GENERAL NOTES

ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON THIS SHEET SHALL APPLIED TO ALL CONTRACT DOCUMENTS AND SHEETS IN THIS SET.

1. THE GENERAL CONTRACTOR SHALL FIELD VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AT THE JOB SITE.
2. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARK AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR WITH THE SURVEYOR OF RECORD PRIOR TO BEGINNING CONSTRUCTION. ONE BENCHMARK IS A NAIL SET IN THE PAVEMENT NEAR THE SOUTHWEST CORNER OF THE PARKING LOT WITH AN ELEVATION OF 202.82. THE OTHER BENCHMARK IS LOCATED IN A LOT NORTH OF E H STREET WITH AN ELEVATION OF 193.69.
3. THE VERTICAL DATUM FOR THIS SURVEY IS BASED ON NAVD 88.
4. ALL DIMENSIONS AND ALL ELEVATIONS ARE MEASURED TO BACK OF CURB UNLESS OTHERWISE NOTED.
5. THE INTENT OF THE LIMITS OF DISTURBANCE/CONSTRUCTION (LOD/C) SHOWN ON THE DRAWINGS IS TO DEFINE THE GENERAL PROJECT AREA TO CONSTRUCT, INSTALL AND/OR MODIFY THE SITE. TYPICALLY, THE LOD/C WILL FOLLOW RIGHT-OF-WAY OR PROPERTY LINES. THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE REGARDING ANY QUESTIONS AS TO THE EXACT LOCATION OF THE LOD/C PRIOR TO BID AND PRIOR TO BEGINNING CONSTRUCTION. ALL ITEMS SHOWN ON THESE PLANS THAT DO NOT SPECIFICALLY STATE 'NOT-IN-CONTRACT (NIC), SHALL BE INCLUDED IN THE BID COST, INCLUDING ITEMS THAT MAY BE OUTSIDE THE PROJECT LIMITS.
6. LOCATIONS OF EXISTING UTILITY LINES HAVE BEEN TAKEN FROM UTILITY RECORDS SUPPLEMENTED BY FIELD INSPECTIONS AND SHOULD INDICATE IN GENERAL THE TYPE OF UNDERGROUND UTILITIES NOW IN SERVICE. LOCATIONS SHOWN ARE NOT GUARANTEED. DEVELOPERS AND/OR CONTRACTORS SHALL NOT ONLY MAKE SUBSURFACE INVESTIGATIONS BUT SHALL ALSO ALLOW FOR CONTINGENCIES WHICH MIGHT ARISE BY REASON OF ENCOUNTERING UNRECORDED LINES OR LINES BEING IN DIFFERENT LOCATIONS THAN INDICATED ON THESE PLANS. AT LEAST 48-HOURS PRIOR OR SOONER IF REQUIRED BY THE LOCAL MUNICIPALITY TO ANY CONSTRUCTION ACTIVITY, EXCAVATION, GRADING, OR DIGGING ON THE SITE, THE GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES TO VERIFY AND/OR FIELD-LOCATE THEIR RESPECTIVE UTILITIES (THE NORTH CAROLINA ONE CALL CENTER – 1-800-632-4949). ALL DAMAGE INCURRED TO EXISTING UTILITY LINES DURING CONSTRUCTION SHALL BE REPAIRED AT THE GENERAL CONTRACTORS EXPENSE.
7. ALL WASTE MATERIAL TO BE BROUGHT OFF-SITE SHALL BE DISPOSED OF IN A LEGALLY PERMITTED DISPOSAL SITE.
8. A FORMAL EROSION AND SEDIMENTATION CONTROL PERMIT IS REQUIRED FOR THIS SITE UNDER THE REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (NCDENR). THE GENERAL CONTRACTOR IS REQUIRED TO AND SHALL FOLLOW ALL LOCAL, STATE AND FEDERAL REGULATIONS TO MINIMIZE EROSION AND THE TRANSPORT OF SEDIMENT OFF-SITE DURING, INCLUDING THE PLACEMENT AND MAINTENANCE OF CONTROL MEASURES. ALL MEASURES REQUIRED SHALL BE INCLUDED IN THE BID COST WHETHER SPECIFICALLY INDICATED OR NOT.
9. ANY AND ALL PARKING STRIPES SHALL BE 4" WIDE AND SHALL BE MARKED WITH STANDARD WHITE TRAFFIC PAINT. ALL ISLANDS AND TRAFFIC ARROWS SHALL BE MARKED WITH STANDARD WHITE TRAFFIC PAINT.
10. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL ERWIN, HARNETT COUNTY & STATE REQUIREMENTS.
11. DISTURBED AREAS NOT COVERED BY ASPHALT OR OTHER IMPERMEABLE SURFACES SHALL BE SEEDED AND STABILIZED PER SPECIFICATIONS.
12. ACCESSIBLE PARKING SPACES, ACCESS AISLES, & SIGNAGE SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND INSTALLED PER FEDERAL, STATE, AND LOCAL REQUIREMENTS UNDER THE AMERICANS WITH DISABILITIES ACT (ADA). STANDARD R7-8 RESERVED PARKING AND MAXIMUM PENALTY $250 NCGS 20.37.6 SIGNS MUST BE INSTALLED IN FRONT OF ALL ACCESSIBLE PARKING SPACES. "VAN ACCESSIBLE" SIGNS MUST BE PROVIDED IN FRONT OF THE VAN ACCESSIBLE PARKING SPACE(S).
13. ALL TRAFFIC CONTROL DEVICES, PAVEMENT MARKINGS, SIGNS, AND SIGNALS SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN CONFORMANCE WITH THE STANDARDS SET FORTH IN THE NORTH CAROLINA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
14. SURVEY, BASE MAPPING, & TOPOGRAPHICAL DATA PROVIDED BY LKC ENGINEERING, PLLC; JEFFREY GREEN, PLS, LIC. # L-3972; 140 AQUA SHED CT., ABERDEEN, NC 28315, TEL #: 910-420-1436.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING TREE PROTECTION FENCING AROUND ALL "AT-RISK" TREES WITHIN THE VICINITY OF THE CONSTRUCTION ACTIVITY WHETHER SPECIFICALLY INDICATED ON THE PLANS OR NOT. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO BEGINNING ANY CONSTRUCTION OR OTHER DEVELOPMENT ACTIVITIES, AND SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE DURATION OF THE PROJECT UNTIL FINAL SITE INSPECTION. REFER TO CONSTRUCTION PLAN DETAIL SHEETS FOR TREE PROTECTION DETAIL(S).
16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY & THE NORTH CAROLINA DEPARTMENT OF WATER QUALITY FOR APPROVAL TO REMOVE ALL CONSTRUCTED TEMPORARY & PERMANENT EROSION & SEDIMENTATION CONTROL MEASURES, AND FOR THE APPROVAL OF PERMANENT GROUND COVER.
17. CONTRACTOR SHALL INSTALL A RAIN GAUGE AND MAINTAIN A MONITORING LOG ACCORDING TO NCDENR REQUIREMENTS UNTIL THE AGENCY HAS RELEASED THE SITE.
18. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL ACCORDING TO NCDOT REQUIREMENTS DURING THE CONSTRUCTION OF IMPROVEMENTS IN THE RIGHT-OF-WAY.
19. CONTRACTOR SHALL PROVIDE RED-LINE PRINTS OF ALL CHANGES AND MODIFICATIONS. THIS INFORMATION SHALL BE PROVIDED TO THE DESIGNER OF RECORD AT THE TIME OF SUBSTANTIAL COMPLETION.
20. CONTRACTOR SHALL INSTALL 6-FT HIGH TEMPORARY CHAIN LINK CONSTRUCTION FENCING IN ALL AREAS WHERE DIRECT ACCESS TO CONSTRUCTION ACTIVITY IS POSSIBLE, AND SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH THE OWNER REGARDING THE LOCATION OF THE CONSTRUCTION FENCE AND PEDESTRIAN TRAFFIC CONTROL DURING CONSTRUCTION. ALL FENCING SHALL BE INCLUDED IN THE BID COST WHETHER SPECIFICALLY INDICATED OR NOT.
21. FINAL INSPECTION AND APPROVAL SHALL BE MADE PRIOR TO CERTIFICATE OF OCCUPANCY BEING ISSUED.
22. CONTRACTOR SHALL MAINTAIN A COPY OF THE LOCAL AUTHORITY'S APPROVED PLANS ALONG WITH ANY PERMIT LETTERS THAT HAVE BEEN MARKED "APPROVED" OR "APPROVED AS CORRECTED" ON SITE DURING CONSTRUCTION.
23. ALL EXCAVATION IN THE PROJECT AREA SHALL BE UNCLASSIFIED. CONTRACTOR SHALL INCLUDE ALL COST ASSOCIATED WITH SOIL MATERIAL REMOVAL, REPAIR AND DISPOSAL UNDER THE BASE BID SCOPE OF WORK.

ABBREVIATIONS

ABBREVIATION:	DESCRIPTION:	ABBREVIATION:	DESCRIPTION:
A/C	AIR CONDITIONING	NIC	NOT IN CONTRACT
ADJ	ADJACENT	NTS	NOT TO SCALE
AL	AREA LIGHT		
APROX	APPROXIMATE	O.C.	ON CENTER
ASSM	ASSEMBLY	OHE	OVERHEAD ELECTRIC
ASPH	ASPHALT		
		PC	POINT OF CURVATURE
BLDG	BUILDING	PI	POINT OF INTERSECTION
B.O.	BLOW-OFF	PIV	POST INDICATION VALVE
BOC	BACK OF CURB	PP	POWER POLE
BOW	BOTTOM OF WALL	PT	POINT OF TANGENCY
BX	BOX	PVC	POLYVINYL CHLORIDE
		PVMT	PAVEMENT
C.F.	CUBIC FOOT		
CI	CURB INLET	R	RADIUS
CL	CENTER LINE	R.J.	RESTRAINED JOINT
CONC	CONCRETE	R/W, ROW	RIGHT OF WAY
CONST	CONSTRUCTION	RCP	REINFORCED CONCRETE PIPE
CY	CUBIC YARD	RDCO	ROOF DRAIN CLEAN OUT
		REQD	REQUIRED
DEMO	DEMOLISH (DEMOLITION)	RQMT	REQUIREMENT
DP	DEEP	RT	RIGHT
DI	DUCTILE IRON	RWM	RIGHT OF WAY MONUMENT
D.I.P.	DUCTILE IRON PIPE		
DIA	DIAMETER	SCH	SCHEDULE
DIM	DIMENSION	SD	STORM DRAIN
DWG	DRAWING	SDCO	STORM DRAIN CLEAN OUT
		SDMH	STORM DRAIN MANHOLE
ECM	EXISTING CONCRETE MONUMENT	SED	SEDIMENT
EIP	EXISTING IRON PIPE	SF	SQUARE FOOT
EIS	EXISTING IRON STAKE	SPEC	SPECIFICATION
ELEC	ELECTRIC	SQ	SQUARE
ELEV	ELEVATION	SS	SANITARY SEWER
ELMH	ELECTRICAL MANHOLE	SSCO	SANITARY SEWER CLEAN OUT
ENCL	ENCLOSURE	SSMH	SANITARY SEWER MANHOLE
EOC	EDGE OF CONCRETE	STA	STATION
EOP	EDGE OF PAVEMENT	SY	SQUARE YARD
EQPT	EQUIPMENT		
ESMT	EASEMENT	TBM	TEMPORARY BENCHMARK
EX	EXISTING	TEL	TELEPHONE
		TEMP	TEMPORARY
FES	FLARED END SECTION	THK	THICK
FFE	FINISH FLOOR ELEVATION	TOC, T/C	TOP OF CURB
FH	FIRE HYDRANT	TOW	TOP OF WALL
FNC	FENCE	TPED	TELEPHONE PEDESTAL
FO	FIBER OPTIC	TS&V	TAPPING SADDLE & VALVE
FOC	FACE OF CURB	TYP	TYPICAL
FT	FOOT		
		UGE	UNDERGROUND ELECTRIC
G.V.	GATE VALVE	UTIL	UTILITY
GALV	GALVANIZE		
GND	GROUND		
GRAV	GRAVEL		
HDPE	HIGH DENSITY POLYETHYLENE		
L	LENGTH		
LF	LINEAR FOOT		
LFT	LEFT		
MAX	MAXIMUM		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
M.J.	MECHANICAL JOINT		

LEGEND / KEY

NAME:	EXISTING	NEW
ASPHALT PAVEMENT		
CABLE TV	CA	
CENTERLINE		
CURB & GUTTER		
CONCRETE		
CONTOUR MAJOR	100	100
CONTOUR MINOR	99	99
EASEMENT		
FENCE	X	X
FIBER OPTIC	FO	
FORCE MAIN	FM	FM
GAS LINE	G	
GAS VALVE	GV	
GRAVEL		
LIMITS OF DIST/CONST		LOD/C
LIGHT POLE		
OVERHEAD ELECTRIC	OE	
POWER POLE		
PROPERTY LINE		
PROPERTY LINE – ADJ		
RAILROAD		
RIGHT-OF-WAY (ROW)	R/W	R/W
SANITARY SEWER LINE	SS	
SANITARY SEWER MH	S	S
SANITARY SEWER CO		
SPOT EL. GS	+100.00	100.00
SPOT EL. TOC	+100.00	TOC 100.00
SPOT EL. TOW	+100.00	TOW 100.00
STORM DRAIN LINE	SD	
STORM DRAIN FES	SD	
STORM DRAIN MH		
STORM DRAIN CI		
STORM DRAIN GI		
STORM DRAIN YI		
TELEPHONE LINE	T	
TELEPHONE PEDESTAL	T	
UNDERGROUND ELEC.	UE	
UTILITY POLE		
WATER LINE	W	W
WATER VALVE		
FIRE HYDRANT		
WATER METER	W	
WATER LINE BACKFLOW		
WATER LINE REDUCER		
IRON ROD/PIPE		
CONCRETE MONUMENT		
BENCHMARK		

EROSION CONTROL:	NEW
TEMP. CONST ENT.	
TEMP. SILT FENCE	SF
TEMP. DIVERSION	TD
TEMP. INLET PROTECT.	
TEMP. ROCK PIPE INLET PROTECTION	
RIPRAP DISSIPATOR	
TEMP. SILT FENCE OUTLET	
TEMP. SKIMMER BASIN WITH BAFFLES	
FAIRCLOTH SKIMMER	
TEMP. SEDIMENT TRAP WITH BAFFLES	
TEMP. SLOPE DRAIN	
TREE PROTECTION	TP TP
ROLLED EROSION CONTROL MATTING	
DEMOLITION LIMITS	

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

GENERAL NOTES AND LEGEND

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-01

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

TBM: NAIL
N: 574485.46
E: 2098343.31
ELEV: 193.69

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. SD INLET
RIM 193.74
15" INV. 191.71 (S)
18" INV. 190.95 (E)

EX. UTILITY POLE

EX. UTILITY POLE

EX. SSMH
RIM 194.28
INV. 187.59
SERVICE INV. 190.22

EX. UTILITY POLE

EX. UTILITY POLE

EX. SD INLET
RIM 193.01
30" INV. 187.01

EX. UTILITY POLE

EX. SSMH
RIM 194.25
INV. 188.56 (E)
INV. 188.65 (S)

E H STREET
PUBLIC ROW

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. CONC. SIDEWALK

EX. GV

EX. CONC. SIDEWALK

EX. GAS

EX. WL

EX. WM

EX. 8"WL

EX. GV

EX. SD INLET
RIM 194.65
12" INV. 192.56

LOADING DOCK

EX. CONC. PAD

EX. BRICK WALL

EX. ASPHALT PAVEMENT

EX. CONC. SIDEWALK

EX. BLDG.
FFE 198.97

EX. SSMH
RIM 196.48
INV. 190.27

EX. SD INLET
RIM 197.36
4" INV. 196.03

EX. OPEN AREA
TO BASEMENT
FFE 188.10

FFE
+198.97

FFE
+198.97

EX. LIGHT POLE

EX. AC PAD

EX. GAS

RAMP

EX. CONC. PAVEMENT

EX. SD INLET
RIM 194.64
12" INV. 192.92
EXISTING OUTLET UNKNOWN
– SEE DRAINAGE PLAN

EX. RETAINING WALL

FFE
+199.03

FFE
+198.95

EX. GENERATOR PAD

EX. SD INLET
RIM 198.54
12" INV. 195.99

EX. FDC

EX. TRANSFORMER PAD

PARCEL LINES (TYP.)

EX. BOLLARDS (3EA)

EX. SD INLET
RIM 198.72
15" INV. 197.68

EX. SD INLET
30" INV. 191.17

EX. LIGHT POLE

EX. SSMH
RIM 199.78
INV. 194.68

EX. SSMH
RIM 200.11
INV. 192.40

EX. 4' HIGH VINYL FENCE

EX. TRANSFORMER PAD

EX. BOLLARDS (4EA)

EX. ASPHALT PAVEMENT

POSSIBLE JUNCTION OF STORM DRAIN PIPES – POSSIBLE BURIED STRUCTURE

EX. SD INLET
RIM 200.10
15" INV. IN: 197.36
15" INV. OUT: 197.25

EX. FIRE HYDRANT

EX. PLANTER

EX. UTILITY POLE

TBM: NAIL
N: 574124.26
E: 2098304.49
ELEV: 202.82

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. DRIVEWAY ENTRANCE

EX. DRIVEWAY ENTRANCE

EX. DRIVEWAY ENTRANCE

EX. DRIVEWAY ENTRANCE

EX. SANITARY SEWER PIPE EXTENDS 231.70 LF TO THE SOUTH TO AN EX. SSMH @ 0.51% SLOPE

EX. CURB INLET HOOD 200.10
RIM 199.56
30" INV. 192.73

DENIM DRIVE (SR 1718)
PUBLIC ROW

NOTES:

1. ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON SHEET C–01 SHALL APPLY TO THIS PLAN.
2. THE PURPOSE OF THE PLAN IS FOR INFORMATIONAL PURPOSES ONLY. THOUGH THIS PLAN IS FROM AN ACTUAL FIELD SURVEY IT IS NOT AND SHOULD NOT BE CONSIDERED A RECORDABLE DOCUMENT.
3. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARKS AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR WITH THE SURVEYOR OF RECORD PRIOR TO BEGINNING CONSTRUCTION. ONE BENCHMARK IS A NAIL SET IN THE PAVEMENT NEAR THE SOUTHWEST CORNER OF THE PARKING LOT WITH AN ELEVATION OF 202.82. THE OTHER BENCHMARK IS LOCATED IN A LOT NORTH OF E H STREET WITH AN ELEVATION OF 193.69.
4. LOCATIONS OF EXISTING UTILITY LINES HAVE BEEN TAKEN FROM UTILITY RECORDS SUPPLEMENTED BY FIELD INSPECTIONS AND SHOULD INDICATE IN GENERAL THE TYPE OF UNDERGROUND FACILITIES NOW IN SERVICE. HOWEVER, LOCATIONS SHOWN ARE NOT GUARANTEED AND ANY FURTHER DEVELOPERS OR CONTRACTORS SHOULD NOT ONLY MAKE SUBSURFACE INVESTIGATIONS BUT SHOULD ALSO ALLOW FOR CONTINGENCIES WHICH MIGHT ARISE BY REASON OF ENCOUNTERING UNRECORDED LINES OR LINES BEING IN DIFFERENT LOCATIONS THAN INDICATED ON THIS PLAT.
5. THE HORIZONTAL DATUM FOR THIS SURVEY IS NC GRID NAD83 AND THE VERTICAL DATUM IS NAVD88.
6. ALL DISTANCES ARE HORIZONTAL GROUND.
7. AREA BY COORDINATE COMPUTATION.
8. SURVEY INFORMATION FROM THE SURVEYOR OF RECORD, LKC ENGINEERING, PLLC; JEFFREY GREEN, PLS, LIC. # L–3972; 140 AQUA SHED CT., ABERDEEN, NC 28315, TEL #: 910–420–1436.

GRAPHIC SCALE
FULL SIZE SHEET 22"x34"
20 0 10 20 40
(IN FEET)

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 BILL LEE
5/6/19

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

LKC

EXISTING TOPOGRAPHIC SURVEY

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-02

File: L:\Stogner–19.01 Good Hope Hosp\800 – Drawings\810 Design Drawings\D2 Civil\STOGNER–19.01 C02 X–TOPO.dwg, By: frank, Plotted: Tue May 28, 2019 at 4:33pm

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

TBM: NAIL
N: 574485.46
E: 2098343.31
ELEV: 193.69

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. SD INLET
RIM 193.74
15" INV. 191.71 (S)
18" INV. 190.95 (E)

EX. UTILITY POLE

EX. SSMH
RIM 194.28
INV. 187.59
SERVICE INV. 190.22

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. SD INLET
RIM 193.01
30" INV. 187.01

EX. SSMH
RIM 194.25
INV. 188.56 (E)
INV. 188.65 (S)

E H STREET
PUBLIC ROW

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. CONC. SIDEWALK

EX. GV

EX. WL

EX. WM

EX. CONC. SIDEWALK

EX. GAS

EX. 8"WL

EX. GV

EX. SD INLET
RIM 194.65
12" INV. 192.56

LOADING DOCK

EX. CONC. PAD

SAWCUT, DEMOLISH AND REMOVE EX. ASPHALT PAVEMENT TO SUBGRADE

EX. ASPHALT PAVEMENT

EX. CONC. SIDEWALK

EX. BLDG.
FFE 198.97

SAWCUT, DEMOLISH AND REMOVE EX. CONC. STOOP

REMOVE AND GRUB EXISTING TREE

EX. BRICK WALL TO REMAIN

EX. ASPHALT PAVEMENT

EX. SSMH
RIM 196.48
INV. 190.27

FFE
+ 198.97

EX. OPEN AREA TO BASEMENT FFE 188.10

SAWCUT, DEMOLISH AND REMOVE EX. CONC. PAVEMENT

DEMOLISH AND REMOVE EX. INLET – EXISTING OUTLET UNKNOWN

EX. SD INLET
RIM 194.64
12" INV. 191.99

EX. SD INLET
RIM 197.36
4" INV. 196.03

FFE
+198.97

RAMP

EX. GAS

EX. AC PAD

EX. LIGHT POLE

FILL IN AREA OF EXISTING BASEMENT AFTER NEW WALL IS INSTALLED

EX. RETAINING WALL PORTION TO REMAIN

EX. RETAINING WALL DEMOLISH AND REMOVE

REMOVE EX. PAVEMENT MARKINGS BY GRINDING OUT STRIPING

REMOVE EX. PAVEMENT MARKINGS BY GRINDING OUT STRIPING

FFE
+199.03

FFE
+198.95

SAWCUT, DEMOLISH AND REMOVE EX. CONC. SIDEWALK

DEMOLISH AND REMOVE EX. SD PIPE

SAWCUT, DEMOLISH AND REMOVE EX. ASPHALT PAVEMENT TO SUBGRADE

EX. GENERATOR AND PAD

DEMOLISH AND REMOVE EX. PAD

DEMOLISH AND REMOVE EXISTING SANITARY SEWER LINE – SEE UTILITY PLAN

EX. FDC TO BE RELOCATED

DEMOLISH AND REMOVE EX. TRANSFORMER PAD

EX. TRANSFORMER AND PAD

DEMOLISH AND REMOVE EX. INLET

EX. SD INLET
30" INV. 191.17

EX. SD INLET
RIM 198.54
12" INV. 195.99

EX. BOLLARDS (3EA) TO BE REMOVED

SAWCUT, DEMOLISH AND REMOVE EX. ASPHALT PAVEMENT TO SUBGRADE

DEMOLISH AND REMOVE EX. INLET – SEE DRAINAGE PLAN

EX. SD INLET
RIM 198.72
15" INV. 196.00

DEMOLISH AND REMOVE EXISTING SANITARY SEWER MANHOLE

DEMOLISH AND REMOVE EXISTING SANITARY SEWER LINE – SEE UTILITY PLAN

DEMOLISH AND REMOVE EX. SD PIPE

EX. LIGHT POLE TO BE RELOCATED

EX. SSMH
RIM 199.78
INV. 194.68

DEMOLISH AND REMOVE EX. PAD AND BOLLARDS

EX. SSMH
RIM 200.11
INV. 192.40

DEMOLISH AND REMOVE EX. SD PIPE

EX. 4' HIGH VINYL FENCE

SAWCUT, DEMOLISH AND REMOVE EX. ASPHALT PAVEMENT ONLY FOR OVERLAY

EX. TRANSFORMER PAD

EX. BOLLARDS (4EA)

DEMOLISH AND REMOVE EXISTING SANITARY SEWER LINE – SEE UTILITY PLAN

SAWCUT, DEMOLISH AND REMOVE EX. ASPHALT PAVEMENT TO SUBGRADE

DEMOLISH AND REMOVE EX. INLET – SEE DRAINAGE PLAN

POSSIBLE JUNCTION OF STORM DRAIN PIPES – POSSIBLE BURIED STRUCTURE

EX. SD INLET
RIM 200.10
15" INV. IN: 197.36
15" INV. OUT: 197.25

DEMOLISH AND REMOVE EX. SD PIPE

SAWCUT, DEMOLISH AND REMOVE EX. ASPHALT PAVEMENT TO SUBGRADE

SAWCUT, DEMOLISH AND REMOVE EX. CONC. SIDEWALK AND CURB AND GUTTER

SAWCUT, DEMOLISH AND REMOVE EX. CONC. CURB AND GUTTER

DEMOLISH AND REMOVE EX. PLANTERS

EX. FIRE HYDRANT

EX. PLANTER

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. DRIVEWAY ENTRANCE

EX. DRIVEWAY ENTRANCE

EX. DRIVEWAY ENTRANCE

EX. CURB INLET HOOD 200.10
RIM 199.56
30" INV. 192.73

RELOCATE UTILITY POLE – BY UTILITY COMPANY

TBM: NAIL
N: 574124.26
E: 2098304.49
ELEV: 202.82

DENIM DRIVE (SR 1718)
PUBLIC ROW

NOTES:

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GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
FULL SIZE SHEET 22"x34"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 BILL LESTER

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

LKC Engineering, pllc
140 Aqua Shed Court
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lkcengineering.com
License No. P-1095

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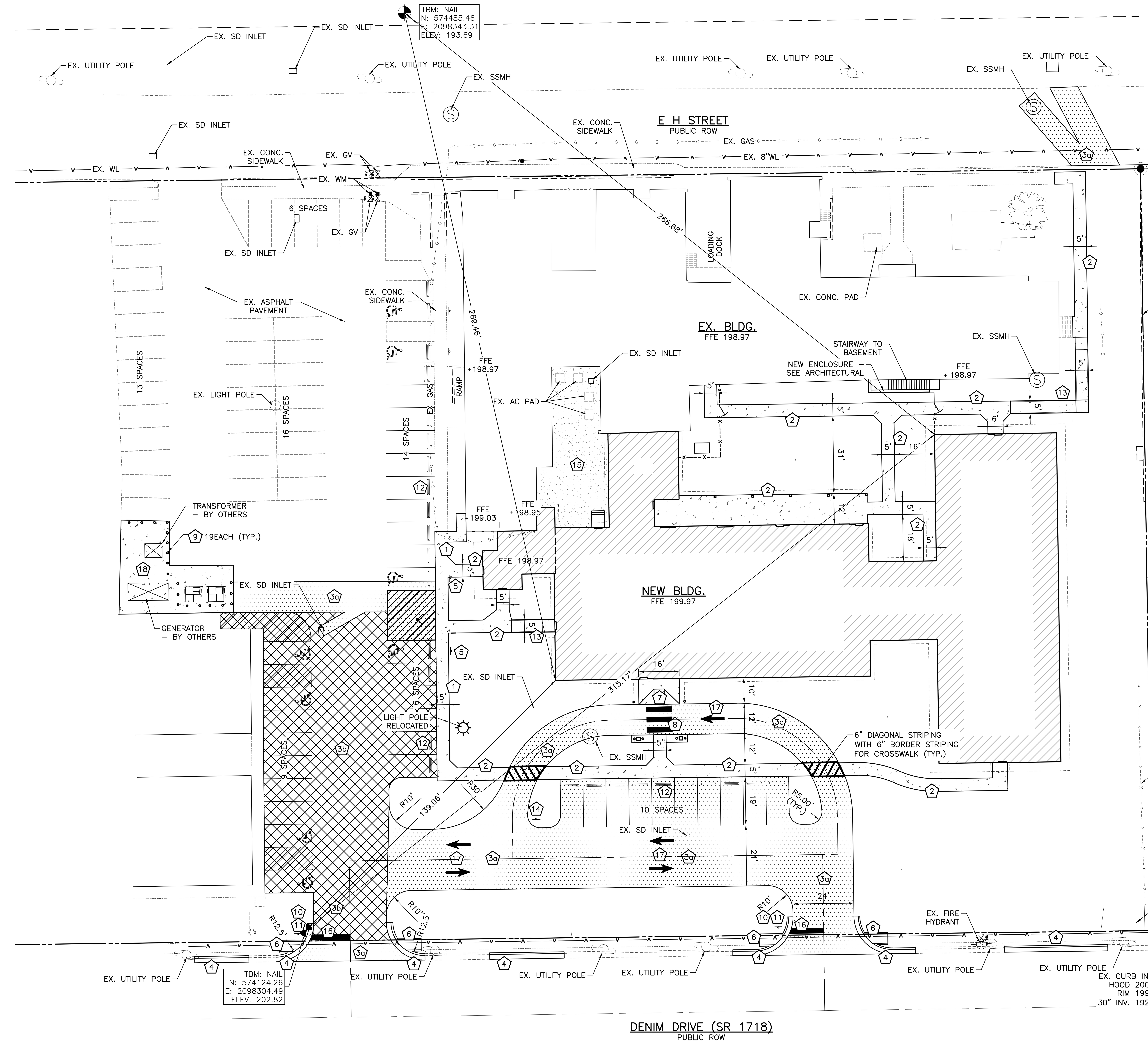
DEMOLITION PLAN

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-03

File: L:\Stogner–19.01 Good Hope Hosp\800 – Drawings\810 Design Drawings\V02 Civil\STOGNER–19.01 C03 DEMO.dwg, By: fdw, Plotted: Tue May 28, 2019 at 4:34pm



REVISIONS			
SYM.	DESCRIPTION	DATE	BY

GENERAL NOTES:

1. ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON THE GENERAL NOTES, LEGEND AND ABBREVIATIONS SHEET, SHEET C-01 SHALL APPLY TO THIS PLAN.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ERWIN AND HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
3. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARK AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR WITH THE SURVEYOR OF RECORD PRIOR TO BEGINNING CONSTRUCTION.

SITE KEY NOTING:

SYM.	DESCRIPTION	SHEET REFERENCE
1	INSTALL CONCRETE SIDEWALK W/TURNDOWN	SHT. D-01, #1
2	INSTALL CONCRETE STANDARD SIDEWALK	SHT. D-01, #2
3a	INSTALL ASPHALT PAVEMENT	SHT. D-01, #3
3b	INSTALL 2" ASPHALT PAVEMENT OVERLAY	SHT. D-01, #3
4	INSTALL 30" CONCRETE CURB & GUTTER	SHT. D-02, #4
5	INSTALL HANDICAP PARKING SIGN	SHT. D-01, #5
6	INSTALL "IN-LINE" HANDICAP ACCESSIBLE RAMP	SHT. D-01, #6
7	INSTALL STANDARD HANDICAP ACCESSIBLE RAMP	SHT. D-01, #7
8	INSTALL CROSSWALK STRIPING	SHT. D-01, #8
9	INSTALL CONCRETE FILLED BOLLARD	SHT. D-01, #9
10	INSTALL SIGN POST	SHT. D-01, #10
11	INSTALL "STOP" SIGN	SHT. D-01, #11
12	INSTALL PRECAST WHEELSTOP	SHT. D-02, #1
13	INSTALL HANDICAP RAMP WALKWAY	SHT. D-02, #2,3
14	INSTALL "DO NOT ENTER" SIGN	SHT. D-02, #4
15	INSTALL GRAVEL YARD	SHT. D-02, #5
16	INSTALL "STOP BAR" STRIPING	SHT. D-02, NCDOT STD
17	INSTALL "DIRECTIONAL ARROW" STRIPING	SHT. D-02, NCDOT STD
18	INSTALL CONCRETE PAVEMENT	SHT. D-02, #6

GRAPHIC SCALE (IN FEET)
20 0 10 20 40
FULL SIZE SHEET 22"x34"

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 BILL LESTER

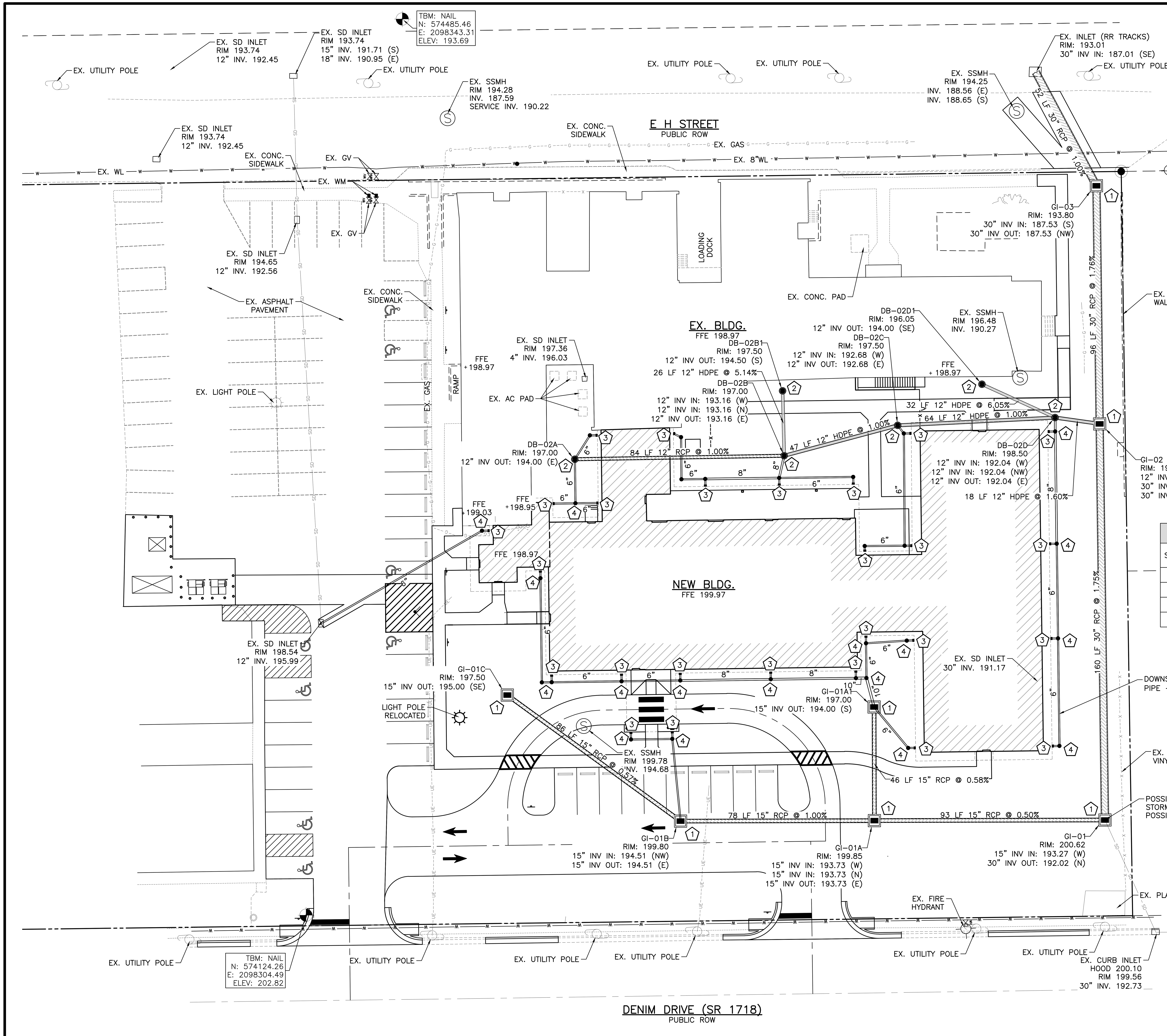
SITE LAYOUT PLAN

GOOD HOPE HOSPITAL RENOVATIONS

Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-04

File: L:\Stogner-19.01 Good Hope Hosp\800 - Drawings\810 Design Drawings\02 Civil\STOGNER-19.01 C04 LAYOUT.dwg, By: frank, Plotted: Tue May 28, 2019 at 4:35pm



REVISIONS			
SYM.	DESCRIPTION	DATE	BY

GENERAL NOTES:

1. ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON THE GENERAL NOTES, LEGEND AND ABBREVIATIONS SHEET, SHEET C-01 SHALL APPLY TO THIS PLAN.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ERWIN AND HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
3. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARK AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR WITH THE SURVEYOR OF RECORD PRIOR TO BEGINNING CONSTRUCTION.
4. STORM DRAIN CLEANOUTS SHALL BE INSTALLED AT ALL DOWNSPOUT CONNECTIONS AND AT ALL TEES AND BENDS.

PRELIMINARY– DO NOT USE FOR CONSTRUCTION

STORM DRAINAGE KEY NOTING:

SYM.	DESCRIPTION	SHEET REFERENCE
1	INSTALL GRATE INLET	SHT. D-03, #1,2
2	INSTALL DRAIN BASIN	SHT. D-03, #4
3	INSTALL DOWNSPOUT CONNECTION	SHT. D-03, #5
4	INSTALL STORM DRAIN CLEANOUT	SHT. D-03, #6

NORTH CAROLINA PROFESSIONAL SEAL 17651 ENGINEER BILL LESTER 5-28-19

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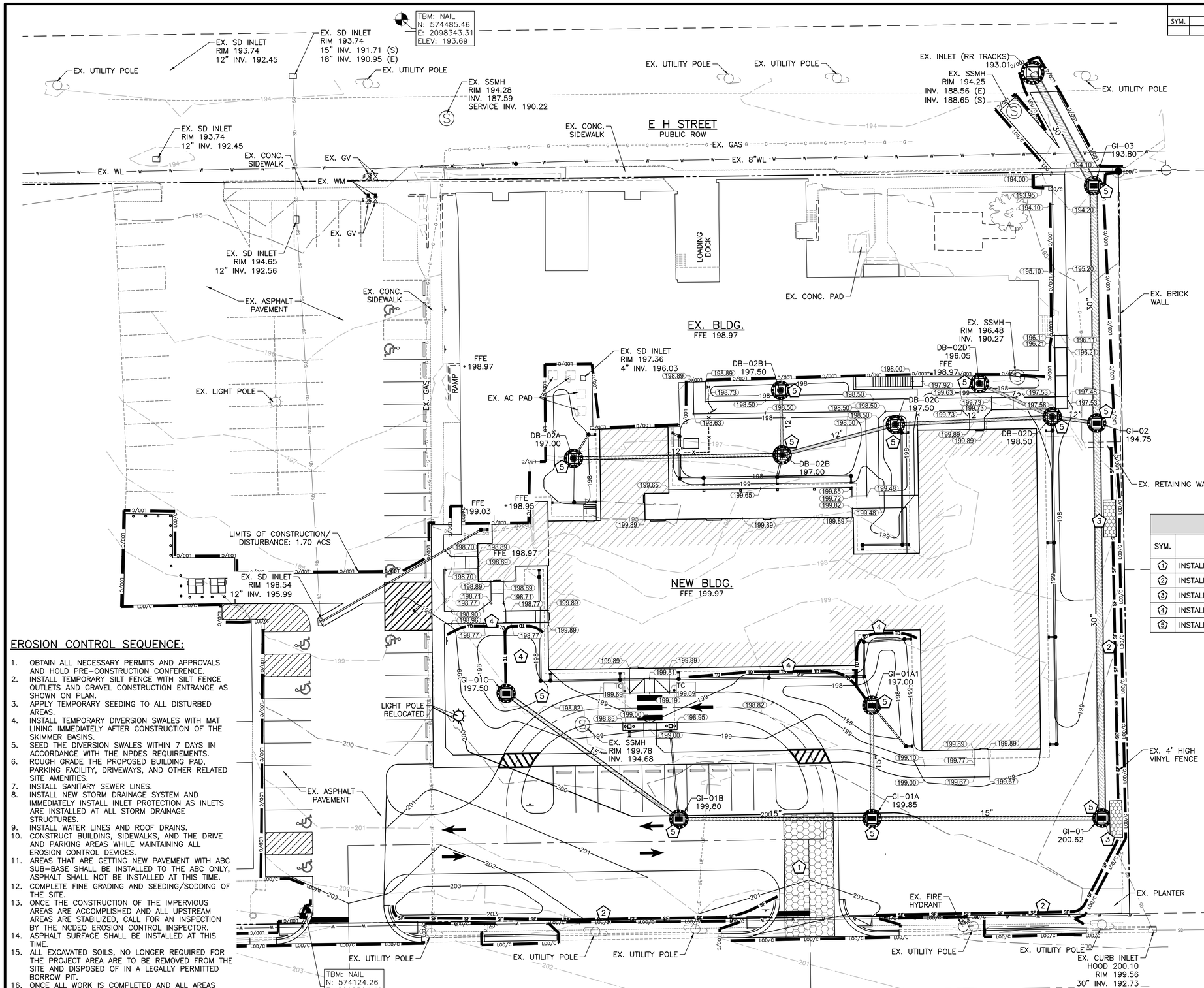
STORM DRAINAGE PLAN

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-05

File: L:\Stogner-19.01 Good Hope Hosp\800 - Drawings\810 Design Drawings\02 Civil\STOGNER-19.01 C05 DRAINAGE.dwg, By: frank, Plotted: Tue May 28, 2019 at 4:37pm

REVISIONS			
SYM.	DESCRIPTION	DATE	BY



NOTES:

1. ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON SHEET C-01 SHALL APPLY TO THIS PLAN.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ERWIN AND HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
3. CONTRACTOR SHALL ENSURE THAT THE EXISTING UTILITIES ARE LOCATED AND MARKED PRIOR TO INSTALLATION OF NEW UTILITIES.
4. PURSUANT TO 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 7 OR 14 DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PURSUANT TO G.S. 113A-57(3), PROVISIONS FOR PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT. ALL SEEDED AREAS WILL BE FERTILIZED, RE-SEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATION COVER. IF ANY SEEDING FAILURE OCCURS, THOSE AREAS SHALL BE RE-SEEDED WITH RYE GRAIN FOR TEMPORARY STABILIZATION AND PREPARED FOR PERMANENT SEEDING.
5. STABILIZE ALL TEMPORARY OR PERMANENT DIVERSIONS WITHIN SEVEN DAYS OF CONSTRUCTION.
6. CONTRACTOR SHALL MAINTAIN THE NCDEQ'S "SELF INSPECTION" REPORT LOCATED ON THE NCDEQ'S WEBSITE.

EROSION CONTROL SEQUENCE:

1. OBTAIN ALL NECESSARY PERMITS AND APPROVALS AND HOLD PRE-CONSTRUCTION CONFERENCE.
2. INSTALL TEMPORARY SILT FENCE WITH SILT FENCE OUTLETS AND GRAVEL CONSTRUCTION ENTRANCE AS SHOWN ON PLAN.
3. APPLY TEMPORARY SEEDING TO ALL DISTURBED AREAS.
4. INSTALL TEMPORARY DIVERSION SWALES WITH MAT LINING IMMEDIATELY AFTER CONSTRUCTION OF THE SKIMMER BASINS.
5. SEED THE DIVERSION SWALES WITHIN 7 DAYS IN ACCORDANCE WITH THE NPDES REQUIREMENTS.
6. ROUGH GRADE THE PROPOSED BUILDING PAD, PARKING FACILITY, DRIVEWAYS, AND OTHER RELATED SITE AMENITIES.
7. INSTALL SANITARY SEWER LINES.
8. INSTALL NEW STORM DRAINAGE SYSTEM AND IMMEDIATELY INSTALL INLET PROTECTION AS INLETS ARE INSTALLED AT ALL STORM DRAINAGE STRUCTURES.
9. INSTALL WATER LINES AND ROOF DRAINS.
10. CONSTRUCT BUILDING, SIDEWALKS, AND THE DRIVE AND PARKING AREAS WHILE MAINTAINING ALL EROSION CONTROL DEVICES.
11. AREAS THAT ARE GETTING NEW PAVEMENT WITH ABC SUB-BASE SHALL BE INSTALLED TO THE ABC ONLY, ASPHALT SHALL NOT BE INSTALLED AT THIS TIME.
12. COMPLETE FINE GRADING AND SEEDING/SODDING OF THE SITE.
13. ONCE THE CONSTRUCTION OF THE IMPERVIOUS AREAS ARE ACCOMPLISHED AND ALL UPSTREAM AREAS ARE STABILIZED, CALL FOR AN INSPECTION BY THE NCDEQ EROSION CONTROL INSPECTOR.
14. ASPHALT SURFACE SHALL BE INSTALLED AT THIS TIME.
15. ALL EXCAVATED SOILS, NO LONGER REQUIRED FOR THE PROJECT AREA ARE TO BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGALLY PERMITTED BORROW PIT.
16. ONCE ALL WORK IS COMPLETED AND ALL AREAS STABILIZED, CONTRACTOR SHALL REQUEST AN INSPECTION BY NCDEQ LAND QUALITY SECTION.

EROSION CONTROL KEY NOTING:

SYM.	DESCRIPTION	SHEET REFERENCE
1	INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	SHT. D-04, #1
2	INSTALL TEMPORARY SILT FENCE	SHT. D-04, #2
3	INSTALL TEMPORARY SILT FENCE OUTLET	SHT. D-04, #3
4	INSTALL TEMPORARY MAT-LINED DIVERSION SWALE	SHT. D-04, #4
5	INSTALL TEMPORARY INLET PROTECTION	SHT. D-04, #5

DWQ CONSTRUCTION GENERAL PERMIT GROUND STABILIZATION REQUIREMENTS

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
Perimeter dikes, swales, ditches and slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' 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 feet in length
All other areas with slopes flatter than 4:1	14 days	None (except for perimeters and HQW Zones)

* "Extensions of time may be approved by the permitting authority based on weather or other site-specific condition that make compliance impracticable." (Section II.B(2)(b))

PRELIMINARY- DO NOT USE FOR CONSTRUCTION

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GRADING AND EROSION CONTROL PLAN

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-06

File: L:\Stogner-19.01 Good Hope Hosp\800 - Drawings\810 Design Drawings\02 Civil\STGNDES-19.01 C06 EC-GRADE.dwg, By: frank, Plotted: Tue May 28, 2019 at 4:39pm

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

TBM: NAIL
N: 574485.46
E: 2098343.31
ELEV: 193.69

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. SD INLET
RIM 193.74
15" INV. 191.71 (S)
18" INV. 190.95 (E)

EX. UTILITY POLE

EX. SSMH
RIM 194.28
INV. 187.59
SERVICE INV. 190.22

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. INLET (RR TRACKS)

EX. SSMH
RIM 194.25
INV. 188.56 (E)
INV. 188.65 (S)

EX. UTILITY POLE

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. CONC. SIDEWALK

EX. GV

EX. WL

EX. WM

EX. GV

E H STREET
PUBLIC ROW

EX. GAS

EX. 8"WL

EX. CONC. SIDEWALK

40.16 LF 8" SDR-26 PVC @ 0.52%

30" RCP

SSMH-02
RIM: 193.
INV IN: 1
INV OUT: 188.90 8" NW

GI-03

SSMH-01
RIM 194.00

EX. SD INLET
RIM 194.65
12" INV. 192.56

EX. ASPHALT PAVEMENT

EX. CONC. SIDEWALK

LOADING DOCK

EX. CONC. PAD

EX. BRICK WALL

EX. BLDG.
FFE 198.97

EX. SSMH
RIM 196.48
INV. 190.27

FFE
+ 198.97

SSMH-03
RIM: 195.52
INV IN: 189.56 8" S
INV OUT: 189.46 8" N

EX. SD INLET
RIM 197.36

4" FDC FIRE LINE CONNECTION 5FT OUTSIDE BUILDING

6" FIRE LINE CONNECTION 5FT OUTSIDE BUILDING

EX. AC PAD

DB-02B1

DB-02D1

12" HDPE

DB-02C

12" HDPE

12" RCP

DB-02D

12" HDPE

DB-02B

12" HDPE

12" RCP

GI-02

EX. RETAINING WALL

DB-02A

4" 90° BEND

FFE
198.95

FFE
199.03

FFE 198.97

NEW GENERATOR
– BY OTHERS

NEW TRANSFORMER
– BY OTHERS

EX. SD INLET
RIM 198.54
12" INV. 195.99

6" DIP FIRE SHALL BE INSTALLED 12" ENCASEMENT PIPE WATERLINES UNDER BUILDING SHALL BE DUCTILE IRON PIPE

4" DIP FDC SHALL BE INSTALLED 8" ENCASEMENT PIPE

NEW BLDG.
FFE 199.97

2" DOMESTIC WATER CONNECTION 5FT OUTSIDE BUILDING

6" W

141.68 LF 8" SDR-26 PVC @ 0.52%

30" RCP

2" DOMESTIC WATER CONNECTION 5FT OUTSIDE BUILDING

SSMH-05B
RIM: 198.00
INV IN: 193.81 8" W
INV OUT: 191.31 8" SE

GI-01A1

SSMH-04
RIM: 199.50
INV IN: 190.40 8" SW
INV OUT: 190.30 8" N

42.75 LF 8" SDR-26 PVC @ 0.77%

37.22 LF 8" SDR-26 PVC @ 0.52%

EX. 4' HIGH VINYL FENCE

SSMH-05A
RIM: 199.25
INV IN: 190.98 8" NW
INV OUT: 190.88 8" E

SSMH-05
RIM: 199.25
INV IN: 190.70 8" W
INV IN: 190.70 8" S
INV OUT: 190.60 8" NE

FIRE DEPT. CONNECTION

4" DIP W

GI-01C

LIGHT POLE RELOCATED

EX. SSMH
RIM 199.78
INV. 194.68

15" RCP

6" DIP W

15" RCP

36.52 LF 8" SDR-26 PVC @ 0.50%

15" RCP

2" W

GI-01

GI-01B

GI-01A

2" 45° BEND (TYP.)

2" W

2" TEE

2" W

6" FIRE LINE RPZ BACKFLOW PREVENTER

2" DOMESTIC WATER BACKFLOW PREVENTER AND WATER METER

2" W

EX. FIRE HYDRANT

EX. PLANTER

EX. LIGHT POLE

RAMP

EX. GAS

EX. UTILITY POLE

TBM: NAIL
N: 574124.26
E: 2098304.49
ELEV: 202.82

EX. UTILITY POLE

SAWCUT, DEMOLISH AND REMOVE EX. CONC. PAVEMENT

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. CURB INLET
HOOD 200.10
RIM 199.56
30" INV. 192.73

DENIM DRIVE (SR 1718)
PUBLIC ROW

GENERAL NOTES:

1. ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON THE GENERAL NOTES, LEGEND AND ABBREVIATIONS SHEET, SHEET C-01 SHALL APPLY TO THIS PLAN.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ERWIN AND HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
3. SEE NOTES ON SHEETS D-05 AND D-07 FOR HARNETT COUNTY SPECIFICATIONS FOR WATER AND SANITARY SEWER.

UTILITY KEY NOTING:

SYM.	DESCRIPTION	SHEET REFERENCE
1	INSTALL VALVE MARKER – WHERE APPLICABLE	SHT. D-06, #1
2	INSTALL VALVE BOX	SHT. D-06, #2
3	INSTALL TAPPING SLEEVE AND GATE VALVE	SHT. D-06, #3
4	INSTALL FIRE HYDRANT ASSEMBLY	SHT. D-06, #4
5	INSTALL TRACER WIRE ON ALL NEW WATERLINES	SHT. D-06, #5
6	INSTALL FIRE DEPARTMENT CONNECTION (FDC)	SHT. D-07, #3
7	INSTALL FIRE LINE RPZ BACKFLOW PREVENTER	SHT. D-07, #4-5
8	INSTALL DOMESTIC DOUBLE CHECK VALVE	SHT. D-07, #6-7
9	INSTALL SANITARY SEWER MANHOLE	SHT. D-09, #1-4

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
FULL SIZE SHEET 22"x34"

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 BILLY C. LEE

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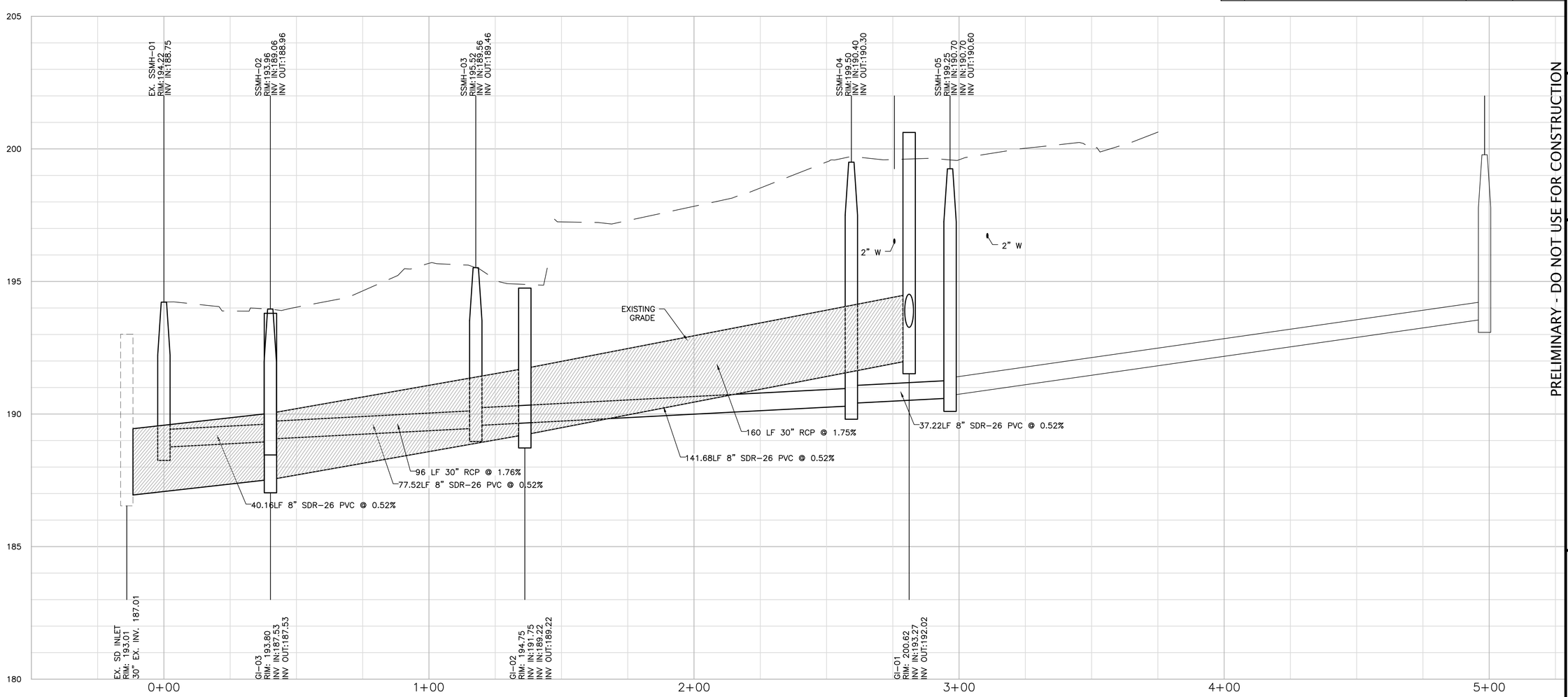
UTILITY PLAN

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-07

REVISIONS			
SYM.	DESCRIPTION	DATE	BY



20 0 10 20 40
GRAPHIC SCALE (IN FEET)
FULL SIZE SHEET 22"x34"

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

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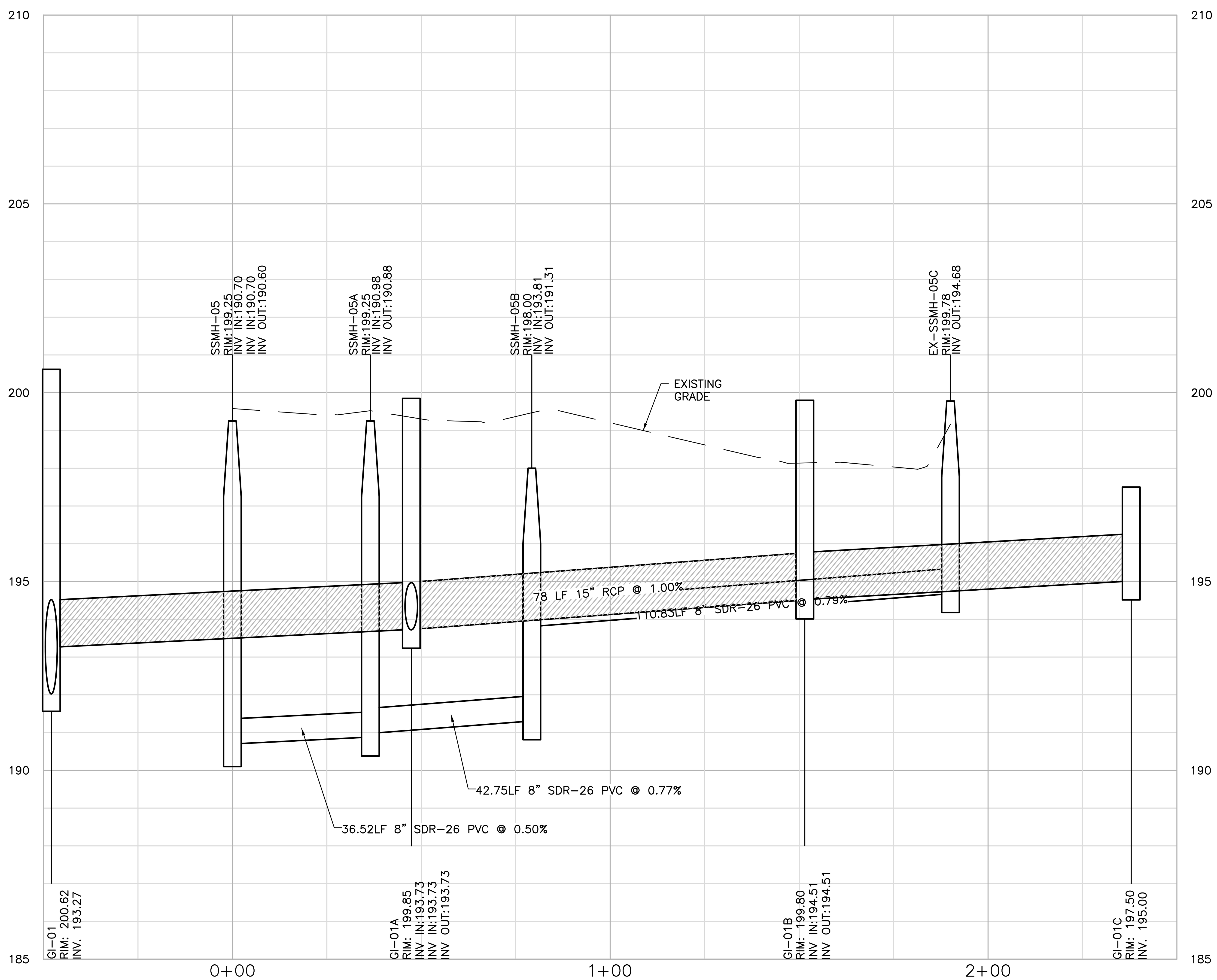
SANITARY SEWER PROFILE
LINE SS-1

GOOD HOPE HOSPITAL
RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-07.1

REVISIONS			
SYM.	DESCRIPTION	DATE	BY



PRELIMINARY - DO NOT USE FOR CONSTRUCTION

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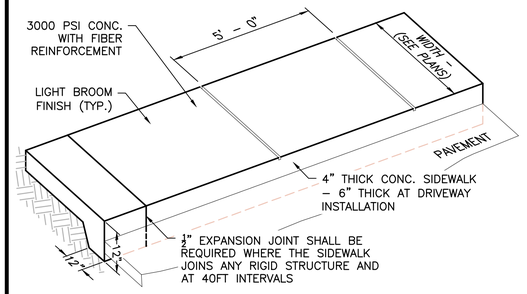
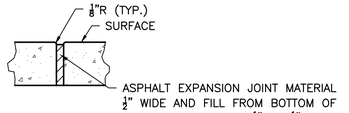
SANITARY SEWER PROFILE
LINE SS-2

GOOD HOPE HOSPITAL
RENOVATIONS
Erwin, North Carolina

GRAPHIC SCALE (IN FEET)
FULL SIZE SHEET 22"x34"

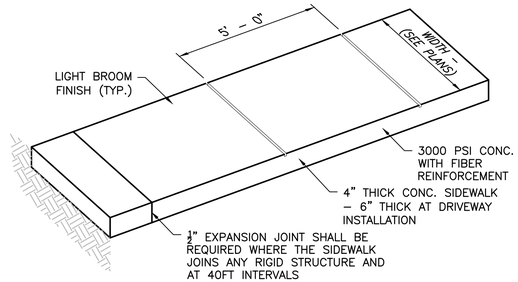
DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-07.2

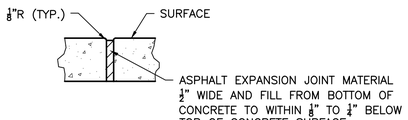




EXPANSION JOINT

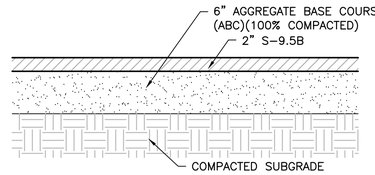
1 CONCRETE SIDEWALK
NOT TO SCALE





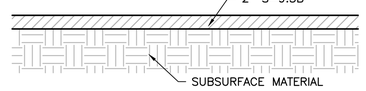
EXPANSION JOINT

2 CONCRETE SIDEWALK
NOT TO SCALE



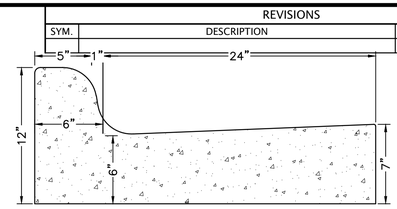
LIGHT DUTY

OVERLAY NOTES:
1. SUBSURFACE MATERIAL SHALL BE ROLLED OUT AND COMPACTED TO 100% PROCTOR.
2. VOIDS SHALL BE FILLED WITH ABC AND PROPERLY COMPACTED.

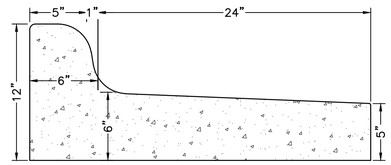


OVERLAY PAVEMENT

3 ASPHALT PAVEMENT SECTIONS
NOT TO SCALE



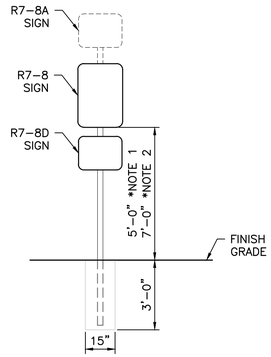
STANDARD SECTION



SPILL SECTION

NOTES:
1. ALL WORK AND MATERIALS SHALL COMPLY WITH NCDOT SECTION 846

4 30" CONCRETE CURB AND GUTTER
NOT TO SCALE

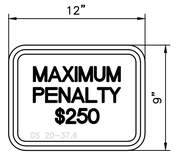


NOTE:

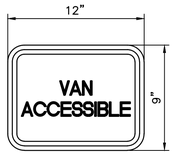
CONSTRUCTION AND INSTALLATION OF SIGNS AND POST SHALL COMPLY WITH GENERAL STATUTE 20-37.6

R7-8

SIGN APPROVED FOR USE UNDER GENERAL STATUTE 20-37.6



R7-8D



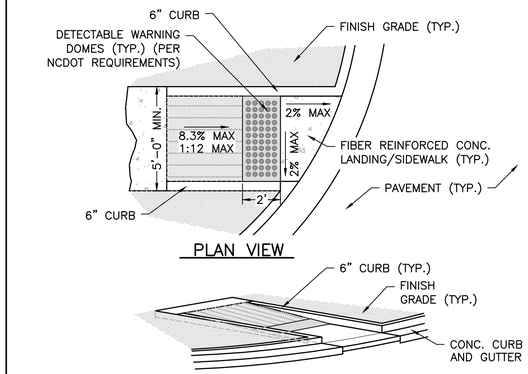
R7-8A

COLORS:

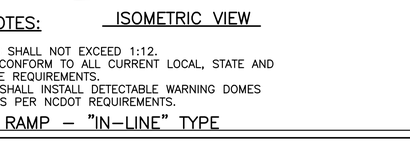
LEGEND AND BORDER – GREEN
WITH WHITE SYMBOL ON BLUE BACKGROUND
BACKGROUND – WHITE

*NOTE 1 – PEDESTRIAN PATH DOES NOT PASS UNDER OR AROUND SIGN
*NOTE 2 – PEDESTRIAN PATH GOES BY, UNDER OR AROUND SIGN

5 HANDICAP PARKING SIGN
NOT TO SCALE



PLAN VIEW

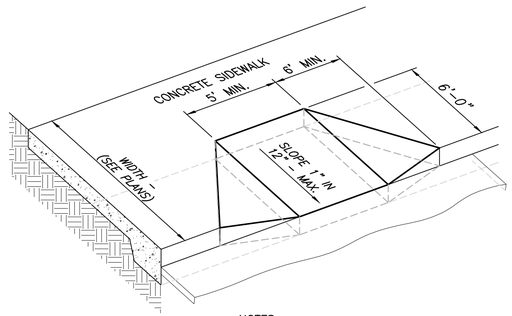


ISOMETRIC VIEW

GENERAL NOTES:

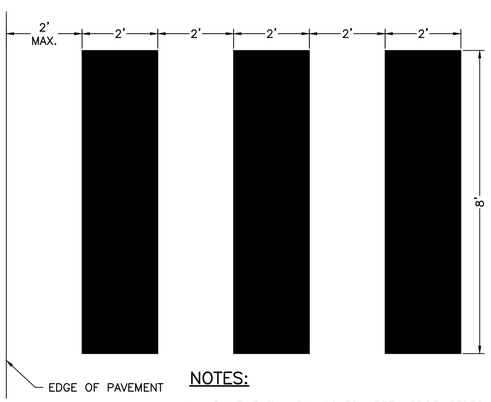
1. RAMP SLOPES SHALL NOT EXCEED 1:12.
2. RAMP SHALL CONFORM TO ALL CURRENT LOCAL, STATE AND FEDERAL CODE REQUIREMENTS.
3. CONTRACTOR SHALL INSTALL DETECTABLE WARNING DOMES ON ALL RAMPS PER NCDOT REQUIREMENTS.

6 HANDICAP RAMP – "IN-LINE" TYPE
NOT TO SCALE



NOTES:
1. SEE NCDOT STD. NO. 848.05
2. CONTRACTOR SHALL MAINTAIN SIDEWALK THICKNESS AND REIFORCEMENT IN CONSTRUCTING THE HANDICAP RAMP.

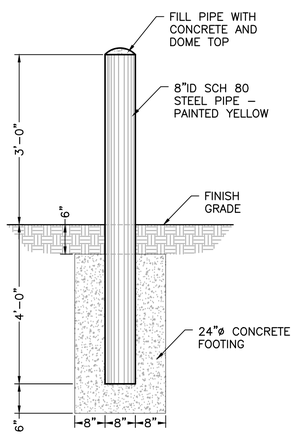
7 HANDICAP RAMP – STANDARD
NOT TO SCALE



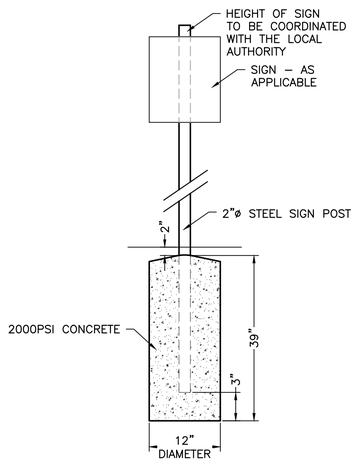
NOTES:

1. PAVEMENT MARKINGS TO MEET NCDOT, FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS.
2. CROSSWALK SHALL BE PLACED CENTERED ON PEDESTRIAN TRAVEL PATH.

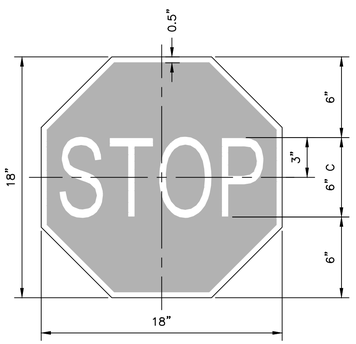
8 CROSSWALK
NOT TO SCALE



9 CONCRETE FILLED BOLLARD
NOT TO SCALE



10 SIGN POST
NOT TO SCALE



COLORS:

LEGEND: WHITE (RETROREFLECTIVE)
BACKGROUND: RED (RETROREFLECTIVE)

11 "STOP" SIGN
NOT TO SCALE

REVISIONS

SYM.	DESCRIPTION	DATE	BY

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 – BILL LEWIS – 5/24/19

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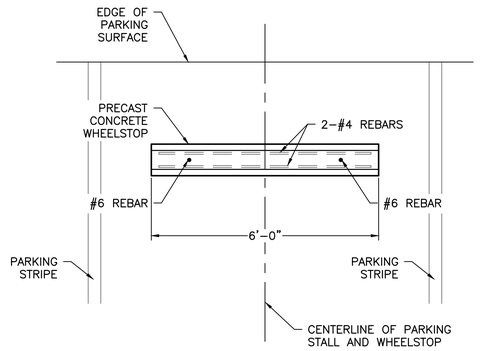
Engineering
Landscape Architecture
Surveying

LKC

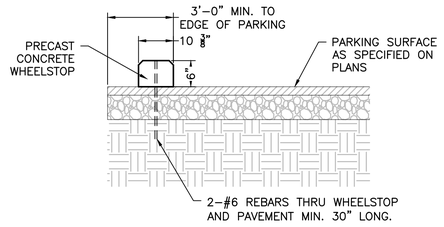
SITE DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
D-01



PLAN VIEW

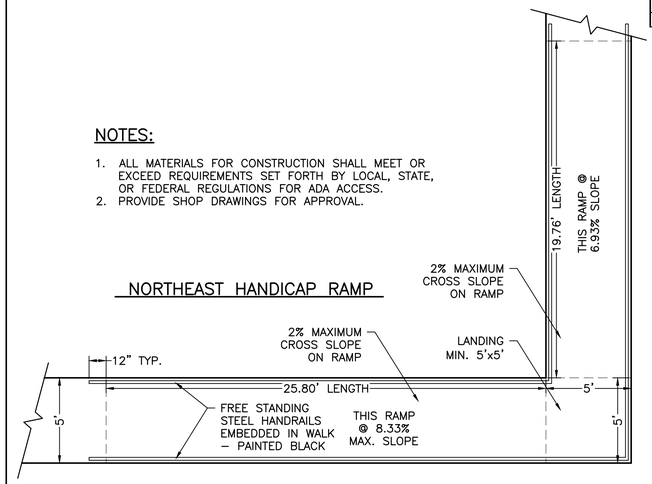


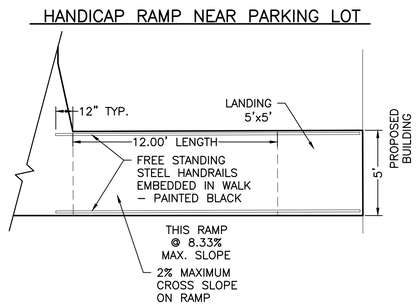
SECTION VIEW

1 CONCRETE WHEELSTOP
NOT TO SCALE

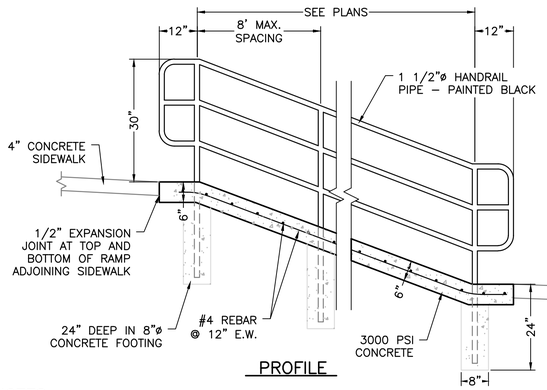
NOTES:

1. ALL MATERIALS FOR CONSTRUCTION SHALL MEET OR EXCEED REQUIREMENTS SET FORTH BY LOCAL, STATE, OR FEDERAL REGULATIONS FOR ADA ACCESS.
2. PROVIDE SHOP DRAWINGS FOR APPROVAL.

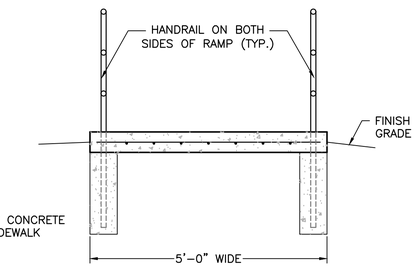




2 HANDICAP RAMPS
NOT TO SCALE



PROFILE



SECTION

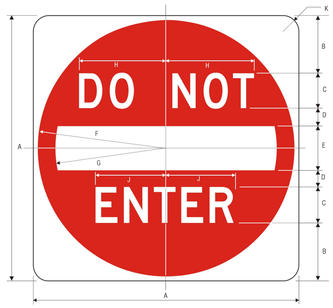
NOTES:

1. MAXIMUM SLOPE FOR RAMP IS 12" HORIZONTAL OVER 1" VERTICAL OR 8.33% SLOPE.
2. HANDRAILS REQUIRED FOR ENTIRE LENGTH OF RAMP.
3. CONCRETE SHALL BE 3,000 PSI.

3 CONCRETE RAMP WITH HANDRAIL
NOT TO SCALE

NOTE:

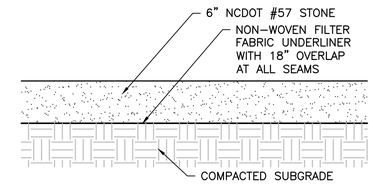
USE SIGN POST AT HEIGHT TO PUT SIGN AT 5' HIGH AND SECURE POST 3' IN GROUND.



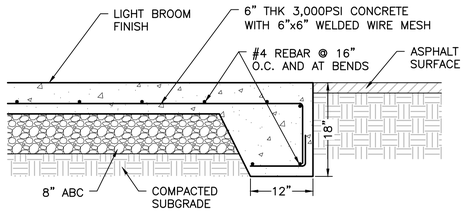
	A	B	C	D	E	F	G	H	J	K
	300	65	40 D	20	50	140	120	100	76	40
C	750	162	100 D	50	125	362	305	250	193	50
	900	190	125 D	60	150	435	374	306	236.5	60
	1200	275	150 D	75	200	580	498	410	288	70

COLORS: SYMBOL – RED (RETROREFLECTIVE)
LEGEND & BACKGROUND – WHITE (RETROREFLECTIVE)

4 "DO NOT ENTER" SIGN[1-73]
NOT TO SCALE



5 GRAVEL YARD
NOT TO SCALE



NOTE:

CONTROL JOINTS TO BE PLACE AT 20' INTERVALS

6 CONCRETE PAVEMENT
NOT TO SCALE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** LINE TYPES AND OFFSETS

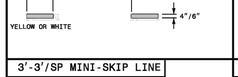
SHEET 1 OF 2 **1205.01**

CONTINUOUS LINES

EDGE LINE — 4"/6" — YELLOW OR WHITE
LANE LINE — 4"/6" — WHITE
CENTER LINE — 4"/6" — YELLOW
GORE LINE — 8"/12" — WHITE
DIAGONAL LINE — 12" 45 MPH OR HIGHER, 8" LESS THAN 45 MPH — YELLOW OR WHITE
CROSSWALK LINE — 8" TRANSVERSE, 24" LONGITUDINAL — WHITE
RxR LINE — 16" — WHITE
STOP OR TRANSVERSE BAR — 24" — WHITE

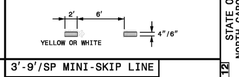
10'-30'/SP SKIP LINE

UNLESS OTHERWISED SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.



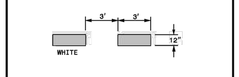
2'-6'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 2'-6'/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND MINI-SKIPS USED FOR BICYCLE LANE LINES.



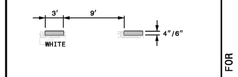
3'-3'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS.



3'-9'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-9'/SP MINI-SKIPS FOR MINI-SKIP LANE LINES AND LINE EXTENSIONS THROUGH TAPERS.



GENERAL NOTES:

1- USE 6" LANE-, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.

2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** LINE TYPES AND OFFSETS

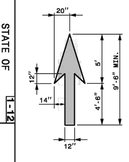
SHEET 2 OF 2 **1205.01**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

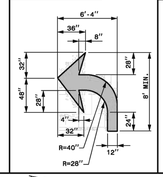
ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** SYMBOLS AND WORD MESSAGES

SHEET 1 OF 7 **1205.08**

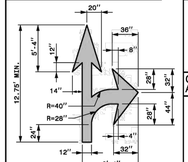
STRAIGHT ARROW



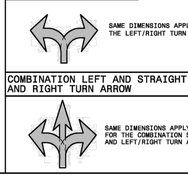
RIGHT OR LEFT TURN ARROW



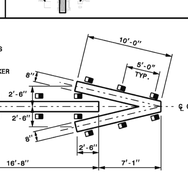
COMBINATION STRAIGHT AND LEFT OR RIGHT TURN ARROW



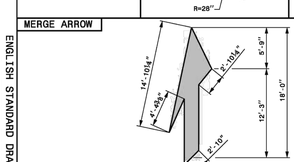
COMBINATION LEFT AND RIGHT TURN ARROW



COMBINATION LEFT AND STRAIGHT AND RIGHT TURN ARROW

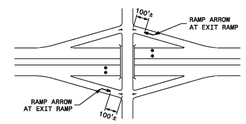


MERGE ARROW



RAMP ARROW

FOR WRONG-WAY MOVEMENTS ON FREEWAY AND EXPRESSWAY RAMPS



GENERAL NOTES:

1- USE THE COLOR WHITE FOR ALL PAVEMENT MARKING SYMBOLS.

2- DO NOT LOCATE PAVEMENT MARKING SYMBOLS AS TO ENCROACH INTO INTERSECTION AREAS.

3- DO NOT PLACE PAVEMENT MARKING SYMBOLS ACROSS TRANSVERSE EXPANSION JOINTS ON PORTLAND CEMENT CONCRETE PAVEMENTS, UNLESS APPROVED BY THE ENGINEER.

4- CONFORM ALL SYMBOLS TO THE FHWA "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", (REFER TO SHEETS 5 THRU 8). SYMBOL DIMENSIONS CAN VARY AMONG MANUFACTURERS, THEREFORE SLIGHT VARIANCES ARE ACCEPTABLE. HOWEVER, ALL SYMBOLS ARE REQUIRED TO BE APPROVED BY THE DEPARTMENT.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** SYMBOLS AND WORD MESSAGES

SHEET 8 OF 8 **1205.08**

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 BILL LESTER 5/29/19

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140 Aqua Shed Court
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lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

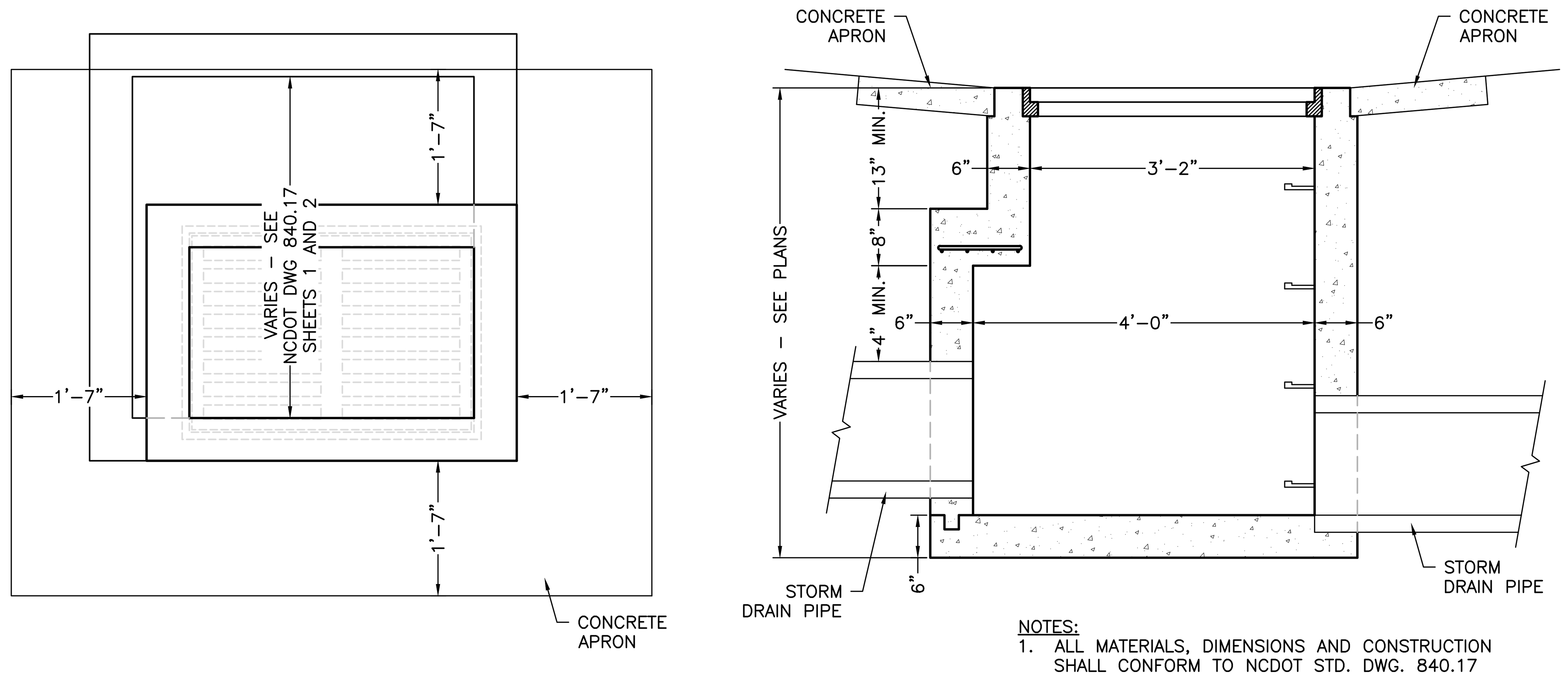
LKC

SITE DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

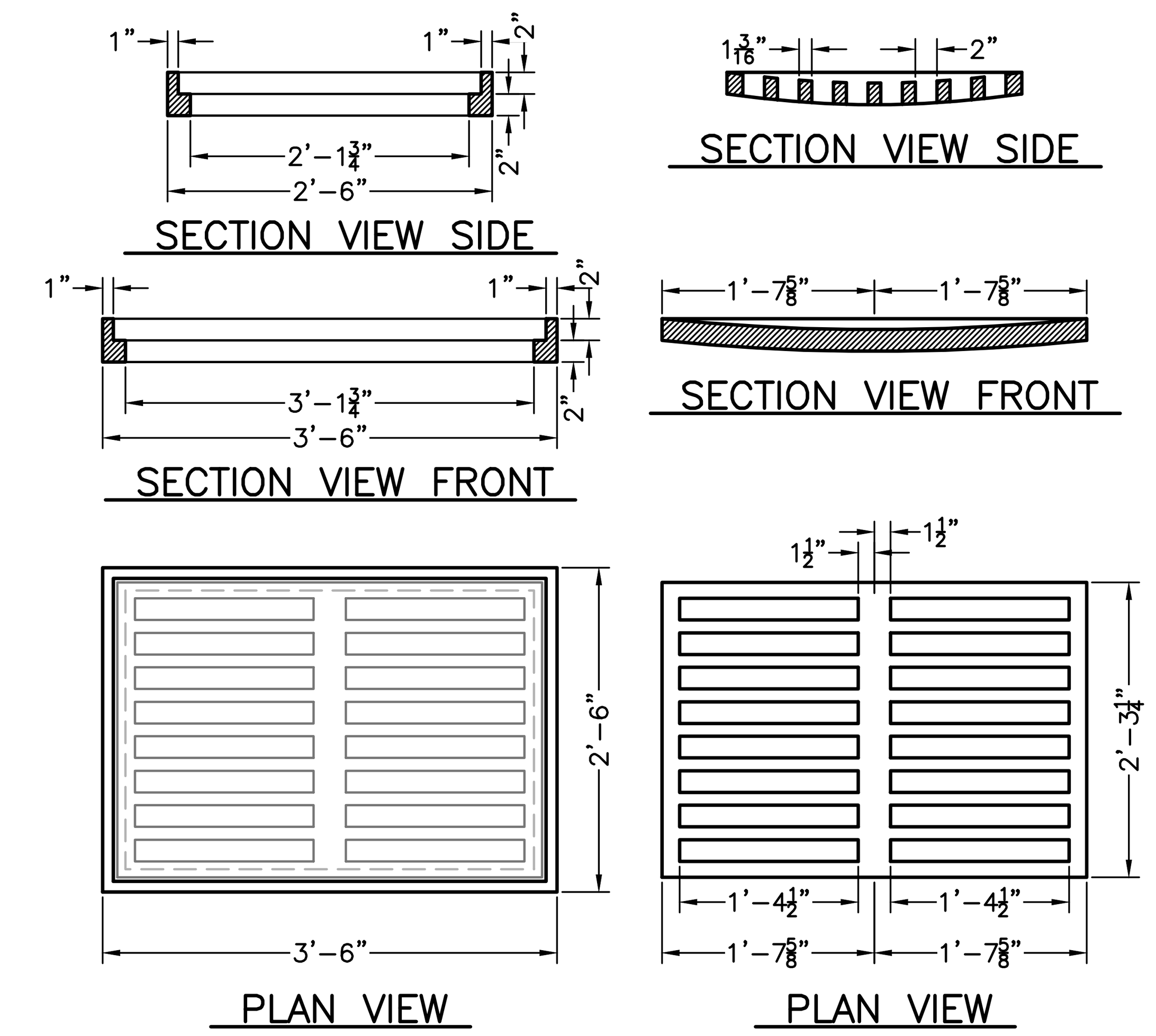
DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
D-02

REVISIONS			
SYM.	DESCRIPTION	DATE	BY



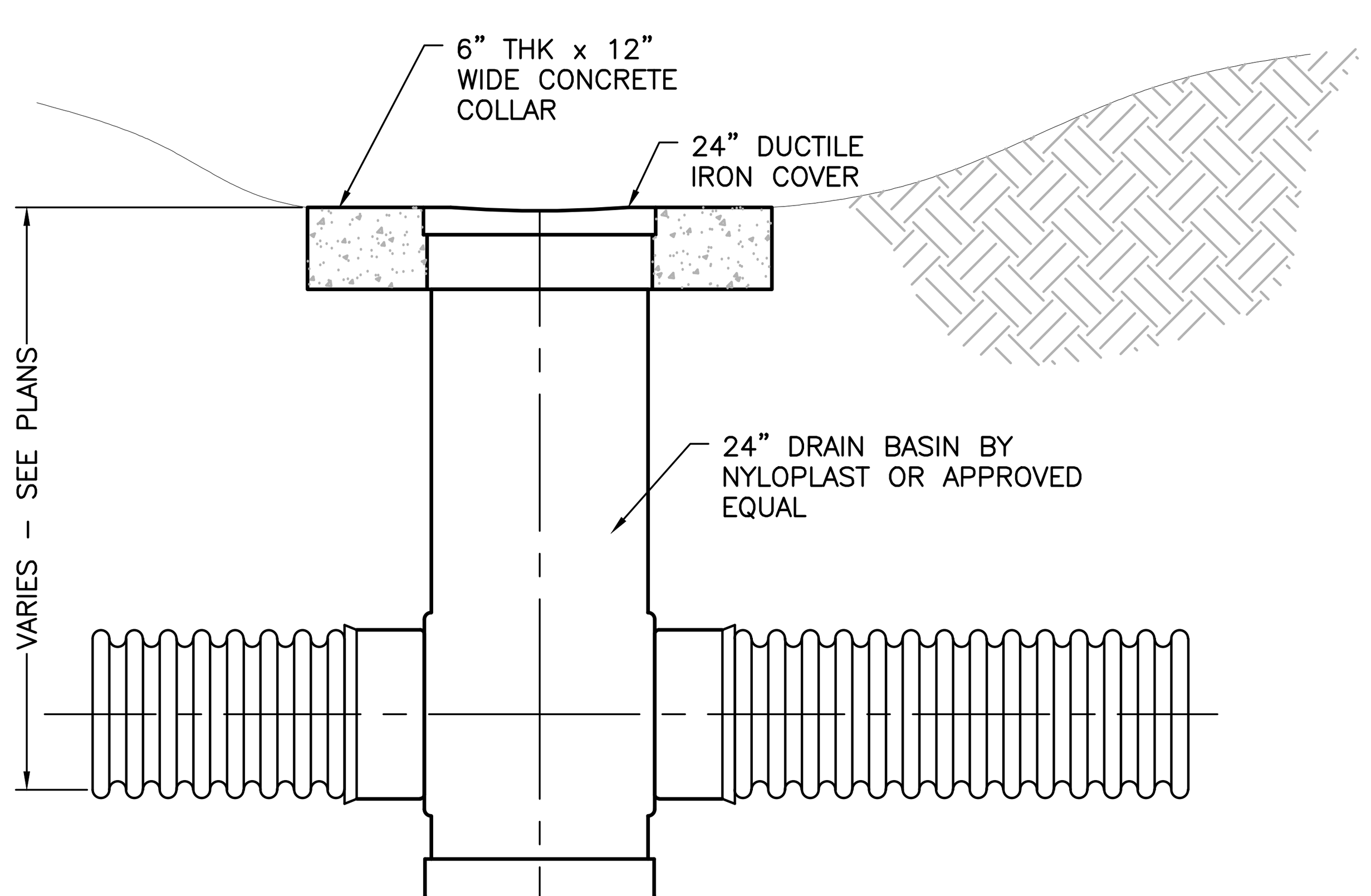
NOTES:
1. ALL MATERIALS, DIMENSIONS AND CONSTRUCTION SHALL CONFORM TO NCDOT STD. DWG. 840.17 BRICK OR CONCRETE DROP INLETS TYPE "A".

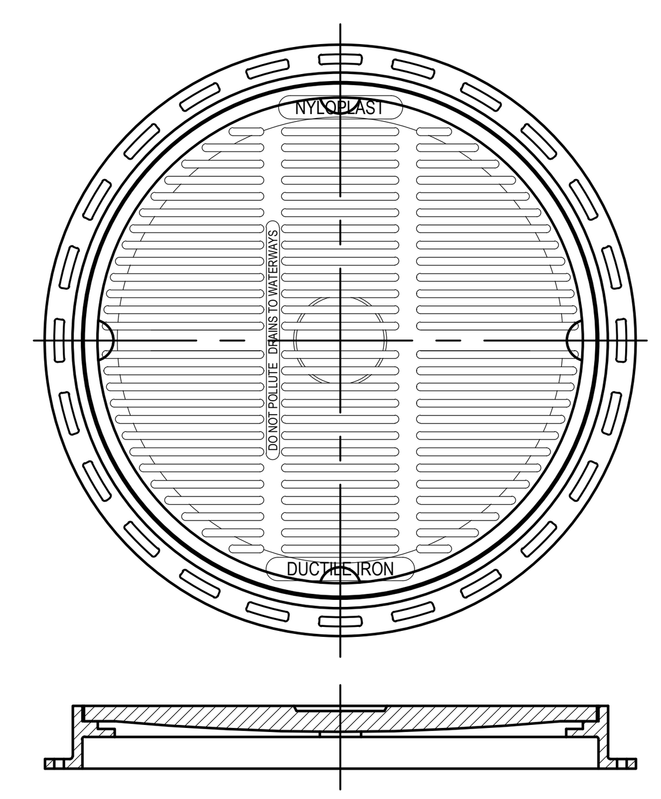
1 GRATE INLET
NOT TO SCALE



2 24"x36" FRAME AND GRATE
NOT TO SCALE

3

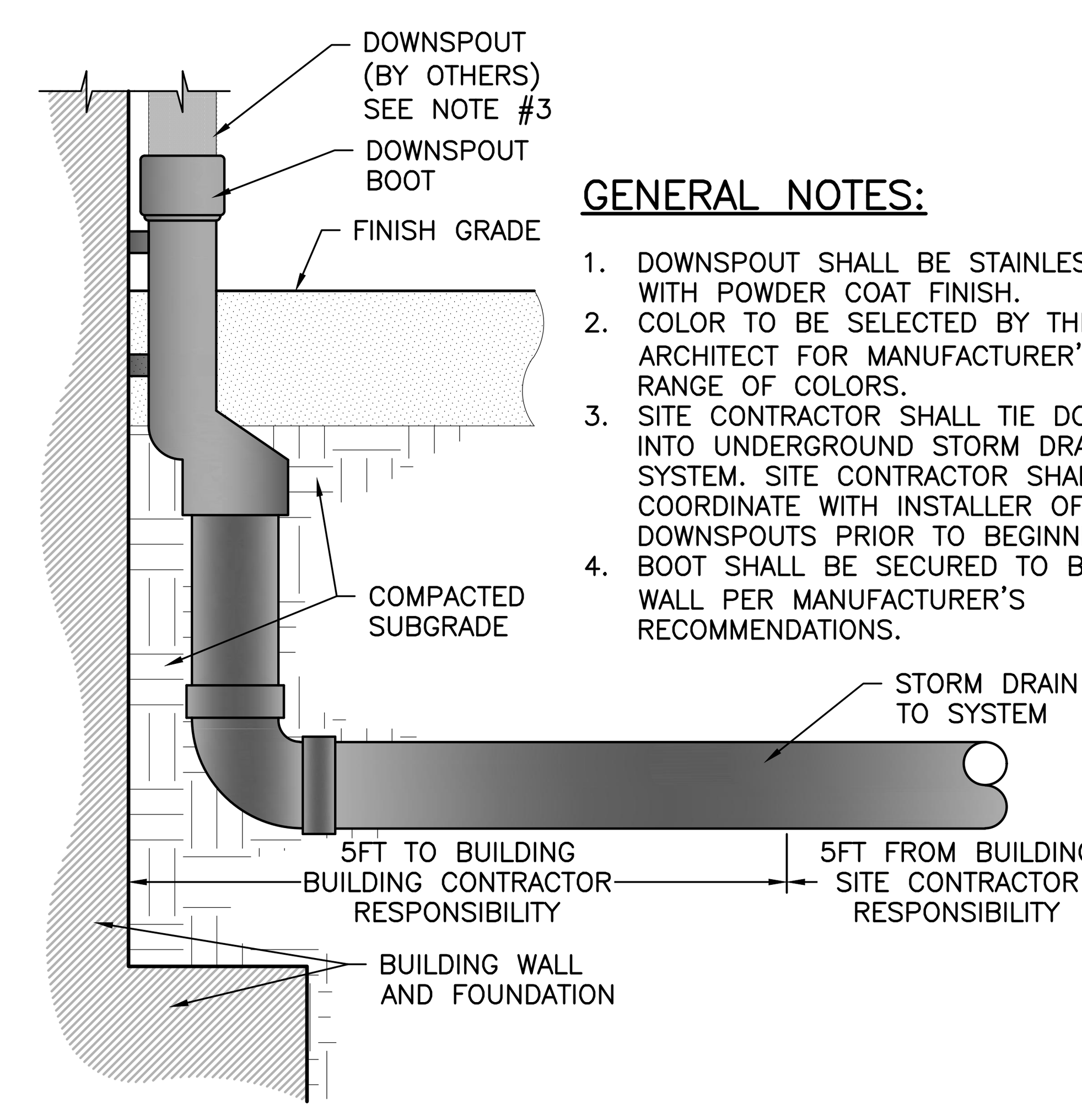




GRATE SPECIFICATIONS:

GRATE MEETS H-10 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
SIZE OF OPENING MEETS REQUIREMENTS OF AMERICAN DISABILITY ACT AS STATED IN FEDERAL REGISTER PART III, DEPARTMENT OF JUSTICE, 28 CFR PART 36.
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-023

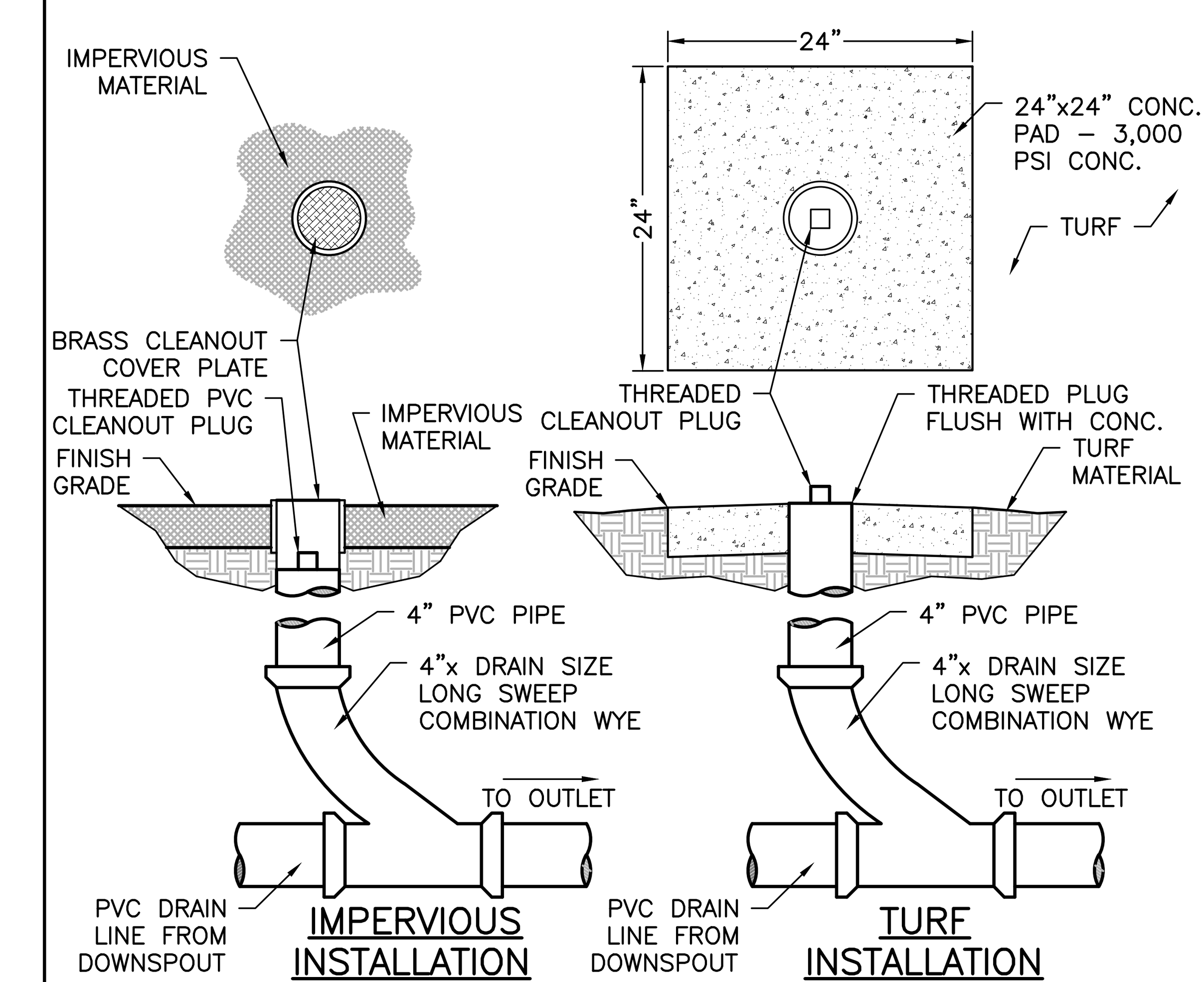
4 DRAIN BASIN
NOT TO SCALE



GENERAL NOTES:

1. DOWNSPOUT SHALL BE STAINLESS STEEL WITH POWDER COAT FINISH.
2. COLOR TO BE SELECTED BY THE ARCHITECT FOR MANUFACTURER'S FULL RANGE OF COLORS.
3. SITE CONTRACTOR SHALL TIE DOWNSPOUTS INTO UNDERGROUND STORM DRAINAGE SYSTEM. SITE CONTRACTOR SHALL COORDINATE WITH INSTALLER OF DOWNSPOUTS PRIOR TO BEGINNING WORK.
4. BOOT SHALL BE SECURED TO BUILDING WALL PER MANUFACTURER'S RECOMMENDATIONS.

5 DOWNSPOUT TO DRAINAGE TIE-IN
NOT TO SCALE



6 STORM DRAIN CLEANOUT
NOT TO SCALE

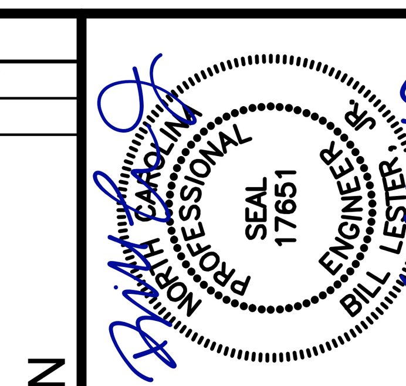
7

8

9

10

REVISIONS			
SYM.	DESCRIPTION	DATE	BY



PRELIMINARY - DO NOT USE FOR CONSTRUCTION

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lkcengineering.com
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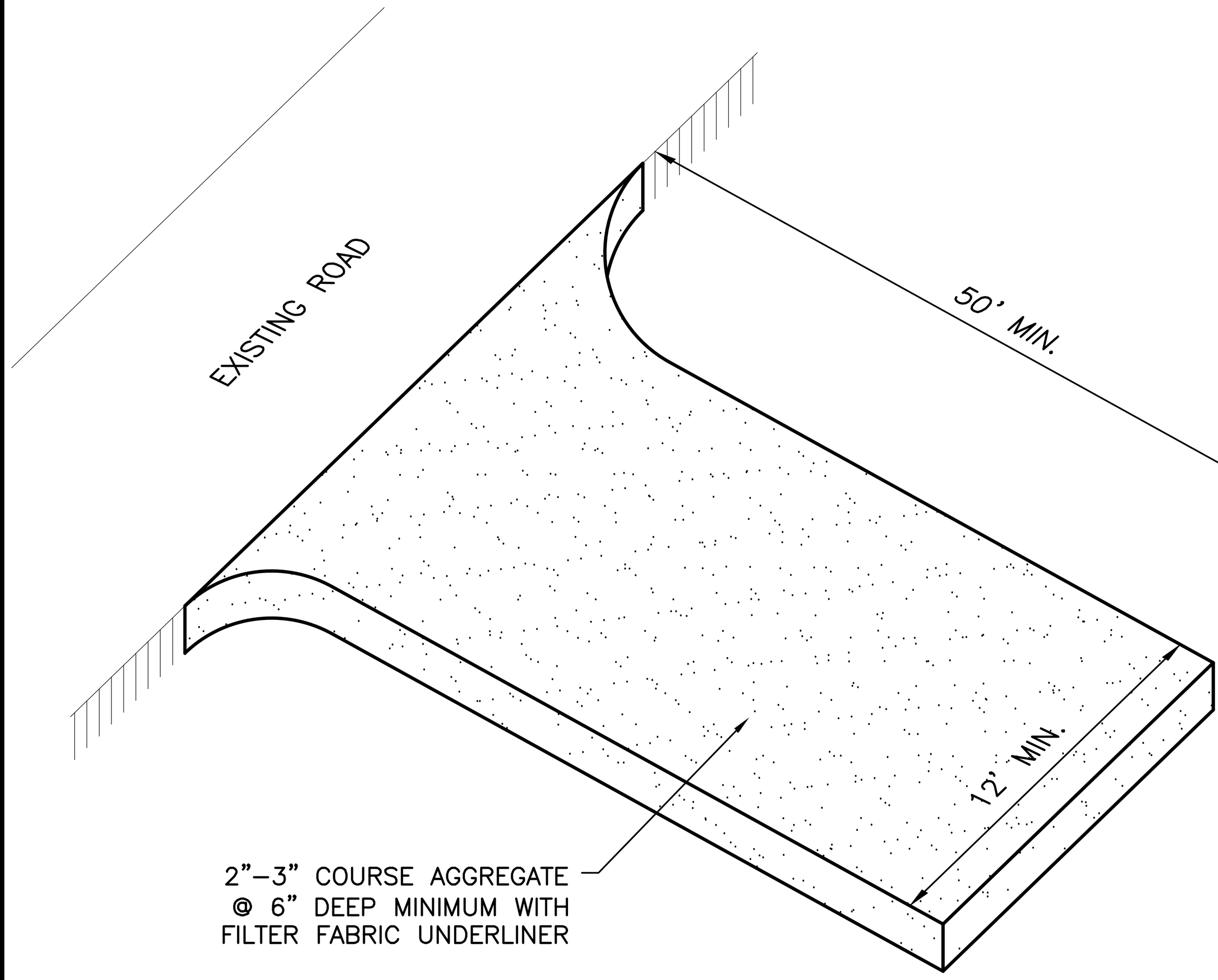
Engineering
Landscape Architecture
Surveying

DRAINAGE DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
D-03

File: L:\Stogner-19.01 Good Hope Hosp\800 – Drawings\810 Design Drawings\02 Civil\STOGNER-19.01 D01 DETAILS.dwg, By: frank, Plotted: Wed May 29, 2019 at 7:22am



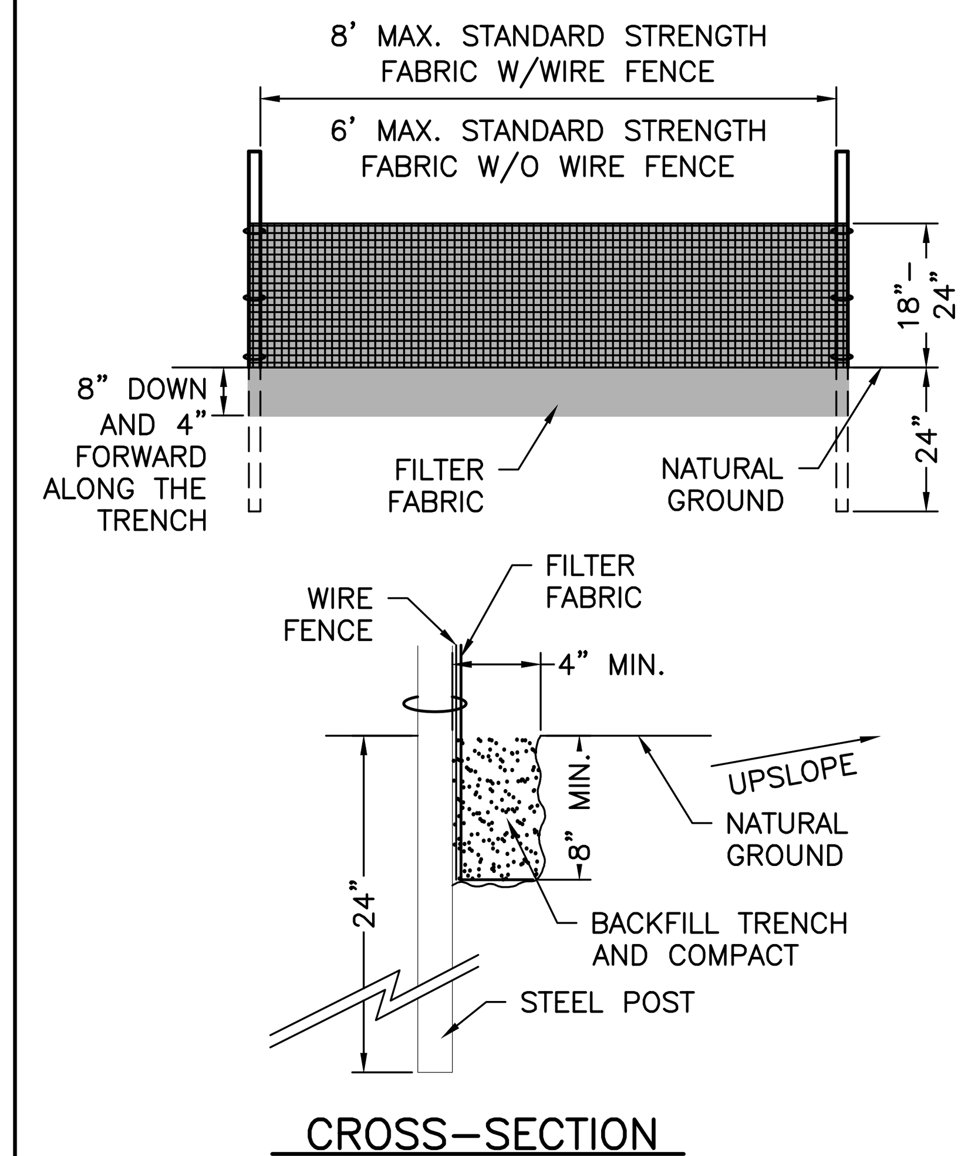
CONSTRUCTION SPECIFICATIONS:

1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS AND SMOOTH IT.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
4. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

MAINTENANCE:

MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2" STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS.

1 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
NOT TO SCALE



CROSS-SECTION

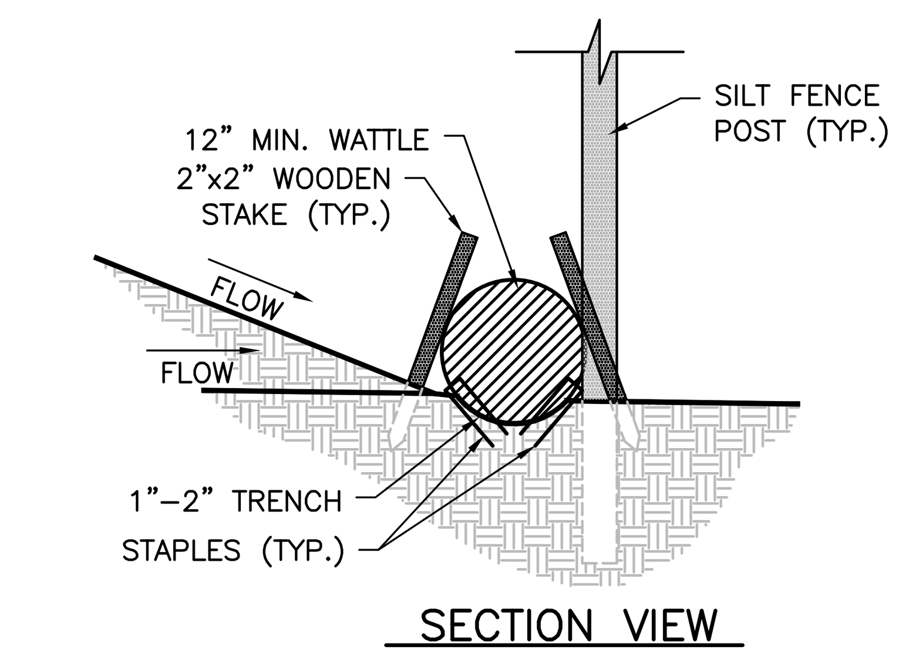
CONSTRUCTION SPECIFICATIONS:

1. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.
2. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
3. CONSTRUCT THE FILTER FABRIC FROM CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY, FASTEN THE FILTER CLOTH ONLY AT SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST.
4. SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THE FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
6. EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE A MINIMUM 50 POUND TENSILE STRENGTH.
7. EXCAVATE A TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER (FIGURE 6.62A, NORTH CAROLINA EROSION AND SEDIMENTATION CONTROL DESIGN MANUAL)
8. PLACE 12 INCHES OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
9. BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.

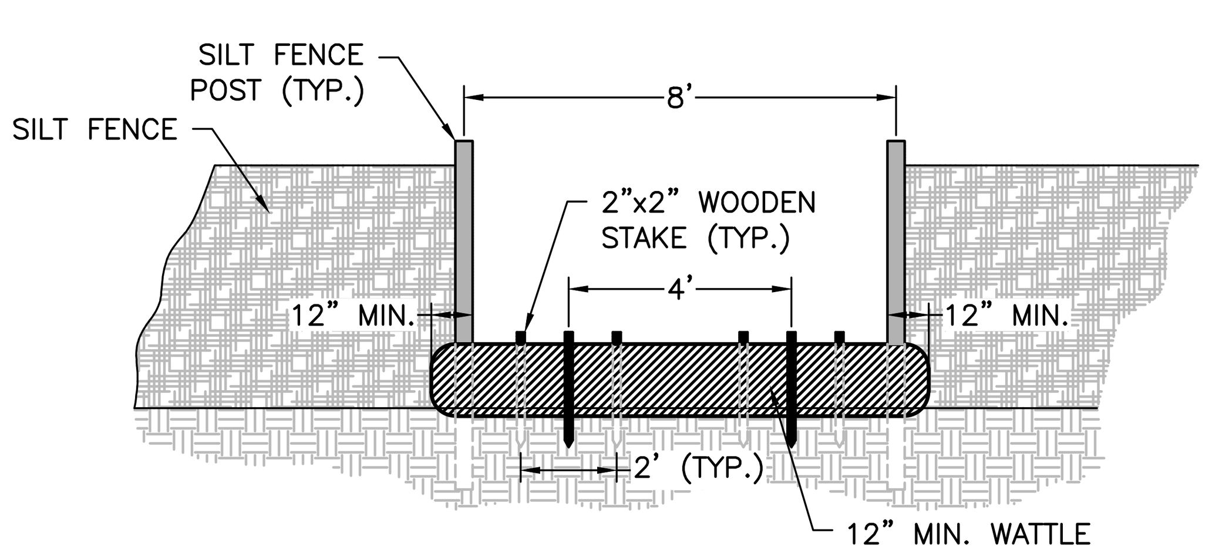
MAINTENANCE:

INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

2 TEMPORARY SILT FENCE
NOT TO SCALE



SECTION VIEW



CONSTRUCTION SPECIFICATIONS:

1. USE A MINIMUM 12" DIAMETER WATTLE WITH A MINIMUM LENGTH OF 10 FT.
2. USE 2" X 2" X 2 FT. LONG WOODEN STAKES.
3. EXCAVATE A 1" TO 2" TRENCH FOR WATTLE TO BE PLACED.
4. INSTALL A MINIMUM OF 2 UPSLOPE AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE THE WATTLE TO THE GROUND.
5. PROVIDE STAPLES MADE OF 0.125" DIAMETER STEEL WIRE FORMED INTO A "U" SHAPE AND NOT LESS THAN 12" LENGTH.
6. INSTALL STAPLES APPROXIMATELY EVERY 12" ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
7. WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
8. INSTALL TEMPORARY SEDIMENT FENCE IN ACCORDANCE WITH NCDENR REGULATIONS.
9. OUTLETS TO BE PLACED AS SHOWN ON PLANS ALONG SILT FENCE.

MAINTENANCE:

1. INSPECT OUTLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT.
2. CLEAR THE OUTLET OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS.
3. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE OUTLET DURING SEDIMENT REMOVAL.
4. REPLACE WATTLE AS NEEDED.

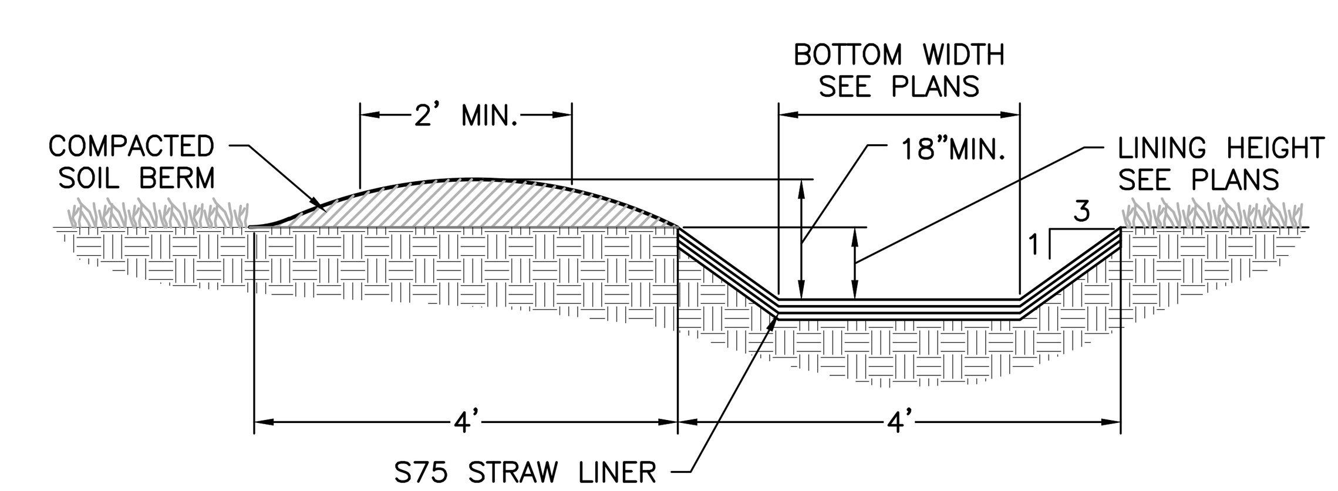
3 TEMPORARY STRAW WATTLE OUTLET AT SILT FENCE
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS:

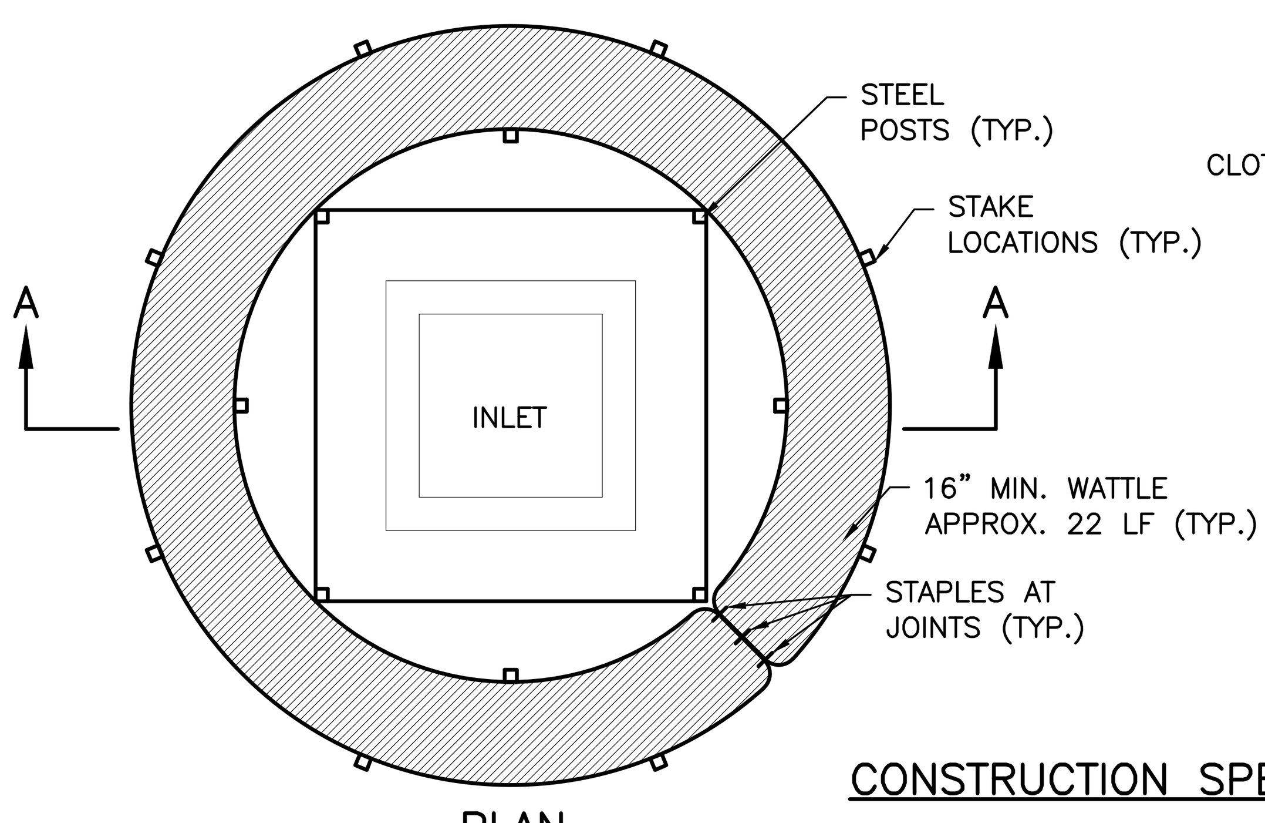
1. REMOVE AND PROPERLY DISPOSE OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL.
2. ENSURE THAT THE MINIMUM CONSTRUCTED CROSS SECTION MEETS ALL DESIGN REQUIREMENTS.
3. ENSURE THAT THE TOP OF THE DIKE IS NOT LOWER AT ANY POINT THAN THE DESIGN ELEVATION PLUS THE SPECIFIED SETTLEMENT.
4. PROVIDE SUFFICIENT ROOM AROUND DIVERSIONS TO PERMIT MACHINE REGRADING AND CLEANOUT.
5. VEGETATE THE RIDGE IMMEDIATELY AFTER CONSTRUCTION, UNLESS IT WILL REMAIN IN PLACE LESS THAN 30 WORKING DAYS.

MAINTENANCE:

INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND LEVEL AND STABILIZE IT.

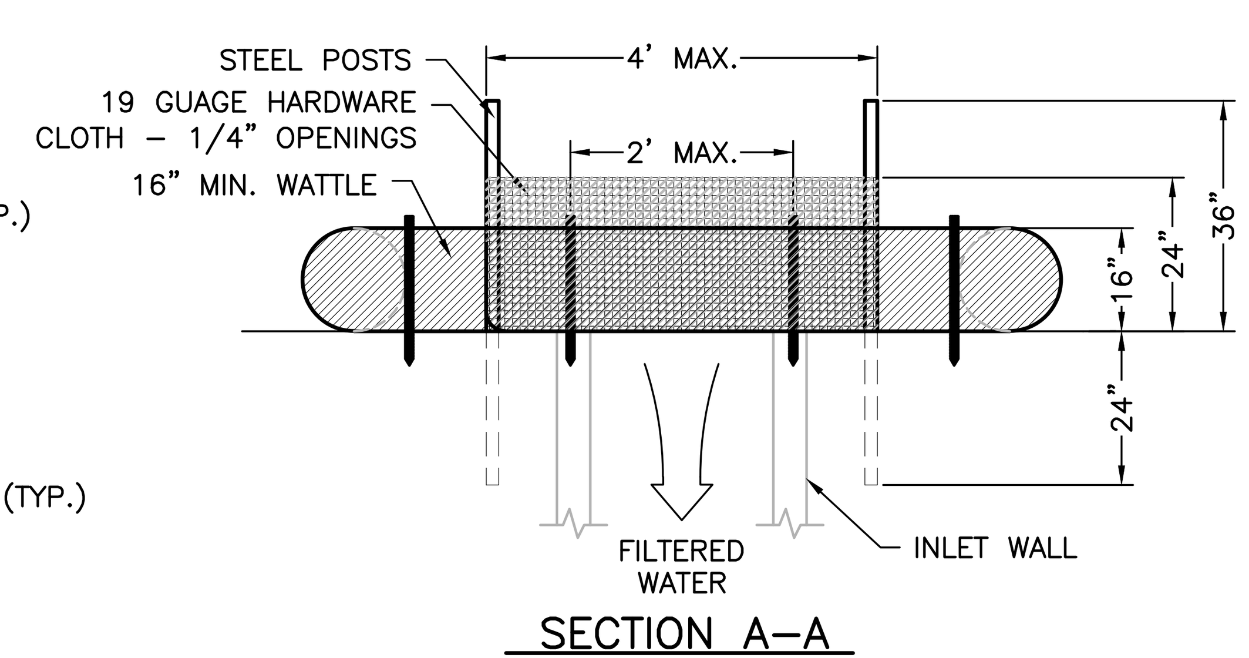


4 TEMPORARY LINED DIVERSION SWALE AND BERM
NOT TO SCALE

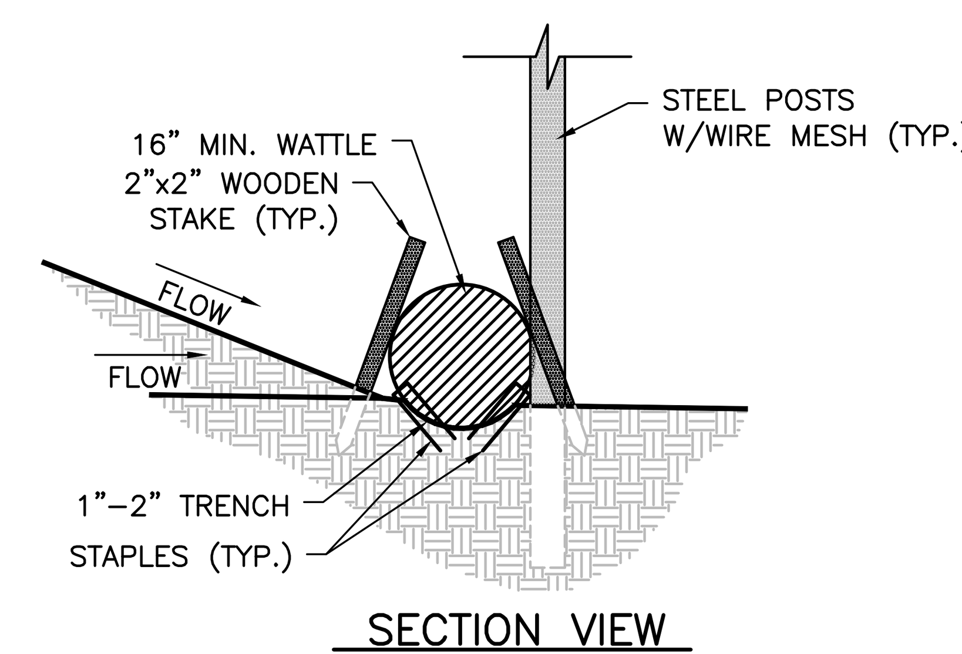


PLAN

NOTE:
INLET TOPS TO REMAIN OFF INLET STRUCTURES WHILE INLET PROTECTION IS IN PLACE.



SECTION A-A



SECTION VIEW

CONSTRUCTION SPECIFICATIONS:

1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5' STEEL POST 2' INTO THE GROUND SURROUNDING THE INLET SPACE POSTS EVENLY AROUND THE PERIMETER ON THE INLET, MAX. 4' APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE AND BOTTOM. PLACING A 2' FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. USE A MINIMUM 16" DIAMETER WATTLE WITH A LENGTH TO SURROUND WIRE MESH HARDWARE CLOTH FITTING SNUG AGAINST THE GROUND.
5. USE 2" X 2" X 30" LONG WOODEN STAKES.
6. EXCAVATE A 1" TO 2" TRENCH FOR WATTLE TO BE PLACED.
7. INSTALL A MINIMUM OF 2 UPSLOPE STAKES AT AN ANGLE TO WEDGE THE WATTLE TO THE GROUND AND UP AGAINST THE HARDWARE CLOTH.
8. PROVIDE STAPLES MADE OF 0.125" DIAMETER STEEL WIRE FORMED INTO A "U" SHAPE AND NOT LESS THAN 12" LENGTH.
9. INSTALL STAPLES APPROXIMATELY EVERY 12" ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
10. WATTLE INSTALLATION SHALL BE ON THE OUTSIDE OF THE HARDWARE CLOTH.
11. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
12. COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUND COVER.

MAINTENANCE:

INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" 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.

5 TEMPORARY INLET PROTECTION
NOT TO SCALE

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 17651 ENGINEER BILL LESTER

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

LKC

EROSION CONTROL DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
D-04

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

2016 HCDPU REQUIRED UTILITY NOTES
(REVISION 6 – JUNE 2016)

WATER

A. THE FIRE MARSHAL'S OFFICE SHALL APPROVE ALL HYDRANT TYPES AND LOCATIONS IN NEW SUBDIVISIONS. HOWEVER, HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES (HCDPU) PREFERS THE CONTRACTORS TO INSTALL ONE OF THE FOLLOWING FIRE HYDRANTS:
   1. MUELLER – SUPER CENTURION 250 A–423 MODEL WITH A 5¼" MAIN VALVE OPENING THREE WAY (TWO HOSE NOZZLES AND ONE PUMPER NOZZLE);
   2. AMERICAN DARLING – MARK B–84–B MODEL WITH A 5¼" MAIN VALVE OPENING THREE WAY (TWO HOSE NOZZLES AND ONE PUMPER NOZZLE);
   3. WATEROUS – PACER B–67–250 MODEL WITH A 5¼" MAIN VALVE OPENING THREE WAY (TWO HOSE NOZZLES AND ONE PUMPER NOZZLE) OR APPROVED EQUAL FOR STANDARDIZATION.

B. FIRE HYDRANTS ARE INSTALLED AT CERTAIN ELEVATIONS. ANY GRADE CHANGE IN THE VICINITY OF ANY FIRE HYDRANT WHICH IMPEDES ITS OPERATION SHALL BECOME THE RESPONSIBILITY OF THE UTILITY CONTRACTOR FOR CORRECTION. CORRECTIONS WILL BE MONITORED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR AND THE HARNETT COUNTY FIRE MARSHAL.

C. THE PROFESSIONAL ENGINEER (PE) SHALL OBTAIN AND PROVIDE THE NCDENR "AUTHORIZATION TO CONSTRUCT" PERMIT TO THE UTILITY CONTRACTOR BEFORE THE CONSTRUCTION OF THE WATER LINE SHALL BEGIN. THE UTILITY CONTRACTOR MUST POST A COPY OF THE NCDENR "AUTHORIZATION TO CONSTRUCT" PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES – DIVISION OF ENVIRONMENTAL HEALTH, PUBLIC WATER SUPPLY SECTION (NCDENR–DEH,PWSS) ON SITE PRIOR TO THE START OF CONSTRUCTION. THE PERMIT MUST BE MAINTAINED ON SITE THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS OF THE PROPOSED WATER LINES THAT WILL SERVE THIS PROJECT.

D. THE UTILITY CONTRACTOR SHALL NOTIFY HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES (HCDPU) AND THE PROFESSIONAL ENGINEER (PE) AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE UTILITY CONTRACTOR MUST SCHEDULE A PRE–CONSTRUCTION CONFERENCE WITH MR. ALAN MOSS, HCDPU UTILITY CONSTRUCTION INSPECTOR AT LEAST TWO (2) DAYS BEFORE CONSTRUCTION WILL BEGIN AND THE UTILITY CONTRACTOR MUST COORDINATE WITH HCDPU FOR REGULAR INSPECTION VISITATIONS AND ACCEPTANCE OF THE WATER SYSTEM(S). CONSTRUCTION WORK SHALL BE PERFORMED ONLY DURING THE NORMAL WORKING HOURS OF HCDPU WHICH IS 8:00 AM – 5:00 PM MONDAY THROUGH FRIDAY. HOLIDAY AND WEEKEND WORK IS NOT PERMITTED BY HCDPU.

E. THE PROFESSIONAL ENGINEER (PE) SHALL PROVIDE HCDPU AND THE UTILITY CONTRACTOR WITH A SET OF NCDENR APPROVED PLANS MARKED "RELEASED FOR CONSTRUCTION" AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE REGISTERED LAND SURVEYOR (RLS) SHOULD STAKE OUT ALL LOT CORNERS AND THE GRADE STAKES FOR THE PROPOSED FINISH GRADE FOR EACH STREET BEFORE THE UTILITY CONTRACTOR BEGINS CONSTRUCTION OF THE WATER LINE(S). THE GRADE STAKES SHOULD BE SET WITH A CONSISTENT OFFSET FROM THE STREET CENTERLINE SO AS NOT TO INTERFERE WITH THE STREET GRADING AND UTILITY CONSTRUCTION.

F. THE UTILITY CONTRACTOR SHALL PROVIDE THE HCDPU UTILITY CONSTRUCTION INSPECTOR WITH MATERIAL SUBMITTALS AND SHOP DRAWINGS FOR ALL PROJECT MATERIALS PRIOR TO THE CONSTRUCTION OF ANY WATER LINE EXTENSION(S), AND ASSOCIATED WATER SERVICES IN HARNETT COUNTY. THE MATERIALS TO BE USED ON THE PROJECT MUST MEET THE ESTABLISHED SPECIFICATIONS OF HCDPU AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION. ALL SUBSTANDARD MATERIALS OR MATERIALS NOT APPROVED FOR USE IN HARNETT COUNTY FOUND ON THE PROJECT SITE MUST BE REMOVED IMMEDIATELY WHEN NOTIFIED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR.

G. THE WATER MAIN(S), FIRE HYDRANTS, SERVICE LINES, METER SETTERS AND ALL ASSOCIATED APPURTENANCES SHALL BE CONSTRUCTED IN STRICT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES (HCDPU). THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED WATER MAIN(S), WATER SERVICE LINES AND ALL ASSOCIATED METER SETTERS AND METER BOXES FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW WATER MAIN(S) HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES – DIVISION OF ENVIRONMENTAL HEALTH, PUBLIC WATER SUPPLY SECTION (NCDENR–DEH, PWSS)AND ACCEPTED BY HCDPU.

H. PRIOR TO ACCEPTANCE, ALL SERVICES WILL BE INSPECTED TO INSURE THAT THEY ARE INSTALLED AT THE PROPER DEPTH. ALL METER BOXES MUST BE FLUSH WITH THE GROUND LEVEL AT FINISH GRADE AND THE METER SETTERS MUST BE A MINIMUM OF 8" BELOW THE METER BOX LID. METER SETTERS SHALL BE CENTERED IN THE METER BOX AND SUPPORTED BY BRICK, BLOCK OR STONE.

I. THE UTILITY CONTRACTOR SHALL PROVIDE THE PROFESSIONAL ENGINEER (PE) AND HCDPU UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE DRAWINGS IDENTIFYING THE COMPLETE WATER SYSTEM INSTALLED FOR EACH PROJECT. THE RED LINE DRAWINGS SHOULD IDENTIFY THE MATERIALS, PIPE SIZES AND APPROXIMATE DEPTHS OF THE WATER LINES AS WELL AS THE GATE VALVES, FIRE HYDRANTS, METER SETTERS, BLOW OFF ASSEMBLIES AND ALL ASSOCIATED APPURTENANCES FOR ALL WATER LINE(S) CONSTRUCTED IN HARNETT COUNTY. THE RED LINE DRAWINGS SHOULD CLEARLY IDENTIFY ANY DEVIATIONS FROM THE NCDENR APPROVED PLANS. ALL CHANGE ORDERS MUST BE APPROVED BY HCDPU AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.

J. POTABLE WATER MAINS CROSSING OTHER UTILITIES AND NON–POTABLE WATER LINES (SANITARY SEWER, STORM SEWER, RCP, ETC.) SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWENTY–FOUR (24") INCHES BETWEEN THE POTABLE WATER MAIN AND ALL OTHER UTILITIES. NCDOT REQUIRES THE NEW WATER MAINS TO BE INSTALLED UNDER THE STORM WATER LINES. THE POTABLE WATER MAIN SHALL BE INSTALLED WITH TWENTY–FOUR (24") INCHES OF VERTICAL SEPARATION AND WITH DUCTILE IRON PIPE WHEN DESIGNED TO BE PLACED UNDER A NON–POTABLE WATER LINE SUCH AS SANITARY SEWER OR STORM SEWER LINES. IF THESE SEPARATIONS CANNOT BE MAINTAINED THEN THE WATER MAIN SHALL BE INSTALLED WITH DUCTILE IRON PIPE. BOTH THE POTABLE WATER MAIN AND THE NON–POTABLE WATER LINE MUST BE CAST IRON OR DUCTILE IRON PIPE (DIP) IF THE STATE MINIMUM SEPARATIONS CANNOT BE MAINTAINED. THE DUCTILE IRON PIPE MUST BE LAID SO THE MECHANICAL JOINTS ARE AT LEAST (10') FEET FROM THE POINT WHERE THE POTABLE WATER MAIN CROSSES THE NON–POTABLE WATER LINE.

K. POTABLE WATER MAINS INSTALLED PARALLEL TO NON–POTABLE WATER LINES (SANITARY SEWER, STORM SEWER, RCP, ETC.) SHALL BE LAID TO PROVIDE A MINIMUM HORIZONTAL DISTANCE OF TEN (10') FEET BETWEEN THE POTABLE WATER MAIN AND SANITARY SEWER MAINS, SEWER LATERALS AND SERVICES. THE HORIZONTAL SEPARATION BETWEEN THE POTABLE WATER MAIN AND ANY OTHER UTILITY OR STORM SEWER SHALL NOT BE LESS THAN FIVE (5') FEET. THE POTABLE WATER MAIN MUST BE DUCTILE IRON PIPE IF THIS HORIZONTAL SEPARATION OF TEN (10') FEET CANNOT BE MAINTAINED. THE DUCTILE IRON PIPE SHALL EXTEND AT LEAST TEN (10') FEET BEYOND THE POINT WHERE THE MINIMUM REQUIRED HORIZONTAL SEPARATION OF TEN (10') FEET CAN BE RE–ESTABLISHED.

L. METER SETTERS SHALL BE INSTALLED IN PAIRS ON EVERY OTHER LOT LINE WHERE POSSIBLE TO LEAVE ADEQUATE SPACE FOR OTHER UTILITIES TO BE INSTALLED AT A LATER TIME. THE METER SETTERS SHALL BE INSTALLED AT LEAST ONE (1') FOOT INSIDE THE RIGHT–OF–WAY AND AT LEAST THREE (3') TO FIVE (5') FEET FROM THE PROPERTY LINE BETWEEN THE LOTS.

M. HCDPU REQUIRES THAT METER BOXES FOR ¾" SERVICES SHALL BE 12" WIDE X 17" LONG ABS PLASTIC BOXES AT LEAST 18" IN HEIGHT WITH CAST IRON LIDS/COVERS. METER BOXES FOR 1" SERVICES SHALL BE 17" WIDE X 21" LONG ABS PLASTIC BOXES AT LEAST 18" IN HEIGHT WITH PLASTIC LIDS AND CAST IRON FLIP COVERS IN THE CENTER OF THE LIDS. METER BOXES FOR 2" SERVICES SHALL BE 20" WIDE X 32" LONG ABS PLASTIC BOXES AT LEAST 20" IN HEIGHT WITH PLASTIC LIDS AND CAST IRON FLIP COVERS IN THE CENTER OF THE LIDS.

N. MASTER METERS MUST BE INSTALLED IN CONCRETE VAULTS SIZED FOR THE METER ASSEMBLY AND ASSOCIATED APPURTENANCES SO AS TO PROVIDE AT LEAST EIGHTEEN (18") INCHES OF CLEARANCE BETWEEN THE BOTTOM OF THE CONCRETE VAULT AND THE BOTTOM OF THE METER SETTER. THE MASTER METER MUST BE PROVIDED TEST PORTS IF THE METER IS NOT EQUIPPED WITH TEST PORTS FROM THE MANUFACTURER IN ACCORDANCE WITH THE HCDPU ESTABLISHED STANDARD SPECIFICATIONS AND DETAILS. DUCTILE IRON PIPE MUST BE USED FOR THE MASTER METER VAULT PIPING AND VALVE VAULT PIPING. THE UTILITY CONTRACTOR MUST PROVIDE SHOP DRAWINGS FOR THE METER VAULTS TO HCDPU PRIOR TO ORDERING THE CONCRETE VAULTS.

O. THE UTILITY CONTRACTOR WILL INSTALL POLYETHYLENE SDR–9 WATER SERVICE LINES THAT CROSS UNDER THE PAVEMENT INSIDE A SCHEDULE 40 PVC CONDUIT TO ALLOW FOR REMOVAL AND REPLACEMENT IN THE FUTURE. TWO (2) INDEPENDENT ¾" WATER SERVICE LINES MAY BE INSTALLED INSIDE ONE (1) – TWO (2") INCH SCHEDULE 40 PVC CONDUIT OR TWO (2) INDEPENDENT 1" WATER SERVICE LINES MAY BE INSTALLED INSIDE ONE (1) – THREE (3") INCH SCHEDULE 40 PVC CONDUIT, BUT EACH WATER SERVICE SHALL BE TAPPED DIRECTLY TO THE WATER MAIN. SPLIT SERVICES ARE NOT ALLOWED BY HCDPU.

P. THE WATER MAIN(S), FIRE HYDRANTS, GATE VALVES, SERVICE LINES, METER SETTERS AND ASSOCIATED APPURTENANCES MUST BE RATED FOR 200 PSI AND HYDROSTATICALLY PRESSURE TESTED TO 200 PSI. THE HYDROSTATIC PRESSURE TEST(S) MUST BE WITNESSED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR MUST NOTIFY HCDPU WHEN THEY ARE READY TO BEGIN FILLING IN LINES AND COORDINATE WITH HARNETT COUNTY TO WITNESS ALL PRESSURE TESTING.

Q. THE UTILITY CONTRACTOR SHALL CONDUCT A PNEUMATIC PRESSURE TEST USING COMPRESSED AIR OR OTHER INERT GAS ON THE STAINLESS STEEL TAPPING SLEEVE(S) PRIOR TO MAKING THE TAP ON THE EXISTING WATER MAIN. THIS PNEUMATIC PRESSURE TEST MUST BE WITNESSED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STAINLESS STEEL TAPPING SLEEVE(S) OR APPROVED EQUAL FOR ALL TAPS MADE IN HARNETT COUNTY. ALL NEW WATER LINE EXTENSIONS MUST BEGIN WITH A RESILIENT WEDGE TYPE GATE VALVE SIZED EQUAL TO THE DIAMETER OF THE NEW WATER LINE EXTENSION IN ORDER TO PROVIDE A MEANS OF ISOLATION BETWEEN HARNETT COUNTY'S EXISTING WATER MAINS AND THE NEW WATER LINE EXTENSIONS UNDER CONSTRUCTION.

R. ALL WATER MAINS WILL BE CONSTRUCTED WITH SDR–21 PVC PIPE OR CLASS 50 DUCTILE IRON PIPE RATED FOR AT LEAST 200 PSI OR GREATER. ALL PIPES MUST BE PROTECTED DURING LOADING, TRANSPORT, UNLOADING, STAGING, AND INSTALLATION. PVC PIPE MUST BE PROTECTED FROM EXTENDED EXPOSURE TO SUNLIGHT PRIOR TO INSTALLATION.

S. ALL WATER MAINS WILL BE FLUSHED AND DISINFECTED IN STRICT ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES. ALL WATER SAMPLES COLLECTED FOR BACTERIA TESTING WILL BE COLLECTED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR AND TESTED IN THE HCDPU LABORATORY.

T. ALL FITTINGS LARGER THAN TWO (2") INCHES DIAMETER SHALL BE DUCTILE IRON. HCDPU REQUIRES THAT MECHANICAL JOINTS BE ASSEMBLED WITH GRIP RINGS AS "MEGALUG" FITTINGS ARE NOT APPROVED BY HARNETT COUNTY FOR PIPE SIZES SMALLER THAN TWELVE INCHES (12") DIAMETER. PVC PIPE USED FOR WATER MAINS SHALL BE CONNECTED BY SLIP JOINT OR MECHANICAL JOINT WITH GRIP RINGS. GLUED PIPE JOINTS ARE NOT ALLOWED ON PVC PIPE USED FOR WATER MAINS IN HARNETT COUNTY.

U. HCDPU REQUIRES THAT THE UTILITY CONTRACTOR INSTALL TRACER WIRE IN THE TRENCH WITH ALL WATER LINES. THE TRACER WIRE SHALL BE 12 GA. INSULATED, SOLID COPPER CONDUCTOR AND IT SHALL BE TERMINATED AT THE TOP OF THE VALVE BOXES OR MANHOLES. NO SPLICED WIRE CONNECTIONS SHALL BE MADE UNDERGROUND ON TRACER WIRE INSTALLED IN HARNETT COUNTY. THE TRACER WIRE MAY BE SECURED WITH DUCT TAPE TO THE TOP OF THE PIPE BEFORE BACKFILLING.

V. THE UTILITY CONTRACTOR WILL PROVIDE PROFESSIONAL ENGINEER (PE) AND THE HCDPU UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE FIELD DRAWINGS TO IDENTIFY THE INSTALLED LOCATIONS OF THE WATER LINE(S) AND ALL ASSOCIATED SERVICES. ALL CHANGE ORDERS MUST BE PRE–APPROVED BY HCDPU AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.

W. THE UTILITY CONTRACTOR SHALL SPOT DIG TO EXPOSE EACH UTILITY PIPE OR LINE WHICH MAY CONFLICT WITH CONSTRUCTION OF PROPOSED WATER LINE EXTENSIONS WELL IN ADVANCE TO VERIFY LOCATIONS OF THE EXISTING UTILITIES. THE UTILITY CONTRACTOR SHALL PROVIDE BOTH HORIZONTAL AND VERTICAL CLEARANCES TO THE PROFESSIONAL ENGINEER (PE) TO ALLOW THE PE TO ADJUST THE WATER LINE DESIGN IN ORDER TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER REQUIREMENTS DURING WATER LINE INSTALLATION, GRADING AND STREET CONSTRUCTION.

X. PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN ESTABLISHED UTILITY EASEMENTS OR NCDOT RIGHT–OF–WAYS THE UTILITY CONTRACTOR IS REQUIRED TO HAVE A SIGNED NCDOT ENCROACHMENT AGREEMENT POSTED ON SITE AND NOTIFY ALL CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH G.S. 87–102. THE UTILITY CONTRACTOR MUST CALL THE NC ONE CALL CENTER AT 811 OR (800) 632–4949 TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. EXISTING UTILITIES SHOWN IN THESE PLANS ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED OR VERIFIED BY THE P.E. (I.E. TELEPHONE, CABLE, WATER, SEWER, ELECTRICAL POWER, FIBER OPTIC, NATURAL GAS, ETC.). THE UTILITY CONTRACTOR WILL BE RESPONSIBLE TO REPAIR ANY AND ALL DAMAGES TO THE SATISFACTION OF THE RELATED UTILITY COMPANY.

Y. THE UTILITY CONTRACTOR SHALL PROVIDE HCDPU WITH AT LEAST ONE (1) FIRE HYDRANT WRENCH AND ONE (1) BREAK–AWAY FLANGE KIT FOR EVERY SUBDIVISION WITH FIRE HYDRANTS DEVELOPED IN HARNETT COUNTY. THESE ITEMS MUST BE PROVIDED TO HCDPU BEFORE THE FINAL INSPECTION WILL BE SCHEDULED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR. IN ADDITION, THE UTILITY CONTRACTOR SHALL INSTALL A 4" X 4" CONCRETE VALVE MARKER AT THE EDGE OF THE RIGHT–OF–WAY TO IDENTIFY THE LOCATION OF EACH GATE VALVE INSTALLED IN THE NEW WATER SYSTEM WITH THE EXCEPTION OF THE FIRE HYDRANT ISOLATION VALVES. THE CONTRACTOR SHALL MEASURE THE DISTANCE FROM THE CENTER OF THE CONCRETE MARKER TO THE CENTER OF THE VALVE BOX. THIS DISTANCE (IN LINEAR FEET) SHALL BE STAMPED ON THE BRASS PLATE LOCATED ON THE TOP OF THE CONCRETE VALVE MARKER. IN LIEU OF INSTALLING THE CONCRETE VALVE MARKERS, THE UTILITY CONTRACTOR MAY PROVIDE AT LEAST TWO MEASUREMENTS FROM TWO INDEPENDENT PERMANENT ABOVE GROUND STRUCTURES TO THE PROFESSIONAL ENGINEER (PE) IN THE RED LINE DRAWINGS TO IDENTIFY THE VALVE LOCATIONS. THE PROFESSIONAL ENGINEER (PE) MUST INCLUDE THESE MEASUREMENTS IN THE AS–BUILT RECORD DRAWINGS SUBMITTED TO HCDPU.

Z. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO LEAKAGE DAMAGE FROM POOR WORKMANSHIP DURING THE ONE (1) YEAR WARRANTY PERIOD ONCE THE WATER SYSTEM IMPROVEMENTS HAVE BEEN ACCEPTED BY HARNETT COUNTY. HARNETT COUNTY WILL PROVIDE MAINTENANCE AND REPAIRS WHEN REQUESTED AND BILL THE DEVELOPER AND/OR UTILITY CONTRACTOR IF NECESSARY DUE TO LACK OF RESPONSE WITHIN 48 HOURS OF NOTIFICATION OF WARRANTY WORK. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO DAMAGES RESULTING FROM FAILURE TO LOCATE THE NEW WATER LINES AND ASSOCIATED APPURTENANCES FOR OTHER UTILITIES AND THEIR CONTRACTORS UNTIL THE WATER LINES HAVE BEEN APPROVED BY NCDENR AND ACCEPTED BY HCDPU. THE FINAL INSPECTION OF WATER SYSTEM IMPROVEMENTS CANNOT BE SCHEDULED WITH HCDPU UNTIL THE STREETS HAVE BEEN PAVED; THE RIGHTS–OF–WAY AND UTILITY EASEMENTS HAVE BEEN SEEDED AND STABILIZED WITH AN ADEQUATE STAND OF GRASS IN PLACE TO PREVENT EROSION ISSUES ON SITE.

AA. THE ENGINEER OF RECORD IS RESPONSIBLE TO INSURE THAT CONSTRUCTION IS, AT ALL TIMES, IN COMPLIANCE WITH ACCEPTED SANITARY ENGINEERING PRACTICES AND APPROVED PLANS AND SPECIFICATIONS. NO FIELD CHANGES TO THE APPROVED PLANS ARE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY HCDPU. A COPY OF EACH ENGINEER'S FIELD REPORT IS TO BE SUBMITTED TO HCDPU AS EACH SUCH INSPECTION IS MADE ON SYSTEM IMPROVEMENTS OR TESTING IS PERFORMED BY THE CONTRACTOR. WATER AND SEWER INFRASTRUCTURE MUST PASS ALL TESTS REQUIRED BY HCDPU SPECIFICATIONS AND THOSE OF ALL APPLICABLE REGULATORY AGENCIES. THESE TESTS INCLUDE, BUT ARE NOT LIMITED TO: AIR TEST, VACUUM TEST, MANDREL TEST, VISUAL TEST, PRESSURE TEST, BACTERIOLOGICAL TEST, ETC. A HCDPU INSPECTOR MUST BE PRESENT DURING TESTING AND ALL TEST RESULTS SHALL BE SUBMITTED TO HCDPU. ALL TESTS MUST BE SATISFIED BEFORE THE FINAL INSPECTION WILL BE SCHEDULED WITH THE HCDPU INSPECTOR. THE ENGINEER OF RECORD MUST REQUEST IN WRITING TO SCHEDULE THE FINAL INSPECTION ONCE ALL CONSTRUCTION IS COMPLETE. THE DEVELOPER'S ENGINEER OF RECORD AND THE HCDPU UTILITY CONSTRUCTION INSPECTOR SHALL PREPARE A WRITTEN PUNCH LIST OF ANY DEFECTS OR DEFICIENCIES NOTED DURING THE FINAL INSPECTION, SHOULD ANY EXIST. UPON COMPLETION OF THE PUNCH LIST, THE DEVELOPER'S ENGINEER OF RECORD WILL SCHEDULE ANOTHER INSPECTION. IN THE EVENT THE NUMBER OF INSPECTIONS PERFORMED BY THE HCDPU EXCEEDS TWO, ADDITIONAL FEES MAY BE ACCESSED TO THE DEVELOPER.

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WATER DISTRIBUTION NOTES

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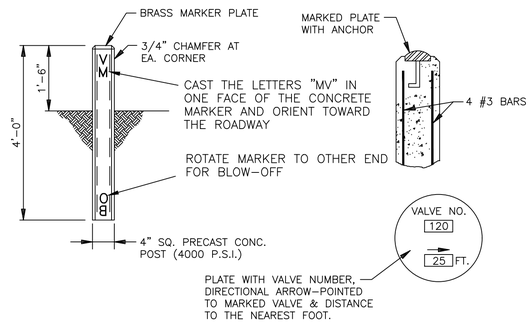
DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
D-05

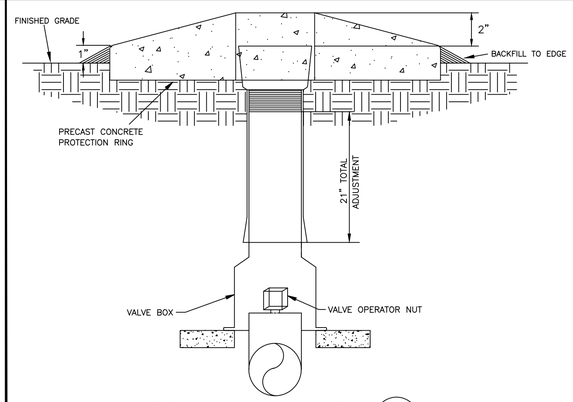
File: L:\Stryker–19.01 Good Hope Hosp\800 – Drawings\810 Design Drawings\02 Civil\STDGNER–19.01 001 DETAILS.dwg, By: frank, Plotted: Wed May 29, 2019 at 7:23am

NOTES:
PAINT MARKER BLUE AFTER INSTALLATION



TYPICAL VALVE MARKER DETAIL — W 1
NO SCALE

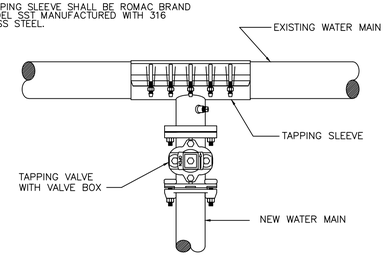
1



TYPICAL VALVE BOX DETAIL — W 2
NO SCALE

2

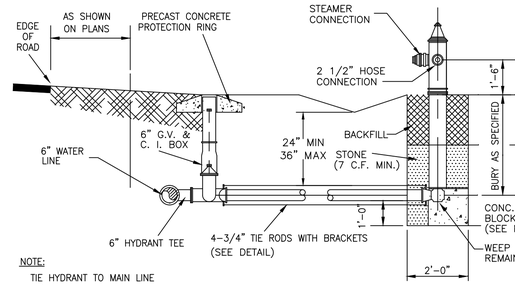
NOTES:
1. TAPPING SLEEVE SHALL BE ROMAC BRAND MODEL SST MANUFACTURED WITH 316 STAINLESS STEEL.



NOTE: TAPPING SLEEVE SHALL BE 316 STAINLESS STEEL ONLY

TYPICAL TAPPING SLEEVE AND VALVE ASSEMBLY DETAIL — W 5
NO SCALE

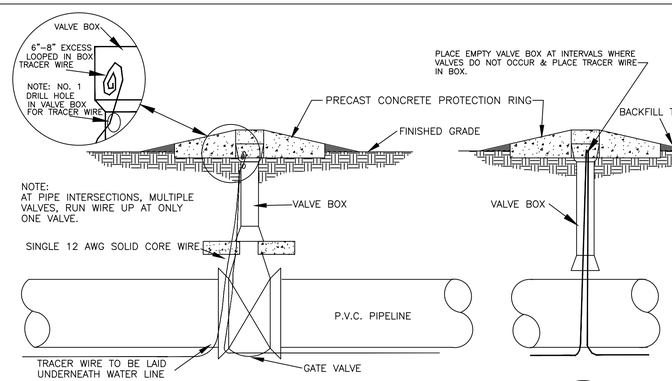
3



NOTE:
TIE HYDRANT TO MAIN LINE W/TIE RODS IN LIEW OF CONC. BLOCKING IN SANDY SOIL.

TYPICAL FIRE HYDRANT INSTALLATION DETAIL — W 6
NO SCALE

4



TYPICAL TRACER WIRE INSTALLATION DETAIL — W 3
NO SCALE

NOTES:
1. DRILL HOLE IN VALVE BOX TO INSERT TRACER WIRE,BRING UP TO INSIDE AND ROLL UP AT LEAST 6"-8" EXCESS
2. PLACE TRACER WIRE IN VALVE BOX AT 1,000" INTERVALS OR AS NOTED ON THE PLANS, TYPICAL.
3. DO NOT SPLICE WIRE WHEN BEGINNING A NEW SPOOL. INSTEAD INSTALL A VALVE BOX AND ATTACH EACH WIRE WITH A BRASS SCREW TO THE VALVE BOX.

5

6

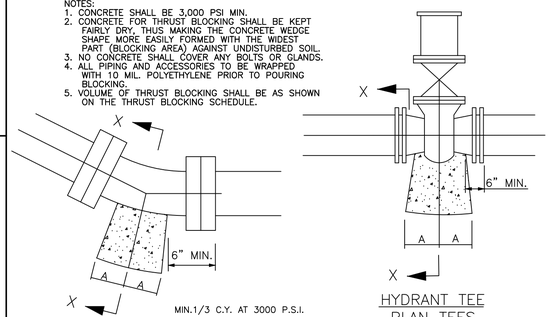
7

GENERAL WATERLINE NOTES

1. CONTRACTOR SHALL REPAIR ALL WATER LATERALS, AND MAINS DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL REPORT IMMEDIATELY ALL WATER MAIN AND LATERAL BREAKS TO HARNETT COUNTY DISPATCHER AND TO THE OWNER'S REPRESENTATIVE AND SHALL INITIATE IMMEDIATE REPAIRS TO HARNETT COUNTY STANDARDS. CONTRACTOR SHALL NOT OPERATE HARNETT COUNTY WATER MAIN VALVES WITHOUT HARNETT COUNTY APPROVAL AND SHALL COORDINATE ALL VALVE CLOSINGS WITH THE HARNETT COUNTY WATER AUTHORITY. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH WATER SYSTEM IN THE AREA SO AS TO LESSEN THE CHANCE OF SERVICE INTERRUPTION.

2. THE CONTRACTOR SHALL NOT USE HOUSE HOSE BIBBS OR ANY OTHER METHOD OF BLOW OFF WHICH ALLOWS DOMESTIC WATER CONTAINING SEDIMENTS OR HIGH LEVELS OF CHLORINE TO PASS THRU RESIDENT'S METERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES RESULTING FROM ALLOWING "DIRTY" WATER TO ENTER RESIDENT'S PLUMBING SYSTEM, SUCH AS WATER HEATERS, STAINED CLOTHING, CLOGGED SCREENS, ETC.

NOTES:
1. CONCRETE SHALL BE 3,000 PSI MIN.
2. CONCRETE FOR THRUST BLOCKING SHALL BE KEPT FAIRLY DRY, THUS MAKING THE CONCRETE WEDGE SHAPE MORE EASILY FORMED WITH THE WIDEST PART (BLOCKING AREA) AGAINST UNDISTURBED SOIL.
3. NO CONCRETE SHALL COVER ANY BOLTS OR GLANDS.
4. ALL PIPING AND ACCESSORIES TO BE WRAPPED WITH 10 MIL. POLYETHYLENE PRIOR TO POURING BLOCKING.
5. VOLUME OF THRUST BLOCKING SHALL BE AS SHOWN ON THE THRUST BLOCKING SCHEDULE.

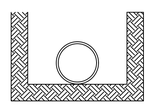


PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	6"	6"	8"	9"	10"	16"
6"	10"	12"	8"	10"	8"	8"	8"	8"	10"	10"	12"	18"
8"	15"	13"	10"	10"	8"	8"	8"	8"	10"	12"	12"	24"
10"	16"	14"	10"	12"	6"	10"	6"	10"	11"	14"	14"	25"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
14"	22"	18"	14"	16"	10"	14"	10"	14"	16"	18"	18"	34"
16"	26"	20"	16"	18"	12"	16"	12"	16"	18"	20"	20"	36"

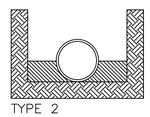
TYPICAL THRUST BLOCK DETAIL — W 7
NO SCALE

8

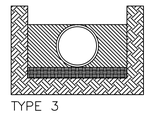
LAYING CONDITIONS | DESCRIPTION | PROJECT USE



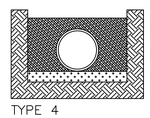
TYPE 1 — FLAT BOTTOM UNDISTURBED EARTH TRENCH, LOOSE BACKFILL — NOT USED.



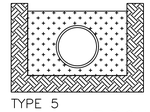
TYPE 2 — FLAT BOTTOMED UNDISTURBED EARTH TRENCH. BACKFILL LIGHTLY CONSOLIDATED TO CENTERLINE OF PIPE. — NOT USED.



TYPE 3 — PIPE BEDDED IN 4" MININUM JOB EXCAVATED MATERIAL. BACKFILL LIGHTLY CONSOLIDATED TO TOP OF PIPE. — ALL DUCTILE IRON GRAVITY SEWER LINE.



TYPE 4 — PIPE BEDDED IN SAND, GRANULAR MATERIAL OR GRADED GRAVEL TO THE DEPTH OF 1/8 PIPE DIAMETER, 4" MIN. JOB EXCAVATED MATERIAL COMPACTED TO 4" ABOVE TOP OF PIPE. (APPROX. 95% STANDARD PROCTOR, AASHTO T-99) — ALL PVC WATER LINE AND PVC FORCE MAIN.



TYPE 5 — PIPE BEDDED TO ITS CENTERLINE IN COMPACTED GRANULAR MATERIAL 4" MIN. UNDER PIPE. COMPACTED GRANULAR OR SAND MATERIAL TO 4"ABOVE TOP OF PIPE. (APPROX. 95% STANDARD PROCTOR, AASHTO T-99) — ALL PVC GRAVITY SEWER LINE.

TYPICAL LAYING CONDITIONS DETAIL — W 11
NO SCALE

9

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

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Erwin, North Carolina

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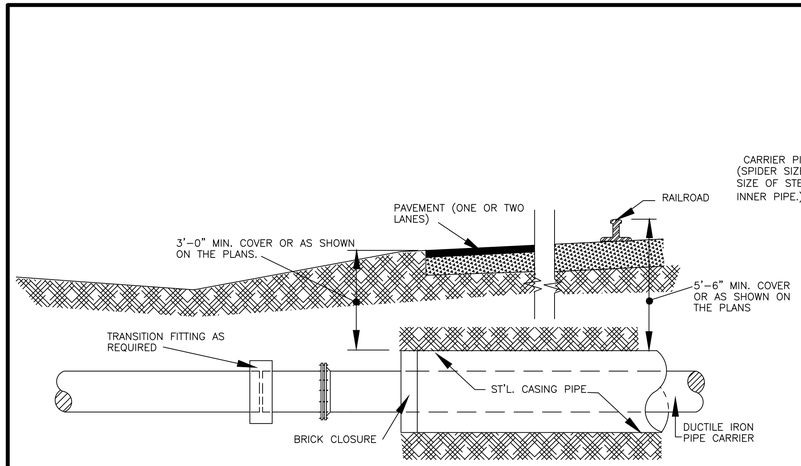
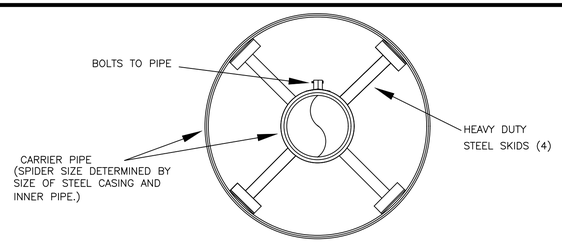
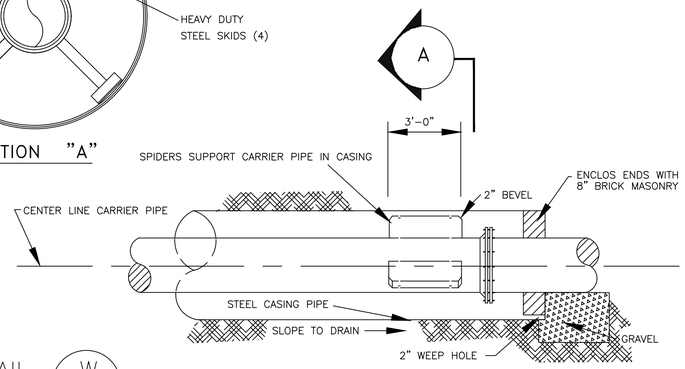
D-06



PROFILE



SECTION "A"



ELEVATION

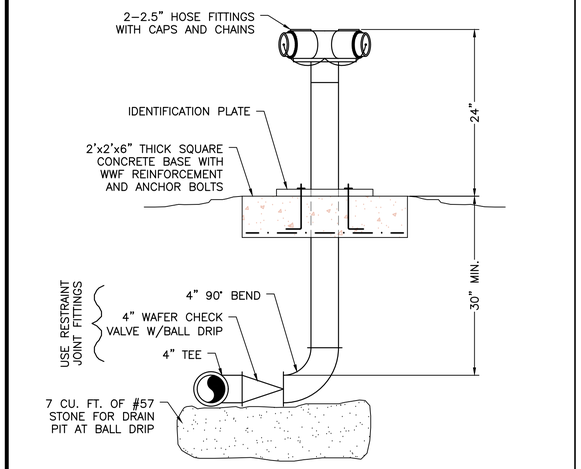
TYPICAL PIPE ENCASEMENT DETAIL W

NO SCALE

1

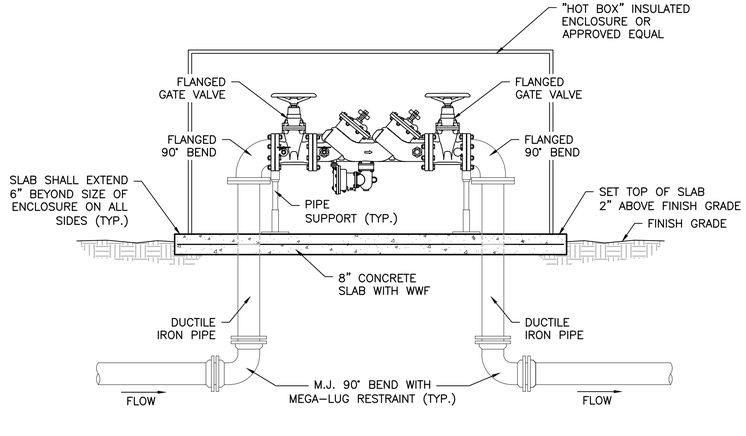
REVISIONS			
SYM.	DESCRIPTION	DATE	BY

2



3 SIAMESE FIRE DEPARTMENT CONNECTION

NOT TO SCALE

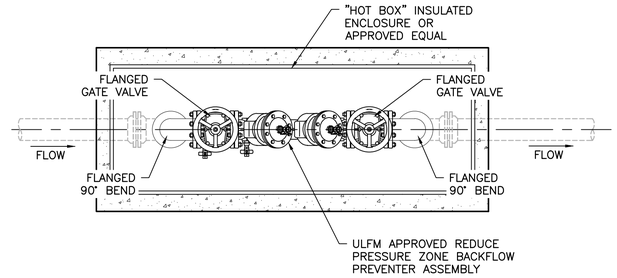


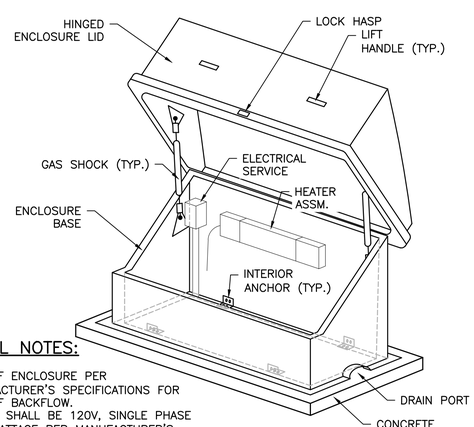
4 REDUCE PRESSURE ZONE BACKFLOW PREVENTER ASSEMBLY

NOT TO SCALE

GENERAL NOTES:

1. SEE PLANS FOR SIZE OF RPZ BACKFLOW PREVENTER.
2. RPZ BACKFLOW PREVENTER SHALL BE WATTS SERIES 909 OS&Y OR AN APPROVED EQUAL.
3. INSULATED ENCLOSURE SHALL BE "HOT BOX" OR AN APPROVED EQUAL SIZE IN ACCORDANCE WITH THE BACKFLOW PREVENTER.
4. RPZ SHALL BE SUITABLE FOR HIGH PRESSURE OPERATION.
5. SEE MANUFACTURER'S SPECIFICATIONS.
6. ALL VALVES SHALL BE ULFM APPROVED WITH STRAINER.



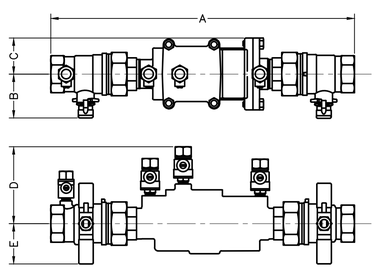


GENERAL NOTES:

1. SIZE OF ENCLOSURE PER MANUFACTURER'S SPECIFICATIONS FOR SIZE OF BACKFLOW.
2. HEATER SHALL BE 120V, SINGLE PHASE WITH WATTAGE PER MANUFACTURER'S SPECIFICATIONS.
3. INSTALLATION SHALL BE PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS.

5 "HOT BOX" ENCLOSURE – HEATED

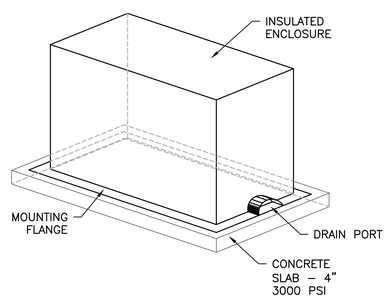
NOT TO SCALE



DIMENSIONS FOR DOUBLE CHECK VALVE						
SIZE (INCH)	DIMENSIONS (INCH) (NOMINAL)				
	A	B	C	D	E
1/2	11	1 1/2	1 1/2	3 1/8	1 1/4
3/4	12 1/2	1 1/2	1 1/2	3 1/8	1 1/4
1	14 5/8	1 7/8	1 5/8	3 3/8	1 1/2
1 1/2	18 1/2	3	2 1/2	4 1/4	2 1/4
1 1/2	18 7/8	3	2 1/2	4 1/4	2 1/4
2	20 1/2	3 1/2	2 1/2	4 1/4	2 1/4

6 DOUBLE CHECK VALVE

NOT TO SCALE



GENERAL NOTES:

1. ENCLOSURE IS DESIGNED FOR PIPES OF 0.75"–2" DIAMETER.
2. SIZE OF ENCLOSURE PER MANUFACTURER'S SPECIFICATIONS FOR SIZE OF BACKFLOW.
3. ENCLOSURE SHALL HAVE A LOCKING MECHANISM TO SECURE BFP.
4. INSTALLATION SHALL BE PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS.

7 BFP ENCLOSURE – INSULATED

NOT TO SCALE

6

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Erwin, North Carolina

DATE: MAY 6, 2019
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CHECKED: TAC

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REVISIONS			
SYM.	DESCRIPTION	DATE	BY

2016 HCDPU REQUIRED UTILITY NOTES
(REVISION 6 – JUNE 2016)

SANITARY SEWER

A. THE PROFESSIONAL ENGINEER (PE) SHALL OBTAIN AND SUPPLY A COPY OF THE SEWER PERMIT FOR THE CONSTRUCTION AND OPERATION OF THE WASTEWATER COLLECTION SYSTEM TO THE UTILITY CONTRACTOR BEFORE THE CONSTRUCTION OF THE SANITARY SEWER LINE, SEWER LIFT STATION AND ASSOCIATED FORCE MAIN SHALL BEGIN. THE UTILITY CONTRACTOR MUST POST A COPY OF THE SEWER PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES – DIVISION OF WATER QUALITY (NCDENR–DWQ) ON SITE PRIOR TO THE START OF CONSTRUCTION. THE PERMIT MUST BE MAINTAINED ON SITE DURING THE CONSTRUCTION OF THE SEWER SYSTEM IMPROVEMENTS.

B. THE UTILITY CONTRACTOR SHALL NOTIFY HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES (HCDPU) AND THE PROFESSIONAL ENGINEER (PE) AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE UTILITY CONTRACTOR MUST SCHEDULE A PRE–CONSTRUCTION CONFERENCE WITH MR. ALAN MOSS, HCDPU UTILITY CONSTRUCTION INSPECTOR AT LEAST TWO (2) DAYS BEFORE CONSTRUCTION WILL BEGIN AND THE UTILITY CONTRACTOR MUST COORDINATE WITH HCDPU FOR REGULAR INSPECTION VISITATIONS AND ACCEPTANCE OF THE WASTEWATER SYSTEM(S). CONSTRUCTION WORK SHALL BE PERFORMED ONLY DURING THE NORMAL WORKING HOURS OF HCDPU WHICH IS 8:00 AM – 5:00 PM MONDAY THROUGH FRIDAY. HOLIDAY AND WEEKEND WORK IS NOT PERMITTED BY HCDPU.

C. THE PROFESSIONAL ENGINEER (PE) SHALL PROVIDE HCDPU WITH A SET OF NCDENR APPROVED PLANS MARKED "RELEASED FOR CONSTRUCTION" AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. HCDPU WILL STAMP THE APPROVED PLANS AS "RELEASED FOR CONSTRUCTION" AND PROVIDE COPIES TO THE UTILITY CONTRACTOR. THE REGISTERED LAND SURVEYOR (RLS) SHALL STAKE OUT ALL LOT CORNERS AND ESTABLISH GRADE STAKES FOR THE PROPOSED FINISH GRADE FOR EACH STREET AND SEWER LINE BEFORE THE UTILITY CONTRACTOR BEGINS CONSTRUCTION OR INSTALLATION OF THE MANHOLES, SANITARY SEWER GRAVITY LINE(S), SEWER LIFT STATIONS AND/OR SANITARY SEWER FORCE MAIN(S). THE GRADE STAKES SHOULD BE SET WITH A CONSISTENT OFFSET FROM THE STREET CENTERLINE SO AS NOT TO INTERFERE WITH THE STREET GRADING OR UTILITY CONSTRUCTION.

D. THE UTILITY CONTRACTOR SHALL PROVIDE THE HCDPU UTILITY CONSTRUCTION INSPECTOR WITH MATERIAL SUBMITTALS AND SHOP DRAWINGS FOR ALL PROJECT MATERIALS PRIOR TO THE CONSTRUCTION OF ANY GRAVITY SEWER LINE(S), MANHOLE(S), SEWER LIFT STATION(S) AND ASSOCIATED FORCE MAIN(S) IN HARNETT COUNTY. THE MATERIALS TO BE USED ON THE PROJECT MUST MEET THE ESTABLISHED SPECIFICATIONS OF HCDPU AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION. ALL SUBSTANDARD MATERIALS OR MATERIALS NOT APPROVED FOR USE IN HARNETT COUNTY FOUND ON THE PROJECT SITE MUST BE REMOVED IMMEDIATELY WHEN NOTIFIED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR.

E. THE SANITARY SEWER LATERAL CONNECTIONS SHOULD BE INSTALLED 90° (PERPENDICULAR) TO THE SANITARY SEWER GRAVITY LINES WITH SCHEDULE 40 PVC PIPE. HCDPU REQUIRES THE UTILITY CONTRACTOR TO PROVIDE THE PROFESSIONAL ENGINEER (PE) WITH ACCURATE MEASUREMENTS FOR LOCATING SANITARY SEWER SERVICE LATERAL AND ASSOCIATED EACH SANITARY SEWER CLEAN–OUT. THESE MEASUREMENTS SHOULD BE TAKEN FROM THE NEAREST DOWNSTREAM MANHOLE UP ALONG THE SANITARY SEWER MAIN TO THE IN–LINE WYE FITTING (OR TAPPING SADDLE) AND THEN ANOTHER MEASUREMENT FROM THE IN–LINE WYE FITTING (OR TAPPING SADDLE) TO THE 4" X 4" LONG SWEEP COMBINATION WYE FITTING AT THE BOTTOM OF THE SEWER CLEAN–OUT STACK. THESE FIELD MEASUREMENTS MUST BE PROVIDED TO THE PROFESSIONAL ENGINEER (PE) IN THE RED LINE DRAWINGS FROM THE UTILITY CONTRACTOR FOR PROPER DOCUMENTATION IN THE AS–BUILT RECORD DRAWINGS SUBMITTED TO HCDPU.

F. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED SANITARY SEWER GRAVITY LINE(S), SANITARY SEWER FORCE MAIN(S), SANITARY SEWER SERVICE LATERAL(S) AND ALL ASSOCIATED SEWER CLEAN–OUT(S) IN THE PROPOSED SANITARY SEWER SYSTEM FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW SANITARY SEWER LINE(S) AND ASSOCIATED APPURTENANCES HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES – DIVISION OF WATER QUALITY (NCDENR–DWQ) AND ACCEPTED BY HCDPU. ALL NEW SANITARY SEWER LINES MUST HAVE AT LEAST THREE (3 FT.) FEET OF COVER AND EXTEND UNDER ALL EXISTING WATER MAIN AND STORM WATER LINES WITH A LEAST 24" OF VERTICAL CLEARANCE BELOW THE BOTTOM OF THE EXISTING WATER MAIN AND STORM WATER LINES.

G. THE SANITARY SEWER GRAVITY LINE(S), MANHOLE(S), SANITARY SEWER SERVICE LATERAL(S) AND ASSOCIATED CLEAN–OUT(S) SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT COUNTY DEPARTMENT OF PUBLIC UTILITIES. THE SANITARY SEWER GRAVITY LINE(S) MUST PNEUMATICALLY PRESSURE TESTED WITH COMPRESSED AIR AT 5 PSI AND THE SANITARY SEWER FORCE MAIN(S) MUST HYDROSTATICALLY PRESSURE TESTED WITH WATER OR AIR AT 200 PSI. SANITARY SEWER MANHOLES MUST BE VACUUM TESTED TO 10 INCHES OF MERCURY AND CANNOT DROP BELOW 9 INCHES IN 60 SECONDS FOR 4 FT. DIAMETER MANHOLES, 75 SECONDS FOR 5 FT. DIAMETER MANHOLES. ALL TESTS MENTIONED ABOVE MUST BE WITNESSED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR AND ENGINEER.

H. PRIOR TO ACCEPTANCE, ALL SEWER SERVICE LATERALS WILL BE INSPECTED TO INSURE THAT THEY ARE INSTALLED AT THE PROPER DEPTH. ALL SEWER CLEAN–OUTS MUST BE INSTALLED SO THE 4" X 4" LONG SWEEP COMBINATION WYE IS AT LEAST THREE (3') FEET BUT NO MORE THAN FOUR (4') FEET BELOW THE FINISH GRADE UNLESS OTHERWISE APPROVED IN WRITING BY HCDPU. THE SEWER CLEANOUTS SHALL HAVE A FOUR (4") SCHEDULE 40 PVC PIPE STUBBED UP FROM BOTH ENDS OF THE 4" X 4" LONG SWEEP COMBINATION WYE TO BE AT LEAST TWO (2') FEET ABOVE THE FINISH GRADE AND COVER EACH END WITH A FOUR (4") INCH TEMPORARY CAP TO KEEP OUT DIRT, SAND, ROCKS, WATER AND CONSTRUCTION DEBRIS. THE VERTICAL STACK ON EACH CLEAN–OUT MUST BE PROVIDED WITH A CONCRETE DONUT FOR PROTECTION.

I. ONCE THE SANITARY SEWER GRAVITY LINE(S) HAVE BEEN INSTALLED, PNEUMATICALLY PRESSURE TESTED AND IN PLACE FOR AT LEAST 30 DAYS, THE UTILITY CONTRACTOR MUST CONTACT THE HCDPU UTILITY CONSTRUCTION INSPECTOR TO WITNESS THE MANDREL TEST ON EACH PVC SANITARY SEWER GRAVITY LINE. THE UTILITY CONTRACTOR WILL NOTIFY HCDPU TO SCHEDULE THE MANDREL TESTING. THE MANDREL AND PROVING RING MUST BE SUPPLIED BY THE UTILITY CONTRACTOR. CLOSED CIRCUIT VIDEO CAMERA INSPECTIONS (AT THE UTILITY CONTRACTOR'S EXPENSE) MAY BE REQUIRED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR IF THE MANDREL AND MIRROR TAMPING TESTING CANNOT BE COMPLETED WITH SATISFACTORY RESULTS. THE SANITARY SEWER LINES SHOULD BE FLUSHED CLEAN USING A SEWER BALL OF THE PROPER DIAMETER BEFORE ANY MANDREL TESTING CAN BE PERFORMED. THE UTILITY CONTRACTOR IS RESPONSIBLE TO REMOVE ALL DIRT, SAND, SILT, GRAVEL, MUD AND DEBRIS FROM THE NEWLY CONSTRUCTED SEWER LINES EXERCISING CARE TO KEEP THE HARNETT COUNTY'S EXISTING SANITARY SEWER SYSTEMS CLEAN. SANITARY SEWER FORCE MAIN(S) SHALL BE PRESSURE TESTED TO 200 PSI FOR AT LEAST 2 HOURS LIKE WATER LINES.

J. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED SANITARY SEWER SYSTEM(S) FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW SANITARY SEWER SYSTEM(S) HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES – DIVISION OF WATER QUALITY (NCDENR–DWQ)AND ACCEPTED BY HCDPU.

K. HCDPU REQUIRES THAT THE UTILITY CONTRACTOR INSTALL TRACER WIRE IN THE TRENCH WITH ALL SANITARY SEWER FORCE MAINS. THE TRACER WIRE SHALL BE 12 GA. INSULATED, SOLID COPPER CONDUCTOR AND IT SHALL BE TERMINATED AT THE TOP OF THE VALVE BOXES OR MANHOLES. NO SPLICED WIRE CONNECTIONS SHALL BE MADE UNDERGROUND ON TRACER WIRE INSTALLED IN HARNETT COUNTY. THE TRACER WIRE MAY BE SECURED WITH DUCT TAPE TO THE TOP OF THE PIPE BEFORE BACKFILLING. THE TRACER WIRE IS NOT REQUIRED FOR THE GRAVITY SEWER LINE(S) BETWEEN MANHOLES.

L. THE UTILITY CONTRACTOR SHALL PROVIDE THE PROFESSIONAL ENGINEER (PE) AND HCDPU UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE DRAWINGS IDENTIFYING THE COMPLETE SEWER SYSTEM INSTALLED FOR EACH PROJECT. THE RED LINE DRAWINGS SHOULD IDENTIFY THE MATERIALS, PIPE SIZES AND APPROXIMATE DEPTHS OF THE SEWER LINES AS WELL AS THE INSTALLED LOCATIONS OF THE MANHOLE(S), SANITARY SEWER GRAVITY LINE(S), SANITARY SEWER SERVICE LATERALS, CLEAN–OUTS, SEWER LIFT STATION(S) AND ASSOCIATED FORCE MAIN(S). THE RED LINE DRAWINGS SHOULD CLEARLY IDENTIFY ANY DEVIATIONS FROM THE NCDENR APPROVED PLANS. ALL CHANGE ORDERS MUST BE APPROVED BY HCDPU AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.

M. PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN ESTABLISHED UTILITY EASEMENTS OR NCDOT RIGHT–OF–WAYS THE UTILITY CONTRACTOR IS REQUIRED TO NOTIFY ALL CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH G.S. 87–102. THE UTILITY CONTRACTOR MUST CALL THE NC ONE CALL CENTER AT 811 OR (800) 632–4949 TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. EXISTING UTILITIES SHOWN IN THESE PLANS ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED BY THE P.E. (I.E. TELEPHONE, CABLE, WATER, SEWER, ELECTRICAL POWER, FIBER OPTIC, NATURAL GAS, ETC.).

N. THE UTILITY CONTRACTOR SHALL SPOT DIG TO EXPOSE EACH EXISTING UTILITY PIPE OR LINE WHICH MAY CONFLICT WITH CONSTRUCTION OF PROPOSED SANITARY SEWER LINE EXTENSIONS WELL IN ADVANCE TO VERIFY LOCATIONS OF THE EXISTING UTILITIES. THE UTILITY CONTRACTOR SHALL PROVIDE BOTH HORIZONTAL AND VERTICAL CLEARANCES TO THE PROFESSIONAL ENGINEER (PE) TO ALLOW THE PE TO ADJUST THE SANITARY SEWER LINE DESIGN IN ORDER TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION OF EXISTING UTILITIES AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS DURING SANITARY SEWER LINE INSTALLATION, GRADING AND STREET CONSTRUCTION.

O. WHEN MAKING A TAP ON AN EXISTING SEWER FORCE MAIN, THE UTILITY CONTRACTOR MUST HAVE A PERMIT FROM THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES – DIVISION OF WATER QUALITY (NCDENR–DWQ) PRIOR TO BEGIN THE TAP WORK. THE UTILITY CONTRACTOR SHALL CONDUCT A PNEUMATIC PRESSURE TEST USING COMPRESSED AIR OR OTHER INERT GAS ON THE STAINLESS STEEL TAPPING SLEEVE AND GATE VALVE PRIOR TO MAKING THE TAP ON AN EXISTING SANITARY SEWER FORCE MAIN. THIS PNEUMATIC PRESSURE TEST MUST BE WITNESSED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STAINLESS STEEL TAPPING SLEEVE(S) OR APPROVED EQUAL FOR ALL TAPS MADE ON SANITARY SEWER FORCE MAINS IN HARNETT COUNTY. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STYLE "CB" SEWER SADDLES WITH STAINLESS STEEL BANDS OR APPROVED EQUAL FOR ALL TAPS MADE ON EXISTING SANITARY SEWER GRAVITY LINES IN HARNETT COUNTY.

P. THE UTILITY CONTRACTOR SHALL PROVIDE A GREASE TRAP FOR EACH SANITARY SEWER SERVICE LATERAL THAT WILL BE CONNECTED TO A RESTAURANT, FOOD PROCESSING FACILITY AND ANY OTHER COMMERCIAL OR INDUSTRIAL FACILITY AS REQUIRED BY THE HARNETT COUNTY FAT, OIL & GREASE ORDINANCE. THE GREASE TRAP MUST BE RATED FOR A MINIMUM CAPACITY OF AT LEAST 1,000 GALLONS UNLESS OTHERWISE APPROVED IN WRITING BY THE HCDPU PRE–TREATMENT COORDINATOR. GARBAGE DISPOSALS SHOULD NOT BE INSTALLED IN HOMES AND BUSINESSES THAT DISCHARGE WASTEWATER TO THE HARNETT COUNTY SANITARY SEWER SYSTEM AS THEY ARE NOT APPROVED BY HCDPU.

Q. EACH SEWER LIFT STATION MUST BE PROVIDED WITH THREE PHASE POWER (AT LEAST 480 VOLTS) AND CONSTRUCTED TO MEET THE MINIMUM REQUIREMENTS OF THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE (NEC) AND HARNETT COUNTY STANDARD SPECIFICATIONS AND DETAILS. IF THREE PHASE POWER IS NOT AVAILABLE FROM THE POWER COMPANY OTHER ARRANGEMENTS MUST BE APPROVED BY HCDPU ENGINEERING PRIOR TO THE START OF CONSTRUCTION.

R. WHERE A NEW SANITARY SEWER FORCE MAIN IS CONNECTED TO AN EXISTING MANHOLE IN THE HARNETT COUNTY SEWER COLLECTIONS SYSTEM, THE UTILITY CONTRACTOR MUST PROVIDE A PROTECTIVE COATING (COAL TAR EPOXY) FOR THE INTERIOR SURFACES OF THE MANHOLE TO PROTECT IT AGAINST CORROSION, EROSION AND DETERIORATION FROM THE RELEASE OF SEWER GASES SUCH AS METHANE AND HYDROGEN SULFIDE.

S. THE SEWER LIFT STATION DESIGN AND ASSOCIATED EQUIPMENT MUST MEET OR EXCEED THE MINIMUM REQUIREMENTS FOR HARNETT COUNTY SEWER LIFT STATIONS 2009 EDITION. EACH SANITARY SEWER LIFT STATION MUST BE CONSTRUCTED WITH AN ALL–WEATHER ACCESS ROAD THAT IS AT LEAST 20 FEET WIDE. THE LIFT STATION SITE MUST BE COVERED WITH WEED BLOCKING MATERIAL AND AT LEAST SIX (6") INCHES OF # 57 STONE (CRUSH AND RUN).

T. ONCE A SEWER LIFT STATION HAS BEEN INSTALLED, THE UTILITY CONTRACTOR IS RESPONSIBLE TO SCHEDULE A DRAW DOWN TEST WITH HCDPU ENGINEERING AND COLLECTIONS STAFF, THE PROFESSIONAL ENGINEER (PE), THE ELECTRICIAN, THE ORIGINAL EQUIPMENT MANUFACTURER'S (OEM) REPRESENTATIVES [FOR BOTH THE PUMPS AND THE GENERATOR]. THIS DRAW DOWN TEST MUST BE COMPLETED WITH POWER SUPPLIED FROM THE ELECTRICAL UTILITY COMPANY AND WITH POWER SUPPLIED BY THE EMERGENCY GENERATOR WITH SATISFACTORY RESULTS BEFORE FINAL INSPECTIONS ARE CONDUCTED BY THE HCDPU UTILITY CONSTRUCTION INSPECTOR.

U. ONCE THE UTILITY CONTRACTOR COMPLETES THE INSTALLATION OF A SEWER LIFT STATION, THE PROFESSIONAL ENGINEER (PE) MUST SUBMIT THE SEWER PERMIT CERTIFICATION AND AS–BUILT RECORD DRAWINGS TO THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES – DIVISION OF WATER QUALITY (NCDENR–DWQ) AND HCDPU FOR FINAL APPROVAL. THE UTILITY CONTRACTOR MUST SUPPLY HCDPU ENGINEERING STAFF WITH THREE ORIGINAL OPERATION & MAINTENANCE (O&M) MANUALS ALONG WITH THE ASSOCIATED PUMP CURVES AND ELECTRICAL SCHEMATICS FOR THE ASSOCIATED SEWER LIFT STATION EQUIPMENT INCLUDING ALL WARRANTY INFORMATION AND DOCUMENTATION.

V. ONCE THE UTILITY CONTRACTOR COMPLETES THE INSTALLATION OF A SEWER LIFT STATION, THE DEVELOPER MUST PAY HCDPU THE ESTABLISHED SYSTEM CONTROL AND DATA ACQUISITION (SCADA) FEES BEFORE THE SCADA SYSTEM WILL BE INSTALLED AT THE NEW SEWER LIFT STATION. THE SCADA SYSTEM MUST BE INSTALLED AND OPERATIONAL BEFORE THE UTILITIES MAY BE ACCEPTED BY HCDPU AND PLACED INTO OPERATION.

W. HCDPU REQUIRES THE UTILITY CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT AND DEVICES FOR THE TESTING AND INSPECTION OF THE SANITARY SEWER SYSTEM. THE EQUIPMENT AND DEVICES MAY INCLUDE BUT NOT LIMITED TO LAMPING WITH MIRRORS, MANDRELS, SEWER BALLS, PLUGS, AIR COMPRESSORS AND ASSOCIATED COMPRESSED AIR LINES. IF THE HCDPU UTILITY CONSTRUCTION INSPECTOR DEEMS THAT A CLOSED CIRCUIT VIDEO CAMERA INSPECTION OF THE NEWLY CONSTRUCTED SEWER SYSTEM IS NECESSARY, THEN ALL COSTS FOR THE CLOSED CIRCUIT CAMERA INSPECTION WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. ALL CLOSED CIRCUIT VIDEO CAMERA INSPECTIONS MUST BE RECORDED ON VHS TAPES THAT WILL RELEASED TO HCDPU FOR RECORD KEEPING, REVIEW AND APPROVAL OF THE SEWER SYSTEM.

X. ANY USE OF SEWER PLUGS TO TEMPORARILY BLOCK HARNETT COUNTY'S EXISTING SANITARY SEWER LINES MUST BE COORDINATED WITH THE HCDPU COLLECTIONS SUPERVISOR AT LEAST TWO (2) DAYS IN ADVANCE OF INSTALLING THE PLUGS. THE SEWER PLUGS MUST BE REMOVED AS SOON AS POSSIBLE ONCE THE NEW SANITARY SEWER LINES HAVE BEEN INSPECTED, PRESSURE TESTED, MANDREL TESTED, APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES – DIVISION OF WATER QUALITY (NCDENR–DWQ) AND ACCEPTED BY HCDPU TO ALLOW THE SEWER TO FLOW AS DESIGNED IN HARNETT COUNTY'S EXISTING SANITARY SEWER LINES OR WHEN SO ORDERED BY THE HCDPU COLLECTIONS SUPERVISOR TO LIMIT INTERRUPTIONS TO THE NORMAL FLOW OF THE SANITARY SEWER COLLECTION SYSTEM(S). THE UTILITY CONTRACTOR MUST PROVIDE THE PUMPS HOSES AND NECESSARY CONNECTORS FOR A TEMPORARY PUMP AROUND SETUP IF REQUIRED BY THE HCDPU COLLECTIONS SUPERVISOR. MR. RANDOLPH CLEGG, HCDPU COLLECTIONS SUPERVISOR MAY BE CONTACTED BETWEEN 8:00 AM AND 5:00 PM MONDAY THROUGH FRIDAY AT (910) 893–7575 EXTENSION 3241.

Y. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO LEAKAGE OR DAMAGE RESULTING FROM POOR WORKMANSHIP DURING THE ONE (1) YEAR WARRANTY PERIOD ONCE THE SEWER SYSTEM IMPROVEMENTS HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES – DIVISION OF WATER QUALITY (NCDENR–DWQ) AND ACCEPTED BY HCDPU. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO DAMAGES RESULTING FROM FAILURE TO LOCATE THE NEW SANITARY SEWER LINES AND ASSOCIATED APPURTENANCES FOR OTHER UTILITIES AND THEIR CONTRACTORS UNTIL THE SANITARY SEWER LINES HAVE BEEN APPROVED BY NCDENR AND ACCEPTED BY HCDPU. HCDPU WILL PROVIDE MAINTENANCE AND WARRANTY REPAIRS IF NECESSARY DUE TO LACK OF RESPONSE WITHIN 48 HOURS OF NOTIFICATION OF WARRANTY WORK. HCDPU WILL INVOICE THE DEVELOPER AND/OR UTILITY CONTRACTOR FOR MATERIALS AND LABOR IN SUCH CASES.

Z. IN DEVELOPMENTS AND PROJECTS THAT REQUIRE UTILITY EASEMENTS TO BE ESTABLISHED FOR FUTURE HCDPU RIGHT–OF–WAY, THE REGISTERED LAND SURVEYOR (RLS) MUST PROVIDE THE HCDPU RIGHT–OF–WAY AGENT WITH AN OFFICIAL COPY OF THE RECORDED PLAT AND LEGAL DESCRIPTION OF THE SAID EASEMENT AS RECORDED WITH THE HARNETT COUNTY REGISTER OF DEEDS. THE RECORDED DOCUMENTS MUST BE PROVIDED TO THE HCDPU RIGHT–OF–WAY AGENT BEFORE THE UTILITY IMPROVEMENTS WITHIN THE SAID EASEMENT CAN BE PLACED INTO OPERATION. ANY AND ALL EASEMENTS THAT MUST BE OBTAINED FROM ADJOINING PROPERTY OWNERS MUST BE PROVIDED TO HCDPU BY THE DEVELOPER AT NO COST TO HARNETT COUNTY. THE FINAL INSPECTION OF ALL SANITARY SEWER SYSTEM IMPROVEMENTS CANNOT BE SCHEDULED WITH HCDPU UNTIL THE STREETS HAVE BEEN PAVED; THE RIGHTS–OF–WAY AND UTILITY EASEMENTS HAVE BEEN SEEDED AND STABILIZED WITH AN ADEQUATE STAND OF GRASS IN PLACE TO PREVENT EROSION ISSUES ON SITE.

AA. THE ENGINEER OF RECORD IS RESPONSIBLE TO INSURE THAT CONSTRUCTION IS, AT ALL TIMES, IN COMPLIANCE WITH ACCEPTED SANITARY ENGINEERING PRACTICES AND APPROVED PLANS AND SPECIFICATIONS. NO FIELD CHANGES TO THE APPROVED PLANS ARE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY HCDPU. A COPY OF EACH ENGINEER'S FIELD REPORT IS TO BE SUBMITTED TO HCDPU AS EACH SUCH INSPECTION IS MADE ON SYSTEM IMPROVEMENTS OR TESTING IS PERFORMED BY THE CONTRACTOR. WATER AND SEWER INFRASTRUCTURE MUST PASS ALL TESTS REQUIRED BY HCDPU SPECIFICATIONS AND THOSE OF ALL APPLICABLE REGULATORY AGENCIES. THESE TESTS INCLUDE, BUT ARE NOT LIMITED TO: AIR TEST, VACUUM TEST, MANDREL TEST, VISUAL TEST, PRESSURE TEST, BACTERIOLOGICAL TEST, ETC. A HCDPU INSPECTOR MUST BE PRESENT DURING TESTING AND ALL TEST RESULTS SHALL BE SUBMITTED TO HCDPU. ALL TESTS MUST BE SATISFIED BEFORE THE FINAL INSPECTION WILL BE SCHEDULED WITH THE HCDPU INSPECTOR. THE ENGINEER OF RECORD MUST REQUEST IN WRITING TO SCHEDULE THE FINAL INSPECTION ONCE ALL CONSTRUCTION IS COMPLETE. THE DEVELOPER'S ENGINEER OF RECORD AND THE HCDPU UTILITY CONSTRUCTION INSPECTOR SHALL PREPARE A WRITTEN PUNCH LIST OF ANY DEFECTS OR DEFICIENCIES NOTED DURING THE FINAL INSPECTION, SHOULD ANY EXIST. UPON COMPLETION OF THE PUNCH LIST, THE DEVELOPER'S ENGINEER OF RECORD WILL SCHEDULE ANOTHER INSPECTION. IN THE EVENT THE NUMBER OF INSPECTIONS PERFORMED BY THE HCDPU EXCEEDS TWO, ADDITIONAL FEES MAY BE ACCESSED TO THE DEVELOPER.

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 BILL LESTER 5-Apr-19

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Engineering
Landscape Architecture
Surveying

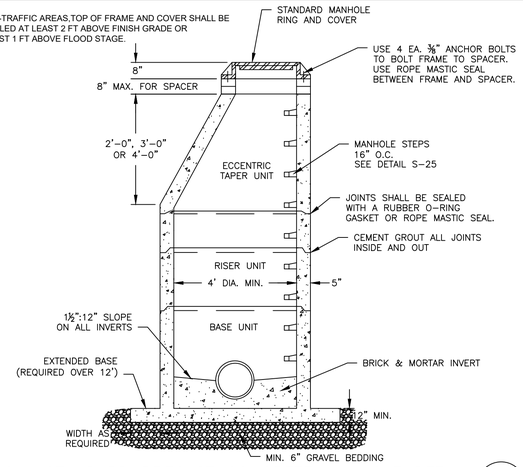
LKC

SANITARY SEWER NOTES

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
D-08

NOTE:
IN NON-TRAFFIC AREAS,TOP OF FRAME AND COVER SHALL BE INSTALLED AT LEAST 2 FT ABOVE FINISH GRADE OR AT LEAST 1 FT ABOVE FLOOD STAGE.



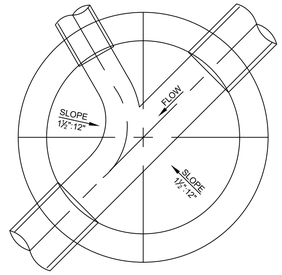
TYPICAL STANDARD PRECAST CONCRETE MANHOLE DETAIL S 24

NO SCALE

NOTES:
1. SEE DETAIL S-28 FOR TYPICAL INVERT.

1

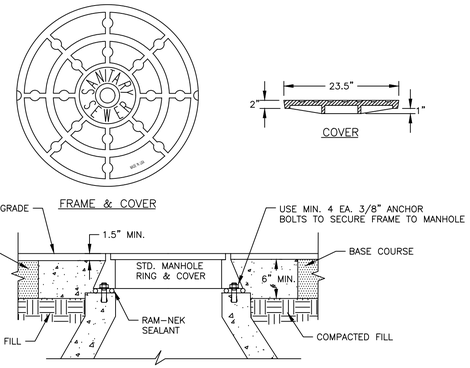
NOTE:
1. THE FLOW CHANNEL THROUGH MANHOLES SHOULD BE MADE TO CONFORM IN SHAPE AND SLOPE TO THE SEWER MAIN.
2. CHANGE IN DIRECTION OF THE CHANNEL SHALL NOT BE EXCEED 90 DEGREES.
3. SEE DETAIL S-24 FOR TYPICAL MANHOLE STRUCTURE.



TYPICAL MANHOLE INVERT DETAIL S 28

NO SCALE

2

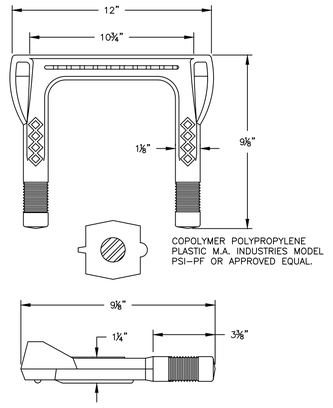


NOTE:
CONCRETE ENCASEMENT SHALL ONLY BE USED IN AREAS WHERE COVER IS TO BE FLUSH WITH PAVEMENT OR CONCRETE. CONCRETE ENCASEMENT SHALL NOT BE USED IN NON-TRAFFIC AREAS AND ABOVE GRADE INSTALLATIONS.

TYPICAL STANDARD MANHOLE FRAME & COVER DETAIL S 21

NO SCALE

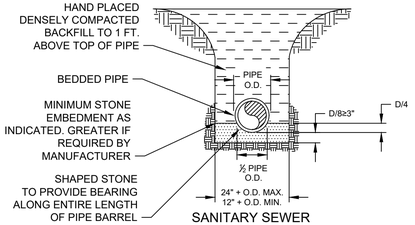
3



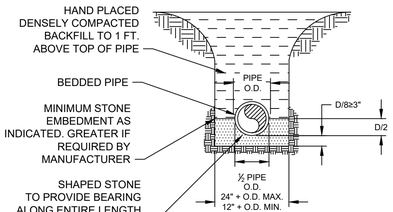
TYPICAL POLYPROPYLENE PLASTIC STEP DETAIL S 27

NO SCALE

4



SANITARY SEWER (0'-8' DEPTH) PIPE LAYING CONDITION "A"



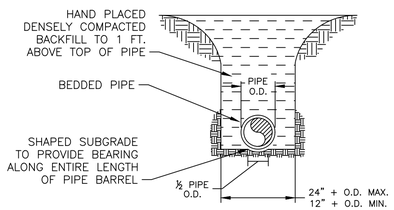
SANITARY SEWER (<8'-16' DEPTH) PIPE LAYING CONDITION "B"

TYPICAL PIPE LAYING CONDITION DETAIL S 16

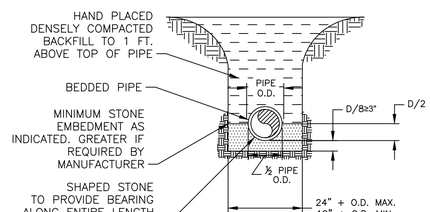
NO SCALE

NO SCALE

5



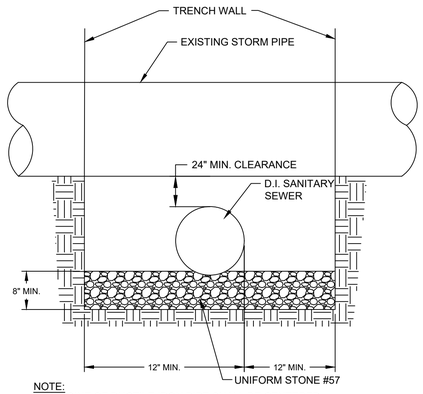
SANITARY SEWER (DUCTILE IRON ONLY) (0'-16' DEPTH) PIPE LAYING CONDITION "C"



SANITARY SEWER (DUCTILE IRON ONLY) (>16' DEPTH) PIPE LAYING CONDITION "D"

TYPICAL PIPE LAYING CONDITION DETAIL S 17

6

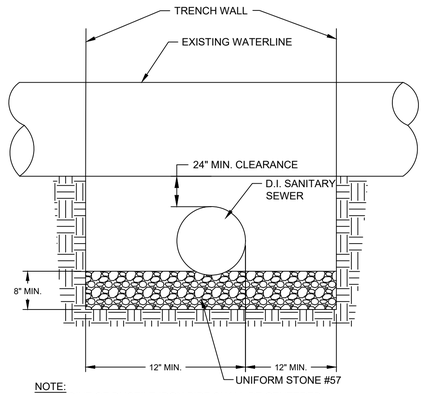


NOTE:
1 EA. JOINT OF DUCTILE IRON PIPE SHALL BE CENTERED UNDER WATER LINE FOR ALL CROSSINGS.

TYPICAL STORM SEWER CROSSING FOR SANITARY SEWER DETAIL S 31

NO SCALE

7



NOTE:
1 EA. JOINT OF DUCTILE IRON PIPE SHALL BE CENTERED UNDER WATER LINE FOR ALL CROSSINGS.

TYPICAL WATER LINE CROSSING FOR SANITARY SEWER DETAIL S 32

NO SCALE

8

9

10

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 BILL LESTER

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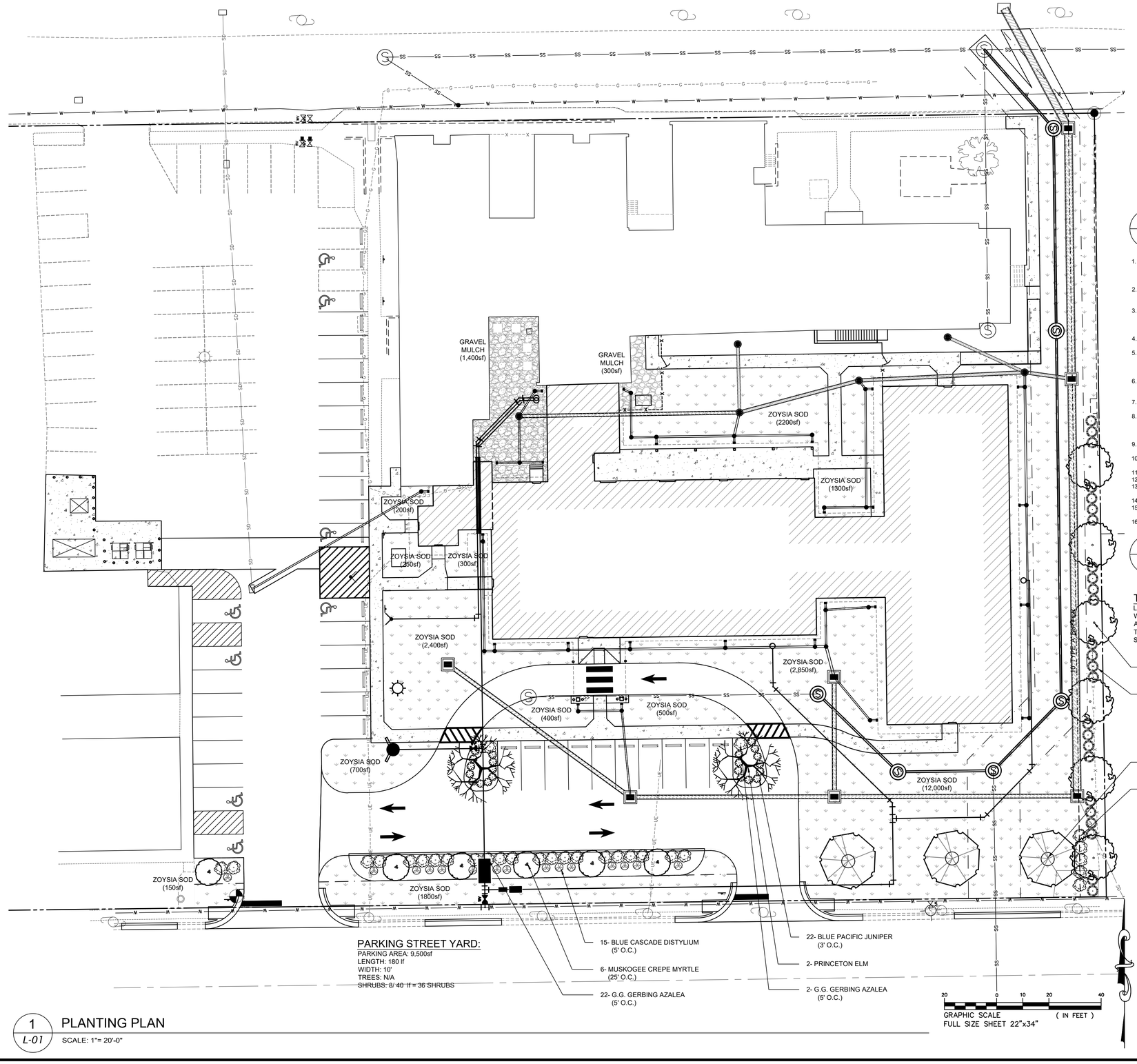
Engineering
Landscape Architecture
Surveying

LKC

SANITARY SEWER DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: MAY 6, 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
D-09



1 PLANTING PLAN
L-01
SCALE: 1"= 20'-0"

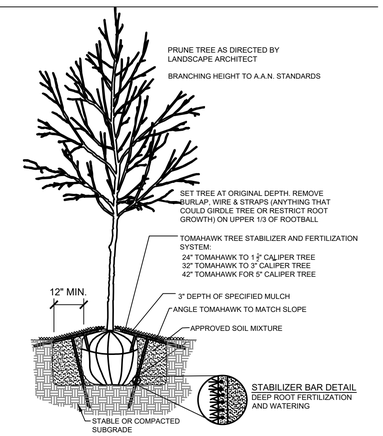
REVISIONS			
SYM.	DESCRIPTION	DATE	BY

QTY.	BOTANICAL NAME	COMMON NAME	SIZE
TREES			
6	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	10'-12' HT. MULTI-STEM
6	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	6'-7' HT. MIN.
3	PRUNUS x YEDOENSIS 'AKEBONO'	AKEBONO YOSHINO CHERRY	7'-8' HT. MIN.
2	ULMUS AMERICANA 'PRINCETON'	PRINCETON ELM	2" CAL., 8'-10' HT. MIN.
SHRUBS & GROUNDCOVERS			
29	AZALEA INDICA 'G.G. GERBING'	G.G. GERBING AZALEA	36" HT, 3 GAL. MIN.
15	DISTYLIUM x 'PIIDIST-II' PP244094	BLUE CASCADE DISTYLIUM	3 GAL.
22	JUNIPERUS CONFERTA 'BLUE PACIFIC'	BLUE PACIFIC SHORE JUNIPER	3 GAL.
25	ILEX CORNUTA 'BURFORDII NANA'	DWARF BURFORD HOLLY	36" HT., 3 GAL. MIN.
TURF			
25,050sf	ZOYSIA MATRELLA	ZOYSIA GRASS	SOD

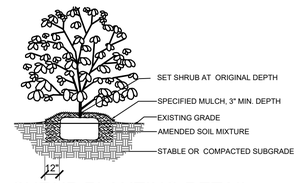
2 PLANT SCHEDULE
L-01

1. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH COMPETENT RELIABLE SOURCES TO ENSURE THAT AN ADEQUATE SUPPLY OF THE REQUIRED PLANT MATERIAL IS AVAILABLE. THIS SHALL BE COMPLETED A MINIMUM OF THREE MONTHS PRIOR TO PLANTING TIME TO ALLOW FOR PLANT COLLECTIONS, STORAGE, AND PREPARATION. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL PLANT MATERIAL IN THE APPROPRIATE SEASON FOR EACH PLANT TYPE.
2. ALL PLANT MATERIAL RECEIVED FROM COMMERCIAL NURSERIES SHALL CONFORM TO THE CURRENT ISSUE OF THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, EXCEPT WHERE OTHERWISE SPECIFIED.
3. ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE UNIFORMLY BRANCHED AND HAVE A VIGOROUS ROOT SYSTEM. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS AND FREE FROM DEFECTS, DECAY, ABRASIONS OF THE BARK, PLANT DISEASES, INSECT PEST EGGS, AND ALL FORMS OF INFESTATIONS. ALL PLANT MATERIAL SHALL BE FRESH, FREE FROM TRANSPLANT SHOCK OR VISIBLE WILT. UNHEALTHY STOCK IS UNACCEPTABLE. PLANTS FROM COLD STORAGE ARE UNACCEPTABLE.
4. PLANT MATERIAL SHALL BE INSPECTED BY THE OWNER'S REPRESENTATIVE UPON ARRIVAL AT THE PROJECT SITE. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT OR ACCEPT ANY PLANT MATERIAL FOLLOWING FINAL INSPECTION.
5. PLANTS NOT INSTALLED ON THE DAY OF ARRIVAL AT THE SITE WILL BE STORED AND PROTECTED. OUTSIDE STORAGE LOCATIONS WILL BE CONTINUALLY SHADED AND PROTECTED FROM THE WIND AND SUN. PLANTS STORED ON SITE WILL BE PROTECTED FROM ANY DRYING AT ALL TIMES BY COVERING THE BALLS OR ROOTS WITH MOIST SAWDUST, WET BURLAP, WOODCHIPS, SHREDDED BARK, PEAT MOSS, OR OTHER SIMILAR MULCHING MATERIAL.
6. THE FINAL LOCATION AND ORIENTATION OF ALL PLANT MATERIAL AS WELL AS THE LOCATION OF ALL PLANTING ZONES WILL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE. CONTRACTOR MAY BE RESPONSIBLE FOR REPLANTING ANY PLANT MATERIAL INSTALLED WITHOUT APPROVAL BY THE OWNER'S REPRESENTATIVE.
7. THE OWNER'S REPRESENTATIVE SHALL HAVE FINAL APPROVAL FOR THE SELECTION OF SPECIES SUBSTITUTIONS USED IN PLANTINGS. ALL REQUESTS FOR SUBSTITUTIONS MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
8. OSMOCOTE, NUTRICOTE, OR OTHER CONTROLLED RELEASE COMMERCIAL GRADE GRANULAR FREE FLOWING (18-6-12) FERTILIZER SHALL BE APPLIED IN EACH PLANTING HOLE ACCORDING TO MANUFACTURER'S LABEL OR OTHER SPECIFICATIONS. THE SELECTION OF FERTILIZER AND ALL APPLICATION SPECIFICATIONS SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
9. THE CONTRACTOR SHALL BE REQUIRED TO GUARANTEE AND MAINTAIN ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE OF FINISHED PLANTING IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE SPECIAL PROVISIONS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING CONDITIONS AS A RESULT OF ITS WORK PERFORMED DURING THE CONTRACT PERIOD.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING ALL PLANT QUANTITIES FOR BIDDING PURPOSES.
12. PLANT LOCATIONS ARE APPROXIMATE. FIELD STAKING SHOULD BE DONE TO AVOID UNDERGROUND UTILITIES.
13. PROVIDE CONTINUOUS PINE STRAW MULCH (3" THICK) IN ALL SHRUB AND TREE AREAS AND AT THE BASE OF SPECIMEN TREES IN A 5' MINIMUM DIAMETER.
14. SIZES OF PLANT MATERIAL IN PANT SCHEDULE ARE TO BE CONSIDERED MINIMUMS.
15. ALL UTILITIES SHALL BE LOCATED AND MARKED IN FIELD PRIOR TO INSTALLATION OF PLANTS. NO PLANTS SHALL BE LOCATED ABOVE UTILITIES OR WITHIN EASEMENTS UNLESS SHOWN OTHERWISE.
16. ALL AREAS TO BE SODDED SHALL RECEIVE 4" LOAM SOIL AND TILLED INTO EXISTING SOIL 12" DEEP. COORDINATE WITH GRADING CONTRACTOR TO ACHIEVE FINISH GRADE.

3 PLANTING NOTES
L-01



4 TREE PLANTING DETAIL
L-01
NOT TO SCALE



5 SHRUB PLANTING DETAIL
L-01
NOT TO SCALE

TYPE 'A BUFFER:
LENGTH: 188 lf
WIDTH: 10'
AREA: 1,880 sf
TREES: 3/ 1000sf = 6 TREES
SHRUBS: 12/1000sf = 23 SHRUBS

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 BILL LESTER 5-14-19

LANDSCAPE PLAN

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: APR., 2019
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO. L-01