Hancock Commons

Lake County, Florida PCI# 7009

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*SHEET C-4 & C-5 GRADING AND DRAINAGE PLANS

*PLANS OBTAINED FROM KELLY, COLLINS & GENTRY, INC.

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Hancock Commons, Clermont, FL PCI Project No. 7009 January 28, 2007

DESIGN CREITERIA:

- THIS DESIGN IS BASED ON NATIONAL CONCRETE MASONRY ASSOCIATION HYPOTHESIS FOR SR WALLS AND FLORIDA BUILDING CODE 2004 (WITH 2006 AMENDMENTS).
- LIVE LOAD SURCHARGE USED FOR THE DESIGN IS 250 POUNDS PER SQUARE FOOT (FOR THE ROADWAY), AT THE TOP OF THE WALL.
- GUARDS TO BE INSTALLED BY OWNER TO MEET ALL LOCAL AND FLORIDA BUILDING CODE 2004,
- SECTION 1012. REINFORCED CONCRETE SUPPORT IS PROVIDED FOR HAND RAIL INSTALLATION.

 REINFORCED CONCRETE SUPPORT IS PROVIDED FOR FLORIDA D.O.T. GUARD RAIL INSTALLATION.
- SUB-SURFACE WORK (AS RECOMMENDED BY ANDREYEV ENGINEERING, INC.) SHALL BE PERFORMED UNDER SUPERVISION BY QUALIFIED SOIL CONSULTANT. FOUNDATION SOIL SHALL BE PREPARED TO MEET OR EXCEED ALLOWABLE BEARING CAPACITY OF 2500 PSF.
- CONCRETE STRUCTURAL DESIGN IS BASED ON ACI 318 AND CONSTRUCTION SHALL CONFORM TO ACI 301 (LATEST EDITIONS).
- STANDARD TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS PER ACI 117.
- ALL CONSTRUCTION PROCEDURES SHALL MEET THE REQUIREMENTS OF OSHA AND OTHER LOCAL, STATE AND FEDERAL AGENCIES, TO PROTECT PERSONNEL AND EXISTING STRUCTURES.
- WALL DIMENSIONS SHOWN HERE SUPERCEDES ALL OTHER DRAWINGS.
- QUANTITY OF RETAINING WALL AS SHOWN IN THESE PLANS MAY BE INCREASED OR DECREASED (BASED ON CONSTRUCTION PROCEDURES AND ACTUAL SITE CONDITIONS), AT THE DIRECTION OF THE ARCHITECT / ENGINEER.

CONSTRUCTION:

THE CONTRACTOR INSTALLING THIS WALL MUST BE AN APPROVED / CERTIFIED ANCHOR WALL CONTRACTOR. THE SELECTED WALL CONTRACTOR SHALL HAVE A MINIMUM OF 500,000 SQUARE FEET OF SEGMENTAL RETAINING WALL INSTALLATION EXPERIENCE WITHIN LAST 3 YEARS. THIS EXPERIENCE MUST BE COMPRISED OF PROJECTS WITH SIMILAR SIZE AND SCOPE.

ASSOCIATED CONSTRUCTION PRODUCTS (ACP) MEETS THIS QUALIFICATION. ORLANDO OFFICE PHONE: 407-671-7444
TAMPA OFFICE PHONE: 813-973-4425

MATERIAL SPECIFICATIONS:

GEOGRID SOIL REINFORCEMENT SHALL BE MIRAGRID 5 XT, AS MANUFACTURED BY NICOLON MIRAFI GROUP, GEOGRID SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS PRINTED

CONCRETE MASONRY UNITS SHALL BE ANCHOR WALL SYSTEM UNITS AS MANUFACTURED BY ANCHOR BLOCK OF FLORIDA, INC. UNITS SHALL BE 8" VERTICA (WITH 2 DEGREE BATTER). ANCHOR WALL UNITS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS PRINTED INSTRUCTIONS. VISTA UNITS SHALL BE 8" x 9" x 18". COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 3000 PSI. VISTA UNITS SHALL MEET ASTM C90. VISTA UNITS (ALL) CELLS SHALL BE FILLED AND CONSOLIDATED WITH 3000-PSI CONCRETE.

GUARD RAIL SUPPORT CONCRETE TO BE 4000 PSI AT 28 DAYS AND REINFORCING STEEL TO BE ASTM A-615, GRADE 60.

ALL CONCRETE SURFACES SHALL RECEIVE CURING COMPOUND IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATION. CURING COUMPOUND SHALL BE A LIQUID MEMBRANE - FORMING COUMPOUND CONFIRMING TO ASTM A-309. THE COUMPOUND SHALL BE TYPE 1, CLEAR OR TRANSLUCENT. AND SHALL CONTAIN A FUGUTIVE DYE.

CONCRETE PLACEMENT:

MINIMUM TWO CYLINDERS SHALL BE TAKEN AT "EACH POUR". THESE TWO SHALL BE TESTED AT TWENTY-EIGHT DAYS. AVERAGE OF TWO CYLINDERS SHALL BE THE STRENGTH OF THE CONCRETE.

FOUNDATION:

ALL UNSUITABLE MATERIAL SUCH AS MUCK SHALL BE REMOVED FROM UNDERNEATH AS REQUIRED. STRUCTURAL FILL SHALL BE COMPACTED TO 95% OF THE MODIFIED PROCTOR, MAXIMUM DRY DENSITY (ASTM D-1557). FOUNDATION AREA SHALL BE DEWATERED PRIOR TO FOUNDATION CONSTRUCTION.

DRAINAGE FILL:

DRAINAGE FILL SHALL BE FREE DRAINING CRUSHED STONE, 3/8" TO 3/4." IT SHALL MEET THE AASHTO #57 OR #67 STONE

FILTER FABRIC:

FILTER FABRIC SHALL BE 6 OZ. NON-WOVEN GEOTEXTILE. PROVIDE 12 INCH LAP @ VERTICAL JOINTS AND 2 INCHES TURNING @ EACH LAYER OF GEOGRID. EXTEND FILTER FABRIC 18" BEYOND JOINT WITH EXISTING STRUCTURES AND WRAP IT WITH EXISTING STRUCTURE.

BACKFILL MATERIAL:

BACKFILL MATERIAL SHALL BE CLEAN FREE DRAINING SAND WITH 10% OR LESS FINES. SAND FRICTION ANGLE SHALL BE 30 DEGREES MINIMUM. THIS MATERIAL SHALL BE APPOVED BY SOIL CONSULTANT TO INSURE THAT IT MEETS THESE CRITERIA.

ANCHOR WALL UNIT INSTALLATION:

INSURE THAT UNITS ARE IN FULL CONTACT WITH BASE. FILL ALL VOIDS AT UNITS WITH DRAINAGE FILL MATERIAL. TEMP FILL. SWEEP ALL EXCESS MATERIAL FROM TOP OF UNITS AND INSTALL NEXT COURSE. INSURE THAT EACH COURSE IS COMPLETELY FILLED WITH CRUSHED STONE.

PULL THE UNITS FORWARD UNTIL THE LOCATING SURFACE OF THE UNIT CONTACTS THE LOCATING SURFACE OF THE UNITS IN THE PRECEDING COURSE. PULL THE UNIT FORWARD AS FAR AS POSSIBLE.

GEOGRID INSTALLATION:

THE GEOGRID SOIL REINFORCEMENT SHALL BE LAID HORIZONTALLY ON TOP OF THE ANCHOR WALL UNIT AND HORIZONTALLY ON COMPACTED BACK FILL.

PULL TAUT AND ANCHOR BEFORE PLACING BACKFILL ON THE GEOGRID. CORRECT ORIENTATION (ROLL DIRECTION) OF THE GEOGRID SHALL BE VERIFIED BY THE CONTRACTOR.

FILL PLACEMENT:

BACKFILL MATERIAL SHALL BE PLACED IN 12 INCH LIFTS AND COMPACTED TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D - 1557). VIBRATORY PLATE COMPACTOR SUCH AS "BPU 3345 A" BY WACKER CORPORATION CAN BE USED.

TESTING METHODS AND FREQUENCY, VERIFICATIONS OF MATERIAL SPECIFICATIONS AND COMPACTION SHALL BE PER SOIL CONSULTANT'S RECOMMENDATIONS.

FILTER FABRIC SHALL BE PLACED BETWEEN CRUSHED STONE AND SAND.

ONLY HAND OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 5 FEET OF THE BACK SURFACE OF THE ANCHOR UNITS. HEAVY CONSTRUCTION EQUIPMENT SHALL NOT BE ALLOWED WITHIN THIS DISTANCE. BACKFILL SHALL BE PLACED FROM THE WALL REARWARD INTO THE EMBANKMENT TO INSURE THAT THE GEOGRID REMAINS TAUT.

TRACK MOUNTED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOGRID. A MINIMUM BACKFILL THICKNESS OF 6 INCHES IS REQUIRED PRIOR TO OPERATION OF TRACK MOUNTED VEHICLES OVER THE GEOGRID. TURNING OF TRACK MOUNTED VEHICLES SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING THE GEOGRID.

RUBBER TIRED EQUIPMENT MAY PASS OVER THE GEOGRID AT SLOW SPEED, LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.

CONSTRUCTION TOLERANCES:

VERTICAL CONTROL:

± 1.25 INCHES OVER A 10 FOOT DISTANCE

HORIZONTAL LOCATION CONTROL:

STRAIGHT LINES: ± 1.25 INCHES OVER A 10-FOOT DISTANCE STRAIGHT AND RADIUS CORNER LOCATION: ± 1.0 FOOT CURVES AND SERPENTINE RADIUS: + 2.0 FOOT

ROTATION:

FROM ESTABLISHED PLAN WALL BATTER: 2.0 DEGREES
MAXIMUM, + 10 % FROM TOTAL ESTABLISHED HORIZONTAL SETBACK

BULGING:

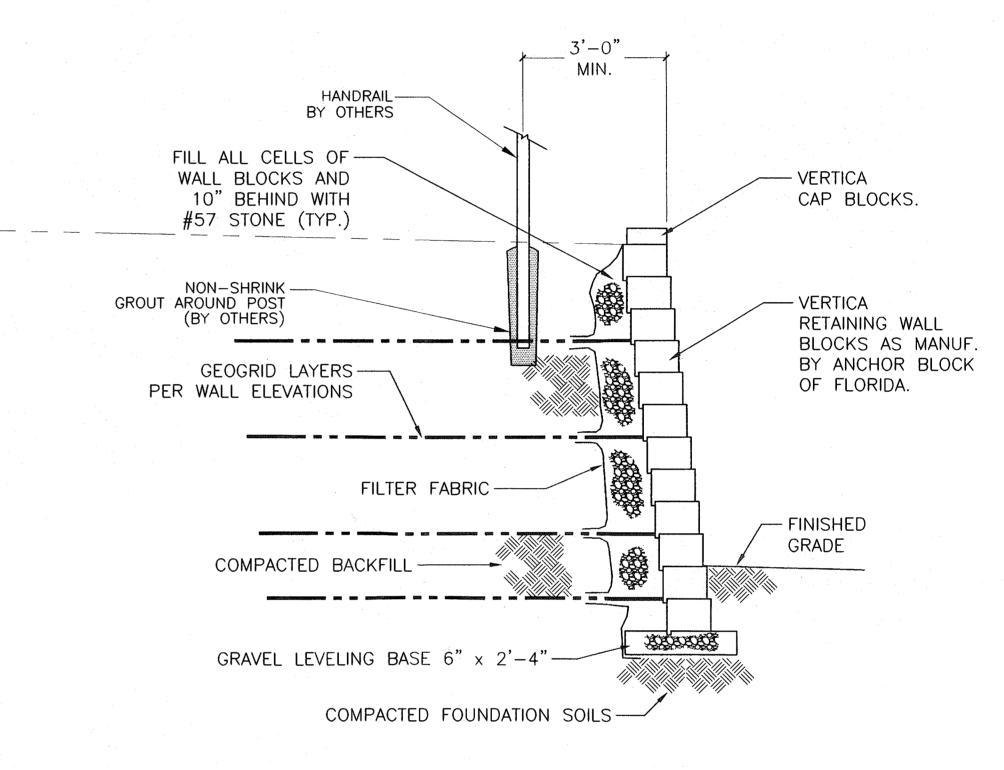
1.25 INCH OVER A 10 FOOT DISTANCE

TREE PLANTING:

CONTACT WALL INSTALLER PRIOR TO PLANTING ANY LANDSCAPING ADJACENT TO WALL, TO AVOID DAMAGE TO THE GEOGRID.

WALL LAYOUT:

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE LOCATION OF THE WALL AND SHALL LOCTE THE WALL PRIOR TO START OF THE CONSTRUCTION.



CROSS SECTION

RETAINING WALL
WITH FENCE OR HANDRAIL

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Certificate of Authorization # 9288

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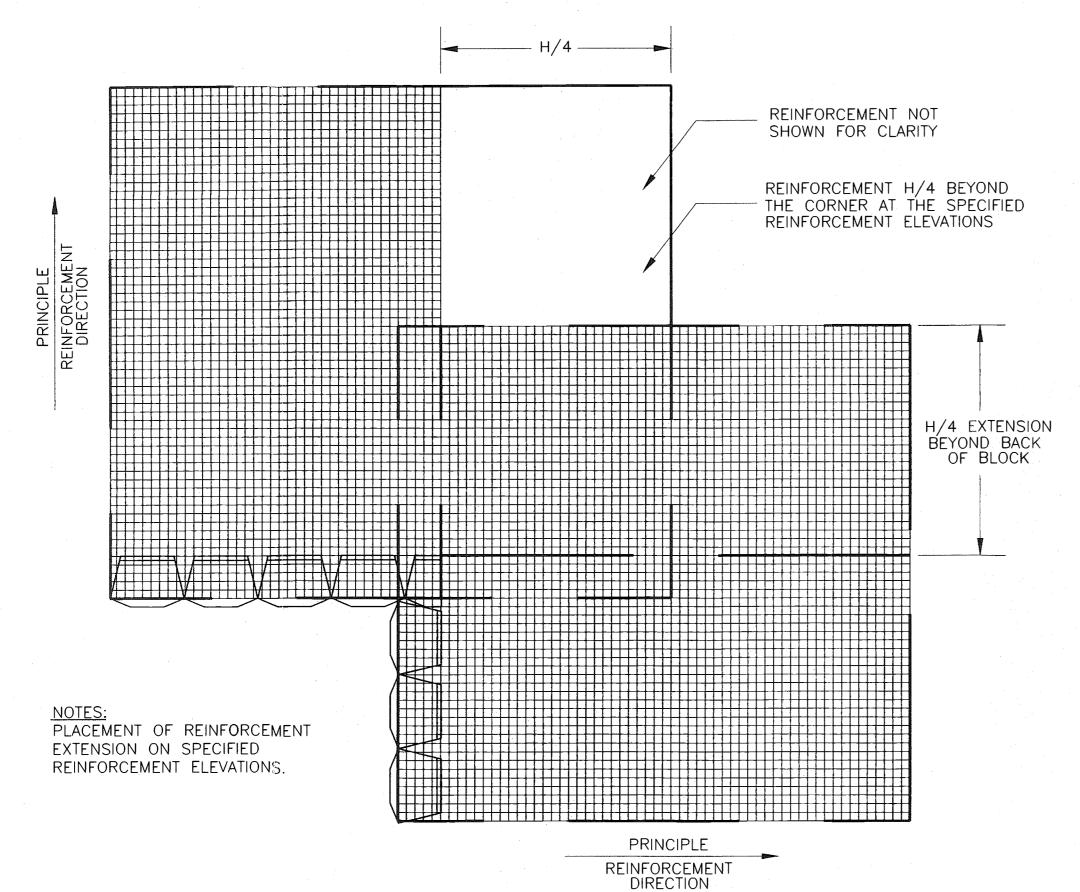
PROJECT

HANCOCK COMMONS
LAKE COUNTY, FLORIDA

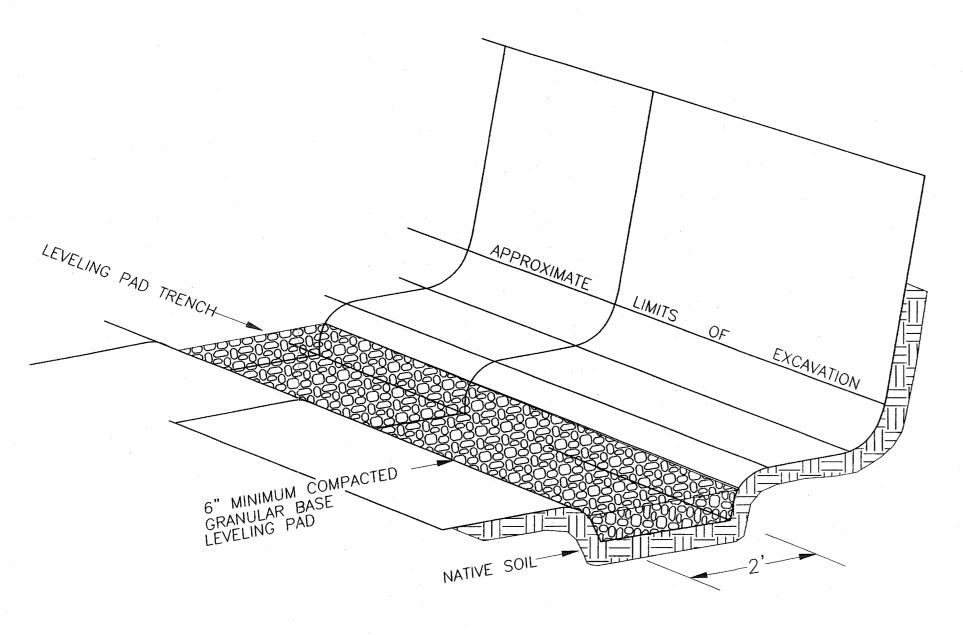
TITLE

CONSTRUCTION NOTES
PCI# 7009

REV
O PC - 2

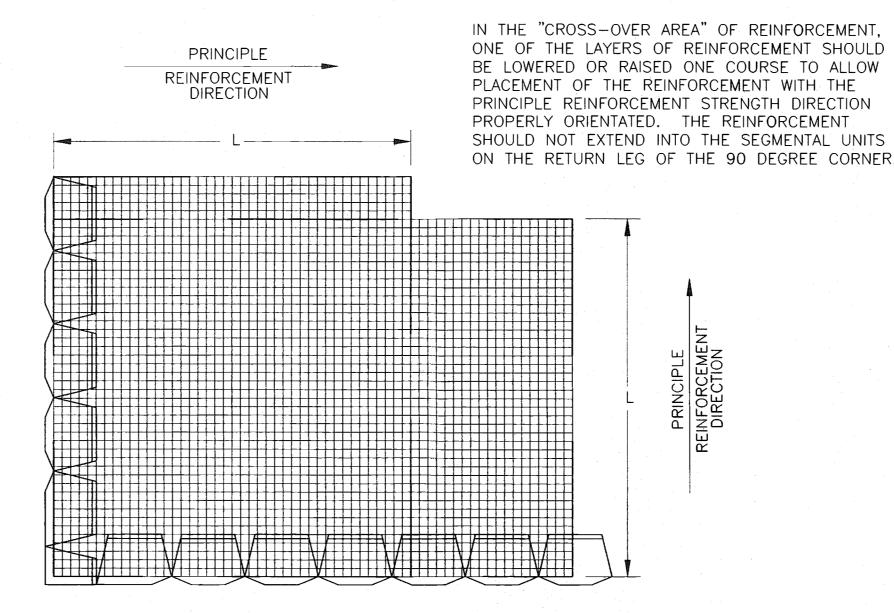


GEOGRID REINFORCEMENT @ INSIDE CORNERS (NOT TO SCALE)

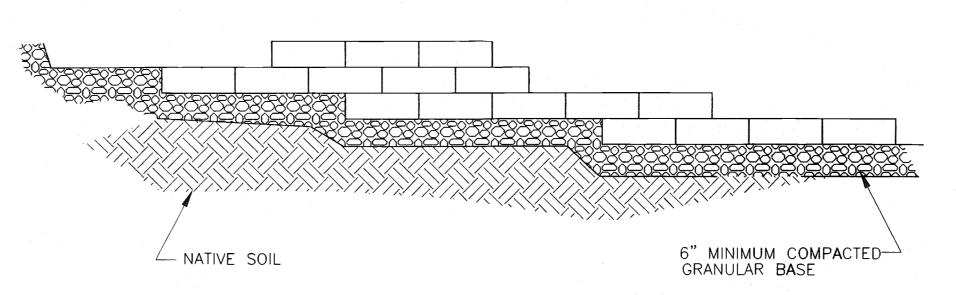


LEVELING PAD/FOOTER DETAIL

(NOT TO SCALE)

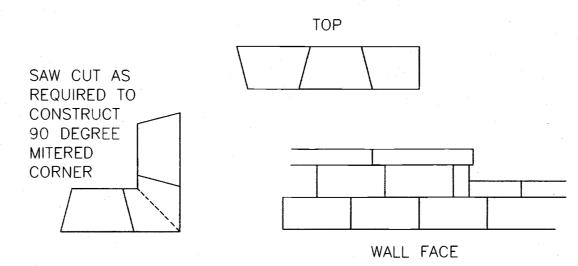


GEOGRID REINFORCEMENT @ OUTSIDE CORNERS (NOT TO SCALE)



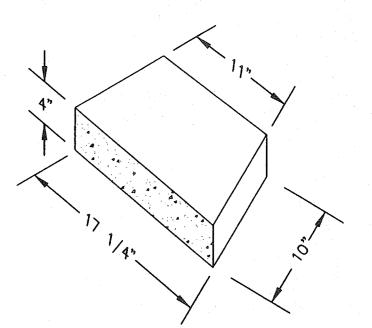
TYPICAL FOOTER STEP-UP DETAIL

(NOT TO SCALE)

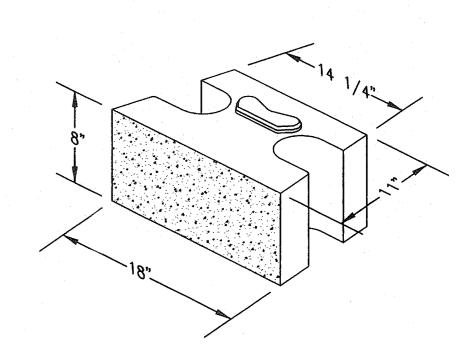


- 1. ALWAYS START CAPPING WALL FROM THE LOWEST ELEVATION.
- 2. LAYOUT CAPS PRIOR TO USING ADHESIVE.
- 3. CUT CAPS TO FIT. VARIOUS COMBINATIONS OF LONG AND SHORT CAP FACES WILL BE NECESSARY FOR RADII GREATER THAN THE MINIMUM.
- 4. ALTERNATE SHORT AND LONG CAP FACES EVERY OTHER CAP TO ACHIEVE A STRAIGHT ROW OF CAPS.
- 5. USE EXTERIOR-GRADE CONSTRUCTION ADHESIVE TO SECURE CAPS.
- 6. THE SPLIT FACE OF THE VERTICA CAP TO HAVE A 1" NOMINAL OVERHANGE OR EYEBROW.

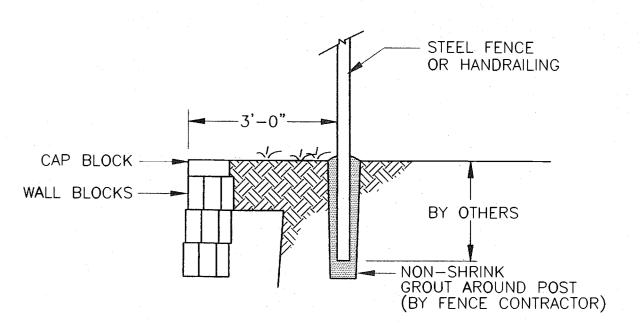
TYPICAL VERTICA CAP DETAIL
(NOT TO SCALE)



ANCHOR VERTICA CAP UNIT 3-D VIEW (NOT TO SCALE)



ANCHOR VERTICA STRAIGHT UNIT 3-D VIEW (NOT TO SCALE)



FENCE POST INSTALLATION DETAIL (NOT TO SCALE)

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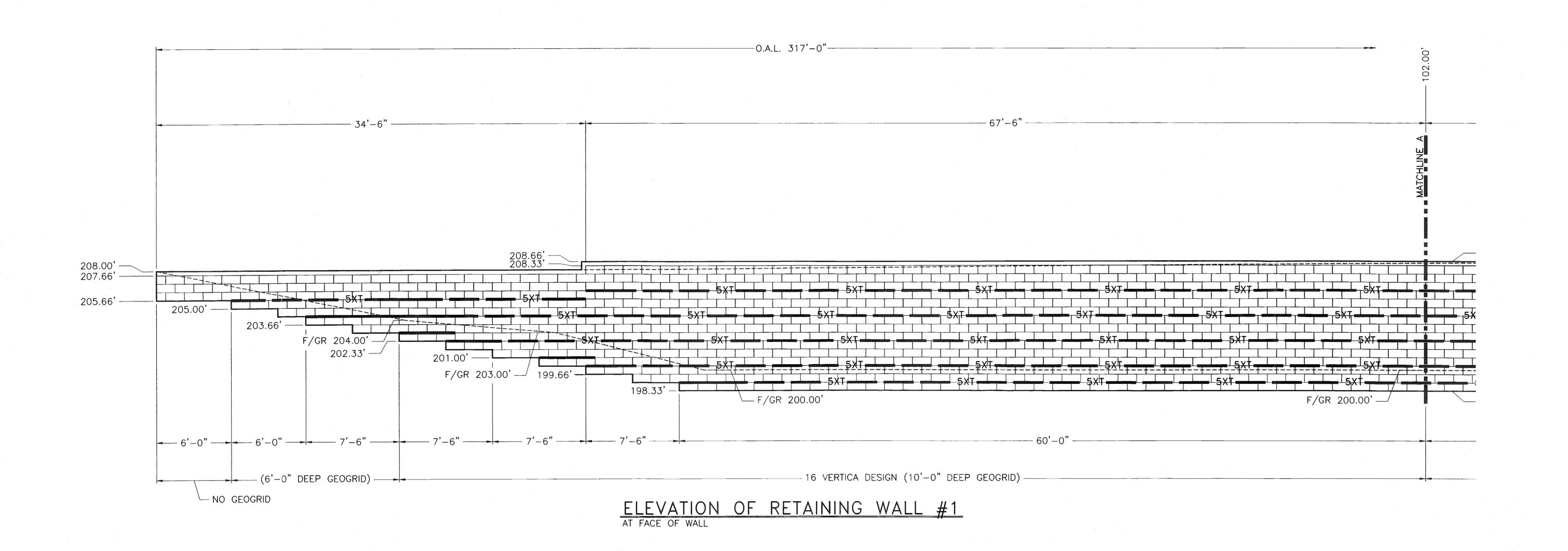
TITLE

ANCHOR BLOCK DETAILS
PCI# 7009

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NONE

REV SHEET
O PC - 3



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TITLE

ELEVATION OF RETAINING WALL #1
PCI# 7009

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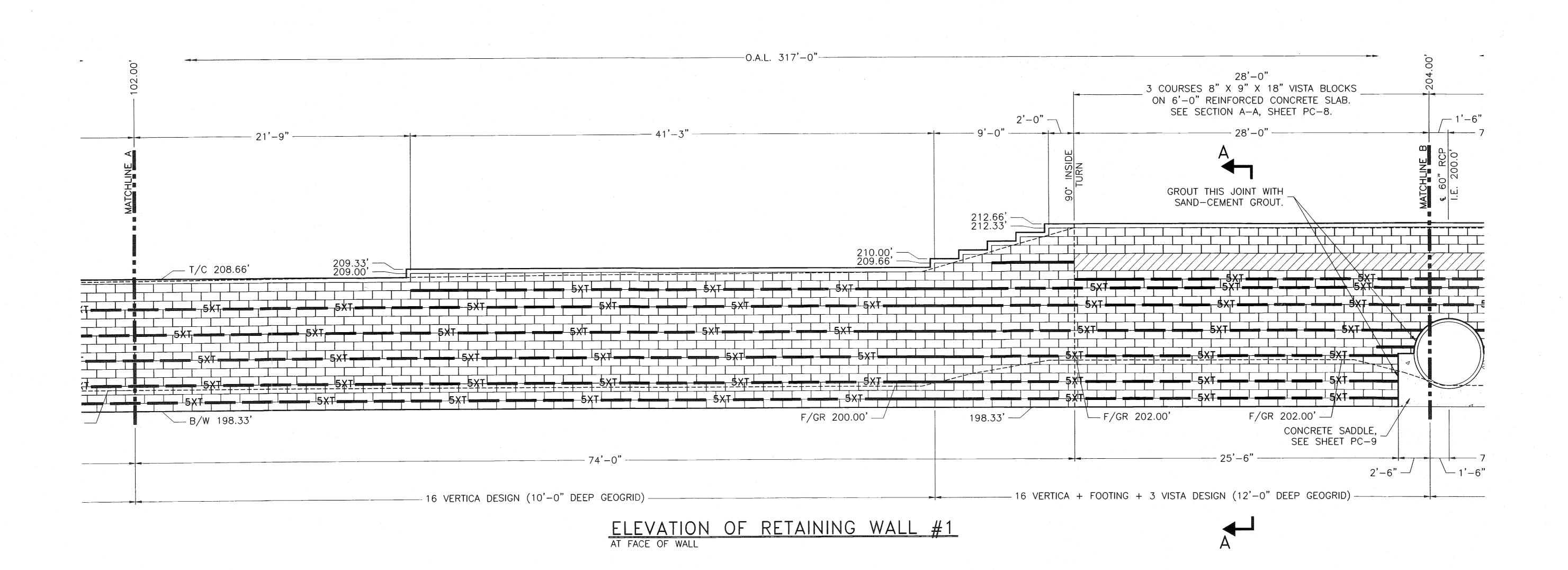
| 1/4" = 1'-0" | REV | SHEET | O | PC - 4

ALL CAPS TO BE 4" CAP UNITS.

ALL BLOCKS TO BE 8" VERTICA (2° BATTER) WALL UNITS, EXCEPT WHERE NOTED.

ALL GEOGRID TO BE MIRAFI 5XT.

REFER TO ENGINEERING CROSS—SECTION FOR INFORMATION NOT SHOWN.



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ALL CAPS TO BE 4" CAP UNITS.
ALL BLOCKS TO BE 8" VERTICA (2" BATTER) WALL UNITS.
ALL GOORID TO BE MIRAFI 5XT.
REFER TO ENGINEERING CROSS—SECTION
FOR INFORMATION NOT SHOWN.

ALL CAPS TO BE 4" CAP UNITS.
ALL GOORID TO BE MIRAFI 5XT.
REFER TO ENGINEERING CROSS—SECTION
FOR INFORMATION NOT SHOWN.

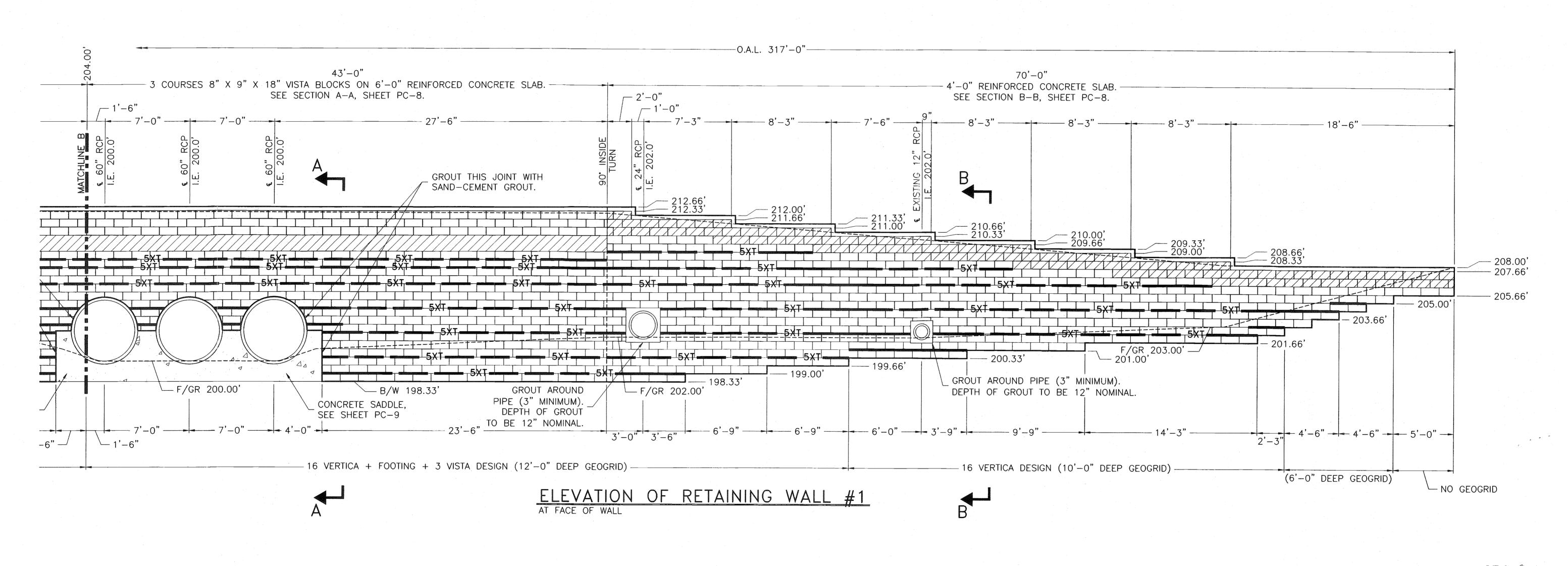
ALL GOORID TO BE MIRAFI 5XT.
REFER TO ENGINEERING CROSS—SECTION
FOR INFORMATION NOT SHOWN.

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FOR INFORMATION NOT SHOWN.

SOME TO ENGINEERING CROSS—SECTION
PCI# 7009

REV SHEET

O PC — 5



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LAKE COUNTY, FLORIDA

TITLE

ELEVATION OF RETAINING WALL #1
PCI# 7009

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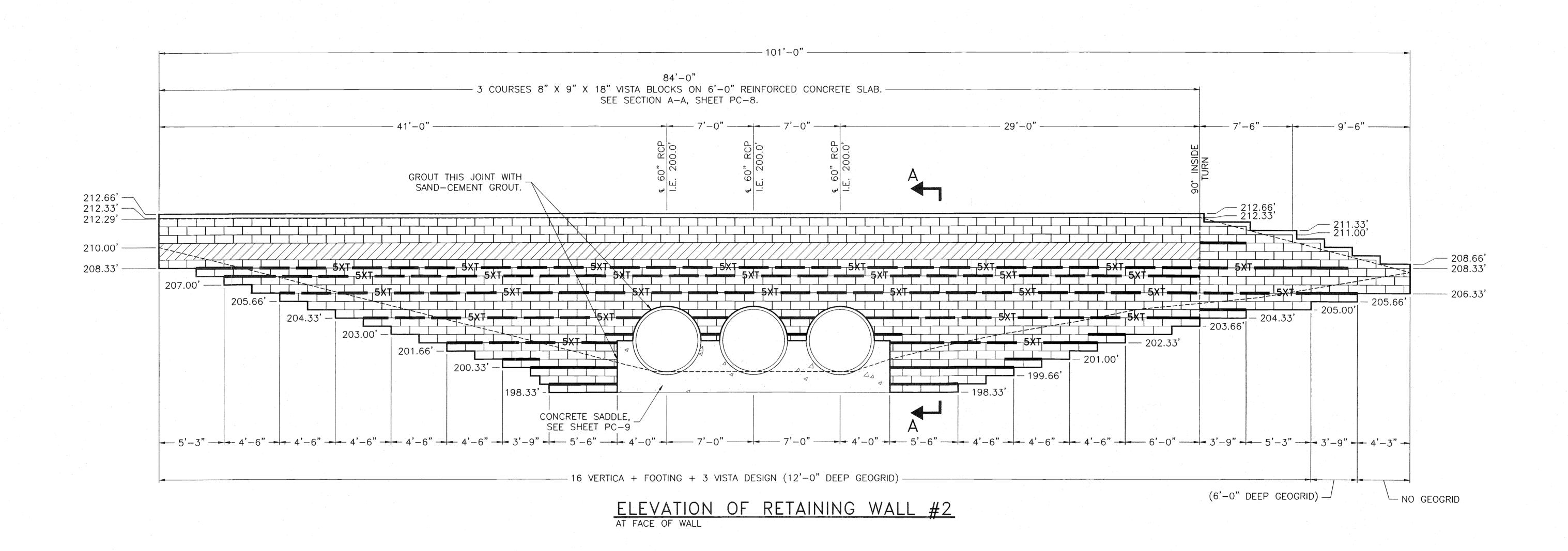
1/4" = 1'-0"
REV SHEET
O PC - 6

ALL CAPS TO BE 4" CAP UNITS.

ALL BLOCKS TO BE 8" VERTICA (2" BATTER) WALL UNITS, EXCEPT WHERE NOTED.

ALL GEOGRID TO BE MIRAFI 5XT.

REFER TO ENGINEERING CROSS—SECTION FOR INFORMATION NOT SHOWN.



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LAKE COUNTY, FLORIDA

TITLE

ELEVATION OF RETAINING WALL #2
PCI# 7009

DRAWNS 1-30-07
APPROVED

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APPROVED

1/4" = 1'-0"
REV SHEET
O PC - 7

ALL CAPS TO BE 4" CAP UNITS.

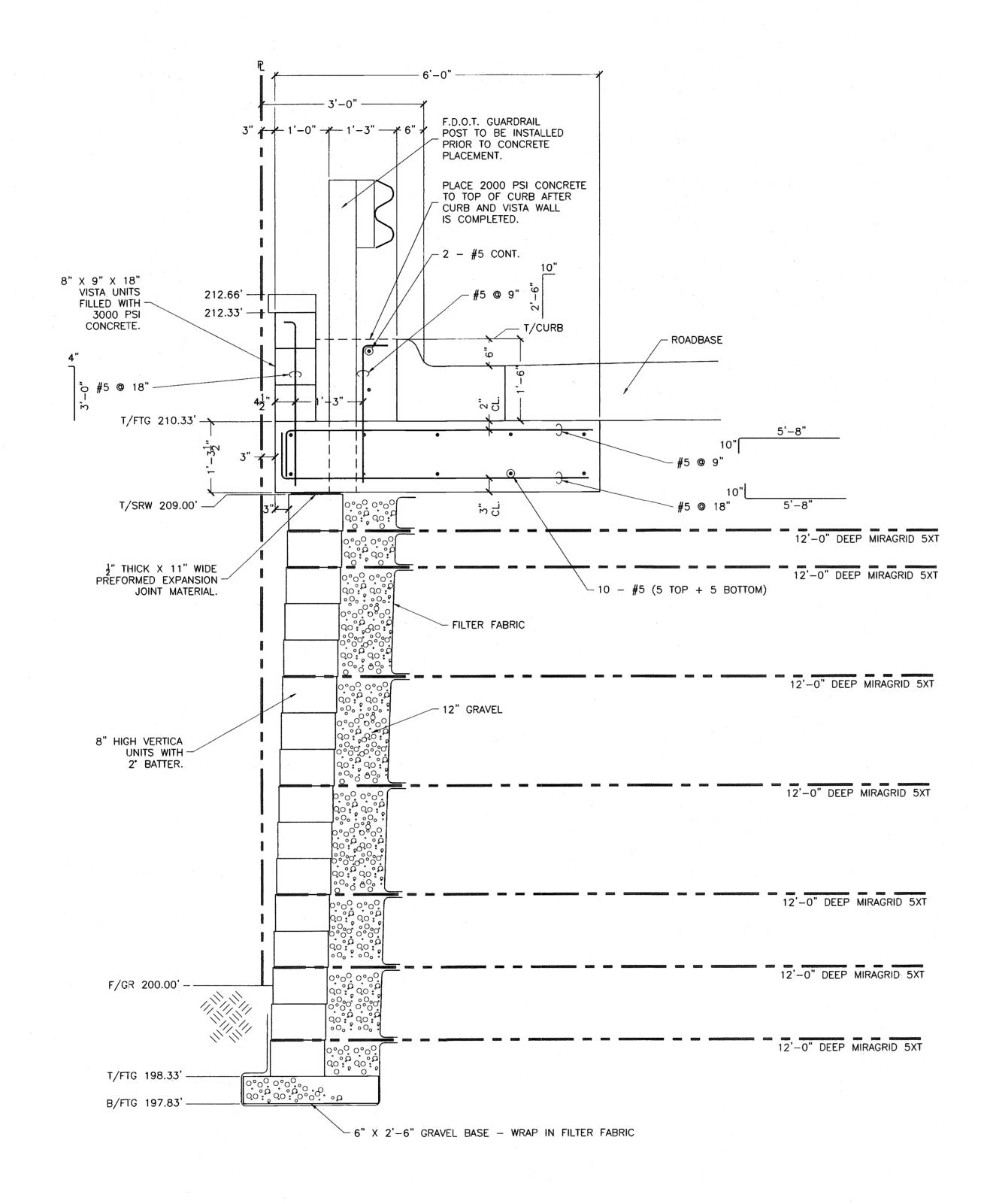
ALL BLOCKS TO BE 8" VERTICA (2° BATTER) WALL UNITS,

EXCEPT WHERE NOTED.

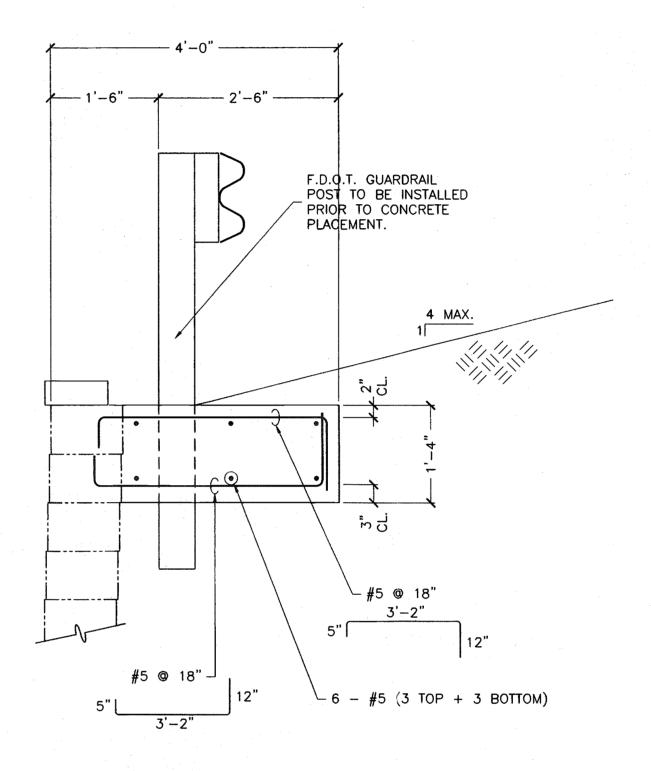
ALL GEOGRID TO BE MIRAFI 5XT.

REFER TO ENGINEERING CROSS—SECTION

FOR INFORMATION NOT SHOWN.



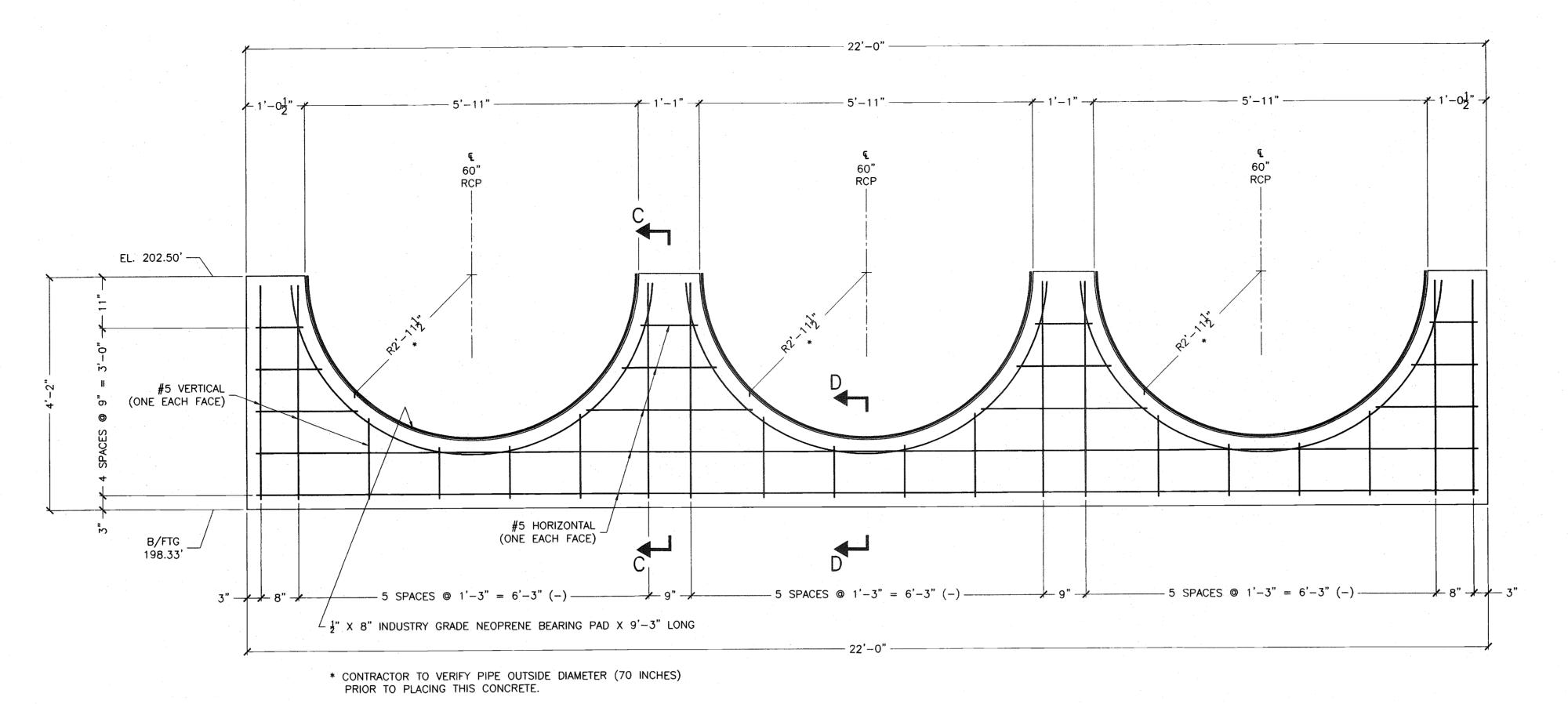
SECTION A-A



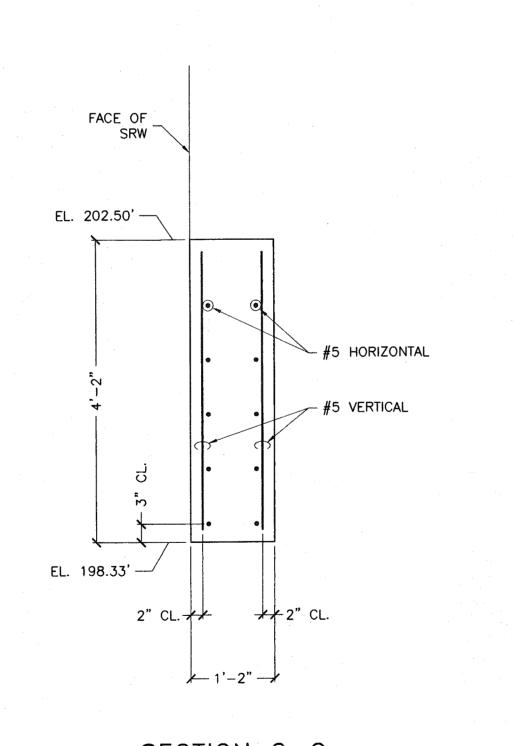
SECTION B-B

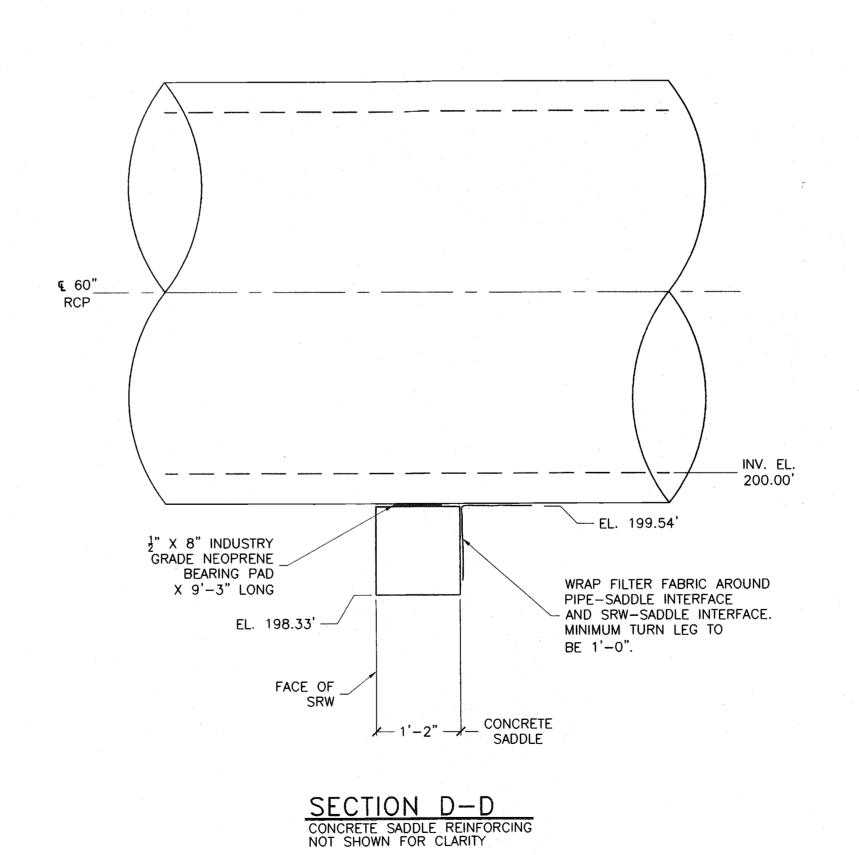
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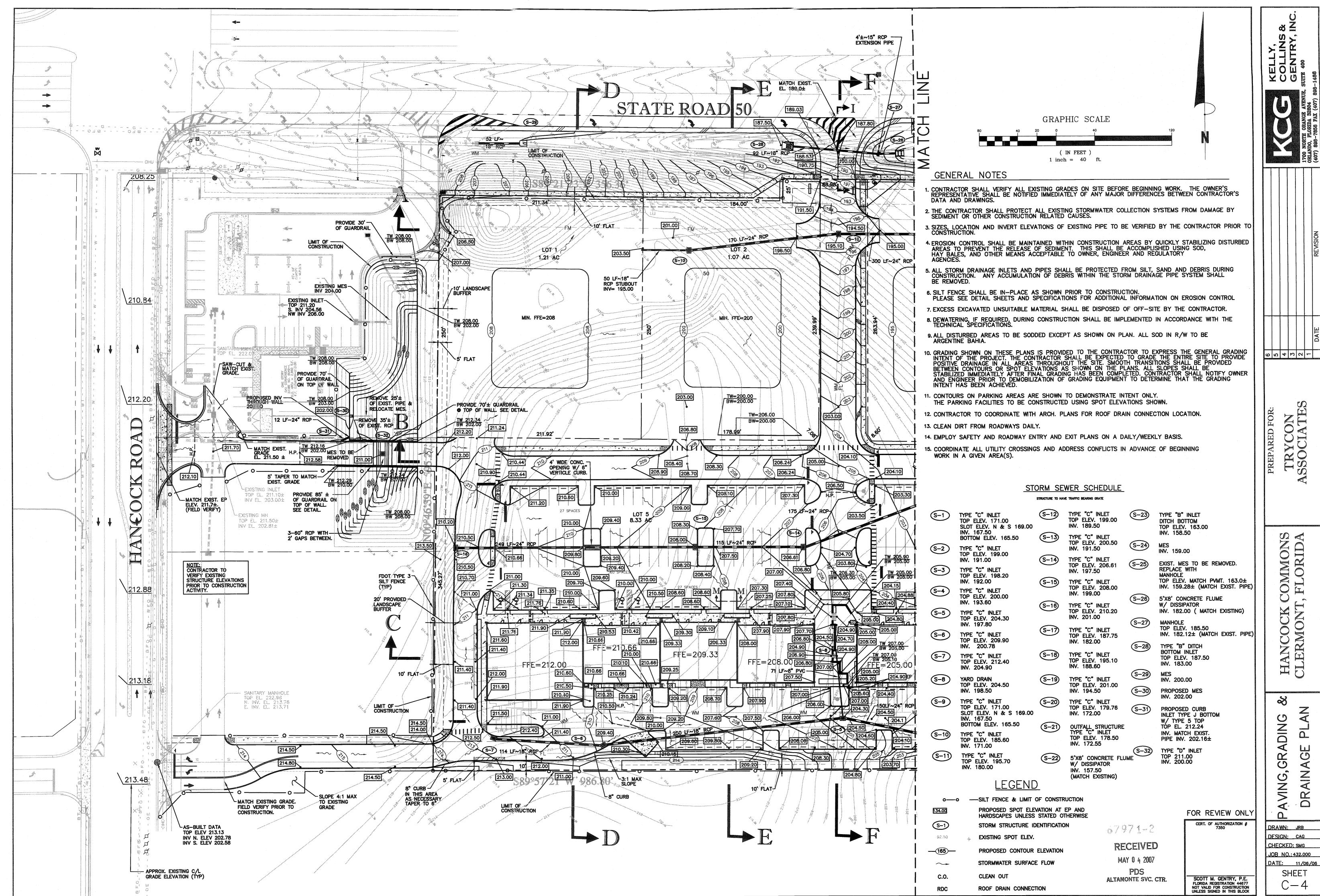


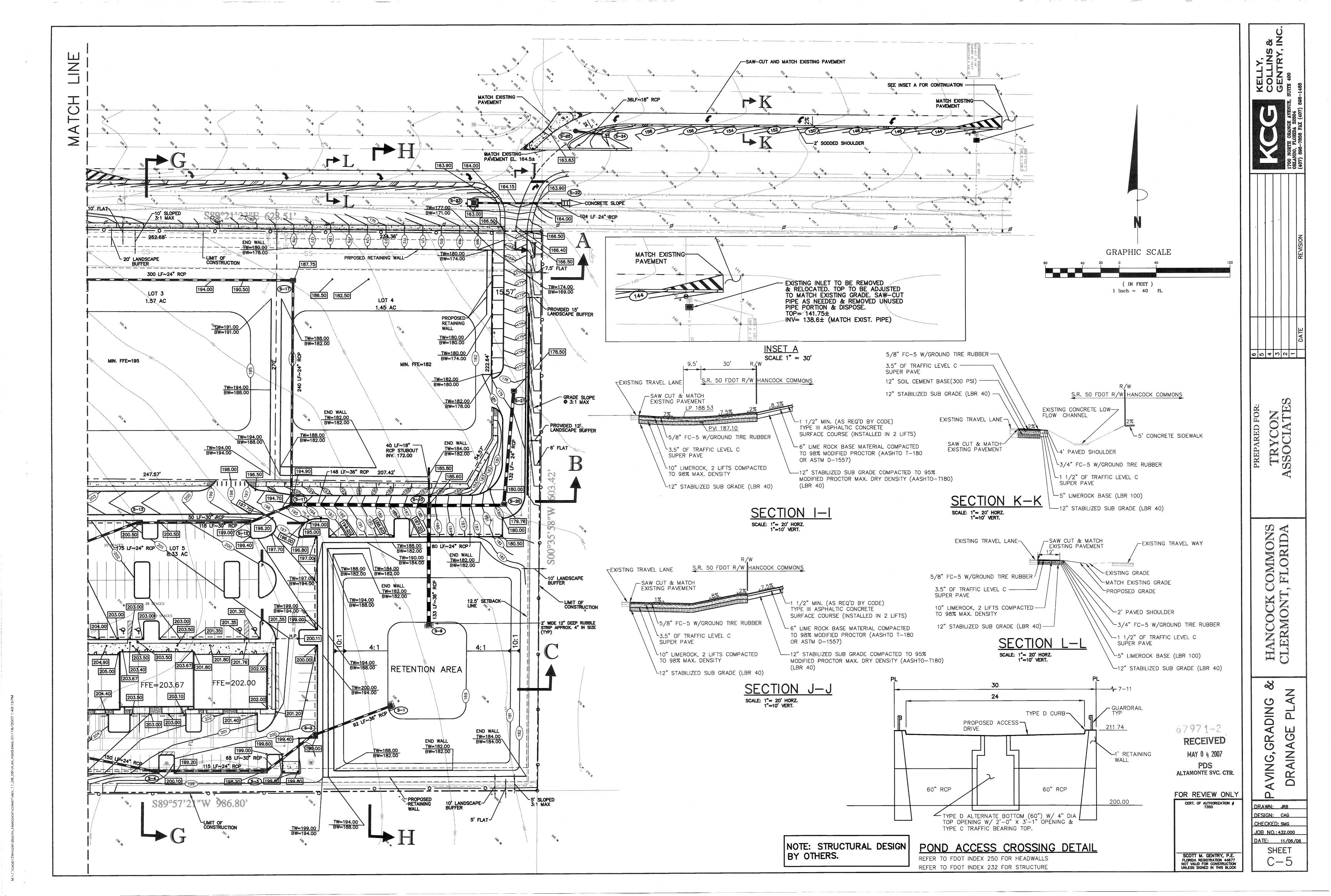
PIPE SADDLE DETAIL

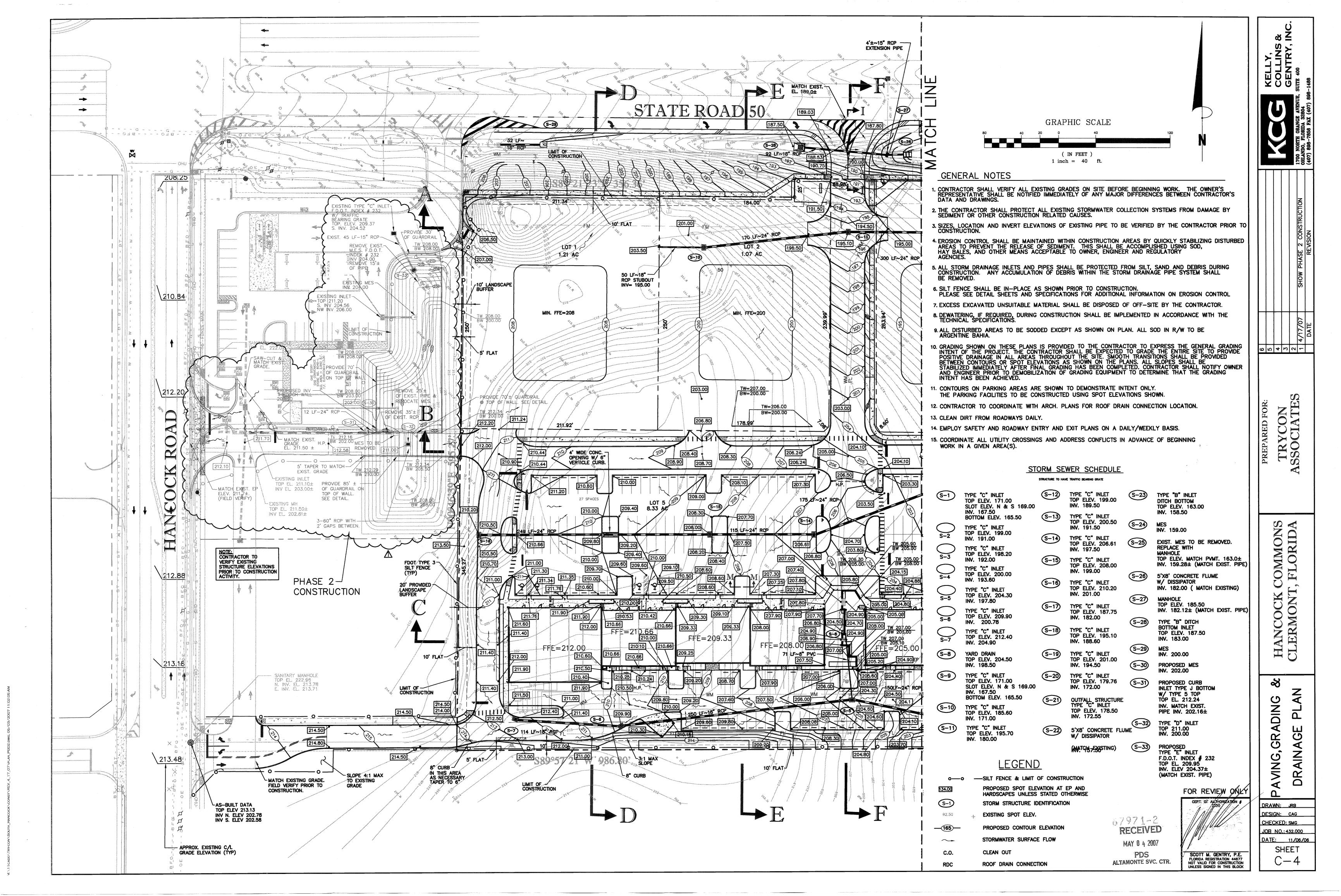


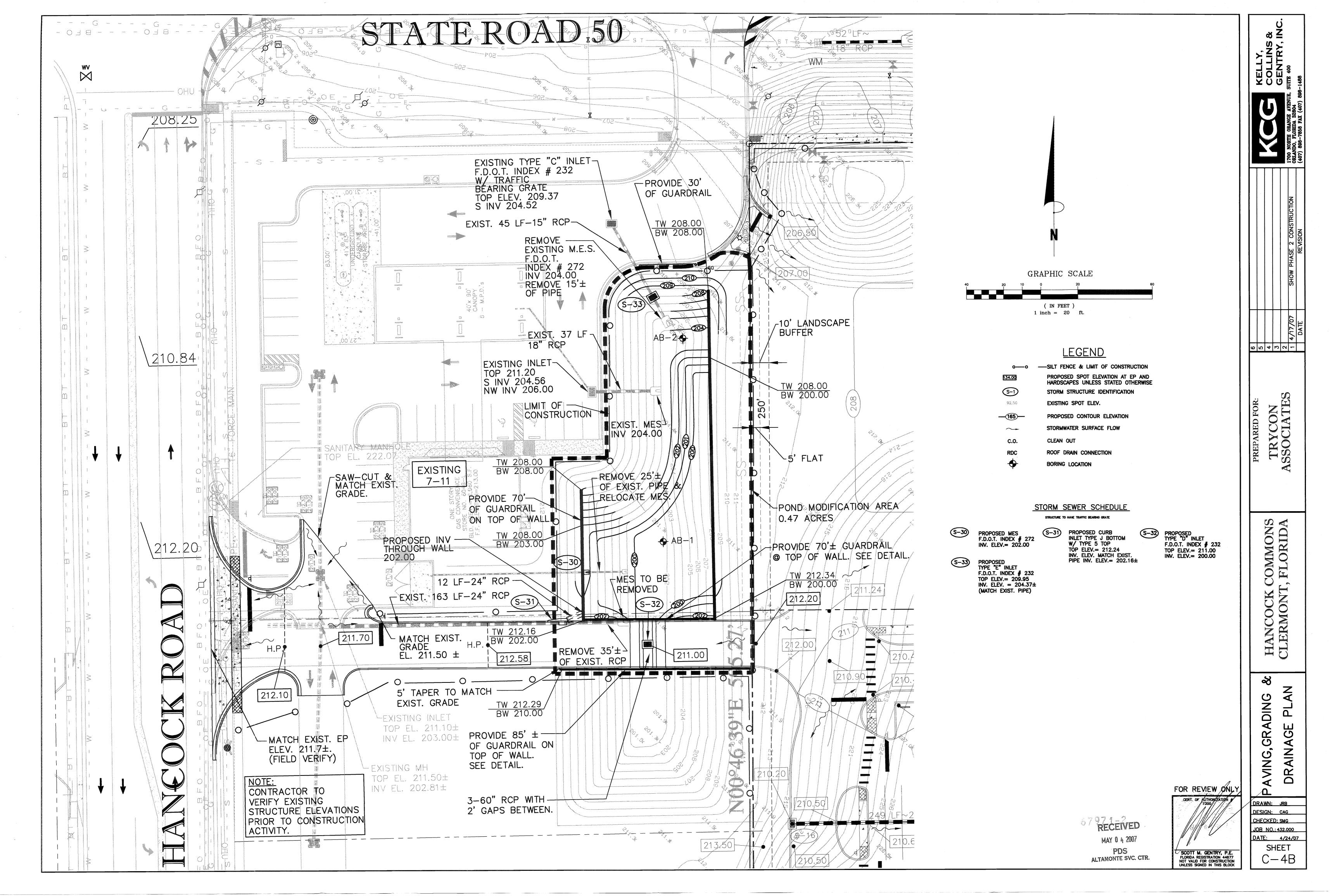


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