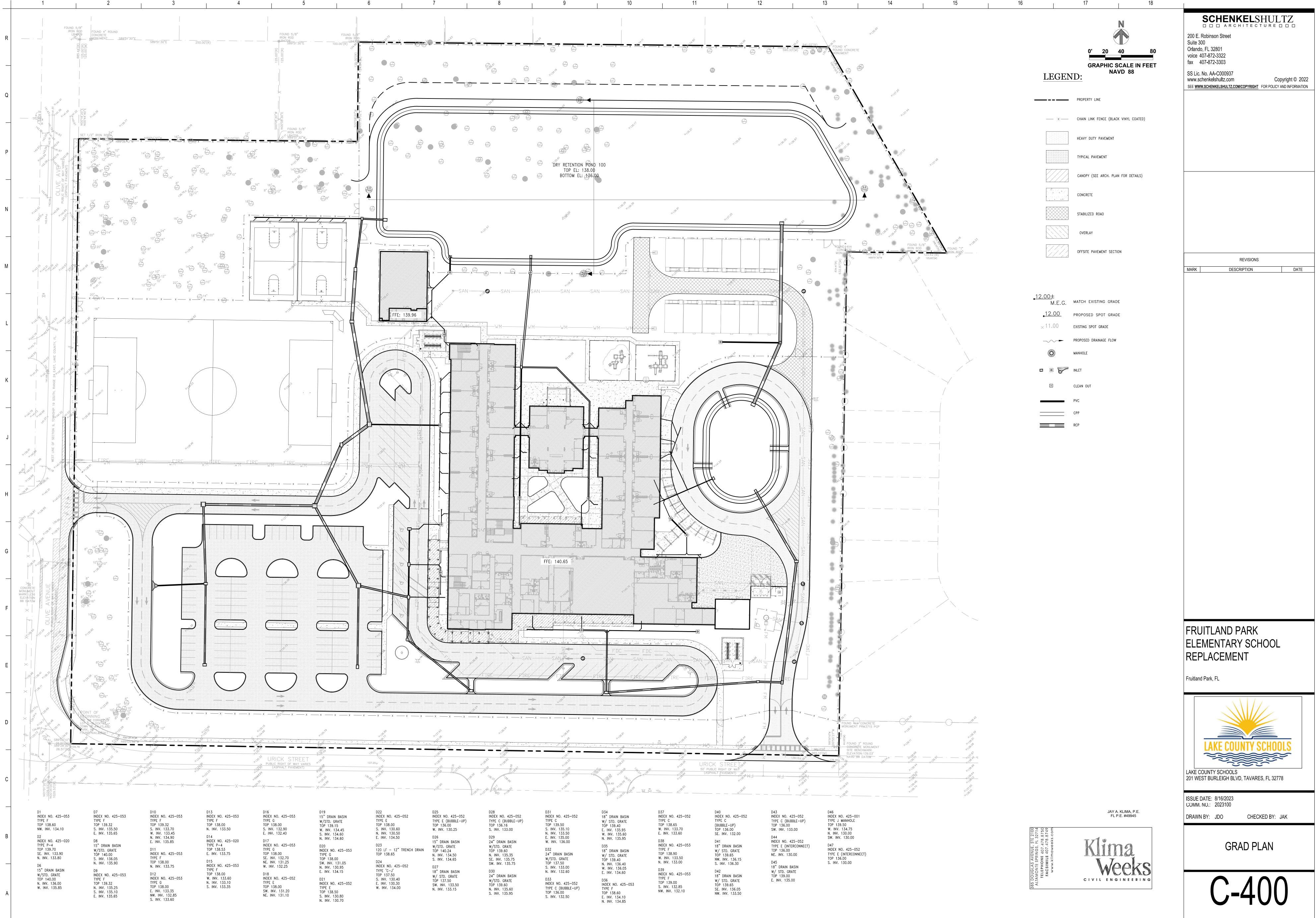
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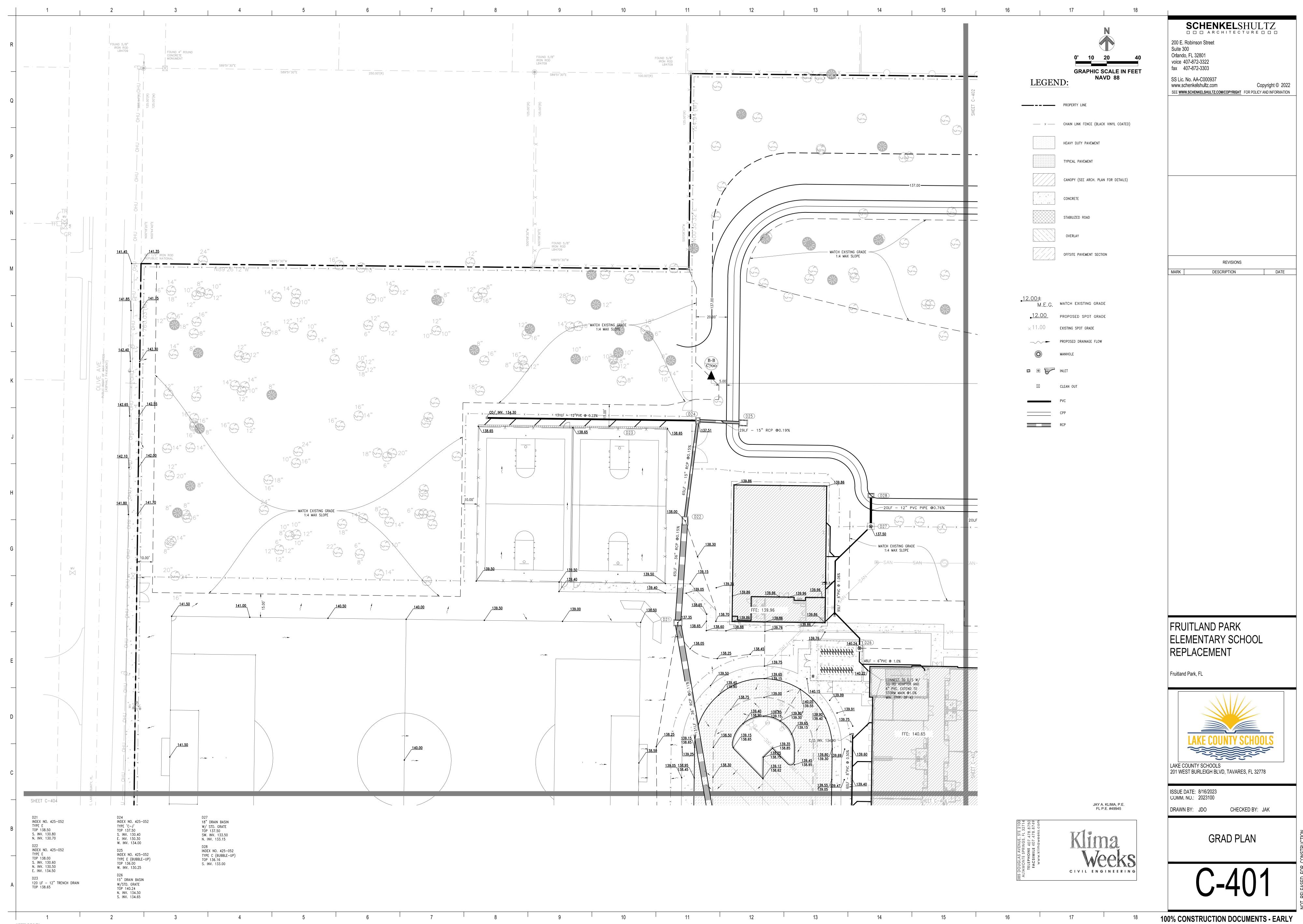
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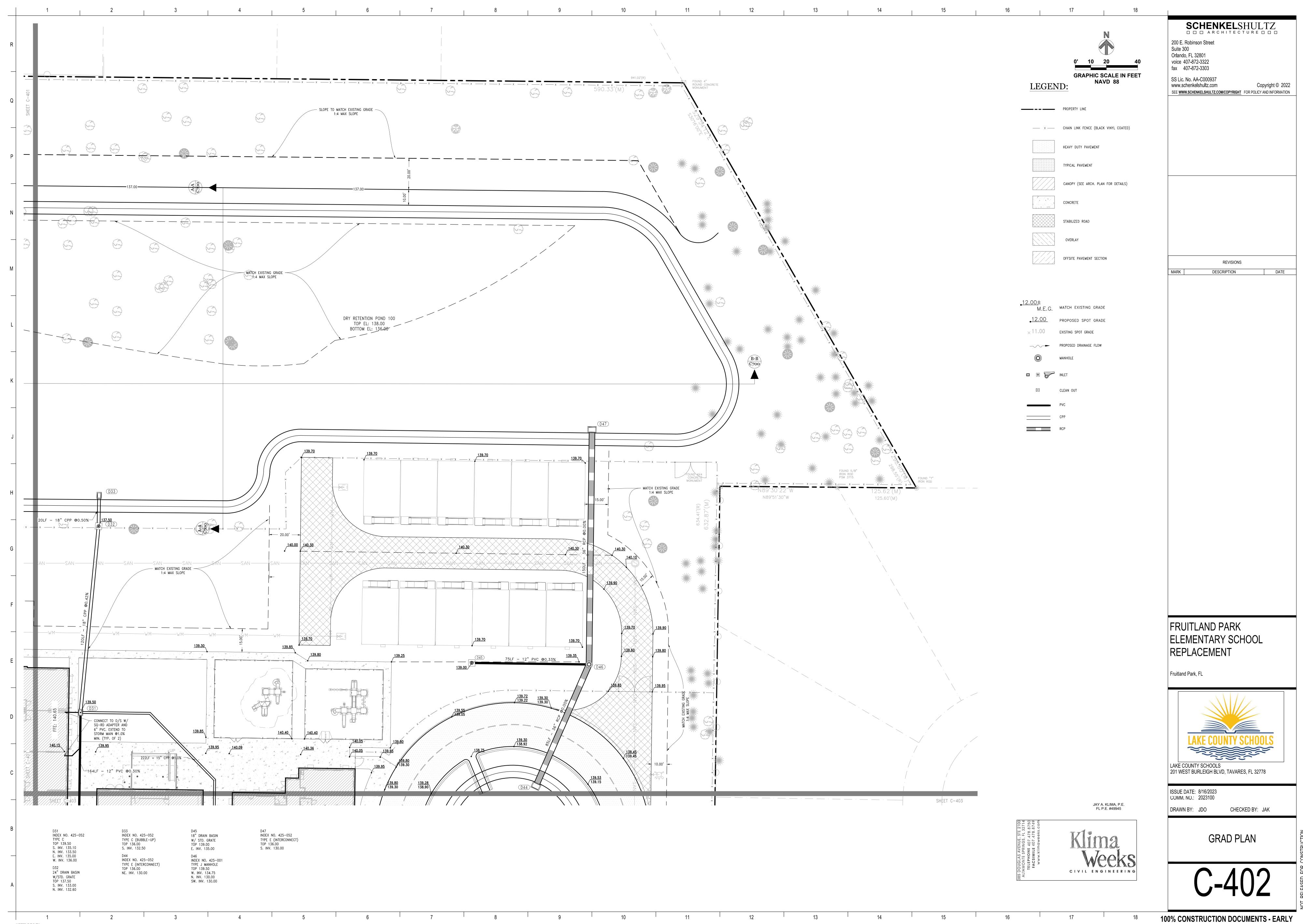


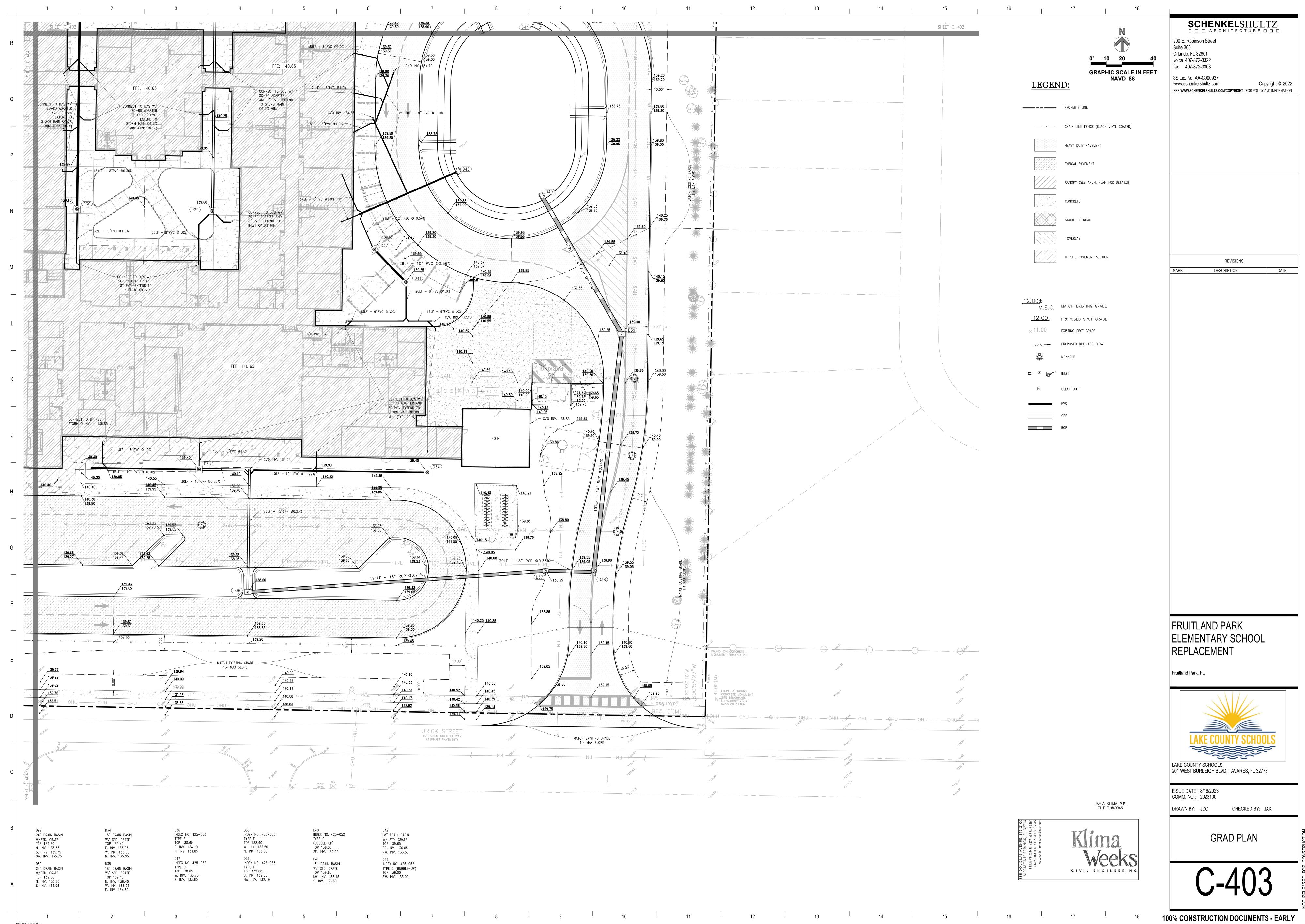
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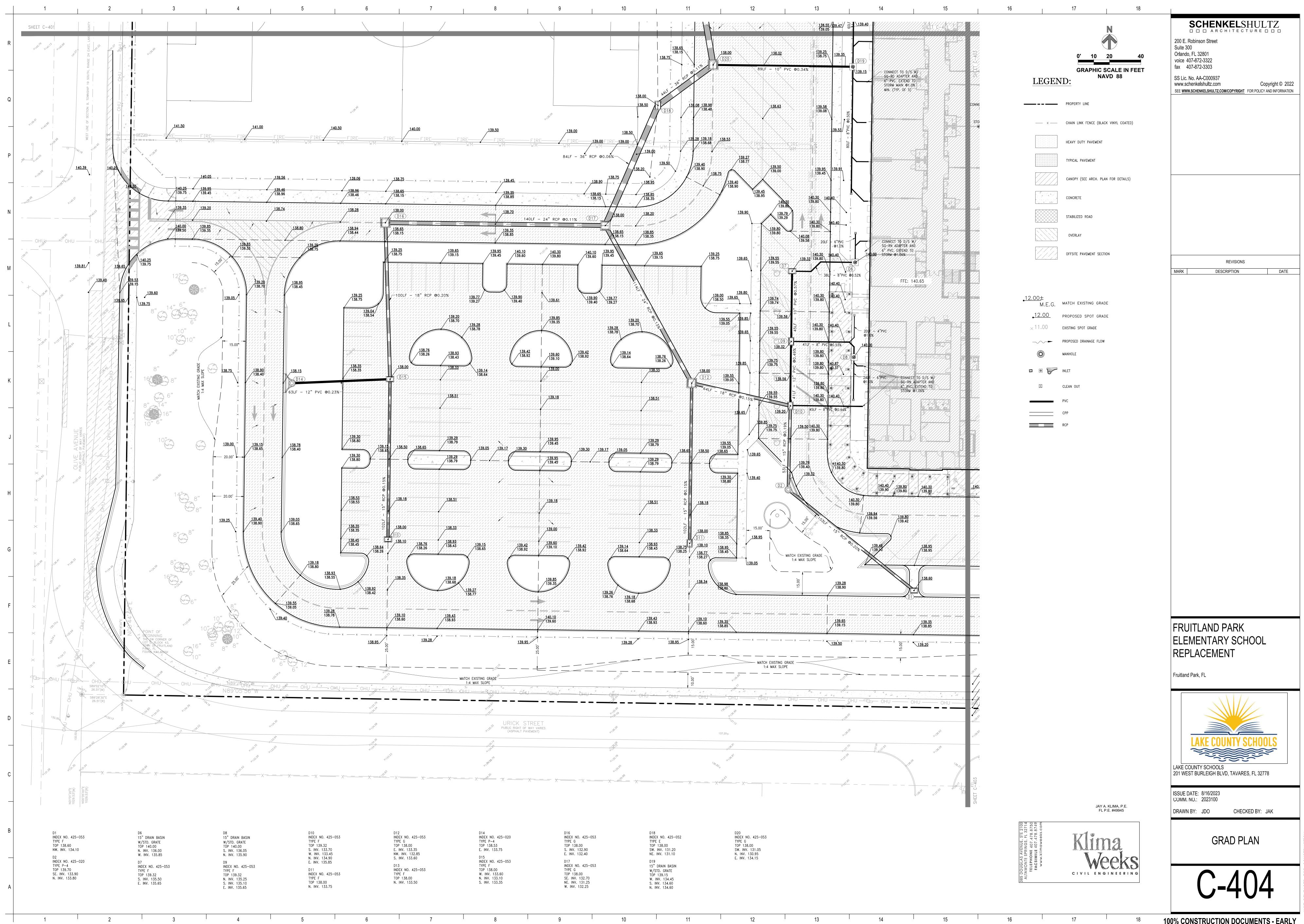


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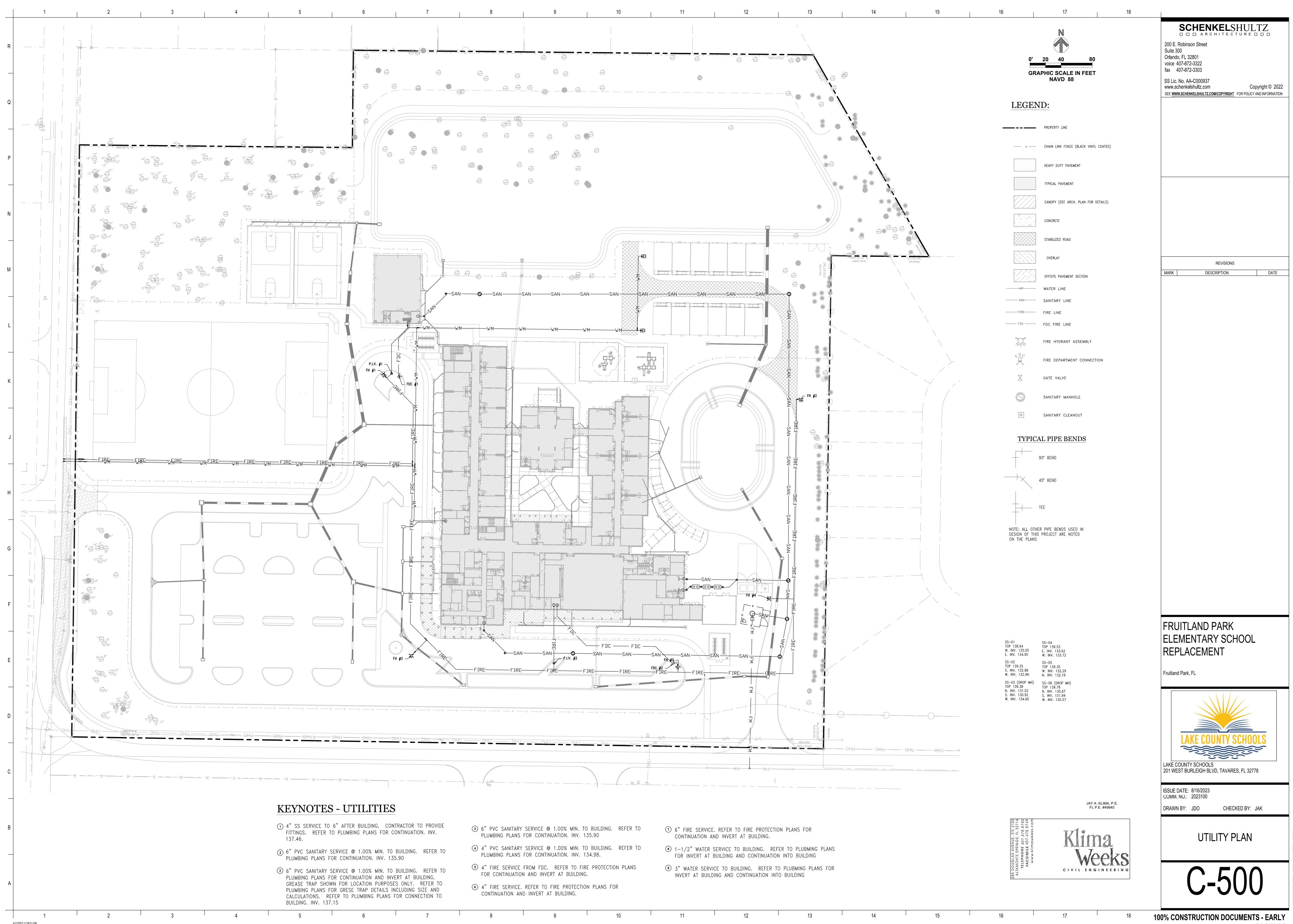


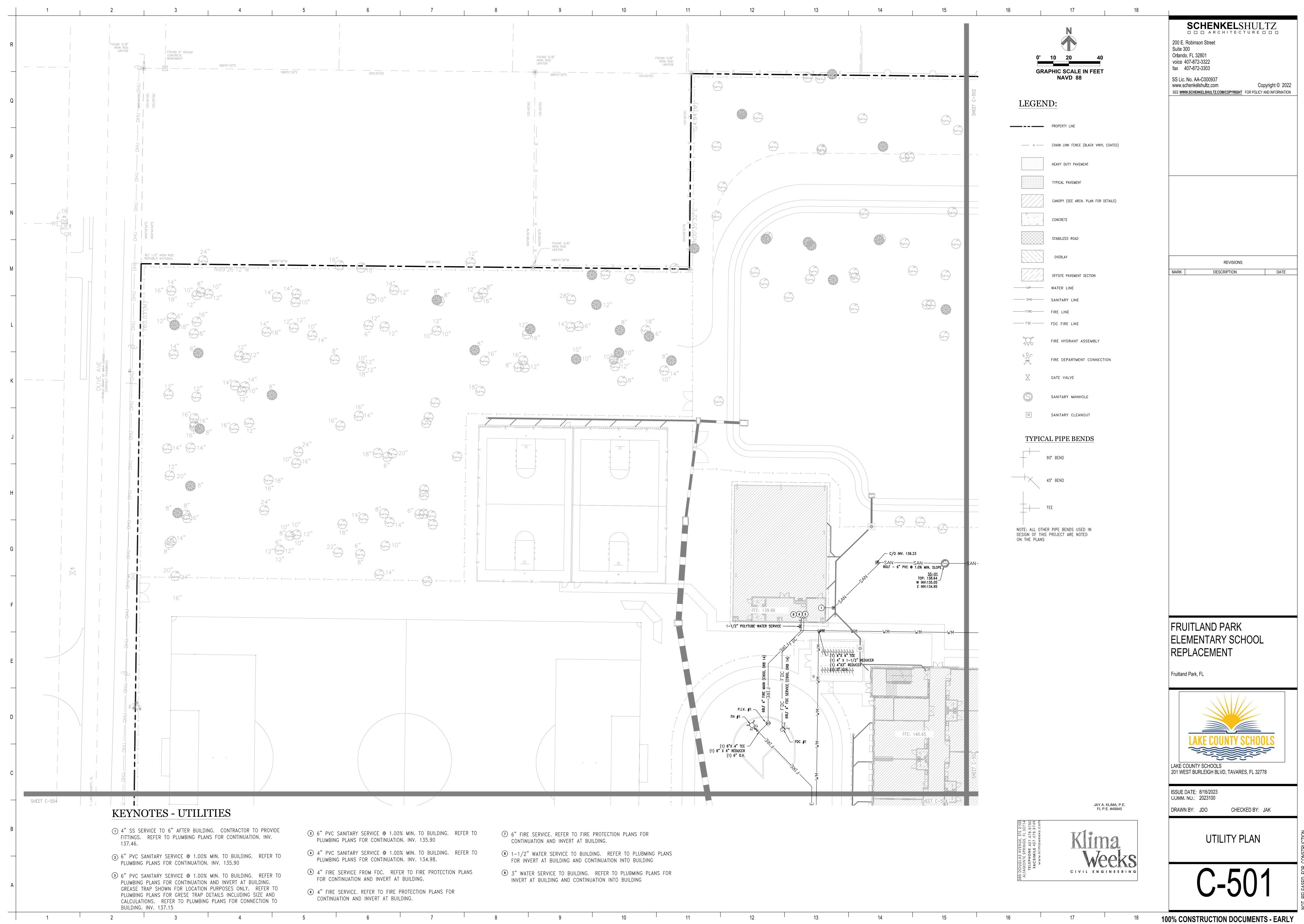
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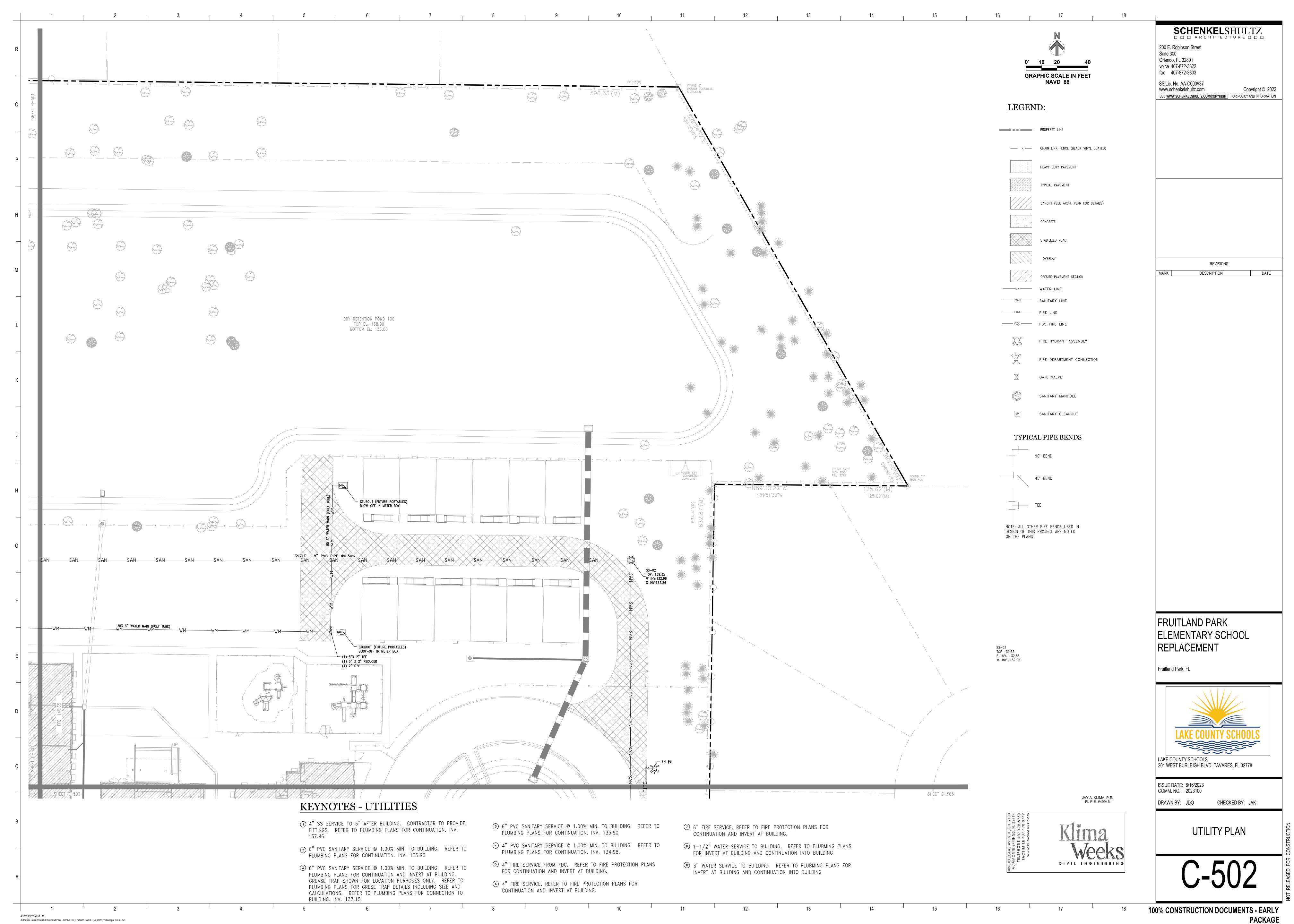
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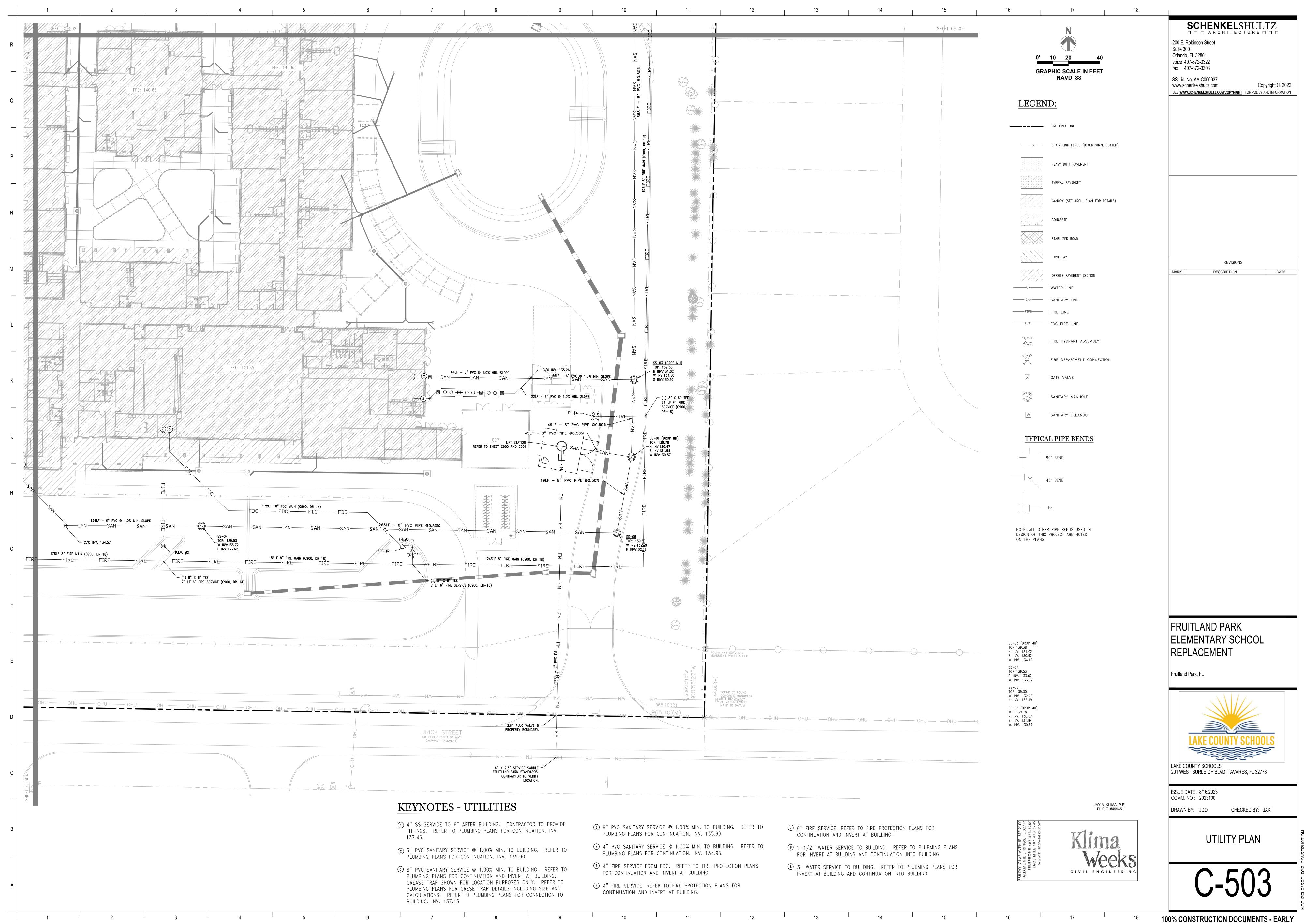
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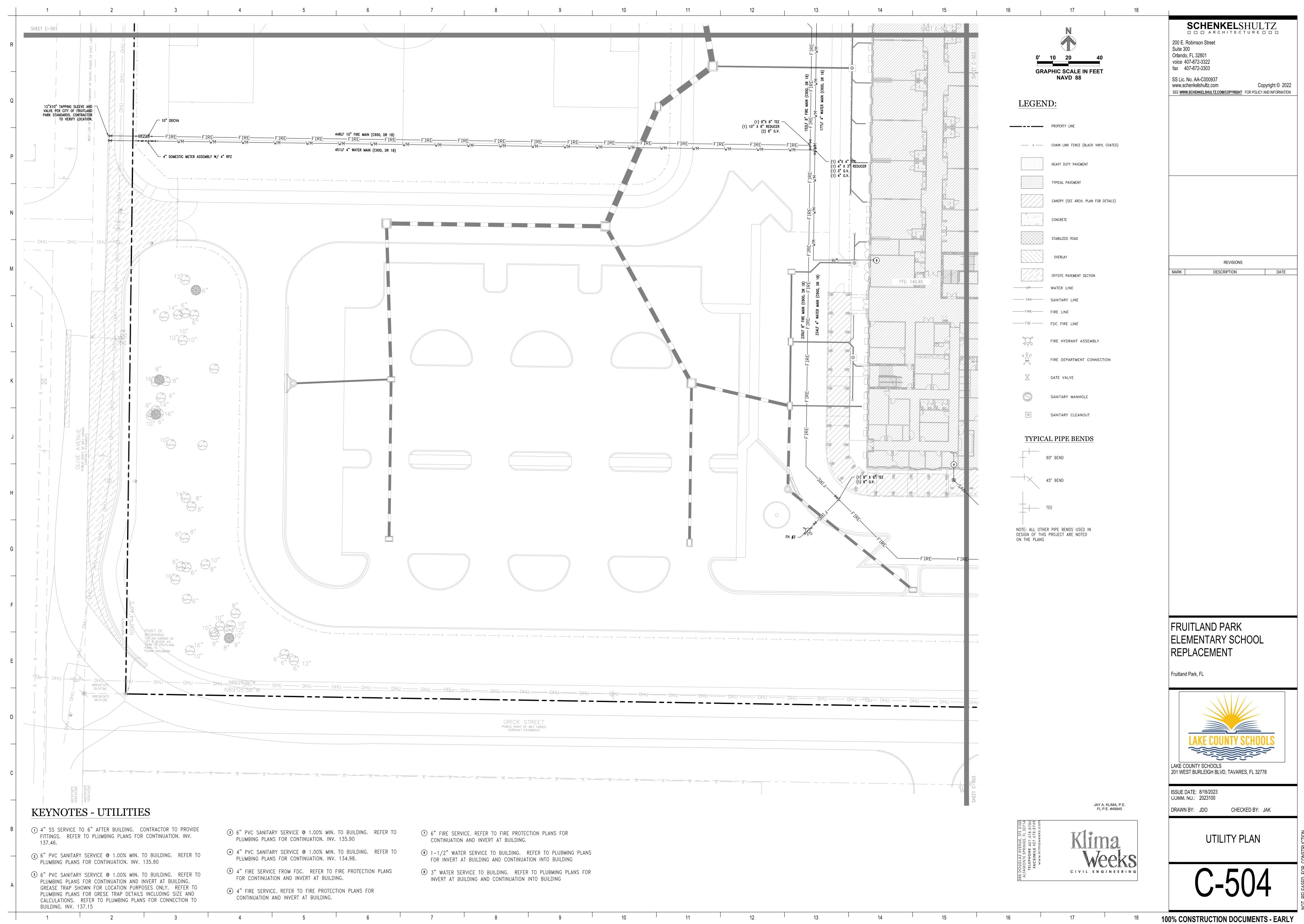
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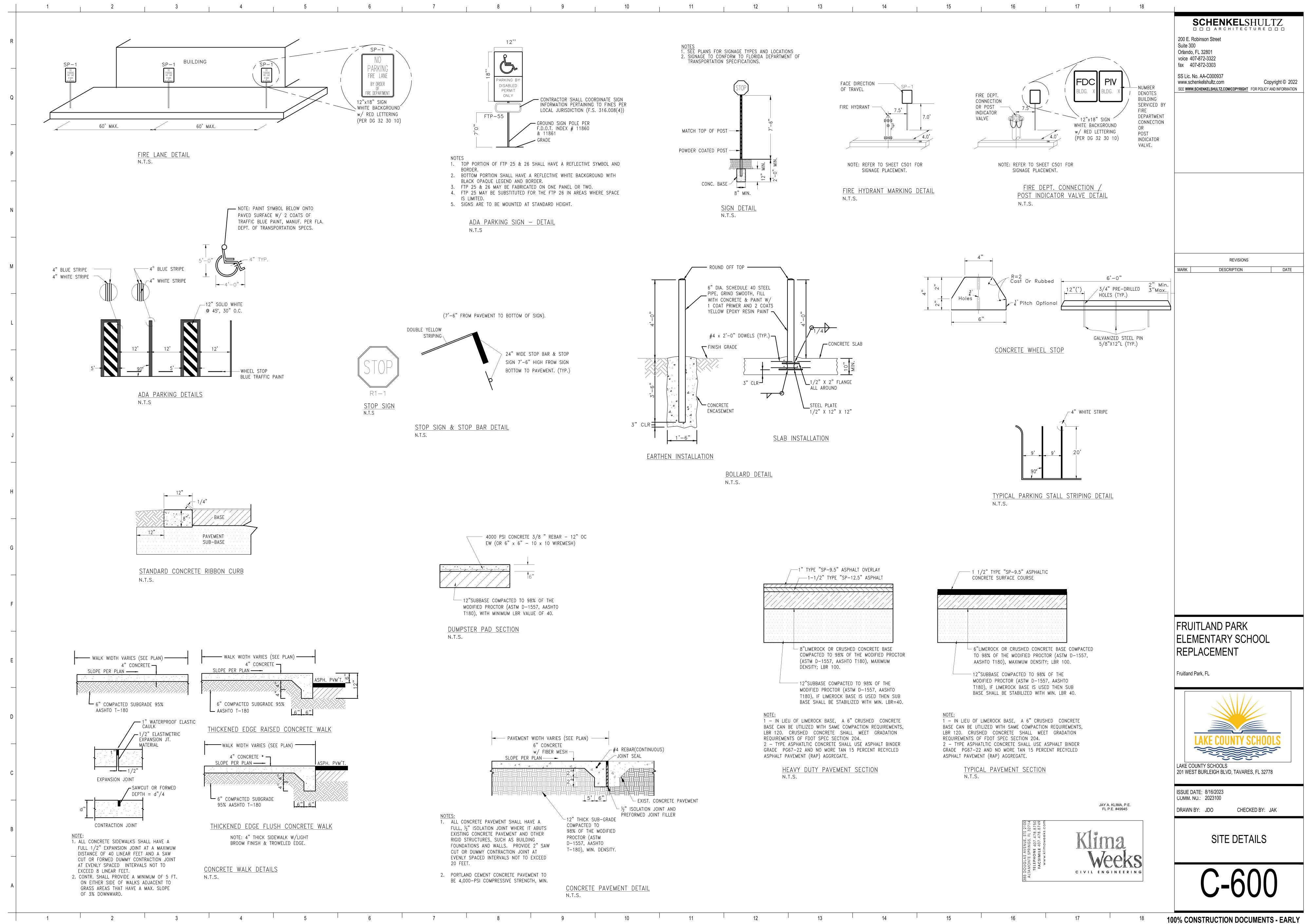


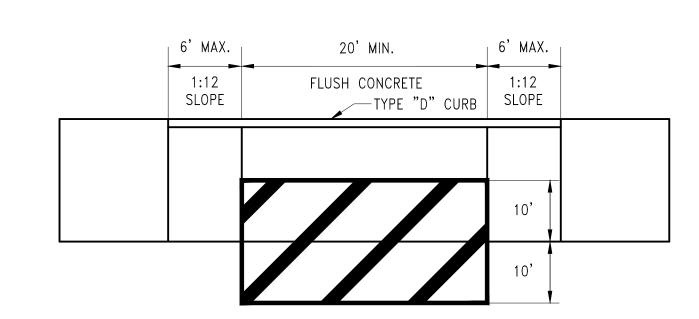






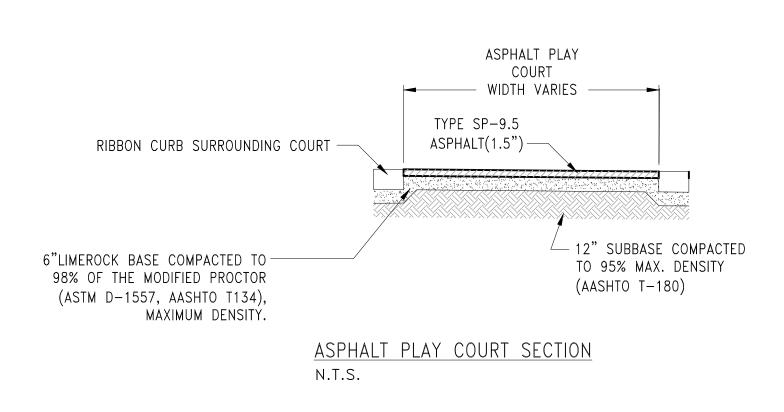


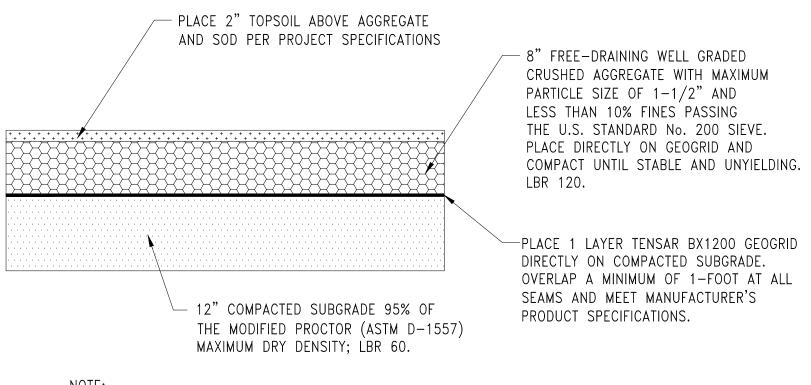




6' RAMP, 20' FLUSH LOADING ZONE w/ 4" SOLID YELLOW TRAFFIC PAINT BORDER AND 12" SOLID YELLOW STRIPE @ 45°, 5' O.C. (TYP.) TYPE "D" CURBING ALONG BACK OF LOADING ZONE LOADING ZONE DETAIL

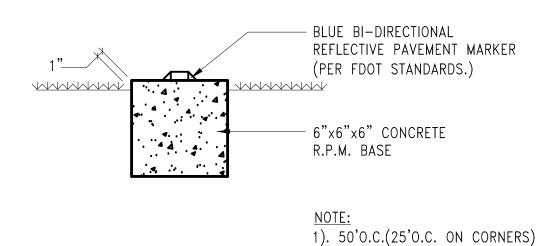
N.T.S.





1. ACCESS ROAD SECTION SHALL BE CONSTRUCTED IN (3) LIFTS. EACH LIFT SHALL BE TESTED FOR DENSITY VALUES EVERY 250LF. 2. ACCESS ROAD SHALL SUPPORT A VEHICLE WEIGHT OF 42 TONS. 3. EMERGENCY ACCESS ROADS SHALL HAVE 12" X 18" 'NO PARKING - FIRE LANE" SIGNS FACING ONCOMING TRAFFIC AS SHOWN.

> STABILIZED DRIVE N.T.S. (EMERGENCY ACCESS ROAD)



EMERGENCY ACCESS MARKER DETAIL N.T.S.

> REVISIONS DESCRIPTION DATE

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FRUITLAND PARK ELEMENTARY SCHOOL REPLACEMENT

Fruitland Park, FL



ISSUE DATE: 8/16/2023 COMM. NO.: 2023100 DRAWN BY: JDO

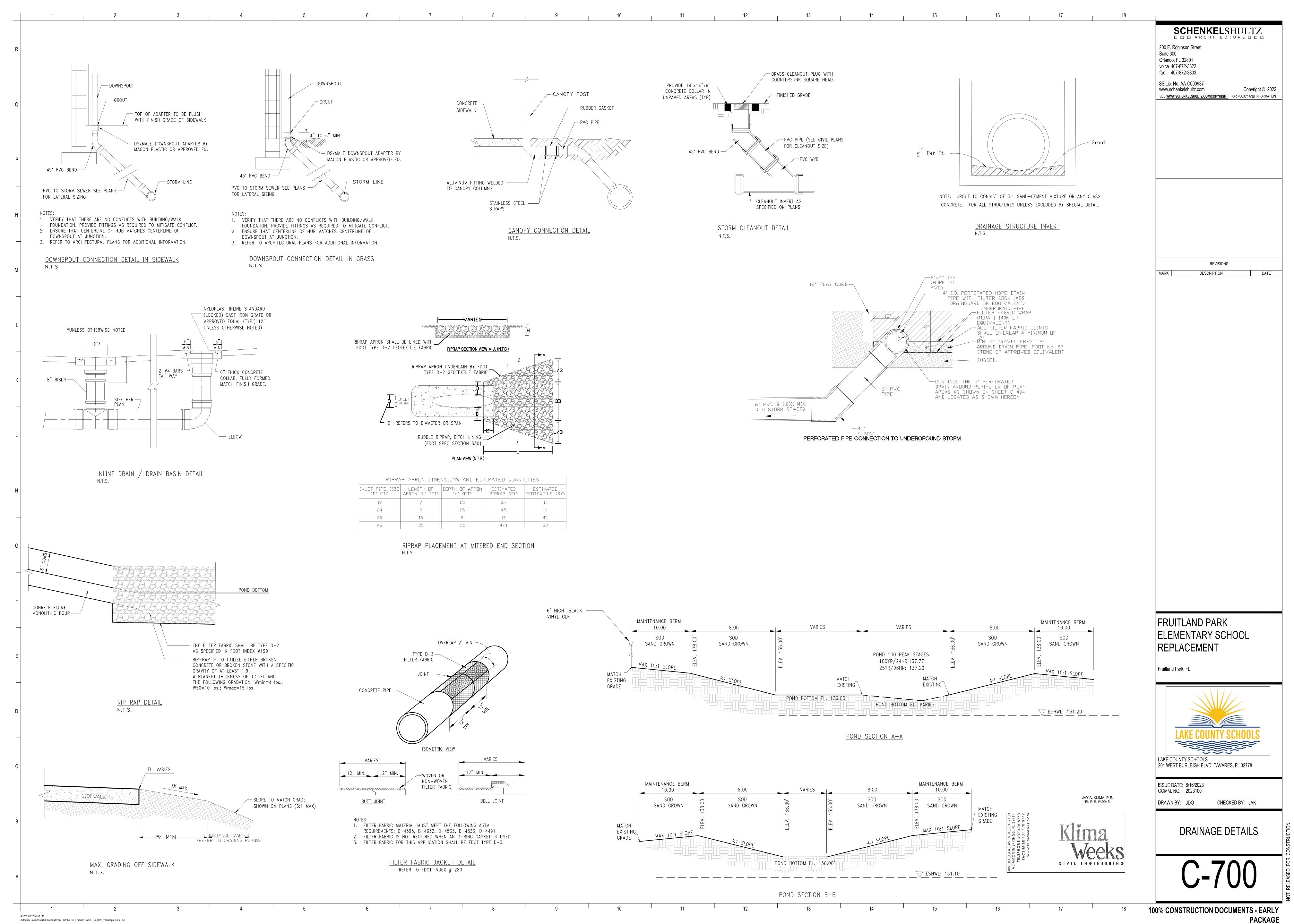
JAY A. KLIMA, P.E. FL P.E. #49945

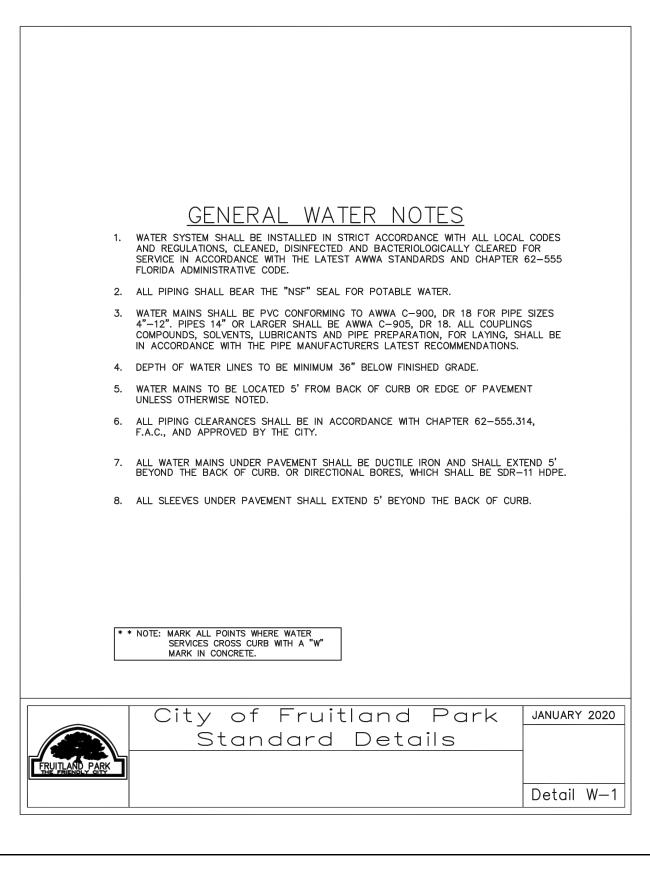
CIVIL ENGINEERING

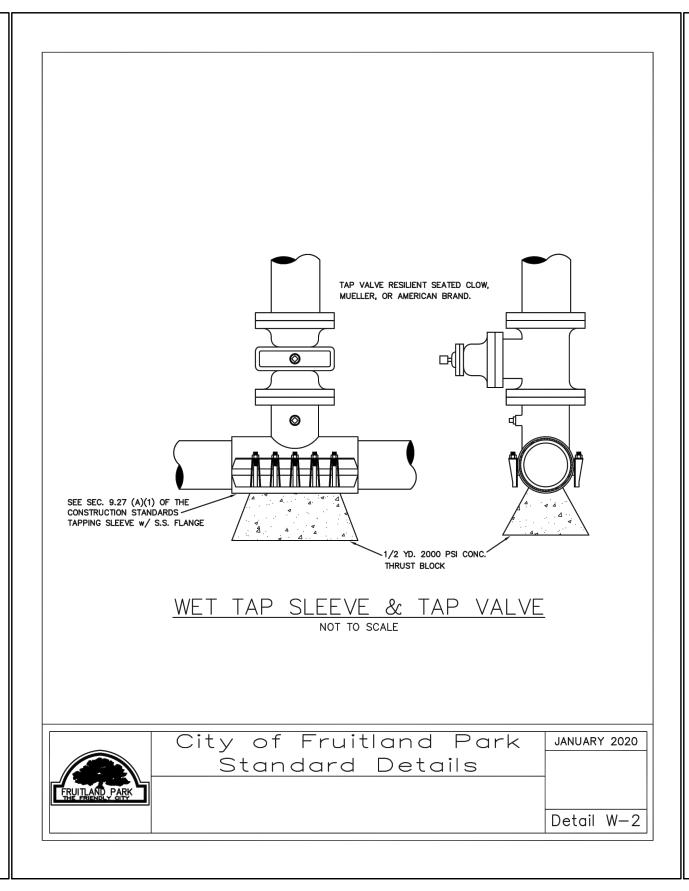
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CHECKED BY: JAK

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RÉCESSED SQUARE NUT IN BRASS LID EXTENDED MINIMUM 24" BELOW GRADE

ADJUSTABLE

P.V.C. (6" D.I. REQ.

LENGTH AS REQ.

TO BE INSTALLED IN

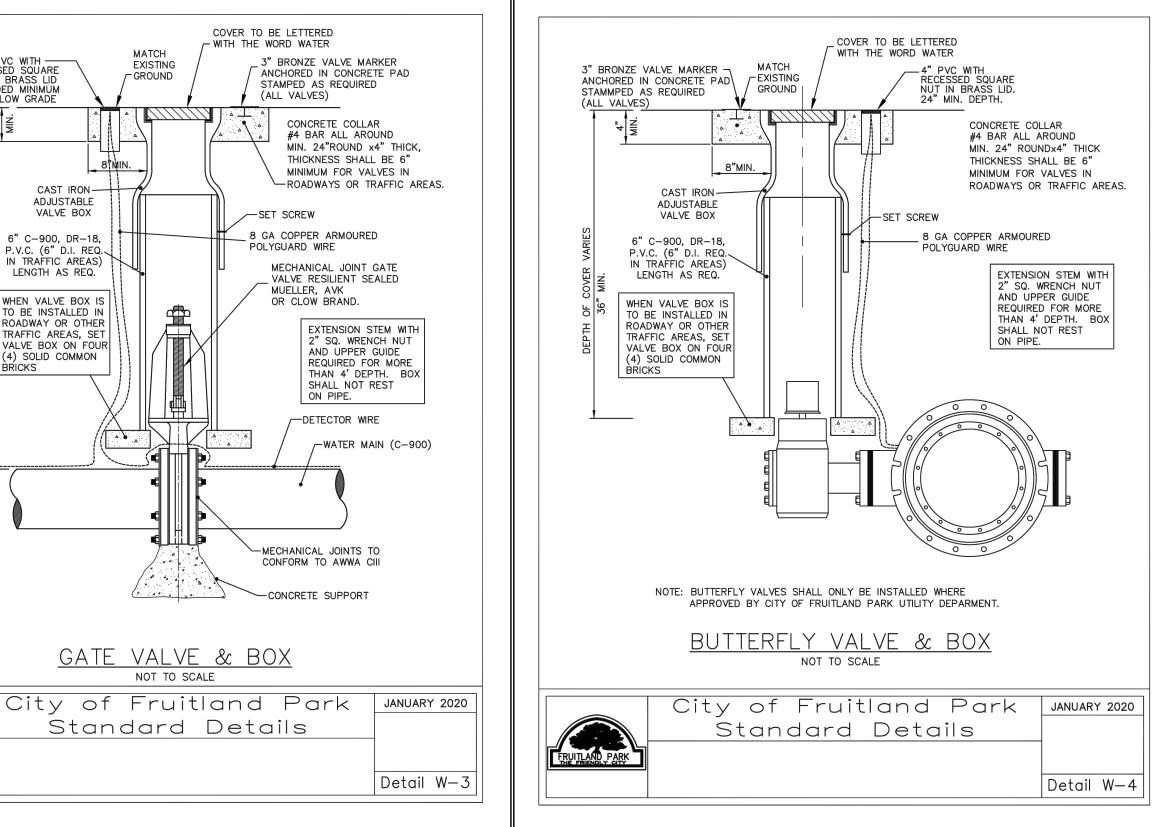
ROADWAY OR OTHER

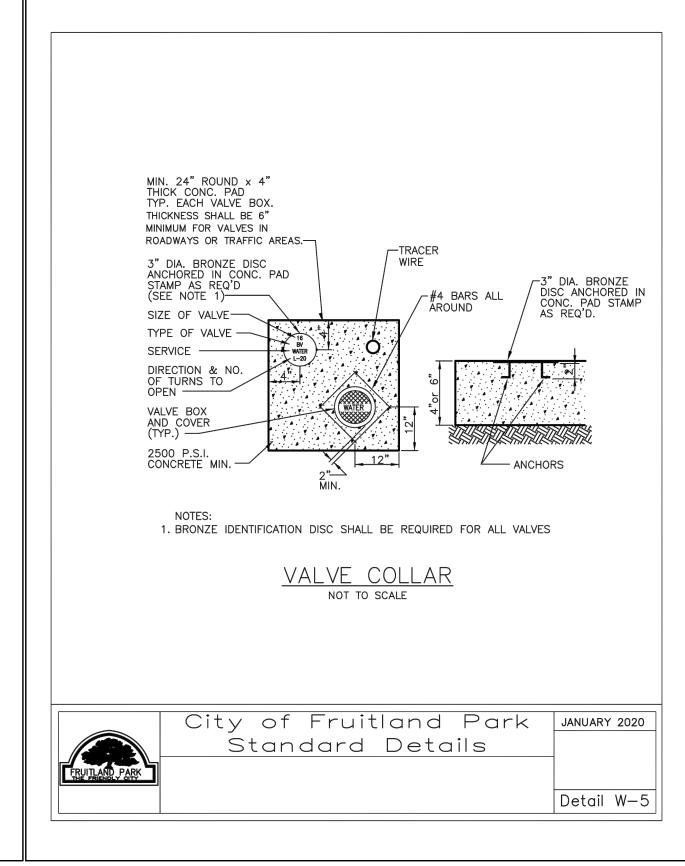
TRAFFIC AREAS, SET

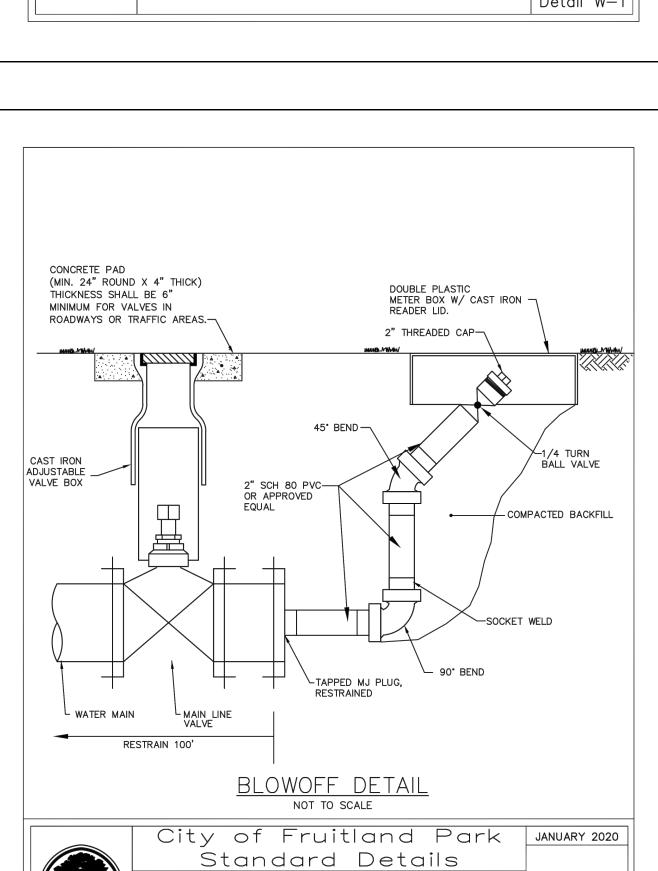
(4) SOLID COMMON

GATE VALVE & BOX

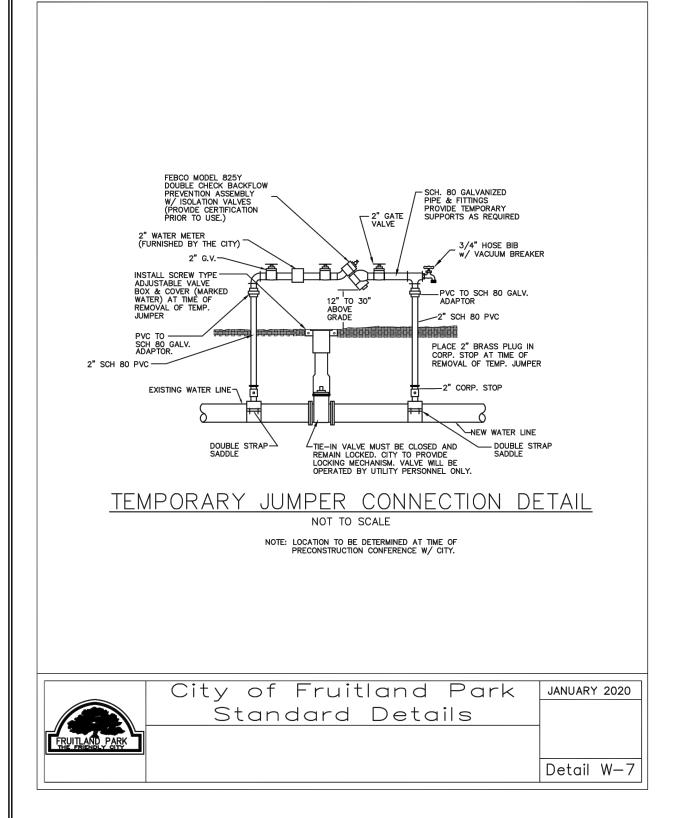
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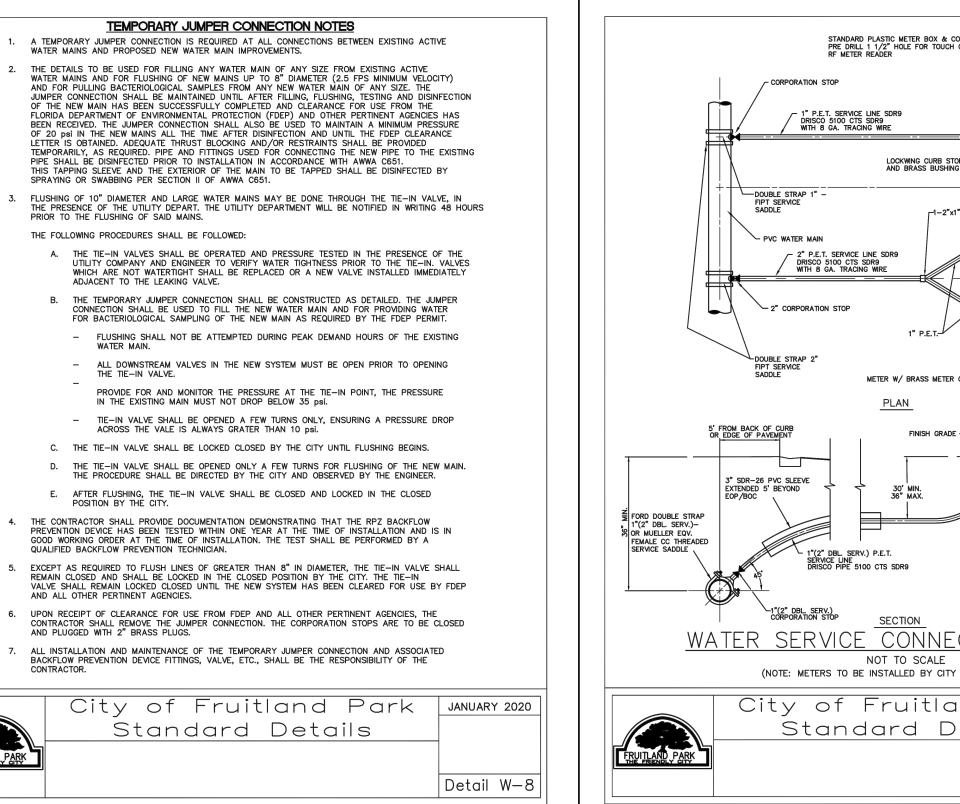


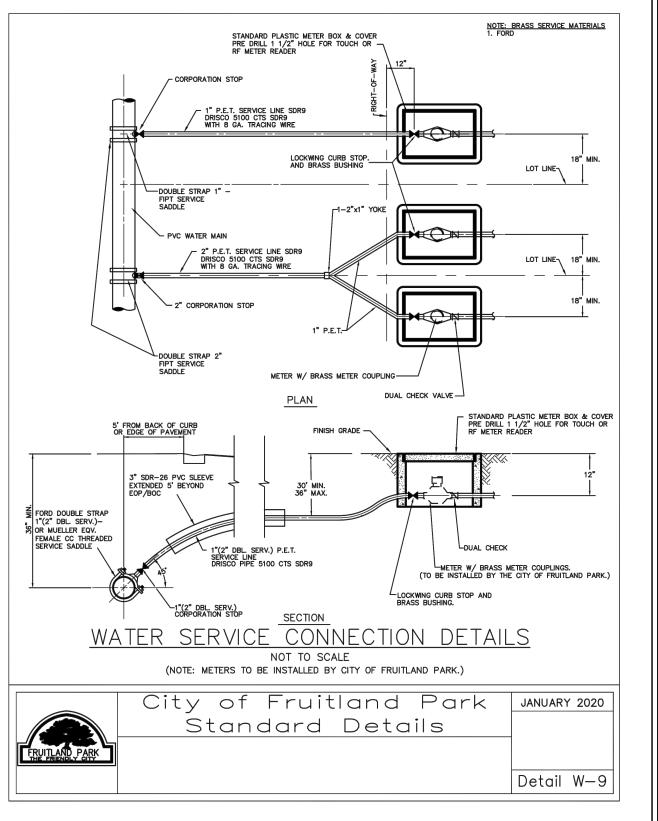


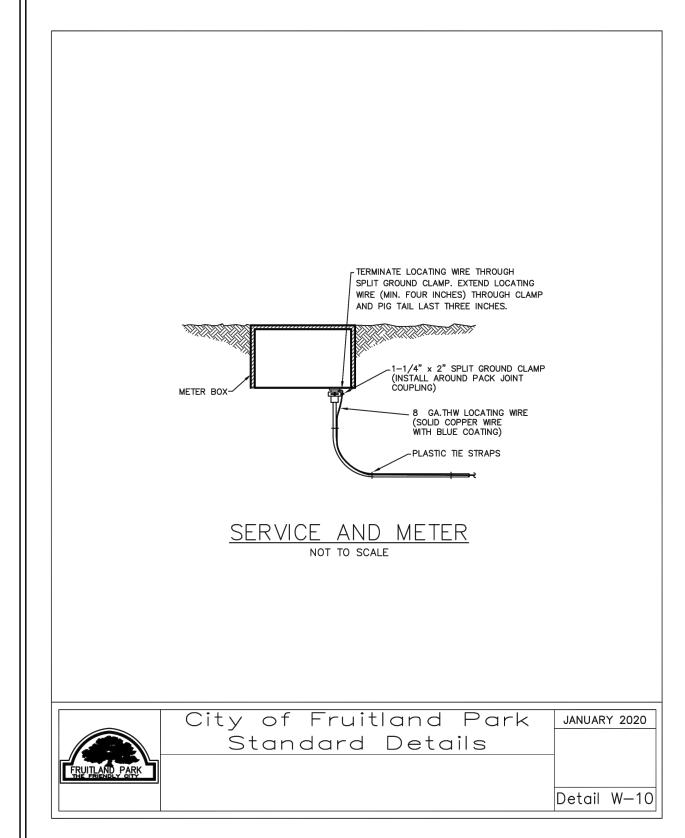


Detail W-6









FRUITLAND PARK **ELEMENTARY SCHOOL** REPLACEMENT

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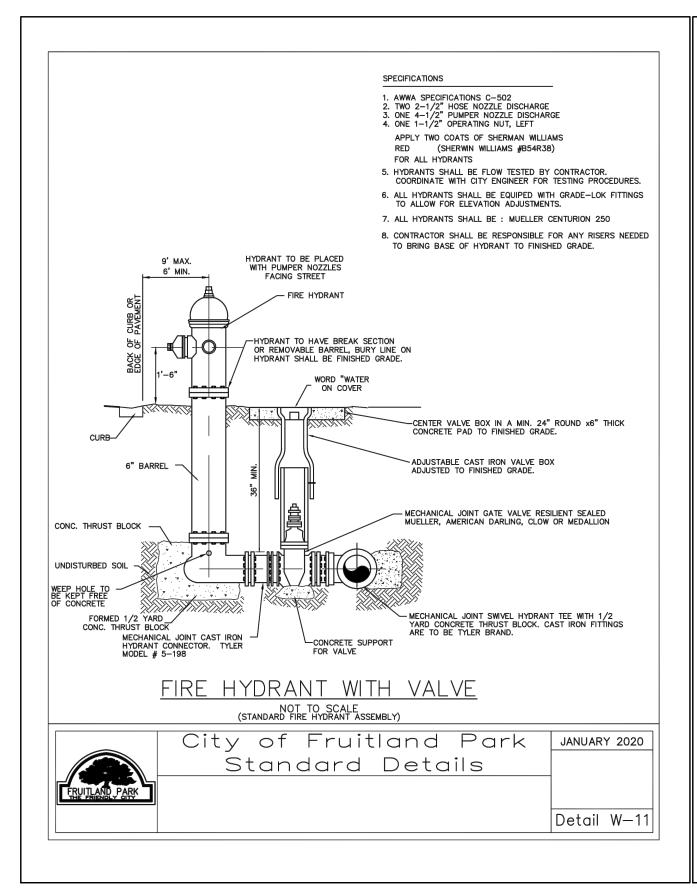
CIVIL ENGINEERING

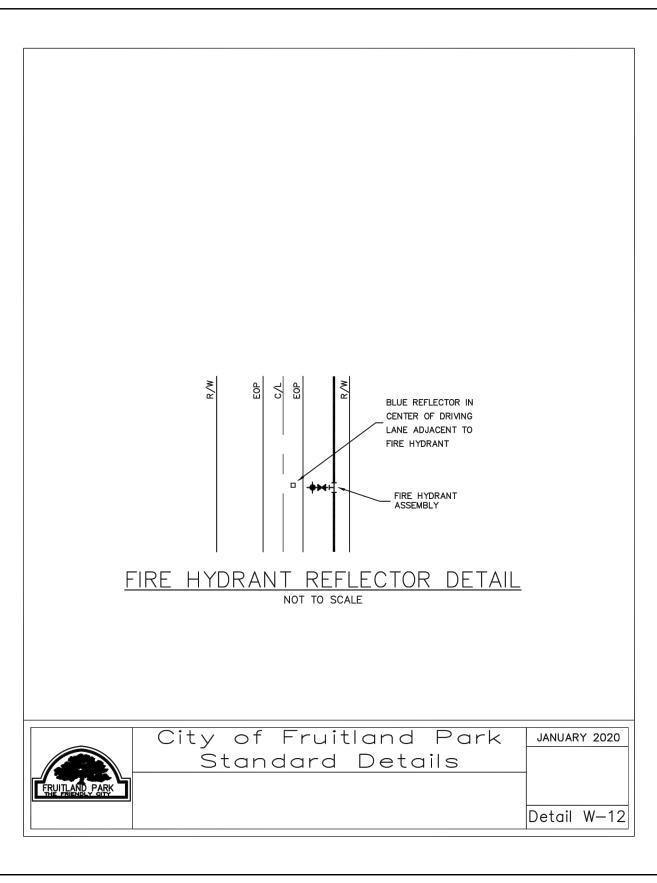
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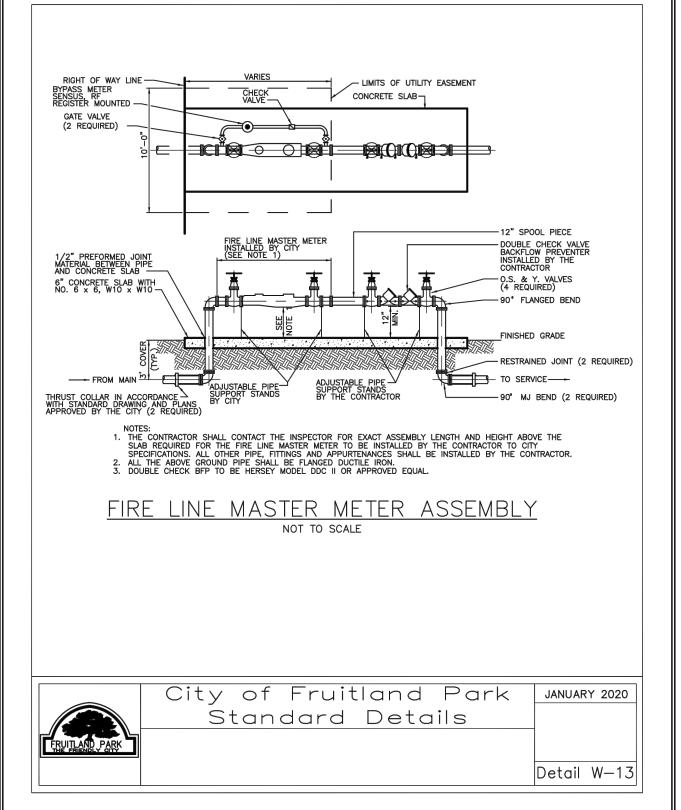
UTILITY DETAILS

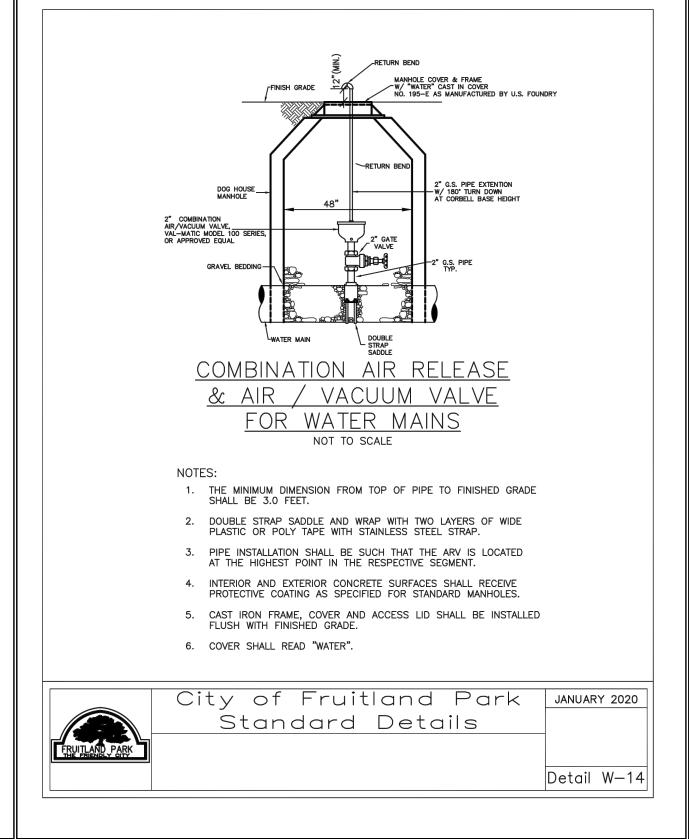
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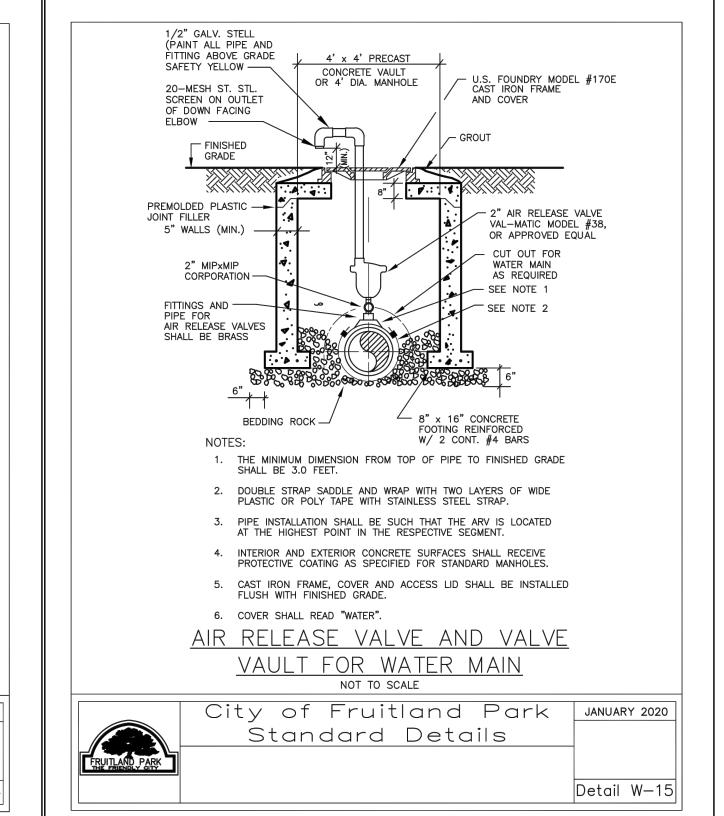
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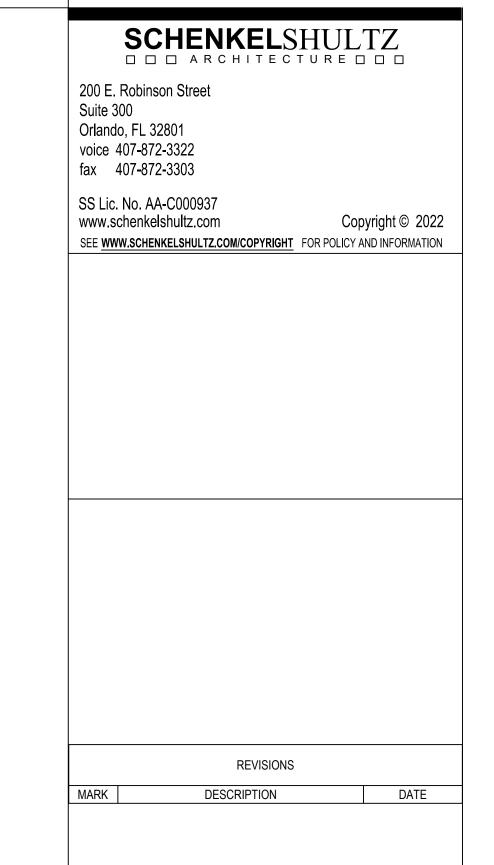


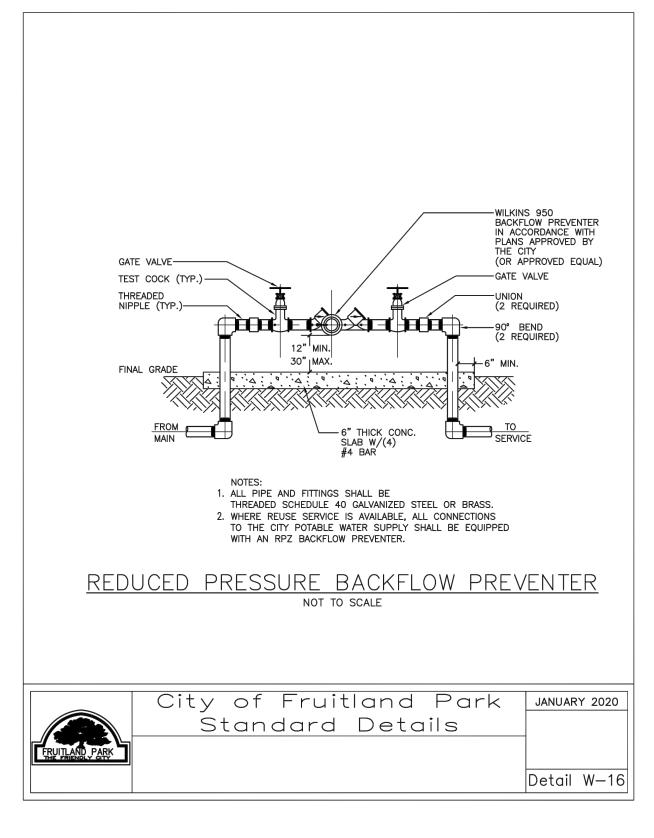


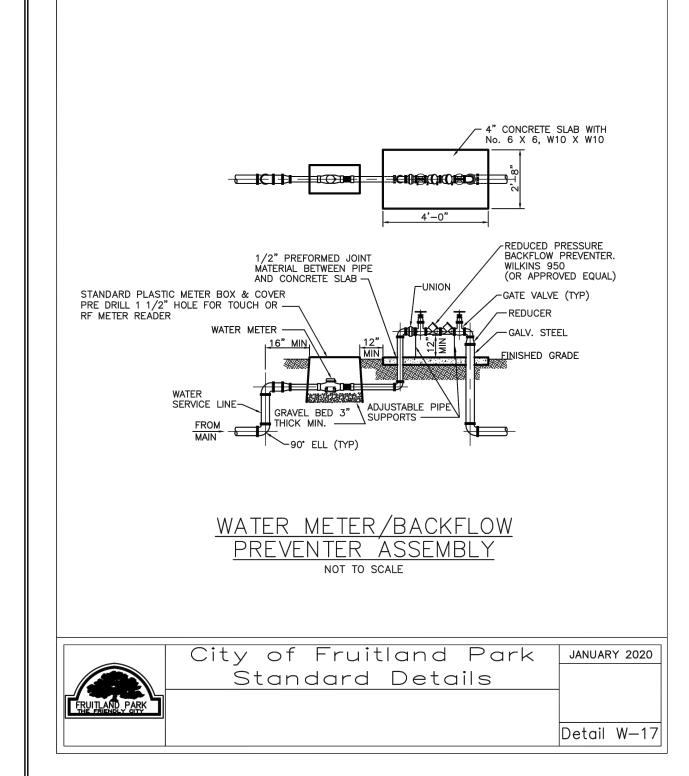












FRUITLAND PARK ELEMENTARY SCHOOL REPLACEMENT

Fruitland Park, FL



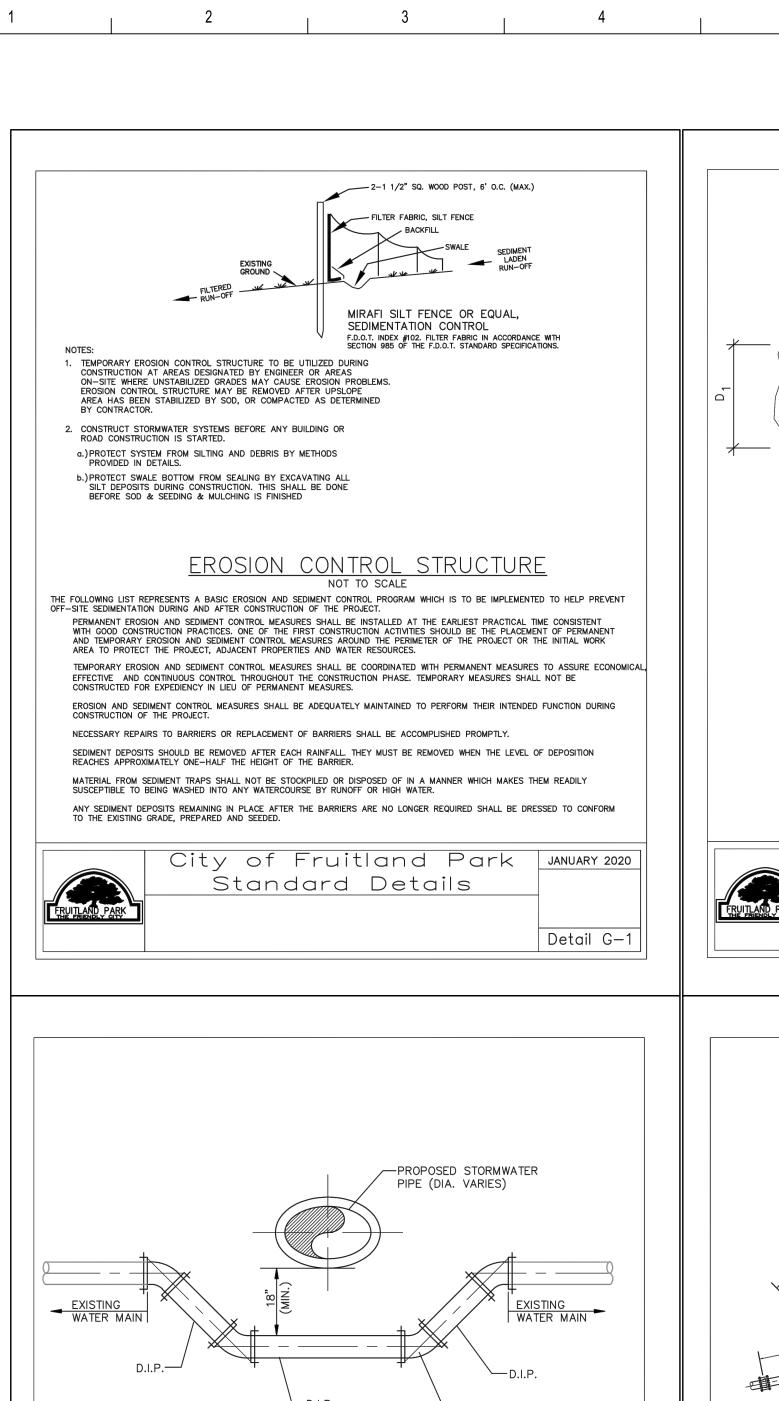
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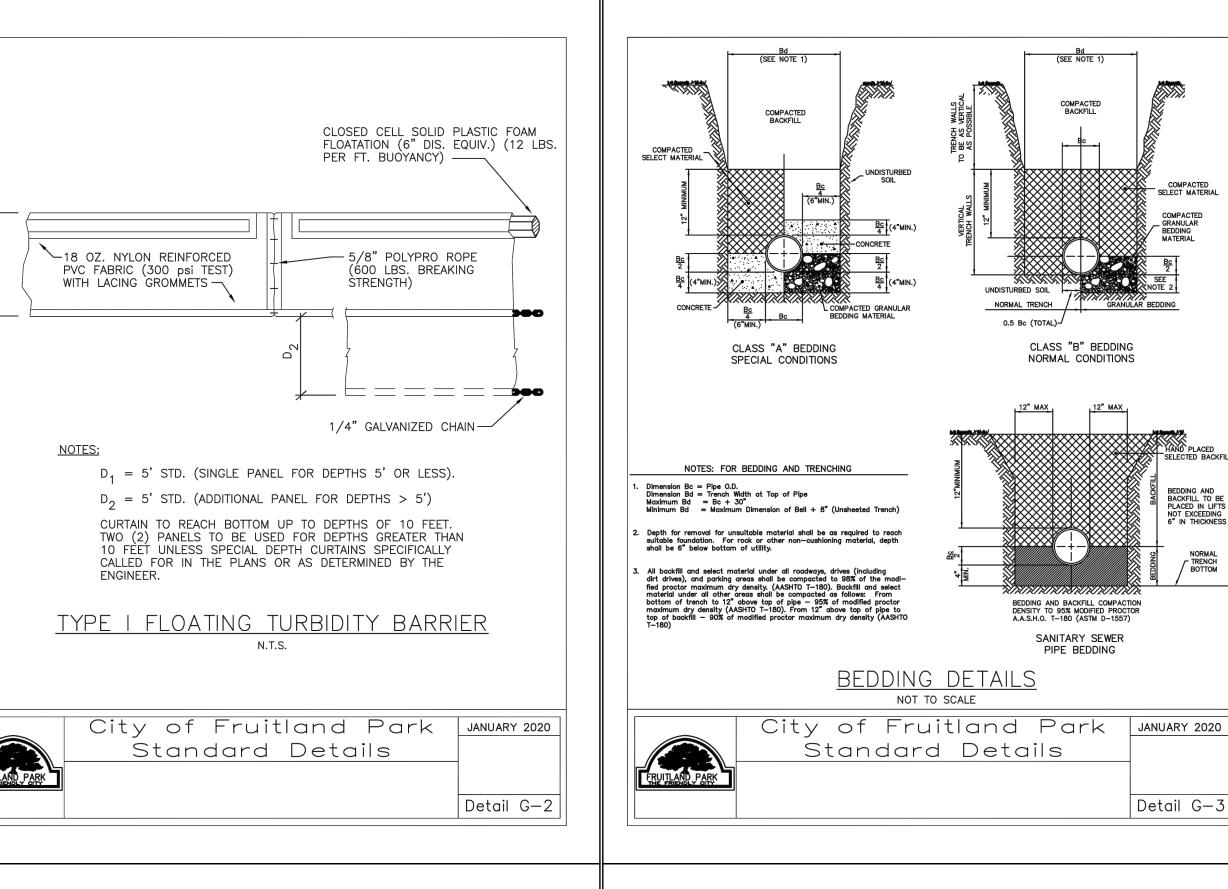
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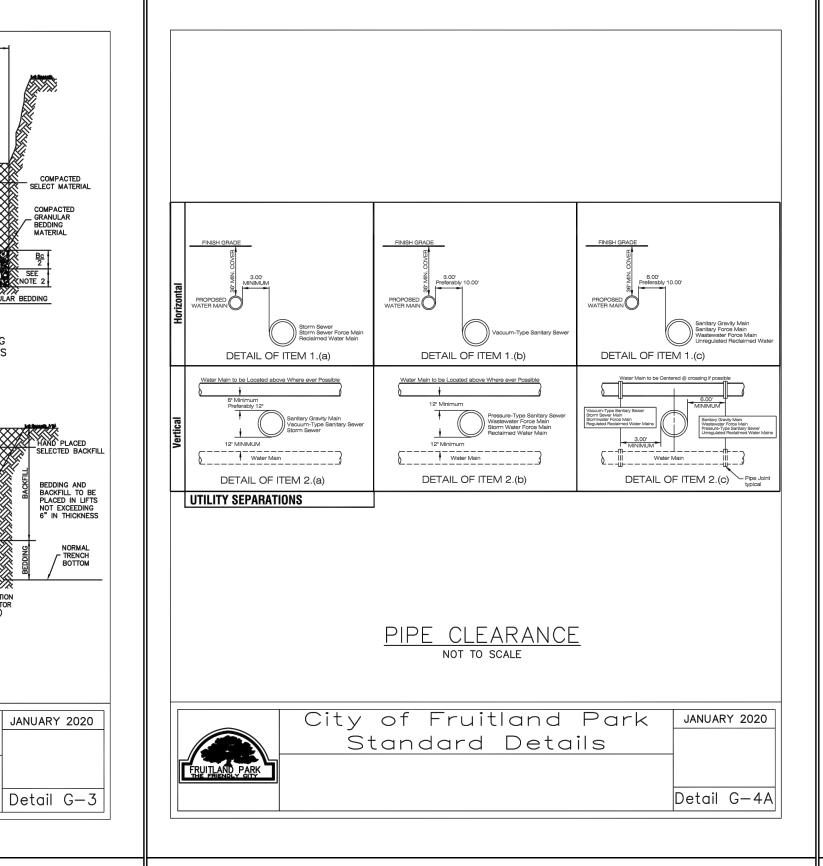
CIVIL ENGINEERING

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UTILITY DETAILS







PIG TAIL WIRE AFTER
PASSING THROUGH SPLIT BOLT

— TAPE CONNECTION AND WATER PROOF TAPE

1/4" x 3/4" SPLIT BOLT

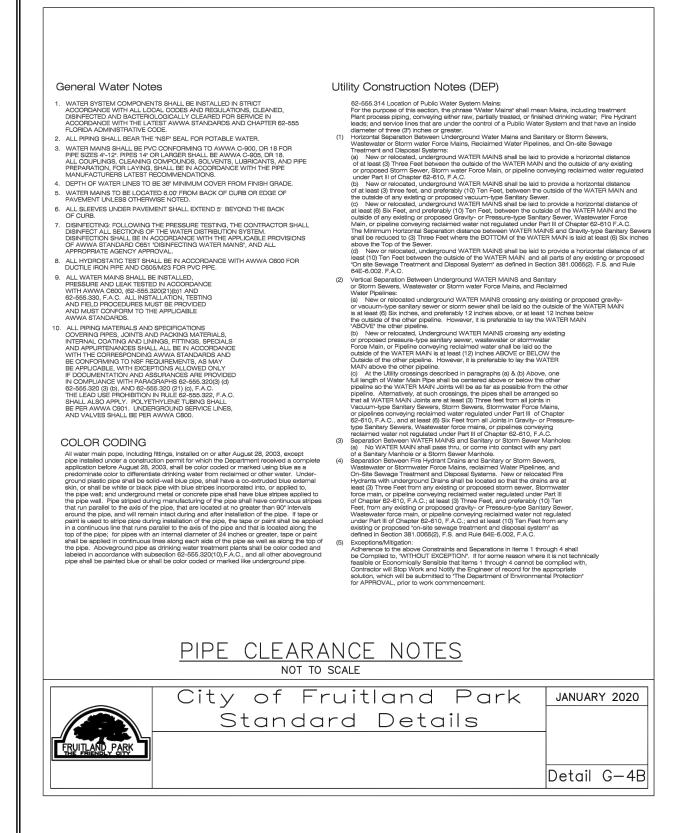
Detail G-8

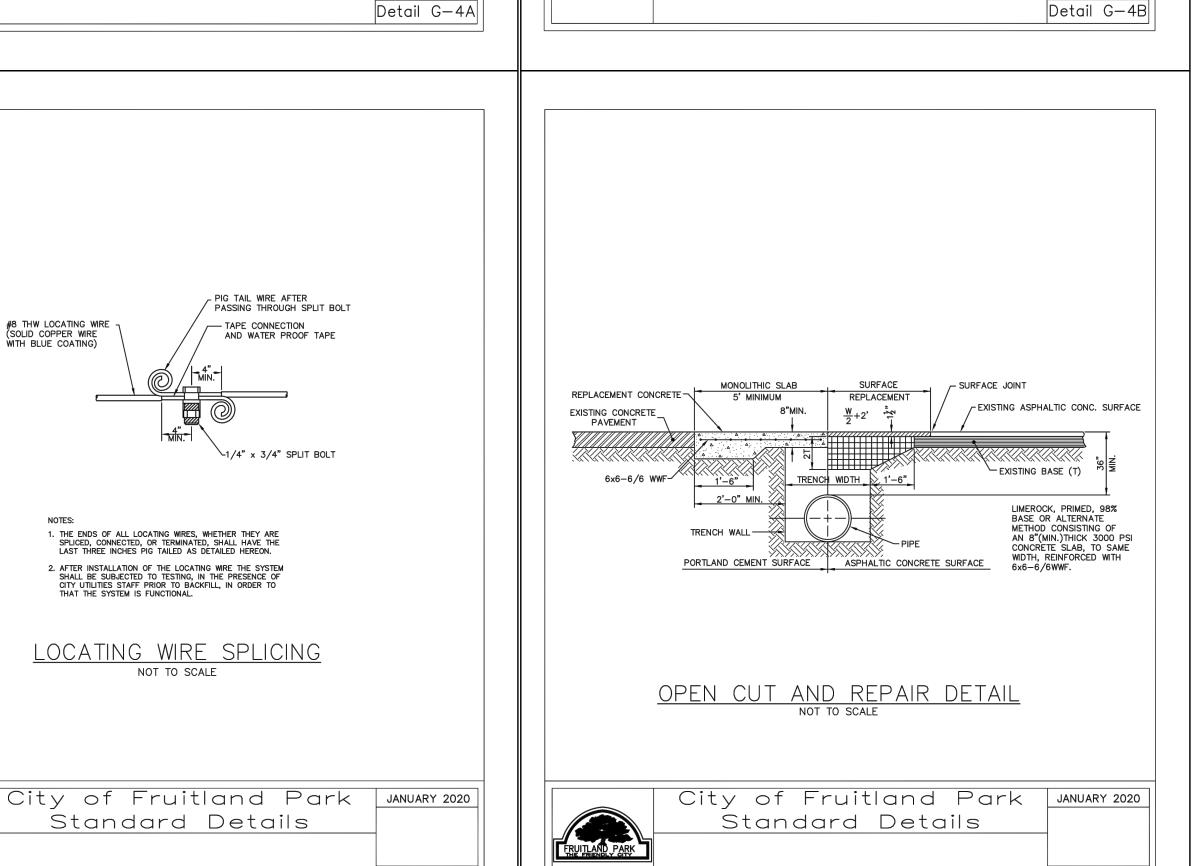
1. THE ENDS OF ALL LOCATING WIRES, WHETHER THEY ARE SPLICED, CONNECTED, OR TERMINATED, SHALL HAVE THE LAST THREE INCHES PIG TAILED AS DETAILED HEREON.

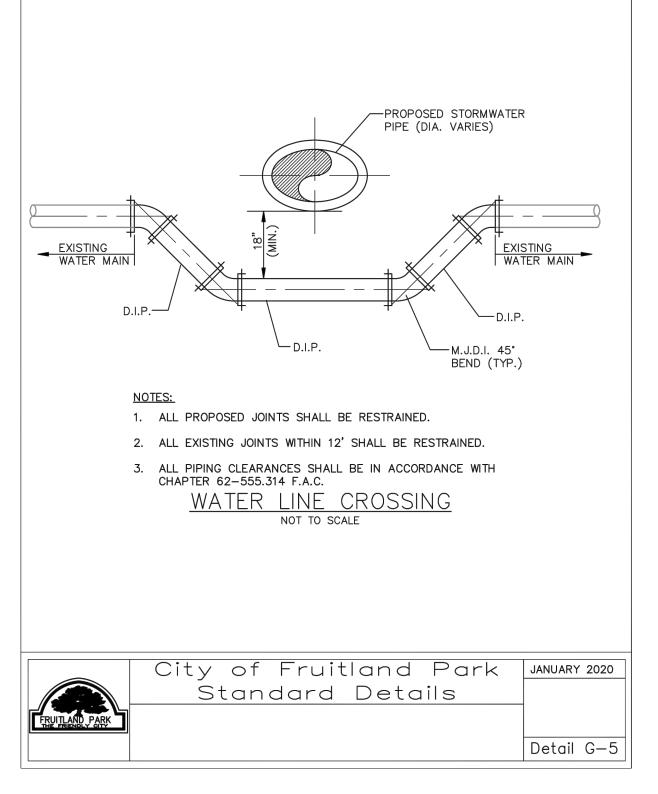
2. AFTER INSTALLATION OF THE LOCATING WIRE THE SYSTEM SHALL BE SUBJECTED TO TESTING, IN THE PRESENCE OF CITY UTILITIES STAFF PRIOR TO BACKFILL, IN ORDER TO THAT THE SYSTEM IS FUNCTIONAL.

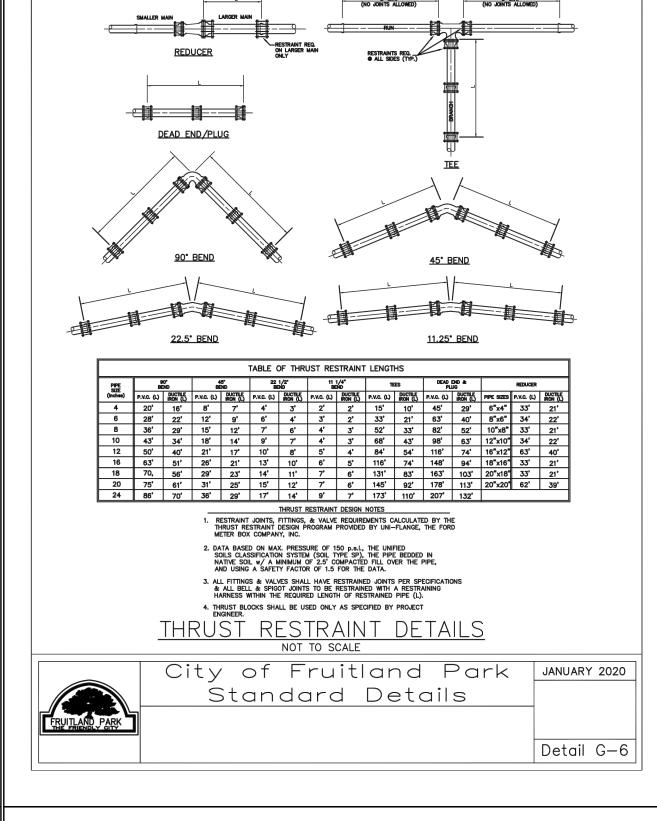
LOCATING WIRE SPLICING

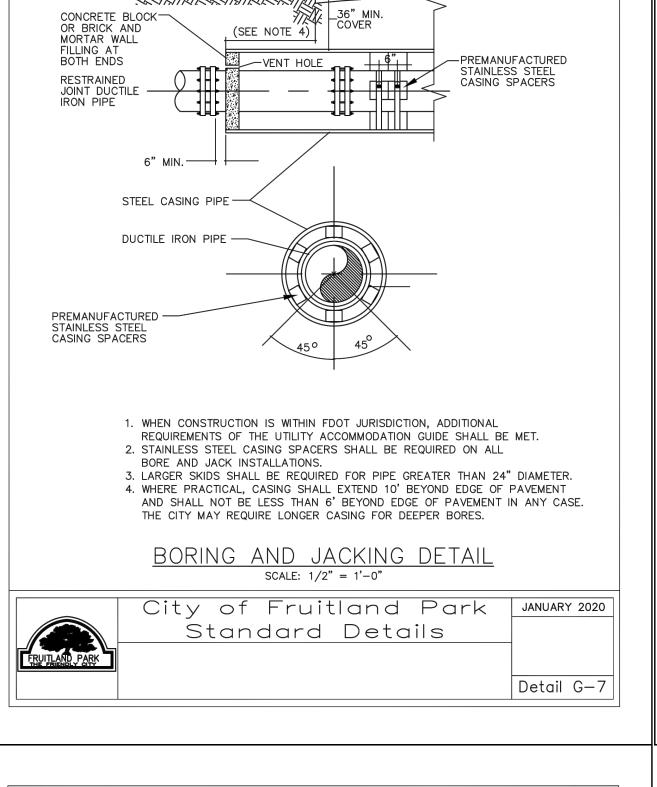
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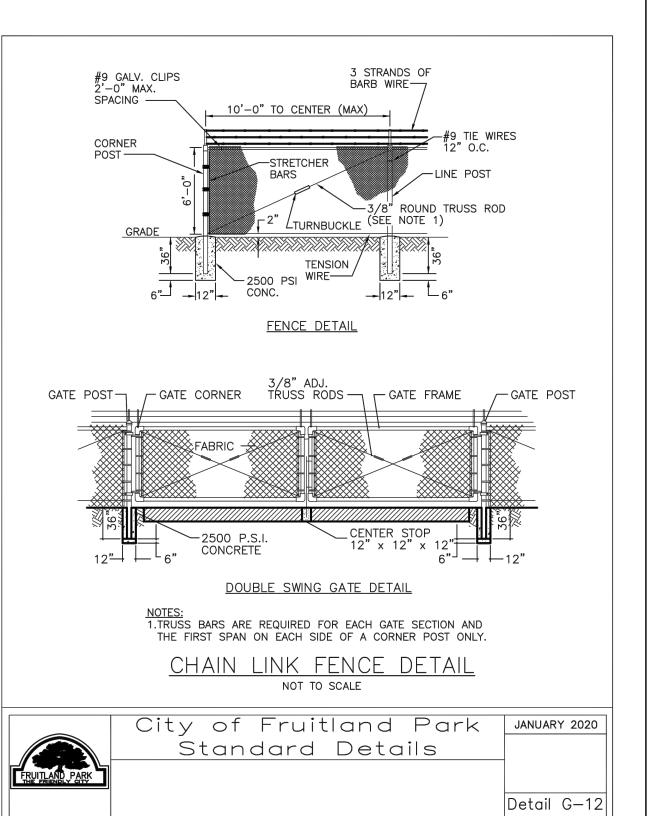


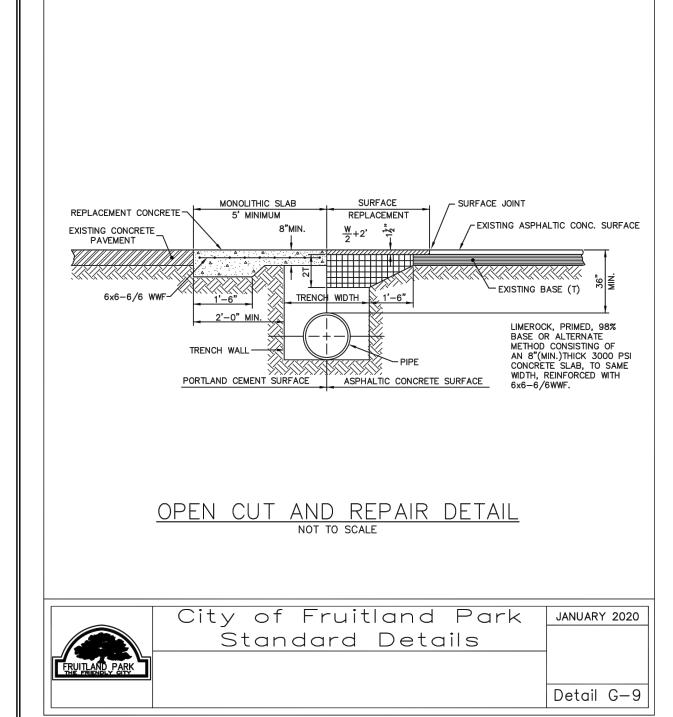


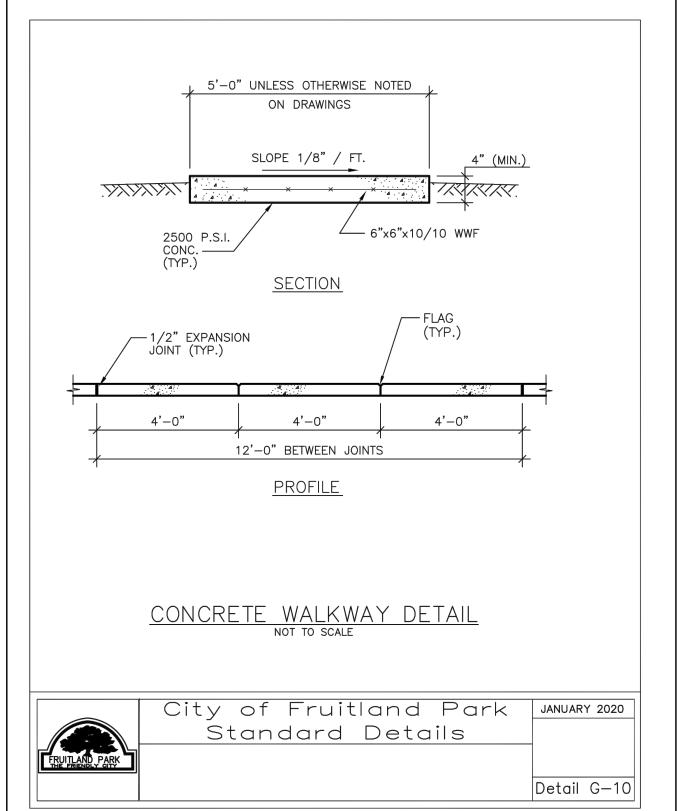


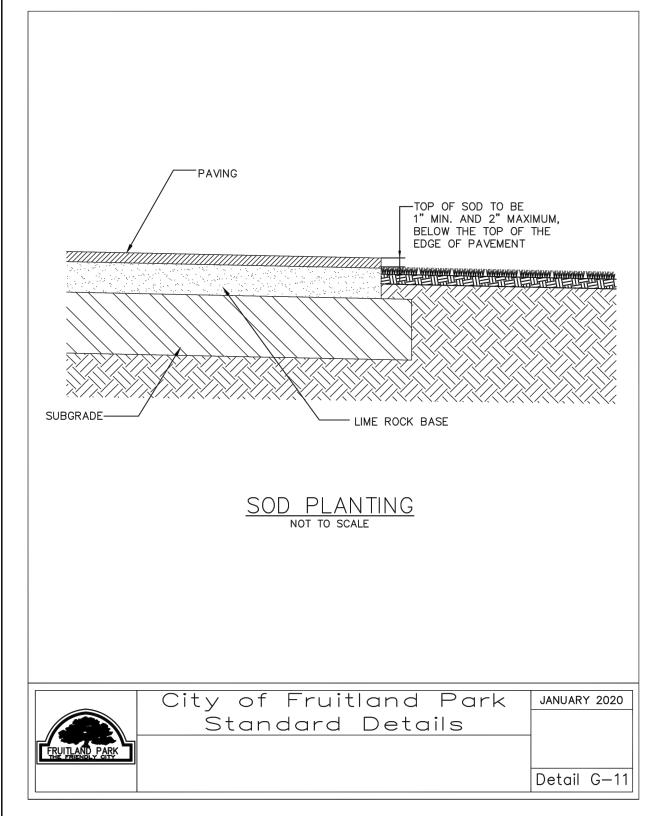


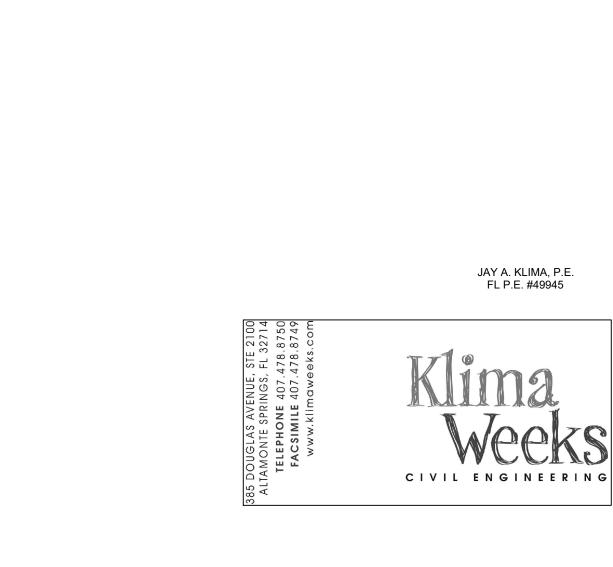












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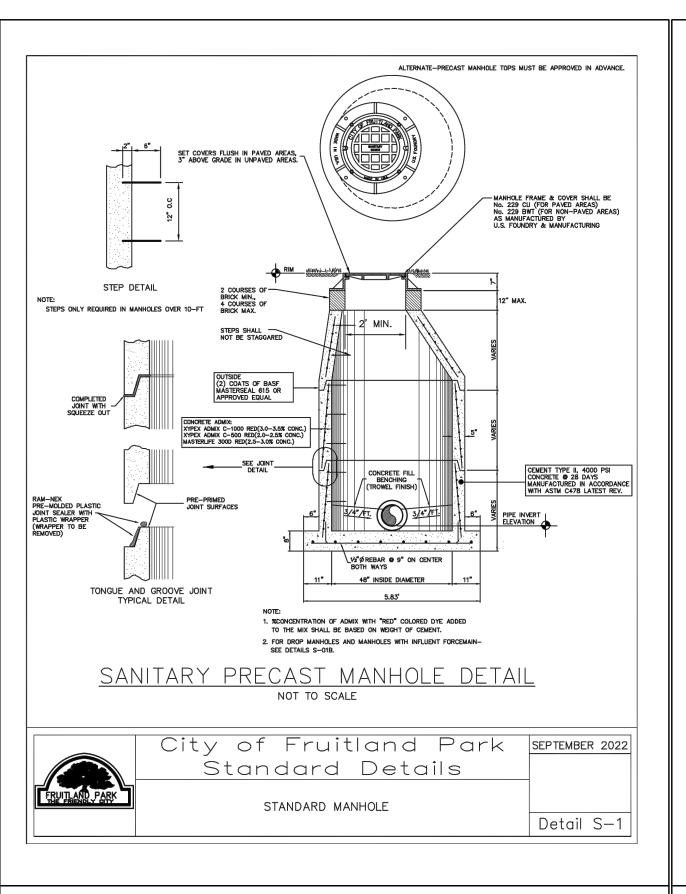
Fruitland Park, FL

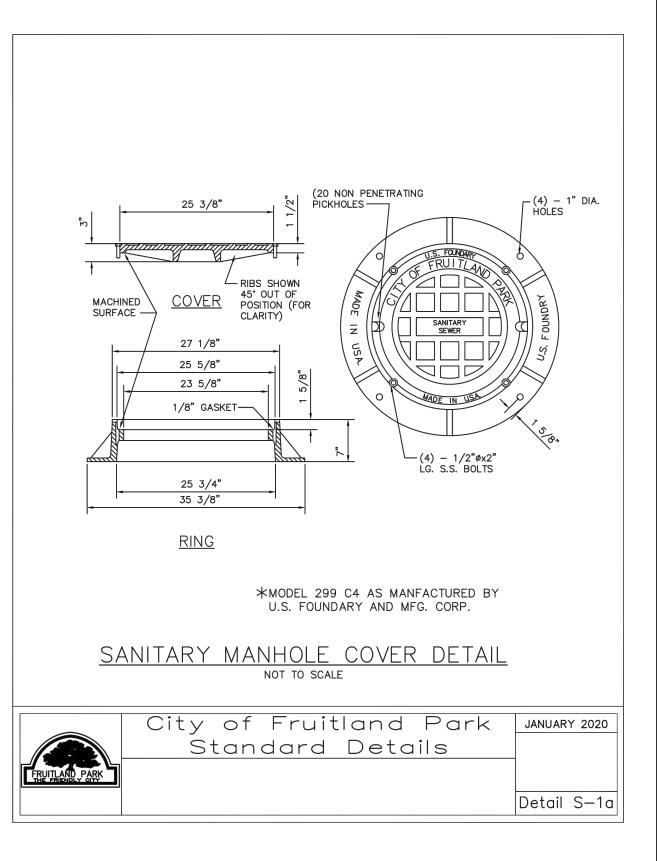


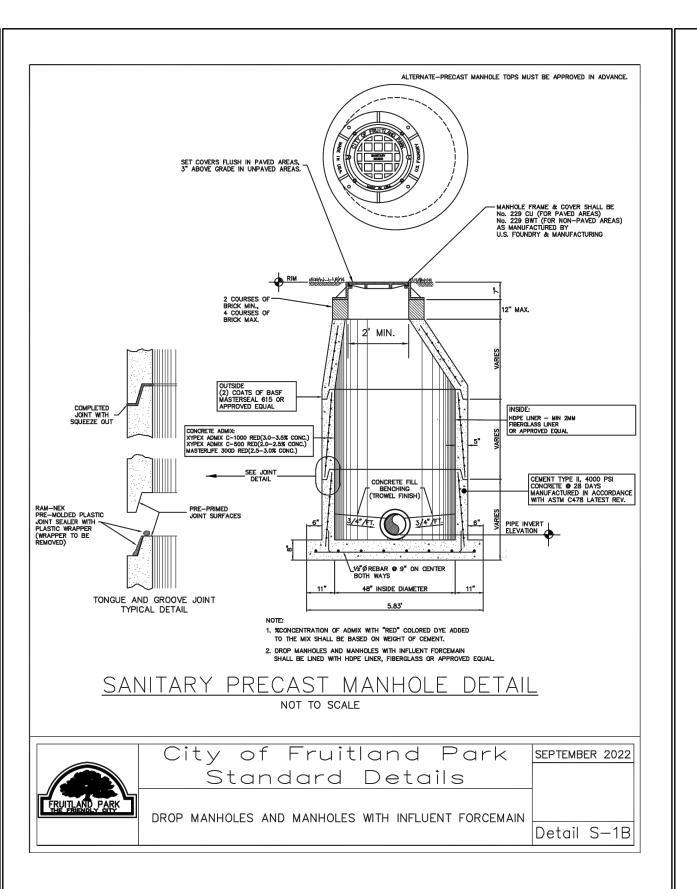
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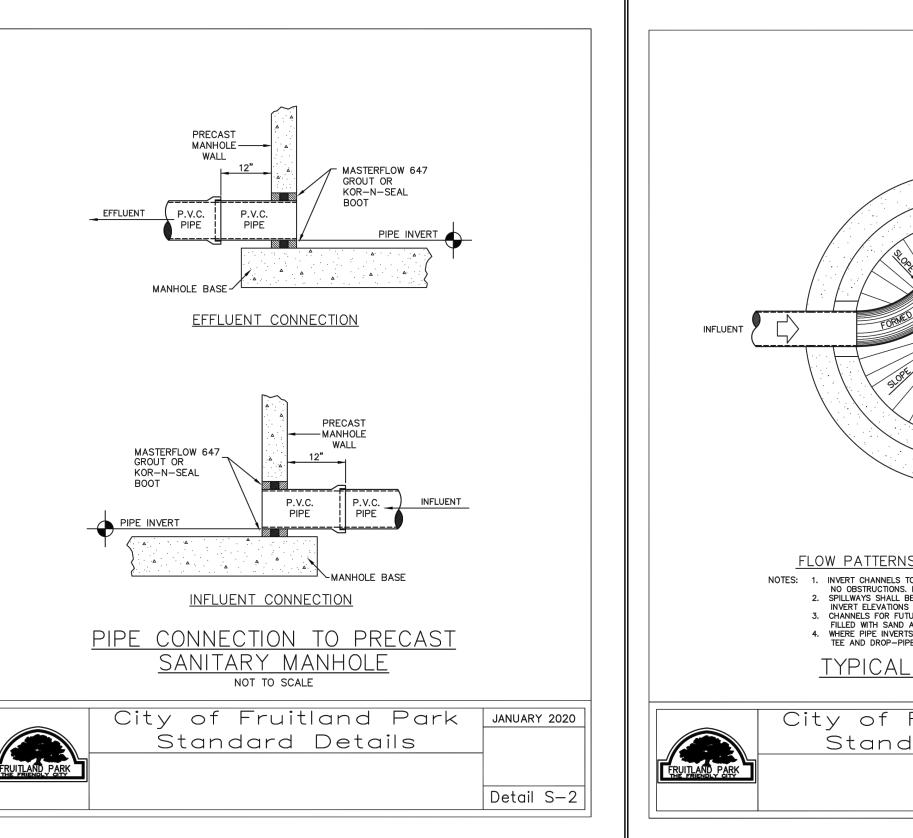
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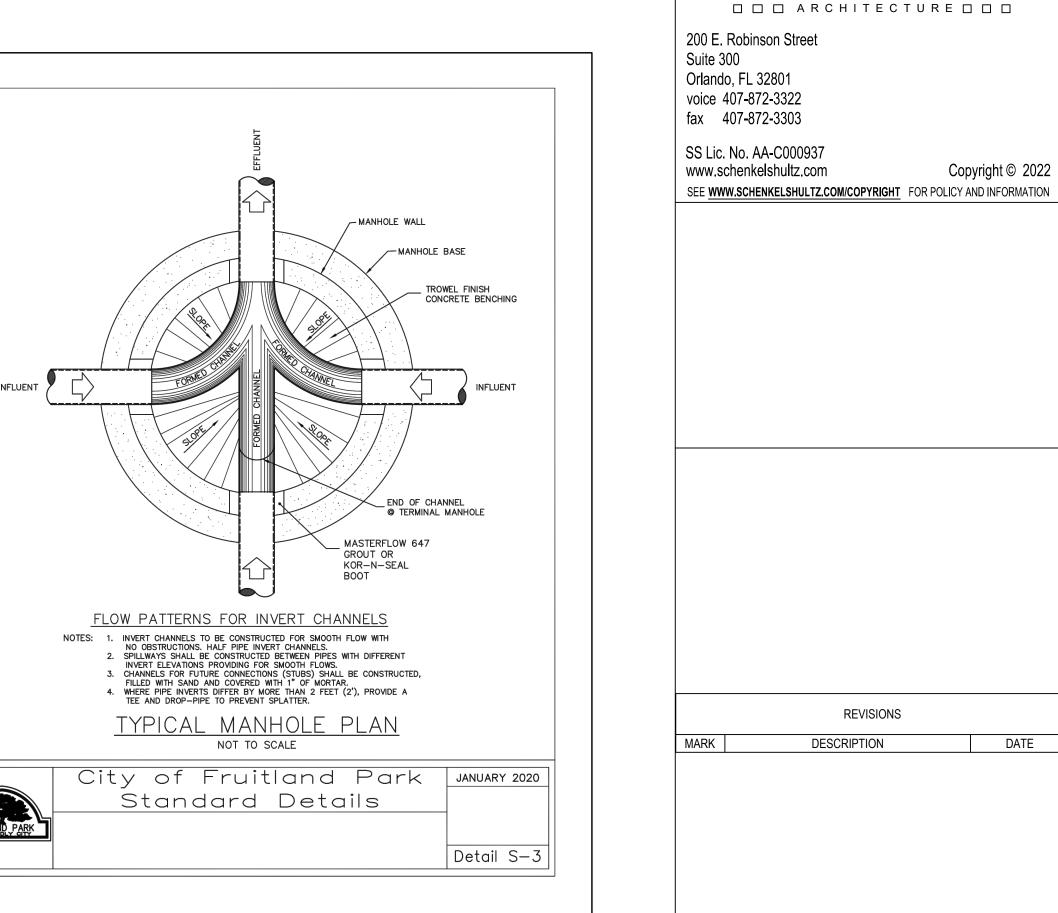
UTILITY DETAILS

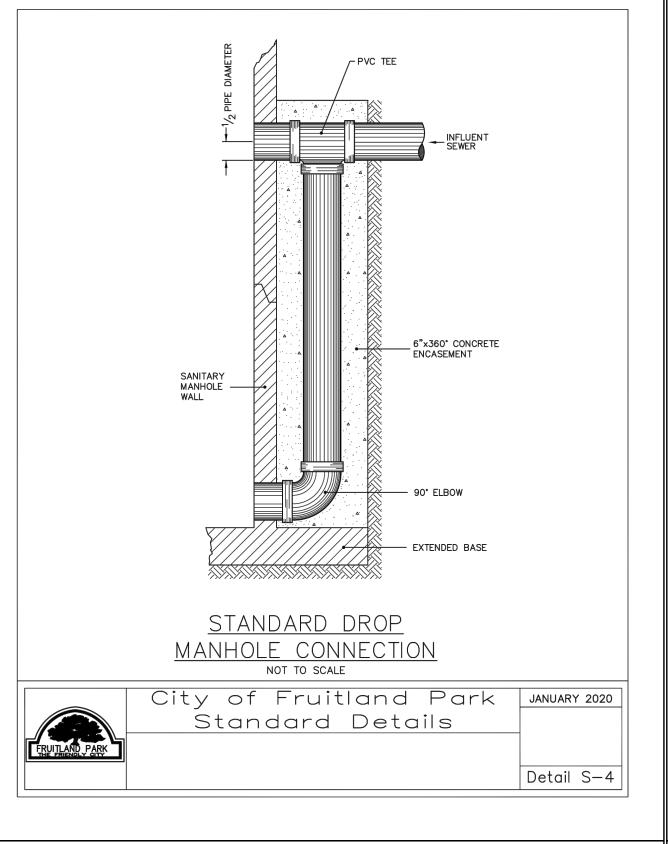


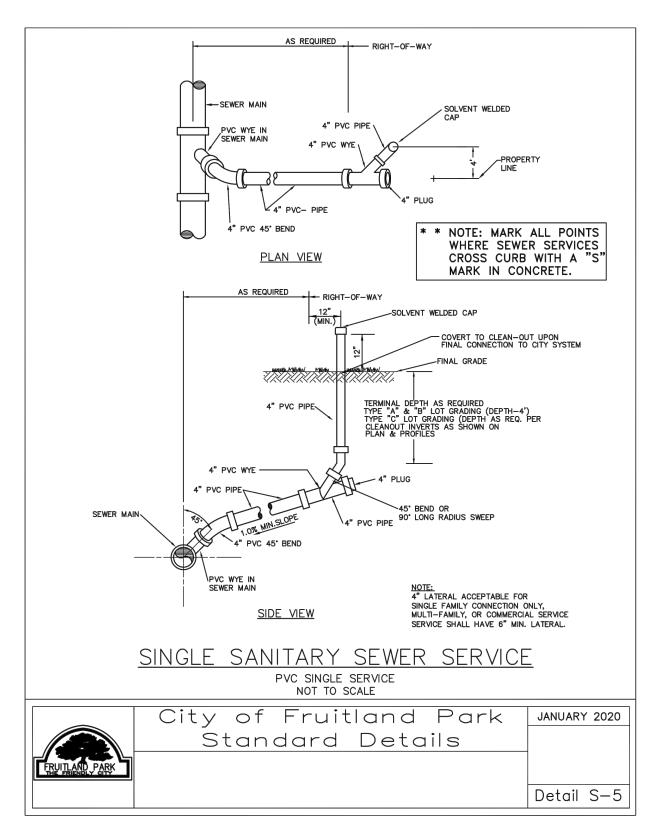


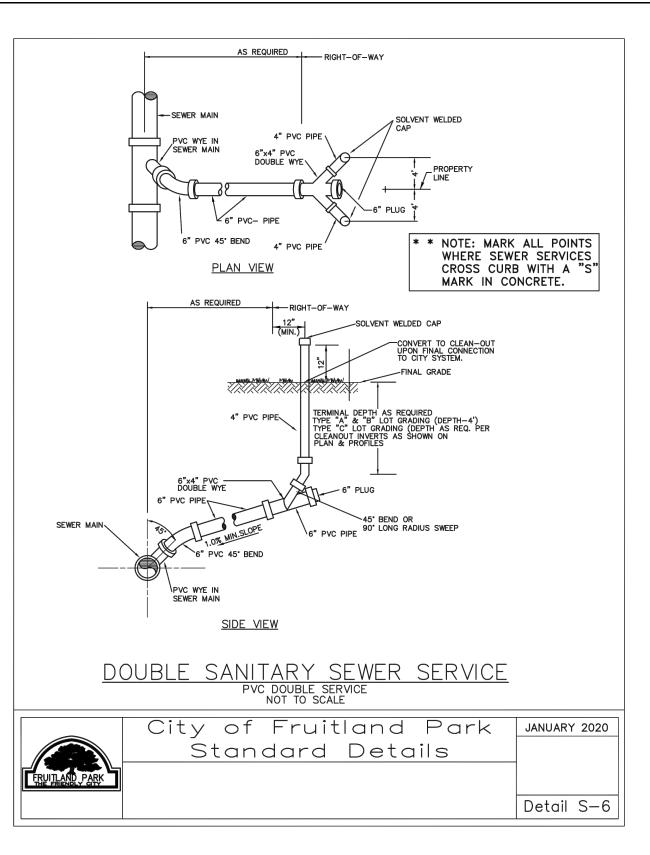


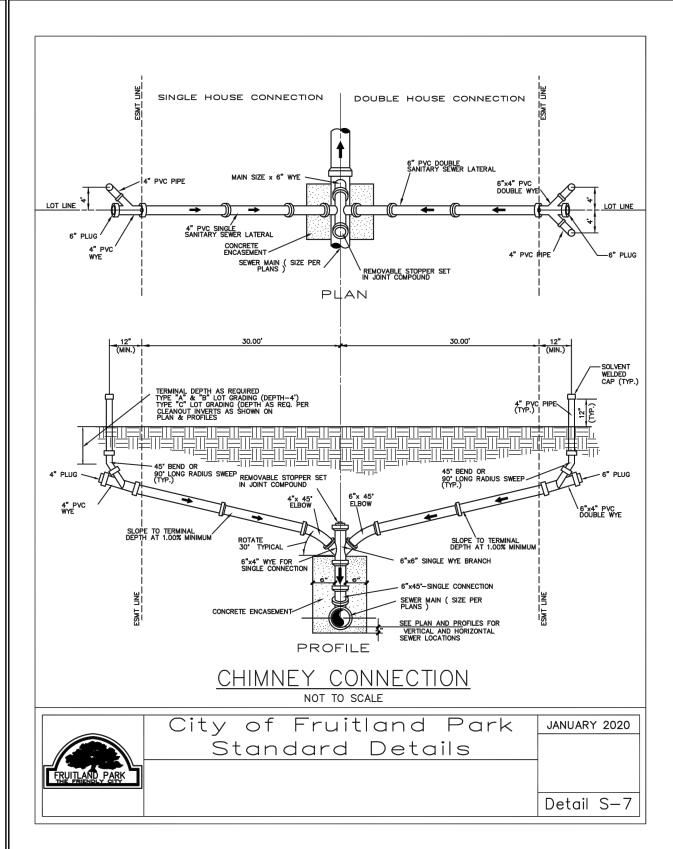


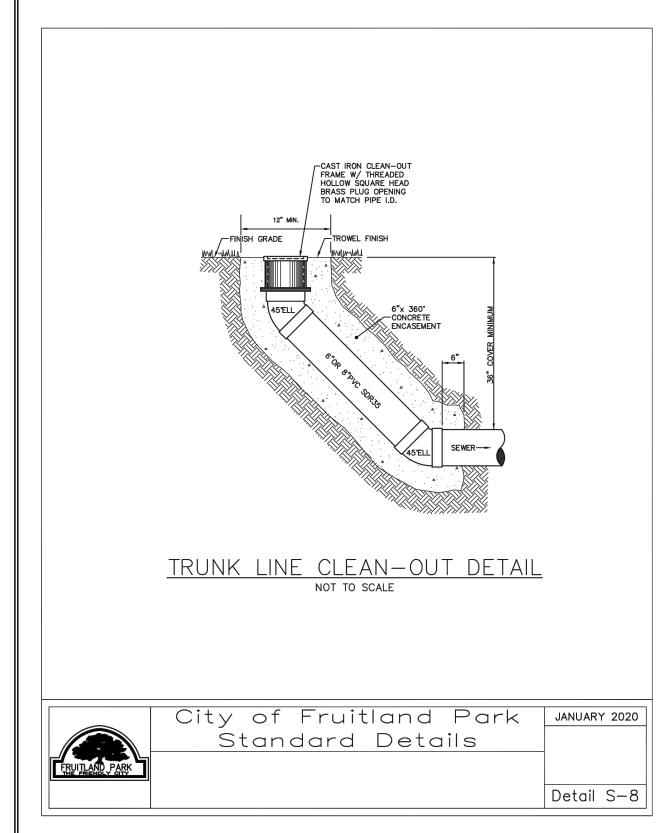


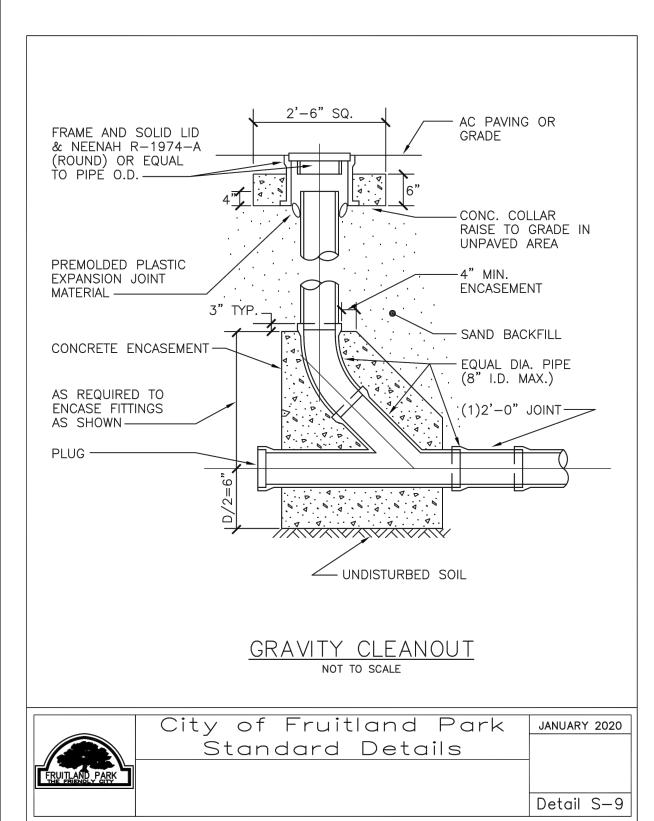


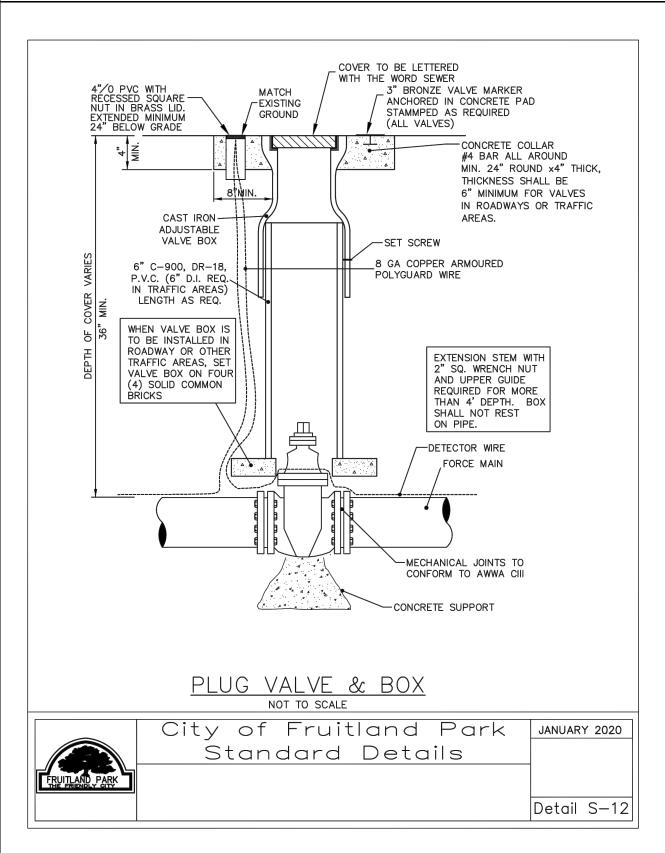


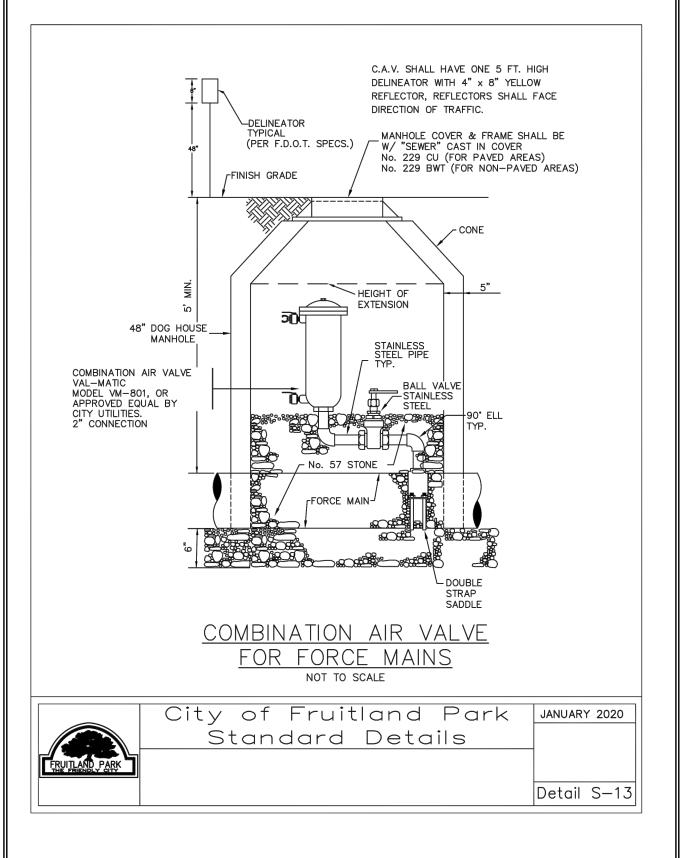


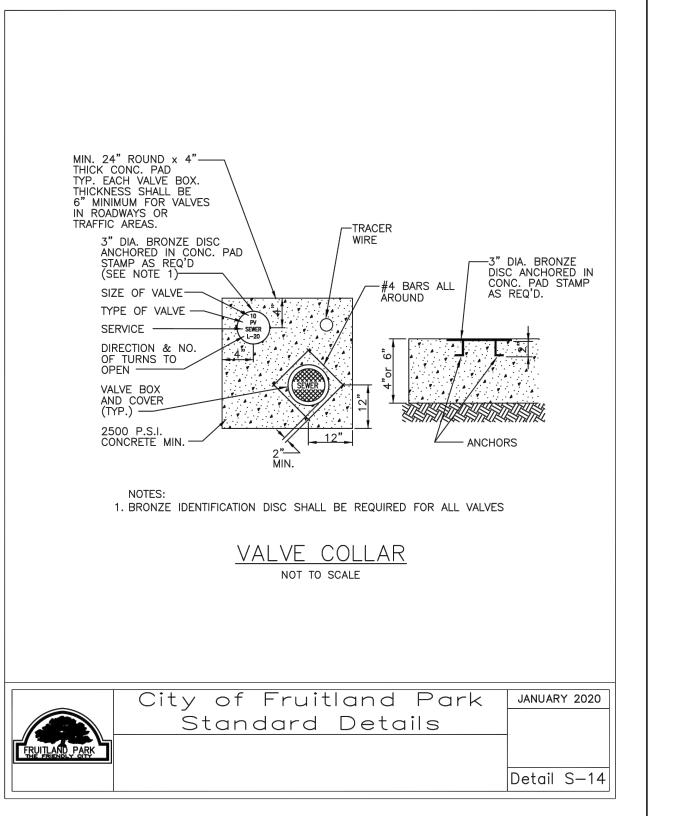












CIVIL ENGINEERING

FRUITLAND PARK **ELEMENTARY SCHOOL** REPLACEMENT

**SCHENKEL**SHULTZ

Fruitland Park, FL



ISSUE DATE: 8/16/2023 COMM. NO.: 2023100

JAY A. KLIMA, P.E. FL P.E. #49945

CHECKED BY: JAK DRAWN BY: JDO

UTILITY DETAILS

RILEY & Company, Inc. 5491 Benchmark Lane Sanford, FL 32773

PH. 407-265-9963

# RILEY & Company, Inc. (H-20 GP)

w/BATTERY BACK-UP FOR AUDIO AND VISUAL ALARMS (C)

SCOPE: Supply one complete H-20 GP Pre-Fab Lift Station, per design. Pumps shall be capable of grinding and pumping domestic & commercial sewage. Complete system shall be supplied by:

> Sanford, FL 32773 (Ph. 407-265-9963) NO SUBSTITUTIONS - NO ALTERNATES

#### PUMPS AND ELECTRICAL CONTROL PANEL MUST BE WARRANTED FOR A MINIMUM OF 3 YEARS.

#### FIBERGLASS WETWELL MUST BE WARRANTED FOR A MINIMUM OF 20 YEARS.

The H-20 Load Rated Fiberglass Wetwell Must Be Manufactured By L.F. Manufacturing, Giddings, Texas, Which Includes A Written 20 Yr. Warranty

Certification of the wetwell H-20 load rating must be supplied with submittals. H-20 certification must be signed and sealed by an engineer registered in the State of Florida.

After the H-20 load rated wetwell has been installed, the ASTM Certification Number and Serial Tracking Number must be visible.

#### J PUMPS: (3 YEAR WARRANTY)

Submersible grinder pumps shall be RILEY Model RC30061. installed in the H-20 GP FRP wetwell utilizing a dual slide rail system. The grinder unit shall be capable of macerating materials normally found in domestic and commercial sewage into a fine slurry which will pass through the pump and the Sch.80 PVC discharge piping.

Stator winding shall be open type with Class F insulation and shall be heatshrink fitted into the stator housing. The use of pins, bolts, or other fastening devices is not acceptable.

A heat sensor thermostat shall be attached to the top end of the motor winding and shall be connected in series with the magnetic contactor coil in the control panel to stop motor if winding temperature exceeds 140 C., but shall automatically reset when the winding temperature returns to normal. Two heat sensor thermostats shall be used on three phase motors.

The pump motor grinder shaft shall be AISI 430F SS threaded to take the pump impeller and the grinder impeller.

Upper & lower mechanical seals shall be Silicon Carbide vs Silicon

FASTENERS & APPURTANCES: All fasteners, lifting cables, float cable bracket, hinges, and appurtenances shall be made of AISI

A 304SS slide/latch assembly shall be provided tor holding the doors open on the wetwell and valve box. Slide rails shall be made of SCH.40 AISI 304SS pipe. Pump lifting cables shall be made of AISI 304 SS.

H-20 LOAD RATED WETWELL WITH LIFTING LUGS: The fiberglass wetwell must be H-20 load rated with integral lifting lugs, fiberglass slope in bottom of wetwell and valve box. Certification of the H-20 load rating must be supplied at the time of submittals to Engineer. The wetwell shall be manufactured of fiberglass reinforced polyester (FRP) of depth and diameter as shown on the lift station elevation detail. The wall thickness shall be adequate for the depth of the wetwell to maintain the H-20 LOAD RATING.

Pump lifting bales shall be made of AISI 304 SS.

#### **EXECUTION:**

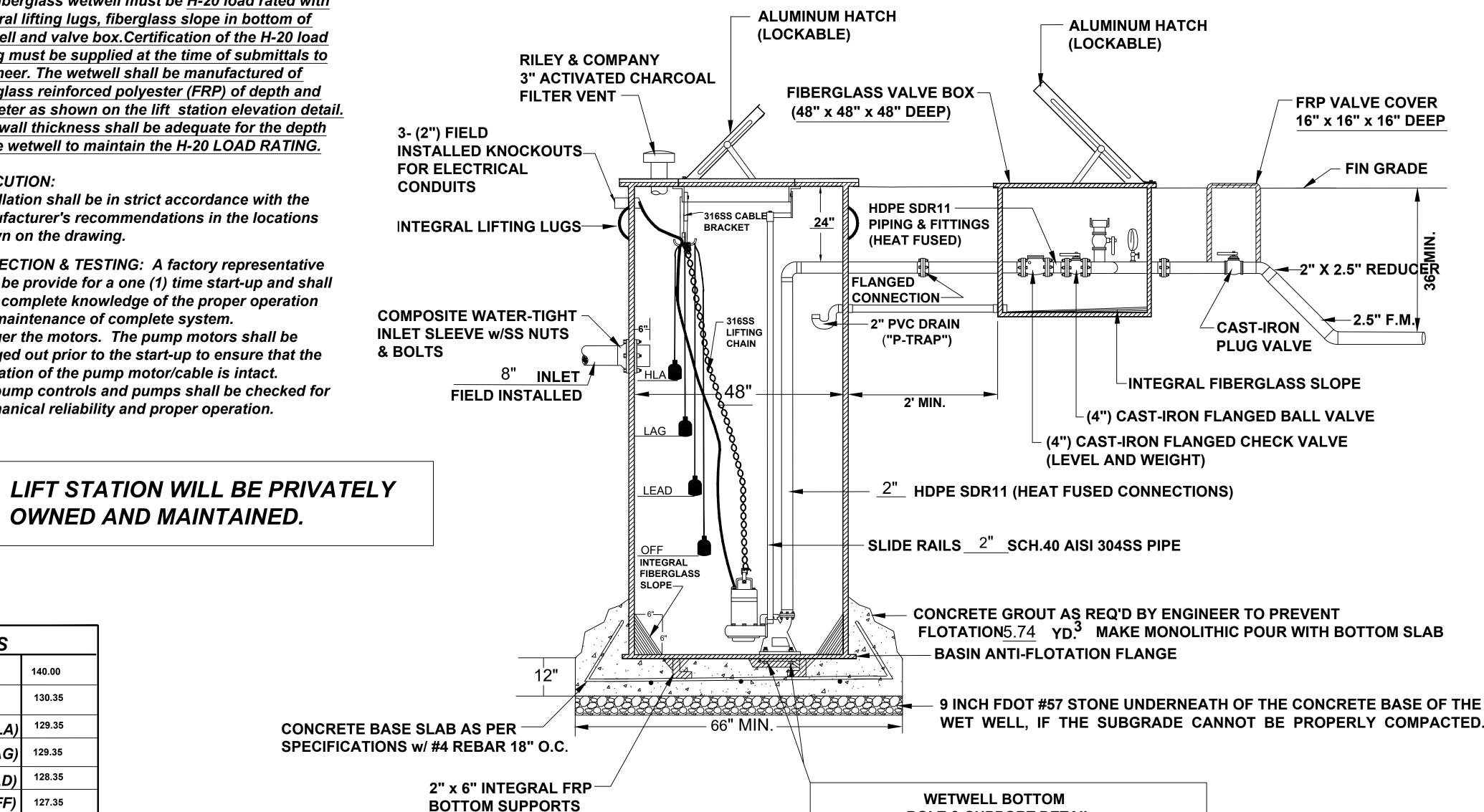
Installation shall be in strict accordance with the manufacturer's recommendations in the locations shown on the drawing.

INSPECTION & TESTING: A factory representative shall be provide for a one (1) time start-up and shall have complete knowledge of the proper operation and maintenance of complete system. Megger the motors. The pump motors shall be megged out prior to the start-up to ensure that the insulation of the pump motor/cable is intact. The pump controls and pumps shall be checked for mechanical reliability and proper operation.

OWNED AND MAINTAINED.

**ALUMINUM COVER** FIBERGLASS VALVE BOX (LOCKABLE) w/ (LOCKABLE) **ACCESS HATCH EMERGENCY PUMP-OUT** w/ BALL VALVE FIBERGLASS WETWELL S.S. HINGES H-20 LOAD RATED -2.5" SS (0-100 PSI) PRESSURE GAUGE w/ 20 YR. WARRANTY w/ SHUT-OFF VALVE "A" **VENT** -ISOLATION PLUG VALVE -FLANGE / FLANGE CONNECTION

NOTE: PUMP CONTROL PANEL SHALL BE LOCATED 3 FEET FROM WETWELL PERIMETER AT POINT "A"



**PUMP DATA ELEVATIONS** 31 GPM PRIMARY PUMP CAPACITY TOP OF WETWELL 140.00 130.35 PRIMARY TDH 78.8' **TDH** | **INLET INVERT** PUMP MANUFACTURER HIGH LEVEL ALARM (HLA) PUMP MODEL # GPR24/3 2nd PUMP ON 129.35 3450 (LEAD) R.P.M. 1st PUMP ON (OFF) PUMPS OFF **HORSEPOWER ELECTRICAL/VOLTS/PHASE BOTTOM OF WETWELL** WETWELL DIAMETER PUMP DISCHARGE SIZE

WETWELL BOTTOM **BOLT & SUPPORT DETAIL** PUMP DISCHARGE MIN. 1/2" DIA. x 3" SS **BOLTS WELDED TO A** 2" x 6" INTEGRAL (2" x 24" x 1/4" ) FRP "C" CHANNEL SS ANCHOR PLATE **BOTTOM SUPPORTS** EMBEDDED IN FIBERGLASS

JAY A. KLIMA, P.E. FL P.E. #49945 CIVIL ENGINEERING FRUITLAND PARK **ELEMENTARY SCHOOL** REPLACEMENT

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Suite 300

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ISSUE DATE: 8/16/2023 COMM. NO.: 2023100

DRAWN BY: JDO CHECKED BY: JAK

LS DETAILS

RILEY & CO. / H-20 GP 09-29-16

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RILEY & Company, Inc. 5491 Benchmark Lane Sanford, FL 32773 PH. 407-265-9963

# RILEY & Company, Inc. (H-20 GP) w/BATTERYBACK-UP FOR AUDIO AND VISUAL ALARMS (C)

SCOPE: Supply one complete H-20 GP Pre-Fab Lift Station, per design. Pumps shall be capable of grinding and pumping domestic & commercial sewage. Complete system shall be supplied by:

RILEÝ & Company, Înc. Sanford, FL 32773 (Ph. 407-265-9963) NO SUBSTITUTIONS - NO ALTERNATES

PUMPS AND ELECTRICAL CONTROL PANEL MUST BE WARRANTED FOR A MINIMUM OF 3 YEARS.

#### **DUPLEX CONTROL PANEL: (3 YEAR WARRANTY)**

To insure complete unit and warranty responsibility the electrical control panel must be manufactured and built by the pump supplier. The pump supplier must be a TUV (UL508A CERTIFIED) manufacturing facility, with a minuimum of 5 years history in the manufacturing of electrical control panels. The Enclosure shall be NEMA 4X, minimum 30" high x 30" wide x 10" deep

aluminum with 4 point latching system. The enclosure shall have external mounting feet to allow for wall mounting.

The following components shall be mounted through the enclosure: 1- ea. Red Alarm Beacon (Light) 4" x 4" Minimum Diameter

1- ea. Alarm Horn (minimum 95 DCB) 1- ea. Generator Receptacle w/ weatherproof cover(SCM460 -UL 1686)

1- ea. Alarm Silence Pushbutton

The back panel shall be fabricated from .125, 5052-H32 marine alloy aluminum. All components shall be mounted by machined stainless steel

#### The following components shall be mounted to back panel: 2- ea. Motor Contactors

1- ea. Volt Monitor (1 Ph) Phase Monitor (3 Ph) w/2 N/O & 1 N/C Contacts 1- ea. Control Transformer (480 Volt Only) (Min. 500VA)

1- ea. Silence Relay Module

1- ea. Duplex Alternator w/ Pump Selector Switch

1- ea. Model RCBB5AH Battery Back-Up w/ Smart Charger 20- ea. Terminals For Field Connections

6- ea. Terminals For Motor Connections (Single Phase Only)

7- ea. Grounding Lugs

1- ea. Seal Failure Relay

The inner door shall be fabricated from .080, 5052-H32 marine alloy aluminum. The inner door shall have a continuous aluminum piano hinge.

The following components shall be mounted through the inner door:

1- ea. Main Circuit Breaker

1- ea. Emergency Circuit Breaker

1- ea. Mechanical Interlock For Emergency And Main Breakers (UL Listed) 2- ea. Short Circuit Protectors w/ Auxiliary Contacts

1- ea. Control Circuit Breaker 2- ea. Seal Failure Indicator Lights

Autodesk Docs://2023100 Fruitland Park ES/2023100\_Fruitland Park ES\_A\_2023\_vvillarragaHGE6P.rv

1- ea. Hand-Off-Auto Selector Switches

1- ea. GFI Duplex Convenience Outlet

2- ea. Pump Run Pilot Lights

1- ea. Power On Pilot Light 2- ea. Elapse Time Meters (Non-Resetable) **COMPONENT SPECIFICATIONS:** 

All circuit breakers shall be molded thermal magnetic. The mechanical interlock shall prevent the normal and emergency main breakers being energized at the same

An emergency generator receptacle shall be supplied in accordance with DEP standards. The generator receptacle shall be adequately sized to meet the equipment operating conditions.

NEUTRAL TO BE SUPPLIED FOR BOTH 230V 3PHASE OR 230V SINGLE PHASE POWER

All motor short circuit protection devices must provide for under voltage release and class 10 overload protection on all three phases. Visible trip indication, test, and reset capability must be provided without opening inner door. Open frame, across the line, contactors shall be rated per IEC standards and properly sized per the motor requirements. Contactors shall provide for safe touch power and control

Lightning Arrestor shall meet UL1449 3rd Edition or exceed the requirements of ANSI/IEEE Std. C62.21-1984 section 8.6.1. and 8.7.3 shall be supplied by electrician and mounted on the bottom side of the switch disconnect ahead of the pump control panel.

A voltage monitor shall be supplied for single phase service. A phase monitor shall be supplied for (3) phase service. A green pilot light shall be supplied for each motor. The pilot light shall illuminate each time the motor is called to run. Each pump shall have an Elapse Time Meter to record the accumulated run time. The ETM shall be 2" diameter, non-resettable, six digit, totally encapsulated unit.

A Red pilot light shall be supplied for control power. The pilot light shall illuminate when the control power is available inside the control panel.

Relays shall be ice-cube plug in type. Relay contacts shall be rated 10 amp minimum, DPDT.

Twenty (20) terminals shall be supplied for field connections. The terminals shall be rated 25 amps minimum. Each motors over-temperature contact shall be connected to the terminal strip and shall open a contact to de-energize the appropriate motor upon a high temperature within the motor. A 15 Amp GFI duplex receptacle shall be supplied and mounted on the innerdoor.

Ground lugs shall be supplied and appropriately sized for each motor and for service entrance.

MISCELLANEOUS: All wiring on the back panel shall be contained within the wiring duct. All wiring between the inner door and the back panel shall be contained with in a plastic spiral wrap. Each wire shall have a wire number at each end to correspond to the as built drawing for field troubleshooting. The control panel must be manufactured in-house by lift station supplier and be a TUV (UL508A Certified) facility.

FASTENERS & APPURTANCES: All fasteners, lifting cables, float cable bracket, hinges, and appurtenances shall be made of AISI

A 304SS slide/latch assembly shall be provided tor holding the doors open on the wetwell and valve box. Slide rails shall be made of SCH.40 AISI 304SS pipe. Pump lifting cables shall be made of AISI 304 SS. Pump lifting bales shall be made of AISI 304 SS.

H-20 LOAD RATED WETWELL WITH LIFTING LUGS: The fiberglass wetwell must be H-20 load rated with integral lifting lugs, fiberglass slope in bottom of wetwell and valve box. Certification of the H-20 load rating must be supplied at the time of submittals to Engineer. The wetwell shall be manufactured of fiberglass reinforced polyester (FRP) of depth and diameter as shown on the lift station elevation detail. The wall thickness shall be adequate for the depth

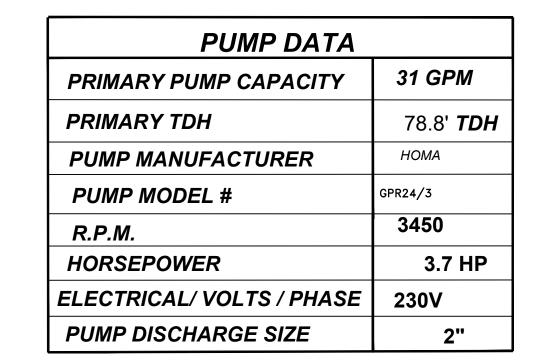
#### **EXECUTION:**

Installation shall be in strict accordance with the manufacturer's recommendations in the locations shown on the drawing.

of the wetwell to maintain the H-20 LOAD RATING.

INSPECTION & TESTING: A factory representative shall be provide for a one (1) time start-up and shall have complete knowledge of the proper operation and maintenance of complete system. Megger the motors. The pump motors shall be megged out prior to the start-up to ensure that the insulation of the pump motor/cable is intact. The pump controls and pumps shall be checked for mechanical reliability and proper operation.

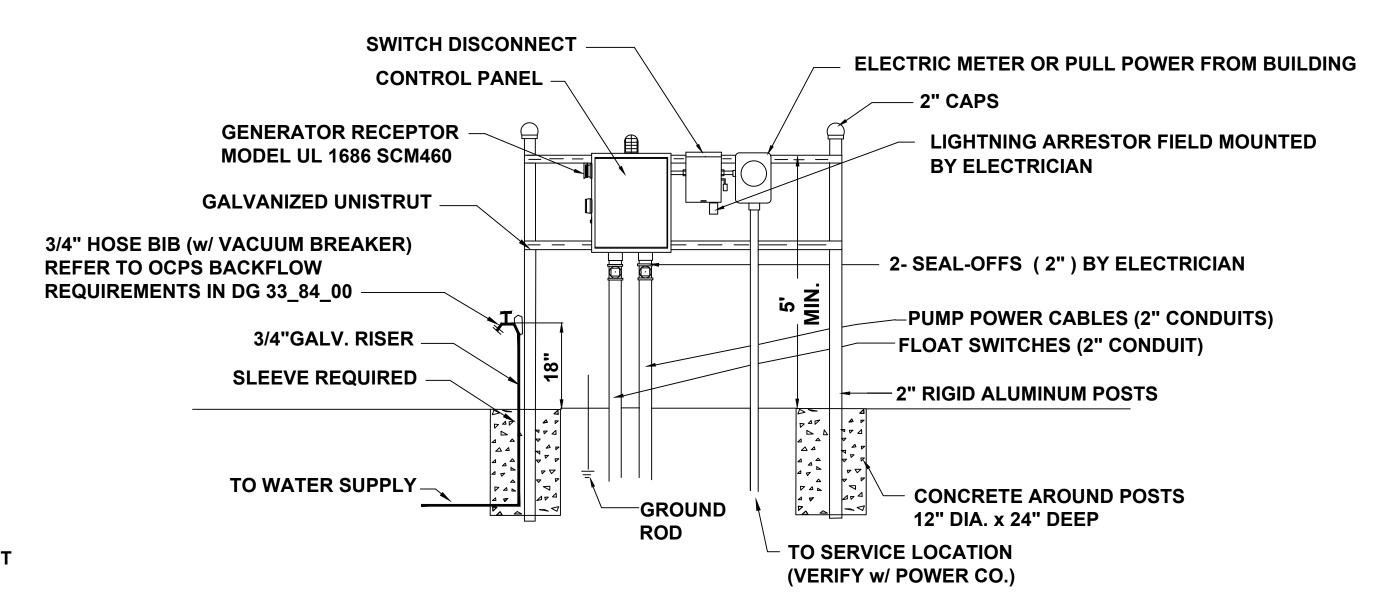
> LIFT STATION WILL BE PRIVATELY OWNED AND MAINTAINED.



#### \* ELECTRICIAN NOTES:

- 1. DRAWING NOT TO SCALE
- \* 2. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES
- \* 3. ELECTRICIAN SHALL SEAL OFF CONDUIT RUNS
- \* 4. ELECTRICIAN TO MOUNT LIGHTNING ARRESTOR AT SWITCH DISCONNECT \* 5. CONTRACTOR SHALL VERIFY POWER SOURCE PRIOR TO ORDERING EQUIPMENT
- \* 6. NEUTRAL TO BE SUPPLIED FOR 230V-3 PHASE OR 230V-SINGLE PHASE POWER.

RILEY & CO. / H-20 GP 09-29-16



**ELECTRICAL RISER FOR ILLUSTRATION PURPOSES ONLY** 



JAY A. KLIMA, P.E. FL P.E. #49945

FRUITLAND PARK **ELEMENTARY SCHOOL** |REPLACEMENT

**SCHENKEL**SHULTZ

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**REVISIONS** 

DESCRIPTION

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Fruitland Park, FL

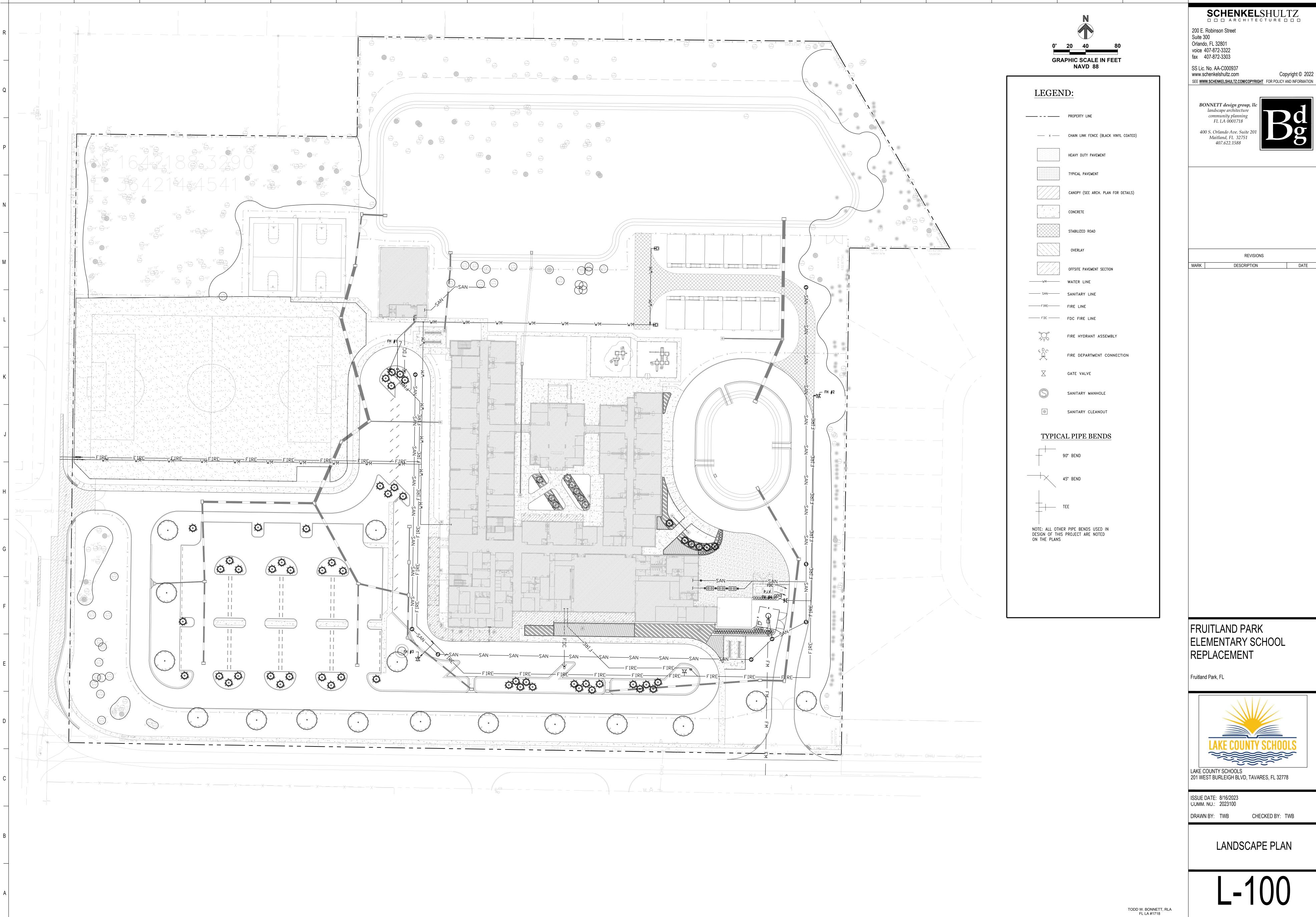


ISSUE DATE: 8/16/2023 COMM. NO.: 2023100

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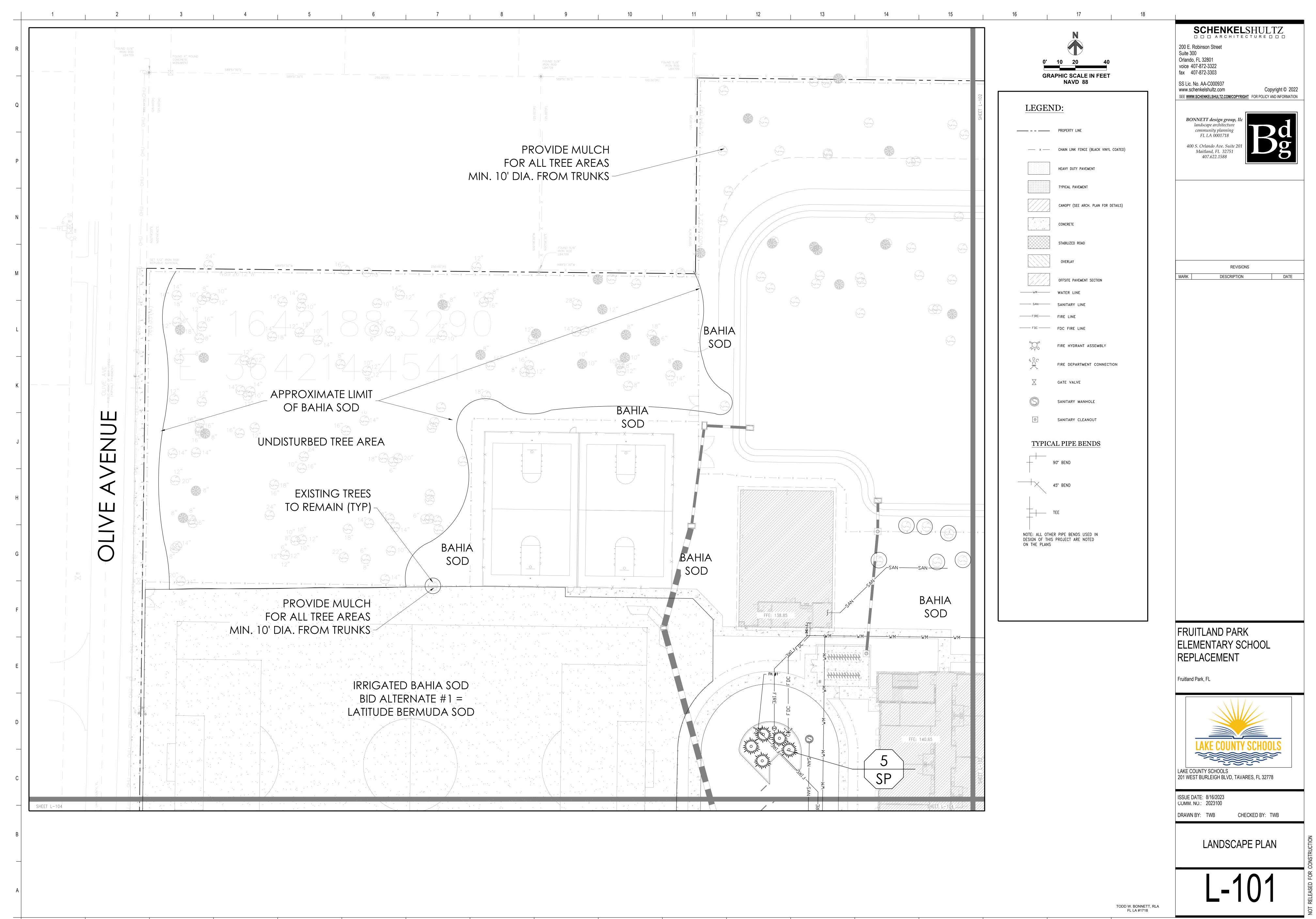
LS DETAILS

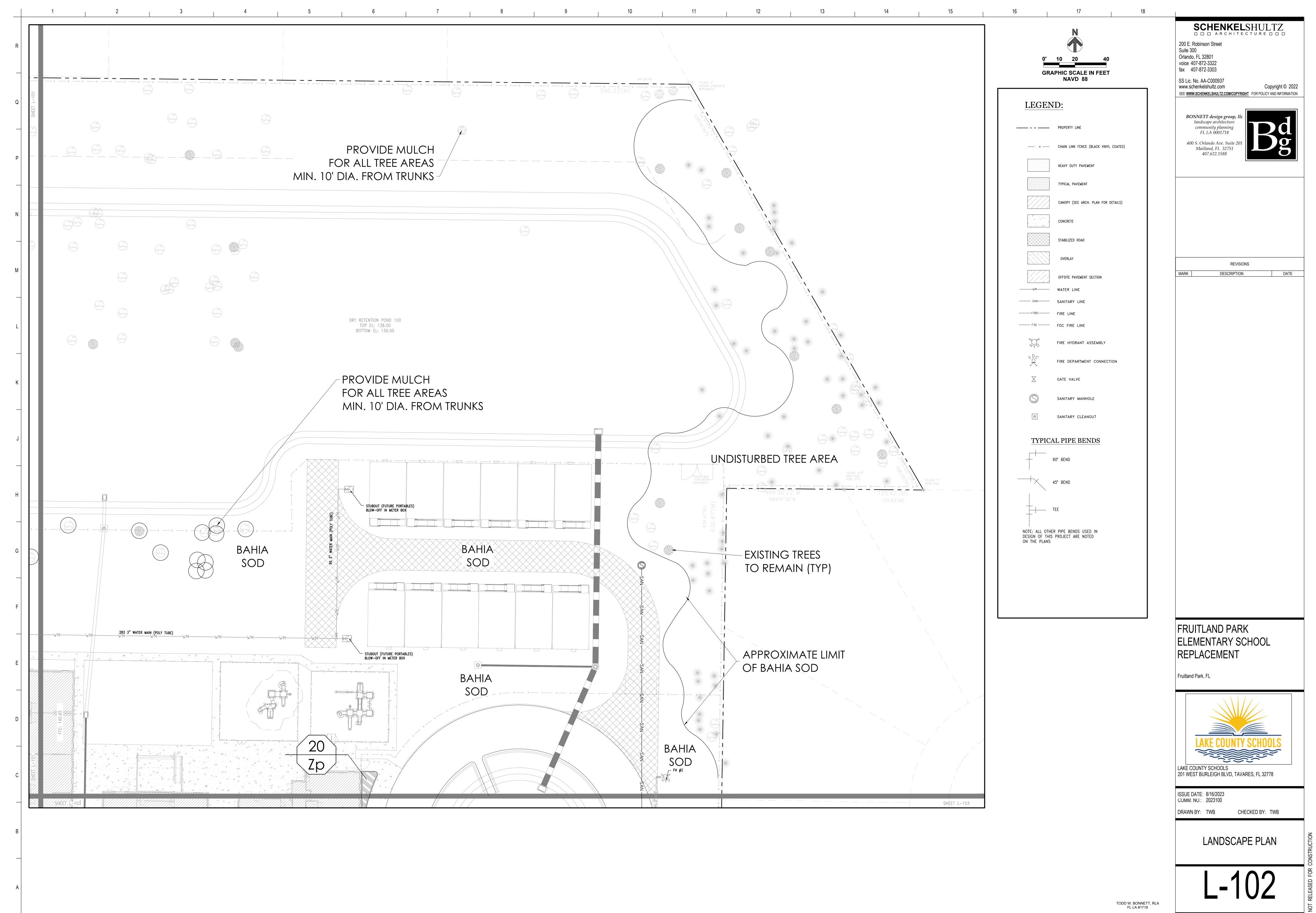
100% CONSTRUCTION DOCUMENTS - EARLY

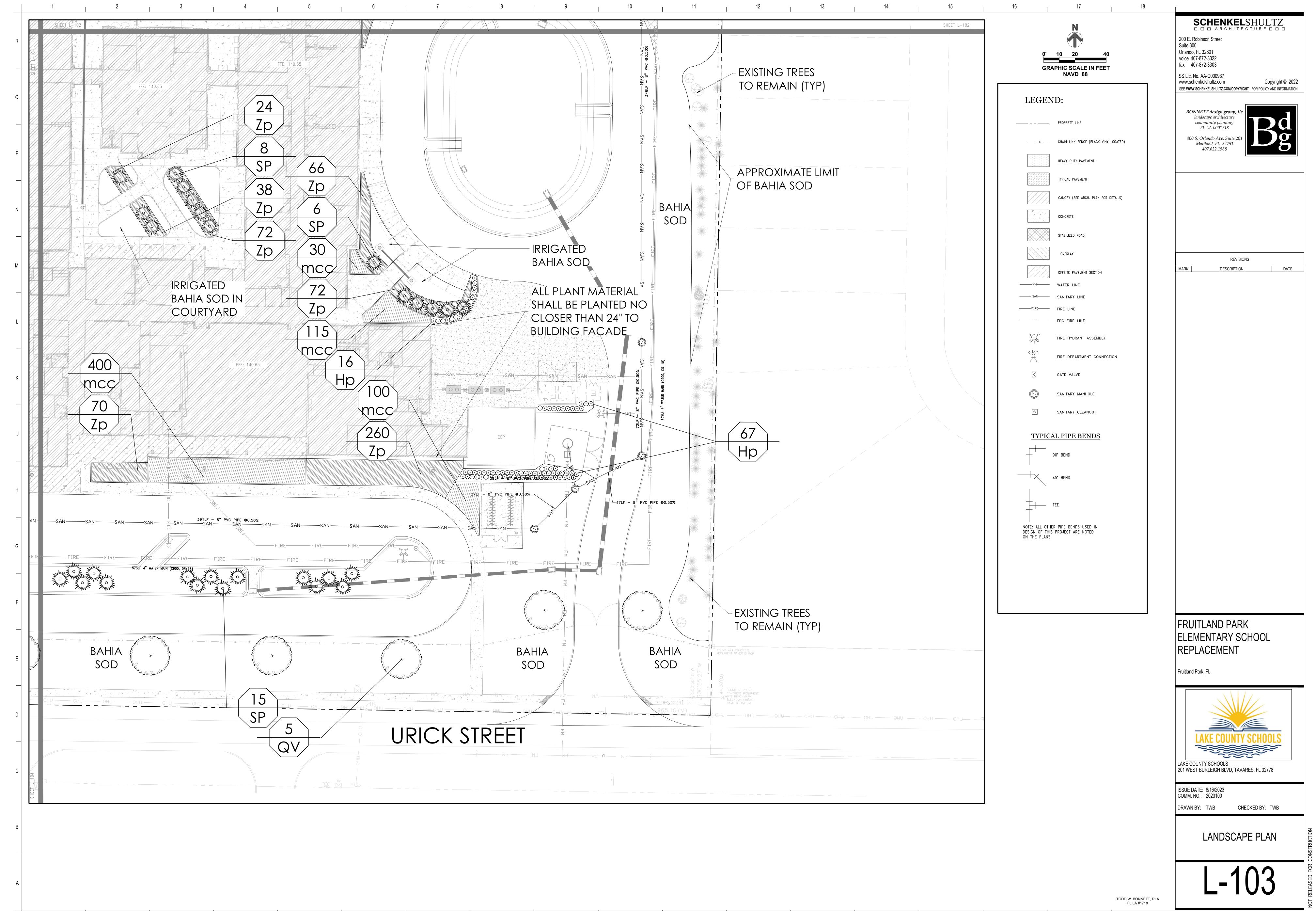


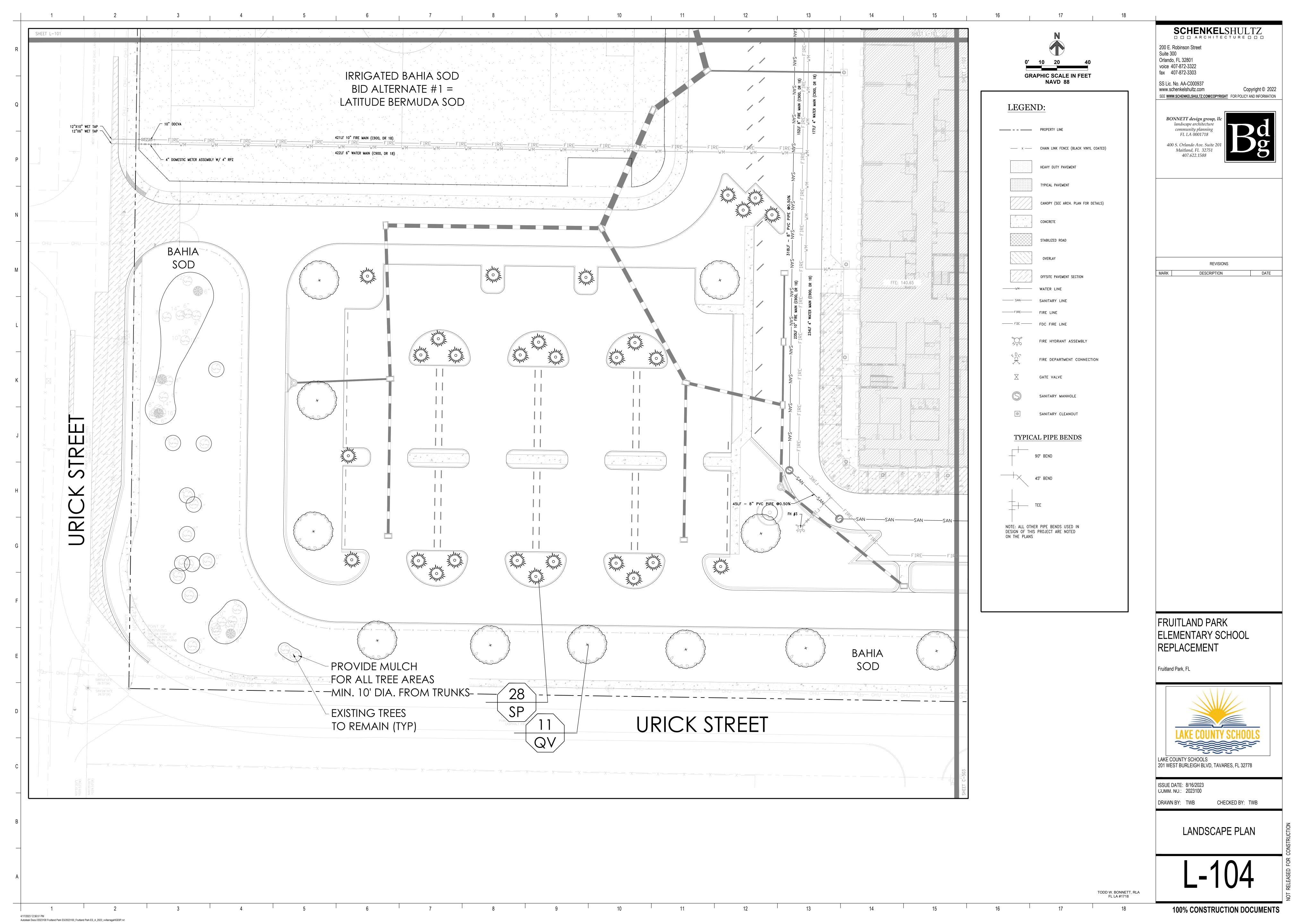


CHECKED BY: TWB









#### GENERAL REQUIREMENTS

The Landscape Contractor shall be responsible for all materials and all work as called for on the landscape plans. The list of plant quantities accompanying the plans shall be used as guide only. If a discrepancy occurs between the plans and the plant list, the plans shall control.

The Landscape Contractor shall warranty all trees, shrubs and ground covers for a period of one (1) year from the time of final acceptance by Owner, Grounds Department Representative, and Landscape Architect.

The Landscape Contractor shall be wholly responsible for the stability and plumb condition of all trees and shall be legally liable for any damage caused by the instability of any plant material. Staking of trees shall be done utilizing a method prescribed by Orange County Public Schools.

The Landscape Contractor shall research plans and contact appropriate agencies to determine the location of any utilities and obstructions prior to commencing work. Any utilities or unanticipated obstructions shall be reported to Landscape Architect or Owner immediately.

All plant material areas shall have an automatic underground irrigation system providing 100% coverage. See Irrigation Design Plans for extent of irrigation for sodded areas.

Positive drainage shall be maintained away from all structures on the site.

#### PLANT SPECIFICATIONS

All nursery stock plant material shall be Florida #1 or better in accordance with Grades and Standards for Nursery Plants Parts I & II, latest edition as published by the Florida Department of Agriculture and Consumer Services- Division of Plant Industry.

All plant material shall be planted, fertilized and mulched as per the plant details and planting specifications noted on the plans.

All container grown material shall be weed free, healthy, vigorous, well rooted plants, and established in the container in which they are delivered to the site. The plants shall have tops which are good quality and in a healthy growing condition. Established container grown plant material shall be grown in that container sufficiently long enough for the new fibrous roots to have developed enabling the root mass to retain it's shape when removed the container. Plants which have become root bound in the container are unacceptable.

All plant material that is not container grown shall be freshly dug, sound, healthy, vigorous, well branched, and free of disease and insect eggs and larvae, and shall have adequate root systems. Where any requirements are omitted from the plant list, the plants furnished shall be normal for the variety. Plants may be pruned prior to delivery only upon the approval of the Landscape Architect.

#### FERTILIZER

Two fertilizers shall be used on all types of planting. Granular fertilizer shall be uniform in composition, dry and free flowing. This fertilizer shall be delivered to the site in the original unopened bags bearing the manufacturer's statement of analysis. Granular fertilizer shall be a controlled release variety meeting the following requirements: sixteen percent (16%) nitrogen, four percent (4%) phosphorus, eight percent (8%) potassium, plus iron.

Tablet fertilizer ("Agriform" or approved equal) in 21 gram size shall meet the following requirements: twenty percent (20%) nitrogen, ten percent (10%) phosphorus, five percent (5%) potassium.

## **Application Rates:**

<u>Plant size</u>	<u>16-4-8</u>	"Agriform" tablet (21 grams)
1 gallon	1/4 lb.	1 tablet
3 gallon	1/3 lb.	2 tablets
5 gallon	1/3 lb.	3 tablets
7-15 gallon	1/2 lb.	4 tablets
1" - 6" caliper	2 lbs. per 1" caliper	2 tablets per 1" caliper
6" + caliper	3 lbs. per 1" caliper	2 tablets per 1" caliper

Sodded areas shall receive an application of the granular fertilizer (16-4-8) at a rate of 1/2 lb. of Nitrogen per 1,000 square feet of sod area.

Planting soil for use in preparing the backfill material for planting pits shall be added a rate of fifty percent (50%) planting soil to fifty percent (50%) existing soil. This soil mix shall be used in all plant pits. Planting soil shall be a fertile, friable natural topsoil of loamy character. It shall contain forty (40) to fifty (50) percent decomposed organic matter and be free of heavy clay, stones larger than 1" in diameter, noxious weeds and plants, sod, partially disintegrated debris, insects or any other undesirable material, plants or seeds that would be toxic or harmful to plant growth.

#### MULCH

All plant beds and tree watering basins shall be top dressed with three inches (3") of pine bark nuggets All existing trees remaining on site shall have a 3 wide mulch ring installed at trunk - consistent with tree planting detail.

# Refer to Landscape Plan for limits of sod.

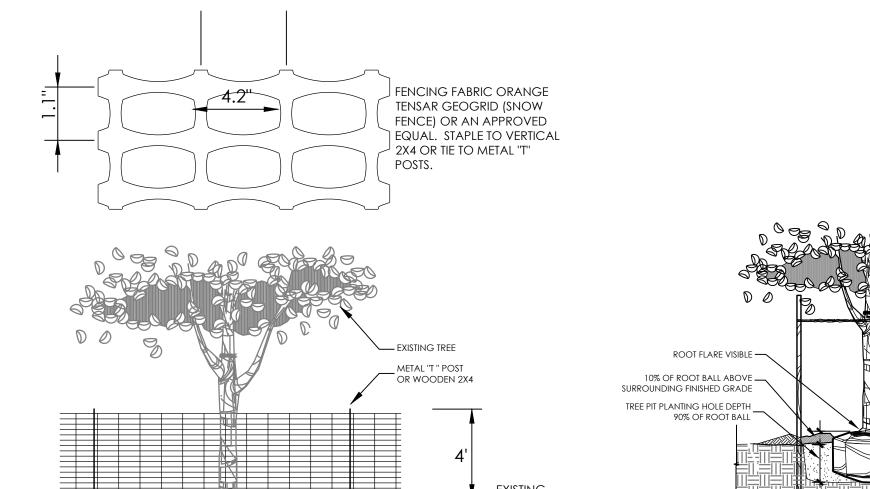
All areas disturbed by construction (including material staging, equipment storage, temporary facilities, site access, construction staff parking, etc.) beyond the minimum limits of sod as shown on the Landscape Plan shall be sodded as needed.

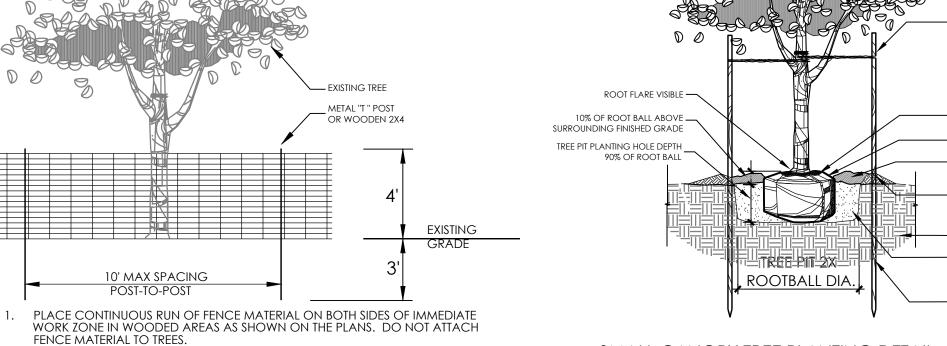
All lawn areas to receive sod shall be disked four (4) to six (6) inches and graded to establish a level finished grade ensuring positive drainage from all structures. All debris shall be removed from the site.

Sod shall be free of weeds and pests. It shall be laid evenly with tight fitting joints and rolled. The sod shall contain moist soil which does not fall apart or tear when litted.

See plant list for specific sod species and locations.

See 'Fertilizer' for requirements of all sodded areas.





3" MULCH MIN. (TYP.), DO NOT MULCH OVER ROOT BALL - 4" SOIL BERM (TYP.) BACKFILL WITH NATIVE SOIL, SUPPLEMENT SOIL AS SPECIFIED IN GENERAL NOTES PRESSURE TREATED POLES EXTEND 2' INTO UNDISTURBED SOIL SMALL CANOPY TREE PLANTING DETAIL

DETAIL FOR USE WITH TREES

2" DIA. X 8' LONG PRESSURE

TREATED POLE (2 PER TREE)

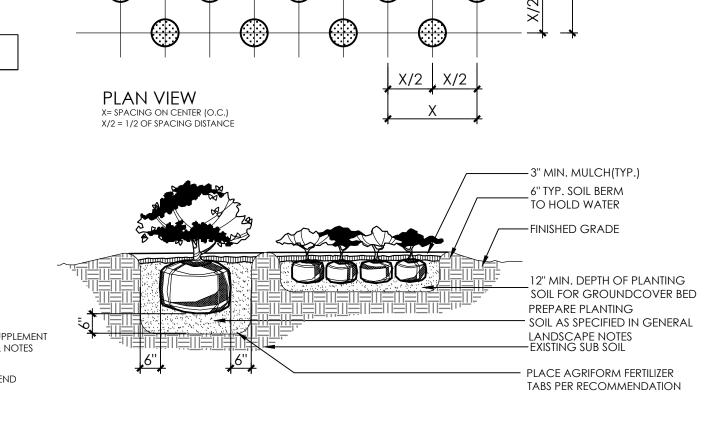
TOP-MOST ROOT IN ROOT

REMOVE TOP 1/3 OF BURLAP

NOTE: TREE FROG RBK 20PT. SYSTEM

TREE FROG ENVIRONMENTAL PRODUCTS

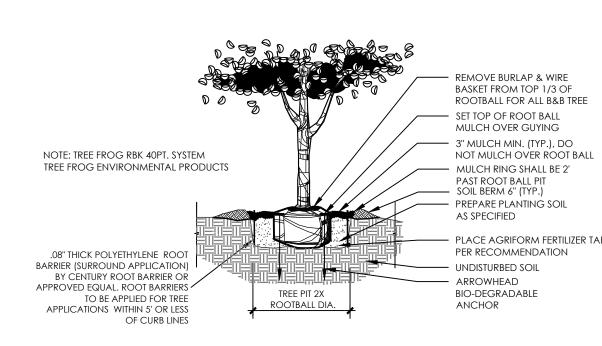
BALL AT SURFACE

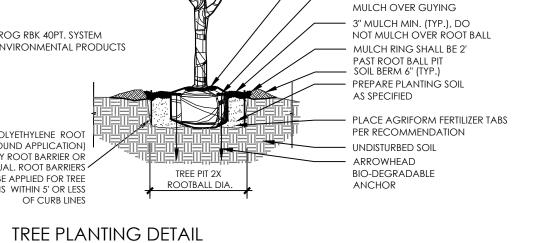


SHRUB AND GROUNDCOVER PLANTING DETAIL

#### TREE PROTECTION DETAIL

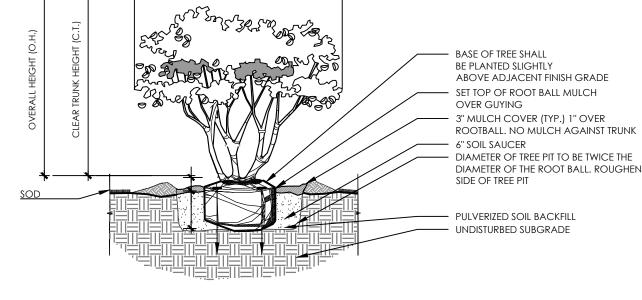
MORROW, GEORGIA OR APPROVED EQUAL





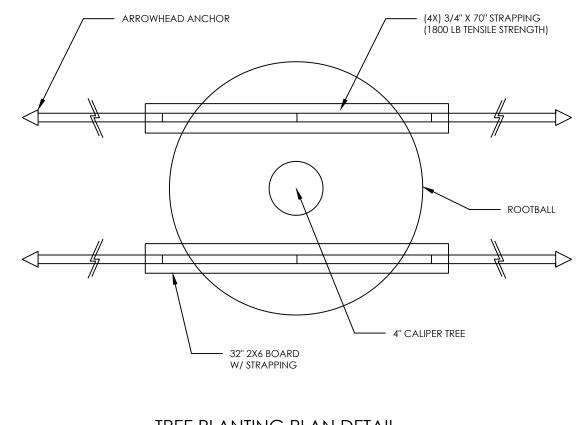
2. TREE PROTECTION FENCING FABRIC TO BE PLACED 4' PAST THE CANOPY DRIP LINE FOR

3. "TENSAR" HIGH STRENGTH POLMER GEOGRID FABRIC BY TENSAR CORPORATION

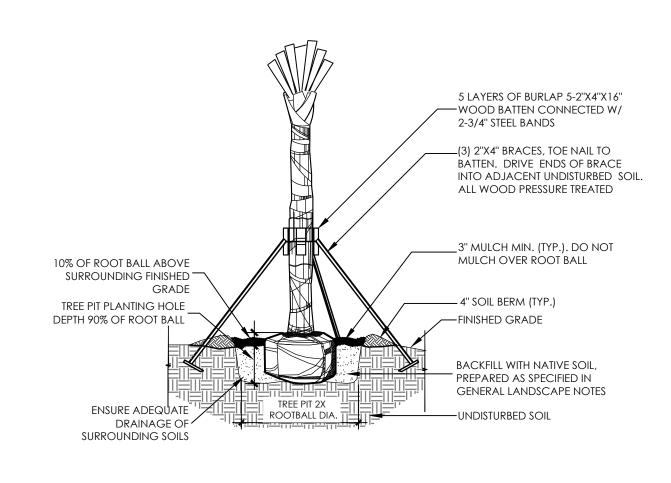


MULTI-TRUNK PLANTING DETAIL

#### ARBORGUY RBK 20 PLAN VIEW







HURRICANE CUT PALM PLANTING DETAIL

## MASTER PLANT LIST

Symbol	Totals	Botanical Name	Common Name	Specifications	Spacing	Native	Drought Tolerance	Water Zone
Trees								
CC		Cercis canadensis	Red Bud	2" cal.,10'-12' ht x 36" spd.	AS	yes	Н	L
LIN		Lagerstroemia indica 'Natchez'	Natchez White Crape Myrtle	1 1/2" cal., 8'-10'ht. 30" spd.	AS	no	Н	L
LJ		Ligustrum japonicum	Wax Leaf Privet	9'-10' ht. x 7'-8'; multi-trunk	AS	no	Н	L
QS		Quercus shumardii	Shumard Oak	4" cal., 14'-16' ht. x 60" spd.	AS	yes	Н	L
QV	16	Quercus virginiana	Liv e Oak	4" cal., 16'-20' ht. x 6 1/2' spd., 5' ct.	AS	yes	Н	L
SP12	62	Sabal palmetto	Cabbage Palm	10'-14' ct, mixed. slick	AS	yes	Н	L
Shrubs								
Нр	83	Hamelia patens	Firebush	7 gal., full	36" o.c.	yes	Н	L
Zp	662	Zamia pumila	Coontie	3 gal., 24" o.a.	30" o.c.	yes	Н	L
Groundcovers	rs							
mcc	645	Muhlengergia capillaris	Muhly Grass	3 gal., 24" ht., full pot	24" o.c.	yes	Н	L
SODA		Cynadon dactylon 'Latitide'	Latitude Bermuda Grass	solid sod - weed free 'Big Roll'	solid	no	M	М
SOD		Paspalum notatum 'Argentine'	Argentine Bahia Sod	sand grown solid sod - weed free	solid	no	Н	L

TODD W. BONNETT, RLA FL LA #1718

**SCHENKEL**SHULTZ □ □ □ ARCHITECTURE □ □ □

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BONNETT design group, l landscape architecture community planning FL LA 0001718 Maitland, FL 32751 407.622.1588

REVISIONS

DESCRIPTION

FRUITLAND PARK **ELEMENTARY SCHOOL** |REPLACEMENT

Fruitland Park, FL



201 WEST BURLEIGH BLVD, TAVARES, FL 32778

| ISSUE DATE: 8/16/2023 COMM. NO.: 2023100

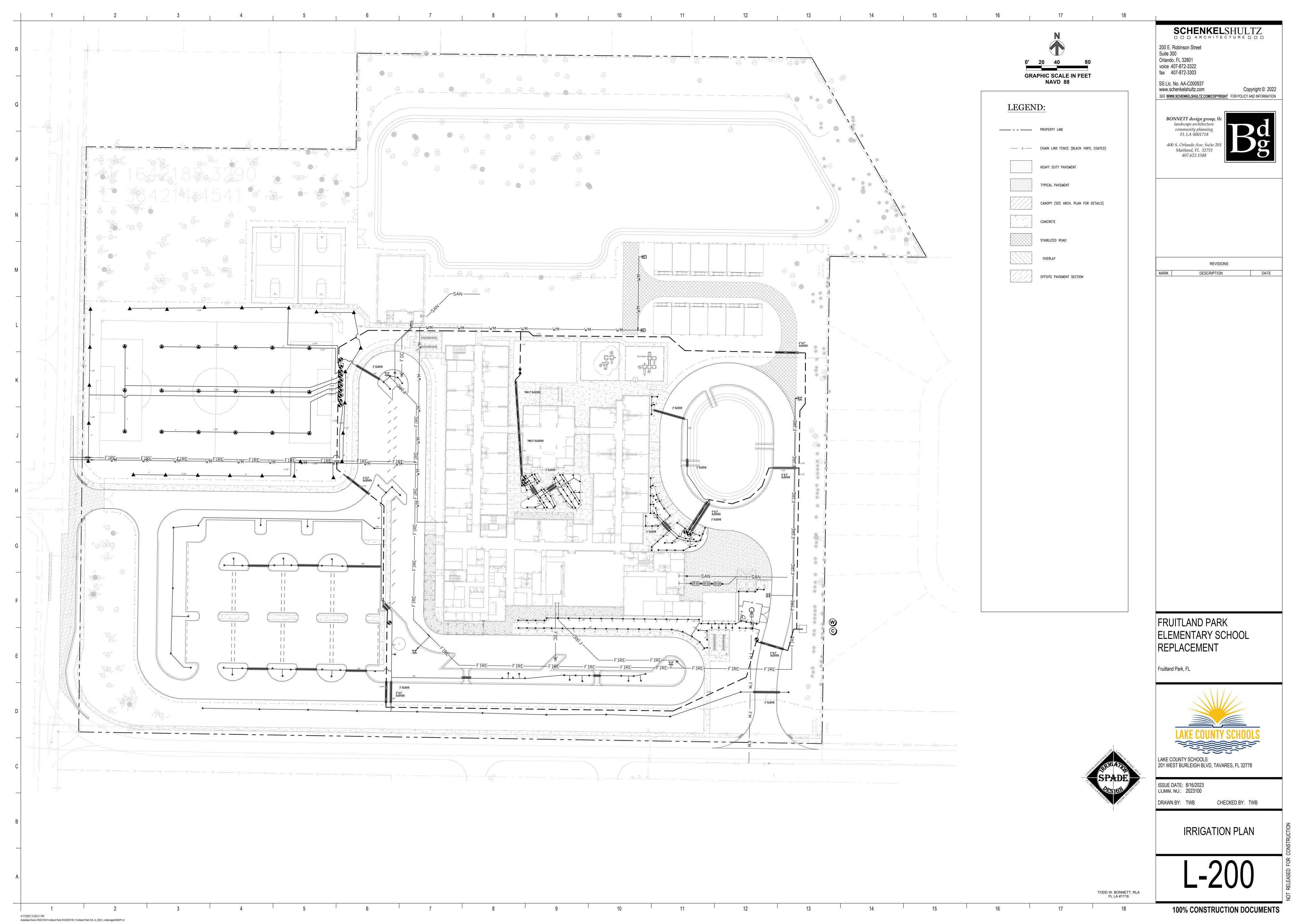
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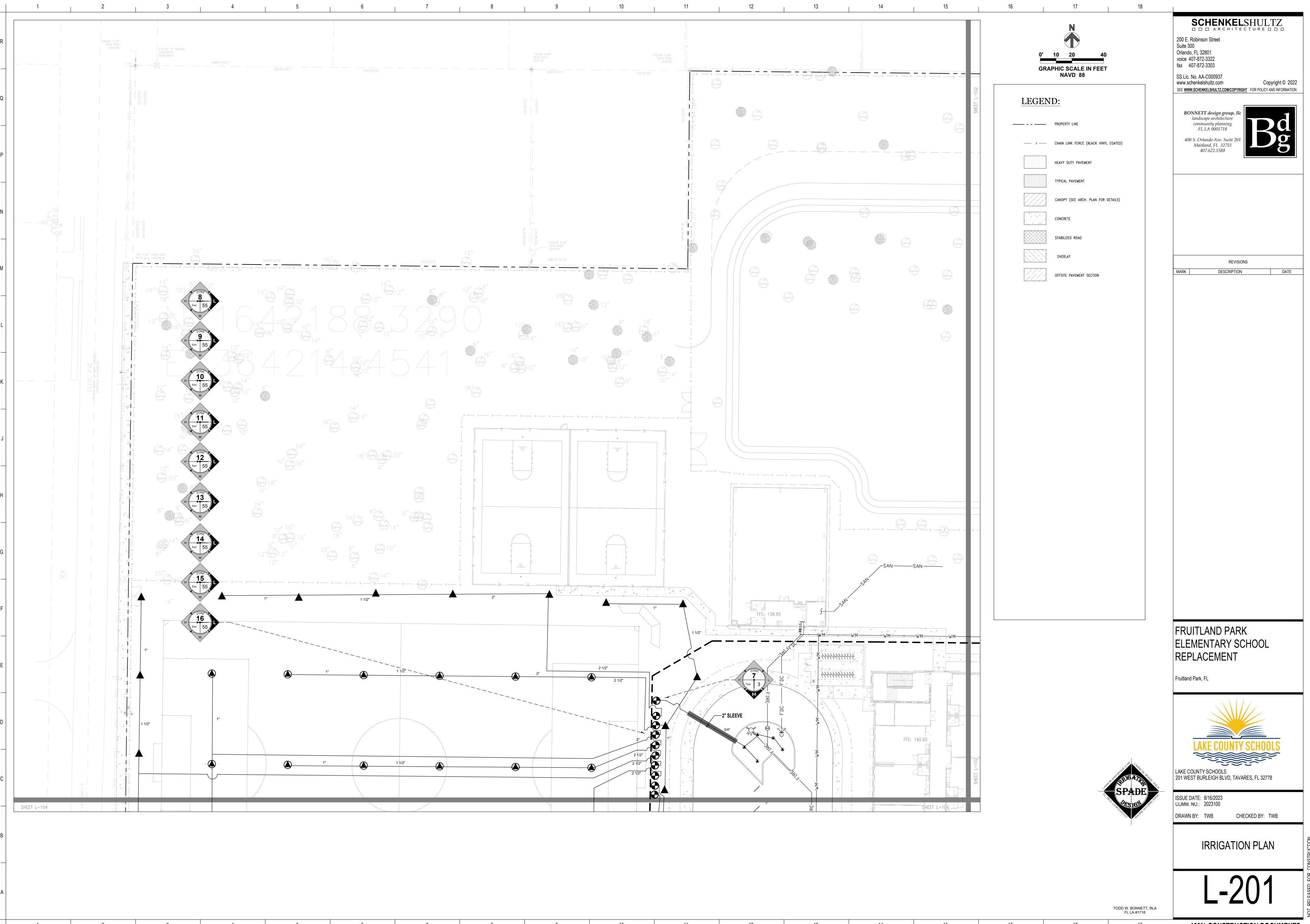
LANDSCAPE NOTES & DETAILS

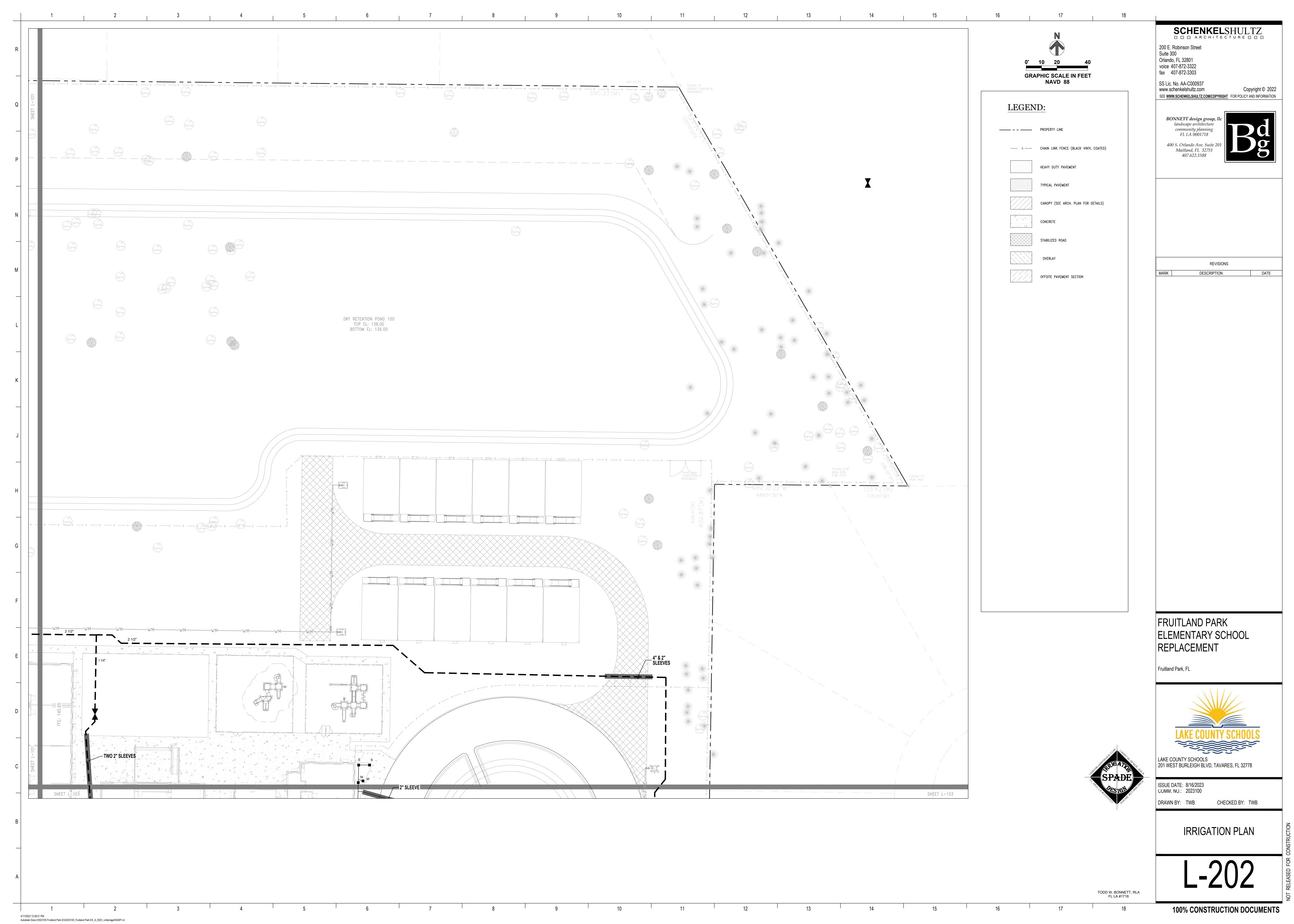
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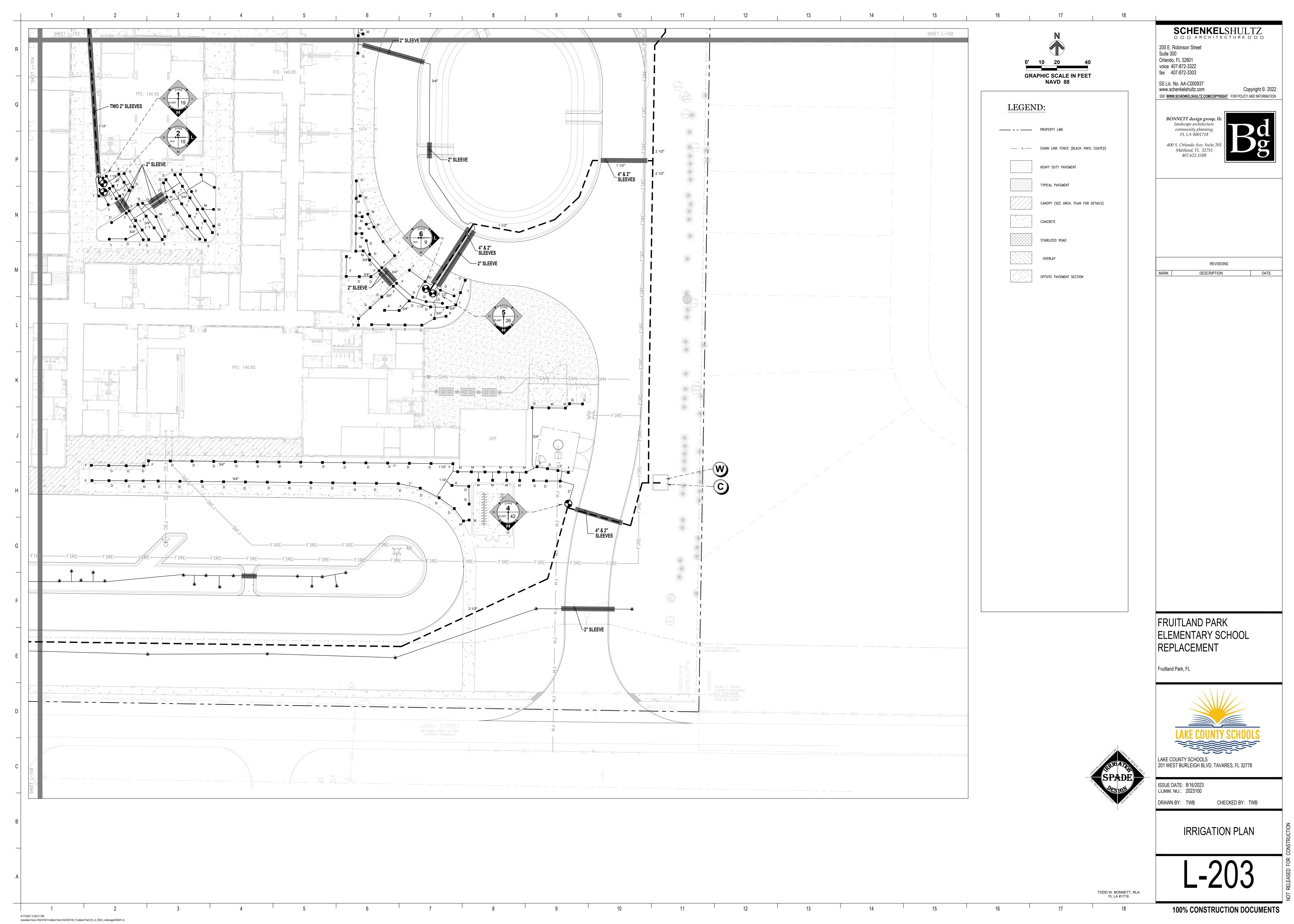
**100% CONSTRUCTION DOCUMENTS** 

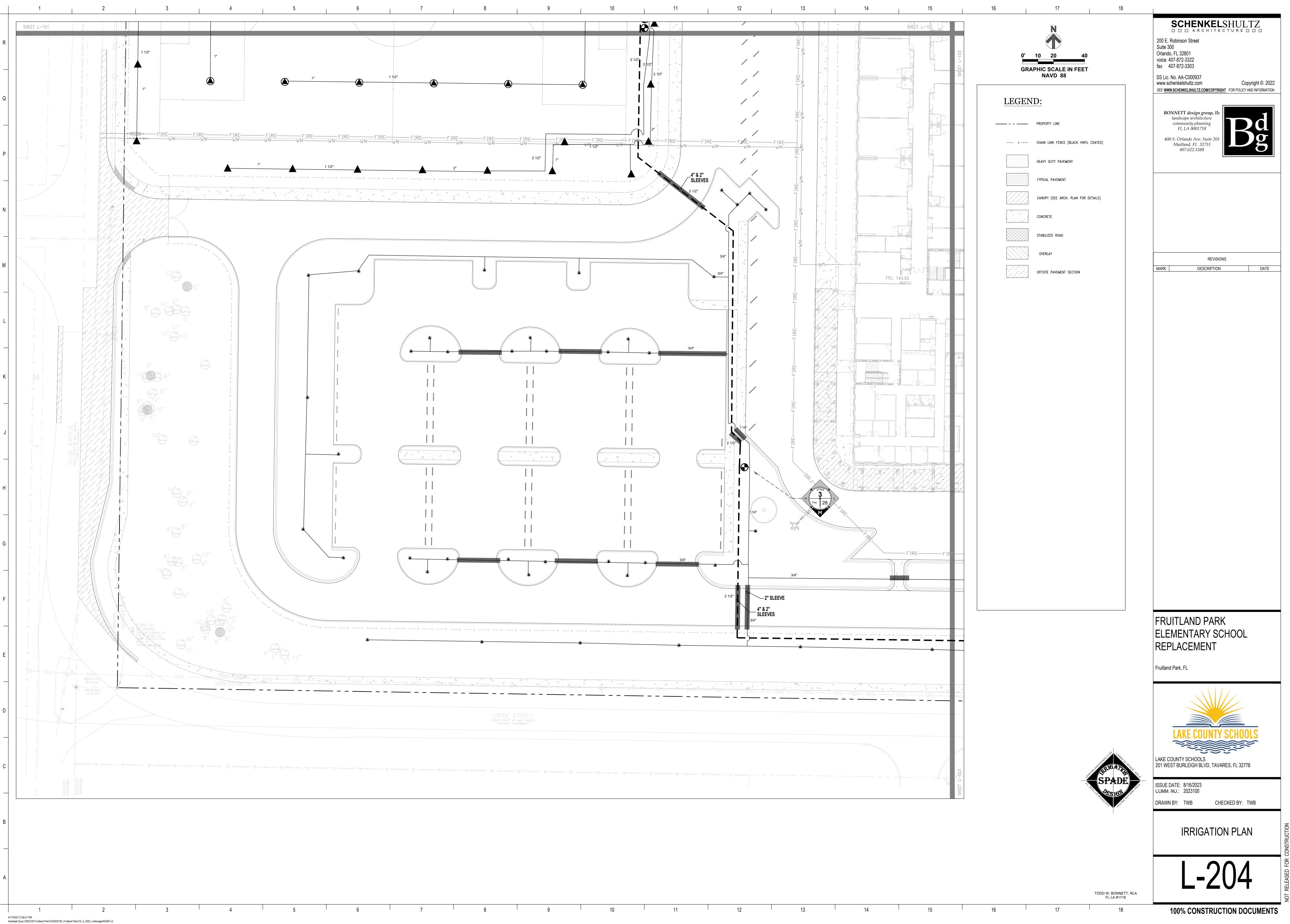
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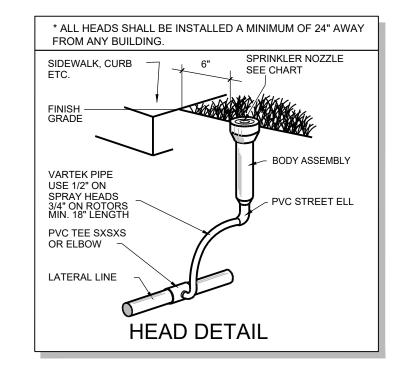


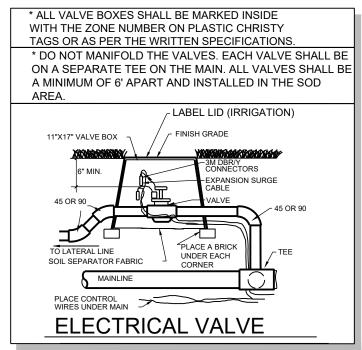


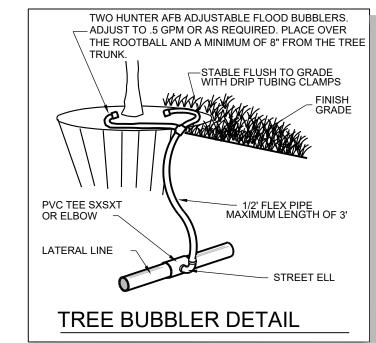


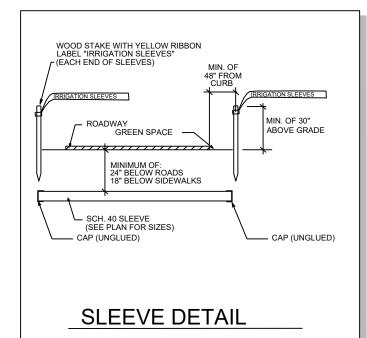


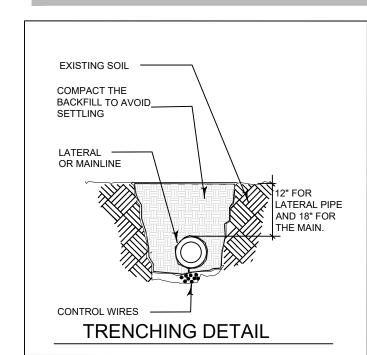


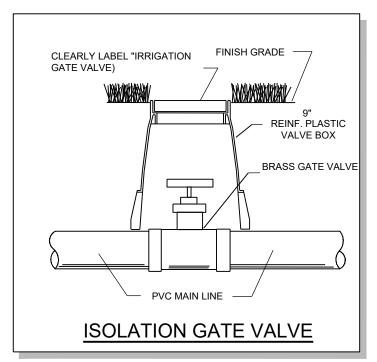


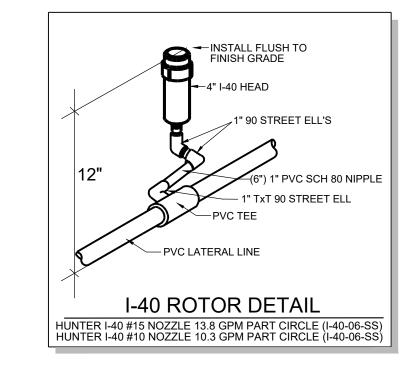














#### **GENERAL NOTES**

1) REFER TO THE LANDSCAPE PLANS WHEN TRENCHING TO AVOID TREES AND SHRUBS. HAND DIG AROUND ANY EXISTING TREES. DO NOT CUT ANY ROOTS OVER 2" IN DIAMETER. 2) ALL MAINLINE PIPING SHALL BE BURIED TO A MINIMUM DEPTH OF 18" OF COVER. ALL LATERAL PIPING SHALL BE BURIED TO A MINIMUM DEPTH OF 12" OF COVER. 3) ALL POP-UP ROTORS AND SPRAYS SHALL BE INSTALLED USING AN 18" PVC FLEX PIPE CONNECTION. DO NOT USE POLYETHYLENE PIPE. USE WELDON 737 WITH A PURPLE PRIMER OR RED HOT CHRISTY'S BLUE GLUE ON ALL CONNECTIONS.

4) ADJUST ALL NOZZLES TO REDUCE WATER WASTE ON HARD SURFACES, WINDOWS AND BLDG. WALLS. THROTTLE ALL VALVES ON SHRUB LINES AS REQUIRED TO PREVENT FOGGING. USE ADJUSTABLE NOZZLES WHERE REQUIRED TO AVOID

5) ALL RISERS SHALL BE PAINTED BLACK OR A COLOR CHOSEN BY THE OWNER'S REPRESENTATIVE AND SHALL BE STAKED WITH A STEEL ANGLE AND SECURED WITH STAINLESS STEEL CLAMPS. LEAVE THE BOTTOM 12' OF THE PIPE PURPLE ON RECLAIMED SYSTEMS.
6) ALL CONTROL WIRE CONNECTIONS SHALL BE MADE IN VALVE BOXES USING 3M DBR-Y WIRE CONNECTORS AND SEALANT WITH WIRE NUTS. 7) THE CONTRACTOR SHALL PREPARE AN AS-BUILT DRAWING SHOWING ALL IRRIGATION INSTALLATION. THE CONTRACTOR SHALL NEATLY MARK IN RED INK ON A WHITE BOND PAPER COPY OF THE IRRIGATION PLAN ANY INSTALLATION THAT DEVIATES FROM THE PLAN. THE AS-BUILT DRAWING SHALL ALSO LOCATE ALL MAINLINE AND VALVES BY SHOWING EXACT MEASUREMENTS FROM HARD SURFACES. MEASUREMENTS SHALL BE MARKED ON THE PLAN EVEN WHEN THE EQUIPMENT IS INSTALLED IN THE EXACT LOCATION AS THE PLAN. PROVIDE THE OWNER A PDF OF THE AS-BUILT

8) ALL VALVES, GATE VALVES AND QUICK COUPLERS SHALL BE INSTALLED IN VALVE BOXES. THE VALVE BOXES SHALL BE PURPLE WHEN USING RECLAIMED WATER.

9) ANY PIPING SHOWN OUTSIDE THE PROPERTY LINE OR RUNNING OUTSIDE A LANDSCAPE AREA IS SHOWN THERE FOR CLARITY ONLY. ALL LINES SHALL BE INSTALLED ON THE PROPERTY AND INSIDE THE LANDSCAPE AREAS OR INSIDE A SCH. 40 SLEEVE.

10) ALL HEADS SHALL BE INSTALLED A MINIMUM OF 24" FROM ANY WALL AND A MINIMUM OF 6" FROM ANY SIDEWALK, PATIO OR ROAD. (MINIMUM OF 2'-0" WHERE THERE ARE NO BUMPER STOPS) THE EXACT HEIGHT OF ANY 12" POP-UP THAT IS SHOWN IN A SHRUB BED SHALL BE DETERMINED BY THE OWNER'S REPRESENTATIVE IN THE FIELD. INSTALL THE 12" POP-UP HIGHER WHERE BLOCKED BY TALL SHRUBS.

11) THE CONTRACTOR SHALL EXERCISE CARE SO AS NOT TO DAMAGE ANY EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REPAIRS AND COST OF ANY DAMAGE CAUSED BY THEIR WORK.

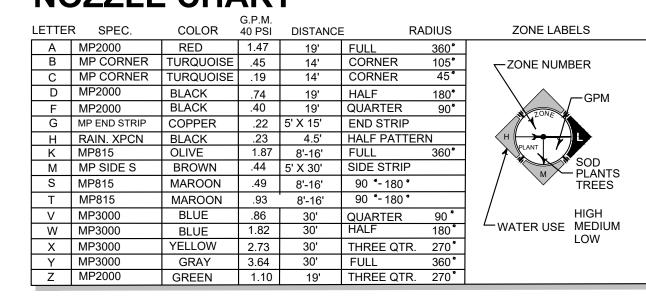
12) ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE AGAINST ALL DEFECTS IN EQUIPMENT AND WORKMANSHIP OR AS OUTLINED IN THE WRITTEN SPECIFICATIONS. 13) ELECTRICAL SERVICE TO LOCATION OF THE CONTROLLER, WELL OR PUMP SHALL BE PROVIDED TO A JUNCTION BOX OR DISCONNECT AT THE EQUIPMENT LOCATION BY THE ELECTRICAL CONTRACTOR OR BY OWNER WHEN IT IS NOT PART OF THE BID PACKAGE. CONFIRM THE LOCATION OF THE CONTROLLER WITH THE OWNER OR

GENERAL CONTRACTOR BEFORE ANY INSTALLATION. 14) IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCALE THE PLAN AND CHECK NOZZLE TYPES TO DETERMINE THE CORRECT SPACING OF THE HEADS. THE CONTRACTOR SHALL NOT SPACE THE HEADS FURTHER APART OR USE LESS HEADS THAN SHOWN ON THE PLAN. ANY CHANGES TO THE HEAD SPACING OR LAYOUT, WITHOUT THE CONSENT OF THE LANDSCAPE ARCHITECT OR OWNER, SHALL

HOLD THE IRRIGATION CONTRACTOR RESPONSIBLE FOR WARRANTY OF THE PLANTS AND OR SOD IN

15) 48 HOURS BEFORE DIGGING, CALL 1-800-432-4770 (SUNSHINE STATE ONE CALL CENTER) 16) INSTALL THREE EXTRA CONTROL WIRES TO EACH TERMINATION OF THE MAIN. ALL CONTROL WIRES SHALL BE INSTALLED INSIDE OF SCH. 40 GRAY PVC CONDUIT WHERE THEY CANNOT BE UNDER THE MAIN.

# **NOZZLE CHART**



THE NOZZLES LISTED SHOW THE TYPE OF MP ROTATOR NOZZLE THAT SHOULD BE USED. THE CONTRACTOR SHOULD INSTALL CORRECT NOZZLE IN EACH HEAD AS SHOWN BY THE LETTER BESIDE THE HEAD ON THE PLAN. DO NOT USE MP1000 SERIES NOZZLES. THE GPM, DISTANCE AND ANGLE ON THE NOZZLE CHART ARE APPROXIMATE. THE CONTRACTOR SHALL ADJUST ALL NOZZLES TO PROVIDE THE 100% COVERAGE, BUT LIMIT OVERTHROW ON TO BUILDINGS, WALLS, PAVEMENT, ETC. THE HEADS SHALL BE SPACED AS PER THE PLAN. SCALE THE PLAN FOR DISTANCE. DO NOT ASSUME THAT ALL HEADS ARE SPACED AS PER CONVENTIONAL SPRAY HEADS. THE PRECIPITATION RATE FOR THESE NOZZLES IS LESS THAN A CONVENTIONAL SPRAY NOZZLE. FOLLOW THE ZONE CHART FOR AN APPROXIMATE RUN TIME FOR EACH ZONE, BUT SET THE RUN TIME ON THE

CONTROLLER BASED ON THE SPECIFIC SITE CONDITIONS. <u>DO NOT SUBSTITUTE WITH STANDARD NOZZLES</u>.

F) ISOLATION VALVE

AS PER MANUFACTURERS SPECIFICATIONS.

USE HUNTER MP ROTATOR NOZZLES

•	HUNTER PRS40 SPRAY SERIES 6" POP-UP
•	HUNTER PRS40 SPRAY SERIES 12" POP-UP
	TWO HUNTER AFB ADJUSTABLE FLOOD BUBBLERS PER TREE.
X	GATE VALVE
	HUNTER I-40 #13 NOZZLE 11.1 GPM 360 DEGREE (I-40-06-SS)
	HUNTER I-40 #13 NOZZLE 11.1 GPM (I-40-06-SS)
	CLASS 200 PVC MAINLINE-2 1/2" OR AS NOTED
	CLASS 200 PVC LATERAL LINE- SIZE AS SHOWN UNTIL A SMALLER SIZE IS SHOWN. MINIMUM SIZE OF 3/4" (EXCEPT RISERS AND FLEX PIPE)
	SCH. 40 SLEEVE (MINIMUM OF 24" DEPTH AND 2 SIZES LARGER THAN THE PIPE SIZE OR AS LABELED ON THE PLAN)
	HUNTER ICV ELECTRIC VALVE. SIZE AS SHOWN BELOW. INSTALL VALVE IN A 11"X17" VALVE BOX AND COVER

0-25 GPM=1"

26-50 GPM=1 1/2"

51 AND HIGHER GPM=2"

CONTROLLER- HUNTER ICC2 SERIES. WHERE SHOWN ON THE PLAN. INSTALL WITH A HUNTER MINI-CLIK RAIN SENSOR. GROUND WITH A MINIMUM 8' COPPER CLAD ROD. SLEEVE TO AS REQUIRED.

WELL- REFER TO DETAILS AND SPECIFICATIONS ON THIS SHEET

# **ZONE CHART**

ZONE PLANT IRRIGATION WATER PRECIP. APPLIC. GPM MINUTES TOTAL SOD SPRAY BUBBLER PLANT PLANT SPRAY MEDIUM 1,560 SOD TREE BUBBLER SOD LOW ROTOR 1,650 SOD 1,650 ROTOR SOD ROTOR LOW 1,650 SOD ROTOR LOW 1,650 SOD ROTOR 1,650 SOD SOD 1,650 ROTOR LOW 1,650 SOD ROTOR LOW 1,650 0.5 SOD ROTOR LOW 0.5 1,650 TOTAL GPM PER RUN CYCLE 637 21,410 TOTAL GPM PER WEEK (PEAK WEEKLY DEMAND) 42,820

THE RUN TIMES SHOWN FOR THE ZONE IS FOR ONE RUN CYCLE AND WILL PROVIDE HALF THE REQUIRED AMOUNT OF WATER NEEDED PER WEEK. TWO RUN CYCLES PER WEEK ARE REQUIRED TO PROVIDE THE TOTAL WEEKLY REQUIREMENT. ALL RUN TIMES SHALL BE SET TO FOLLOW THE CURRENT WATER MANAGEMENT DISTRICT REGULATIONS AND REDUCED TO ONLY ONE RUN TIME PER WEEK WHEN RESTRICTED BY DAYLIGHT SAVINGS TIME OR WATER RESTRICTIONS. THE ZONE CHART IS PROVIDED AS A GENERAL OUTLINE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE TO SET THE RUN TIMES BASED ON THE SPECIFIC SITE CONDITIONS AND PLANT REQUIREMENTS. THIS SHALL INCLUDE, BUT NOT LIMITED TO, SOIL TYPE, DRAINAGE, SLOPES, SUN EXPOSURE AND THE ESTABLISHMENT PERIOD. THE TOTAL GPM REQUIRED PER YEAR WILL BE LESS THAN THE PEAK DEMAND PER WEEK TIMES 52 WEEKS, BASED ON THE RUN TIMES BEING REDUCED BY SENSORS AND A REDUCED WATER DEMAND IN THE WINTER MONTHS.

Fruitland Park, FL



FRUITLAND PARK

REPLACEMENT

**ELEMENTARY SCHOOL** 

**SCHENKEL**SHULTZ

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DESCRIPTION

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ISSUE DATE: 8/16/2023 COMM. NO.: 2023100

DRAWN BY: TWB CHECKED BY: TWB

> **IRRIGATION** NOTES & DETAILS

FL LA #1718

**WELL SPECIFICATIONS** 

1.1 THE CONTRACTOR SHALL DRIVE OR DRILL ONE 4" DIAMETER DEEP WELL WITH STEEL CASING FOR THE OPERATION OF THE IRRIGATION SYSTEM. THE WELL SHALL PRODUCE 60 GALLONS PER MINUTE WITH NOT MORE THEN A 5 FT. 1.2 ALL EQUIPMENT AND INSTALLATION SHALL BE AS PER STATE AND LOCAL CODE REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES AND PERMITS REQUIRED TO DRILL THE WELL OR WELLS.

2.1 THE CONTRACTOR SHALL FURNISH AND INSTALL ONE 7.5 H.P. SUBMERSIBLE PUMP IN THE WELL. THE PUMP SHALL BE CAPABLE OF PRODUCING 60 GALLONS PER MINUTE AT 160 T.D.H. (TOTAL DYNAMIC HEAD) THE T.D.H. IS AT GROUND LEVEL. THE PUMP OR PUMPS SHALL BE INSTALLED USING THE FOLLOWING EQUIPMENT AND MATERIALS. REFER TO THE DETAIL. ALL EQUIPMENT MAY NOT BE LISTED. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH AND INSTALL ALL NECESSARY EQUIPMENT FOR THE OPERATION OF THE WELL PUMP AND ITS CONNECTION TO THE IRRIGATION SYSTEM..

A) SANITARY WELL SEAL B) GALVANIZED DROP PIPE C) SUBMERSIBLE PUMP CABLE, SIZE AS REQUIRED D) ALL NECESSARY GALVANIZED FITTINGS THAT ARE REQUIRED FOR THE CONNECTION OF THE SYSTEM. ALL ABOVE GROUND PIPE SHALL BE SCH. 40 PVC (PAINT BLACK). SAME SIZE AS THE MAINLINE. E) ALL NECESSARY ELECTRICAL WIRE, SWITCHES AND CONDUIT

G) SILENT CHECK VALVE H) ABOVE GROUND CHECK VALVE I) CYCLE STOP VALVE CSV3B 3.1 THE PRESSURE TANK PRE-CHARGE SHALL BE 5-10 PSI LOWER THAN THE PRESSURE SWITCH START POINT. A WATER LINE AT LEAST 8" OR LONGER AND NO LARGER THAN THE TANK INLET SIZE SHALL BE CONNECTED TO THE TANK AT A 90% ANGLE. THE PRESSURE SWITCH SHALL BE INSTALL ON THE PIPE TO THE TANK. AS CLOSE TO THE TANK AS

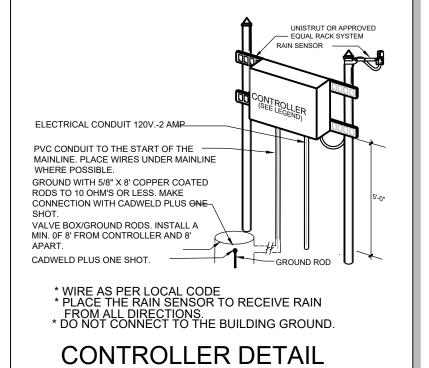
POSSIBLE REFER TO CYCLE STOP VALVES WEBPAGE FOR MORE DETAILED INFORMATION. ALL INSTALLATION SHALL BE

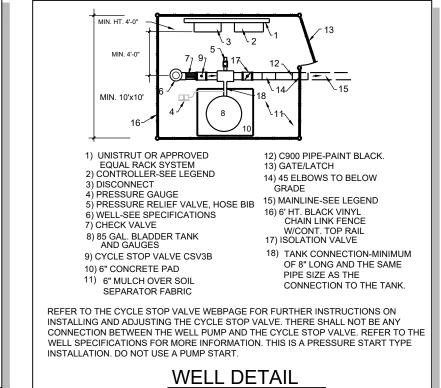
3.2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND CONNECTION OF ALL THE ABOVE EQUIPMENT AND THE CONNECTION TO THE IRRIGATION SYSTEM. 3.3 POWER FOR THE OPERATION OF THE WELL PUMP SHALL BE SUPPLIED TO A JUNCTION BOX AT THE WELL LOCATION AS PART OF THE ELECTRICAL PLANS OR BY OWNER. COORDINATE ALL POWER REQUIREMENTS WITH THE OWNER OR

4.1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WATER SAMPLES FROM THE WELL. AT THE LANDSCAPE CONTRACTOR'S EXPENSE, HE SHALL HAVE A CERTIFIED LAB ANALYZE THE WATER QUALITY. THE LANDSCAPE CONTRACTOR SHALL REPORT TO THE LANDSCAPE ARCHITECT OR OWNER'S PROJECT MANAGER, ANY POTENTIAL SSUES THAT MAY AFFECT THE HEALTH OF THE PLANT MATERIAL OR POTENTIAL STAINING TO SIDEWALKS AND BUILDINGS. REPORTING SHALL OCCUR BEFORE THE SYSTEM IS IN OPERATION. FAILURE TO REPORT SHALL PLACE

LIABILITY ON THE CONTRACTOR. 4.2 BEFORE SETTING THE PUMP THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF THE STATIC WATER LEVEL TO DETERMINE IF THE PUMP CAN PROVIDE THE PROPER GPM AND PSI FOR THE OPERATION OF THE IRRIGATION

5.1 THE CONTRACTOR SHALL BE RESPONSIBLE TO VISIT THE SITE AND BECOME FAMILIAR WITH THE ON SITE LOCATION OF THE WELL. IT SHALL BE HIS RESPONSIBILITY TO NOTIFY THE OWNER IF HE FEELS THE LOCATION SHOULD BE MOVED. THE OWNER SHALL NOT BE RESPONSIBLE TO PAY FOR ANY WELL OR PART OF A WELL THAT DOES NOT MEET THE FULL INTENT OF THESE SPECIFICATIONS.







PACKAGED AIR HANDLING UNIT SCHEDULE: |Z\_PACKAGED\_AHU\_EH\_Or\_HW Schedule\_Induction Motors\_A15c1 SUPPLY AIR FAN DATA OCTAVE BANDS VFD/ASD/VSD DATA **FAN DATA** UNIT/MOTOR DATA (FAN SECTION NAMEPLATE DATA) **RADIATED** DISCHARGE INLET UNIT NO. TOTAL PRIMARY O.A.
MAX. CFM CFM CFM MAX. CFM CFM FAN PER TOTAL HP PER SIZE VFD IRC CONTROLLER QUANTITY AHU 1-1 ACH580-01-014A-4 CLASSROOM 14 AHU 1-2 6,300 VFD/AFD/ASD ACH580-01-014A-4 AHU 1-3 CLASSROOM 8,130 1,750 VFD/AFD/ASD ACH580-01-014A-4 AHU 1-4 5,360 ACH580-01-012A-4 12 4,435 VFD/AFD/ASD AHU 1-5 CLASSROOM ACH580-01-023A-4 10,400 VFD/AFD/ASD AHU 1-6 6,475 ACH580-01-012A-4 ART / MUSIC VFD/AFD/ASD AHU 1-7 3,275 VFD/AFD/ASD ACH580-01-023A-4 23 AHU 1-8 **KITCHEN** 4,775 VFD/AFD/ASD ACH580-01-07A6-4 7.6 AHU 1-9 CLASSROOM 12,270 9,620 2.0 ACH580-01-023A-4 VFD/AFD/ASD AHU 1-10 CLASSROOM 1 15 15 10.27 10.27 1,200 VFD/AFD/ASD ACH580-01-023A-4 1 SINGLE ZONE VARIABLE VOLUME - AFD CONTROLLED; PROVIDE DUAL MOTOR OUTPT AFD FOR DUAL MOTOR UNITS (AFD WITH BYPASS) 6 PROVIDE SEPARATE ELECTRICAL CONNECTION FOR FAN MOTORS AND ELECTRIC HEATERS 11 PROVIDE HORIZONTAL DRAW-THROUGH CONFIGURATION 7 SEE ELECTRIC DUCT HEATER SCHEDULE FOR PRE-HEAT COIL INFORMATION 12 PROVIDE VERTICAL DRAW-THROUGH CONFIGURATION 2 MULTI-ZONE VARIABLE VOLUME - AFD CONTROLLED; PROVIDE DUAL MOTOR OUTPT AFD FOR DUAL MOTOR UNITS (AFD WITH BYPASS) 3 CONSTANT VOLUME - AFD CONTROLLED; PROVIDE DUAL MOTOR OUTPT AFD FOR DUAL MOTOR UNITS (AFD WITH BYPASS) 8 SEE ELECTRIC DUCT HEATER SCHEDULE FOR RE-HEAT COIL INFORMATION 13 PROVIDE TOP/BOTTOM/SIDE DISCHARGE (AS SHOWN ON DRAWINGS) AND DISCHARGE AIR PLENUM 4 PROVIDE AFD OR DISCONNECT WITH HOA AND 65K AIC/SCCR 14 REFER TO SPECIFICATION FOR ALL REQUIREMENTS BEYOND THIS SCHEDULE 9 PROVIDE ACCESS DOORS UPSTREAM AND DOWNSTREAM OF ALL HEATING AND COOLING COILS 5 PROVIDE AFD WITH BYPASS 10 PROVIDE BIPOLAR IONIZATION IN THE AHU, WITH ION DETECTOR, BY CONTRACTOR NOT AHU MFR

ABBREVIATIONS

FLC = FULL LOAD CURRENT
ICR = INPUT CURRENT RATING of VFD/AFD/ASD CONTROLLER

VFD/AFD/ASD = VARIABLE FREQUENCY DRIVE/ADJUSTABLE FREQUENCY DRIVE/ADJUSTABLE SPEED DRIVE WITH BYPASS
DISC/STARTER = COMBINATION DISCONNECT AND STARTER

ESP = EXTERNAL STATIC PRESSURE TSP = TOTAL STATIC PRESSURE AIC = AMPERE INTERRUPTING CAPACITY

DCV = DEMAND CONTROL VENTILATION

MFR = MANUFACTURER

SCCR = SHORT CIRCUIT CURRENT RATING

HOA = HAND-OFF-AUTO

NOTE: THE VENTILATION RATE PROCEDURE USED FOR THIS PROJECT COMPLIES WITH ASHRAE STANDARD 62.1-2016.

																				VERSI	ON: A15c1 7/1	16/2021	COF	PYRIGHT: M	PE, INC
						COOLING (	COIL DAT	Ά									FILTE	R DATA			MAX UNIT SIZE		SELECTION	ON BASED ON	
	EA	TF	LA	ΤF	TOTAL	SENSIBLE	AIR		EWT	LWT	WATER	MIN.	Max	MIN FACE	BIPOLAR IONIZATION	LEED		AIR PRESSURE	FILTER						REMARKS
CFM	DB	WB	DB	WB	CAPACITY MBH	CAPACITY MBH	PD IN H20	GPM	F	F	PD FT H20	ROWS	FINS/FT	AREA - FT2	REQUIRED	FILTRATION REQUIREMENT	EFFICIENCY	DROP AT MID LIFE CONDITION	DEPTH	HEIGHT (INCHES)	WIDTH (INCHES)	LENGTH (INCHES)	AHU MFR	MODEL	
7,950	80.78	68.80	51.3	51.26	407.67	248.42	0.94	59.2	56	42	10.2	8	130	16.93	YES	NO	MERV 8	0.55	2	50	80	119	CARRIER	39MN17W	2,4,9,10,11,13,14
7,750	81.18	69.06	51.1	51.13	407.66	246.33	0.9	59.2	56	42	10.2	8	130	16.93	YES	NO	MERV 8	0.55	2	50	80	119	CARRIER	39MN17W	2,4,9,10,11,13,14
8,130	81.66	69.37	51.4	51.37	430.94	260.36	0.97	62.6	56	42	11.3	8	130	16.93	YES	NO	MERV 8	0.55	2	50	80	119	CARRIER	39MN17W	2,4,9,10,11,13,14
5,360	80.93	68.90	51.8	51.8	269.47	164.97	0.81	39.1	56	42	4.8	8	130	12.64	YES	NO	MERV 8	0.55	2	47	68	116	CARRIER	39MN12W	2,4,9,10,11,13,14
3,150	81.56	69.30	51.9	51.94	674.23	412.03	0.83	103.8	55.2	42	4.6	8	130	30.35	YES	NO	MERV 8	0.55	2	60	105	127	CARRIER	39MN30W	2,4,9,10,11,13,14
6,475	80.69	68.74	51.5	51.46	326.67	200.34	0.89	47.4	56	42	7.2	8	130	14.34	YES	NO	MERV 8	0.55	2	47	73	115	CARRIER	39MN14W	2,4,9,10,11,13,14
1,805	82.72	70.05	52.0	51.92	638.19	382.27	1.05	92.6	56	42	16.9	8	130	24.41	YES	NO	MERV 8	0.56	2	60	87	127	CARRIER	39MN25W	1,4,6,8,9,10,11,13,
4,775	80.31	68.50	52.0	51.94	232.16	143.4	0.98	35.2	56	42	7.5	8	130	9.93	YES	NO	MERV 8	0.56	2	40	68	114	CARRIER	39MN10W	1,4,6,8,9,10,11,13,
2,270	81.67	69.38	52.0	51.91	634.29	384.83	0.58	98	56	42	17.6	6	130	30.35	YES	NO	MERV 8	0.55	2	60	105	125	CARRIER	39MN30W	2,4,9,10,11,13,14
11,360	81.74	69.42	51.8	51.7	593.25	359.24	0.99	86.1	56	42	14.8	8	130	24.41	YES	NO	MERV 8	0.55	2	60	87	127	CARRIER	39MN25W	2,4,9,10,11,13,14

#### PUMP SCHEDULE:

LOIML 2CHED	JLE:																
UNIT NO.	SERVING	TVDE	GPM	HEAD FT.	PUMP	CON	N. SIZE		МОТО	R DATA			AFD DATA		SELE	ECTION BASED ON:	REMARKS
UNIT NO.	SERVING	ITE	GPIVI	H20	EFF.%	INLET	OUTLET	HP	RPM	VOLT	PH.	MFR	SIZE	IRC	MANUFACTURER	MODEL	REWARKS
CHWP-1	CHILLER / CAMPUS LOAD	BASE MTD END SUCTION	243	130	65.00%	4	3	20	1700	460	3	ABB	ABB ACH580-VxR-027A-4	27	BELL & GOSSETT	E-1510 3GB	1,3,4
CHWP-2	CHILLER / CAMPUS LOAD	BASE MTD END SUCTION	243	130	65.00%	4	3	20	1700	460	3	ABB	ABB ACH580-VxR-027A-4	27	BELL & GOSSETT	E-1510 3GB	1,3,4
CHWP-3	CHILLER / CAMPUS LOAD	BASE MTD END SUCTION	243	130	65.00%	4	3	20	1700	460	3	ABB	ABB ACH580-VxR-027A-4	27	BELL & GOSSETT	E-1510 3GB	1,2,3,4

NOTES:

2 AFD WITH BYPASS, STAND-BY PUMP FOR REDUNDANCY

3 ALL PUMPS ARE SELECTED WITH PUMPS IN PARALLEL
4 PUMP MOTORS SHALL HAVE SHAFT GROUNDING RINGS

BAF SCH	EDULE:								
UNIT NO.	SERVING	DIAMETER	WEIGHT		N	OTOR DAT	Ά		NOTES
ONIT NO.	SERVING	(FT)	(LB)	FLA	MOCP	RPM	VOLT	PH	NOILS
BAF-1	COVERED PLAY	12	88	10	15	76	120	1	1
BAF-2	COVERED	12	88	10	15	76	120	1	1

PROVIDE WIRED WALL MOUNTED CONTROLLER FOR EACH FAN WITH UNIT LABEL. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL DRAWINGS.

AIR SEPARAT	OR:									
UNIT NO.	SERVING	SYSTEM FLOW	SYSTEM	VENT CONN.	PRESSURE	DIMEN	SIONS	SELECTION BAS	SED ON:	REMARKS
UNIT NO.	SERVING	RATE (GPM)	CONN.(IN.)	(IN.)	DROP (Ft. H20)	HEIGHT (IN.)	DIAM. (IN.)	MANUFACTURER	MODEL	REMARKS
AS-1	CHILLED WATER SYSTEM	888	8	2	0.87	54	29.5	BELL & GOSSETT	RL-8F	NONE

EXPANSION TANK SCHEDULE:

UNIT NO. SERVING

VOLUME (GAL)

VOLUME (GAL)

VOLUME (GAL)

FLUID

PIPE MATERIAL

PIPE MATER

CW STEEL

ET-1 CHILLED WATER 21.68 8.73

2. CONTRACTOR SHALL PROVIDE ALL NECSSARY MOUNTING HARDWARD FOR UNIT.

							UNIT EL	ECTRICAL DAT	A			DIMENSIONS		SELECTIO	N BASED ON	
UNIT NO.	SERVING	TOTAL CFM	COOLING CAPACITY (BTU/HR)	HEATING CAPACITY (BTU/HR)	VOLT	РН	COOLING (A)	HEAT PUMP (A)	ELECTRIC HEAT BACKUP (A)	BREAKER SIZE (AMPS)	HEIGHT (IN)	WIDTH (IN)	LENGTH (IN)	MANUFACTURER	MODEL	REMARK
PTAC-1	PE OFFICE	306	11800	9200	208	1	5.1	4.7	13.6	20	15-5/8	21-13/16	26	GE	AJEQ12DCF	1,2

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MPE JOB #: 2023-017

REVISIONS

DATE

MARK DESCRIPTION

FRUITLAND PARK
ELEMENTARY SCHOOL
REPLACEMENT

Fruitland Park, FL



201 WEST BURLEIGH BLVD, TAVARES, FL 32778

ISSUE DATE: 8/16/2023 COMM. NO.: 2023100

REMARKS

DRAWN BY: DR CHECKED BY: RBS/AWB

SCHEDULES - MECHANICAL

M601

Service	Thickness	Туре	Notes
Outside Air Plenum	Installed R-6	.75# density blanket	
Factory Packaged Air Conditioning Unit Casing		Factory Furnished	
Factory Built Return Air Plenums/Mixing Boxes	Double Wall	Factory Furnished	No Field Built Plenums
Supply Air Ducts From AHU's connection to 50 feet downstream	1" internally lined	with perforated inner liner and mylar film separating	- II W II - (
on supply side for all air handling unit systems:  After 50 feet downstream of AHU on supply side	Installed R-6	insulation from air stream  Concealed - 2" thick external wrap	Double Wall Duct
for all air handling units:	Installed R-6	Exposed- 1-1/2" rigid board with corner angles.  Concealed - 2" thick external wrap	
Downstream of VAV terminals:  All low pressure exposed ductwork in public	Installed R-6 1" internally lined	Exposed- 1-1/2" rigid board with corner angles.  with perforated inner liner and mylar film separating	Davida Well Door
areas:	Installed R-6	insulation from air stream  Exposed: Rigid fiberglass with corner angles with	Double Wall Duct
Ducts located outdoors or in soffit exposed to weather:	Installed R-8	outer weatherproof sheet metal jacket sealed with Flex-Clad 400 as manufactured by MFM Building Products Corps. Concealed: .75# density blanket	
AC Unit to Terminal - Balance of ductwork to terminal 50 deg air system:	Installed R-6	Exposed: 2" rigid fiberglass with corner angles Concealed: 2" with 1.5# density blanket	
AC Unit to Terminal - Balance of ductwork to terminal exposed 50 deg air system:	Installed R-6	Exposed: 2" rigid fiberglass with corner angles. Concealed: .75# density blanket.	
Terminal to Outlet: Fire Dampers and reheat coils in internally	Installed R-6	.75# density blanket. Exposed: 1" rigid fiberglass with corner angles.	
insulated duct:		Concealed: Installed R-6 with .75# density blanket. with perforated inner liner and mylar film separating	
Ducts located outside:	2" internally lined Installed R-8.7	insulation from air stream. Apply Flex-Clad 400 as manufactured by MFM Building Products Corp. around entire double wall duct	Double Wall Duct
Return Air Ducts From AHU connection to 50 feet upstream on	1" internally lined	with perforated inner liner and mylar film separating	Double Wall Duct
return side for all air handling unit systems  All other return air ductwork:	Installed R-4.2	insulation from air stream  Concealed - 2" thick external wrap - 1-1/2" rigid board with corner angles	
	2" internally lined	with perforated inner liner and mylar film separating insulation from air stream. Apply Flex-Clad 400 as	
Ducts located outside:	Installed R-8.7	manufactured by MFM Building Products Corp. around entire double wall duct	Double Wall Duct
Relief Air Duct		1-1/2" 1# density blanket.	
All relief ducts:	Installed R-4.2	1-1/2" 1# density blanket.  Mechanical Space or Exposed: 1" rigid fiberglass with corner angles.	
Outside Air Ducts		Concealed - 2" thick external wrap Exposed	
All outside air ducts:  Transfer Air Ducts	Installed R-6	- 1-1/2" rigid board with corner angles.	
All transfer ducts:	Installed R-4.2	1-1/2" 1# density blanket. Mechanical Space or Exposed: 1" rigid fiberglass	
Exhaust Air Ducts		with corner angles.	
		Not Required, except for within 10' from discharge opening:	
All general restroom exhaust ducts:		Concealed - 2" thick external wrap Exposed - 1-1/2" rigid board with corner angles	
Ducts located outside:	2" internally lined Installed R-8.7	with perforated inner liner and mylar film separating insulation from air stream. Apply Flex-Clad 400 as manufactured by MFM Building Products Corp. around entire double wall duct	Double Wall Duct
Kitchen hood exhaust ducts:		Wrapped in 2 hour fire rated duct wrap enclosure equal to 3m Firemaster	
Dishwasher hood exhaust ducts:		.75# density blanket.	
Refrigerant Piping RS (Suction) (Temp < 40 deg F):		Up to 3/4": 3/4" Closed Cell Elast. 1" thru 8": 1-1/2" Foamglas	All pipe with Aluminum Jacket
RL (Temp 90 - 130 deg F):		Up to 2": Not Required 2-1/2" thru 4": Not Required	All pipe with
		5" thru 8": 1-1/2" Foamglas  Up to 2": 3/4" Closed Cell Elast.	All pipe with
RHG (Temp 90 - 150 deg F):		2-1/2" thru 4": 1" Closed Cell Elast. 5" thru 8": 1-1/2" Foamglas	Aluminum Jacket
Chilled Water (20 deg F to 60 deg F)			
Chilled Water (CHS) (CHR) (42 deg F and above) - Conditioned:		Up to 2": 1-1/2" Closed Cell Elast. 2-1/2" thru 4": 1-1/2" Foamglas 5" thru 8": 2" Foamglas 10" thru Larger: 2-1/2" Foamglas	ALL exposed pipe to have aluminum jacket at any elevation
		Up to 2": 1-1/2" Foamglas	ALL exposed
Chilled Water (CHS) (CHR) (42 deg F and above) - Unconditioned:		2-1/2" thru 4": 2" Foamglas 5" thru 14": 2-1/2" Foamglas 16" thru Larger: 3" Foamglas	pipe to have aluminum jacket at any elevation
		Up to 2": 1.8" Factory Injected Polyurethane Foam 3": 1.3" Factory Injected Polyurethane Foam 4": 1.8" Factory Injected Polyurethane Foam	
Underground Chilled Water (CHS) (CHR) (42 deg F and above):		6" thru 8": 1.7" Factory Injected Polyurethane Foam 10" thru 12": 1.5" Factory	All must have a minimum 'K' Factor of 0.14
		Injected Polyurethane Foam 14" thru 16": 1.8" Factory Injected Polyurethane Foam	. 20101 01 0.14
Cold Pipe Hanger Support Blocks:		Match - Foamglas Insulation	
Floor Drains Receiving Condensate:  Condensate Drain (CD): All sizes	1/2"	Closed Cell Elastomeric Closed Cell Elastomeric	All pipe with
Condensate Drain (CD): All sizes  EQUIPMENT & MISCELLANEOUS INSULATION REC		Ologed Gell Eldstollielle	Aluminum Jacket
Expansion Tank:	1"	Closed Cell Elastometric	Paint per specification 23 07 00
Filter Feeder:	1"	Closed Cell Elastometric	Paint per specification 23 07 00
Chilled Water Pumps:	2"	Removable Cover	Paint per specification 23 07 00
Chiller:		Shell & Cold Surface: 1-1/2" Closed Cell Elast. Water Box: 1-1/2" Removable cover	Paint per specification
Screw Compressor (Oil Separator & Oil Cooler)			23 07 00 Paint per
ALL exposed piping insulation:	1"	Closed Cell Elastometric	specification 23 07 00 Any Pipe,
The state of the s		Provide an aluminum jacket	Including ALL Mechanical Rooms
Domestic Water (Outdoor):	1"	Closed Cell Elastometric	with Aluminum Jacket

**EXHAUST FAN SCHEDULE:** MOTOR DATA SELECTION BASED ON: CFM BLADE SONES TOTAL STATIC IN UNIT NO. REMARKS MANUFACTURER EF 1-1-1 RESTROOMS / CORRIDOR/ CUSTODIAL INLINE DIRECT DRIVE SQ-140HP-VG 1,2,3,5,6,10,19 RESTROOM / CORRIDOR INLINE DIRECT DRIVE GREENHECK SQ-130HP-VG 1,2,3,5,6,10,19 EF 1-2-2 ELECTRICAL ROOM INLINE DIRECT DRIVE GREENHECK SQ-98-VG 1,2,3,5,6,15,19 1725 1/2 1725 115 1 RESTROOM / CORRIDOR GREENHECK SQ-120-VG 1,2,3,5,6,10,19 300 BI 8.6 0.4 1229 1/4 1725 115 1 EF 1-3-2 ELECTRICAL ROOM INLINE DIRECT DRIVE GREENHECK SQ-98-VG 1,2,3,5,6,15,19 EF 1-4-1 RESTROOM / CUSTODIAL / HALLWAY INLINE DIRECT DRIVE 630 BI 8.6 0.4 1105 1/4 1250 115 1 NO GREENHECK SQ-130HP-VG 1,2,3,5,6,10,19 EF 1-5-1 RESTROOM / HALLWAY / LOBBY INLINE DIRECT DRIVE 1,2,3,5,6,10,19 EF 1-6-1 CORRIDOR / WRESTLING INLINE DIRECT DRIVE GREENHECK SQ-130HP-VG 1,2,3,5,6,10,19 250 BI 8.2 0.4 EF 1-6-2 ROOF MOUNTED 1512 1/4 1725 115 1 GREENHECK G-097-VG 1,2,3,4,15,19,20 EF 1-7-1 RESTROOMS / CORRIDOR 1434 3/4 1450 115 1 INLINE DIRECT DRIVE GREENHECK SQ-140HP-VG 1,2,3,5,6,10,19 EF 1-8-1 STAFF RESTROOMS / CORRIDOR / CUSTODIAL ROOF MOUNTED 1214 1/4 1725 115 1 G-098-VG 1,2,3,4,15,19,20 GREENHECK EF 1-8-2 CUSTODIAL RECEIVING/EQUIPMENT STORAGE INLINE DIRECT DRIVE 825 BI 9.0 0.6 1139 3/4 1450 115 1 GREENHECK SQ-140HP-VG 1,2,3,5,6,15,19 1373 1/4 2487 115 1 1314 1/4 1725 115 1 EF 1-8-3 FLAMMABLE STORAGE INLINE DIRECT DRIVE GREENHECK 1,2,3,5,6,7,8,19 EF 1-8-4 350 BI 9.5 0.4 SQ-98-VG ELECTRICAL ROOM INLINE DIRECT DRIVE GREENHECK 1,2,3,5,6,15,19 KITCHEN HOOD ROOF MOUNTED KEF 2 KITCHEN HOOD ROOF MOUNTED REFER TO FOOD SERVICE DRAWINGS KEF 3 ROOF MOUNTED DISHWASHER 1955 BI 13.6 1.4 1506 1 1600 115 1 NO GREENHECK EF 1-9-1 INLINE DIRECT DRIVE SQ-160HP-VG 1,2,3,5,6,10,19 LOCKER ROOMS 1860 BI 12.9 1.4 1475 1 1600 115 1 NO EF 1-10-1 ELECTRICAL INLINE DIRECT DRIVE SQ-160HP-VG 1,2,3,5,6,10,19 EF 1-11-1 150 BI 5.1 0.4 1166 1/4 1725 115 1 NO GREENHECK RESTROOMS ROOF MOUNTED G-097-VG 1,2,3,4,11,19,20 245 BI 9.1 0.6 1633 1/4 1725 115 1 NO GREENHECK EF 1-11-2 PE STORAGE ROOF MOUNTED G-097-VG 1,2,3,4,15,19,20 REMARKS: 1 PROVIDE BACKDRAFT DAMPER 13 EMERGENCY SCIENCE EXHAUST FAN TO BE INTERLOCKED WITH PUSH BUTTON IN SCIENCE LAB 14 FUME HOOD FAN INTERLOCK WITH FUME HOOD AND REFER TO SPECIFICATIONS AND DETAILS 2 PROVIDE DISCONNECT AT THE UNIT 3 PROVIDE SCR CONTROLLER ON ALL DIRECT DRIVE FANS 15 PROVIDE LINE VOLTAGE THERMOSTAT FOR CONTROL 16 INTERLOCK KITCHEN HOOD FANS WITH KITCHEN HOOD CONTROL PANEL 4 PROVIDE ROOF CURB 17 PROVIDE GREASE DRAIN, HINGED ROOF CURB AND ALL ASSOCIATED ACCESSORIES FOR THE GREASE FAN 5 INTERNALLY LINE FAN FOR SOUND-PROOFING 6 PROVIDE VIBRATION ISOLATION HANGERS 18 TIE KITCHEN KEF AND KSF INTO BAS FOR MONITORING 7 FAN TO RUN CONTINUOUSLY AND MONITORED BY THE BAS 19 ALL FANS TO BE ALUMINUM CONSTRUCTION 8 FAN AND MOTOR TO BE EXPLOSION PROOF 20 PROVIDE ALUMINUM BIRD SCREEN 9 PROVIDE AFD 21 FAN SHALL BE PROVIDED WITH INTEGRAL DP SWITCH FOR START/ STOP FUNCTION 10 SOFTWARE INTERLOCK FAN WITH RESPECTIVE AHU 22 INTERLOCK WITH RANGE HOOD AND PROVIDE HARDWIRE CONNECTION TO ELECTRICAL JUNCTION BOX, MATCH CFM OF HOOD EXHAUST 11 FAN TO BE CONTROLLED BY LIGHT SWITCH WITH AUTOMATIC SHUTOFF AFTER 20 MINUTES 23 PROVIDE EC MOTOR WITH CONTROLLER CAPABLE OF ACCEPTING BAS ANALOG SIGNAL FOR SPEED CONTROL 24 EMERGENCY REFRIGERANT PURGE EXHAUST FAN TO BE HARDWIRED TO THE REFRIGERANT MONITOR 12 HARDWIRE INTERLOCK FAN WITH RESPECTIVE AHU/RTU **GENERAL COMMENTS:** 

AIR COOLE	LIQUID CH	ILLER SCHI	EDULE:																										
				A-WEIGHTED	A-WEIGHTED	A-WFIGHTED	A-WFIGHTED	CONE	DENSER	DATA							COC	LER DATA						UNIT E	LECTRICA	L DATA	SELECTION	BASED ON	
UNIT NO.	SERVING	NOMINAL	IPLV	100% SOUND	75% SOUND	50% SOUND	25% SOUND		AN DAT	Α					DESIGN		MINIMUM					COMP 1	COMP 2	VOL T/				·	REMARKS
UNIT NO.	SERVING	TONS	IPLV	PRESSURE (dBa)	PRESSURE (dBa)	PRESSURE (dBa)	PRESSURE (dBa)	EAT °F	NO.	FLA (EA)	FLUID	FOUL FACT	EWT °F	LWT °F	FLOW (GPM)	PD FT H20	FLOW (GPM)	STEPS	NO.	VOLT	PH	AFD INPUT AMPS	AFD INPUT AMPS	VOLT/ PH	MCA	МОСР	MANUFACTURER	MODEL	REWARKS
CH-1	CAMPUS	142.5	20.19	66	62	56	53	95	8	4.8	WATER	0.0001	56	42	243.4	27.9	77	VARIABLE	2	460	3	100.0	100.0	460/3	269	350	CARRIER	30XV-140M	SEE NOTES
CH-2	CAMPUS	142.5	20.19	66	62	56	53	95	8	4.8	WATER	0.0001	56	42	243.4	27.9	77	VARIABLE	2	460	3	100.0	100.0	460/3	269	350	CARRIER	30XV-140M	SEE NOTES
2. PROVIDE (1)	ONE 40 AMP 115/1	_		POINT POWER CO OR EACH CHILLER	_			HILLERS	WITH S	OUND P	ACKAGE TO	MEET SC	HEDULE	D SOUN		,		O SUBMIT ACC	OUSTIC	AL REPO	RT SHO	WING 50 DBA AT PRO	OPERTY LINE 200' FF	ROM CHILL	.ER				
3. THREE-PASS							8. MAX SCHED				_			-	E OF CHILI	LER AT 100	J% LOAD												
4. PROVIDE FAC	-						9. REFER TO D																						
5. PROVIDE FAC	TORY LOW AMBI	ENT PROTECTION	ON TO 0°F				10. REFER TO	SPECIF	ICATON	S FOR F	URTHER RE	QUIREMEN	TS																

2. ALL INLINE FANS WITH EXTERIOR MOTORS (NOT IN THE AIRSTREAM) TO HAVE AN INSULATED & VENTILATED FACTORY MOUNTED FAN ENCLOSURE BOX

1. ALL ROOF MOUNTED FANS TO BE FLORIDA PRODUCT APPROVED AND TIED DOWN PER THE DETAILS SHEET

UNIT NO.		TYPE			SERVIC	E		MOUNTING	G DATA		CON	ISTRUCTION DA	ГА	SELECTION BAS	ED ON:	REMARKS
	G	R	D	SA	RA	TA/EA	CEILING	DUCT	WALL	DOOR	SHAPE	MATERIAL	COLOR	MANUFACTURER	MODEL	
G-1			Х	Х			Х				SQUARE	ALUMINUM	WHITE	TITUS	TMS-AA	1
G-2	Х				Х	Х	Х		Х		SQUARE	ALUMINUM	WHITE	TITUS	50F	1
G-3	Х			Х				Х	Х		RECT.	ALUMINUM	BY ARCH	TITUS	300FL	1
G-4	Х				Х	Х		Х	Х		RECT.	ALUMINUM	WHITE	TITUS	350FL	W/ VOLUME DAMPE
G-5			Х	Х					Х		RECT.	ALUMINUM	BY ARCH	TITUS	ML-38	1,3
G-6			Х		Х				Х		RECT.	ALUMINUM	BY ARCH	TITUS	MLR-38	1,4

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR BORDER TYPE ON ALL DIFFUSERS AND GRILLES.

1) PROVIDE MATCHING MOUNTING SCREWS. FINISH TO MATCH GRILLE 2) PROVIDE LOW VOLTAGE TRANSFORMER, AS SHOWN ON DRAWINGS FOR DEVICE OPERATION.

3) 7-SLOT, 10' LONG LINEAR DIFFUSER WITH CONTINUOUS SLOT PLENUM 4) 8-SLOT, 10' LONG LINEAR DIFFUSER WITH CONTINUOUS SLOT PLENUM

ELECTR	RIC DUCT HEATER	SCHEDULE:	Z_MASTER_ELEC	TRIC DUC	T HEATER	R SCHED	ULE_A3_2	2-27-2023													VERSION: A3	REVISED:	2/27/2023
							0		SIZE	(IN)	DUCT			AIR I	DATA		E	LECTRICA	L DATA		SELECTION B	ASED ON	
UNIT NO.	SERVING AHU	AHU SYSTEM TYPE	HEATER POSITION	TOTAL CFM	OUTSIDE AIR CFM	RETURN AIR CFM	OUTSIDE AIR EAT OF	RETURN AIR EAT OF	нт	LG	AREA SQ. FT.	KW PER SQ. FT	VELOCITY FPM	EAT OF	LAT OF	ĸw	VOLTS	PH	NO. STEPS	CONTROL OPTION	MANUFACTURER	MODEL	REMARKS
EDH 1-7-1	AHU 1-7	SINGLE ZONE VAV	REHEAT	11,805	3,275	8,530	35	68	58	20	8.1	10.6	1465	58.8	81.5	85	480	3	2	OPTION "G"	INDEECO	QUA	ALL
EDH 1-8-1	AHU 1-8	SINGLE ZONE VAV	REHEAT	4,775	650	4,125	35	68	36	16	4.0	7.5	1194	63.5	83.3	30	480	3	2	OPTION "G"	INDEECO	QUA	ALL

- 1 MAXIMUM VELOCITY SHALL NOT EXCEED 1200 FPM 2 REFER TO INSTALLATION GUIDE FOR PROPER INSTALLATION LOCATION OF HEATER 3 PROVIDE CONTROL OPTION "G" UNLESS NOTED WITH SCR CONTROLLER IN SCHEDULE
- 4 REFER TO THE SPECIFICATIONS

UNIT NO. SERVING		UNIT DATA				FAN MOTOR				COMPRESSOR DATA					UNIT ELECTRIC DATA					SECTION BASED ON		1	
	SERVING	NOM CAP (BTU/H)	SEER	COND. EAT F	REFRIG TYPE	NO.	НР	VOLT	РН	QTY	STEPS	VOLT	PH	RLA	LRA	VOLT	PH	FAN FLA	MCA	МОСР	MANUFACTURER	MODEL	REMARKS
CU 1-1-1	SS 1-1-1	18,000.0	18.5	95	R-410A	1	-	208	1	1	1	208	1	7.0	12.0	208	1	0.5	11.0	15.0	TRANE	TRUYA0181KA70NA	ALL
CU 1-2-1	SS 1-2-1	18,000.0	18.5	95	R-410A	1	-	208	1	1	1	208	1	7.0	12.0	208	1	0.5	11.0	15.0	TRANE	TRUYA0181KA70NA	ALL
CU 1-2-2	SS 1-2-2	18,000.0	18.5	95	R-410A	1	-	208	1	1	1	208	1	7.0	12.0	208	1	0.5	11.0	15.0	TRANE	TRUYA0181KA70NA	ALL
CU 1-5-1	SS 1-5-1	18,000.0	18.5	95	R-410A	1	-	208	1	1	1	208	1	7.0	12.0	208	1	0.5	11.0	15.0	TRANE	TRUYA0181KA70NA	ALL
CU 1-10-1	SS 1-10-1	18,000.0	18.5	95	R-410A	1	-	208	1	1	1	208	1	7.0	12.0	208	1	0.5	11.0	15.0	TRANE	TRUYA0181KA70NA	ALL

5. PROVIDE PROGRAMMABLE TAMPERPROOF THERMOSTAT

1. LINE LENGTHS TO AHU SHALL NOT EXCEED MANUFACTURER'S MAXIMUM LENTH.

- 2. PROVIDE UNIT WITH ALL MANUFACTURER'S RECOMMENDED REFRIGERANT SPECIALTIES.
- 3. SIZE REFRIGERANT PIPING IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS FOR INSTALL CONDENSING UNIT.

UNIT NO.		FAN DATA								UNIT ELECTRICAL DATA						SELECTION BASED ON		
					MOTOR DATA												1	
	SERVING	TOTAL CFM	OUTSIDE AIR CFM	EXT. STATIC P. IN H20	WATTS	SPEED	VOLT	PH	SEER @ AHRI	VOLT	РН	FAN FLA	MCA	МОСР	MANUFACTURER	MODEL	REMARKS	
SS 1-1-1	MDF	425	N/A	N/A	56	HIGH	208	1	18.5	208	1	0.33	-	-	TRANE	TPKA0A0181HA70A	1,2,4,7	
SS 1-2-1	DATA	425	N/A	N/A	56	HIGH	208	1	18.5	208	1	0.33	-	-	TRANE	TPKA0A0181HA70A	1,2,4,7	
SS 1-2-2	ELEVATOR MACHINE ROOM	425	N/A	N/A	56	HIGH	208	1	18.5	208	1	0.33	-	-	TRANE	TPKA0A0181HA70A	1,2,4,7	
SS 1-5-1	DATA	425	N/A	N/A	56	HIGH	208	1	18.5	208	1	0.33	-	-	TRANE	TPKA0A0181HA70A	1,2,4,7	
SS 1-10-1	DATA	425	N/A	N/A	56	HIGH	208	1	18.5	208	1	0.33	-	-	TRANE	TPKA0A0181HA70A	1,2,4,7	

4.PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT. 5.PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT WITH LOCAL PASSWORD LOCKOUT.

6.PROVIDE PAC-US44CN-1 THERMOSTATIC ADAPTOR BOARD OR EQUIVALENT.

7. PROVIDE FACTORY BACNET INTERFACE.

SERVING	W (IN)	L (IN)	MIN. CFM	EAT OF	LAT OF	kw	VOLTS	PH	NO. STEPS	MANUFACT.	MODEL	REMARKS
RE RISER 181	16	22	160	35	75	4	208	1	1	HEATREX	931U04000C	ALL
2		(IN) RE RISER 181 16	(IN) L (IN) RE RISER 181 16 22	(IN) L (IN) RE RISER 181 16 22 160	(IN) L (IN) EAT OF RE RISER 181 16 22 160 35	(IN) L (IN) EAT OF LAT OF RE RISER 181 16 22 160 35 75	(IN) L (IN) EAT OF LAT OF KW RE RISER 181 16 22 160 35 75 4	(IN) L (IN) EAT OF LAT OF KW VOLTS RE RISER 181 16 22 160 35 75 4 208	(IN)   L (IN)   EAT OF   LAT OF   KW   VOLTS   PH	Color   Colo	Color   Colo	Color   Colo

ROOF MO	OOF MOUNTED AIR INLET & OUTLET SCHEDULE:													
			MAY PDESS		TYPE		UNIT LENGTH (IN)		DUCT	SELECTION B	ASED ON	REMARKS		
UNIT NO.	SERVING	MAX CFM	MAX PRESS. DROP (IN)	INLET	FILTER	OUTLET		UNIT WIDTH (IN)	OPENING SIZE	MANUFACTURER	MODEL			
RV 1-7-1	DINING	1850	0.02			Х	36	36	30x30	GREENHECK	FGR	NONE		

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REVISIONS DATE DESCRIPTION

FRUITLAND PARK

Fruitland Park, FL



LAKE COUNTY SCHOOLS 201 WEST BURLEIGH BLVD, TAVARES, FL 32778

ISSUE DATE: 8/16/2023 COMM. NO.: 2023100

DRAWN BY: DR CHECKED BY: RBS/AWB

SCHEDULES - MECHANICAL

3/22/2021 Copyright MPE, inc VAV TERMINAL BOX WITH AND WITHOUT ELECTRIC HEATING COIL SCHEDULE FOR: Version: B1 **ELECTRIC HEATING COIL** SELECTION BASED ON AIR DATA **INLET SIZE** DELTA P HEATING EAT °F DESIGNATION TOTAL CFM | MAX | OA MIN MODEL MANUFACTURER VAV 1-1-1 1 2 ---VAV 1-1-2 6 1 2 ---ITINERANT OFFICE CARRIER VAV 1-1-3 5 | 1 | --- | 3 MDF VAV 1-1-4 TEXTBOOK/ITINERANT/PRODUCTION 8 | 1 | 2 | ---4 1 2 ---VAV 1-1-5 2 ESE 8 1 2 ---CARRIER VAV 1-1-6 2 ITINERANT OFFICE 6 1 2 ---VAV 1-1-7 SRO/RECORD VAULT/CORRIDOR 5 1 2 ---VAV 1-1-8 BOOKKEEPER/SEC VAV 1-1-9 8 | 1 | 2 | --- | PRINCIPAL OFFICE/ CONFERENCE VAV 1-1-10 6 | 1 | 2 | --- | 8 1 2 ---VAV 1-1-11 **CORRIDOR / ADMIN ST** 8 1 2 ---RECEPTION/ADMIN LOBBY CARRIER VAV 1-1-12 6 1 2 ---VAV 1-1-13 CONFERENCE ROOM CARRIER 6 1 2 ---VAV 1-1-14 CARRIER CLINIC VAV 1-1-15 **CONFERENCE ROOM** CARRIER 6 1 2 ------- | --- | --- | ---1 2 ---VAV 1-2-1 CLASSROOM 4.5 277 1 2 5 1 --- 3 DATA ROOM CARRIER VAV 1-2-2 120 ----- -----10 1 2 ---VAV 1-2-3 CLASSROOM 10 1 2 ---VAV 1-2-4 CLASSROOM 10 1 2 ---VAV 1-2-5 CORRIDOR VAV 1-2-6 CLASSROOM 10 1 2 ---VAV 1-2-7 CLASSROOM 277 1 2 10 1 2 ---10 1 2 ---VAV 1-2-8 CLASSROOM CARRIER 8 1 2 ---RESOURCE ROOM **CARRIER** VAV 1-2-9 8 1 2 ---VAV 1-2-10 RESOURCE ROOM **CARRIER** ---- | --- | --- | ---VAV 1-3-1 CLASSROOM 10 | 1 | 2 | ---VAV 1-3-2 CLASSROOM 277 1 2 10 1 2 ---10 1 2 ---VAV 1-3-3 CLASSROOM 277 1 2 CARRIER 10 1 2 ---VAV 1-3-4 CLASSROOM 10 1 2 ---VAV 1-3-5 CLASSROOM 10 1 2 ---VAV 1-3-6 CLASSROOM 10 1 2 ---VAV 1-3-7 CLASSROOM VAV 1-3-8 10 1 2 ---CLASSROOM 10 1 2 ---VAV 1-3-9 CORRIDOR VAV 1-4-1 **CCTV PROD. & CONTROL** 6 1 2 ---4 1 2 ---CARRIER VAV 1-4-2 MEDIA DIRECTOR'S OFFICE 5 | 1 | 2 | ---VAV 1-4-3 **TECH CO/SMALL GROUP** 6 1 2 ---VAV 1-4-4 SMALL GROUP / AV 5 1 2 --- | VAV 1-4-5 MEDIA PRODUCTION LAB 277 1 2 10 1 2 ---VAV 1-4-6 MEDIA READING / STACKS 10 1 2 ---VAV 1-4-7 MEDIA READING / STACKS 12 1 2 ---VAV 1-4-8 MEDIA READING / STACKS ---- | --- | ---8 1 --- 3 VAV 1-5-1 DATA / ELECTRICAL VAV 1-5-2 **ESE FULL TIME** 10 1 2 ---10 1 2 ---VAV 1-5-3 **ESE FULL TIME** 10 1 2 ---VAV 1-5-4 CLASSROOM 10 1 2 ---VAV 1-5-5 CLASSROOM CARRIER 10 1 2 ---CARRIER VAV 1-5-6 CLASSROOM 10 1 2 ---VAV 1-5-7 CLASSROOM 10 1 2 ---VAV 1-5-8 CLASSROOM 52.0 0.1 450 52.0 83.5 4.5 277 1 2 CARRIER CLASSROOM 10 1 2 ---VAV 1-5-10 CLASSROOM 10 1 2 ---VAV 1-5-11 CLASSROOM 6 1 2 ---VAV 1-5-12 **ESE RESOURCE** 6 1 2 ---VAV 1-5-13 **ESE RESOURCE** 10 1 2 ---TEACHER PLANNING CARRIER VAV 1-5-14 10 1 2 ---VAV 1-5-15 CARRIER CORRIDOR 10 1 2 ---VAV 1-5-16 CORRIDOR ---- \_ | --- | --- | ESE OT/PT ROOM 3.5 277 1 2 8 | 1 | 2 | ---VAV 1-6-1 10 1 2 ---VAV 1-6-2 5.5 277 1 2 10 1 2 ---VAV 1-6-3 277 1 2 SKILLS LAB 10 1 2 ---VAV 1-6-4 4 1 2 ---VAV 1-6-5 DEAN OFFICE 8 1 2 ---VAV 1-6-6 **GUIDANCE SUITE / CORRIDOR** VAV 1-6-7 8 | 1 | 2 | --- | FAMILY LIASON / PASS 10 1 2 ---CORRIDOR VAV 1-9-1 CLASSROOM 10 1 2 ---VAV 1-9-2 CLASSROOM 10 1 2 ---CARRIER VAV 1-9-3 CLASSROOM 15358.5 VAV 1-9-4 10 1 2 ---CLASSROOM 10 | 1 | 2 | ---CLASSROOM VAV 1-9-6 CLASSROOM CARRIER 10 1 2 ---10 1 2 ---CLASSROOM CARRIER VAV 1-9-7 10 1 2 ---VAV 1-9-8 CLASSROOM 10 1 2 ---VAV 1-9-9 SKILLS LAB 10 1 2 \_\_\_\_ VAV 1-9-10 CLASSROOM 10 1 2 ---VAV 1-9-11 CLASSROOM 10 1 2 ---VAV 1-9-12 CLASSROOM 83.5 CARRIER CARRIER 1170 VAV 1-9-13 CORRIDOR / CUSTODIAL / STORAGE CARRIER VAV 1-9-14 **ELECTRICAL ROOM** ---- | \_--- | --- | ----------- ----VAV 1-10-1 DATA / ELECTRICAL CARRIER 8 | 1 | --- | 3 10 | 1 | 2 | --- | CLASSROOM 1 2 ---VAV 1-10-3 277 1 2 CLASSROOM 1 2 ---CLASSROOM CARRIER VAV 1-10-4 10 1 2 ---**CARRIER** VAV 1-10-5 CLASSROOM 10 1 2 ---VAV 1-10-6 **ESE FULL TIME** 10 1 2 ---VAV 1-10-7 CLASSROOM 10 1 2 ---VAV 1-10-8 CLASSROOM 10 1 2 ---VAV 1-10-9 CLASSROOM 10 1 2 ---10 1 2 ---VAV 1-10-10 CLASSROOM CARRIER CARRIER VAV 1-10-11 **ESE FULL TIME** 10 1 2 ---VAV 1-10-12 CLASSROOM 83.5 15358.5 CARRIER 450 35E 10 1 2 ---VAV 1-10-13 CORRIDOR 15358.5 CARRIER 1 REFER TO THE SPECIFICATIONS FOR VAV ACCESSORY REQUIREMENTS 2 PROVIDE FACTORY MOUNTED STEP-DOWN TRANSFORMER FOR CONTROLS, TRANSFORMER VOLTAGE SHALL MATCH THE INCOMING HEATER VOLTAGE 3 FOR UNITS THAT DO NOT HAVE ELECTRIC HEAT PROVIDE A 120 VOLT STEP-DOWN TRANSFORMER FOR CONTROLS

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MPE JOB #: 2023-017

REVISIONS DESCRIPTION

FRUITLAND PARK
ELEMENTARY SCHOOL
REPLACEMENT

Fruitland Park, FL



201 WEST BURLEIGH BLVD, TAVARES, FL 32778

ISSUE DATE: 8/16/2023 COMM. NO.: 2023100

DRAWN BY: DR CHECKED BY: RBS/AWB

SCHEDULES - MECHANICAL

M603