GENERAL NOTES

(General notes text – multiple dense columns describing construction, grading, drainage, erosion control, sidewalk, tree save, CDOT, and right-of-way requirements per the City of Charlotte and Mecklenburg County standards.)

VICINITY MAP
NTS

SITE

SHEET INDEX

Sheet No.	Sheet Title
1	Preliminary Subdivision Site
2	Landscape Plan
3	Storm Drainage and Grading Plan
4	Erosion Control Plan (Pre)
5	Erosion Control Plan (Post)
6	Roadway & Storm Drainage Profiles
7	Roadway Profile & Site Construction Details

FINAL APPROVAL

CHARLOTTE

ENGINEERING
PCO / DETENTION / DRAINAGE PLAN
APPROVED
By Jack Fulghum at 11:19 am, Aug 17, 2017

EROSION CONTROL
APPROVED

URBAN FORESTRY
TREE ORDINANCE
APPROVED
By Stan Armstrong at 11:18 pm, Aug 24, 2017
as noted on sheet 1, 3 & ...

CDOT
Rick Grochoske
APPROVED

NOTE: SCHEDULE PRE-CONSTRUCTION MEETING AT LEAST 48 HRS. PRIOR TO ANY LAND DISTURBING ACTIVITY USING THE ONLINE FORM AT http://development.charmeck.org

APPROVED FOR CONSTRUCTION
CHARLOTTE-MECKLENBURG PLANNING DEPARTMENT
By: Joshua Weaver 8-29-2017

LEGEND

- —— EXISTING PAVEMENT/CURB
- —— PROPOSED PAVEMENT/CURB
- ——— ADJOINING PROPERTY LINES
- EXISTING BUILDINGS
- PROPOSED 5' SIDEWALK
- AREA OF CROSSWALK (THROUGH ST/ STOP ST)
- —x— TREE PROTECTION FENCE
- PROPOSED TREE SAVE AREA
- NATURAL AREA PER PCGO (UNDISTURBED/REVEGITATED)
- PROPOSED BMP
- PROPOSED STOP SIGN

CURVE TABLE

CURVE	LENGTH	RADIUS	CHORD	DIRECTION
C-1	85.99'	150.00'	84.42'	N68°28'09"W
C-2	83.76'	150.00'	83.03'	S68°53'42"E
C-3	53.23'	150.00'	52.90'	S74°43'34"E
C-4	21.00'	150.00'	10.52'	S09°29'12"W

DEVELOPMENT DATA

TAX PARCEL NO.: 045-381-01
ZONING CLASSIFICATION: R-3 (DEVELOPED AS R-4 CLUSTER*)
ZONING JURISDICTION: CITY OF CHARLOTTE
SITE ACREAGE: 16.04 AC
NO. OF UNITS ALLOWED BY ZONING: 16.04 x 3 = 48.1
AREA IN EASEMENTS/RW : 0 AC
NET TOTAL SITE AREA: 16.04 AC
TREE SAVE REQUIRED/PROVIDED: 10% x 16.04 AC = 1.60 AC/4.17 AC
ADD. LOTS FOR TREESAVE IN COS: 4.13 (25.8%) AC x 3 = 12.4 LOTS
NO. OF UNITS ALLOWED/PROPOSED: 48 + 12 = 60
COMMON OPEN SPACE REQUIRED: 10% x 16.04 AC = 1.60 AC
COMMON OPEN SPACE PROVIDED: 5.23 AC = 32.6%

R-3 CLUSTER LOT DATA: (LOT 8)
MIN. LOT SIZE = 8,000 SF
MIN. LOT WIDTH = 60'
MIN. SETBACK = 20'
MIN. SIDE YARD = 6' EXTERNAL, 5' INTERNAL
MIN. REAR YARD = 45' EXTERNAL, 30' INTERNAL

R-4 CLUSTER LOT DATA:
MIN. LOT SIZE = 6,000 SF
MIN. LOT WIDTH = 50'
MIN. SETBACK = 20'
MIN. SIDE YARD = 5' EXTERNAL, 5' INTERNAL
MIN. REAR YARD = 40' EXTERNAL, 30' INTERNAL

SINGLE FAMILY LOT SIZE (SF)	MAX. BLDG COVERAGE
UP TO 4,000	50%
4,001 - 6,500	45%
6,501 - 8,500	40%
8,501 - 15,000	35%
15,001 OR GREATER	30%

THE MAXIMUM BUA IS 2600 SF PER LOT

BUILT-UPON AREA (BUA) MEANS THAT PORTION OF A PROPERTY THAT IS COVERED BY IMPERVIOUS OR PARTIALLY IMPERVIOUS SURFACE INCLUDING, BUT NOT LIMITED TO, BUILDINGS, PAVEMENT AND GRAVEL AREAS SUCH AS ROADS, PARKING LOTS, AND PATHS, AND RECREATION FACILITIES SUCH AS TENNIS COURTS...

KENNEY DESIGN GROUP, PA
C-1986
1216 PARSONS TRAIL
DENVER, NORTH CAROLINA 28037
PH: 704/377-6099
EMAIL: KENNEY@KENNEYDESIGN.COM

Engineering
Land Planning
Land Surveying

Scale: 1"=60'
Date: 6/23/17
Drawn By: MIK
Designed By: MIK
Job No.: 0517

NORTH

Preliminary Subdivision Site Plan
BrookeDale
City of Charlotte, Mecklenburg County, North Carolina
BrookeDale LLC, 275 Thornburg Rd, Dallas, NC 28034

Sheet No. **1** of 10

GRAPHIC SCALE
0   60   120   180

NF
MECKLENBURG COUNTY
DB 16484-665
TAX ID #045-341-12

EPHESUS CHURCH OF CHRIST, INC
TAX ID #045-341-01

TREE PLANTING AND PRESERVATION REQUIREMENTS

PLANT MATERIAL

1. MINIMUM TREE SIZE AT PLANTING IS 2½ CALIPER AND/OR FOR SINGLE-STEM TREES. ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNK AND MINIMUM 10 3" SINGLE-STEM CALIPER TREES ARE SPECIFIED/REQUIRED THE MINIMUM HEIGHT THAN WHEN these trees are specified then they shall be a minimum of 12'tall.

2. ALL NEW TREES MUST HAVE STRAIGHT TRUNKS WITH STRONG CENTRAL LEADERS INTACT TO THE TOP OF THE CROWN UNLESS MULTI-STEM TREES ARE SPECIFIED. ALL REQUIRED TREES SHALL BE TYPICAL OF THE SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, HAVE WELL-DEVELOPED BRANCHES, BE VIGOROUS AND HAVE FIBROUS ROOT SYSTEMS. TREES WITH MAJOR GIRDLING ROOTS WILL NOT BE ACCEPTED. TREES WITH CO-DOMINANT BRANCHING WILL NOT BE ACCEPTED. TREES THAT HAVE BEEN SHEARED, TOPPED OR CUT BACK TO MULTIPLY, THE BRANCHING STRUCTURE WILL NOT BE ACCEPTED. TREES SHALL BE FREE OF ABRASIONS, DAMAGE, DISEASE, PESTS AND CRACKS. ALL PRUNING CUTS GREATER THAN TISSUE FORMED PRIOR TO PLANTING. NO PRUNING CUT ON THE TRUNK SHALL BE MORE THAN ONE-HALF THE DIAMETER OF THE CENTRAL LEADER WHERE THE CUT WAS MADE. ROOT FLARES SHALL BE LOCATED AT GRADE. TREES WITH MORE THAN 2½ OF SOIL COVERING THE ROOT BALL/FLARE FROM WILL NOT BE ACCEPTED (CLDS 40.04).

3. SIZE OF REQUIRED PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI Z60.1 (LATEST EDITION) AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION, EXCEPT WHERE SPECIFIED/AUTHORIZED BY URBAN FORESTRY.

4. ALL REQUIRED TREES OF A PARTICULAR SPECIES AND VARIETY SHALL BE UNIFORM IN SIZE AND CONFIGURATION.

5. PERIMETER TREES IN URBAN ZONES SHALL BE 3¼ IN CALIPER AND BE FREE OF BRANCHES UP TO 6' FROM THE TOP OF ROOT CROWN (BALL).

6. A MINIMUM OF 50% OF NEW TREES MUST BE NATIVE SPECIES, AND SITES WITH MORE THAN 20 TREES REQUIRED WILL HAVE TO INSTALL MULTIPLE (3 OR MORE) SPECIES PURSUANT TO THE TREE ORDINANCE GUIDELINES.

7. 75% OF REQUIRED TREES MUST BE LARGE MATURE SPECIES EXCEPT IN SITUATIONS WITH OVERHEAD POWER LINE CONFLICTS.

PLANTING REQUIREMENTS

8. SEE CLDS 40.01 & 40.01 (ON PLAN) FOR DETAILED TREE PLANTING REQUIREMENTS.

9. PLASTIC HOSE PARTS WILL NOT BE ACCEPTED FOR TREE STAKING. SEE CLDS 40.01 FOR APPROVED STAKING METHOD/MATERIALS.

10. ALL STRAPPING, WIRE AND TOP 1/3 OF WIRE BASKET AND BURLAP MUST BE CUT AWAY AND REMOVED FROM ROOT BALL WHEN PLANTING.

11. FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL, SUB-BASE AND CONSTRUCTION DEBRIS, REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES (WITHIN ENTIRE MINIMUM AREA OF 214 SQUARE FEET).

12. TREES PLANTED ON PUBLIC PROPERTY WILL NEED APPROVAL FROM THE CITY ARBORIST AND/OR NCDOT.

13. REVIEW SOIL REQUIREMENTS IN THE TREE ORDINANCE GUIDELINES AT: HTTP://CHARLOTTENC.GOV/LD THEN CLICK TREES.

UTILITY ISSUES

14. IF ANY UTILITY IS BEING INSTALLED IN OR NEAR ANY REQUIRED TREE(S) OR TREE SAVE AREA(S), CALL URBAN FORESTRY SPECIALIST TO RESOLVE PRIOR TO UTILITY INSTALLATION.

15. LARGE MATURING TREES MAY NOT BE PLANTED WITHIN 25' OF OVERHEAD POWER DISTRIBUTION OR TRANSMISSION LINES.

16. IF TREES CONFLICT WITH ANY UTILITIES OR SIGNS, CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.

17. ADJUST TREE PLANTING LOCATIONS TO AVOID EXISTING UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES.

18. NO LIGHT POLES, UTILITIES OR TRANSFORMERS CAN BE INSTALLED IN TREE ISLANDS.

19. COMMERCIAL SCALE LIGHTING (15' IN HEIGHT) MUST BE A MINIMUM DISTANCE OF 30' FROM A TREE. PEDESTRIAN SCALE LIGHTING (< 15' IN HEIGHT) MUST BE A MINIMUM DISTANCE OF 15 FROM A TREE. SHOW SITE LIGHTING ON LANDSCAPE PLAN.

TREE SAVE AND PRESERVATION

20. TREE PROTECTION MUST BE INSTALLED AND VERIFIED BY URBAN FORESTRY PRIOR TO STARTING ANY CONSTRUCTION ACTIVITY.

21. SHOW TREE PROTECTION AND TREES SAVE AREAS ON EROSION CONTROL, GRADING AND LANDSCAPE PLAN SHEETS.

22. COMMERCIAL TREE SAVE AREAS MUST BE RECORDED ON A FINAL PLAT WITH THE MECKLENBURG COUNTY REGISTER OF DEEDS BEFORE URBAN FORESTRY HOLDS CAN BE RELEASED. A 10' NO BUILD ZONE AROUND TREE SAVE AREAS MUST BE REFERENCED ON THE PLAT.

23. TREE SAVE AREAS SHALL BE FREE OF INVASIVE PLANT SPECIES. IF AN AREA PROPOSED FOR TREE SAVE CONTAINS INVASIVE PLANT SPECIES AT TIME OF PROPOSAL, SUCH INVASIVE PLANT SPECIES SHALL BE REMOVED PRIOR TO FINAL CO.

24. THE AREA OF ANY EASEMENTS (WATER, SEWER, UTILITY, ETC.) CAN NOT BE COUNTED TOWARD THE TREE SAVE REQUIREMENT.

25. ANY ALTERATIONS TO TREE SAVE AREAS MUST BE ACCOMPLISHED WITHOUT MECHANIZED EQUIPMENT.

26. NO STRUCTURE WILL BE ALLOWED WITHIN 10' OF TREE SAVE AREAS UNLESS APPROVED BY URBAN FORESTRY.

27. ALL TREES ON PUBLIC PROPERTY ARE PROTECTED AND REMOVAL MUST BE PERMITTED BY THE CITY ARBORIST OR NCDOT.

28. CONTACT URBAN FORESTRY SPECIALIST PRIOR TO ANY CRANE SET-UP, MACHINERY OPERATION OR TEMPORARY BUILDING ERECTION THAT MAY IMPACT TREES PER THE TREE ORDINANCE (704)336-4262. PROTECTED TREES OR TREE SAVE AREAS, INCLUDING TREES LOCATED IN STREET RIGHT OF WAY. IMPACTS MAY INCLUDE BUT ARE NOT LIMITED TO: ENCROACHING INTO TREE DRIP LINES, EXCAVATION, SOIL COMPACTION, TREE TRIMMING, ERECTING AND DISMANTLING OF CONSTRUCTION CRANES.

GENERAL

29. SUBMIT REQUIRED CO/HOLD RELEASE FORM AT HTTP://CHARLOTTENC.GOV/LD FOR AN INSPECTION OF TREE PROTECTION/PLANTING AREAS. A MINIMUM OF 5 DAYS BEFORE THE CO/HOLD RELEASE IS NEEDED.

30. VISIT CITY OF CHARLOTTE'S LAND DEVELOPMENT WEBSITE FOR ADDITIONAL INFORMATION AND URBAN FORESTRY REQUIREMENTS. HTTP://CHARLOTTENC.GOV/LD THEN CLICK TREES.

NOTES

1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.
2. LANDSCAPING PLANS SHALL SHOW THE LOCATIONS OF ALL TREE PROTECTION FENCES.
3. REFER TO CITY OF CHARLOTTE LANDSCAPE CONSTRUCTION STANDARDS SECTION 01000 FOR GENERAL SPECIFICATION REGARDING TREE PROTECTION.

SEE APPROVED TREE PRESERVATION PLAN FOR REQUIRED RADIUS OF TREE BARRIER

PLAN VIEW OF ROOT ZONE

ONE FOOT FOR EACH INCH OF TRUNK DIAMETER (OR 1/2 DIAMETER OF TREE WHICHEVER IS GREATER

TREE PROTECTION DETAIL
NO SCALE
CLD STD # 40.02

TREE PROTECTION NOTES

NOTE: NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE.

TREE PROTECTION BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION/CLEARING/GRADING/CONSTRUCTION AND NOT REMOVED UNTIL AFTER FINAL INSPECTION BY URBAN FORESTER.

BEFORE GRADING/CONSTRUCTION BEGINS, CALL 704-336-4624 FOR INSPECTION OF TREE PROTECTION BARRICADES BY URBAN FORESTER.

VIOLATIONS OF TREE PROTECTION REQUIREMENTS ARE SUBJECT TO FINES AND/OR IMMEDIATE CORRECTIVE ACTION/MITIGATION.

Revisions:
6/21/17 REVISED PER GEO, GHPC, GDOT & NCDOT REVIEW

NORTH

Scale: 1"=60'
Date: 6/21/17
Drawn By: MJK
Designed By: MJK
Job No.: 0517

LANDSCAPE PLAN
BROOKEDALE
City of Charlotte, Mecklenburg County, North Carolina
BrookeDale LLC, 275 Thornburg Rd., Dallas, NC 28034

Sheet No.
2
of 10

TREE REQUIREMENTS

FRONTAGE LF (2 SIDES)	LG TREES	SM TREES	STREET NAME
800	16	0*	Ribbonwalk Trail
2000	40	0	John Dale Lane
600	12	0	Nathan Graham Ct
1000	20	0	Granite Creek Ln
4400	**88**	**0**	TOTAL

SEE DEVELOPMENT DATA FOR BREAKDOWN

ROAD FRONTAGE = 4400 LF
STREET TREES REQUIRED: 4400 / 50 = 88 (LARGE MATURING)
STREET TREES PROPOSED: 40 LARGE, 0 SMALL
* USE EXISTING TREES THAT QUALIFY, WHERE ALLOWED
(1) LARGE MATURING TREES SHALL BE FROM APPROVED URBAN FORESTRY SPECIES LIST.
DIFFERENT SPECIES OF TREES SHALL BE USED ON DIFFERENT STREET
(2) TREES NEED TO HAVE MIN. 5' TRUNK CLEARANCE FROM GRADE WHEN PLANTED, 6' CLEARANCE WITHIN SIGHT TRIANGLES
NO HERITAGE TREES EXIST ON THIS PROPERTY

SPECIMEN TREES

	TREE DESCRIPTION	TREE CANOPY TOTAL (SF)	TREE CANOPY WITHIN (SF)	TREE CREDIT ALLOWED (SF)
A	24 BEECH	1520	1131	466
B	30 POPLAR	2463	1400	700
C	30 GUM	1862	1350	575
D	24 GUM	1809	1425	713
E	36 POPLAR	3216	1614	807
F	30 OAK	1662	884	445
G	24 OAK	2123	1620	810
H	36 POPLAR	2228	2290	1145
I	54 POPLAR	3421	2340	1145
	TOTAL	17875	11574	5740

LANDSCAPE PLAN NOTES

MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER, 8' TALL IF SINGLE STEM. MINIMUM 3' TALL 3 STEMS MAXIMUM IF MULTI-STEM. MULCH IS REQUIRED. STAKING/GUYING IS OPTIONAL.

FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL, SUB-BASE AND CONSTRUCTION DEBRIS, REMOVE COMPACTED SOIL AND ADD 24" NEW TOPSOIL, OR AMEND THE TOP 24" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES (WITHIN ENTIRE MINIMUM AREA OF 214 SQUARE FEET PER TREE). CALL 704-336-4824 FOR AN INSPECTION OF SOIL BEFORE PLANTING TREES.

ALL STRAPPING AND 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL PRIOR TO BACKFILLING PLANTING PIT. REMOVE TOP 1/3 OF WIRE BASKET AND BURLAP ROOT BALL.

PLEASE CALL 704-336-4824 FOR FINAL INSPECTION OF TREES, 1 TO 10 DAYS BEFORE THE CERTIFICATE OF OCCUPANCY IS NEEDED.

PREFERRED TREE SPACING IS:
30' FOR SMALL MATURING TREES (25' MINIMUM IF PLANTED IN GROUPS)
40'-50' FOR LARGE MATURING TREES (25' MINIMUM IF PLANTED IN GROUPS)

ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLACE 15-20' OFF SEWER AND STORM DRAINAGE LINES, 10-15' OFF GAS, WATER, PHONE AND UNDERGROUND ELECTRICAL LINES.

EXISTING HEALTHY TREES WITHIN 25 FEET OF THE RIGHT-OF-WAY LINE MAY LINE MAY BE CREDITED TOWARD THE PERIMETER REQUIREMENT IF SHOWN LANDSCAPE PLAN MAY BE PRESERVED HEALTHY.

LARGE MATURING TREES MAY NOT BE PLANTED WHERE OVERHEAD DISTRIBUTION OR TRANSMISSION LINES EXIST. IF TREES CONFLICT WITH POWERLINES OR SIGNS, CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.

TREE PLANTING (FOR SINGLE AND MULTI-STEM TREES)
NO SCALE
CLD STD # 40.01

ROOT FLARE DEPTHS
(TREE ROOT BALL CONDITION ON TREES FROM SUPPLIERS)

ACCEPTABLE CONDITION (AS DELIVERED)

UNACCEPTABLE CONDITION (AS DELIVERED)

NOTE:
* ROOT FLARE EXCAVATION FOR ALL TREES SPECIFIED WILL BE DONE BY THE TREE ARBORIST TO ENSURE THAT (NURSERY) LANDSCAPE CONTRACTOR DOES TOO DEEPLY AT SOURCE MARK AROUND WILL LINE NATURAL LINE ROOT BALL. IF CITY ARBORIST DETERMINES THERE IS EXCESSIVE SOIL OVER THE ROOT CROWN, THESE TREES WILL BE REJECTED.

NO SCALE
CLD STD # 40.04/4

Poplar Springs Dr
50' Public R/W
MB 21 PG 72

Granite Creek Ln
50' Public R/W
MB 21 PG 72

Nathan Graham Ct
50' Public R/W

John Dale Lane
50' Public R/W

Ribbonwalk Trail
50' Public R/W
MB 45 PG 424

MECKLENBURG COUNTY
DB 16684-665
TAX ID #045-341-12

EPHESUS CHURCH OF CHRIST, INC.

GRAPHIC SCALE
0   60   120   180

PCCO SUMMARY #1

ORIGINAL PARCEL #	045-381-01	
DEVELOPMENT TYPE	RESIDENTIAL	
SUBJECT TO PCCO (Y/N) ?	YES	
IF NO, WHY?		
WATERSHED	CENTRAL CATAWBA	
DISTURBED AREA (AC)	12.0 AC	
SITE AREA (AC)	16.0 AC	
	DA #1	DA #2
TOTAL ON-SITE DA (AC)	6.6 AC	5.4 AC
EXIST. BUA (SF)	0 SF	0 SF
EXIST. BUA TO BE REMOVED (SF)	0 SF	0 SF
EXIST. BUA TO REMAIN (SF)	0 SF	0 SF
PROP. NEW BUA (SF)	111,356 SF	41,652 SF
PROP. % BUA	34 %	38 %
DENSITY (HIGH/LOW)	HIGH	HIGH
TOT. POST-PROJ BUA FOR SITE	112,356 SF	41,652 SF
DEVELOPMENT OR REDEVELOPMENT?	DEVELOPMENT	
NATURAL AREA REQ (AC)	2.80 AC	
NATURAL AREA PROV (AC)	2.80 AC	
UNDIST. TREED NATURAL AREA PRESERVED	4.04 AC	
TOT STREAM BUFFER PROT (AC)	0	
TRANSIT STA AREA (Y/N)	N	
DISTRESSED BUS. DIST (Y/N)	N	
MITAGATION TYPE (IF APPLICABLE)		
NATURAL AREA MITIGATION (Y/N)	N	
BUFFER MITIGATION (Y/N)	N	
TOT PHOSPHOROUS MITIGATION (Y/N)	N	

NOTE
* NATURAL AREA COMPRISED OF TREESAVE AREA. AREAS SHOWN AS REVEGITATED, AREAS IN THE PLANTING STRIP OF THE ROADWAYS (x 0.75) MINUS 4B - 16' DRIVEWAYS. SEE SITE PLAN FOR LOCATIONS PLANTED TREES IN MITIGATION ARE TO BE 1 1/2" APPROVED TREES AT A RATE OF 36 TREES/1 AC COORDINATE WITH URBAN FORESTER FOR ADD'L INFO

Revisions:
1. 8/2/17 REVISED PER CED, CMPC, CDOT & NCDOT REVIEW

Scale: 1"=60'
Date: 6/21/17
Drawn By: MIK
Designed By: MIK
Job No.: 0717

NORTH

NOTE: Move tree protection out to preserve specimen trees.

NOTE: Move tree protection out to preserve specimen tree.

NOTE: THE DRAINAGE AREA MUST BE STABILIZED BEFORE FILTRATION CONTROLS AND FILTER MEDIA ARE INSTALLED

SAND FILTER #1 SEE DETAIL SHEET 10

TEMPORARY TREE PROT. FENCING (TYP.) MIN. 5' OUTSIDE DRIPLINE (USE 4' CATTLE FENCE)

NOTE: THE DRAINAGE AREA MUST BE STABILIZED BEFORE FILTRATION CONTROLS AND FILTER MEDIA ARE INSTALLED

SAND FILTER #2 SEE DETAIL SHEET 10

Storm Drainage and Grading Plan
BrookeDale
City of Charlotte, Mecklenburg County, North Carolina
BrookeDale LLC, 275 Thornburg Rd., Dallas, NC 28034

Sheet No.
3
of 10

STORM DRAINAGE SCHEDULE

FROM	TO	SLOPE (%)	LENGTH (FT)	DIA.	STRUCTURE FROM RIM	STRUCTURE FROM INVERT	STRUCTURE TO RIM	STRUCTURE TO INVERT
CI 1	CI 2	0.50	22.0	15	803.94	800.00	803.94	799.89
YI 3	YI 3	4.90	92.3	15	803.94	799.79	797.55	795.77
YI 3	YI 4	5.00	90.3	15 IV	797.55	795.67	797.55	789.16
YI 4	CI 5	1.80	109.3	15 IV	797.0	789.06	790.92	787.09
CI 5	CI 6	0.50	24.2	18	790.92	786.99	790.70	786.87
CI 6	FES 7	0.50	82.6	18	790.70	786.77	------	786.1
CI 10	CI 11	0.50	22.0	15	802.18	798.50	802.18	798.39
CI 11	CI 12	0.50	49.1	15	802.18	798.29	802.84	798.04
CI 12	FES 13	0.60	146.0	15	802.84	797.94	------	797.07
CI 15	CI 16	0.50	24.0	15	799.94	794.00	799.54	793.88
CI 16	FES 17	0.50	22.5	15	799.54	793.78	------	793.17
CI 20	CI 21	2.20	40.2	15 IV	783.57	780.00	782.25	779.12
CI 21	CI 22	0.70	22.0	15 IV	782.25	779.02	782.25	778.86
CI 22	DCI 23	1.20	59.7	18 IV	782.25	778.76	780.96	778.05
YI 24	YI 25	6.90	145.3	15	794.00	790.45	784.00	780.42
YI 25	YI 26	0.90	109.1	15	784.00	780.32	780.32	778.46
YI 26	DCI 23	0.60	48.8	15 IV	780.00	778.36	780.00	778.06
DCI 23	CI 27	1.50	22.0	18 IV	780.96	778.05	780.96	777.72
CI 27	FES 28	2.20	25.0	15 IV	780.96	777.62	------	777.12

ALL PIPE CLASS III RCP UNLESS OTHERWISE NOTED
SEE COVER SHEET FOR CLD STD NO. FOR STORM DRAINAGE STRUCTURES
CL IV- REPRESENTS CLASS IV RCP
RIM- GRATE & FLOWLINE ON CURB INLET (CI)
RIM- CENTER OF GRATE ON GRATE TYPE YARD INLET (YI)

GRAPHIC SCALE
0   60   120   180

SEEDBED PREPARATION NOTES

1. SURFACE WATER CONTROL FEATURES SHALL BE INSTALLED PER APPROVED PLAN.
2. AREAS TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL 3" DEEP; TOTAL SEEDBED PREPARED DEPTH SHALL BE 4" TO 6" DEEP.
3. LOOSE ROCKS, ROOTS AND OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH ESTABLISHMENT AND/OR MAINTENANCE OF VEGETATION. SURFACE FOR FINAL SEED BED PREPARATION, AT FINISH GRADES SHOWN, SHALL BE REASONABLY SMOOTH AND UNIFORM.
4. IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME SHALL BE APPLIED ACCORDING TO SEEDING SPECIFICATIONS.
5. IF SOIL TEST IS TAKEN, PROVIDE FERTILIZER AND LIME ACCORDING TO SOIL TEST REPORT.
6. FERTILIZER AND LIME SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED PREPARATION.
7. GRADED SLOPES AND FILLS: THE ANGLES FOR GRADED SLOPES SHALL BE NO GREATER THAN THE ANGLE WHICH CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL MEASURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH GROUND COVER OR OTHER ADEQUATE EROSION CONTROL MEASURES SUFFICIENT TO RESTRAIN EROSION. MAXIMUM SLOPE IS 2:1.
8. GROUND COVER: WHENEVER LAND DISTURBING ACTIVITY IS UNDERTAKEN ON A TRACT COMPRISING MORE THAN ONE (1) ACRE, IF MORE THAN ONE (1) CONTIGUOUS ACRE IS UNCOVERED, A GROUND COVER SUFFICIENT TO RESTRAIN EROSION MUST BE PLANTED OR OTHERWISE PROVIDED WITHIN 7 CALENDAR DAYS ON THAT PORTION OF THE TRACT UPON WHICH FURTHER ACTIVE CONSTRUCTION IS NOT BEING UNDERTAKEN.

SEEDING SPECIFICATIONS

FOR LATE WINTER AND EARLY SPRING

SEEDING MIXTURE
RYE (GRAIN) - 120 LB/ACRE
ANNUAL LESPEDEZA (KOBE) - 50 LB/ACRE
(OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE)

SEEDING DATES
JAN 1 - MAY 1

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE, RESEED, FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

FOR SUMMER:

SEEDING MIXTURE
GERMAN MILLET - 40 LB/ACRE
(A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE)

SEEDING DATES
MAY 1 - AUG. 15

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.
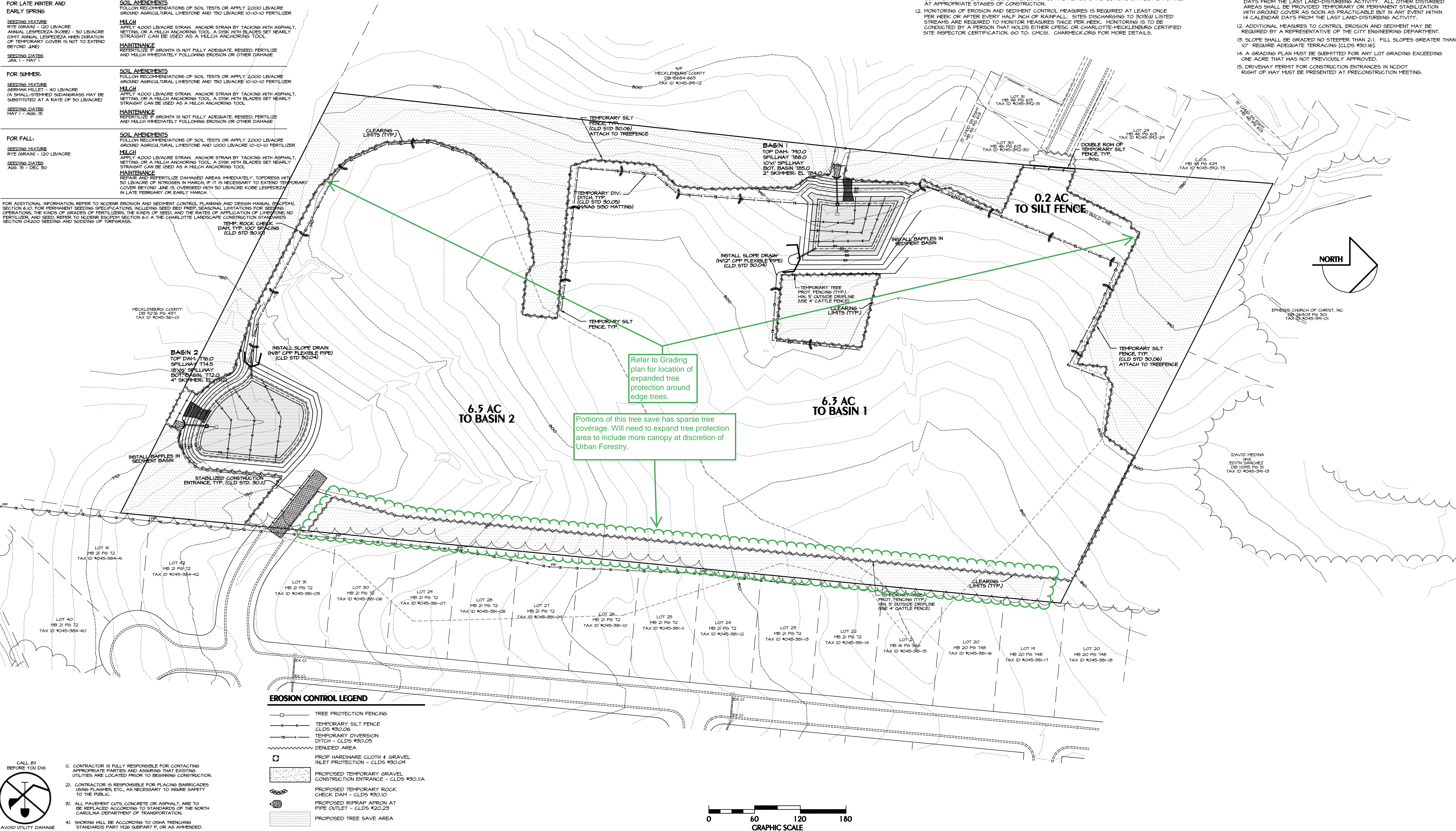
MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE, RESEED, FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

FOR FALL:

SEEDING MIXTURE
RYE (GRAIN) - 120 LB/ACRE

SEEDING DATES
AUG. 15 - DEC 30

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER.
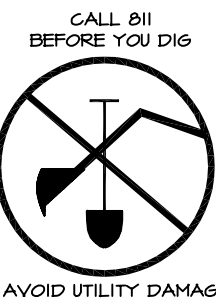
MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

FOR ADDITIONAL INFORMATION, REFER TO NCDENR EROSION AND SEDIMENT CONTROL, PLANNING AND DESIGN MANUAL (ESCPM) SECTION 6.10. FOR PERMANENT SEEDING SPECIFICATIONS, INCLUDING SEED BED PREPARATION, SEEDING OPERATIONS, THE KINDS OF GRADES OF FERTILIZER, THE KINDS OF SEED, AND THE RATES OF APPLICATION OF LIMESTONE, NO FERTILIZER, AND SEED, REFER TO NCDENR ESCPM SECTION 6.11 & THE CHARLOTTE LANDSCAPE CONSTRUCTION STANDARDS SECTION 04200 SEEDING AND SODDING OF TURFGRASS.
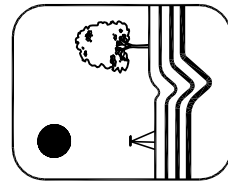
CONSTRUCTION SEQUENCE

1. OBTAIN GRADING/EROSION CONTROL PLAN APPROVAL FROM THE CITY OF CHARLOTTE ENGINEERING DEPARTMENT.
2. SET UP PRE-CONSTRUCTION CONFERENCE WITH EROSION CONTROL INSPECTOR OF CITY ENGINEERING DEPT. TO DISCUSS EROSION CONTROL MEASURES. FAILURE TO SCHEDULE SUCH CONFERENCE 48 HOURS PRIOR TO ANY LAND DISTURBING ACTIVITY IS A VIOLATION OF CHAPTER 17 OF THE CITY CODE AND IS SUBJECT TO A FINE.
3. INSTALL SILT FENCE, INLET PROTECTION, SEDIMENT TRAPS, DIVERSION DITCHES, TREE PROTECTION, AND OTHER MEASURES AS SHOWN ON PLANS, PROTECTION, AND OTHER MEASURES AS SHOWN ON PLANS, CLEARING ONLY AS NECESSARY TO INSTALL THESE DEVICES.
4. CALL FOR ON-SITE INSPECTION BY INSPECTOR. WHEN APPROVED, INSPECTOR ISSUES THE GRADING PERMIT AND CLEARING AND GRUBBING MAY BEGIN. GRADE SITE AND FILL AS NECESSARY TO INSTALL SANITARY SEWER, STORM DRAINAGE AND ROADWAYS. GRADE ROADWAYS TO INSTALL CURB, BASE AND WATERLINES. STABILIZE LOTS AS THEY ARE BROUGHT TO FINISHED GRADE.
5. FOR PHASED EROSION CONTROL PLANS, CONTRACTOR SHALL MEET W/ INSPECTOR PRIOR TO COMMENCING IN EACH PHASE OF EROSION CONTROL MEASURES.
6. AS LOTS ARE PREPARED FOR HOUSE CONSTRUCTION ADD EC MEASURES AS SHOWN ON THE LOTS EC PLAN INSERT AND IDENTIFIED ON THE PLAN.
7. STABILIZE SITE AS IT IS BROUGHT TO FINISHED GRADE.
8. COMPLETE IMPROVEMENTS.
9. COORDINATE WITH EROSION INSPECTOR PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.
10. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.C. EROSION AND SEDIMENT CONTROL, PLANNING AND DESIGN MANUAL, U.S. DEPT. OF AGRICULTURE U.S. SOIL CONSERVATION SERVICE, CITY OF CHARLOTTE EROSION CONTROL ORDINANCE, AND THE CHARLOTTE LAND DEVELOPMENT STANDARDS MANUAL.
11. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE CITY EROSION INSPECTOR SO THE PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
12. MONITORING OF EROSION AND SEDIMENT CONTROL MEASURES IS REQUIRED AT LEAST ONCE PER WEEK OR AFTER EVERY HALF INCH OF RAINFALL. SITES DISCHARGING TO 303(d) LISTED STREAMS ARE REQUIRED TO MONITOR MEASURES TWICE PER WEEK. MONITORING IS TO BE CONDUCTED BY A PERSON THAT HOLDS EITHER CPESC OR CHARLOTTE-MECKLENBURG CERTIFIED SITE INSPECTOR CERTIFICATION. GO TO: CMCSI. CHARMECK.ORG FOR MORE DETAILS.
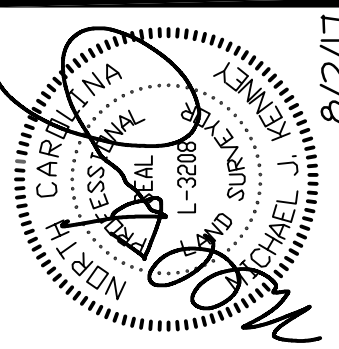
EROSION CONTROL NOTES

1. THIS EROSION CONTROL PLAN IS PREPARED IN ACCORDANCE WITH THE CITY OF CHARLOTTE SEDIMENTATION AND EROSION CONTROL ORDINANCE.
2. TOTAL PROJECT AREA: 14.0 ACRES; TOTAL DISTURBED AREA: 12.0 ACRES.
3. SOIL CLASSIFICATION: CECIL & ENON.
4. FINAL LOCATION OF SILT FENCE SHALL BE DETERMINED IN THE FIELD BASED ON ACTUAL SITE CONDITIONS.
5. STUB PIPES TO SEDIMENT BASINS, INSTALL FLARED END SECTIONS AFTER SITE IS STABILIZED.
6. ANY LAND DISTURBING ACTIVITY ≥ 1 ACRES REQUIRES COMPLIANCE WITH ALL CONDITIONS OF THE GENERAL PERMIT TO DISCHARGE STORM WATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM. ANY PERMIT NON-COMPLIANCE IS A VIOLATION OF THE CLEAN WATER ACT AND MAY REQUIRE ENFORCEMENT ACTION BY THE DENR.
7. ALL "STD" NUMBERS REFER TO THE CHARLOTTE LAND DEVELOPMENT STANDARDS MANUAL.
8. ON-SITE BURIAL PITS REQUIRE AN ON-SITE DEMOLITION LANDFILL PERMIT FROM THE ZONING ADMINISTRATOR.
9. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE CITY/ COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
10. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF THE CITY/ COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
11. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
12. ADDITIONAL MEASURES TO CONTROL EROSION, EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF THE CITY ENGINEERING DEPARTMENT.
13. SLOPE SHALL BE GRADED NO STEEPER THAN 2:1. FILL SLOPES GREATER THAN 10' REQUIRE ADEQUATE TERRACING (CLDS #30.16).
14. A GRADING PLAN MUST BE SUBMITTED FOR ANY LOT GRADING EXCEEDING ONE ACRE THAT HAS NOT PREVIOUSLY BEEN APPROVED.
15. DRIVEWAY PERMIT FOR CONSTRUCTION ENTRANCES IN NCDOT RIGHT OF WAY MUST BE PRESENTED AT PRECONSTRUCTION MEETING.

KENNEY DESIGN GROUP, PA
C-1986
1216 PARSONS TRAIL
DENVER, NORTH CAROLINA 28037
PH: 704/377-6099
EMAIL: KENNEY@KENNEYDESIGN.COM

Engineering
Land Planning
Land Surveying

Revisions:

Scale: 1"=60'
Date: 6/23/17
Drawn By: MIK
Designed By: MIK
Job No.: 0717

Erosion Control Plan - (Pre) Storm Drainage

BrookeDale

City of Charlotte, Mecklenburg County, North Carolina
BrookeDale LLC, 275 Thornburg Rd, Dallas, NC 28034

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BASIN 1
TOP DAM: 790.0
SPILLWAY 788.0
10W' SPILLWAY
BOT. BASIN: 785.0
2' SKIMMER: EL 784.0

BASIN 2
TOP DAM: 776.0
SPILLWAY 774.5
18W' SPILLWAY
BOT. BASIN: 772.0
4' SKIMMER:

INSTALL BAFFLES IN SEDIMENT BASIN

INSTALL SLOPE DRAIN (W/18" CPP FLEXIBLE PIPE) (CLD STD 30.04)

INSTALL SLOPE DRAIN (W/12" CPP FLEXIBLE PIPE) (CLD STD 30.04)

TEMP. ROCK CHECK DAM, 100' SPACING (CLD STD 30.10)

TEMPORARY DIV. DITCH (TYP) (NAG S150 MATTING)

TEMPORARY SILT FENCE, TYP. (CLD STD 30.06) ATTACH TO TREEFENCE

TEMPORARY SILT FENCE, TYP. (CLD STD 30.06) ATTACH TO TREEFENCE

DOUBLE ROW OF TEMPORARY SILT FENCE, TYP.

CLEARING LIMITS (TYP.)

TEMPORARY TREE PROT. FENCING (TYP.) MIN. 5' OUTSIDE DRIPLINE (USE 4' CATTLE FENCE)

STABILIZED CONSTRUCTION ENTRANCE, TYP. (CLD STD 30.11)

0.2 AC TO SILT FENCE

6.5 AC TO BASIN 2

6.3 AC TO BASIN 1

Refer to Grading plan for location of expanded tree protection around edge trees.

Portions of this tree save has sparse tree coverage. Will need to expand tree protection area to include more canopy at discretion of Urban Forestry.

NORTH

EROSION CONTROL LEGEND

TREE PROTECTION FENCING
TEMPORARY SILT FENCE - CLDS #30.06
TEMPORARY DIVERSION DITCH - CLDS #30.05
DENUDED AREA
PROP HARDWARE CLOTH & GRAVEL INLET PROTECTION - CLDS #30.09
PROPOSED TEMPORARY GRAVEL CONSTRUCTION ENTRANCE - CLDS #30.11A
PROPOSED TEMPORARY ROCK CHECK DAM - CLDS #30.10
PROPOSED RIPRAP APRON AT PIPE OUTLET - CLDS #20.23
PROPOSED TREE SAVE AREA

CALL 811 BEFORE YOU DIG
AVOID UTILITY DAMAGE

1) CONTRACTOR IS FULLY RESPONSIBLE FOR CONTACTING APPROPRIATE PARTIES AND ASSURING THAT EXISTING UTILITIES ARE LOCATED PRIOR TO BEGINNING CONSTRUCTION.
2) CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES USING FLAGMEN, ETC., AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
3) ALL PAVEMENT CUTS, CONCRETE OR ASPHALT, ARE TO BE REPLACED ACCORDING TO STANDARDS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
4) SHORING WILL BE ACCORDING TO OSHA TRENCHING STANDARDS PART H26 SUBPART P, OR AS AMENDED.

GRAPHIC SCALE
0   60   120   180

Revisions:
6/21/17 REVISED PER CED, CHPC, CDOT & NCDOT REVIEW

Scale: 1"=60'
Date: 6/21/17
Drawn By: MJK
Designed By: MJK
Job No.: 0517

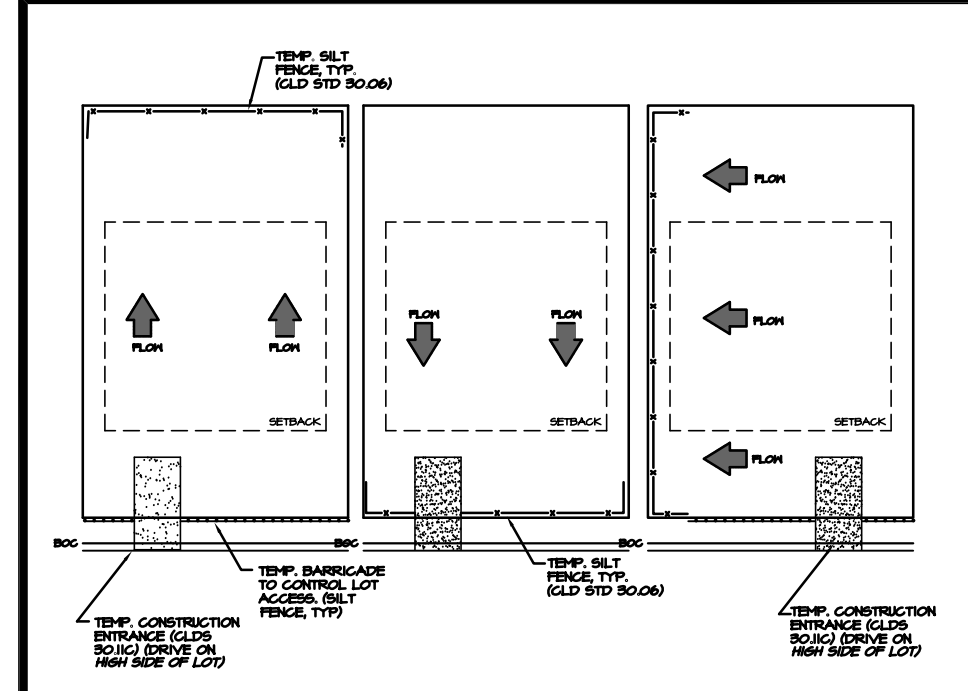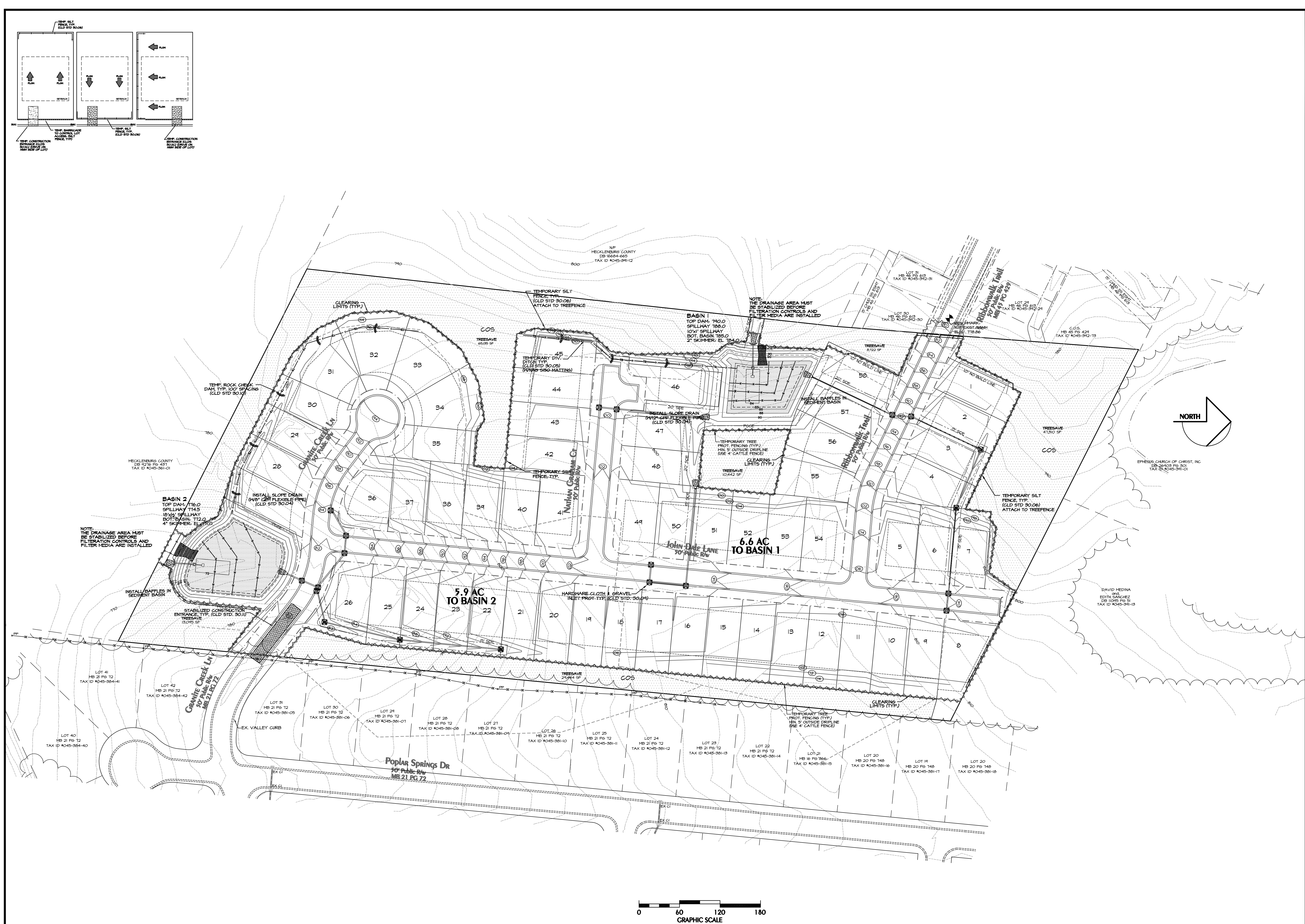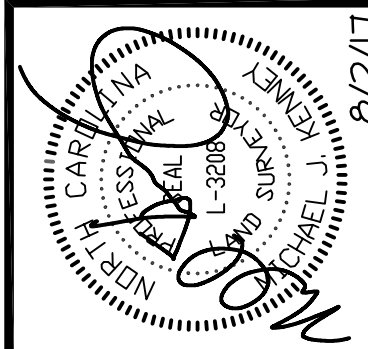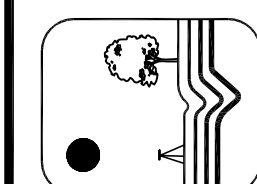**Erosion Control Plan - (Post) Storm Drainage**

BrookeDale

City of Charlotte, Mecklenburg County, North Carolina
BrookeDale LLC, 275 Thornburg Rd., Dallas, NC 28034

Sheet No.
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of 10

NORTH

GRAPHIC SCALE
0   60   120   180

Plan labels:

TEMP. SILT FENCE, TYP. (CLD STD 30.06)

TEMP. CONSTRUCTION ENTRANCE (CLDS 30.02) LOW SIDE OF LOT)
TEMP. BARRICADE TO CONTROL LOT ACCESS SILT FENCE, TYP.
TEMP. SILT FENCE, TYP. (CLD STD 30.06)
TEMP. CONSTRUCTION ENTRANCE (CLDS 30.02) LOW SIDE OF LOT)

CLEARING LIMITS (TYP.)

TEMPORARY SILT FENCE, TYP. (CLD STD 30.06) ATTACH TO TREEFENCE

NOTE:
THE DRAINAGE AREA MUST BE STABILIZED BEFORE FILTRATION CONTROLS AND FILTER MEDIA ARE INSTALLED

BASIN 1
TOP DAM: 790.0
SPILLWAY 788.0
10'W SPILLWAY
BOT. BASIN 785.0
2" SKIMMER: EL 784.0

TEMPORARY DIV. DITCH TYP. (CLD STD 30.05) (P/N-S 650-MATTING)

INSTALL SLOPE DRAIN (W/12" CPP FLEXIBLE PIPE) (CLD STD 30.24)

INSTALL BAFFLES IN SEDIMENT BASIN

TEMPORARY TREE PROT. FENCING (TYP.) MIN. 5' OUTSIDE DRIPLINE (USE 4' CATTLE FENCE)

CLEARING LIMITS (TYP.)

TREESAVE

TEMPORARY SILT FENCE, TYP. (CLD STD 30.06) ATTACH TO TREEFENCE

TEMP. ROCK CHECK DAM, TYP. 100' SPACING (CLD STD 30.10)

Granite Creek Ln
50' Public R/W

TEMPORARY SILT FENCE, TYP. (CLD STD 30.06)

INSTALL SLOPE DRAIN (W/8" CPP FLEXIBLE PIPE) (CLD STD 30.24)

BASIN 2
TOP DAM: 716.0
SPILLWAY 714.5
18'x12 SPILLWAY
BOT. BASIN 712.0
4" SKIMMER: EL 711.0

NOTE:
THE DRAINAGE AREA MUST BE STABILIZED BEFORE FILTRATION CONTROLS AND FILTER MEDIA ARE INSTALLED

INSTALL BAFFLES IN SEDIMENT BASIN

STABILIZED CONSTRUCTION ENTRANCE, TYP. (CLD STD 30.11)

TREESAVE

Nathan Graham Ct
50' Public R/W

John Dale Lane
50' Public R/W

6.6 AC TO BASIN 1

5.2 AC TO BASIN 1

5.9 AC TO BASIN 2

HARDWARE CLOTH & GRAVEL INLET PROT. TYP. (CLD STD 30.04)

Ribbonwalk Trail
50' Public R/W

TREESAVE

CLEARING LIMITS (TYP.)

TEMPORARY TREE PROT. FENCING (TYP.) MIN. 5' OUTSIDE DRIPLINE (USE 4' CATTLE FENCE)

Poplar Springs Dr
50' Public R/W
MB 21 PG 72

EX. VALLEY CURB

EPHESUS CHURCH OF CHRIST, INC
TAX ID #045-341-01

DAVID MEDINA and EDITH SANCHEZ
DB 30185 PG 51
TAX ID #045-341-13

N/F
MECKLENBURG COUNTY
DB 16684-665
TAX ID #045-341-12

MECKLENBURG COUNTY
DB 9216 PG 481
TAX ID #045-361-01

JOHN DALE LANE

GRANITE CREEK

RIBBONWALK TRAIL

Scale:	HORIZ. 1" = 50' VERT. 1" = 5'
Date:	6/23/17
Drawn By:	MIK
Designed By:	MIK
Job No.:	0317

Revisions:
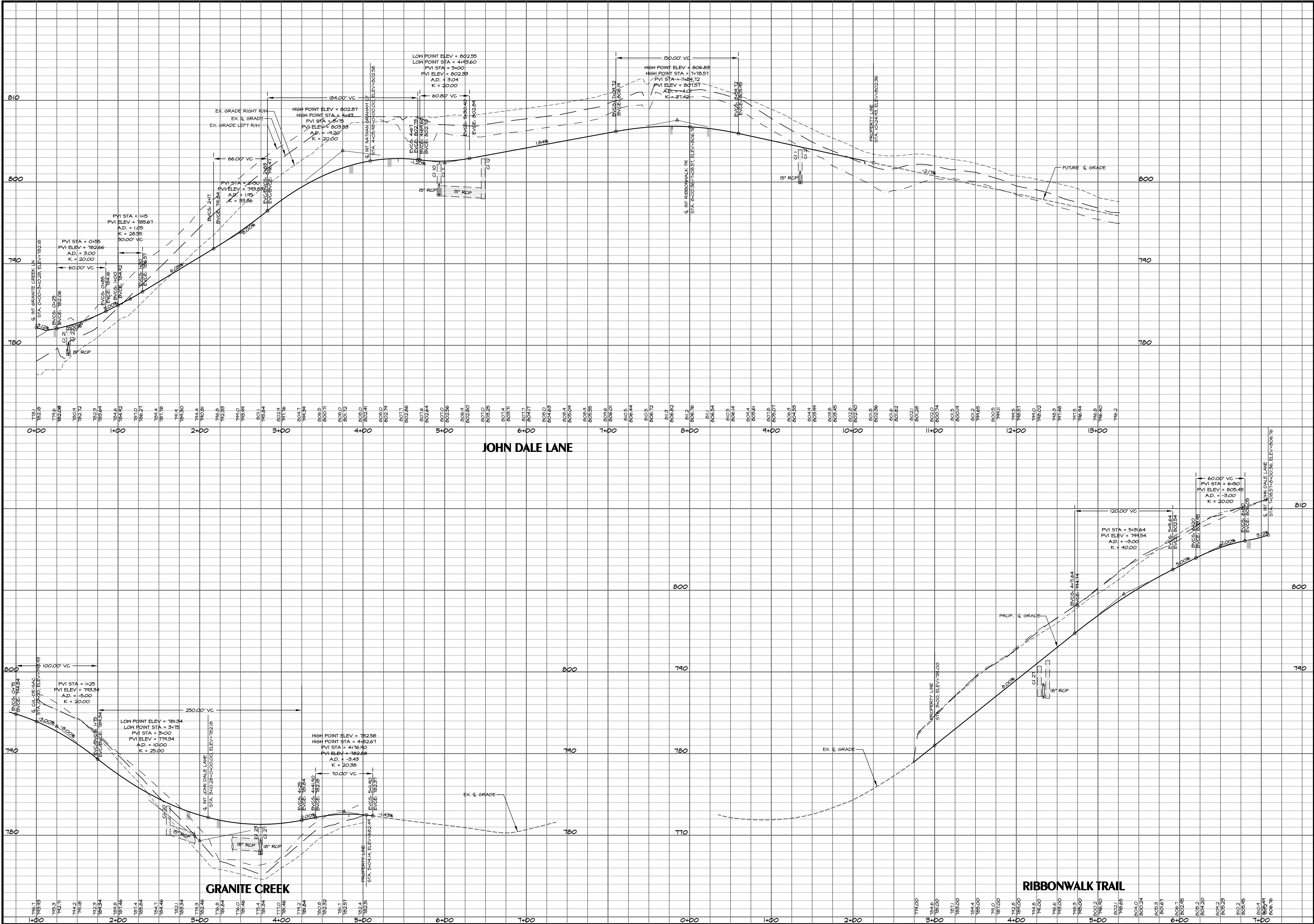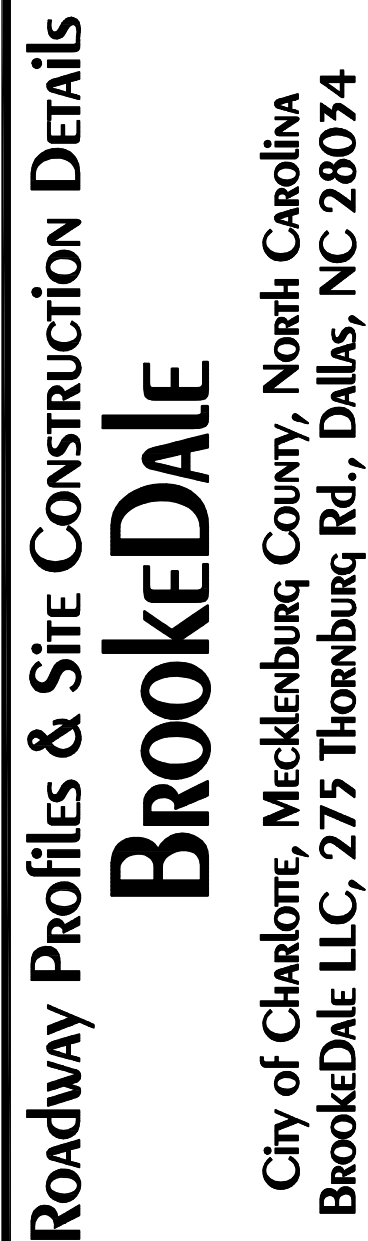L: 8/22/17 REVISED PER: CED, CMPC, CDOT, # NCDOT REVIEW

06/21/17

Sheet No.
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of 10

LOCAL RESIDENTIAL MEDIUM STREET TYPICAL SECTION

56' TOTAL R/W
28' 28'
21' (MIN) 42' R/W (MINIMUM) 21' (MIN)
7'-0" S.U.E. R/W R/W 7'-0" S.U.E.
10'-6" (11' IF VALLEY) 10'-6" (11' IF VALLEY)
SLOPE 3/8" PER FT.
2% max 2% max
2:1 CUT MAX. 2:1 CUT MAX.
3:1 FILL MAX. 3:1 FILL MAX.

SURFACE COURSE
1" SF9.5A
FINAL LIFT TO BE APPLIED AFTER 75% DEVELOPMENT OCCUPANCY OR
1 YEAR FROM INTERMEDIATE COURSE PLACEMENT (WHICHEVER OCCURS FIRST).

TACK COAT (SEE SECTION 1.E.4)

INTERMEDIATE COURSE
1 1/2" S9.5B OR SF9.5A

BASE COURSE
8" COMPACTED AGGREGATE BASE COURSE, OR 4" BCBC TYPE B25.0B.
SHOULD ENTIRE DEVELOPMENT HAVE A CBR OF 6 OR GREATER, THEN
AN ALTERNATIVE BASE COURSE PAVEMENT DESIGN MAY BE SUBMITTED
TO THE CITY ENGINEER FOR APPROVAL.

SUBGRADE
COMPACTED SUBGRADE (SEE SECTION 1.A.1.B)

TYPICAL PAVEMENT SECTION

NOTE:
1. FOR EXPLANATION OF RIGHT-OF-WAY WIDTHS REFER
TO CITY OF CHARLOTTE SUBDIVISION ORDINANCE
SECTION 20-22(6).

KEY
R 2'-0" VALLEY GUTTER
OR 2'-6" STD. CURB AND GUTTER
S 4" CONCRETE SIDEWALK

CLD STD # U-02
NO SCALE

CURB TRANSITION 2'6" CURB AND GUTTER TO 2'-0" VALLEY GUTTER

L = 10 FEET IN LONGITUDINAL SECTION
L/4 L/4 L/4 L/4
END STD 2'-6" CURB & GUTTER
BEGIN 2'-0" VALLEY GUTTER
BACK OF CURB
FACE OF CURB
LIP OF GUTTER/EOP
PLAN VIEW

SECTION A-A
SECTION B-B
SECTION C-C

NOTES:
1. TRANSITION IS NOT TO BE LOCATED WITHIN THE CURB RADIUS.

CLD STD # 10.19
NO SCALE

RESIDENTIAL CUL-DE-SAC

SECTION A-A
APPLICABLE WHEN NO SIDEWALK PRESENT.
PLEASE NOTE: DRIVEWAY STANDARD
MAX. SLOPES AND BREAKOVERS APPLY

CURB AND GUTTER (TYP.)
30' R
30' R
RIGHT-OF-WAY LINE
ACCESSIBLE RAMP (TYP.)
CONC. SIDEWALK (TYP.)
PLANTING STRIP (TYP.)

STANDARD CUL-DE-SAC

NOTES:
1. ALTERNATIVE CUL-DE-SAC DESIGNS,
INCLUDING ISLANDS, SHALL BE
SUBMITTED TO THE CITY ENGINEER
AND CDOT FOR REVIEW AND
APPROVAL.
2. THE CROWN FOR PAVEMENT SHALL
BE 1/4" PER FT FROM THE CENTER
OF THE CUL-DE-SAC.
3. REFER TO NCDOT STANDARDS FOR DITCH
TYPE STREETS IN ETJ.
4. SIDEWALK MAY BE REQUIRED TO EXTEND
AROUND CUL-DE-SAC BULB WHERE
PARKS OR SCHOOLS HAVE FRONTAGE TO
THE END OF THE CUL-DE-SAC.

NOTE: THIS DETAIL IS NOT FOR USE IN ETJ
OR ON NCDOT-MAINTAINED STREETS. REFER
TO NCDOT SUBDIVISION ROADS MINIMUM
CONSTRUCTION STANDARDS MANUAL.

TRUNCATED DOMES (PLAN AND CROSS-SECTION)

TRUNCATED DOME PLAN VIEW
4'-0" MIN. WIDTH COVERED WITH DETECTABLE WARNING MAT
(MATCH WIDTH OF RAMP)

TRUNCATED DOME SPACING

TRUNCATED DOME SECTION
50%-65% OF BASE DIAMETER
0.2"

NOTES
1. ALL DETECTABLE WARNING DEVICES USED IN NEW CONSTRUCTION SHALL BE OF A RIGID PRECAST OR EMBEDDED
PRODUCT APPROVED BY THE CITY ENGINEER. RETROFIT MATS WILL ONLY BE ALLOWED ON EXISTING RAMPS WITH
PRIOR APPROVAL OF THE CITY ENGINEER FOR MATERIAL TYPE AND INSTALLATION (IE. RESURFACING).
2. RAMP AND DETECTABLE WARNING AREA SHALL BE A MINIMUM OF 4 FEET IN WIDTH, BUT NOT LESS THAN THE WIDTH
OF SIDEWALK LEADING TO BACK OF RAMP.
3. DETECTABLE WARNING SURFACES SHALL EXTEND 2.0 FT MINIMUM IN THE DIRECTION OF PEDESTRIAN TRAVEL.
4. DETECTABLE WARNING AREA CAN BE PLACED SQUARE WHERE USED IN A CURB RADIUS.
5. THE ROWS OF TRUNCATED DOMES IN DETECTABLE WARNING SURFACES SHOULD BE ALIGNED PERPENDICULAR TO
THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET. WHERE DETECTABLE WARNING SURFACES ARE
PROVIDED ON A SURFACE WITH A SLOPE THAT IS LESS THAN 5 PERCENT, DOME ORIENTATION IS LESS CRITICAL.
6. DETECTABLE WARNING AREA SHALL CONTRAST VISUALLY WITH ADJACENT GUTTER, STREET OR HIGHWAY, OR
PEDESTRIAN ACCESS ROUTE SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. ON THE TRYON STREET MALL,
FRENCH GRAY IS TO BE USED.
7. IF PAVERS ARE TO BE USED, PAVERS SHALL BE MINIMUM 8000 PSI CONCRETE WITH A 2-INCH MINIMUM THICKNESS,
SET ON A THIN-SET MORTAR ON TOP OF 4" THICK 3600 PSI CONCRETE BASE.
8. MATS ARE TO BE RIGID WITH TURNED-DOWN EDGES EMBEDDED IN CONCRETE TO ELIMINATE TRIP HAZARD.
9. DIMENSIONS PER NCDOT 848.06

CLD STD # 10.35B/15
NO SCALE

GRADING AT YARD INLETS

MIN. 6" FREEBOARD DESIGN STORM HGL
REQ'D HEAD (H)
CONTOUR ELEVATION
TOP OF BERM CONTOUR SHOW AND LABEL ON PLAN

YI#	AREA	CFS	HEAD	NOTES
3	0.21 AC	1.63	0.13'	GRATE INLET (NCDOT STD 840.15)
4	0.30 AC	1.63	0.13'	GRATE INLET (NCDOT STD 840.15)
24	0.76 AC	6.22	0.14'	GRATE INLET (NCDOT STD 840.15)
25	0.43 AC	2.33	0.16'	GRATE INLET (NCDOT STD 840.15)
26	0.45 AC	2.44	0.16'	GRATE INLET (NCDOT STD 840.15)

CLD STD # 20.35
NO SCALE

RESIDENTIAL HAMMERHEAD DETAIL

50'-0"
26'-0" B/B
15'R B/C 15' R R/W
50'-0" 26'-0" B/B
2' SUE
8' PLANT STRIP 5' S/W
26'-0" B/B
50'-0"

NOTES
1. THIS DESIGN ACCOMMODATES SINGLE-UNIT TRUCK BUT NOT A
CHARLOTTE FIRE DEPARTMENT LADDER TRUCK. TO DESIGN FOR
A LADDER TRUCK REQUIRES A HAMMERHEAD OF 120 FEET IN
LENGTH.
2. VARIATIONS ON THIS DESIGN (E.G., WYES, TURNAROUNDS IN THE
STEM, ROTATION OF ENTRY POINT, ETC.) CAN BE SUBMITTED TO
CDOT FOR REVIEW AND APPROVAL ON A CASE-BY-CASE BASIS.
3. SIDEWALK MAY BE REQUIRED TO EXTEND AROUND THE
HAMMERHEAD WHERE PARKS OR SCHOOLS HAVE FRONTAGE TO
THE END OF THE HAMMERHEAD.

CLD STD # 11.18A (MODIFIED)
NO SCALE

NATHAN GRAHAM CT

HIGH POINT ELEV = 802.97
HIGH POINT STA = 0+76.91
PVI STA = 0+46.04
PVI ELEV = 803.85
A.D. = -5.30
K = 26.41
140.00' VC
141.82' VC

LOW POINT ELEV = 800.32
LOW POINT STA = 2+38.01
PVI STA = 2+38
PVI ELEV = 799.10
A.D. = 6.60
K = 22.99

810
800

2.00%
-3.30%
-3.30%

15" RCP

Roadway Profiles & Site Construction Details
BrookeDale
City of Charlotte, Mecklenburg County, North Carolina
BrookeDale LLC, 275 Thornburg Rd., Dallas, NC 28034

Sheet No. 7
of 10

KENNEY DESIGN GROUP, PA

1316 GREENWOOD CLIFF
CHARLOTTE, NORTH CAROLINA 28204
Ph: 704/377-6099
EMAIL: KENNEY@KENNEYDESIGN.COM

Engineering
Land Planning
Land Surveying
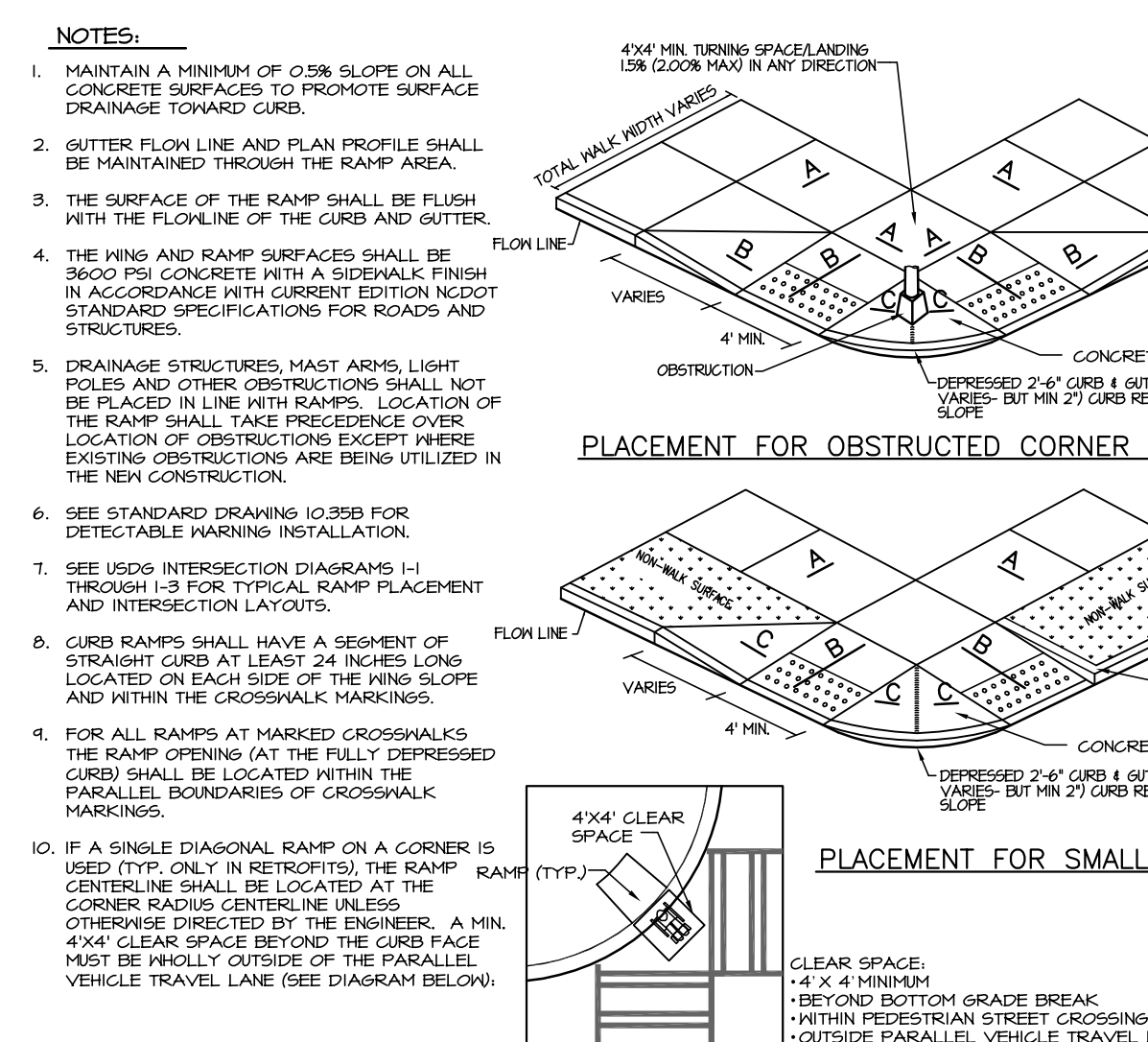
FLEXIBLE PIPE SLOPE DRAIN
NO SCALE
CLD STD # 30.04

CONSTRUCTION SPECIFICATIONS:
1. THE TOP OF THE EARTH DIKE OVER THE INLET PIPE AND THOSE DIKES CARRYING WATER TO THE PIPE SHALL BE AT LEAST 1.5 FEET HIGHER AT ALL POINTS THAN THE TOP OF THE INLET PIPE.
2. THE PIPE SHALL BE FLEXIBLE WITH WATER TIGHT CONNECTING BANDS. FLEXIBLE PIPE SHOULD BE STAKED ON EITHER SIDE.
3. A RIP RAP APRON SHALL BE PROVIDED AT THE OUTLET, IF EMPTYING INTO A DISTURBED AREA.
4. THE SOIL AROUND AND UNDER THE INLET PIPE AND ENTRANCE SECTION SHALL BE HAND TAMPED IN 4" LIFTS TO THE TOP OF THE EARTH DIKE.
5. FOLLOW-UP INSPECTION AND ANY NEEDED MAINTENANCE SHALL BE PERFORMED AFTER EACH STORM BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT.
6. OUTLET PIPE SHOULD BE TAKEN OVER OR THROUGH ANY SILT FENCE, TAKING CARE NOT TO VOID THE EFFECTIVENESS OF THE SILT FENCE.

PERPENDICULAR CURB RAMP (2'-0" VALLEY GUTTER)
NO SCALE
CLD STD # 10.33/14

ISOMETRIC VIEW
PLAN VIEW
TYPICAL RAMP SECTION AT CENTERLINE

STANDARD PLACEMENT OF ACCESSIBLE RAMP AND GENERAL NOTES
NO SCALE
CLD STD # 10.35A/15

PLACEMENT FOR OBSTRUCTED CORNER RADIUS
PLACEMENT FOR SMALL CORNER RADIUS
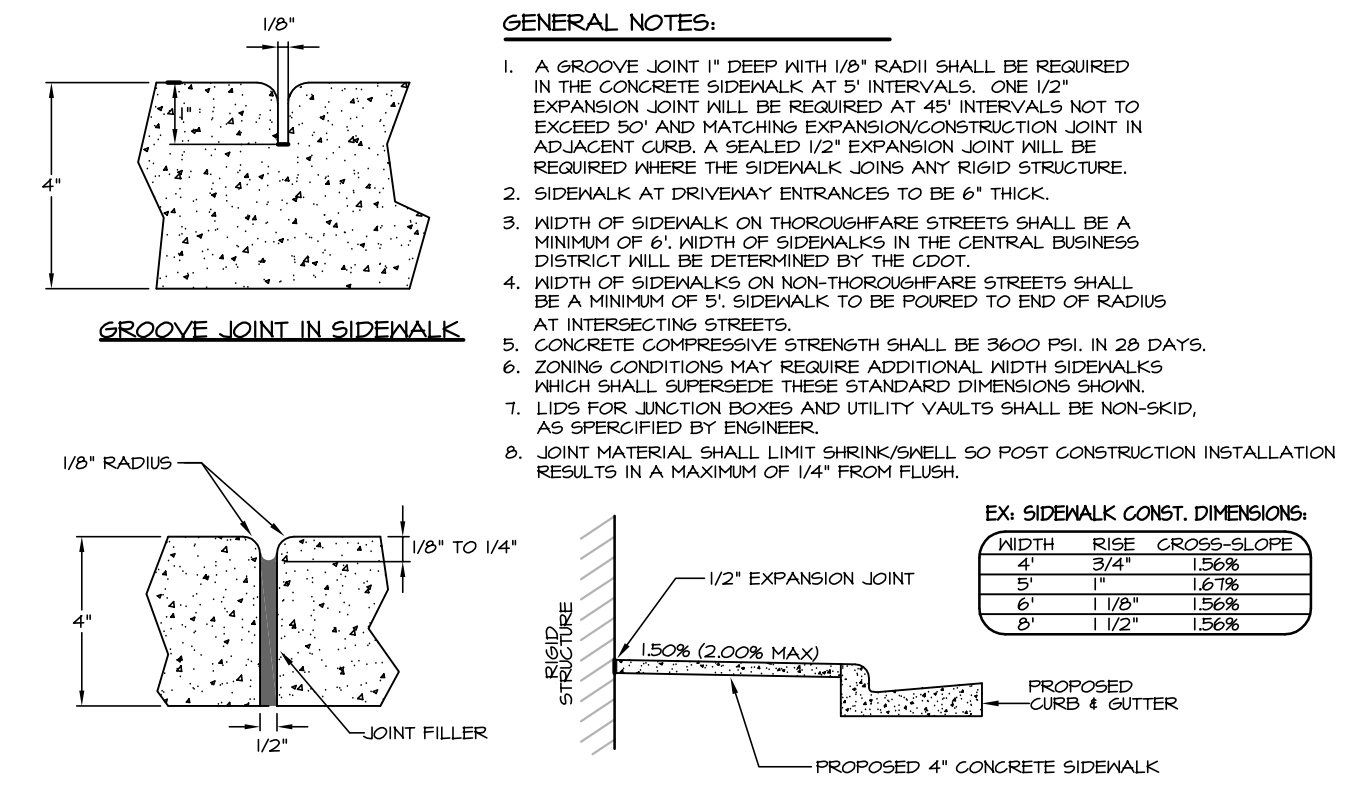
CONCRETE SIDEWALKS
NO SCALE
CLD STD # 10.22/15

GROOVE JOINT IN SIDEWALK
TRANSVERSE EXPANSION JOINT IN SIDEWALK
DETAILS SHOWING EXPANSION JOINTS IN CONCRETE SIDEWALK

WIDTH	RISE	CROSS-SLOPE
4'	3/4"	1.56%
5'	1"	1.67%
6'	1-1/8"	1.56%
6'	1-1/2"	1.56%

GENERAL NOTES:
1. A GROOVE JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 45' INTERVALS NOT TO EXCEED 50' AND MATCHING EXPANSION/CONSTRUCTION JOINT IN ADJACENT CURB. A SEALED 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
2. SIDEWALK AT DRIVEWAY ENTRANCES TO BE 6" THICK.

RIPRAP APRON AT PIPE OUTFALLS OTHER THAN AT SWIM
NO SCALE
CLD STD # 20.23

PLAN
SECTION B-B
ELEVATION

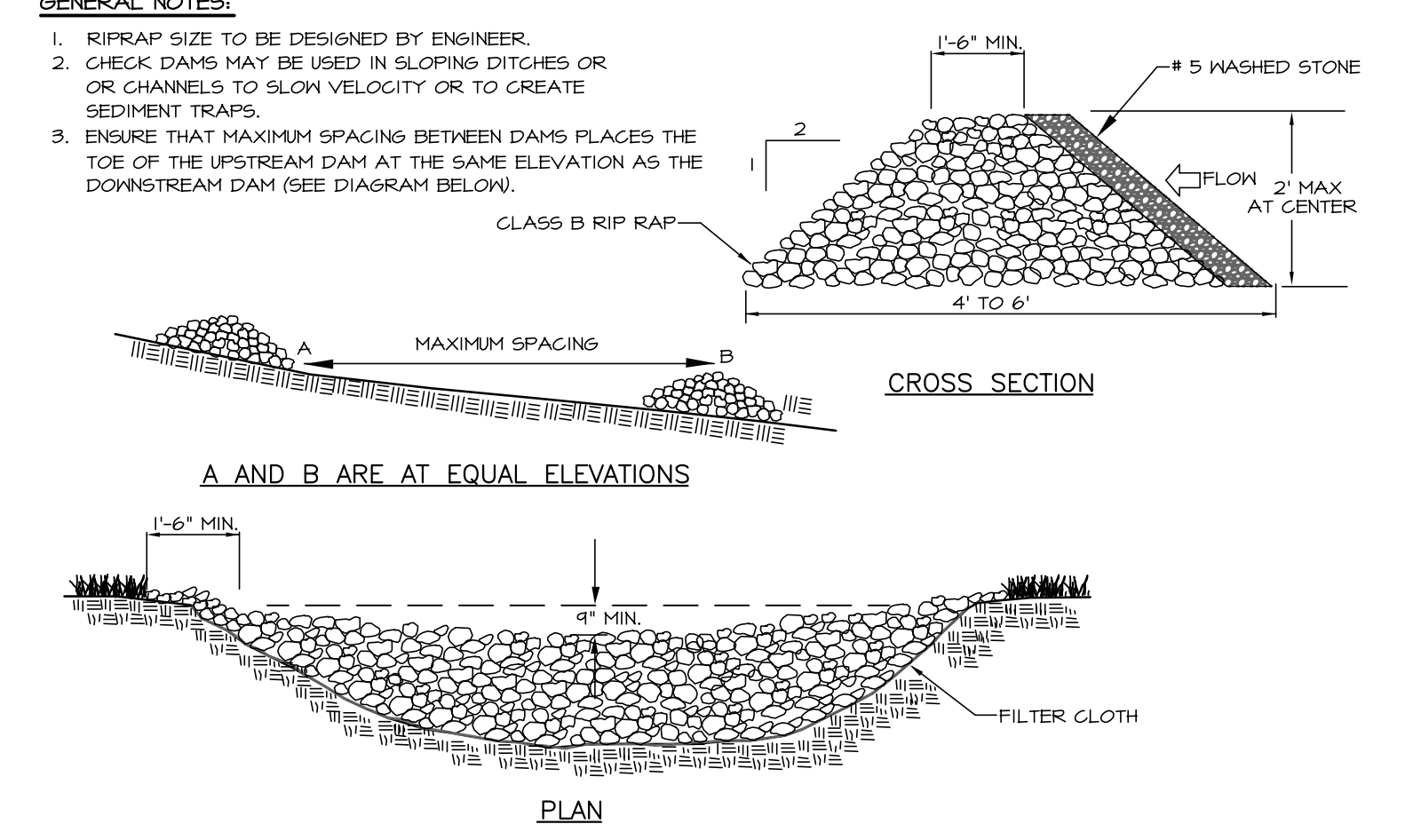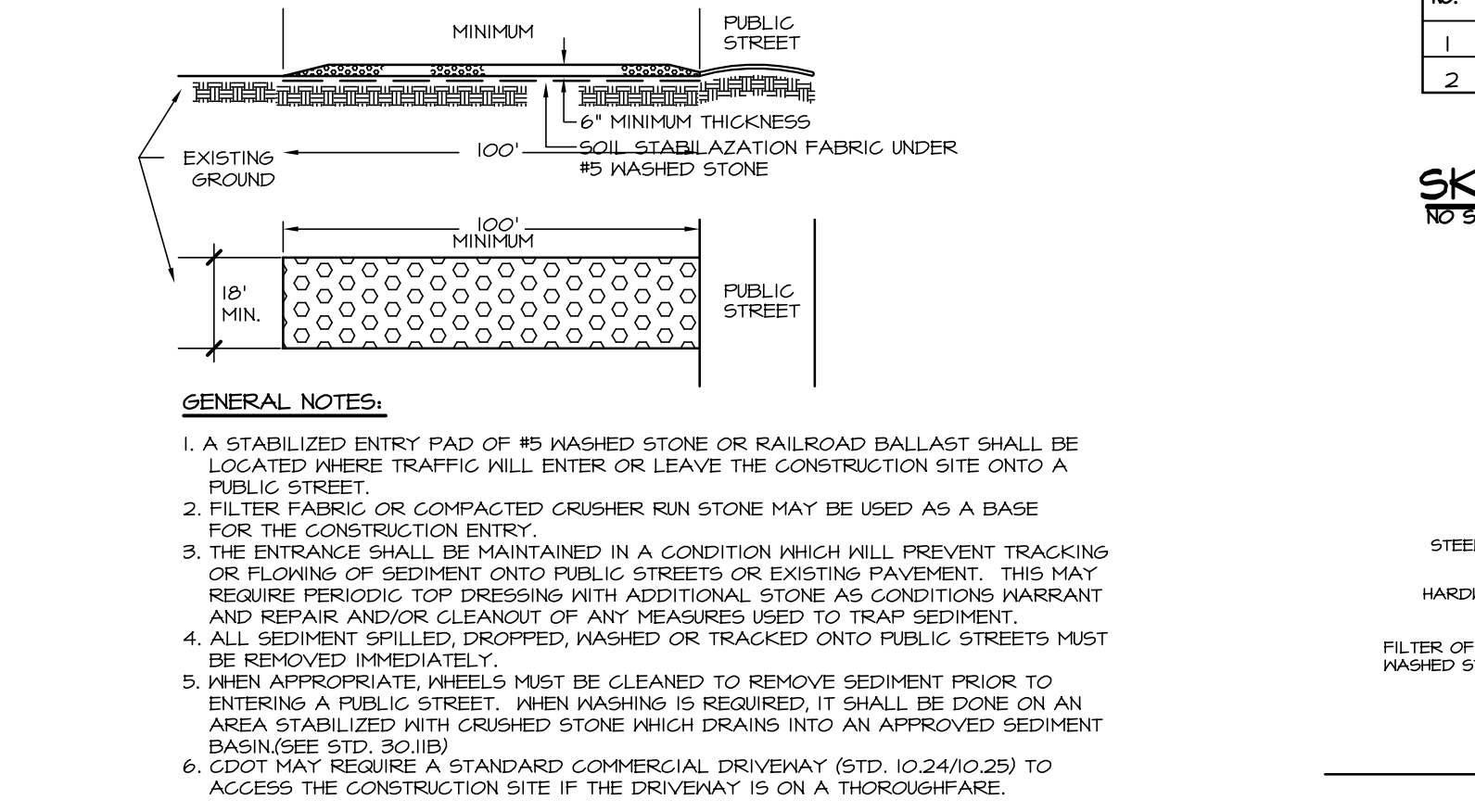| OUTLET	CFS	PIPE DIA. (IN)	APRON LENGTH "La" (FT)	APRON BOTTOM WIDTH "W2" (FT)	APRON TOP WIDTH "W" (FT)	DEPTH "T" (IN)	HEIGHT "H" (IN)	STONE SIZE d50 (IN)
FES 7	6.57	15"	10.0	3.8	11.3	10"	10"	3" STONE
FES 13	4.48	15"	10.0	3.8	11.3	10"	10"	2.5" STONE
FES 17	3.44	15"	10.0	3.8	11.3	10"	10"	2.5" STONE
FES 28	14.95	18"	12.0	4.5	13.5	12"	10"	4" STONE
FES 051	5.85	24"	10.0	3.8	11.3	10"	10"	3" STONE
FES 052	1.43	24"	10.0	3.8	11.3	10"	10"	3" STONE
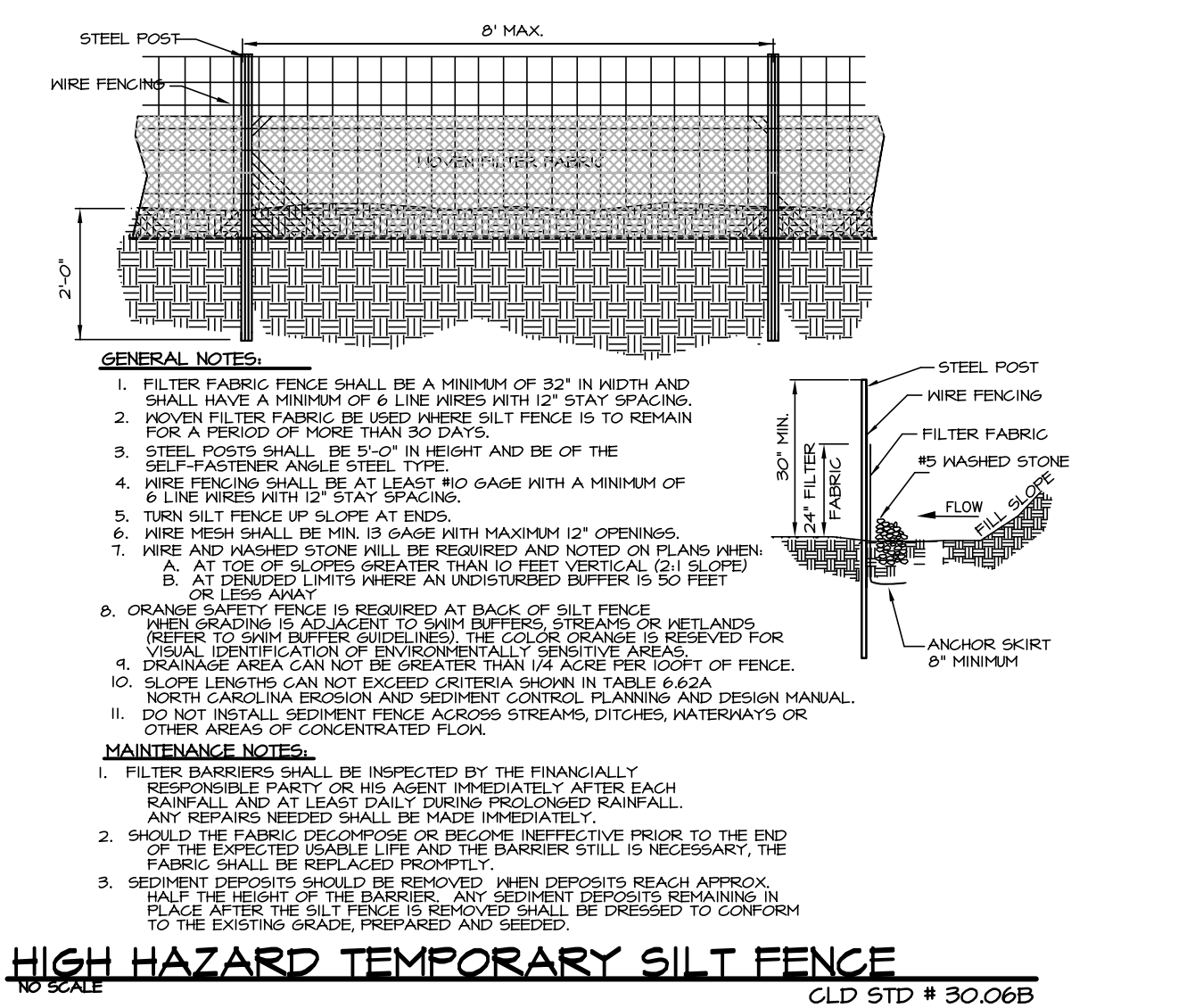
HIGH HAZARD TEMPORARY SILT FENCE
NO SCALE
CLD STD # 30.06B
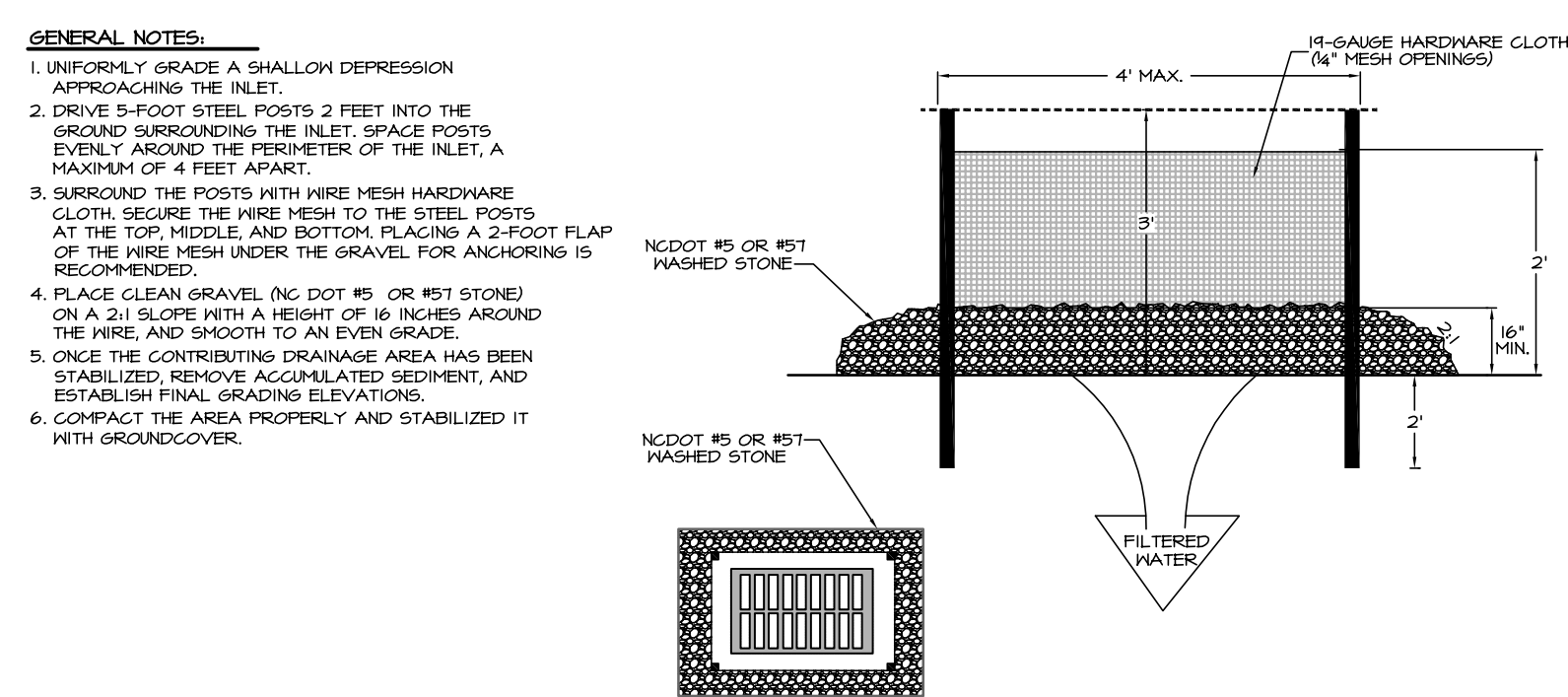
HARDWARE CLOTH & GRAVEL INLET PROTECTION
NO SCALE
CLD STD # 30.09

GENERAL NOTES:
1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.

TEMPORARY ROCK CHECK DAM
NO SCALE
CLD STD # 30.10

CROSS SECTION
A AND B ARE AT EQUAL ELEVATIONS
PLAN

STABILIZED CONSTRUCTION ENTRANCE
NO SCALE
CLD STD # 30.11A
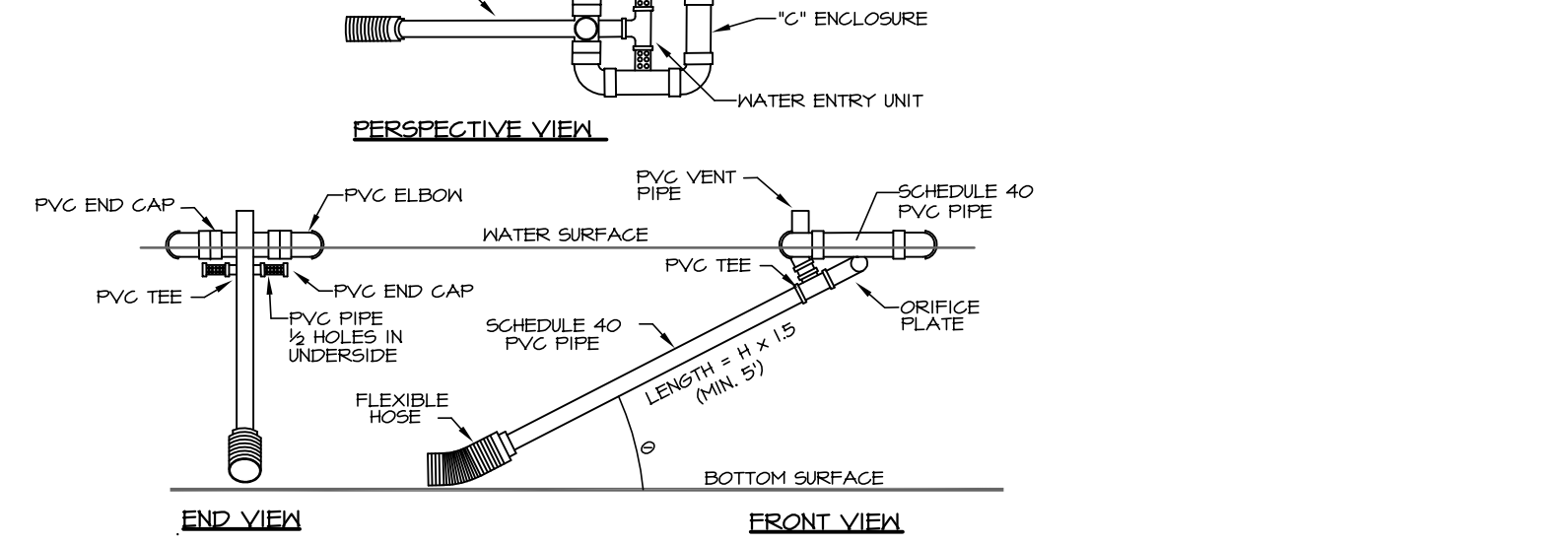
SKIMMER
NO SCALE
CLD STD # 30.02B

PERSPECTIVE VIEW
END VIEW
FRONT VIEW

TEMPORARY SILT DITCH
NO SCALE
CLD STD # 30.05

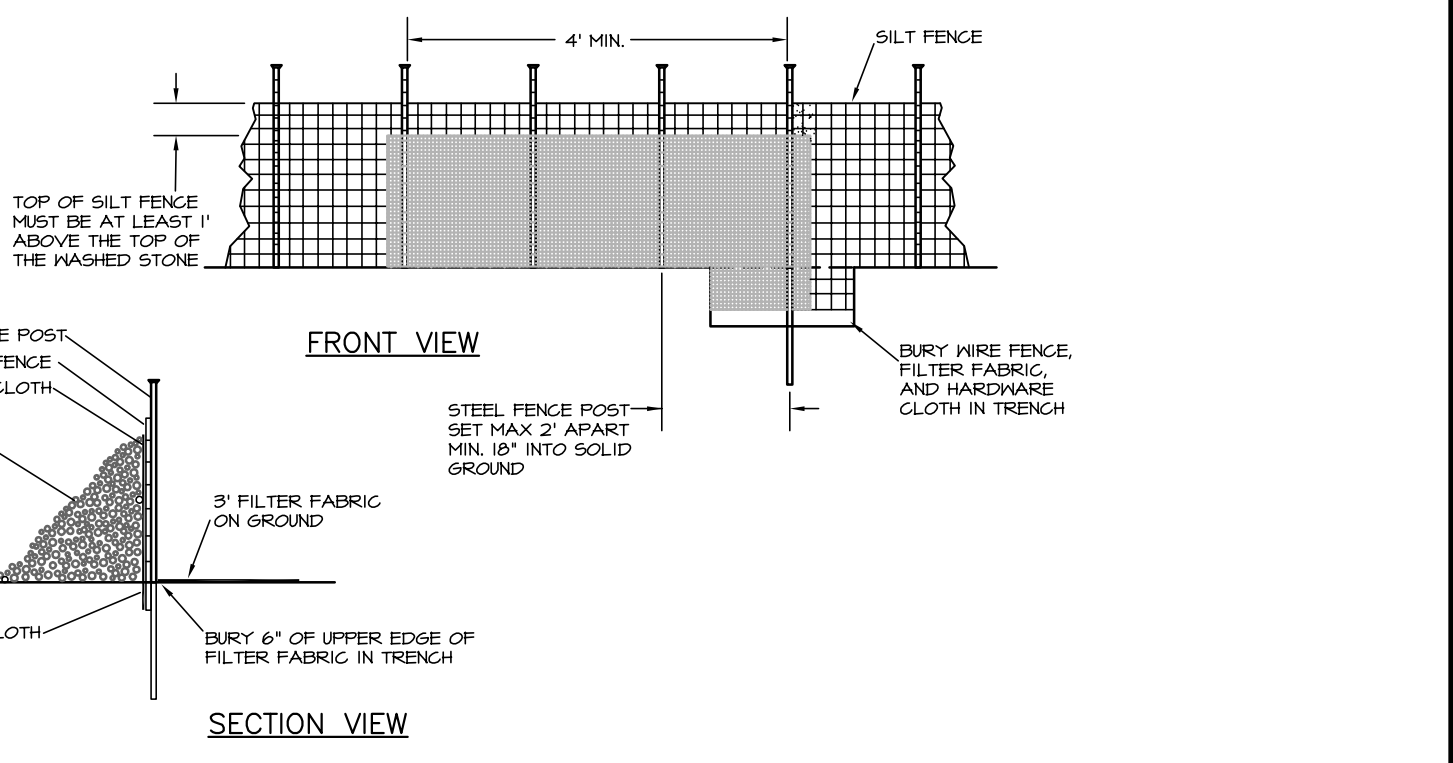| DITCH	DRAIN. AREA (AC)	REQ'D. FLOW (CFS)	SLOPE MAX (%)	"N"	B (FT)	E (FT)	D (FT)	VEL (FPS)	FLOW CAPAC. (CFS)
A	2.0	7.0	1.5	0.0225	2.0'	2.0'	0.8'	3.9	8.8
B	4.0	16.8	1.5	0.0225	2.0'	2.0'	1.0'	4.3	24.0

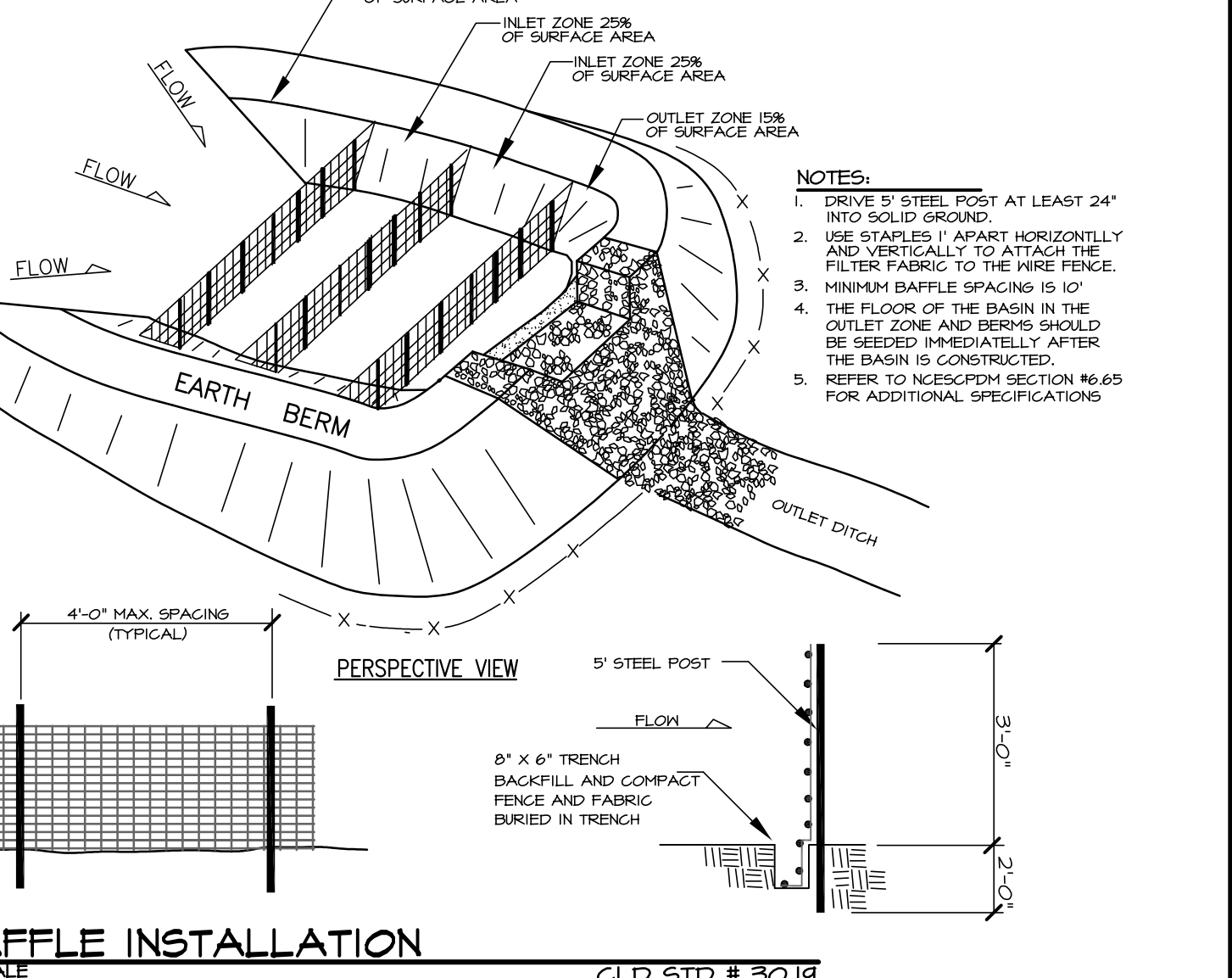## SKIMMER SEDIMENT BASIN
NO SCALE
CLD STD # 30.02A
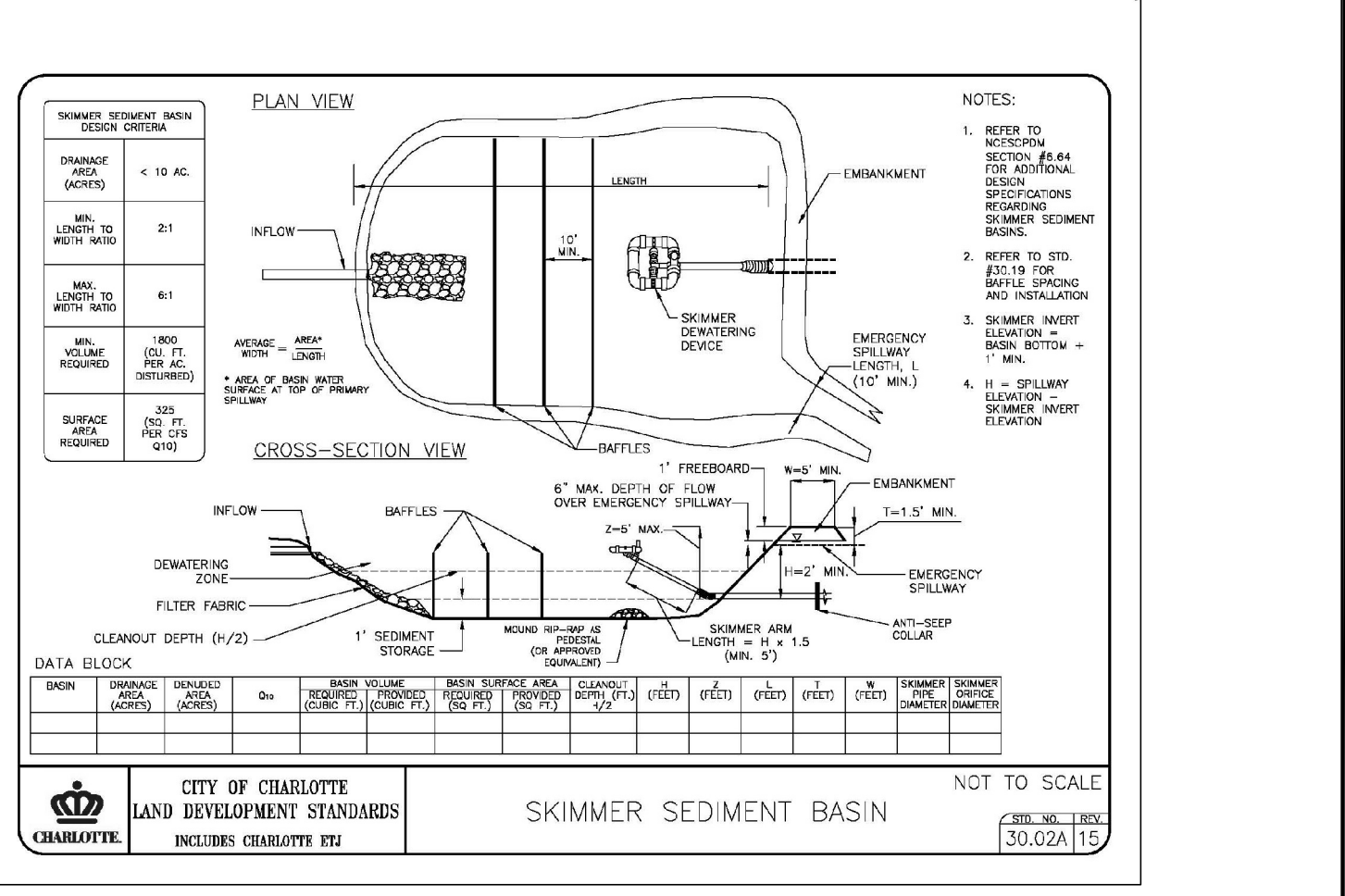
BASIN NO.	DRAINAGE AREA (AC)	DEDICATED AREA (AC)	Q10 (CFS)	TRAP SURFACE AREA REQUIRED (SF)	TRAP SURFACE AREA PROVIDED (SF)	TRAP VOLUME REQUIRED (CF)	TRAP VOLUME PROVIDED (CF)	CLEANOUT DEPTH H/2	L	T	H	X	SKIMMER PIPE DIAMETER	SKIMMER ORIFICE DIAMETER
1	6.6	5.4	21.8	7074	8281	10620	20034	15'	3.0'	1.0'	2.0'	5'	N/A	3"	FULL
2	6.5	4.6	21.5	6971	12473	8280	18425	13'	2.5	1.8'	1.5'	5"	N/A	4"	FULL

SILT FENCE OUTLET
NO SCALE

FRONT VIEW
SECTION VIEW

BAFFLE INSTALLATION
NO SCALE
CLD STD # 30.19

PERSPECTIVE VIEW
EARTH BERM

Site Construction Details

BrookeDale

City of Charlotte, Mecklenburg County, North Carolina
BrookeDale LLC, 275 Thornburg Rd., Dallas, NC 28034

Scale:	NTS	
Date:	6/29/17	
Drawn By:	MIK	
Designed By:	MIK	
Job No.	0517	

NOTE:
THE DRAINAGE AREA MUST
BE STABILIZED BEFORE
FILTRATION CONTROLS AND
FILTER MEDIA ARE INSTALLED

NOTE:
THE DRAINAGE AREA MUST
BE STABILIZED BEFORE
FILTRATION CONTROLS AND
FILTER MEDIA ARE INSTALLED

0.18 AC CI 16
0.82 AC CI 15
0.67 AC CI 20
1.19 AC BMP 2
0.51 AC CI 27
0.64 AC CI 21
0.59 AC CI 22
0.45 AC YI 26
0.43 AC YI 25
0.72 AC DCI 23
0.76 AC YI 24
0.31 AC CI 11
0.89 AC CI 12
0.93 AC CI 1
0.22 AC CI 10
0.11 AC CI 2
0.27 AC YI 3
0.35 AC YI 4
1.93 AC BMP 1

TEMPORARY TREE
PROT. FENCING (TYP.)
MIN. 5' OUTSIDE DRIPLINE
(USE 4' CATTLE FENCE)

Poplar Springs Dr
70' Public R/W
MB 21 PG 72

John Dale Lane
70' Public R/W

Nation Graham Ct
70' Public R/W

Granite Creek Ln
70' Public R/W

Ribbonwalk Trail
70' Public R/W
MB 47 PG 429

Revisions:

Scale:	1"=60'
Date:	6/21/17
Drawn By:	MIK
Designed By:	MIK
Job No.:	0717

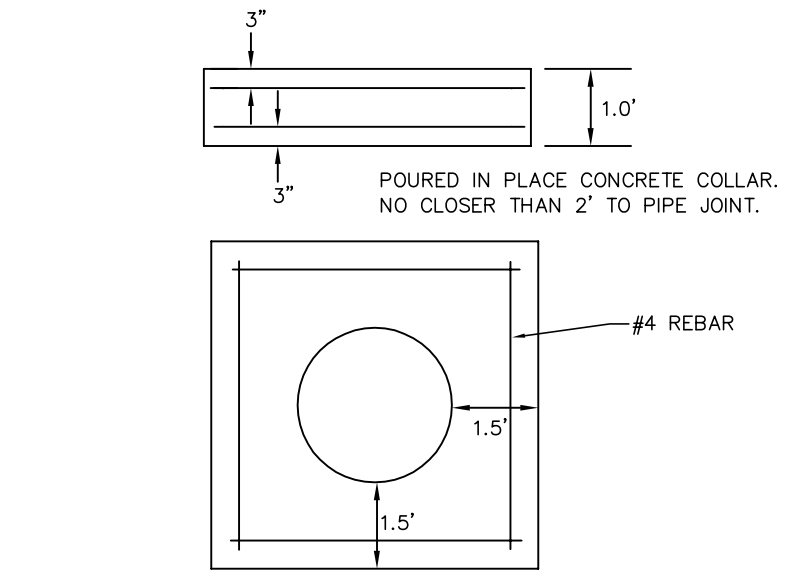DRAINAGE AREA MAP
BrookeDale

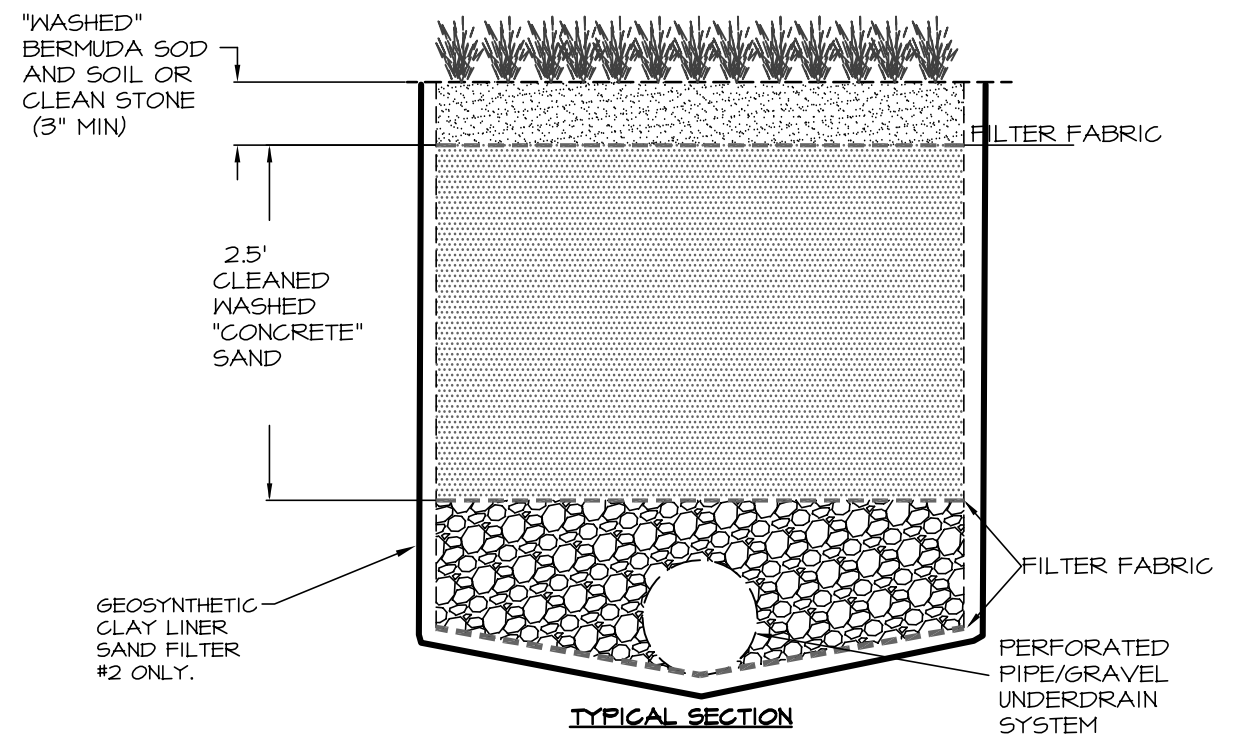City of Charlotte, Mecklenburg County, North Carolina
BrookeDale LLC, 275 Thornburg Rd., Dallas, NC 28034

Sheet No.
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of 10

GRAPHIC SCALE
0   60   120   180

BMP INSET TABLE — SAND FILTER 1

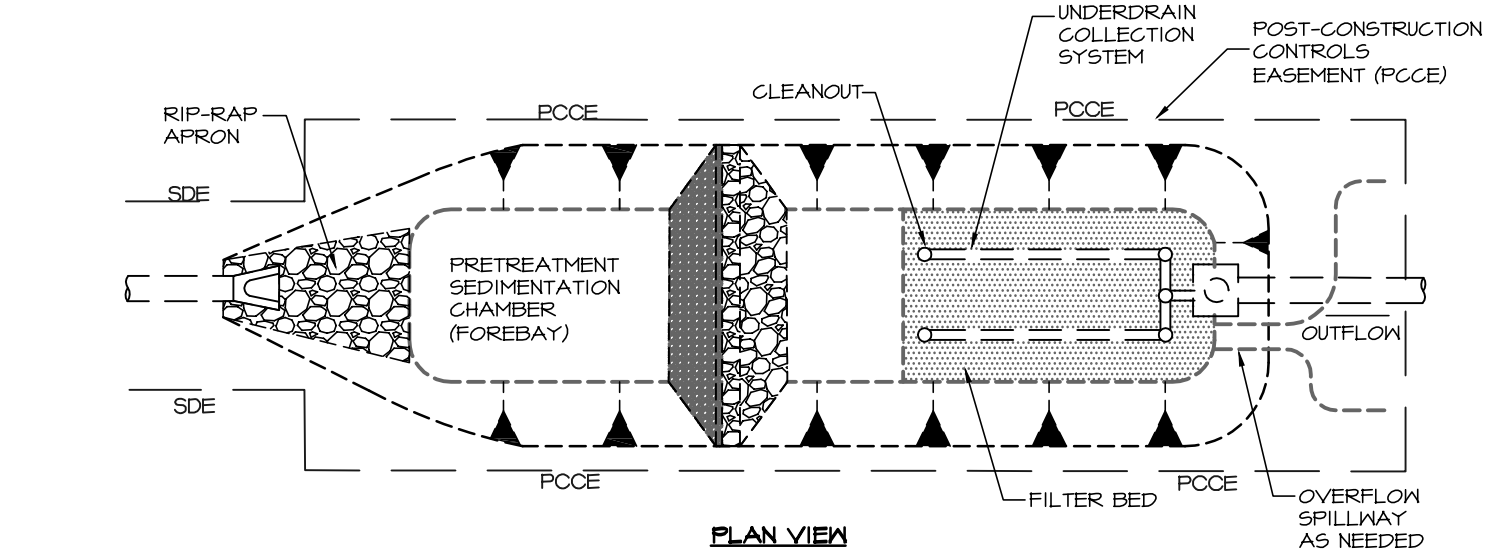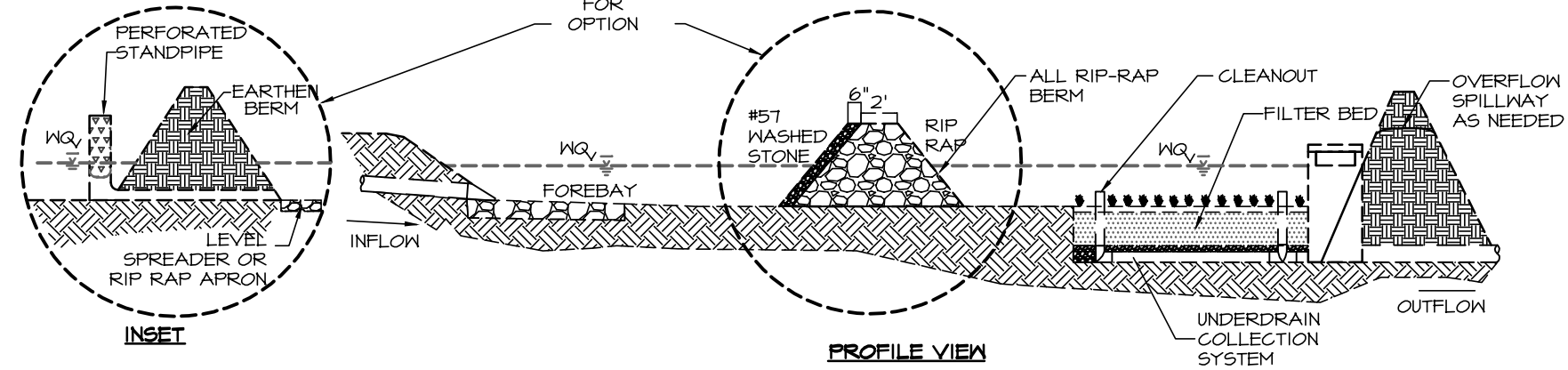|	
PROJECT NAME:	BROOKEDALE
SEQUENCE ID:	1
DRAINAGE AREA (AC):	6.60
LAND USE/DEVELOPMENT TYPE:	SINGLE FAMILY
PERCENT BUA:	41
SEDIMENT CHAMBER LENGTH (FT):	39
SEDIMENT CHAMBER WIDTH (FT):	36
SEDIMENT CHAMBER HEIGHT (FT):	2.0
SAND FILTER TYPE:	SURFACE
SAND FILTER SURFACE AREA (SF):	1000
MEDIA DEPTH (FT):	2.5
FLOW DEVERTER PRESENT:	NO
REGULATED BY:	PCCO
TREATMENT EFFECTIVENESS:	85% TSS REMOVAL
NC STATE PLANE X (EASTING):	1457501
NC STATE PLANE Y (NORTHING):	569307

CONCRETE ANTI-SEEP COLLAR
NO SCALE

3" 3" 1.0' 1.5' 1.5'
#4 REBAR
POURED IN PLACE CONCRETE COLLAR. NO CLOSER THAN 2' TO PIPE JOINT.

SURFACE SAND FILTER SECTION
NO SCALE   CLDS 21.25

"WASHED" BERMUDA SOD AND SOIL OR CLEAN STONE (3" MIN)
2.5' CLEANED "WASHED" "CONCRETE" SAND
FILTER FABRIC
GEOSYNTHETIC CLAY LINER SAND FILTER #2 ONLY.
FILTER FABRIC
PERFORATED PIPE/GRAVEL UNDERDRAIN SYSTEM
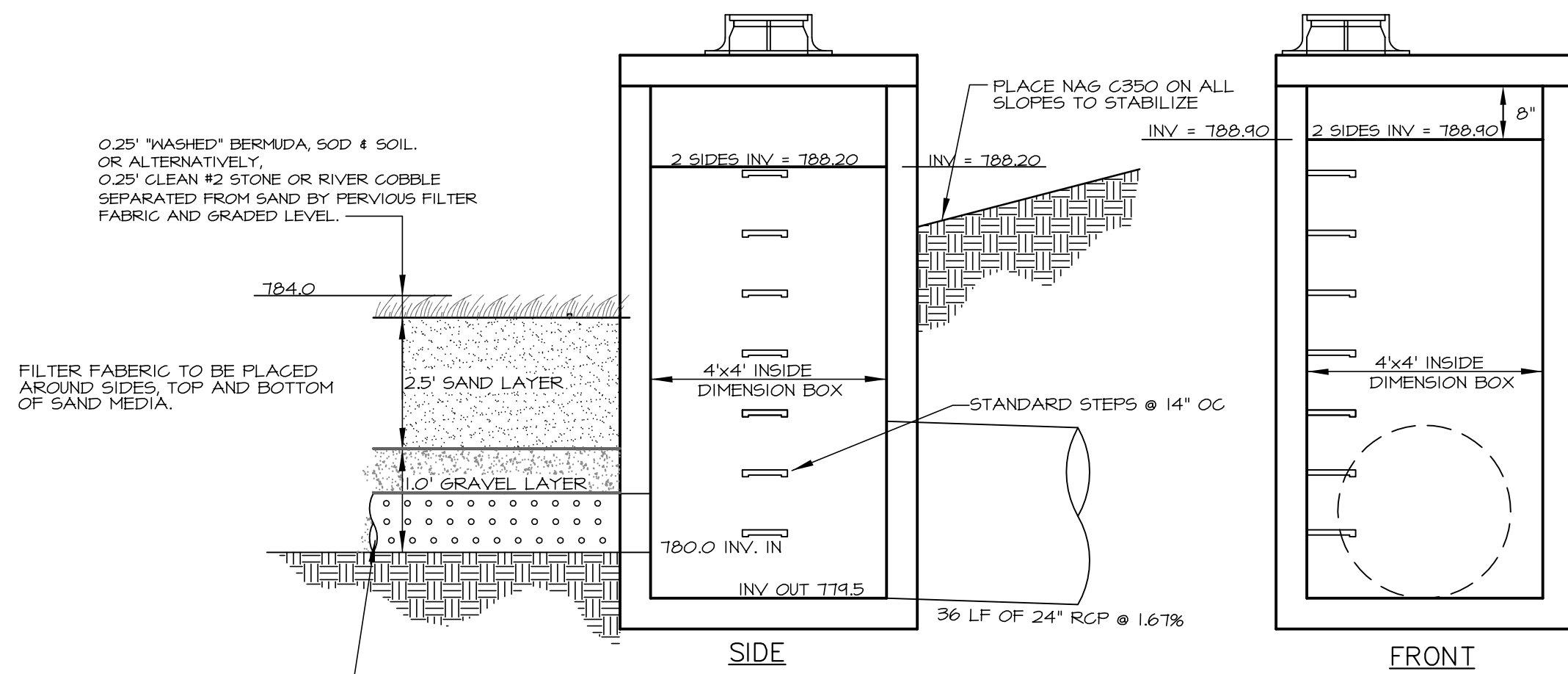
TYPICAL SECTION
NO SCALE

NOTES:
1. "CONCRETE" SAND REFERS TO SAND THAT IS COMMONLY USED IN CONCRETE MIXES.
2. ALL DRAINAGE AREAS TO A SAND FILTER FACILITY ARE TO BE STABILIZED PRIOR TO INSTALLATION OF SAND.
3. UNDERDRAIN PIPES SHOULD BE MIN. 6" PERFORATED SCHEDULE 40 PVC (PER AASHTO M278) OR DOUBLE WALL HDPE (PER AASHTO M252). PERFORATIONS SHOULD BE 3/8" ALONG 4 LONGITUDINAL ROWS SPACED 90° APART.

SURFACE SAND FILTER
NO SCALE   CLDS 21.24

PLAN VIEW

RIP-RAP APRON, PCCE, CLEANOUT, PCCE, POST-CONSTRUCTION CONTROLS EASEMENT (PCCE)
SDE, PRETREATMENT SEDIMENTATION CHAMBER (FOREBAY), PCCE, OUTFLOW, FILTER BED, PCCE, OVERFLOW SPILLWAY AS NEEDED, UNDERDRAIN COLLECTION SYSTEM
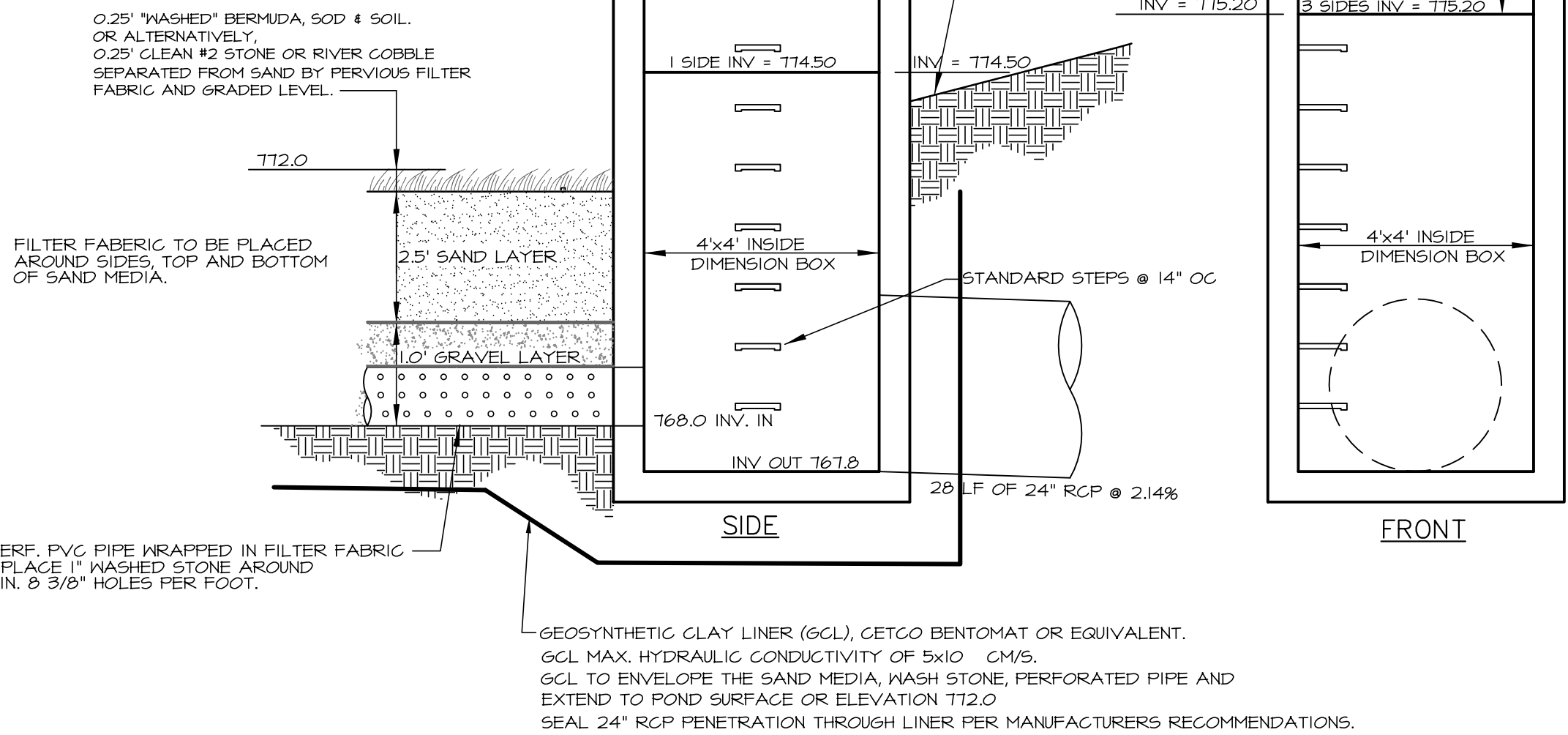
NOTES:
1. ALL SAND FILTERS SHALL HAVE A MINIMUM 20 FOOT ACCESS EASEMENT CONNECTING TO A DEDICATED PUBLIC RIGHT OF WAY. ACCESS ROAD SHALL HAVE MIN. 12' STABILIZED WIDTH, MAX. LONG. GRADE OF 15%, MAX. CROSS-SLOPE 5%. IN ADDITION, A 10-FOOT WIDE PERMANENT MAINTENANCE ACCESS EASEMENT MUST BE PROVIDED AROUND THE PERIMETER OF ALL BMPS TO ALLOW FOR ADEQUATE MAINTENANCE AND REPAIR.
2. ALL DRAINAGE AREAS TO A SAND FILTER FACILITY ARE TO BE STABILIZED PRIOR TO INSTALLATION OF SAND.
3. CLEAN OUTS IN THE UNDERDRAIN SYSTEM ARE TO BE REQUIRED EVERY 50' MINIMUM. CLEAN OUTS SHALL HAVE WATER TIGHT, VANDAL PROOF CAPS AND EXTEND 6" ABOVE THE SURFACE.
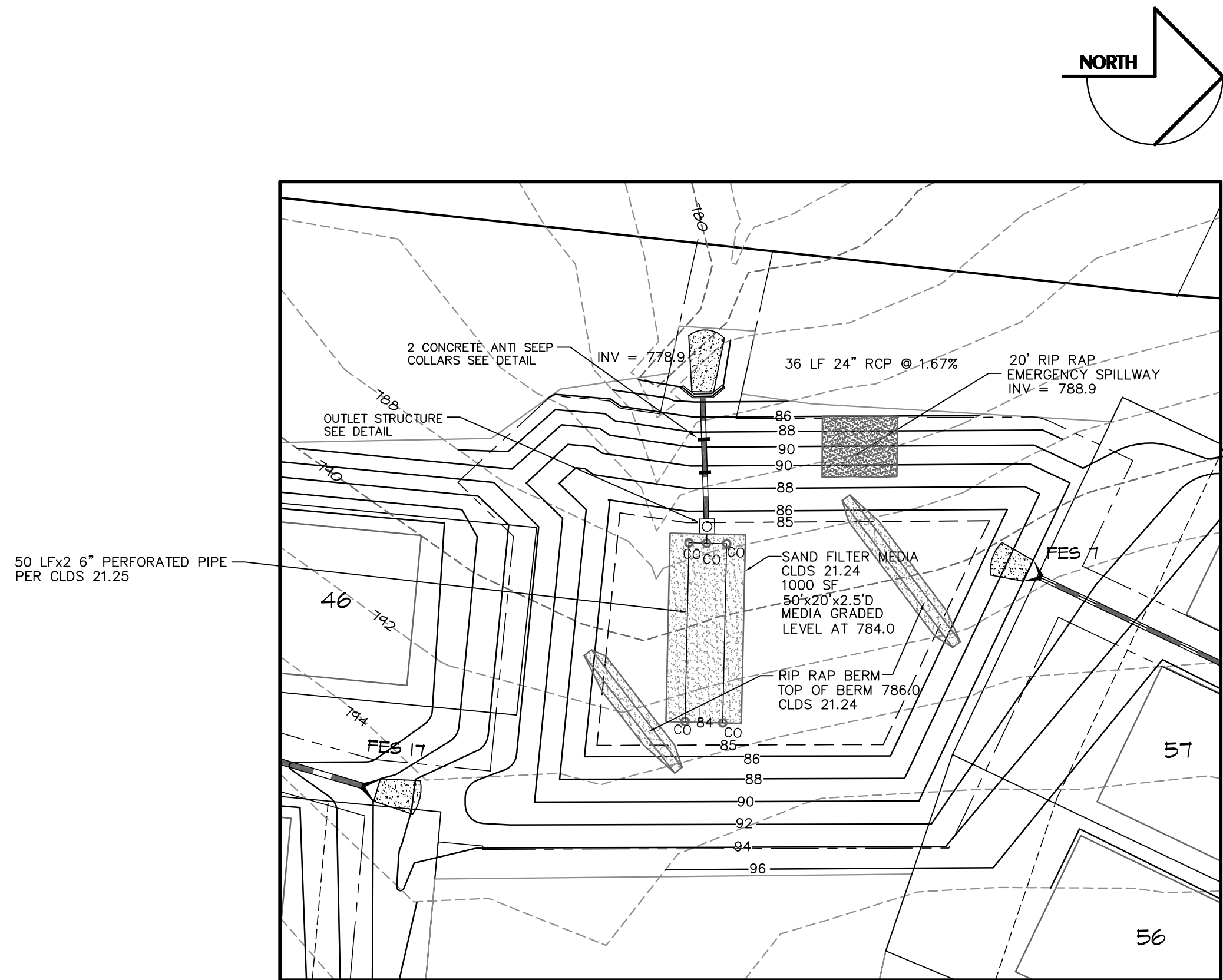
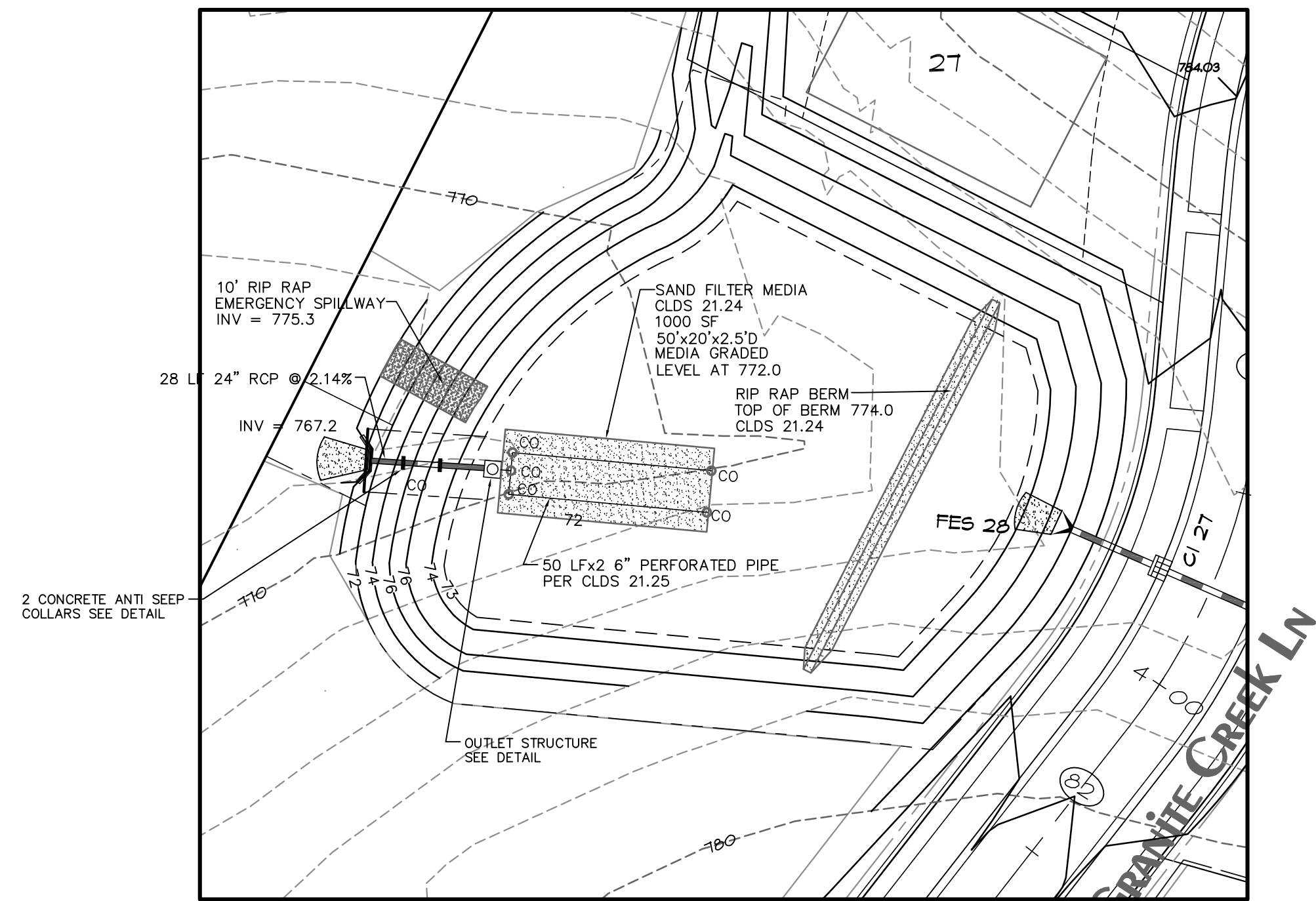INSET — PERFORATED STANDPIPE, SEE INSET FOR OPTION, EARTHEN BERM, LEVEL SPREADER OR RIP RAP APRON
PROFILE VIEW — #57 WASHED STONE, RIP RAP, ALL RIP-RAP BERM, CLEANOUT, FILTER BED, OVERFLOW SPILLWAY AS NEEDED, INFLOW, FOREBAY, LEVEL SPREADER OR RIP RAP APRON, UNDERDRAIN COLLECTION SYSTEM, OUTFLOW

SAND FILTER 1 OUTLET STRUCTURE
NO SCALE

0.25' "WASHED" BERMUDA, SOD & SOIL. OR ALTERNATIVELY, 0.25' CLEAN #2 STONE OR RIVER COBBLE SEPARATED FROM SAND BY PERVIOUS FILTER FABRIC AND GRADED LEVEL.
784.0
2.5' SAND LAYER
FILTER FABERIC TO BE PLACED AROUND SIDES, TOP AND BOTTOM OF SAND MEDIA.
1.0' GRAVEL LAYER
50 LFx2 OF 6" PERF. PVC PIPE WRAPPED IN FILTER FABRIC PIPE AT 0.50%. PLACE 1" WASHED STONE AROUND AROUND PIPE. MIN. 6 3/8" HOLES PER FOOT.

2 SIDES INV = 788.20   INV = 788.20   2 SIDES INV = 788.40   8"   2 SIDES INV = 788.40
PLACE NAG C350 ON ALL SLOPES TO STABILIZE
4'x4' INSIDE DIMENSION BOX
STANDARD STEPS @ 14" OC
780.0 INV. IN
INV OUT 774.5
36 LF OF 24" RCP @ 1.67%
4'x4' INSIDE DIMENSION BOX

SIDE   FRONT

NORTH

SAND FILTER #1
1"=30'

2 CONCRETE ANTI SEEP COLLARS SEE DETAIL
INV = 778.9
36 LF 24" RCP @ 1.67%
20' RIP RAP EMERGENCY SPILLWAY INV = 788.9
OUTLET STRUCTURE SEE DETAIL
50 LFx2 6" PERFORATED PIPE PER CLDS 21.25
SAND FILTER MEDIA CLDS 21.24 1000 SF 50'x20'x2.5'D MEDIA GRADED LEVEL AT 784.0
RIP RAP BERM TOP OF BERM 786.0 CLDS 21.24
FES 1

SAND FILTER 2 OUTLET STRUCTURE
NO SCALE

0.25' "WASHED" BERMUDA, SOD & SOIL. OR ALTERNATIVELY, 0.25' CLEAN #2 STONE OR RIVER COBBLE SEPARATED FROM SAND BY PERVIOUS FILTER FABRIC AND GRADED LEVEL.
772.0
2.5' SAND LAYER
FILTER FABERIC TO BE PLACED AROUND SIDES, TOP AND BOTTOM OF SAND MEDIA.
1.0' GRAVEL LAYER
50 LFx2 OF 6" PERF. PVC PIPE WRAPPED IN FILTER FABRIC PIPE AT 0.50%. PLACE 1" WASHED STONE AROUND AROUND PIPE. MIN. 6 3/8" HOLES PER FOOT.

1 SIDE INV = 774.50   INV = 774.50   3 SIDES INV = 775.20   8"
PLACE NAG C350 ON ALL SLOPES TO STABILIZE
4'x4' INSIDE DIMENSION BOX
STANDARD STEPS @ 14" OC
768.0 INV. IN
INV OUT 767.8
28 LF OF 24" RCP @ 2.14%
4'x4' INSIDE DIMENSION BOX

GEOSYNTHETIC CLAY LINER (GCL). GETCO BENTOMAT OR EQUIVALENT. GCL MAX. HYDRAULIC CONDUCTIVITY OF 5x10⁻⁹ CM/S. GCL TO ENVELOPE THE SAND MEDIA, WASH STONE, PERFORATED PIPE AND EXTEND TO POND SURFACE OR ELEVATION 772.0 SEAL 24" RCP PENETRATION THROUGH LINER PER MANUFACTURERS RECOMMENDATIONS.

SIDE   FRONT

BMP INSET TABLE — SAND FILTER 2

PROJECT NAME:	BROOKEDALE
SEQUENCE ID:	2
DRAINAGE AREA (AC):	5.90
LAND USE/DEVELOPMENT TYPE:	SINGLE FAMILY
PERCENT BUA:	38
SEDIMENT CHAMBER LENGTH (FT):	82
SEDIMENT CHAMBER WIDTH (FT):	24
SEDIMENT CHAMBER HEIGHT (FT):	2.0
SAND FILTER TYPE:	SURFACE
SAND FILTER SURFACE AREA (SF):	1000
MEDIA DEPTH (FT):	2.5
FLOW DEVERTER PRESENT:	NO
REGULATED BY:	PCCO
TREATMENT EFFECTIVENESS:	85% TSS REMOVAL
NC STATE PLANE X (EASTING):	1457741
NC STATE PLANE Y (NORTHING):	568455

NORTH

NOTE:
THE DRAINAGE AREA MUST BE STABILIZED BEFORE FILTERATION CONTROLS AND FILTER MEDIA ARE INSTALLED

SAND FILTER #2
1"=30'

10' RIP RAP EMERGENCY SPILLWAY INV = 775.3
28 LF 24" RCP @ 2.14%
INV 767.2
SAND FILTER MEDIA CLDS 21.24 1000 SF 50'x20'x2.5'D MEDIA GRADED LEVEL AT 772.0
RIP RAP BERM TOP OF BERM 774.0 CLDS 21.24
50 LFx2 6" PERFORATED PIPE PER CLDS 21.25
2 CONCRETE ANTI SEEP COLLARS SEE DETAIL
OUTLET STRUCTURE SEE DETAIL
FES 2B
GRANITE CREEK LN

Revisions:

Scale: As Shown   Date: 6/22/17   Drawn By: JPS   Designed By: JPS   Job No.: 0517

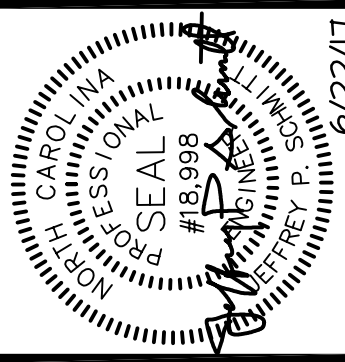**BMP Plan and Details**
BrookeDale
City of Charlotte, Mecklenburg County, North Carolina
BrookeDale LLC, 275 Thornburg Rd., Dallas, NC 28034

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of 10