

GIS LEGEND

- | | | |
|-----|------|----------------------------------|
| --- | (SD) | STORM DRAIN |
| --- | (SS) | SANITARY SEWER |
| --- | (W) | WATER |
| --- | (W) | WATER ABANDONED |
| --- | (E) | UNDERGROUND ELECTRICAL |
| --- | (E) | UNDERGROUND ELECTRICAL ABANDONED |
| --- | (G) | GAS |
| --- | (G) | GAS ABANDONED |
| --- | (TC) | TELECOM COPPER |
| --- | (TF) | TELECOM FIBER |
| --- | (TW) | TIME WARNER CABLE |
| ⊙ | | SANITARY SEWER CLEANOUT |
| ⊙ | | FDC CONNECTION |
| ⊙ | | FIRE HYDRANT |
| ⊙ | | PARKING LOT POLE LIGHT |
| ⊙ | | SIDEWALK POLE LIGHT |
| ⊙ | | BLUE LIGHT CALL BOX |
| ⊙ | | ATHLETIC FIELD POLE LIGHT |
| ⊙ | | GAS METER |
| ⊙ | | FUEL TANK |
| ⊙ | | GAS VALVE |
| ⊙ | | ATHLETIC FIELD POLE LIGHT |

SURVEY LEGEND

- | | | |
|-----|-----|-------------------------------|
| --- | X | CENTERLINE DITCH/SWALE |
| --- | O | CHAIN LINK FENCE |
| --- | O | ORNAMENTAL FENCE |
| --- | | TREE LINE |
| --- | SD | STORM DRAIN PIPE |
| --- | W | WATER LINE |
| --- | SS | SANITARY SEWER LINE |
| --- | UE | UNDERGROUND POWER |
| --- | G | GAS LINE |
| --- | TF | TELECOM FIBER |
| --- | TC | TELECOM COPPER |
| --- | TW | TIME WARNER CABLE |
| --- | IR | IRRIGATION |
| --- | DB | UTILITY DUCT BANK UNDERGROUND |
| --- | UNK | UNKNOWN UTILITY UNDERGROUND |
| --- | 40 | MAJOR CONTOUR |
| --- | 39 | MINOR CONTOUR |
| ⊙ | | TELEPHONE PEDESTAL |
| ⊙ | | FIRE HYDRANT |
| ⊙ | | WATER METER |
| ⊙ | | WATER METER |
| ⊙ | | LIGHT POLE |
| ⊙ | | POWER POLE |
| ⊙ | | GAS VALVE |
| ⊙ | | CLEANOUT |
| ⊙ | | SIGN |
| ⊙ | | DROP INLET |
| ⊙ | | CURB INLET |
| ⊙ | | CEDAR |
| ⊙ | | CHERRY |
| ⊙ | | GRAPE |
| ⊙ | | BEECH |
| ⊙ | | OAK |
| ⊙ | | MAGNOLIA |
| ⊙ | | MAPLE |
| ⊙ | | PINE |
| ⊙ | | MISC HARDWOOD |

NOTES

- EXISTING CONDITIONS PROVIDED VIA:
 - SURVEY PREPARED BY MCKIM AND CREED NOVEMBER 21, 2018
 - SURVEY PREPARED BY CAPE FEAR ENGINEERING AUGUST 03, 2017
 - CAMPUS GIS INFORMATION PREPARED BY UNCW STAFF, 03 AUGUST 2018
- VERTICAL CONTROL BASED ON NAVD 88 (VERIFIED BY CFE); HORIZONTAL CONTROL BASED ON CONTROL MONUMENTS PROVIDED BY UNCW (NC GRID NAD 83).



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WILMINGTON, NORTH CAROLINA 28403
PARKING DECK II AND SURFACE
PARKING (DESIGN-BUILD)
SOUTH CAMPUS - 4965 RIEGEL ROAD

SCO ID NUMBER: 18-19226-01A
CODE: 441828
ITEM: 301

CONTRACTOR
Balfour Beatty
Construction

DESIGNER
CLARK NEXSEN
1523 ELIZABETH AVENUE, SUITE 300
CHARLOTTE, NORTH CAROLINA 28204
704.377.8800

CLARK NEXSEN LICENSE NUMBER: C-1028

CONSULTANTS



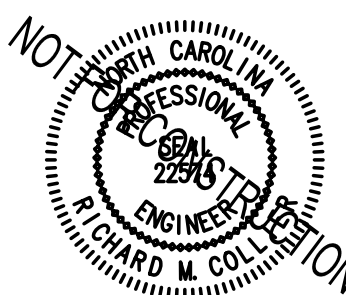
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CORPORATE SEAL

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3/29/2019

75% CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION

KEY PLAN



SHEET

EXISTING CONDITIONS

CX100

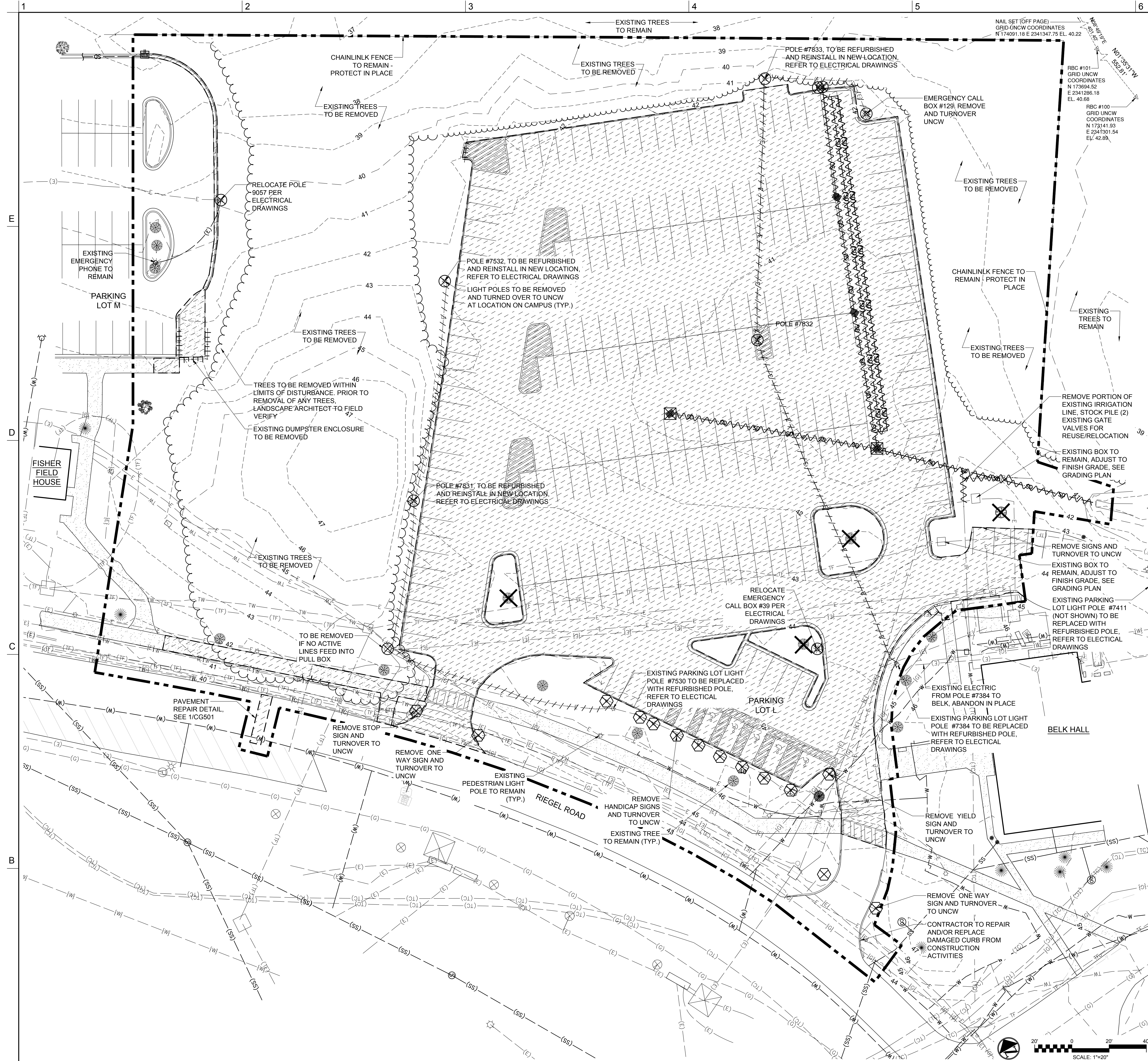
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REVIEW: RMC

SCALE: NTS

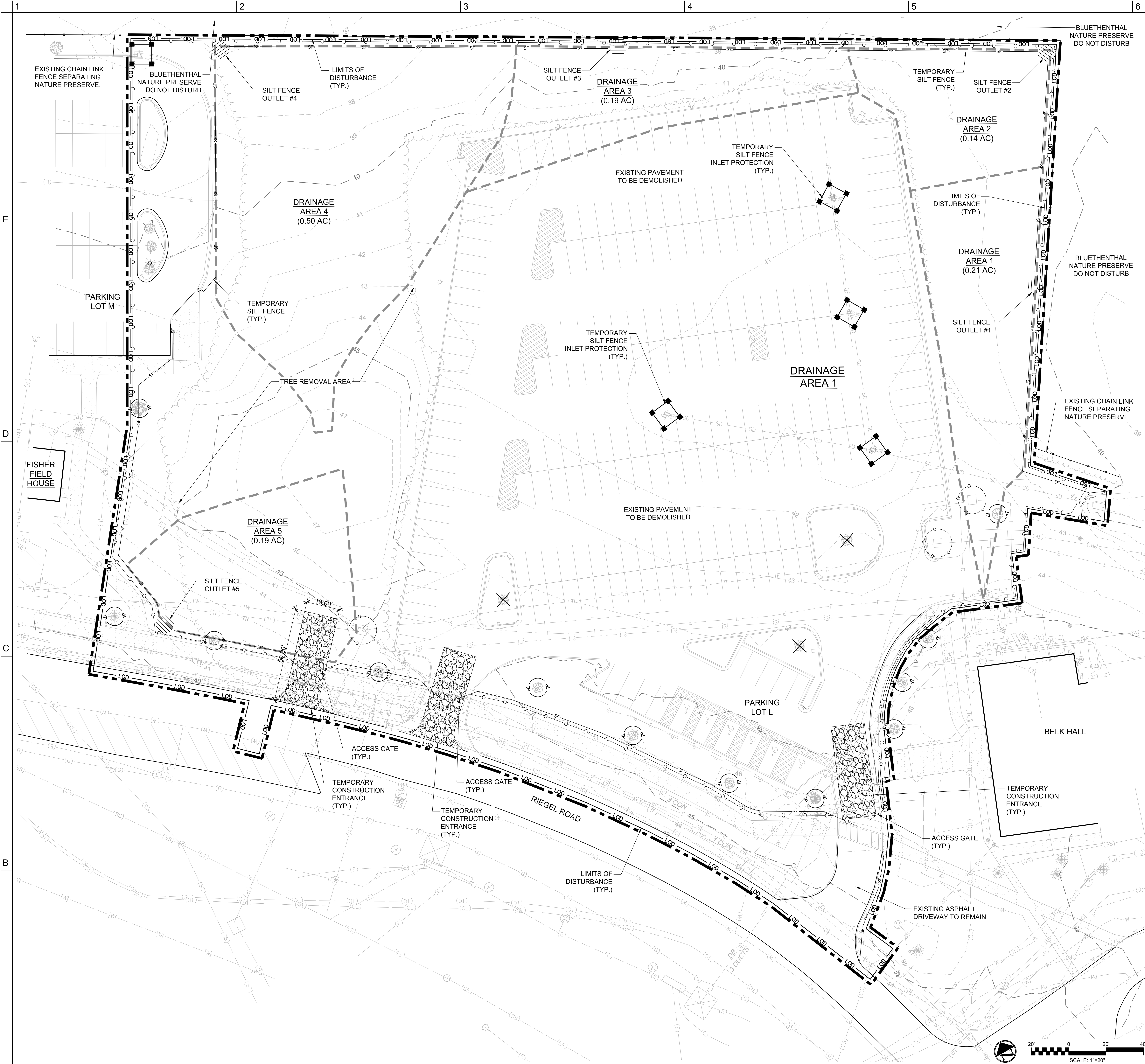
SCALE: 1" = 20'

2 EXISTING CONDITIONS

1 LEGEND/NOTES



DRAWN: TRC
REVIEW: RMC



EROSION CONTROL LEGEND

- LOD LIMITS OF DISTURBANCE
- SECURITY FENCE
- SF SILT FENCE
- TP TREE PROTECTION FENCE
- TDD TEMPORARY DIVERSION DIKE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- INLET PROTECTION
- SILT FENCE OUTLET
- CONSTRUCTION ENTRANCE
- TREES TO REMOVE

EXISTING TREE LEGEND

- CEDAR
- CHERRY
- CRAPE
- BEECH
- OAK
- MAGNOLIA
- MAPLE
- PINE
- MISC HARDWOOD

GENERAL NOTE:

ALL AREAS OUTSIDE THE DISTURBED AREA THAT MAY BE IMPACTED DURING CONSTRUCTION SHOULD HAVE GRASS, SIDEWALK, AND OTHER ITEMS RESTORED TO LIKE CONSTRUCTION.

CONSTRUCTION SEQUENCE

- REMOVE EXISTING CURBING, CONCRETE, AND ASPHALT REQUIRED TO INSTALL TEMPORARY CONSTRUCTION ENTRANCES. INSTALL CONSTRUCTION ENTRANCES, SILT FENCING, AND SECURITY FENCING.
- CLEAR/DEMOLISH MINIMUM AMOUNT OF EXISTING VEGETATION AND INFRASTRUCTURE NECESSARY FOR INSTALLATION OF TEMPORARY EROSION CONTROL MEASURES.
- INSTALL INLET PROTECTION AROUND EXISTING INLETS WITHIN THE LOD AND MAINTAIN THEM UNTIL THEY AND THE EXISTING STORMWATER PIPES ARE REMOVED.
- BEGIN DEMOLITION OF EXISTING INFRASTRUCTURE WITHIN THE LIMITS OF DISTURBANCE.
- WHEN REMOVING EXISTING STORM DRAINS WORK FROM DOWNSTREAM TO UPSTREAM, REMOVING PIPES, INLETS AND INLET PROTECTION.
- WHERE PARKING LOTS ARE BEING DEMOLISHED, BEGIN PAVEMENT REMOVAL ON THE HIGH SIDE OF THE PARKING AREA WORKING TOWARDS INLET PROTECTION DEVICES. STABILIZE AREA OF PAVEMENT REMOVAL IN ACCORDANCE WITH SEEDING SPECIFICATIONS PRIOR TO REMOVAL OF INLET PROTECTION.
- CONTRACTOR TO MAINTAIN E/C MEASURES PER NCDEQ RULES AND REGULATIONS.
- EXISTING STUDENT WALKWAYS ALONG RIEGEL ROAD SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION TO ALLOW STUDENT CIRCULATION. CONTRACTOR TO REPAIR ANY PORTIONS OF WALKWAY DAMAGED FROM CONSTRUCTION ACTIVITIES.
- CONTRACTOR IS PERMITTED TO RELOCATE CONSTRUCTION FENCING ACCORDING TO THEIR CONSTRUCTION SEQUENCE, AND BY REQUESTS OR REQUIREMENTS BY UNCW. EROSION CONTROL MEASURES MUST BE IN PLACE AND OPERATIONAL.

DISTURBED AREA

TOTAL DISTURBED AREA = 4.45 AC.(193,842 SF)

LAT: 34°13'22.15"N
LONG: 77°52'18.64"W

PHASE 1 SILT FENCE				
SILT FENCE OUTLET NO.	DRAINAGE AREA	LENGTH	ACRE	0.25 ACRE PER 100 FT
	(ACRES)	(FT)	(PER 100 FT)	(YES/NO)
SFO #1	0.21	152	0.14	YES
SFO #2	0.14	158	0.09	YES
SFO #3	0.19	167	0.12	YES
SFO #4	0.50	271	0.18	YES
SFO #5	0.19	121	0.16	YES

LEGEND/NOTES

SCALE: NTS



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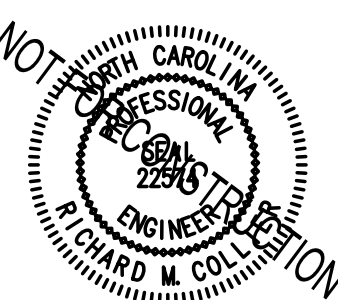
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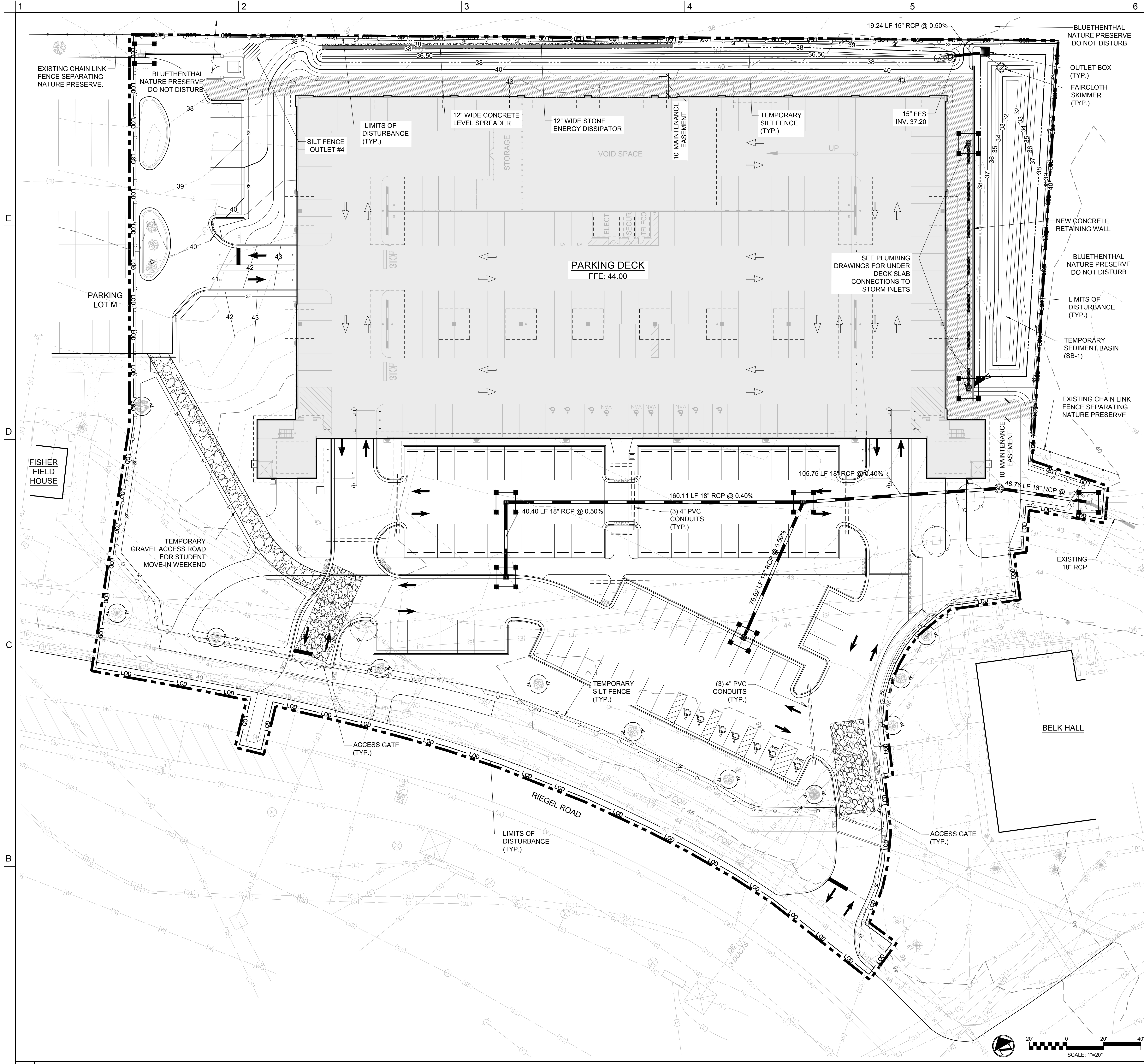
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EROSION CONTROL - STAGE 1

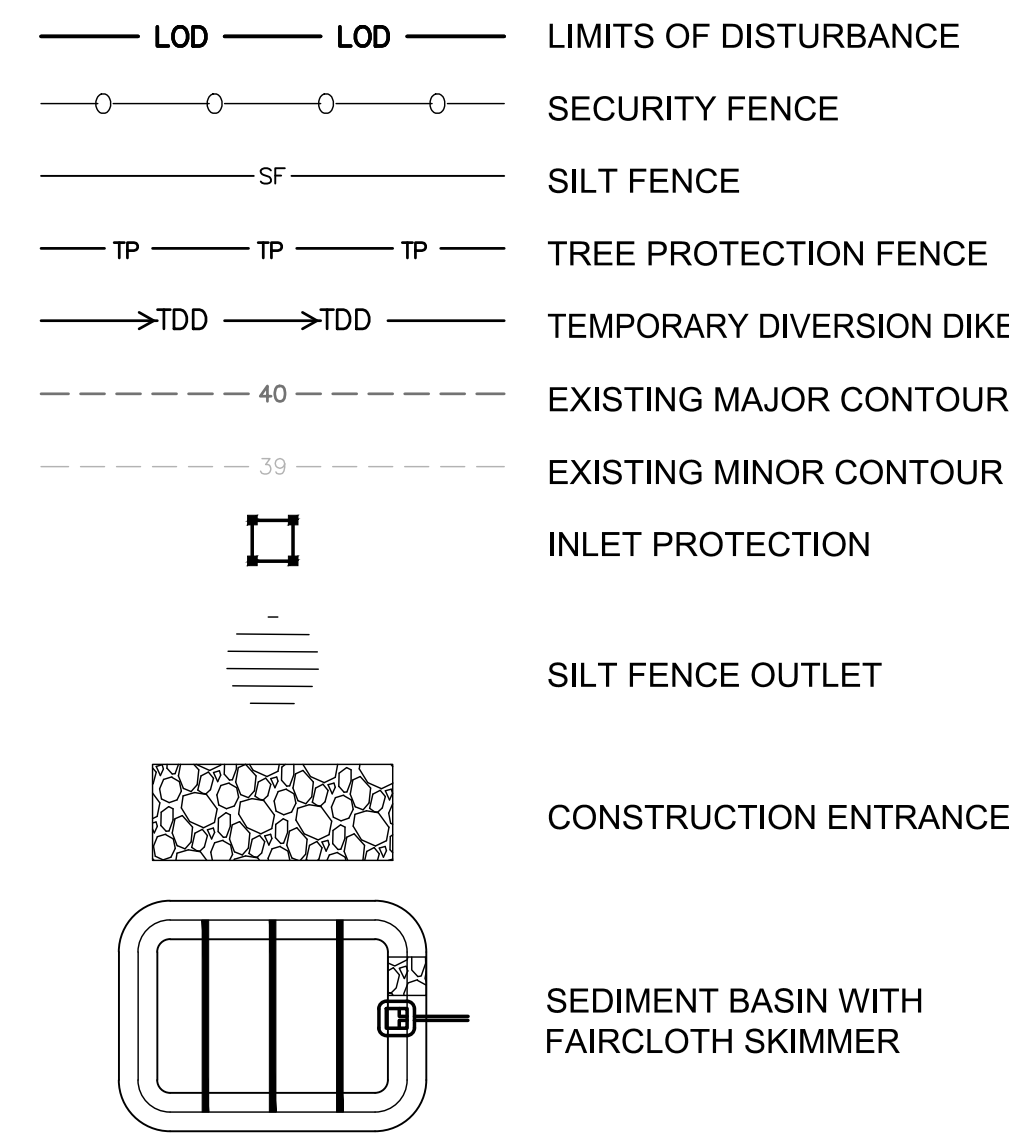
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REVIEW: RMC

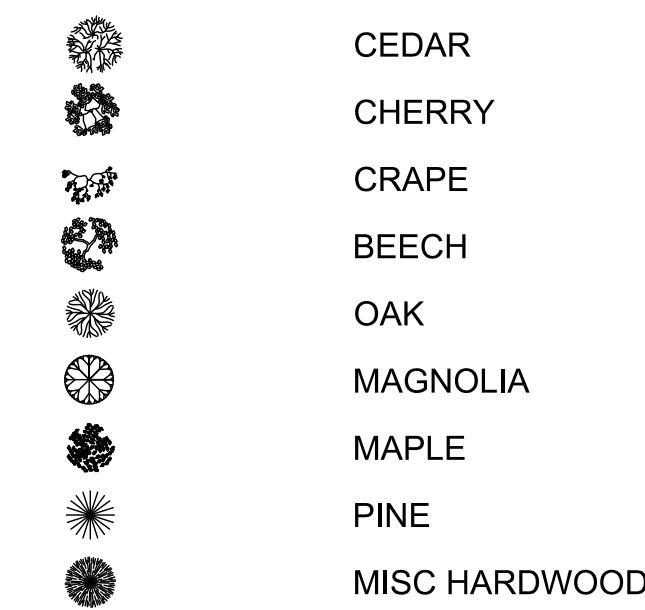
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EROSION CONTROL LEGEND



EXISTING TREE LEGEND



GENERAL NOTE:

ALL AREAS OUTSIDE THE DISTURBED AREA THAT MAY BE IMPACTED DURING CONSTRUCTION SHOULD HAVE GRASS, SIDEWALK, AND OTHER ITEMS RESTORED TO LIKE CONSTRUCTION.

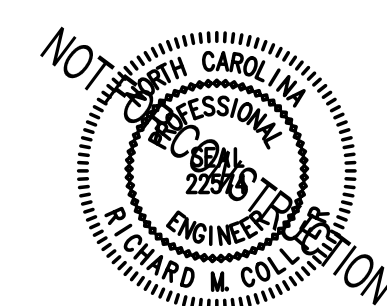
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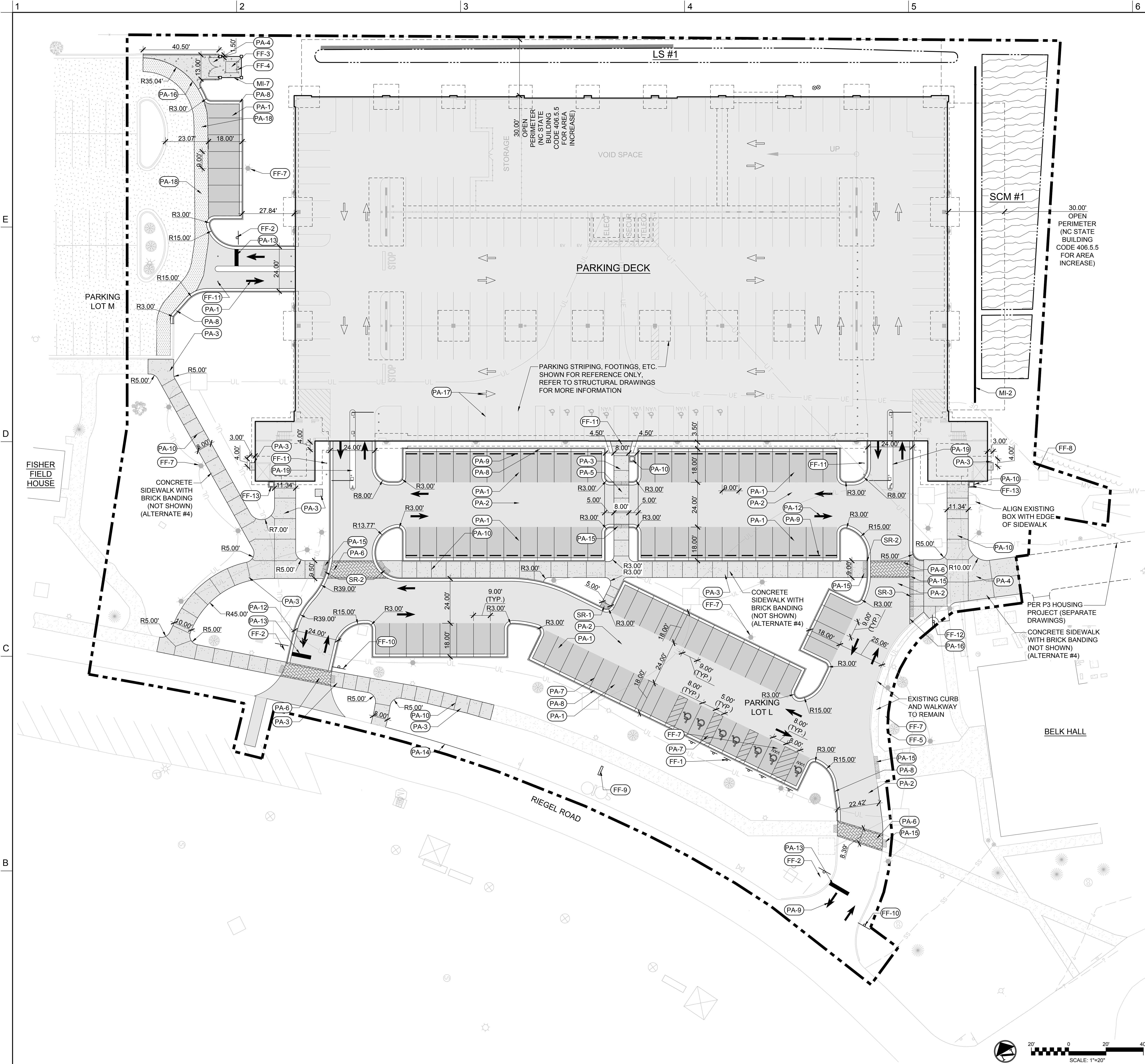
1. BEGIN DEMOLITION OF EXISTING PARKING LOT AND INFRASTRUCTURE AS SHOWN ON THE DEMOLITION PLAN. PAVEMENT REMOVAL SHOULD PROGRESS FROM HIGH SIDE OF THE PARKING AREA WORKING TOWARDS INLET PROTECTION DEVICES.
2. WHEN REMOVING EXISTING STORM DRAINS WORK FROM DOWNSTREAM TO UPSTREAM, REMOVING PIPES, INLETS AND INLET PROTECTION.
3. CONTRACTOR TO MAINTAIN E/C MEASURES PER NCEQ RULES AND REGULATIONS.
4. PROVIDE INLET PROTECTION FOR ALL NEW INLETS IMMEDIATELY FOLLOWING INSTALLATION.
5. EXISTING STUDENT WALKWAYS ALONG RIEGEL ROAD SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION TO ALLOW STUDENT CIRCULATION. CONTRACTOR TO REPAIR ANY PORTIONS OF WALKWAY DAMAGED FROM CONSTRUCTION ACTIVITIES.
6. CONTRACTOR IS PERMITTED TO RELOCATE CONSTRUCTION FENCING ACCORDING TO THEIR CONSTRUCTION SEQUENCE, AND BY REQUESTS OR REQUIREMENTS BY UNCW. EROSION CONTROL MEASURES MUST BE IN PLACE AND OPERATIONAL.
7. EXCAVATE SCM-1 AND LS-1.
8. INSTALL RETAINING WALL AND STORM DRAINAGE SYSTEM.
9. INSTALL 185 LF CONCRETE LEVEL SPREADER WITH #57 STONE ENERGY DISSIPATOR THAT IS 12-INCHES WIDE BY 6-INCHES DEEP DOWNSTREAM OF THE LEVEL SPREADER LIP.

DISTURBED AREA

TOTAL DISTURBED AREA = 4.45 AC.(193,842 SF)

LAT: 34°13'22.15"N
LONG: 77°52'18.64"W





KEY NOTES LEGEND

PAVEMENTS AND CURBING		
KEY CODE	DESCRIPTION	DETAIL REFERENCE
PA-1	ASPHALT PAVEMENT - TYPE 1	1/CS502
PA-2	ASPHALT PAVEMENT - TYPE 2	1/CS502
PA-3	CONCRETE PAVEMENT - TYPE 1	3/CS502
PA-4	CONCRETE PAVEMENT - TYPE 2	3/CS502
PA-5	RAISED CONCRETE CROSSWALK	1/CS503
PA-6	IMPRINTED ASPHALT CROSSWALK	8/CS502
PA-7	STANDARD & ACCESSIBLE PARKING SPACE LAYOUT (TYP.)	6/CS502
PA-8	CURB AND GUTTER (TYP.)	3/CS501
PA-9	WHEEL STOP (TYP.)	4/CS502
PA-10	CONTROL JOINT (TYP.)	1/CS501
PA-11	EXPANSION JOINT (TYP.)	1/CS501
PA-12	DIRECTIONAL ARROW PAVEMENT MARKING (TYP.)	7/CS502
PA-13	STOP BAR PAVEMENT MARKING (TYP.)	7/CS502
PA-14	NEW SAW-CUT PAVEMENT EDGE	
PA-15	TRUNCATED DOME WARNING MATS (TYP.)	2/4/5/CS501
PA-16	CONCRETE TO ASPHALT TRANSITION	2/CS502
PA-17	STRIPING/PAVEMENT MARKINGS WITHIN DECK	SEE STRUCT.
PA-18	MILL AND OVERLAY EXISTING ASPHALT PAVING	
PA-19	ISLAND CURB	5/CS503

STAIRS AND RAMPS		
KEY CODE	DESCRIPTION	DETAIL REFERENCE
SR-1	DEPRESSED CURB - TYPE 1	5/CS501
SR-2	DEPRESSED CURB - TYPE 2	4/CS501
SR-3	DEPRESSED CURB - TYPE 3	2/CS501

FURNITURE, FIXTURES AND EQUIPMENT		
KEY CODE	DESCRIPTION	DETAIL REFERENCE
FF-1	HANDICAP SIGNAGE (TYP.)	5/CS502
FF-2	STOP SIGN (TYP.)	9/CS502
FF-3	DUMPSTER (TYP.)	BY UNCW
FF-4	BOLLARD (TYP.)	4/CS503
FF-5	RELOCATED CALL BOX	PER ELECT.
FF-6	NOTE NOT USED	
FF-7	REFURBISHED LIGHT FIXTURE (TYP.)	PER ELECT.
FF-8	TRANSFORMER	PER ELECT.
FF-9	PER LEVEL SPACE AVAILABILITY SIGNAGE	BY OTHERS
FF-10	PERMIT ONLY SIGN	BY OTHERS
FF-11	BOLLARD (TYP.)	PER STRUCT.
FF-12	COMMERCIAL AND EMERGENCY VEHICLE ACCESS ONLY	
FF-13	TRASH RECEPTACLE	6/CS501

MISCELLANEOUS		
MI-1	DUMPSTER ENCLOSURE SCREEN FENCE	2/3/5/6/CS503
MI-2	CIP RETAINING WALL	4/6/CS503

ALTERNATES:

- ALTERNATE NO. 1A: PAINT / STAIN DECK UNDERSIDE WITH A WHITE FINISH WITH 1-YEAR WARRANTY.
- ALTERNATE NO. 1B: PAINT / STAIN VERTICAL SURFACES WITH A WHITE FINISH WITH 1-YEAR WARRANTY.
- ALTERNATE NO. 2: PROVIDE ALUMINUM NON-GLAZED FRAMES AT OPENINGS INDICATED IN THE ARCHITECTURAL DRAWINGS. ALL STAIR WINDOWS AND FRAMES TO REMAIN IN BASE BID.
- ALTERNATE NO. 3A: ADD DOMESTIC WATER SOURCE FROM THE SOUTHWEST SITE NEW FIRE HYDRANT TO THE WEST SIDE OF THE DECK WITH A 2" REDUCED PRESSURE BACKFLOW PREVENTER, HOTBOX AND 2" DOMESTIC WATER MAIN STUBBED INTO THE DECK.
- ALTERNATE NO. 3B: PROVIDE 2" PIPING AND TWO (2) HOSE CONNECTIONS ON LEVELS 1 THROUGH 5 AT EACH END OF RAMP.
- ALTERNATE NO. 4: PROVIDE BRICK EDGE BANDING AT NEW SIDEWALKS AS INDICATED ON THE CIVIL PLANS.
- ALTERNATE NO. 5: PROVIDE 304 STAINLESS STEEL STAIR RAILINGS IN LIEU OF HOT DIPPED GALVANIZED.

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704 377 8800

CLARK NEXSEN LICENSE NUMBER: C-1028

CONSULTANTS

WALKER
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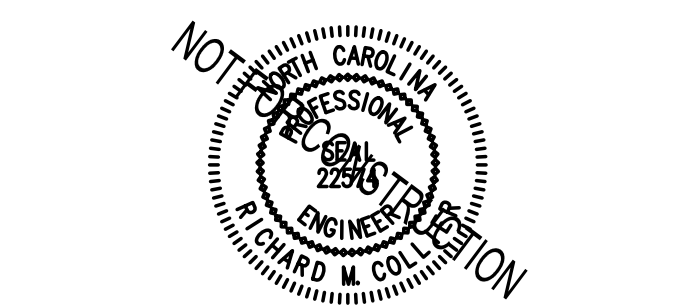
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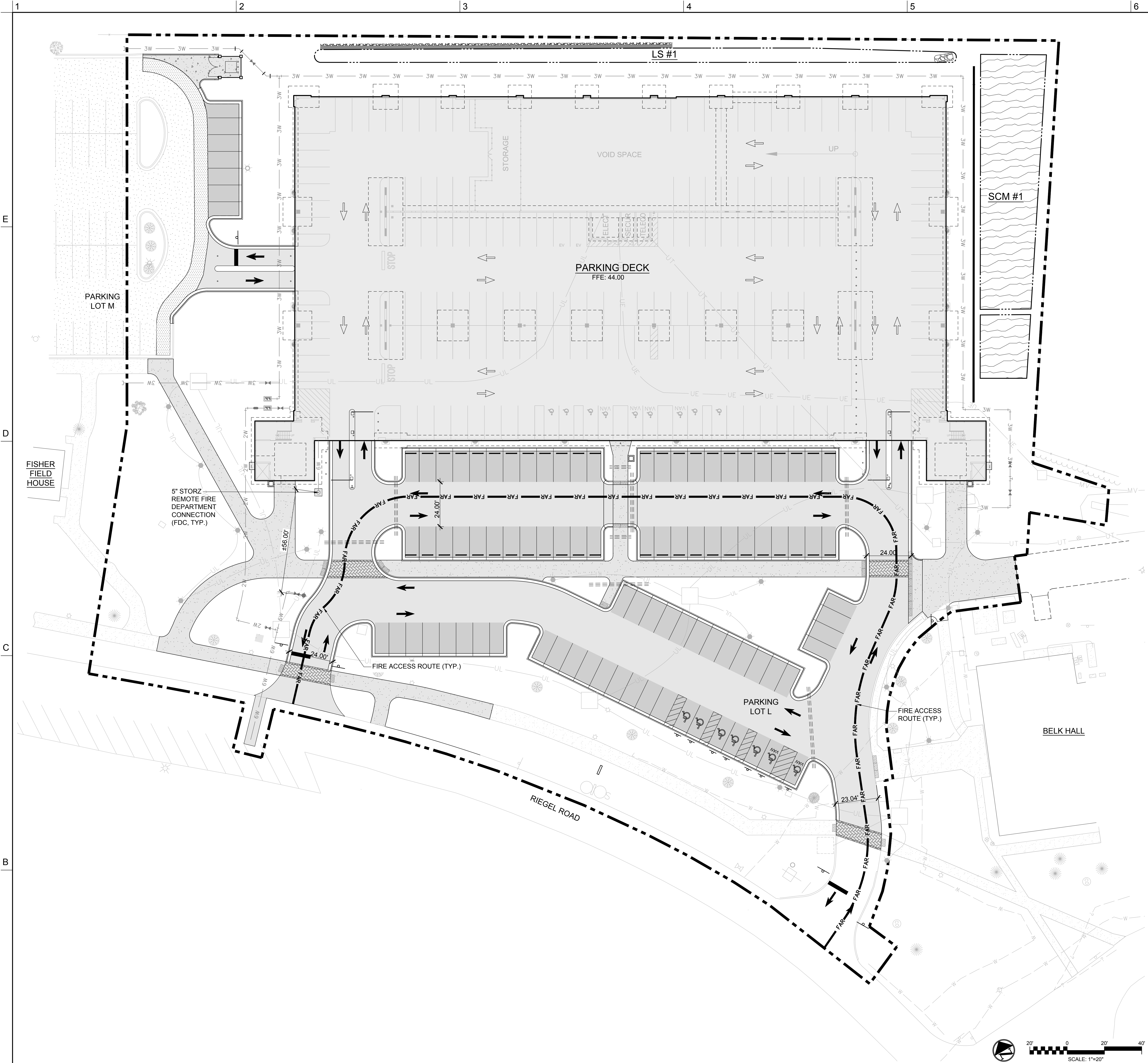


SHEET
SITE PLAN

CS100

DESIGN: TRC
DRAWN: TRC
REVIEW: RMC

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LEGEND

— FAR — FAR — FIRE ACCESS ROUTE

FIRE FLOW TEST

FIRE HYDRANT FLOW TESTS WERE CONDUCTED ON JANUARY 1, 2019.

- THE FLOW HYDRANT (WH 0037) IS LOCATED ALONG RIEGEL ROAD IN FRONT OF HERBERT FISHER FIELD HOUSE
- THE RESIDUAL HYDRANT (WH 0074) IS LOCATED SOUTH OF BELK ALONG RIEGEL ROAD
- FLOW = 1110GPM @ 44 PSI
- STATIC PRESSURE = 58 PSI
- RESIDUAL PRESSURE = 49 PSI



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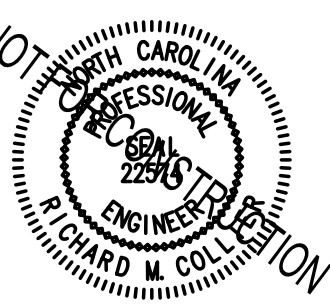
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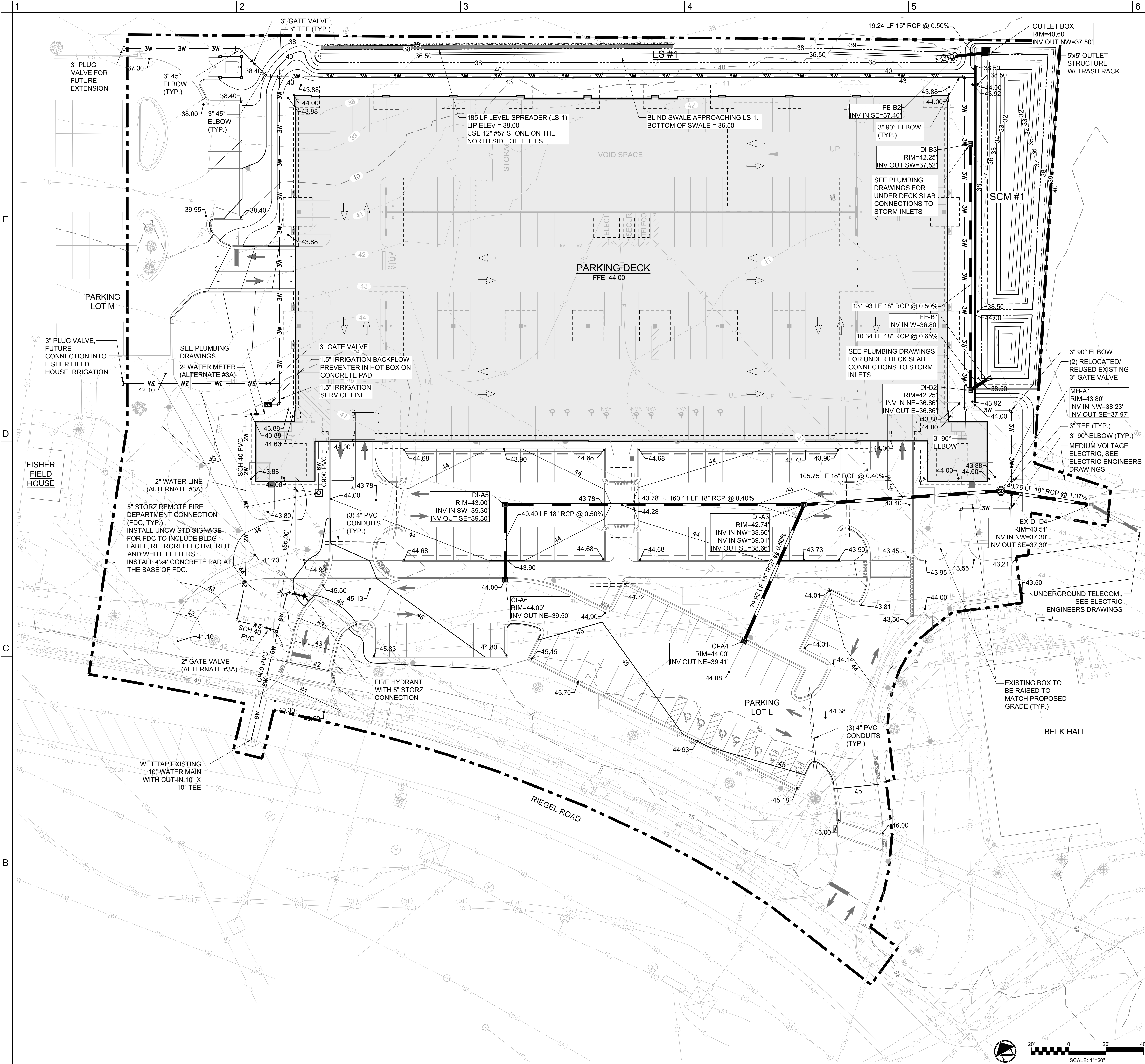


SHEET

FIRE PROTECTION SITE PLAN

CF100

DESIGN: TRC
DRAWN: TRC
REVIEW: RMC



STORM DRAINAGE LEGEND

	STORM DRAIN LINE
	STORM DRAIN CURB INLET
	STORM DRAIN DROP INLET
	STORM DRAIN MANHOLE/JUNCTION BOX
	FLARED END SECTION

GRADING LEGEND

	MINOR CONTOURS
	MAJOR CONTOURS
	SPOT GRADE
	BOTTOM OF WALL
	TOP OF WALL
	BOTTOM OF STEP
	TOP OF STEP
	BOTTOM OF CURB
	TOP OF CURB
	BOTTOM OF RAMP
	TOP OF RAMP
	FINISH GRADE
	EXISTING GRADE
	RIM ELEVATION

WATER LEGEND

	WATER LINE
	FIRE HYDRANT
	FIRE DEPARTMENT CONNECTION
	WATER VALVE
	WATER METER
	WATER CROSSING
	WATER ELBOW
	WATER PLUG
	WATER TEE
	IRRIGATION BACKFLOW PREVENTER

UTILITY NOTES:

- SITE UTILITY CONTRACTOR TO PROVIDE WATER SERVICE TO WITHIN 5 FEET OF THE BUILDING. CONTRACTOR SHALL COORDINATE SITE PLAN CONNECTIONS WITH THE ARCHITECTURAL BUILDING AND PLUMBING PLANS.
- ALL UNDERGROUND PIPING AND UTILITIES (BOTH METALLIC AND NON-METALLIC), EXCEPT LAWN IRRIGATION LINES, SHALL HAVE PRINTED DURABLE PLASTIC WARNING TAPES IDENTIFYING BURIED PIPE BELOW. IN ADDITION, THE NON-METALLIC PIPES (PE, PVC, CP) SHALL BE IDENTIFIED BY MAGNETIC TYPE METHODS SUCH AS DETECTABLE TAPE OR TRACER WIRE.

STORM DRAINAGE AND GRADING NOTES:

- IN ACCORDANCE WITH NC GENERAL STATUTES, NPDES REGULATIONS, AND NCDQG REQUIREMENTS, STORMWATER DISCHARGE OUTFALLS SHALL BE INSPECTED BY THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR AFTER EACH STORM EVENT OF 1/2 INCH OR GREATER, WITH ONE WEEKLY INSPECTION MINIMUM. NCDENQ STANDARD INSPECTION REPORTS SHALL BE PREPARED AND SIGNED WITH COPIES PROVIDED TO THE OWNER, ARCHITECT, AND ENGINEER, BY THE CONTRACTOR.
- INLET PROTECTION SHALL BE INSTALLED AROUND OUTFALL DEVICES SHALL BE CONSTRUCTED TO FINAL PROPOSED CONDITION UPON STABILIZATION OF CONTRIBUTING GROUND SURFACES AND REMOVAL OF SEDIMENT FROM STORM PIPES.
- SEDIMENT/EROSION DEVICES SHALL BE CHECKED BY THE CONTRACTOR DAILY. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE.
- ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO CONTRACTOR FOR ANY WORK DONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
- UNLESS OTHERWISE NOTED, GRADES AND SPOT ELEVATIONS NOTED ON PLANS INDICATE FINISHED GRADE OR PAVEMENT SURFACE. ALL DIMENSIONS ARE MEASURED TO THE BACK OF CURB UNLESS OTHERWISE INDICATED.
- ALL AREAS TO BE GRADED SO THAT NO AREAS OF STANDING WATER OCCUR.



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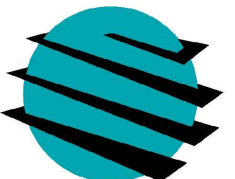
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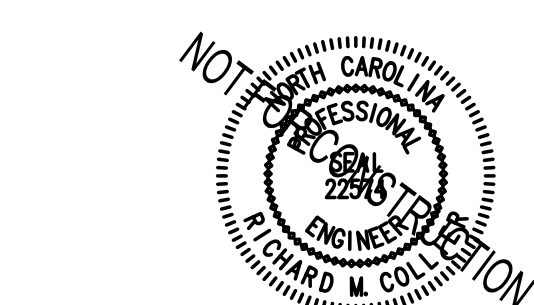
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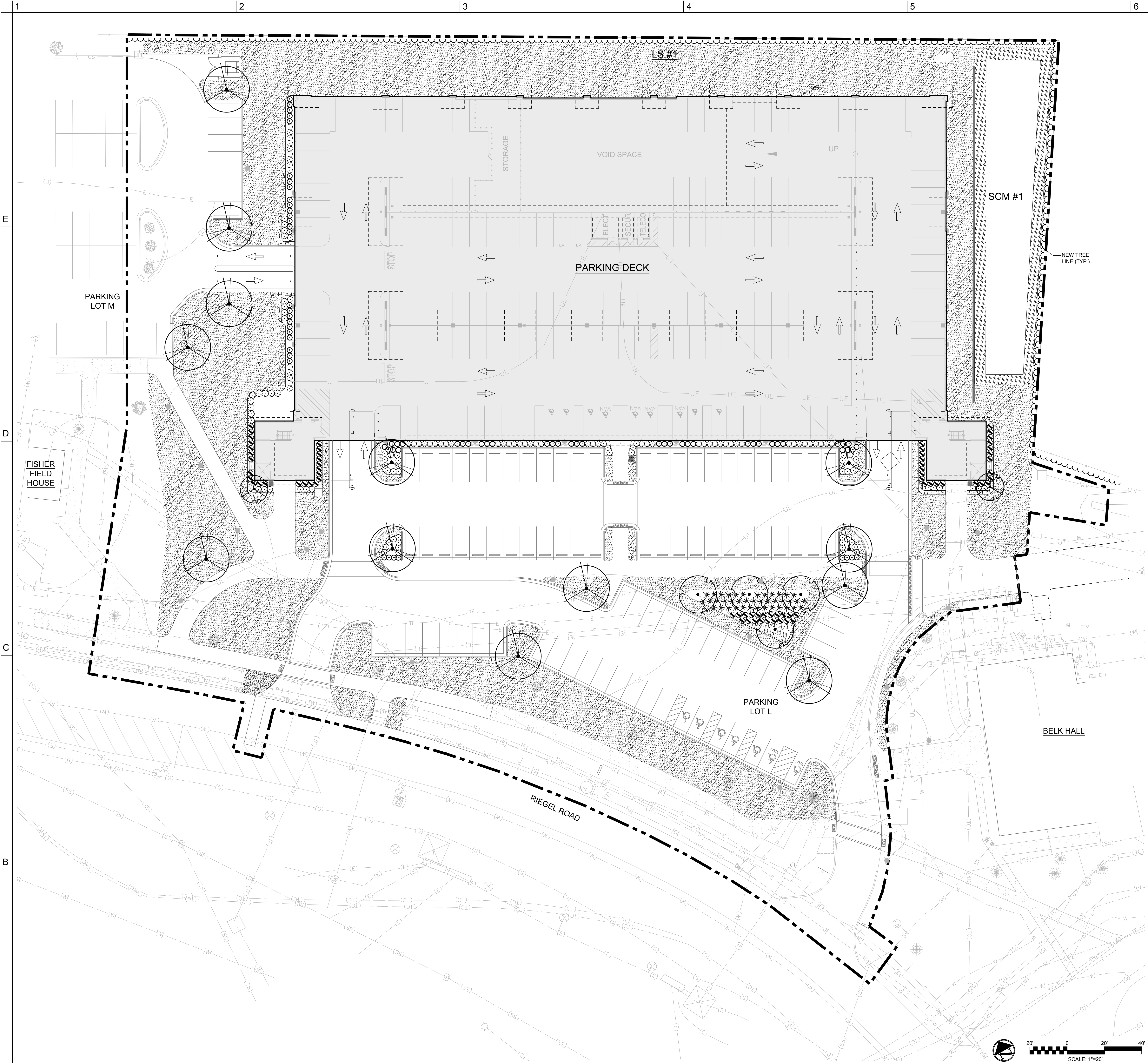
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SHEET

GRADING, DRAINAGE AND UTILITY PLAN

CG100

DESIGN: TRC
DRAWN: TRC
REVIEW: RMC



PLANT LEGEND

TREES	BOTANICAL / COMMON NAME
	ACER RUBRUM 'RED SUNSET' RED SUNSET MAPLE
	LAGERSTROEMIA INDICA 'BYER'S WONDERFUL WHITE' GRAPE MYRTLE
	PRUNUS SERRULATA 'KWANZAN' FLOWERING CHERRY
SHRUBS	BOTANICAL / COMMON NAME
	AZALEA ENCORE 'CORAL' TM ENCORE AZALEA
	ILEX CORNUTA 'CARISSA' CARISSA HOLLY
	ILEX GLABRA 'SHAMROCK' INKBERRY
	ILEX VOMITORIA 'NANA' DWARF YAU PON
	MUHLENBERGIA CAPILLARIS PINK MUHLY
	ROSA X 'NOVAROSOP' POPCORN DRIFT ROSE
GROUND COVERS	BOTANICAL / COMMON NAME
	CYNODON DACTYLON BERMUDA GRASS
	JUNIPERUS CONFERTA 'BLUE PACIFIC' BLUE PACIFIC JUNIPER
	VEGETATIVE SHELF PLANTING

UNIVERSITY of NORTH CAROLINA WILMINGTON
601 S COLLEGE ROAD
WILMINGTON, NORTH CAROLINA 28403
PARKING DECK II AND SURFACE
PARKING (DESIGN-BUILD)
SOUTH CAMPUS - 4965 RIEGEL ROAD

SCO ID NUMBER: 18-19226-01A
CODE: 441828
ITEM: 301

CONTRACTOR
Balfour Beatty
Construction

DESIGNER
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REVISIONS

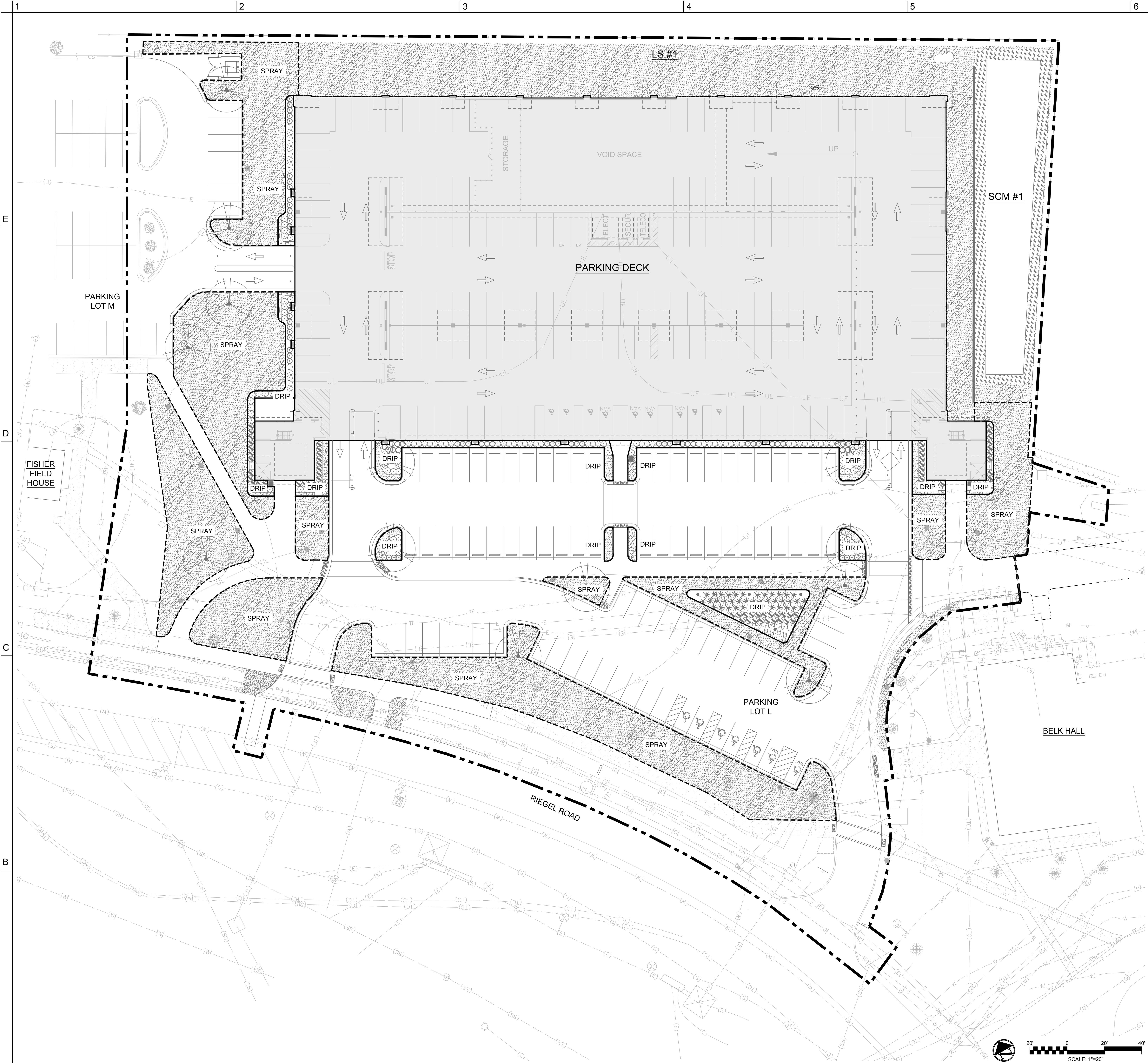
KEY PLAN

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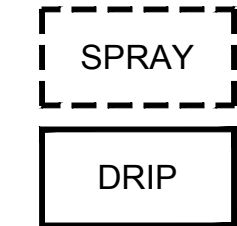
SHEET
LANDSCAPE PLAN

CL100

DESIGN: TRC
DRAWN: TRC
REVIEW: RMC



LEGEND

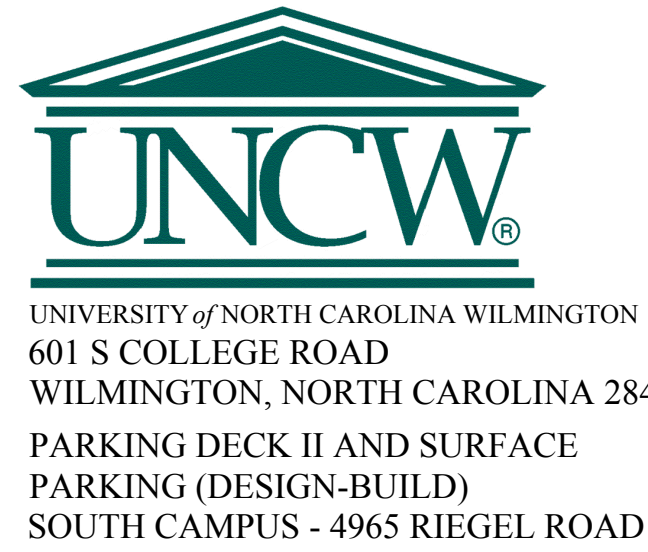


POP-UP SPRAY IRRIGATED AREA
(26,500 SF APPROX.)

DRIP IRRIGATED AREA
(5,100 SF APPROX.)

NOTES

- THIS IRRIGATION PLAN IS CONCEPTUAL IN NATURE TO ILLUSTRATE AREAS TO BE IRRIGATED AND GENERAL DESIGN PARAMETERS. THE FINAL IRRIGATION SYSTEM WILL BE A DESIGN ASSIST PROCUREMENT METHOD BY THE CONTRACTOR.
- MAIN LINE AND LATERAL LINES SHALL BE SLEEVED UNDER ALL DRIVEWAYS AND WALKWAY.
- VALVE BOXES AND EQUIPMENT INSTALLED ABOVE GRADE SHALL BE PLACED IN PLANTING BEDS WHERE POSSIBLE.
- TREES SHALL BE IRRIGATION VIA A 2" DIAMETER DRIP LINE RING.



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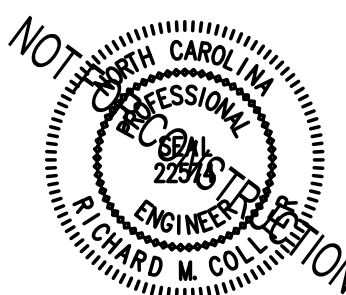
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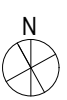
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SHEET
IRRIGATION PLAN

CI100

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REVIEW: RMC

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TEMPORARY SILT FENCE

NTS

NOTES:

1. DRIVE 5-FOOT STEEL POSTS (1.25 lb/lf steel) 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
2. SURROUND THE POSTS WITH AT LEAST 19-GAUGE HARDWARE CLOTH WITH A 1/4-INCH MESH OPENING. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM FOR A MIN. 2 FEET ABOVE THE GROUND. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING AND REMOVAL IS RECOMMENDED.
3. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET. THE TOP ELEVATION OF THE STRUCTURE MUST BE AT LEAST 12-INCHES LOWER THAN THE SURROUNDING GROUND ELEVATION DOWNSLOPE FROM THE INLET TO ENSURE THAT STORM FLOWS GET INTO THE INTENDED INLET; UNLESS OTHER SEDIMENT-CONTROL DEVICES ARE INSTALLED TO PREVENT OFF-SITE SEDIMENT-RUNOFF.

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CONSTRUCTION ENTRANCE

NTS

NOTES:

1. USE MINIMUM 12" DIA. EXCELSIOR WATTLE.
2. USE 2"x2" WOODEN STAKES 2-FT IN LENGTH ON THE UPSLOPE AND DOWNSLOPE AT AN ANGLE TO WEDGE THE WATTLE TO THE BOTTOM OF THE SWALE.
3. STAPLE EVERY 1 LF ON BOTH SIDES OF THE WATTLE TO SECURE IT TO THE BOTTOM OF THE SWALE.

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NTS

NOTE:

NOTE:

NOTES:

1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
4. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
5. TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
6. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

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University of North Carolina at Wilmington

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601 S College Rd, Wilmington, NC 28403

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SHEET
EROSION CONTROL DETAILS

CE501

DESIGN: TRC
DRAWN: TRC
REVIEW: RMC

SEEDBED PREPARATION:

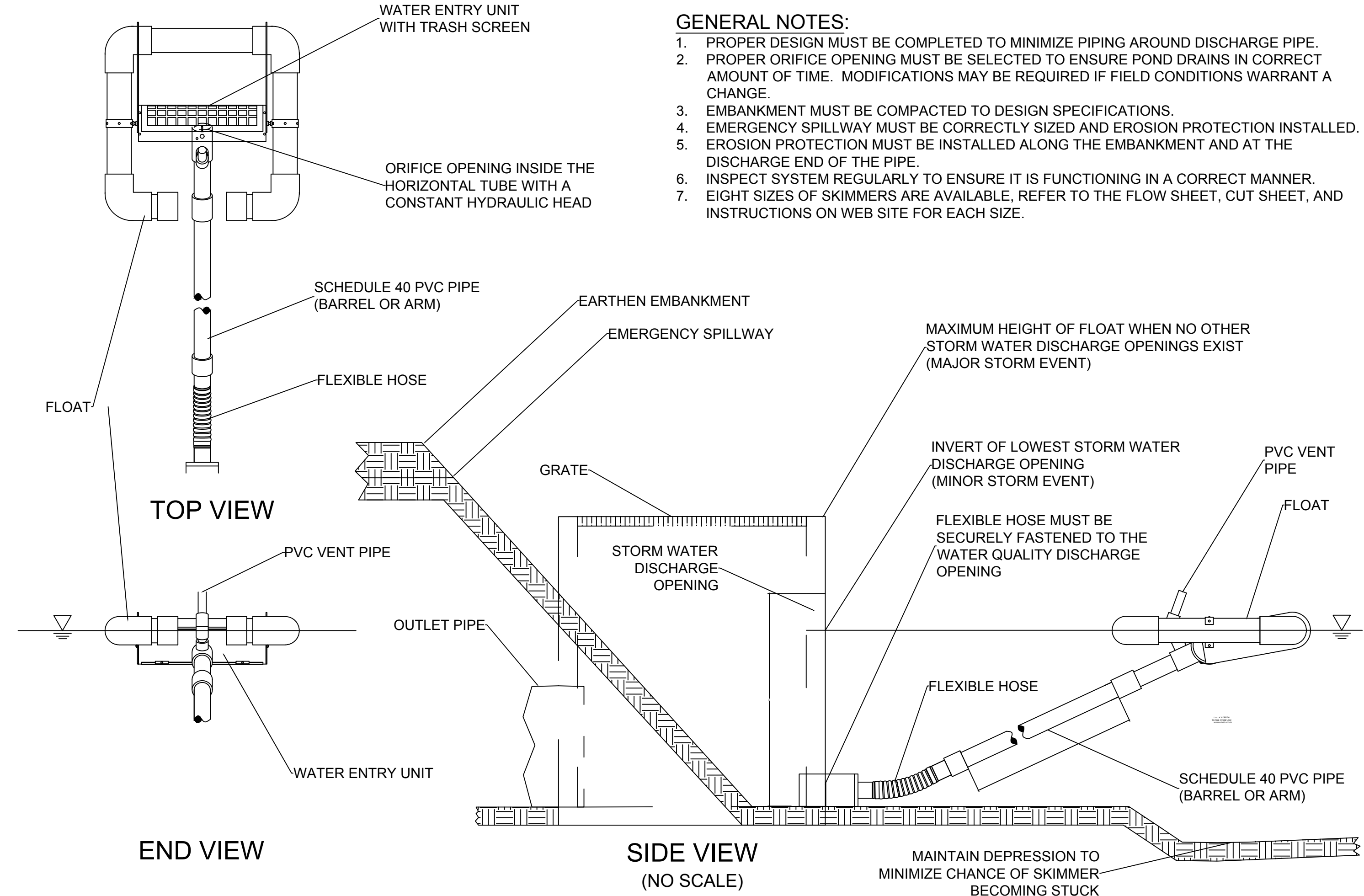
- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- RIP THE ENTRANCE AREA TO 6 INCHES DEPTH.
- REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW*).
- CONTINUE TILLAGE UNTIL A WELL - PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
- SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
- CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
- APPLY:
AGRICULTURAL LIMESTONE - 2 TONS/ACRE
FERTILIZER - 1000 LBS/ACRE (10-10-10)
SUPERPHOSPHATE - 500 LBS/ACRE (20%)
MULCH - 2 TONS/ACRE (SMALL GRAIN STRAW)
ANCHOR - ASPHALT EMULSION AT 450 GAL/ACRE

EROSION CONTROL MAINTENANCE PLAN:

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE-HALF (0.5) INCH OR GREATER RAINFALL OCCURRENCE.
- ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
- SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
- ALL AREAS WILL BE FERTILIZED, RESEEDD AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
- STONE CONSTRUCTION ENTRANCE TO BE CLEANED WHEN SEDIMENT ACCUMULATIONS ARE VISIBLE OR SEDIMENT IS TRACKED ON TO THE PAVEMENT. STONE WILL BE PERIODICALLY TOP DRESSED WITH 2 INCHES OF #4 STONE TO MAINTAIN 6 INCH DEPTH. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS REQUIRED.
- INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (0.5" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED. INLET PROTECTION SHOULD BE CLEANED OUT WHEN IT IS HALF FULL.

EROSION CONTROL NOTES

- ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
- GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE.
- GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
- ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NEW HANOVER COUNTY.
- SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
- ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
- IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEEDED, MULCHED, AND TACKED.
- WITHIN 24 HOURS FOLLOWING ANY RAIN EVENT, THE CONTRACTOR SHALL INSPECT AND REPAIR, AS NECESSARY, ALL DAMAGED EROSION CONTROL MEASURES.
- ALL ACTIVITY AND INSTALLATION OF EROSION CONTROL MATTING WILL BE COMPLETE PRIOR TO ANY RAIN EVENT.



FAIRCLOTH SKIMMER DISCHARGE SYSTEM WITH OUTLET STRUCTURE

J. W. FAIRCLOTH & SON INC.
WWW.FAIRCLOTHSKIMMER.COM
TELEPHONE: (919) 732-1244
FAX: (919) 732-1266
EMAIL: WARREN@FAIRCLOTHSKIMMER.COM

NOTES

SKIMMER BASIN CALCULATION TABLE										
Skimmer No.	Drainage Area ac	Rational C	I10 Intensity in/hr	Q10 Peak Flow cfs	Required SA (350 x Q10) sf	Provided SA (1800cfs/ac x DA) sf	Required Vol. (1800cfs/ac x DA) cfs	Provided Vol. cfs	Storage Depth ft	Storage Vol. Drained ac-ft
TSB-1	1.52	0.95	7.23	10.44	3,654	7,086	5,736	24,769	7.59	24,769

FAIRCLOTH SKIMMER SIZE CALCULATION									
Skimmer No.	Deswaling Time (days)	Skimmer Outflow cfs/day	Skimmer Size in	Orifice Diameter in	Orifice Radius in	Barrel Outflow gpm	Barrel Pipe in		
TSB-1	3	8,256	8.0	2.5	1.2	42.9	32.0	Draw to 30	
TSB-1	3	912	8.0	0.8	0.4	4.7	12.0	Req'd Draw	

Faircloth Skimmer Selection Table		
Skimmer Size in	Outflow Qmax cfs/day	Road ft
1.5	1,728	0.125
2	3,283	0.167
2.5	6,234	0.208
3	9,771	0.250
4	20,109	0.333
5	32,832	0.333
6	51,840	0.417
8	97,978	0.500

- NOTES:
- Q10 Peak Flow were taken from Rational Method.
 - Required Surface Areas and Volumes were taken from NCDENR ESC Manual.
 - Faircloth Skimmer Selection Table taken from Table 4-2, NCDOT Level III-A Design of Sediment & Erosion Control Plans Manual
 - Emergency Weir Width taken from Skimmer Basin Criteria Section of NCDENR ESC Manual Table and/or Hydraulic Routing of the basin to ensure non-erosive velocity.
 - Minimum Barrel Pipe on the Skimmer is 4-inches. (On a 1% slope the capacity is 100 GPM)

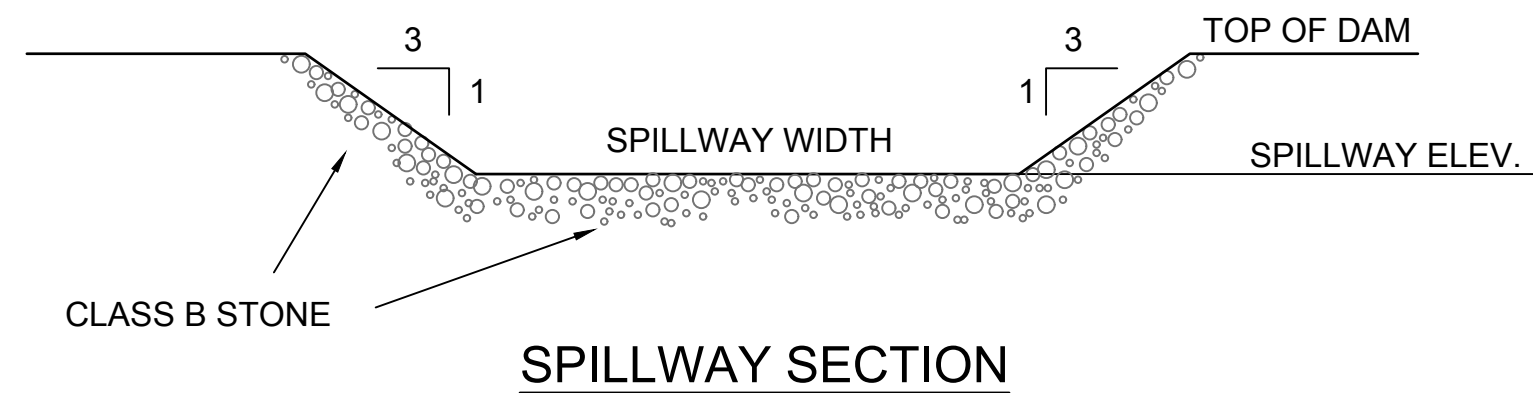
SEDIMENT BASIN CALCULATIONS

TEMPORARY SEEDING			
GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL
RYE GRAIN	1-2 LBS.	APRIL - JUNE	25 LBS. 10-10-10
BROWNTOP MILLET	1-2 LBS	JUNE - AUGUST	25 LBS 10-10-10

PERMANENT SEEDING			
GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL
BERMUDA COMMON	1-2 LBS.	APRIL - JUNE	25 LBS. 10-10-10
FESCUE TALL (KENTUCKY 31)	5-7 LBS	JUNE - AUGUST FEB. - OCT.	25 LBS 10-10-10
SERICEA LESPEDEZA (SLOPES)	1-2 LBS	MARCH - APRIL	25 LBS 10-10-10

NOTE (G.S. 113A-57 (2))
THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

GROUND STABILIZATION CRITERIA		
SITE AREA DESCRIPTION	STABILIZATION TIMEFRAME	STABILIZATION TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10 FT OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FT IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HOW ZONES)



NOTES:

- BAFFLE MATERIAL SHALL BE MATERIALS SUCH AS 700 GPM COIR EROSION BLANKET, COIR MESH, OR TREE PROTECTION FENCE FOLDED OVER TO REDUCE PORE SIZE.
- THE BAFFLE MATERIAL NEEDS TO BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCING AS FOR SILT FENCE.
- LOCATE THE EMERGENCY SPILLWAY ON NATURAL SOILS. AVOID PLACING IT THROUGH FILL MATERIAL WHEREVER POSSIBLE.
- ALL RUNOFF MUST DISCHARGE TO THE INLET SIDE OF THE BASIN. DISCHARGE RUNOFF INTO THE BASIN IN A MANNER THAT MINIMIZES EROSION.

NOTES:

ORIFICE SIZES ARE FOR THE FAIRCLOTH SKIMMER. IF ANOTHER TYPE OF SKIMMER IS USED THE DEVICE MUST BE ABLE TO DRAIN THE BASIN WITHIN 24 - 72 HOURS.

SEEDING & STABILIZATION

SKIMMER SEDIMENT BASIN

FAIRCLOTH SKIMMER



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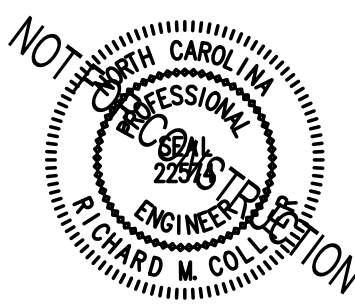
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KEY PLAN



SHEET

EROSION CONTROL DETAILS

CE502

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DRAWN: TRC
REVIEW: RMC

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University of North Carolina at Wilmington

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Public-Private Partnership
601 S College Rd, Wilmington, NC 28403

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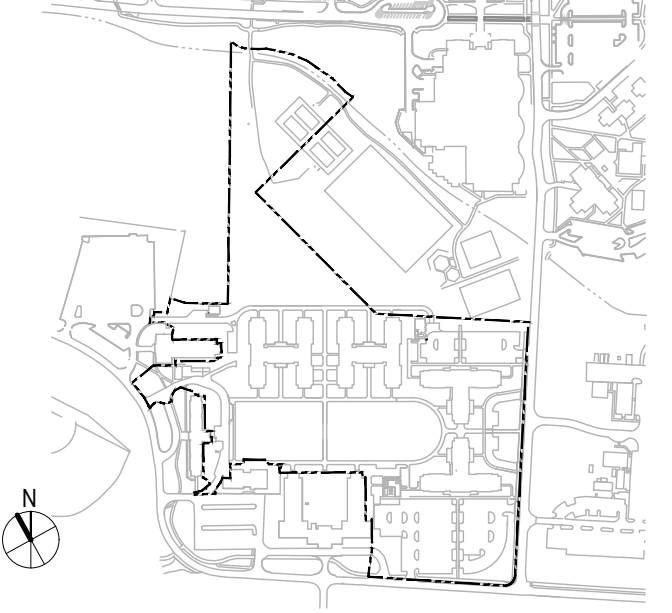
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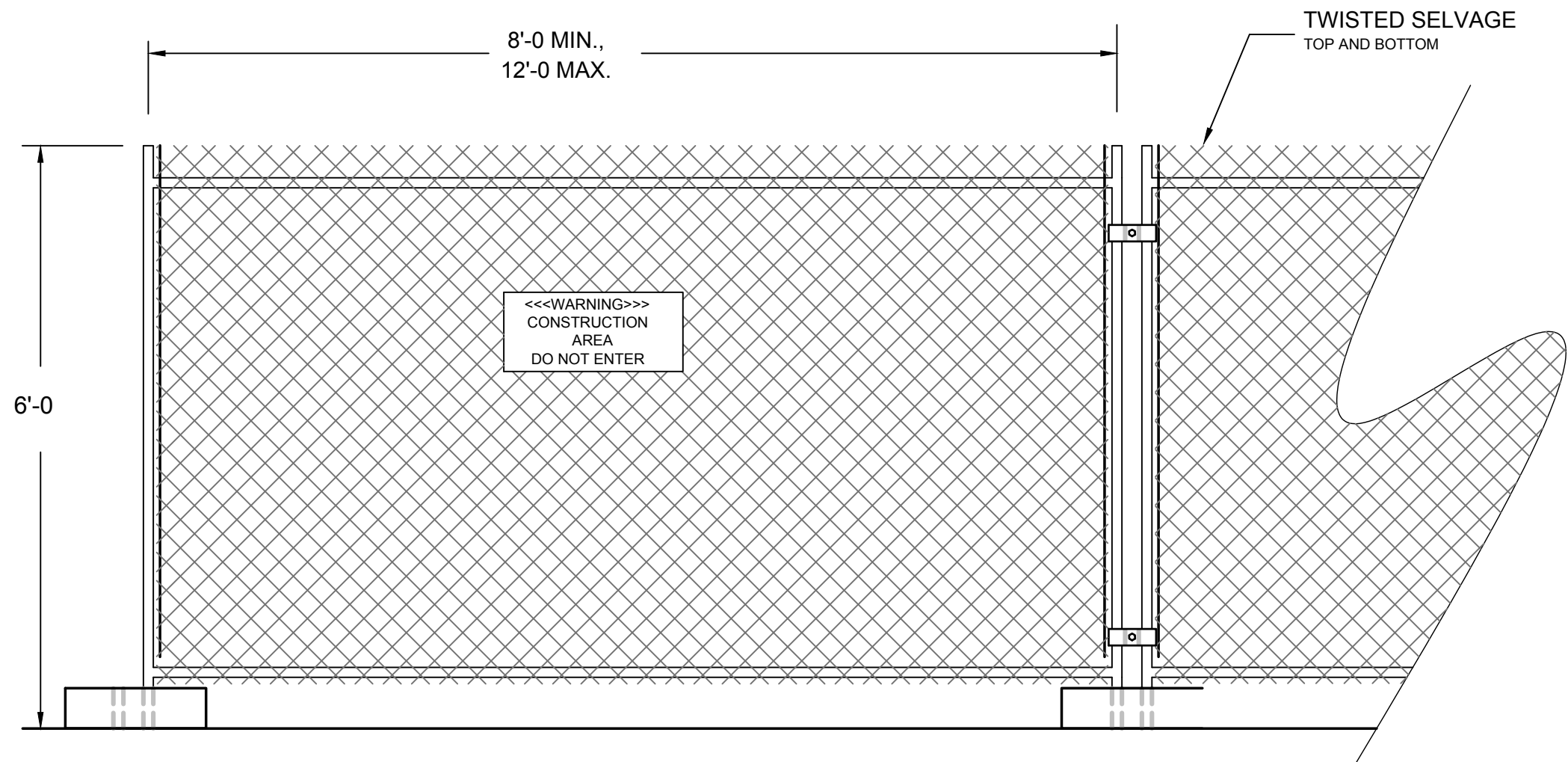
EROSION CONTROL DETAILS

CE503

DESIGN: TRC
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REVIEW: RMC

2 TEMPORARY SECURITY FENCE

NTS

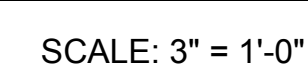


NOTES

- CHAIN LINK FABRIC TO BE MIN. 11 GAUGE, GALVANIZED. NO RUSTED OR EXCESSIVELY MALFORMED FABRIC.
- FENCE BASES SHALL BE OF SUFFICIENT WEIGHT and/or SPREAD TO ADEQUATELY SUPPORT EACH PANEL.
- PANEL-TO-PANEL CONNECTIONS SHALL BE MADE AT A MIN. TWO LOCATIONS PER CONNECTION UNLESS OTHERWISE APPROVED.
- PROVIDE CONSTRUCTION WARNING SIGNAGE 50'O.C. ALONG FENCING INSTALLATION.

1 TEMPORARY CONSTRUCTION FENCING

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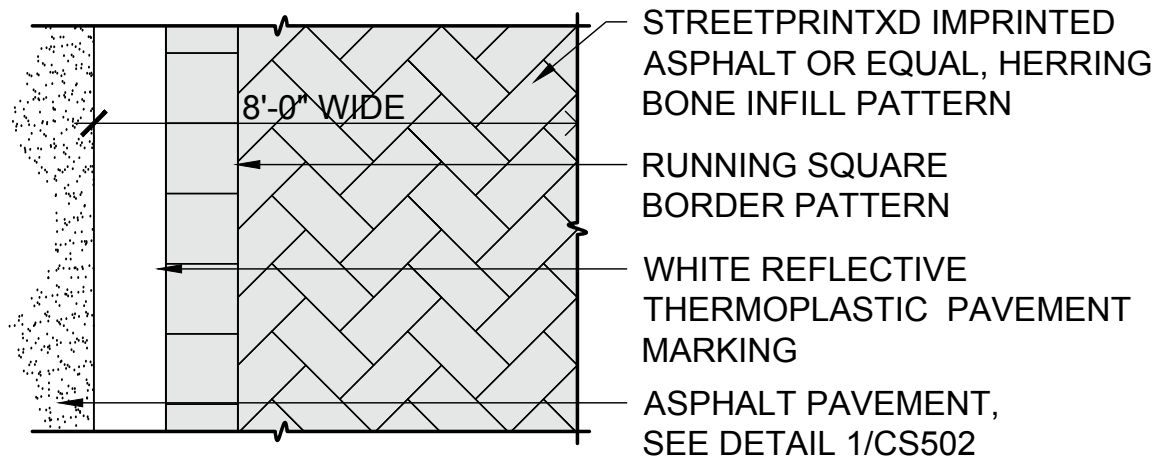


R1-1
STOP SIGN
SEE FIGURE
2B-1, MUTCD.

9 SIGNS

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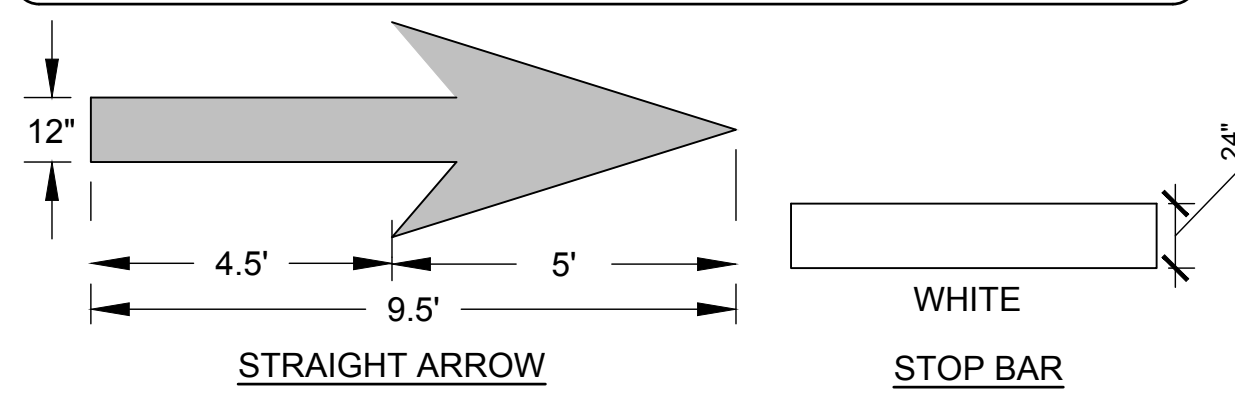
- NOTE:
1. SEE SITE PLAN SHEETS (CS100) FOR LOCATIONS
 2. IMPRINTED ASPHALT TOPICAL TREATMENT TO BE APPLIED TO ASPHALT PAVEMENT TYPE 2, SEE DETAIL 1/CS502.
 3. IMPRINTED ASPHALT COLOR TO BE BRICK RED TO MATCH EXISTING CAMPUS CROSSWALK APPLICATIONS.



8 IMPRINTED ASPHALT CROSSWALK

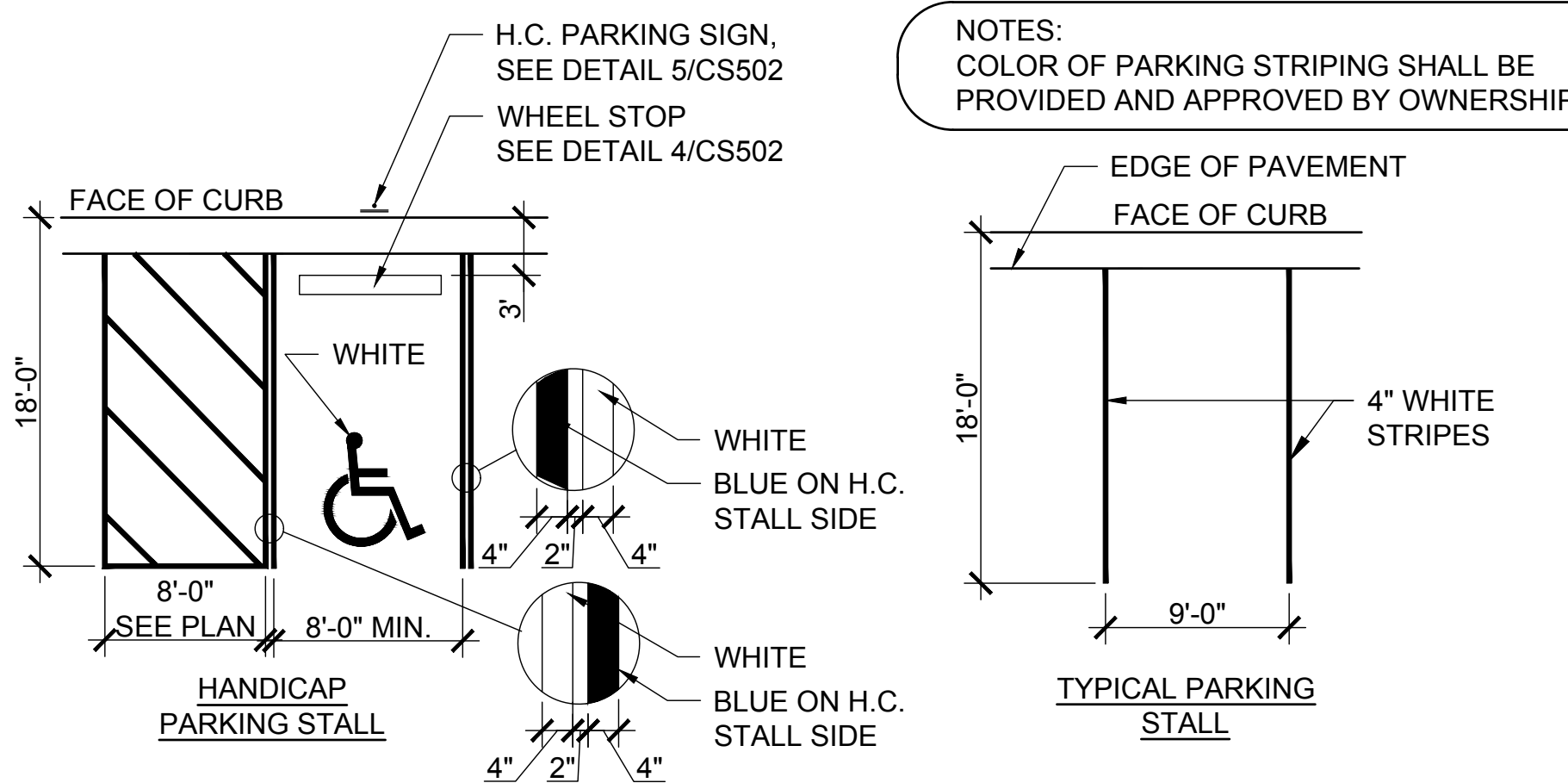
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- NOTES:
1. GENERALLY, PERMANENT MARKINGS WILL BE UNIFORM AND SMOOTH AND WILL CONSIST OF 120MIL OF THERMOPLASTIC FOR ALL LINES AND SYMBOLS; TEMPORARY MARKINGS SHALL CONSIST OF 15 MIL PAINT, EVERY 6 MONTHS.
 2. DURING APPLICATION THE EXISTING PAVEMENT SHALL NOT SHOW SIGNS OF MOISTURE AND BE CLEAN, FREE OF DIRT AND OIL, ETC. THERMOPLASTIC SHALL ONLY BE INSTALLED WHERE PAVEMENT IS 50° F AND RISING. PAINT SHALL ONLY BE INSTALLED WHERE PAVEMENT IS 40° F AND RISING.
 3. SEE DETAIL 6/CS502 FOR PARKING LOT PAVEMENT MARKINGS.



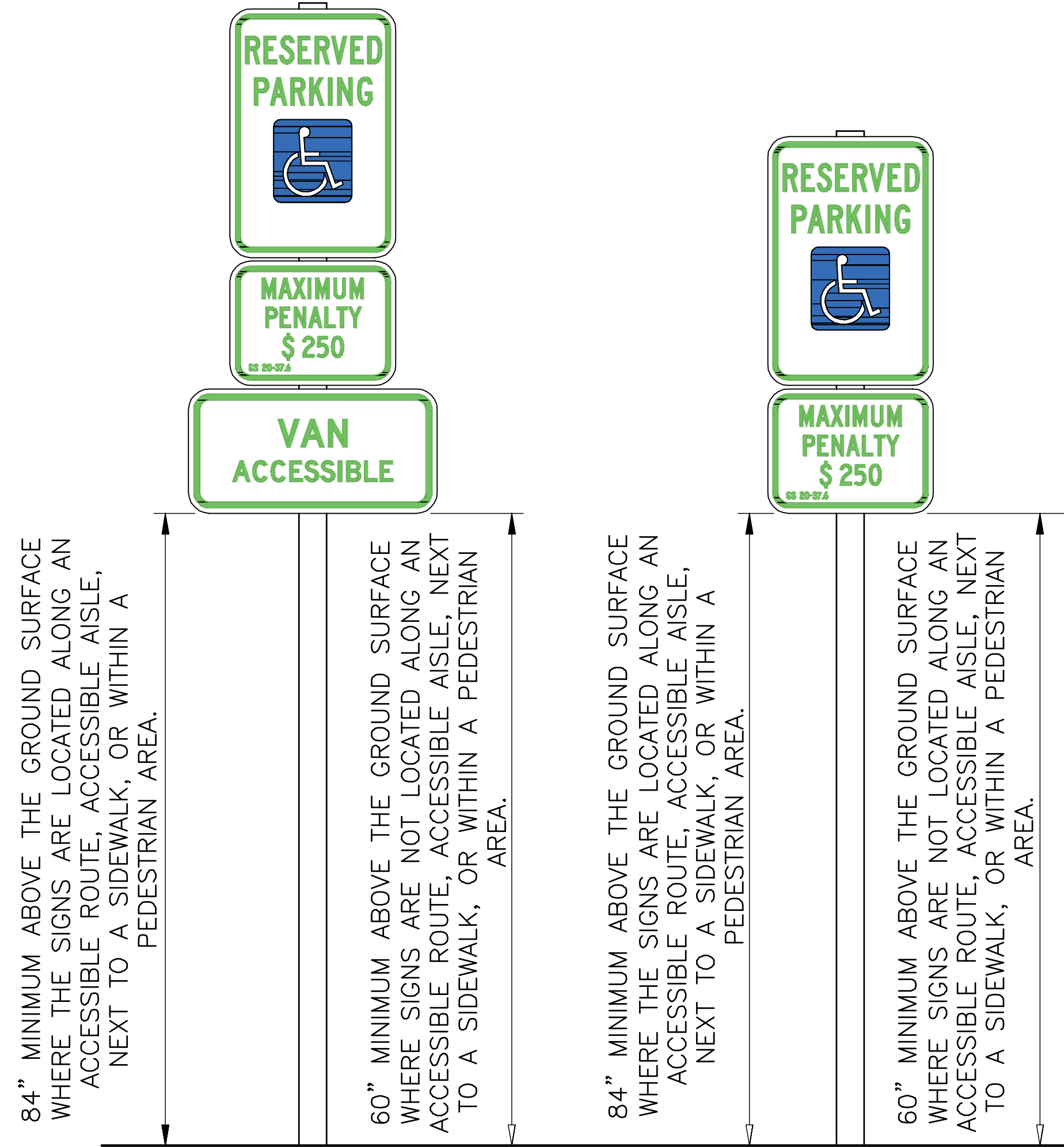
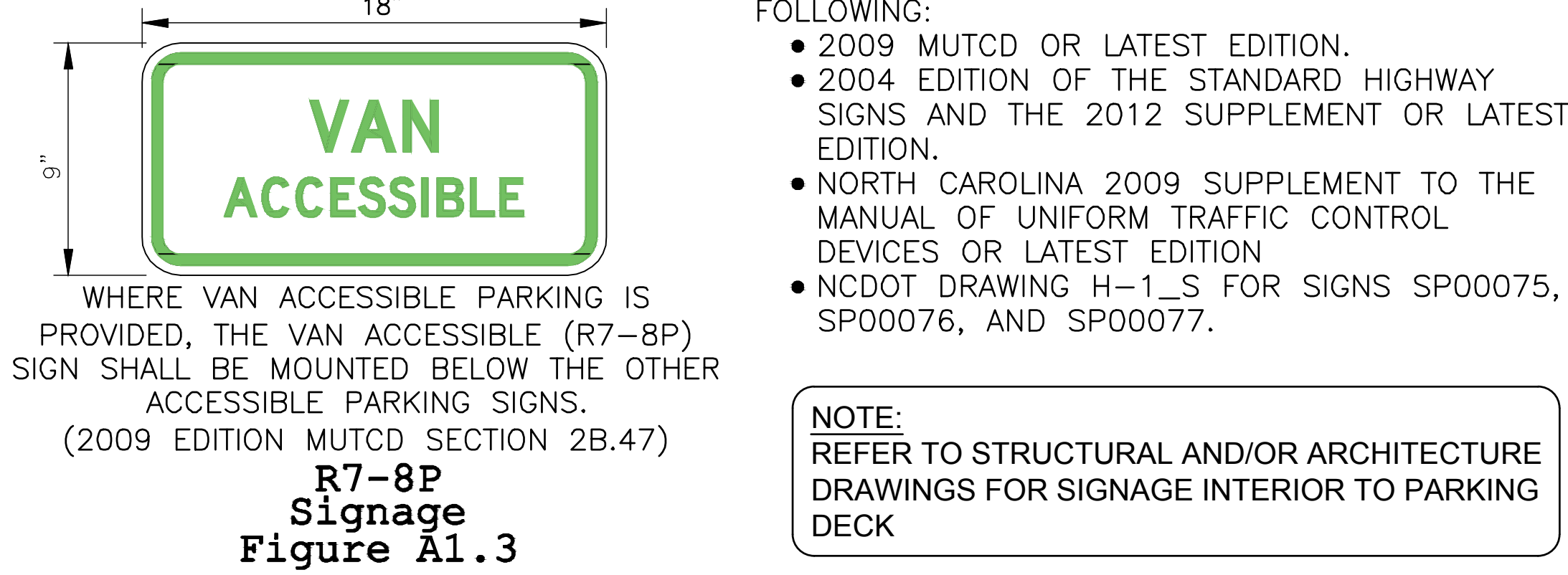
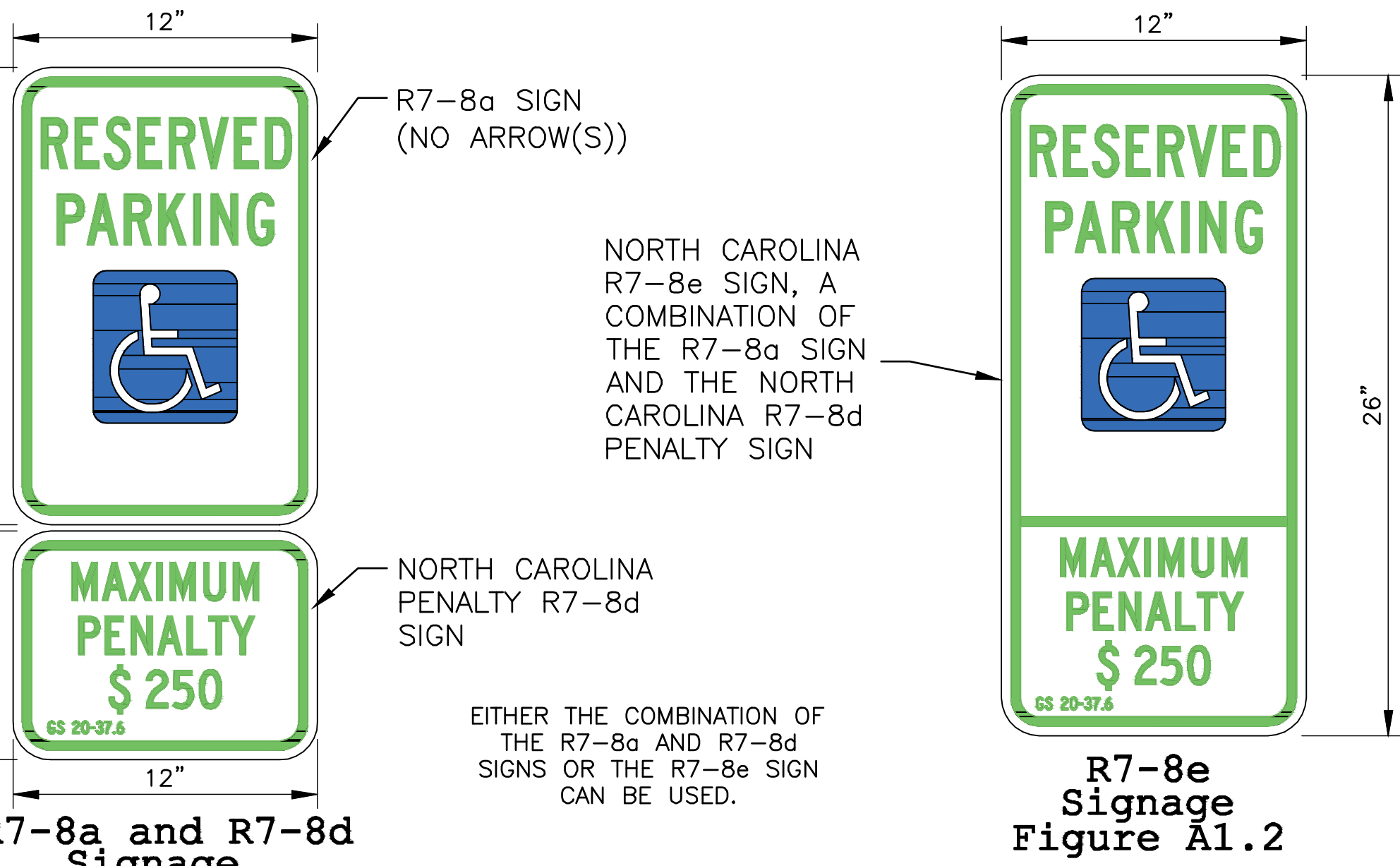
7 PAVEMENT MARKINGS

SCALE: NTS



6 ACCESSIBLE PARKING SIGN AND PARKING SPACE LAYOUT

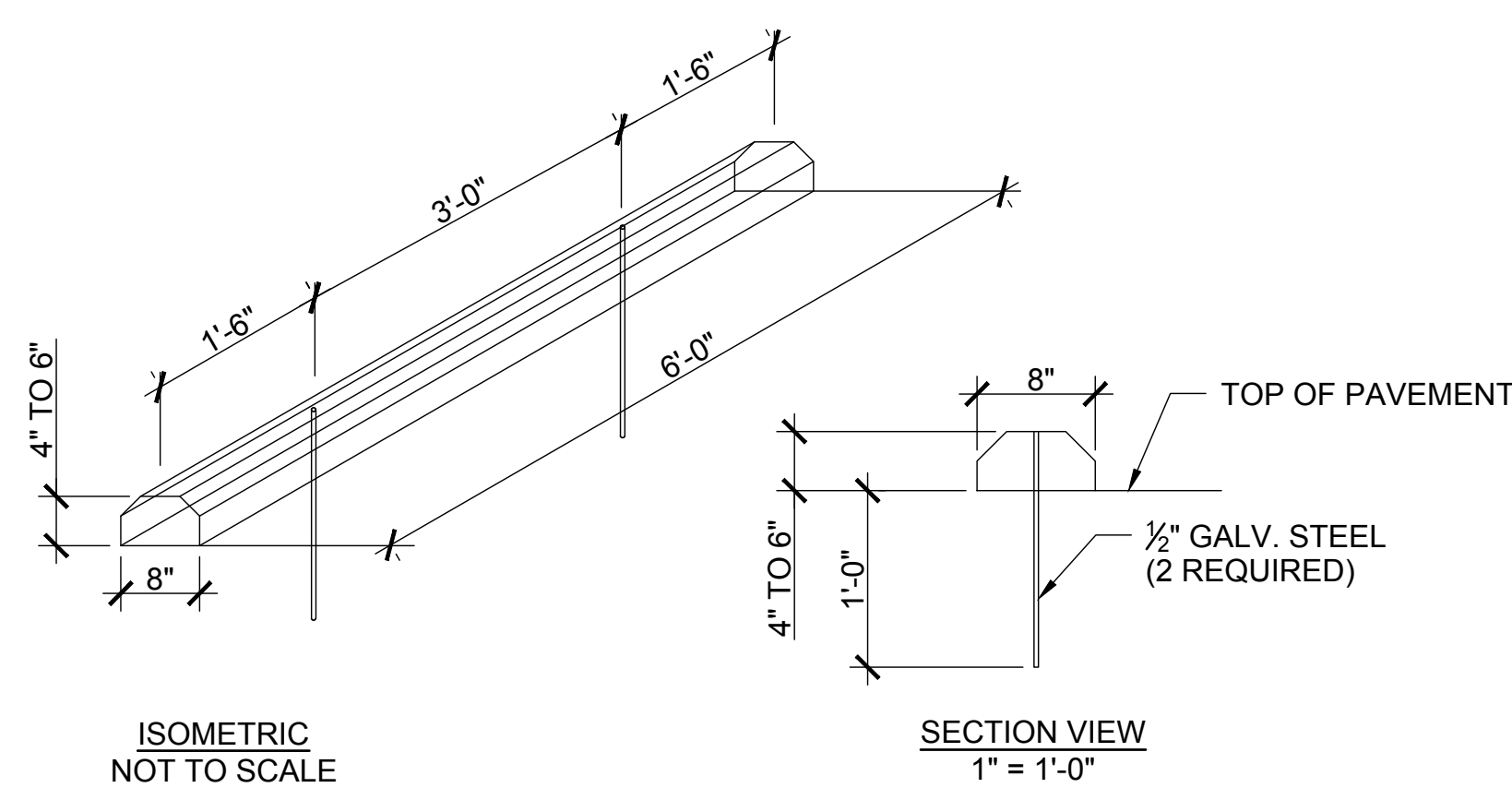
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Signage Height
Figure A2.1

5 ACCESSIBLE PARKING SIGNAGE

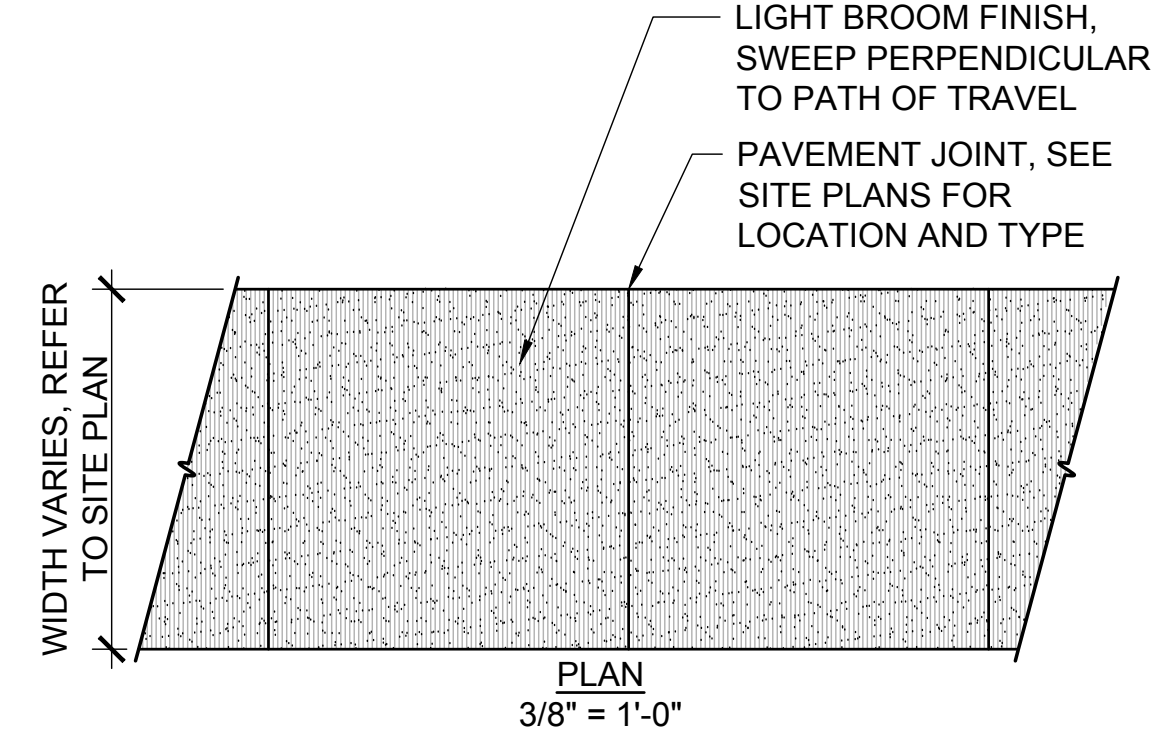
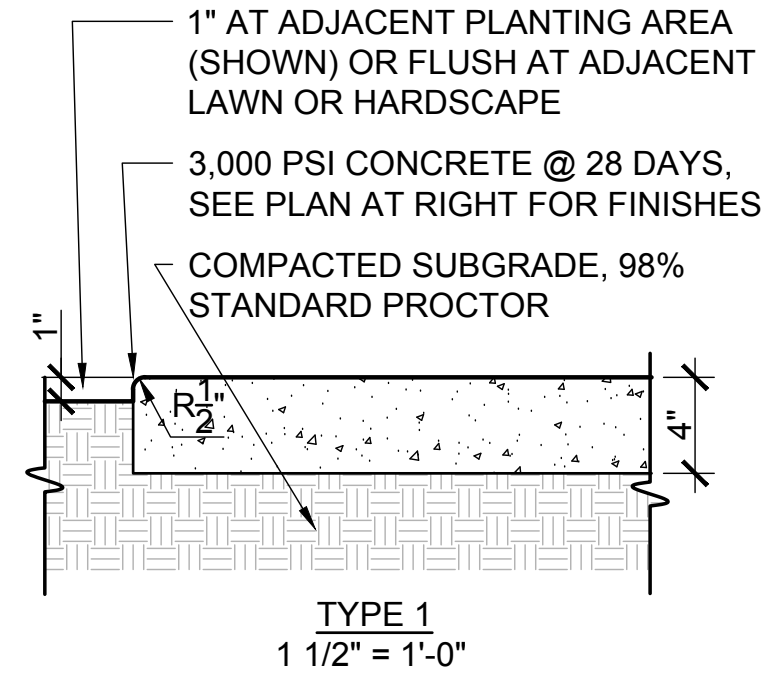
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4 CONCRETE WHEEL STOP

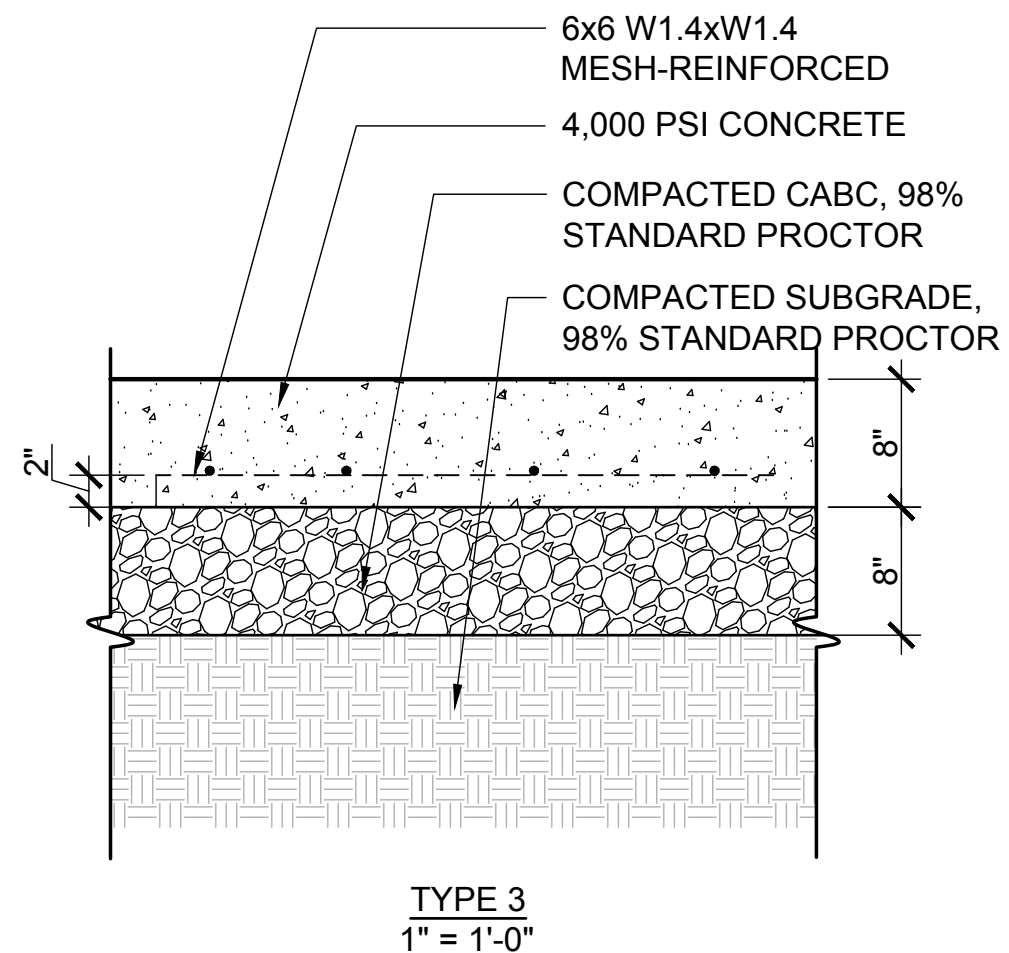
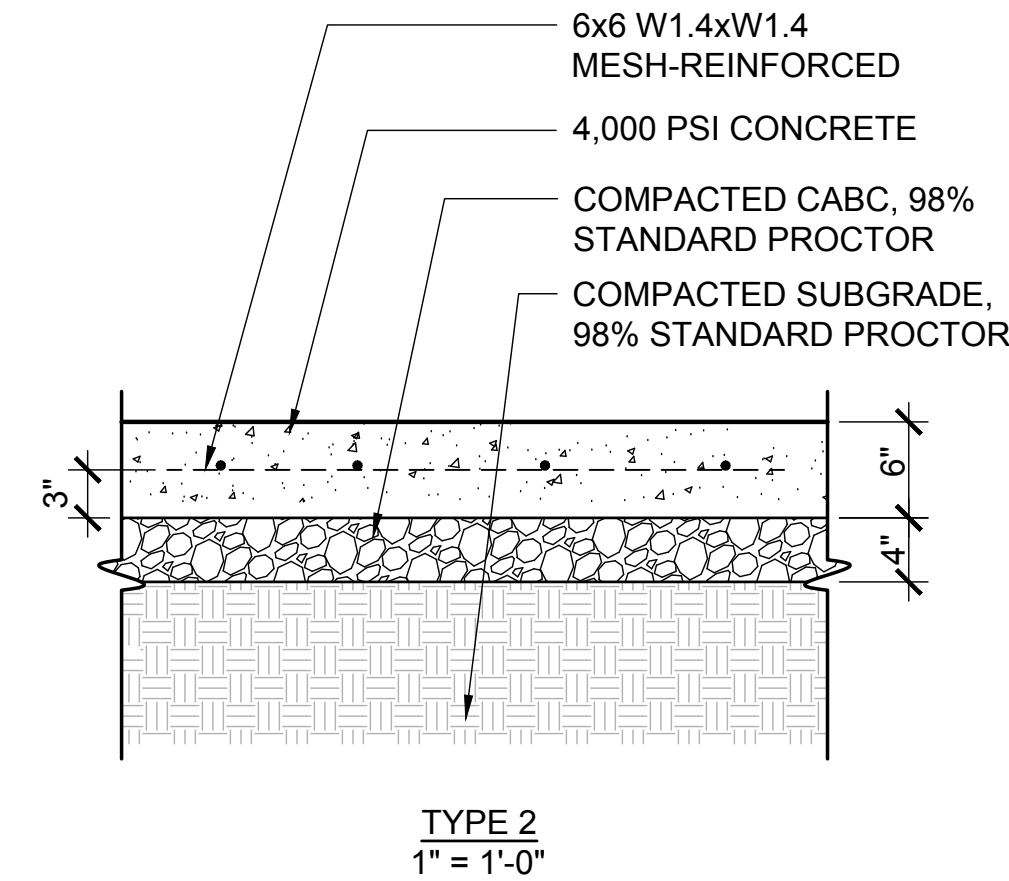
SCALE = 1" = 1'-0"

- NOTES:
1. ALL WALKWAYS SHALL MEET OR EXCEED GOVERNING MUNICIPALITIES REQUIREMENTS.
 2. SUBGRADE SHALL NOT CONTAIN ANY ORGANIC MATTER.
 3. REFER TO SITE PLANS FOR PAVEMENT JOINT TYPES AND LOCATIONS
 4. PER ADA REQUIREMENTS: MAXIMUM CROSS SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:48, MAXIMUM RUNNING SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:20, WALKING SURFACES ALONG AN ACCESSIBLE ROUTE STEEPER THAN 1:20 REQUIRE RAMPS, RAMP RUNS WITH A RISE GREATER THAN 6" SHALL HAVE HANDRAILS, RAMP RUNS SHALL HAVE A RUNNING SLOPE NOT STEEPER THAN 1:12, MAXIMUM RISE PER RAMP IS 30". LANDINGS MUST BE PROVIDED WHERE NECESSARY. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.



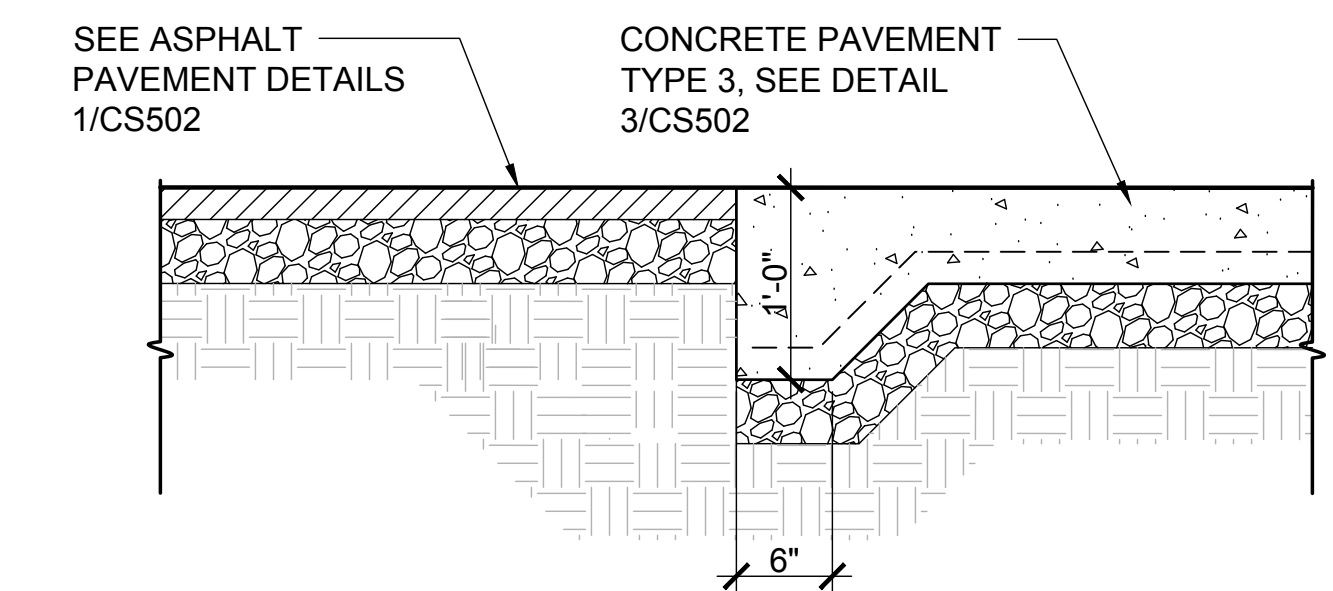
NOTE: PAVEMENT SHALL BE CONSTRUCTED OF 4,000 PSI CONCRETE. REINFORCEMENT SHALL BE WELDED WIRE FABRIC SPACED 6" O. C. BOTH DIRECTIONS, AS INDICATED BELOW. SURFACE FINISHES AND JOINTS SHALL BE AS INDICATED IN SPECIFICATIONS.

NOTE: PAVEMENT SHALL BE CONSTRUCTED OF 4,000 PSI CONCRETE. REINFORCEMENT SHALL BE WELDED WIRE FABRIC SPACED 6" O. C. BOTH DIRECTIONS, AS INDICATED BELOW. SURFACE FINISHES AND JOINTS SHALL BE AS INDICATED IN SPECIFICATIONS.



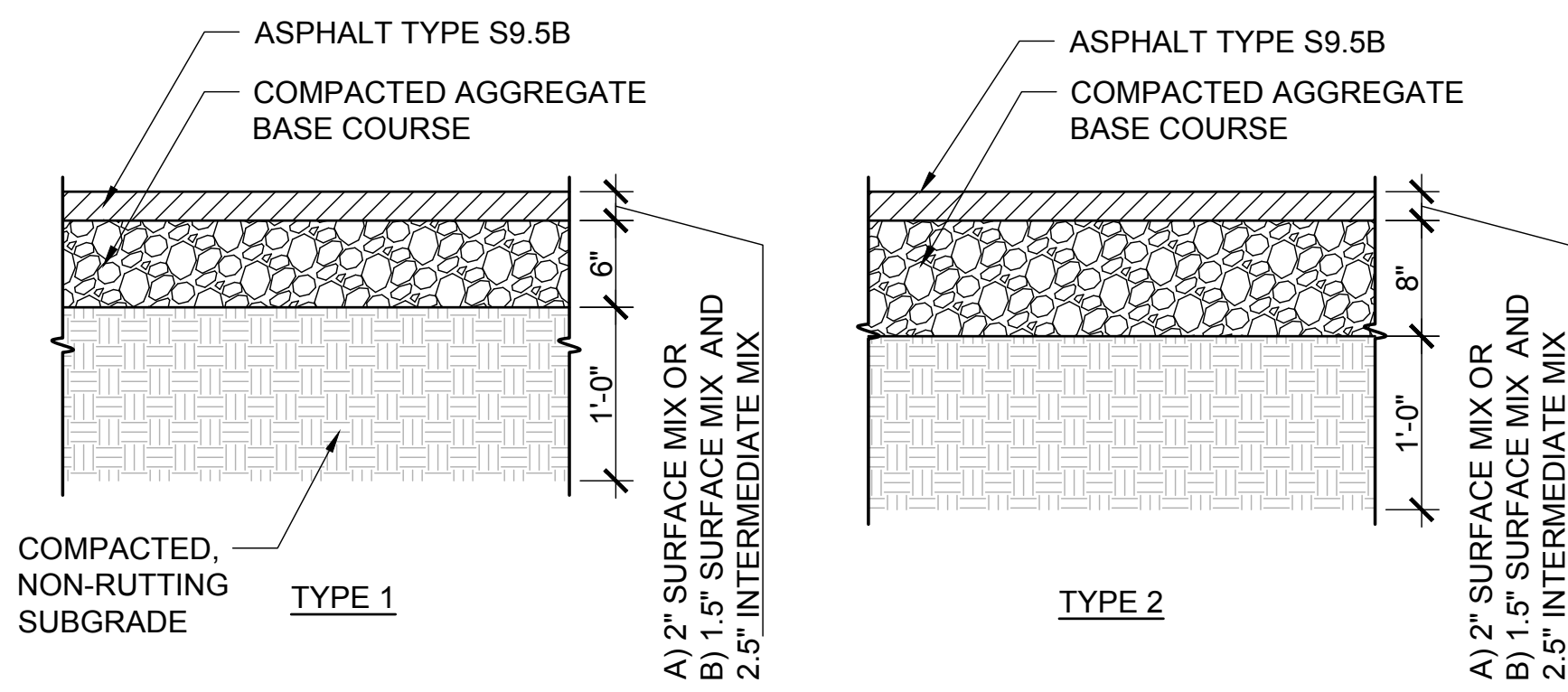
3 CONCRETE PAVEMENT

SCALE: 1" = 1'-0"



2 CONCRETE TO ASPHALT TRANSITION

NTS



1 ASPHALT PAVEMENT

SCALE: 1" = 1'-0"

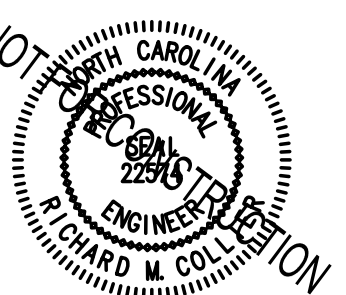
DESIGNER

CLARK NEXSEN LICENSE NUMBER: C-1028

CONSULTANTS

CORPORATE SEAL

PROFESSIONAL SEAL



SUBMITTAL

3/29/2019

75% CONSTRUCTION
DOCUMENTS

REVISIONS

KEY PLAN



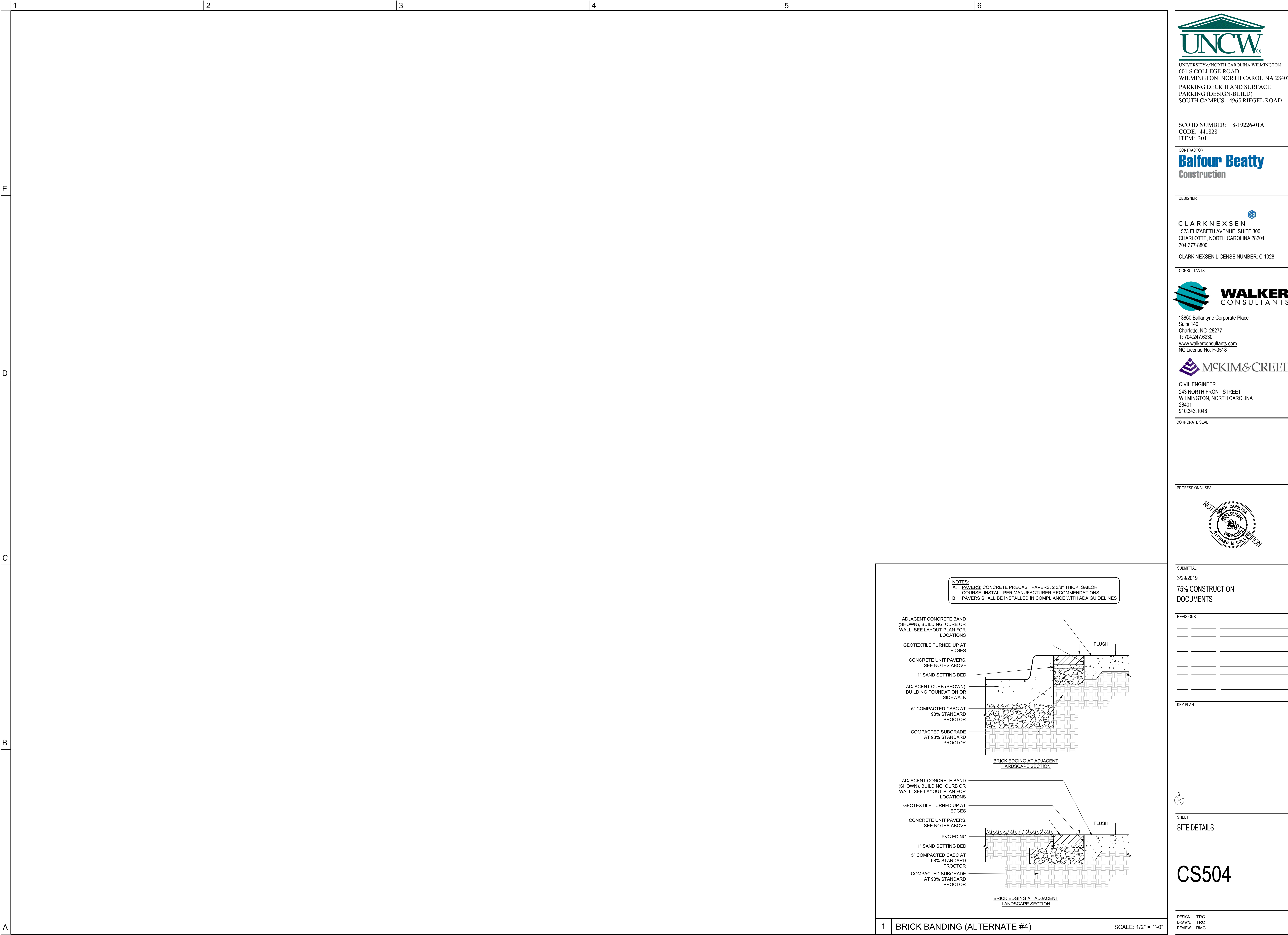
SHEET

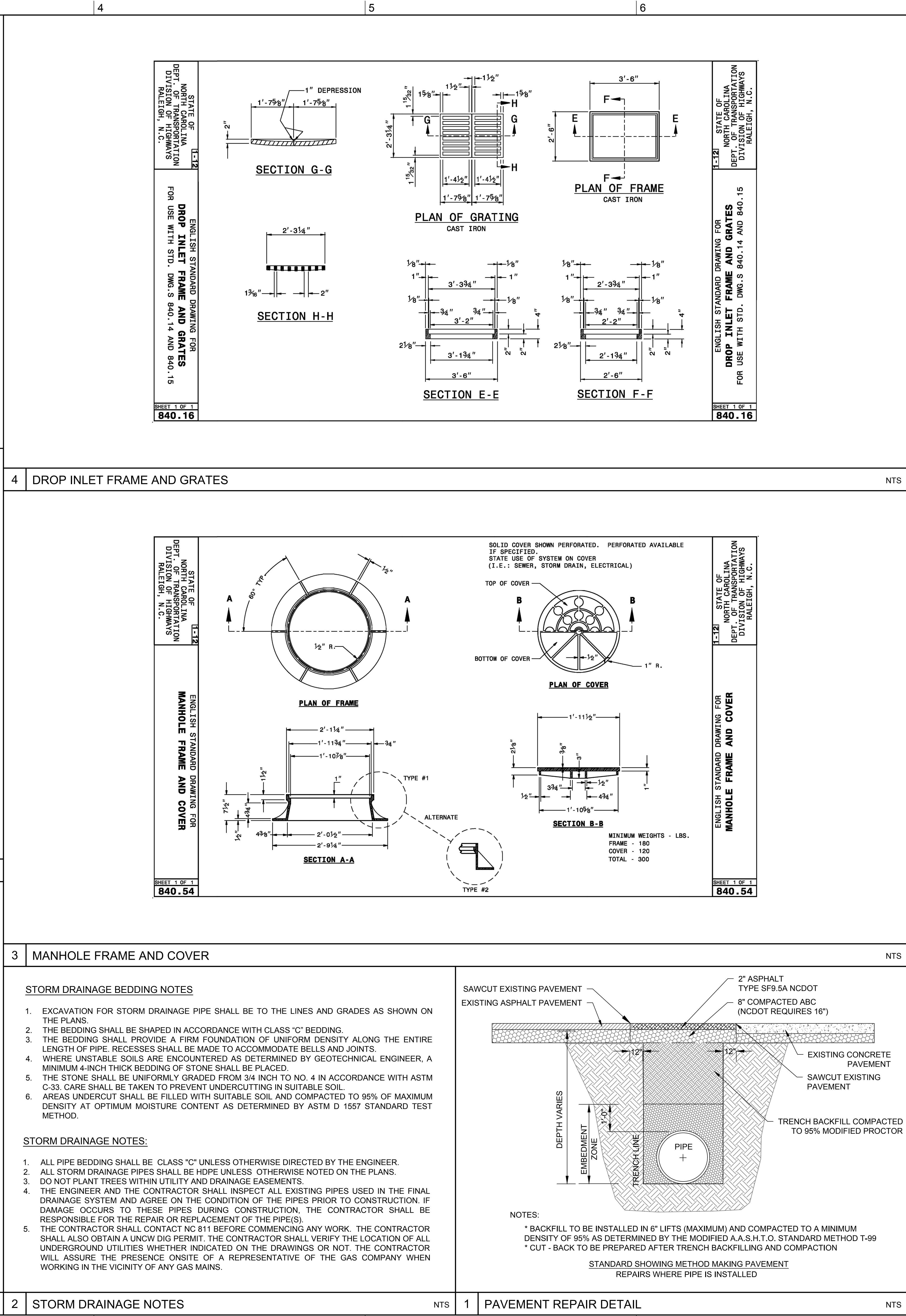
SITE DETAILS

CS502


DESIGN: TRC
DRAWN: TRC
REVIEW: RMC

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D	1	2	3	4	5	6	1	2	3	4	5	6
C	1	2	3	4	5	6	1	2	3	4	5	6
B	1	2	3	4	5	6	1	2	3	4	5	6
A	1	2	3	4	5	6	1	2	3	4	5	6
M	1	2	3	4	5	6	1	2	3	4	5	6
D	1	2	3	4	5	6	1	2	3	4	5	6
C	1	2	3	4	5	6	1	2	3	4	5	6
B	1	2	3	4	5	6	1	2	3	4	5	6
A	1	2	3	4	5	6	1	2	3	4	5	6




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PARKING DECK II AND SURFACE
PARKING (DESIGN-BUILD)
SOUTH CAMPUS - 4965 RIEGEL ROAD

SCO ID NUMBER: 18-19226-01A
CODE: 441828
ITEM: 301

CONTRACTOR
Balfour Beatty Construction

DESIGNER
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DESIGN: TRC
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REVIEW: RMC

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