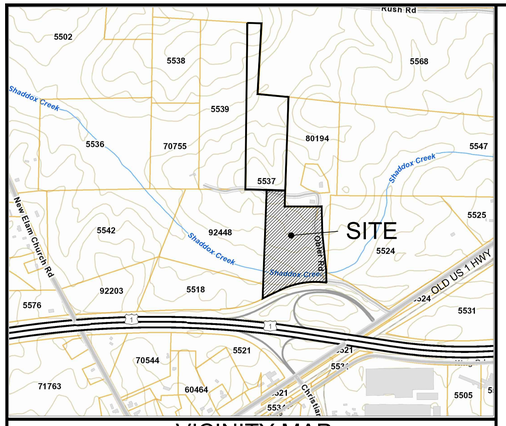

VICINITY MAP

NOT TO SCALE

CURVE	RADIUS	LENGTH	DELTA	CHORD	CH.BEARING
C-1	1132.67'	428.41'	21°40'16"	425.86'	S 86°03'56"W
C-2	1132.67'	273.52'	13°50'09"	272.85'	S 68°18'43"W

COURSE	BEARING	DISTANCE
L-1	N 02°28'59"E	9.16'
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L-4	N 81°33'07"W	61.08'
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L-6	N 02°03'51"W	179.66'
L-7	N 10°54'33"W	224.56'
L-8	N 10°25'24"W	142.90'
L-9	N 01°49'20"E	111.51'
L-10	N 09°29'23"E	138.88'
L-11	N 87°05'29"W	70.26'
L-12	N 51°03'35"W	139.21'
L-13	N 35°39'49"W	113.66'

Site Data

PIN	09699 00 81 1431
Parcel	005537
Address	Old US 1
Owner	Michael & Amanda Gress 56 Weaver Trail New Hill, NC 27562 919 429 2699
Watershed	Cape Fear – Shaddox Creek
Acreage	30.4
Zone	Light Industrial
Site Impervious	20.66%

247.41'
N89°33'32"W

N11°13'41"E
1056.40'

EXISTING DRIVE

N/F
VICTORIA L. OBLER
PLAT SLIDE 2003-46

N88°25'16"W 542.09'

N/F
VICTORIA L. OBLER
PLAT SLIDE 2003-46

N/F
WILLIAM BELL
D.B. 257 PG. 471

N2°10'54"E
1286.71'

S2°28'59"W
1886.33'

MICHAEL & AMANDA GRESS

WOODED

N/F
LESTER S. HOWARD
D.B. 542 PG. 313

OLBER ROAD (GRAVEL)

OLBER ROAD

TIE TO CENTERLINE INTERSECTION
S61°52'17"E
828.41'

EXISTING POND

SHADDOX CREEK

US HIGHWAY 1 (RAMP)
PLAT SLIDE 94-325

OLD U.S. #1 NCSR 1101
60' PUBLIC R/W

R/W
℄
R/W

276 274 272 270 270 260 250 240

GRAPHIC SCALE
60 0 30 60 120

NORTH CAROLINA PROFESSIONAL SEAL 13371 ENGINEER ALAN R. KEITH
4/20/20

EXISTING CONDITION PLAN

JOB NO. ?
DESIGN ARK
DRAWN MAT
CHECKED ARK
SCALE 1" = 60'
FILE Gress Storage.dwg
REVISIONS:

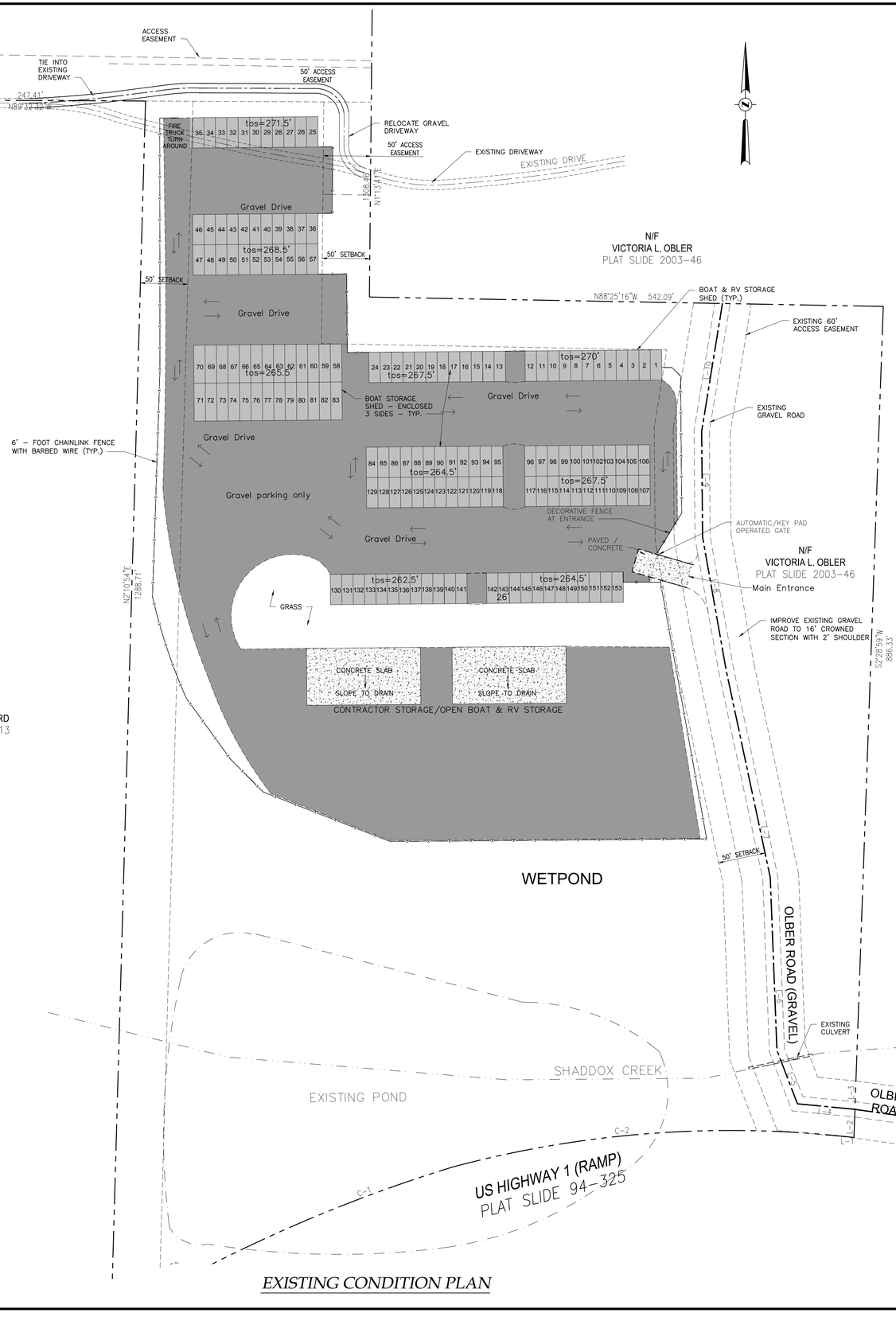
DIEHL & PHILLIPS, P.A.
CONSULTING ENGINEERS - LIC. NO. C-0465
1500 Piney Plains Rd., Suite 200
CARY, N.C. 27518 • (919) 467-9972

D&P

GRESS STORAGE
CHATHAM COUNTY, NORTH CAROLINA

EXISTING CONDITIONS

SHEET 1 OF 10



EXISTING CONDITION PLAN

General Notes:

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3. Driveway connection to Old US 1 (NCSR 1101) shall be according to NC Department of Transportation driveway permit.
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NORTH CAROLINA PROFESSIONAL SEAL 13371 ENGINEER ALAN R. KEITH
4/20/20

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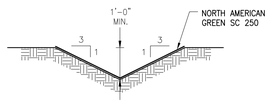
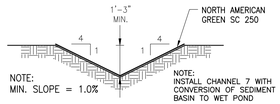
GRESS STORAGE
CHATHAM COUNTY, NORTH CAROLINA

SITE PLAN

SHEET 2 OF 10



CHANNEL 1-6
NO SCALE



CHANNEL 7
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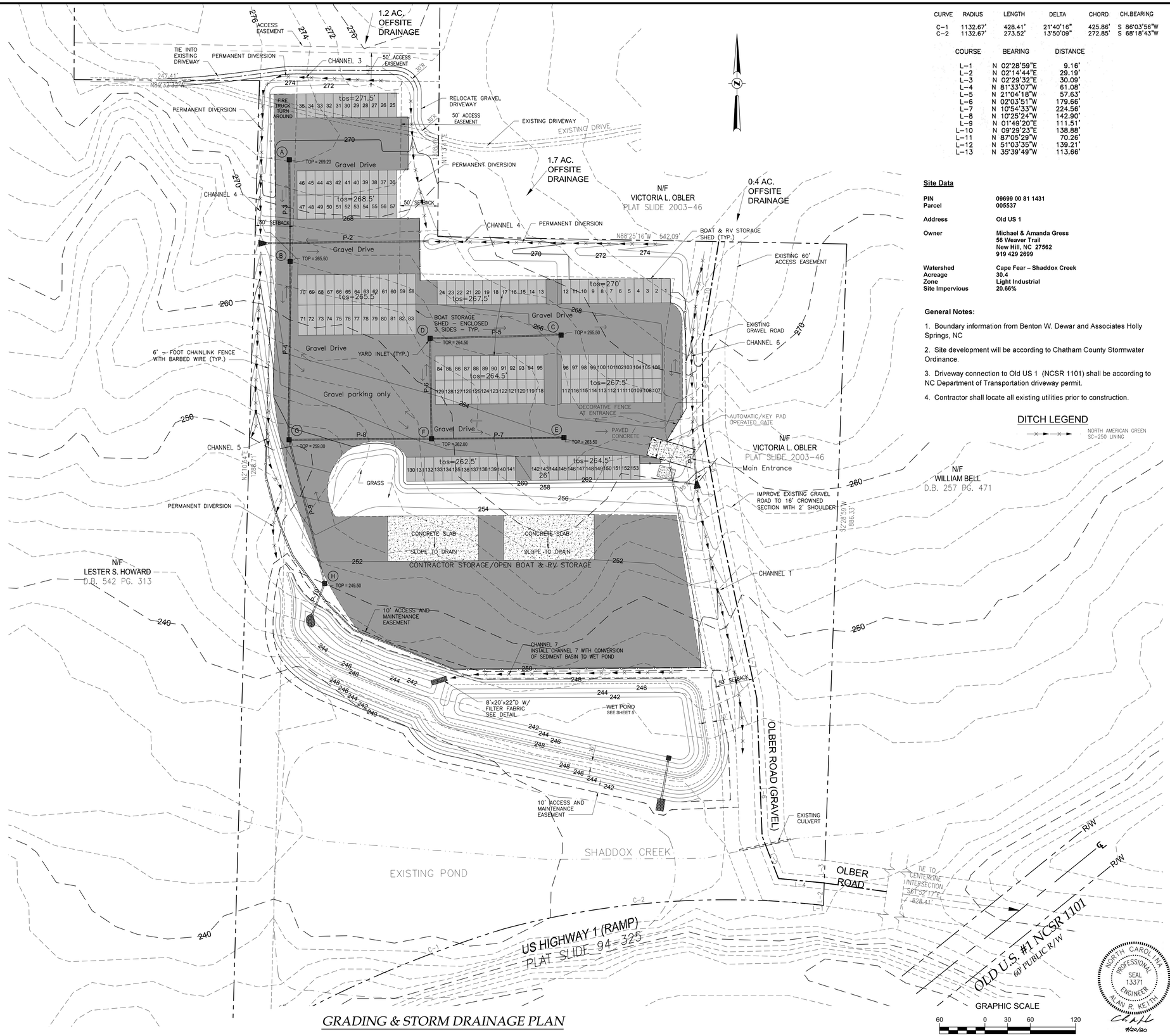

GRADING & STORM DRAINAGE PLAN

CURVE	RADIUS	LENGTH	DELTA	CHORD	CH.BEARING
C-1	1132.67'	428.41'	21°40'16"	425.86'	S 86°03'56"W
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L-13	N 35°39'49"W	113.66'

Site Data

PIN	**09699 00 81 1431**
Parcel	**005537**
Address	**Old US 1**
Owner	**Michael & Amanda Gress** **56 Weaver Trail** **New Hill, NC 27562** **919 429 2699**
Watershed	**Cape Fear – Shaddox Creek**
Acreage	**30.4**
Zone	**Light Industrial**
Site Impervious	**20.66%**

General Notes:

1. Boundary information from Benton W. Dewar and Associates Holly Springs, NC
2. Site development will be according to Chatham County Stormwater Ordinance.
3. Driveway connection to Old US 1 (NCSR 1101) shall be according to NC Department of Transportation driveway permit.
4. Contractor shall locate all existing utilities prior to construction.

DITCH LEGEND

NORTH AMERICAN GREEN SC-250 LINING

VELOCITY DISSIPATOR SCHEDULE

Pipe	V-10 Exit (Fps)	Dissipator Length (Ft)	Dissipator Width (Ft)	Dissipator Depth (In)	Class	D50 (In)
P-1	9.5	8	4	22	B	6
P-2	6.0	8	4	22	B	6
P-10	10.5	20	8	22	B	6
Pond	11.2	24	10	22	B	6

PIPE DATA

Pipe	From	To	Q-10 from Inlet (cfs)	Q-10 Total in Pipe (cfs)	Material	Diameter (Inches)	Length (Feet)	Slope (%)	Capacity (cfs)
P-1	FES	FES	2.9	2.9	RCP	15	64.00	5.47	15.1
P-2	FES	FES	6.2	6.2	RCP/HDPE	15	210.00	1.00	6.5
P-3	A	B	4.9	4.9	RCP/HDPE	15	134.65	4.60	13.9
P-4	B	C	4.9	9.8	RCP/HDPE	15	236.11	2.30	9.8
P-5	C	D	4.5	4.5	RCP/HDPE	15	173.42	0.58	4.9
P-6	D	FES	4.8	9.3	RCP/HDPE	15	133.15	2.10	9.4
P-7	E	F	4.3	4.3	RCP/HDPE	15	175.28	1.08	6.7
P-8	F	G	4.3	17.9	RCP	24	188.57	2.14	33.2
P-9	G	H	8.2	35.9	RCP	24	196.23	4.08	45.8
P-10	H	FES	1.7	37.6	RCP	30	48.00	1.25	46.0

INLET DATA

Inlet	Type	Station	Drainage Area (AC)	C	Q-10 to Inlet (Cfs)	Q-100 to Inlet (Cfs)	Invert In	Invert Out	Top
A	YI		0.58	0.91	4.0	4.9		265.70	269.20
B	YI		0.57	0.92	4.0	4.9	259.50	259.40	265.50
C	YI		0.59	0.82	3.7	4.5		262.00	265.50
D	YI		0.65	0.80	4.0	4.8	261.00	260.90	264.50
E	YI		0.50	0.92	3.5	4.3		260.00	263.50
F	YI		0.50	0.92	3.5	4.3	258.10Both	258.00	262.00
G	YI		0.97	0.91	6.7	8.2	253.97Both	252.50	259.00
H	YI		0.20	0.90	1.4	1.7	244.50	243.00	249.50
P-1	FES		0.42	0.45	1.4	1.8	261.50	258.00	
P-2	FES		1.67	0.40	5.1	6.2	264.10	262.00	

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JOB NO. ?
DESIGN ARK
DRAWN MAT
CHECKED ARK
SCALE 1" = 60'
FILE Gress Storage.dwg
REVISIONS:

GRESS STORAGE

CHATHAM COUNTY, NORTH CAROLINA

GRADING & STORM DRAINAGE PLAN

SHEET 3 OF 10

NORTH CAROLINA PROFESSIONAL SEAL 13371 ENGINEER ALAN R. KEITH
4/20/20

CONSTRUCTION SEQUENCE

1. Obtain grading permit. Schedule and hold pre-construction meeting with Chatham County Erosion and Sedimentation control inspector.
2. Install gravel entrance and all silt fence. Clear only as required for silt fence.
3. Construct sediment basin / future wet pond. Stabilize immediately.
4. Construct temporary diversion ditches. Stabilize immediately. Install clear water diversions, and temporary 12-inch HDPE under driveway at north end of site.
5. Call (919) 545-8343 for on-site inspection by an Erosion Control Officer. If approved, begin clearing and grubbing.
6. Provide all monitoring, inspection, and record keeping as required by conditions or NCG010000 Storm Water Discharge Permit. Provide copies to Chatham County Erosion Control Officer.
7. Rough grade site. Maintain devices weekly, after each rain and as needed. Stabilize pipe outlet areas before pipe construction.
8. Install storm drainage. Provide inlet protection for all inlets. Remove temporary pipe.
9. Stabilize site as areas are brought up to finish grade with vegetation, gravel, etc. 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 14 calendar days of completion of any phase of trading, be planted or otherwise provided with temporary ground cover, devices or structures sufficient to restrain erosion.
10. When construction is complete and all areas are stabilized completely, call for inspection by Erosion Control Officer.
11. If site is approved, remove temporary diversions, silt fencing, and seed out or gravel any bare areas. Remove skimmer from sediment basin only after approval from Chatham County Inspector. Stabilize these areas immediately.
12. When vegetation has become established, call for final site inspection by Erosion Control Officer.
13. Clean out sediment basin and convert to permanent wet pond. Install Channel 7. Install plantings as required.
14. Obtain Certificate of Completion.

Sediment Trap

Design Based On:	Q-25	8.28 in/hr
	Surface Area	435 cu.ft. /cfs
	Volume	3,600 cu. Ft. / DA
	Rational C	0.5 (entire drainage)

Storage Area

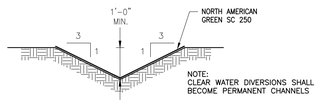
Total Drainage Area	8.3 Acres
Total Disturbed Area (DA)	8.3 Acres

Q-25 =	34.6 cfs
Surface Area Required =	15,067 sq. ft.
Volume Required =	29,880 cu. ft.

Use: Sediment Basin / Wet Pond
Surface Area at El. 244 = 19,540 in main pool
3 Depth (ft)

Surface Area Provided:	19,540 Sq. Ft.	
Volume Provided:	34,800 Cu. Ft.	at 2 ft. depth

Life = 1 year
Emergency Spillway - Use Riser Structure 20-foot weir
Height on Weir at Q-25 (no Storage) = 0.69 feet
Use 20 feet
See skimmer calculations; 4-inch skimmer w/ 3" orifice
3.19 days dewater



CLEAR WATER DIVERSION
NO SCALE

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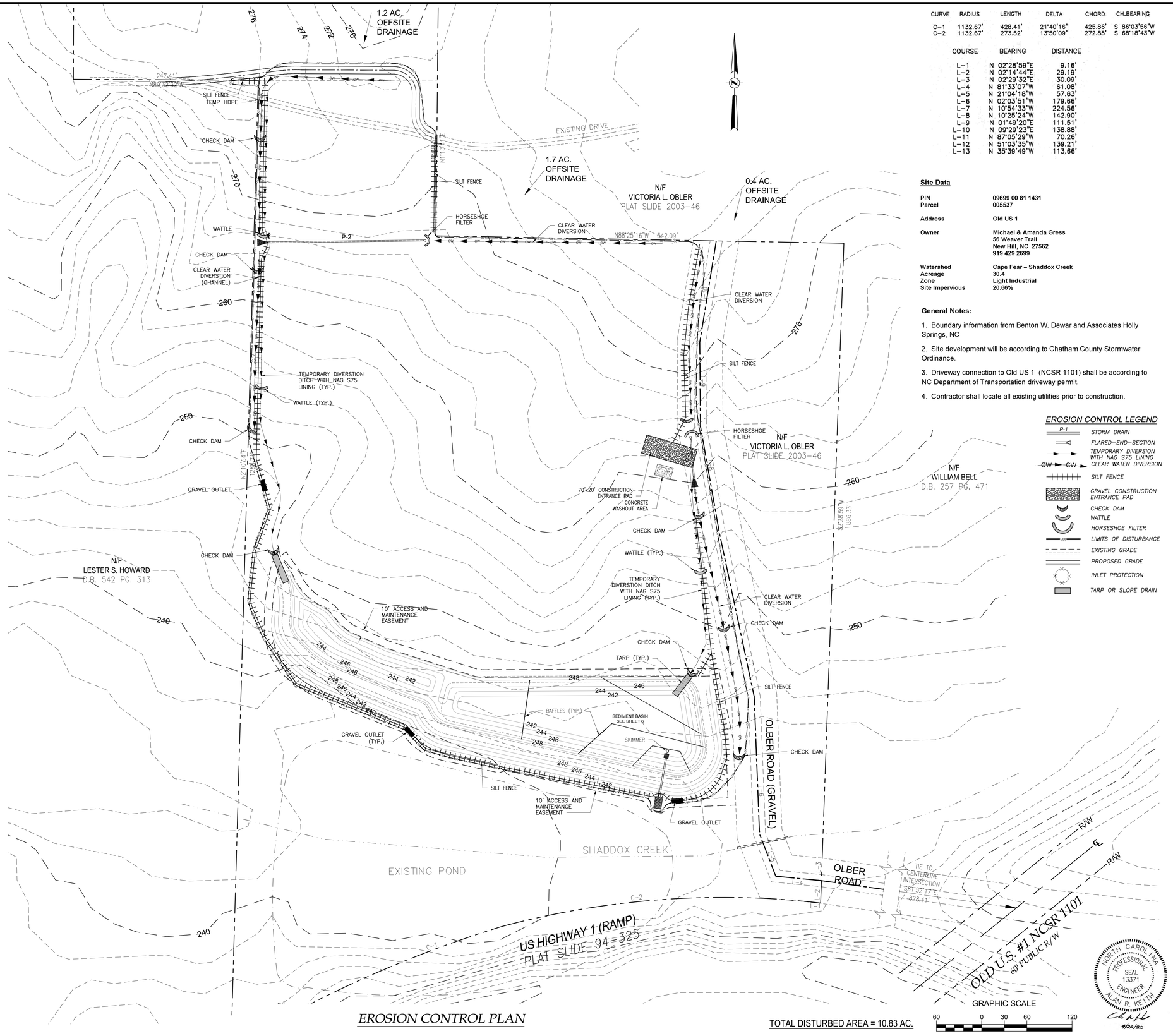

EROSION CONTROL PLAN

TOTAL DISTURBED AREA = 10.83 AC.

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EROSION CONTROL LEGEND

- P-1 — STORM DRAIN
- FLARED-END-SECTION
- TEMPORARY DIVERSION WITH NAG S75 LINING
- CW ► CW ◄ CLEAR WATER DIVERSION
- SILT FENCE
- GRAVEL CONSTRUCTION ENTRANCE PAD
- CHECK DAM
- WATTLE
- HORSESHOE FILTER
- LIMITS OF DISTURBANCE
- EXISTING GRADE
- PROPOSED GRADE
- INLET PROTECTION
- TARP OR SLOPE DRAIN

NORTH CAROLINA PROFESSIONAL SEAL 13371 ENGINEER ALAN R. KEITH
4/20/20

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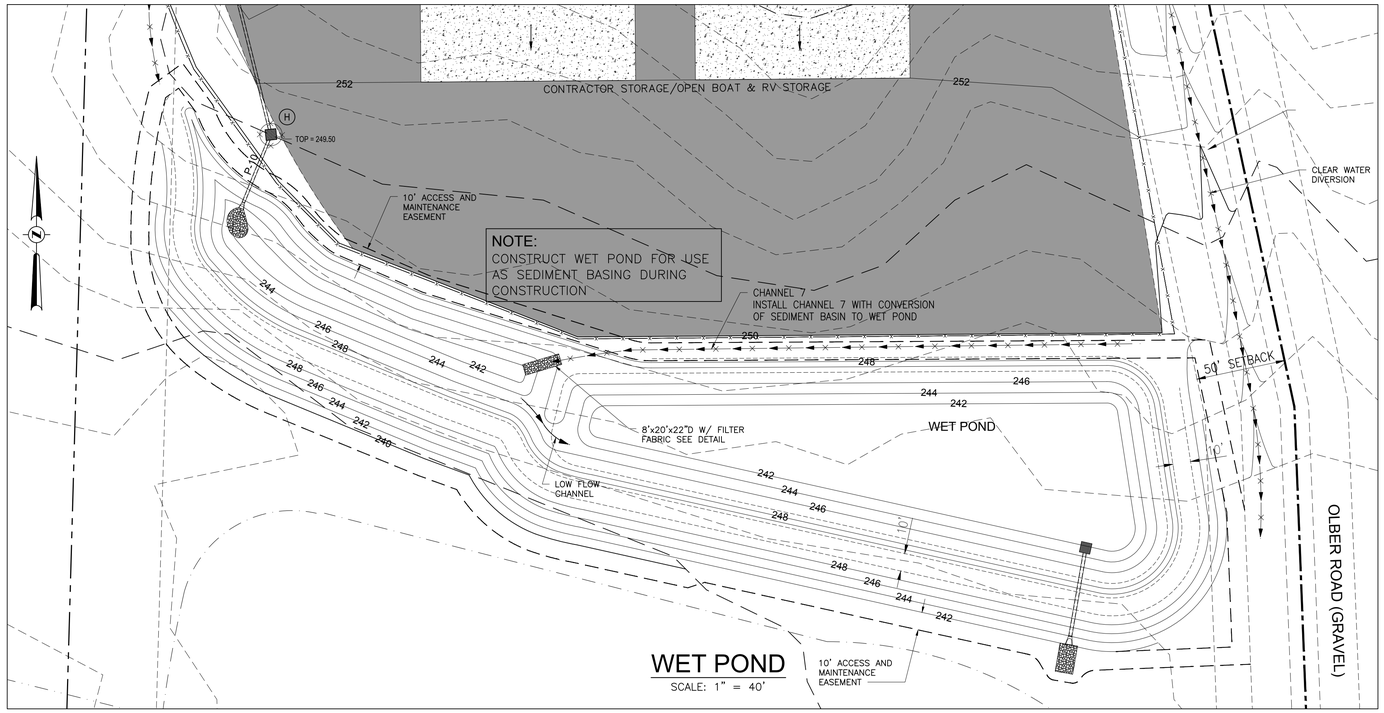
GRESS STORAGE
CHATHAM COUNTY, NORTH CAROLINA

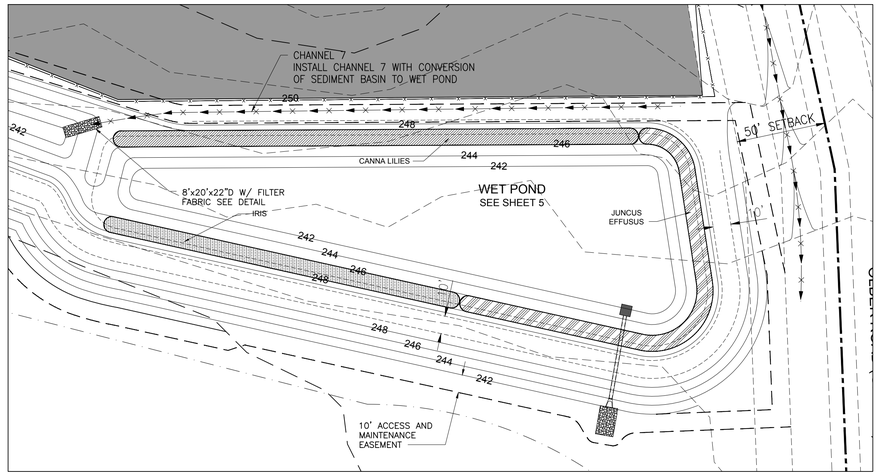
EROSION CONTROL PLAN
PHASE 1 - CLEARING & GRUBBING

SHEET 4 OF 10



WET POND

SCALE: 1" = 40'



WET POND PLANTING

SCALE: 1" = 40'

SHALLOW WATER PLANTS FOR WET POND			
QTY.	BOTANICAL NAME	COMMON NAME	SIZE
1125	ACORUS 'OGON'	GRASSY-LEAVED SWEET FLAG	2.5" POTS
1125	CAREX	SEDGES	2.5" POTS
1125	JUNCUS EFFUSUS	SOFTRUSH	2.5" POTS

NOTE:
ON ALL DAM EMBANKMENT AREAS PLANT "CREEPING RED FESCUE" AT A RATE OF 6 LBS./100 S.F.

SHELF AREA = 2,380 SQ. FT.
PLANTS REQ'D 2,380/200 x 50 = 595 EA.
PLANTS PROVIDED = 600 EA.

SCM DATA

TYPE: WET POND
LATITUDE: 35°38'48"± LONGITUDE: -79°00'19"±
DRAINAGE AREA: 2.77AC.
Q_1 = 38.5 CFS TO WET POND
Q_{10} = 57.7 CFS TO WET POND
Q_{50} = 66.9 CFS TO WET POND
WATER QUALITY VOLUME: 32,089 CU. FT. (AT ELEV. 247.37)
DRAW DOWN TIME: 48 HOURS

NORMAL POOL SURFACE AREA (EL. 246.5) = 26,200 SQ. FT. ± 4 FT. DEPTH RECEIVING STREAM SHADDOX CREEK WS-IV

STAGE-STORAGE

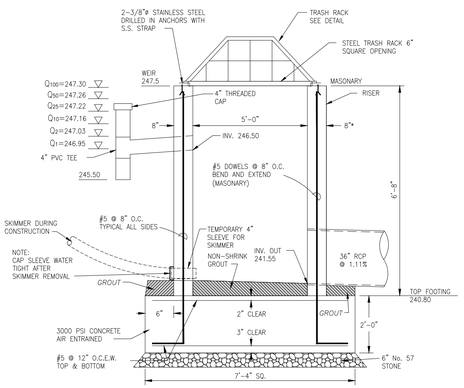
Project: Gress Storage -Wet Pond Storage Pool

Invert Elevation: 246.5

Contour	Z (Feet)	Area (Sq. Ft.)	Volume (Cu. Ft.)	Cummulative Volume (Cu. Ft.)
246.5	0	33,173		0
			17,463	
247	0.5	36,679		17,463
			39,343	
248	1.5	42,006		56,806
				56,806

The design of this stormwater management plan will control and treat the runoff from this site (the developed areas) sufficiently in compliance with the applicable standards of the Chatham County Stormwater Ordinance. The treatment devices were design in compliance with the applicable standards in the NCDENR Stormwater Design Manual.
Alan R. Keith
NC Reg. 13371
4/20/2020

NORTH CAROLINA PROFESSIONAL SEAL 13371 ENGINEER ALAN R. KEITH

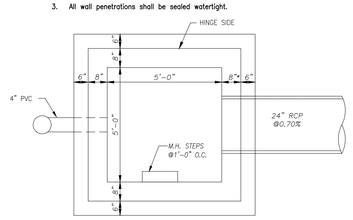


RISER STRUCTURE ELEVATION

NO SCALE

NOTES:

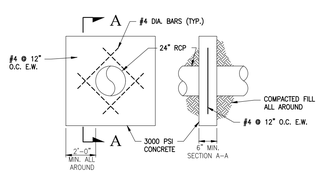
1. Riser may be precast or masonry structure. Precast riser wall thickness and reinforcing shall be per NCDOT specifications for drainage structures. Precast riser shall be anchored to base by method reviewed and approved by the Engineer. Precast riser sections shall be strapped together with ¾ x 6' steel plate drilled to accept 3/8" stainless steel anchors (2-per plate). Provide 4 straps per riser section joint.
2. Riser may be masonry (8" CMU minimum). Fill all block cores to top with mortar or 3000 psi concrete. All reinforcement shall be in compliance with ACI Code -latest edition. Provide extra heavy Durowall for each block course. Seal blocks with Thorough Seal or approved equal waterproofing material both inside and outside. Reinforcing shown is for masonry riser structure.
3. All wall penetrations shall be sealed watertight.



* PRECAST RISER WALL THICKNESS MAY VARY.

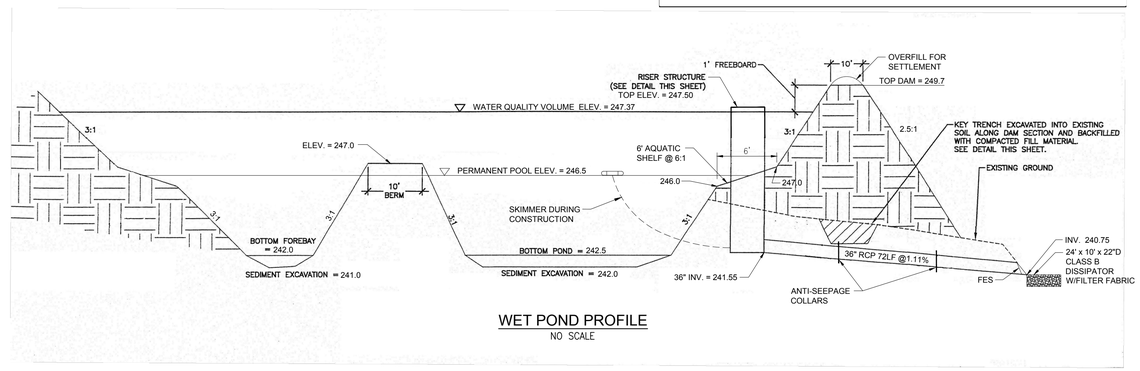
RISER STRUCTURE PLAN

NO SCALE



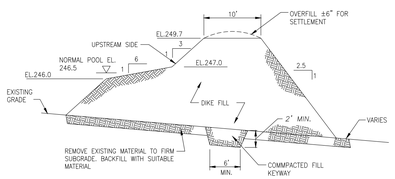
ANTI SEEPAGE COLLAR

NO SCALE



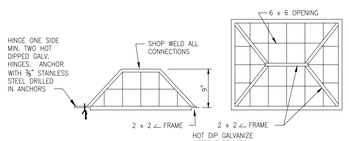
WET POND PROFILE

NO SCALE



TYPICAL DIKE FILL SECTION

NO SCALE

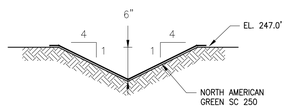


TRASH RACK DETAIL

NO SCALE

NOTE:

1. DIKE FILL MATERIAL AND PLACEMENT SHALL BE ACCORDING TO THE RECOMMENDATIONS OF THE OWNER'S GEOTECHNICAL ENGINEER. MINIMUM COMPACTION 95% AASHTO METHOD T99 (ASTM D-698) STANDARD PROCTOR.
2. NO WOODY MATERIAL SHALL BE ALLOWED ON DIKE SLOPES.
3. PRECAST RISER IS ALLOWABLE WITH ENGINEER'S APPROVAL OF SHOP DRAWING. PROVIDE BUOYANCY ANCHOR.



LOW FLOW CHANNEL

NO SCALE

GRAPHIC SCALE

40 0 20 40 80

NORTH CAROLINA PROFESSIONAL SEAL 13371 ENGINEER ALAN R. KEITH
4/20/20

JOB NO. ?
DESIGN ARK
DRAWN MAT
CHECKED ARK
SCALE 1" = 60'
FILE Gress Storage.dwg
REVISIONS:

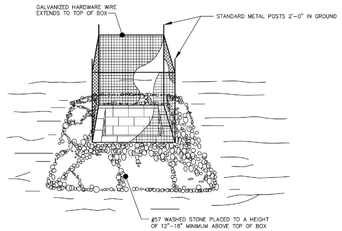
DIEHL & PHILLIPS, P.A.
CONSULTING ENGINEERS - LIC. NO. C-0465
1500 Piney Plains Rd., Suite 200
CARY, N.C. 27518 • (919) 467-9972

D&P

GRESS STORAGE
CHATHAM COUNTY, NORTH CAROLINA

WET DETENTION POND

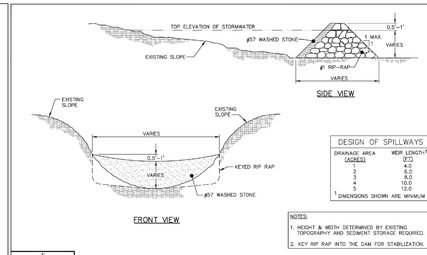
SHEET 6 OF 10



CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD CATCH BASIN/YARD INLET PROTECTION

DETAIL NUMBER 2018-001 — SHEET 1 of 1



DESIGN OF SPILLWAYS

DRAINAGE AREA (ACRES)	WEIR LENGTH[1] (FT)
1	4.0
3	6.0
4	8.0
5	10.0
	12.0

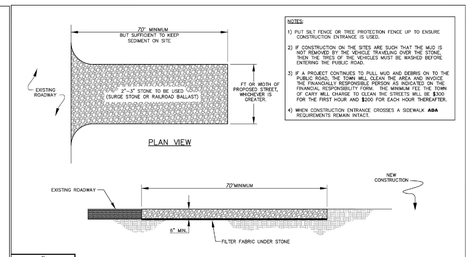
[1] DIMENSIONS SHOWN ARE MINIMUM

NOTES:
1. HEIGHT & WIDTH DETERMINED BY EXISTING TOPOGRAPHY AND SEDIMENT STORAGE REQUIRED.
2. KEY RIP RAP INTO THE DAM FOR STABILIZATION.

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD ROCK CHECK DAM

DETAIL NUMBER 2018-002 — SHEET 1 of 1

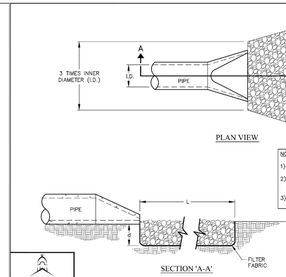


NOTES
1) PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.
2) IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.
3) IF A PROJECT CONTINUES TO PULL MUD AND DEBRIS ON TO THE PUBLIC ROAD, THE TOWN WILL CLEAN THE AREA AND INVOICE THE CONTRACTOR OR DEVELOPER FOR THE COST. PER THE FINANCIAL RESPONSIBILITY FORM, THE MINIMUM FEE THE TOWN OF CARY WILL CHARGE TO CLEAN THE STREETS WILL BE $300 FOR THE FIRST HOUR AND $200 FOR EACH HOUR THEREAFTER.
4) WHEN CONSTRUCTION ENTRANCE CROSSES A SIDEWALK **ADA** REQUIREMENTS REMAIN INTACT.

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD GRAVEL CONSTRUCTION ENTRANCE

DETAIL NUMBER 2018-003 — SHEET 1 of 1

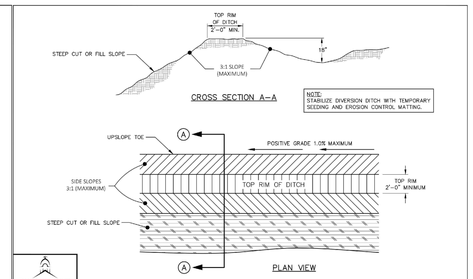


NOTES:
1) L = THE LENGTH OF THE RIPRAP APRON.
2) d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (inches).
3) A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD PIPE OUTLET (NO DEFINED CHANNEL)

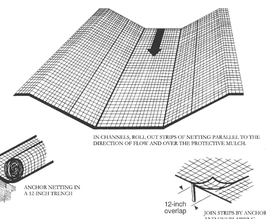
DETAIL NUMBER 2018-004 — SHEET 1 of 1



CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD TEMPORARY DIVERSION DITCH

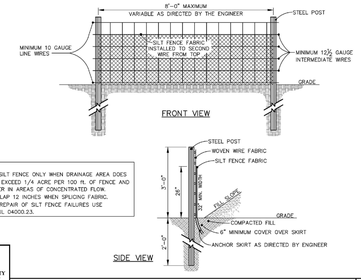
DETAIL NUMBER 2018-009 — SHEET 1 of 1



CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD MATTING INSTALLATION

DETAIL NUMBER 2018-009 — SHEET 1 of 1

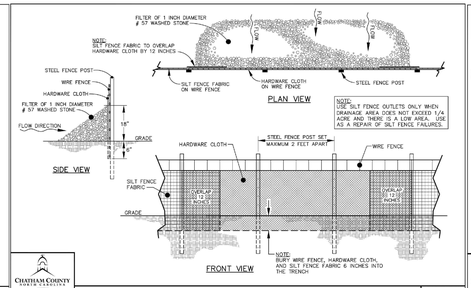


NOTES:
1) USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE PER 100 FL OF FENCE AND NEVER IN AREAS OF CONCENTRATED FLOW.
2) OVERLAP 12 INCHES WHEN SPLICING FABRIC.
3) FOR REPAIR OF SILT FENCE FAILURES USE DETAIL 04000 2.3.

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD SILT FENCE

DETAIL NUMBER 2018-011 — SHEET 1 of 1



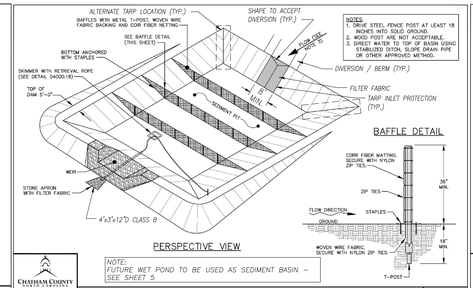
NOTE:
USE SILT FENCE OUTLETS ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND THERE IS A LOW AREA. USE AS A REPAIR OF SILT FENCE FAILURES.

NOTE:
BURY WIRE FENCE, HARDWARE CLOTH, AND SILT FENCE FABRIC 6 INCHES INTO THE TRENCH

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD SILT FENCE OUTLET

DETAIL NUMBER 2018-014 — SHEET 1 of 1



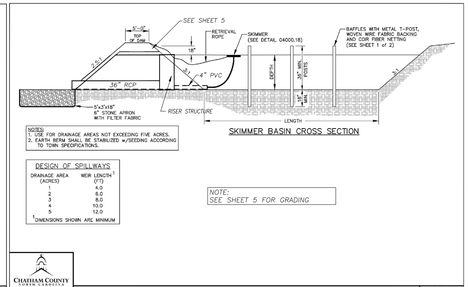
NOTES:
1. DRIVE STEEL FENCE POST AT LEAST 18 INCHES INTO SOLID GROUND.
2. WOOD POST ARE NOT ACCEPTABLE.
3. DIRECT WATER TO TOP OF BASIN USING STABILIZED DITCH, SLOPE DRAIN PIPE OR OTHER APPROVED METHOD.

NOTE:
FUTURE WET POND TO BE USED AS SEDIMENT BASIN – SEE SHEET 5

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD SKIMMER BASIN

DETAIL NUMBER 2018-015 — SHEET 1 of 3



NOTES:
1. USE FOR DRAINAGE AREAS NOT EXCEEDING FIVE ACRES.
2. EARTH BERM SHALL BE STABILIZED w/SEEDING ACCORDING TO TOWN SPECIFICATIONS.

DESIGN OF SPILLWAYS

DRAINAGE AREA (ACRES)	WEIR LENGTH[1] (FT)
1	4.0
3	6.0
4	8.0
5	10.0
	12.0

[1] DIMENSIONS SHOWN ARE MINIMUM

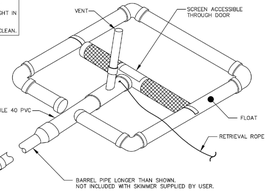
NOTE:
SEE SHEET 5 FOR GRADING

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD SKIMMER BASIN

DETAIL NUMBER 2018-016 — SHEET 2 of 3

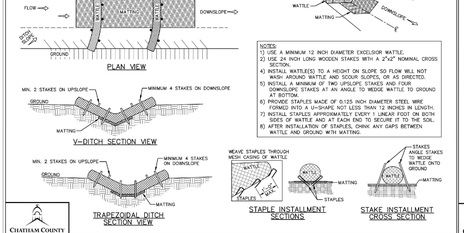
NOTES:
1. SKIMMER IS TO BE A SURFACE DEWATERING DEVICE SUCH AS BMP SKIMMER OR APPROVED DEVICE.
2. SKIMMER SHOULD RISE TO LEVEL OF WEIR HEIGHT IN TEMPORARY BASIN OR TO RISER INLET.
3. ROPE ATTACHED TO SKIMMER TO HELP KEEP CLEAN.



CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD SKIMMER BASIN SKIMMER

DETAIL NUMBER 2018-017 — SHEET 3 of 3



NOTES:
1) USE A MINIMUM 12 INCH DIAMETER EXCELSIOR WATTLE.
2) USE 24 INCH LONG WOODEN STAKES WITH A 2"x2" NOMINAL CROSS SECTION.
4) INSTALL WATTLE(S) TO A HEIGHT ON SLOPE SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR SLOPES, OR AS DIRECTED.
5) INSTALL A MINIMUM OF TWO UPSLOPE STAKES AND FOUR DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND AT BOTTOM.
6) PROVIDE STAPLES MADE OF 0.125 INCH DIAMETER STEEL WIRE FORMED INTO A U-SHAPE NOT LESS THAN 12 INCHES IN LENGTH.
7) INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
8) AFTER INSTALLATION OF STAPLES, CHINK ANY GAPS BETWEEN WATTLE AND GROUND WITH MATTING.

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD WATTLE

DETAIL NUMBER 2018-018 — SHEET 1 of 1

Species	Rate (lb/acre)	Dates
Rye (grain)	120	January 1 - May 1
Annual lespedeza (Kobe)	50	
German millet	40	May 1 - August 15
Rye (grain)	120	August 15 - December 31

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 dist with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

TEMPORARY SEEDING/MULCHING SPECIFICATIONS

DETAIL NUMBER 2018-020 — SHEET 1 of 1

ALL DISTURBED AREAS			
March 1 - August 31		**September 10 - February 28**	
50#	Tall Fescue	50#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

WASTE AND BORROW AREAS			
March 1 - August 31		**September 10 - February 28**	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	25#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon request.

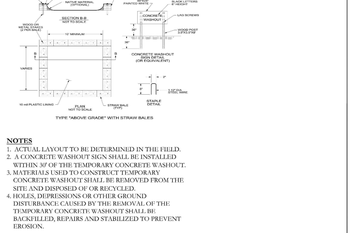
On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 lb/acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

PERMANENT SEEDING/MULCHING SPECIFICATIONS

DETAIL NUMBER 2018-021 — SHEET 1 of 1

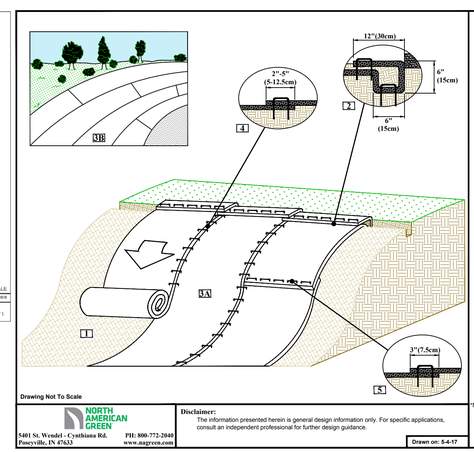


NOTES
1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 50' OF THE TEMPORARY CONCRETE WASHOUT.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT SHALL BE BACKFILLED, REPAIRS AND STABILIZED TO PREVENT EROSION.

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

STANDARD CONCRETE/PAINT WASHOUT

DETAIL NUMBER 2018-022 — SHEET 1 of 1



NOTES:
1. USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.
2. PROVIDE STABILIZED OUTLET TO STREAM BANK.
3. WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED. A SUITABLE MINIMUM OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE SPECIAL STILLING BASIN ABOVE THE TURN GROUND.
4. THE SIZE AND NUMBER OF SILT BAGS SHOULD BE BASED ON THE DEWATERING PUMP AND MANUFACTURER RECOMMENDATIONS.
5. TIGHTLY SECURE THE PUMP DISCHARGE TO THE SILT BAG SLEEVE WITH A STRAP OR SIMILAR DEVICE TO PREVENT WATERS/SEDIMENT FROM LEAKING WITHOUT TREATMENT.
6. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE SILT BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITHIN SEDIMENT, REDUCE THE PUMP RATE.
7. REPLACE THE SILT BAG WHEN ONE-HALF (1/2) FULL OF SEDIMENT.
8. SILT BAG DEVICE MUST BE LAYFF FROM THE TOP OF THE STREAM BANK AND WATER MUST BE DISCHARGED IN A DIFFUSE MANNER.

NOT TO SCALE

CHATHAM COUNTY SOIL & WATER CONSERVATION — WATERSHED PROTECTION DEPARTMENT

SILT BAG

DETAIL NUMBER 2018-028 — SHEET 1 of 1

SLOPE INSTALLATION DETAIL

1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
2. Begin at the top of the slope by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12" (30cm) of RECPs extended beyond the up-slope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12" (30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12"(30cm) apart across the width of the RECPs.
3. Roll the RECPs (A) down or (B) horizontally across the slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. The edges of parallel RECPs must be stapled with approximately 2" - 5" (5-12.5cm) overlap depending on the RECPs type.
5. Consecutive RECPs spliced down the slope must be end over end (Shingle style) with an approximate 3'(7.5cm) overlap. Staple through overlapped area, approximately 12"(30cm) apart across entire RECPs width.

NOTE:
In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECPs.

Drawing Not To Scale

NORTH AMERICAN GREEN
5401 St. Wendel - Cynthiana Rd.
Poseyville, IN 47633
PH: 800-772-2040
www.nagreen.com

Disclaimer:
The information presented herein is general design information only. For specific applications, consult an independent professional for further design guidance.

Drawn on: 5-4-17

DIEHL & PHILLIPS, P.A.
CONSULTING ENGINEERS - LIC. NO. C-0465
1500 Piney Plains Rd., Suite 200
CARY, N.C. 27518 • (919) 467-9972

JOB NO. ?
DESIGN ARK
DRAWN MAT
CHECKED ARK
SCALE 1" = 60'
FILE Gress Storage.dwg
REVISIONS:

D&P

GRESS STORAGE

CHATHAM COUNTY, NORTH CAROLINA

EROSION CONTROL DETAILS

SHEET 7 OF 10

NORTH CAROLINA PROFESSIONAL SEAL 13371 ENGINEER ALAN R. KEITH
4/20/20

CONSTRUCTION SEQUENCE

1. Obtain grading permit. Schedule and hold pre-construction meeting with Chatham County Erosion and Sedimentation control inspector.
2. Install gravel entrance and all silt fence. Clear only as required for silt fence.
3. Construct sediment basin / future wet pond. Stabilize immediately.
4. Construct temporary diversion ditches. Stabilize immediately. Install clear water diversions, and temporary 12-inch HDPE under driveway at north end of site.
5. Call (919) 545-8343 for on-site inspection by an Erosion Control Officer. If approved, begin clearing and grubbing.
6. Provide all monitoring, inspection, and record keeping as required by conditions or NCG010000 Storm Water Discharge Permit. Provide copies to Chatham County Erosion Control Officer.
7. Rough grade site. Maintain devices weekly, after each rain and as needed. Stabilize pipe outlet areas before pipe construction.
8. Install storm drainage. Provide inlet protection for all inlets. Remove temporary pipe.
9. Stabilize site as areas are brought up to finish grade with vegetation, gravel, etc. 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 14 calendar days of completion of any phase of trading, be planted or otherwise provided with temporary ground cover, devices or structures sufficient to restrain erosion.
10. When construction is complete and all areas are stabilized completely, call for inspection by Erosion Control Officer.
11. If site is approved, remove temporary diversions, silt fencing, and seed out or gravel any bare areas. Remove skimmer from sediment basin only after approval from Chatham County Inspector. Stabilize these areas immediately.
12. When vegetation has become established, call for final site inspection by Erosion Control Officer.
13. Clean out sediment basin and convert to permanent wet pond. Install Channel 7. Install plantings as required.
14. Obtain Certificate of Completion.

Sediment Trap

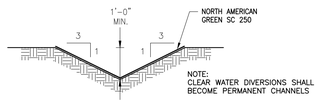
Design Based On: Q-25 8.28 in/hr
Surface Area 435 cu.ft. /cfs
Volume 3,600 cu. Ft. / DA
Rational C 0.5 (entire drainage)

Storage Area
Total Drainage Area 8.3 Acres
Total Disturbed Area (DA) 8.3 Acres

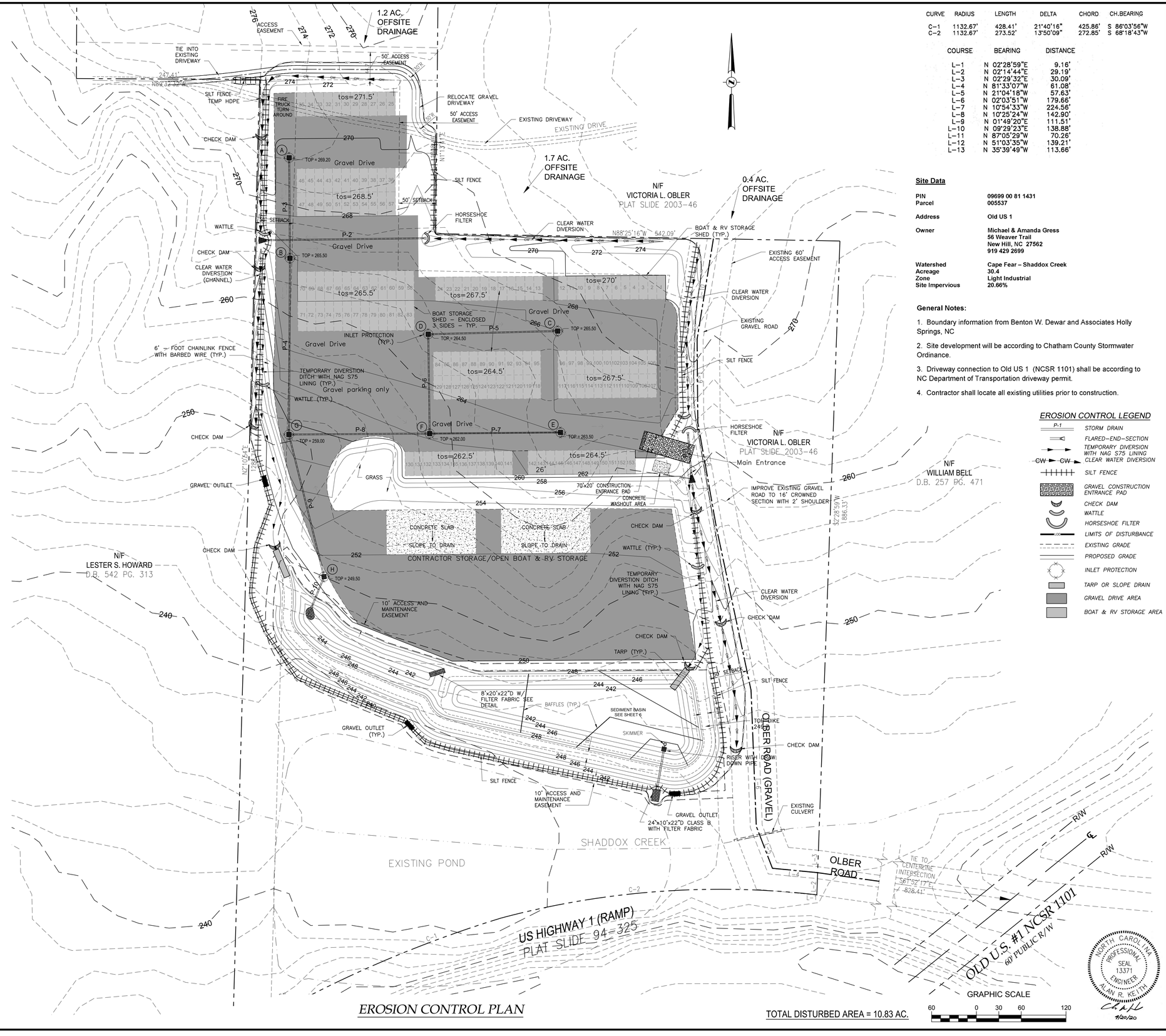
Q-25 = 34.6 cfs
Surface Area Required = 15,067 sq. ft.
Volume Required = 29,880 cu. ft.

Use: Sediment Basin / Wet Pond
Surface Area at El. 244 = 19,540 in main pool
3 Depth (ft)
Surface Area Provided: 19,540 Sq. Ft.
Volume Provided: 34,800 Cu. Ft. at 2 ft. depth

Life = 1 year
Emergency Spillway - Use Riser Structure 20-foot weir
Height on Weir at Q-25 (no Storage) = 0.69 feet
Use 20 feet
See skimmer calculations; 4-inch skimmer w/ 3" orifice
3.19 days dewater



CLEAR WATER DIVERSION
NO SCALE



CURVE	RADIUS	LENGTH	DELTA	CHORD	CH.BEARING
C-1	1132.67'	428.41'	21°40'16"	425.86'	S 86°03'56"W
C-2	1132.67'	273.52'	13°50'09"	272.85'	S 68°18'43"W

COURSE	BEARING	DISTANCE
L-1	N 02°28'59"E	9.16'
L-2	N 02°14'44"E	29.19'
L-3	N 02°29'32"E	30.09'
L-4	N 81°33'07"W	61.08'
L-5	N 21°04'18"W	57.63'
L-6	N 02°03'51"W	179.66'
L-7	N 10°54'33"W	224.56'
L-8	N 10°25'24"W	142.90'
L-9	N 01°49'20"E	111.51'
L-10	N 09°29'23"E	138.88'
L-11	N 87°05'29"W	70.26'
L-12	N 51°03'35"W	139.21'
L-13	N 35°39'49"W	113.66'

Site Data

PIN	09699 00 81 1431
Parcel	005537
Address	Old US 1
Owner	Michael & Amanda Gress 56 Weaver Trail New Hill, NC 27562 919 429 2699
Watershed	Cape Fear – Shaddox Creek
Acreage	30.4
Zone	Light Industrial
Site Impervious	20.66%

General Notes:

1. Boundary information from Benton W. Dewar and Associates Holly Springs, NC
2. Site development will be according to Chatham County Stormwater Ordinance.
3. Driveway connection to Old US 1 (NCSR 1101) shall be according to NC Department of Transportation driveway permit.
4. Contractor shall locate all existing utilities prior to construction.

EROSION CONTROL LEGEND

- P-1 — STORM DRAIN
- FLARED-END-SECTION
- TEMPORARY DIVERSION WITH NAG S75 LINING
- CW ► CW ◄ CLEAR WATER DIVERSION
- SILT FENCE
- GRAVEL CONSTRUCTION ENTRANCE PAD
- CHECK DAM
- WATTLE
- HORSESHOE FILTER
- LOD — LIMITS OF DISTURBANCE
- EXISTING GRADE
- PROPOSED GRADE
- INLET PROTECTION
- TARP OR SLOPE DRAIN
- GRAVEL DRIVE AREA
- BOAT & RV STORAGE AREA

VELOCITY DISSIPATOR SCHEDULE						
Pipe	V-10 Exit (Fps)	Dissipator Length (Ft)	Dissipator Width (Ft)	Dissipator Depth (In)	Class	D50 (In)
P-1	9.5	8	4	22	B	6
P-2	6.0	8	4	22	B	6
P-10	10.5	20	8	22	B	6
Pond	11.2	24	10	22	B	6

PIPE DATA								
Pipe	From	To	Q-10 from Inlet (cfs)	Q-10 Total in Pipe (cfs)	Material	Diameter (Inches)	Length (Feet)	Slope (%)	Capacity (cfs)
P-1	FES	FES	2.9	2.9	RCP	15	64.00	5.47	15.1
P-2	FES	FES	6.2	6.2	RCP/HDPE	15	210.00	1.00	6.5
P-3	A	B	4.9	4.9	RCP/HDPE	15	134.65	4.60	13.9
P-4	B	C	4.9	9.8	RCP/HDPE	15	236.11	2.30	9.8
P-5	C	D	4.5	4.5	RCP/HDPE	15	173.42	0.58	4.9
P-6	D	FES	4.8	9.3	RCP/HDPE	15	133.15	2.10	9.4
P-7	E	F	4.3	4.3	RCP/HDPE	15	175.28	1.08	6.7
P-8	F	G	4.3	17.9	RCP	24	188.57	2.14	33.2
P-9	G	H	8.2	35.9	RCP	24	196.23	4.08	45.8
P-10	H	FES	1.7	37.6	RCP	30	48.00	1.25	46.0

INLET DATA								
Inlet	Type	Station	Drainage Area (AC)	C	Q-10 to Inlet (Cfs)	Q-100 to Inlet (Cfs)	Invert In	Invert Out	Top
A	YI		0.58	0.91	4.0	4.9		265.70	269.20
B	YI		0.57	0.92	4.0	4.9	259.50	259.40	265.50
C	YI		0.59	0.82	3.7	4.5		262.00	265.50
D	YI		0.65	0.80	4.0	4.8	261.00	260.90	264.50
E	YI		0.50	0.92	3.5	4.3		260.00	263.50
F	YI		0.50	0.92	3.5	4.3	258.10Both	258.00	262.00
G	YI		0.97	0.91	6.7	8.2	253.97Both	252.50	259.00
H	YI		0.20	0.90	1.4	1.7	244.50	243.00	249.50
P-1	FES		0.42	0.45	1.4	1.8	261.50	258.00	
P-2	FES		1.67	0.40	5.1	6.2	264.10	262.00	

EROSION CONTROL PLAN

TOTAL DISTURBED AREA = 10.83 AC.

GRAPHIC SCALE
60 0 30 60 120

NORTH CAROLINA PROFESSIONAL SEAL 13371 ENGINEER ALAN B. KEITH
4/20/20

JOB NO. ?
DESIGN ARK
DRAWN MAT
CHECKED ARK
SCALE 1" = 60'
FILE Gress Storage.dwg
REVISIONS:

DIEHL & PHILLIPS, P.A.
CONSULTING ENGINEERS - LIC. NO. C-0465
1500 Piney Plains Rd., Suite 200
CARY, N.C. 27518 • (919) 467-9972

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GRESS STORAGE
CHATHAM COUNTY, NORTH CAROLINA

EROSION CONTROL PLAN
PHASE 2

SHEET 5 OF 10

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	**Stabilize within this many calendar days after ceasing land disturbance**	**Timeframe variations**
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

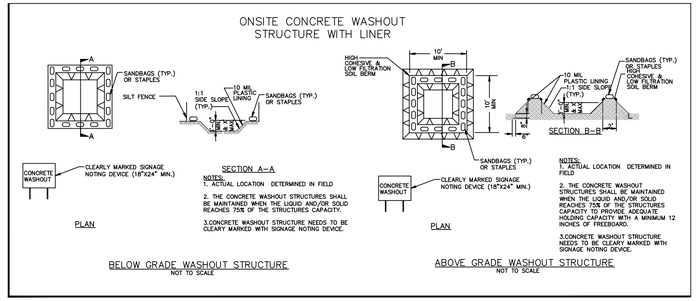
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

JOB NO. ?
DESIGN ARK
DRAWN MAT
CHECKED ARK
SCALE None
FILE Gress Storage.dwg
REVISIONS:

DIEHL & PHILLIPS, P.A.
CONSULTING ENGINEERS - LIC. NO. C-0465
1500 Piney Plains Rd., Suite 200
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GRESS STORAGE
CHATHAM COUNTY, NORTH CAROLINA

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

SHEET 8 OF 10

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site

and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This general permit as well as the certificate of coverage, after it is received.

(b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

(c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:

- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(b) Anticipated bypasses and unanticipated bypasses.

(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

JOB NO. ?
DESIGN ARK
DRAWN MAT
CHECKED ARK
SCALE None
FILE Gress Storage.dwg
REVISIONS:

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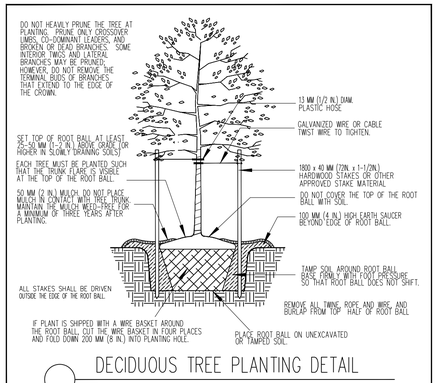
GRESS STORAGE
CHATHAM COUNTY, NORTH CAROLINA

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

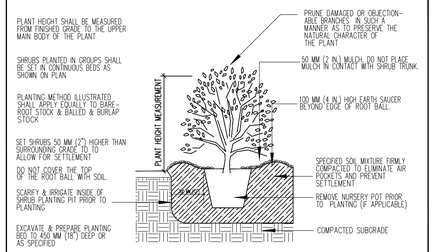
PROPOSED NEW SCREENING PLANTING & SHALLOW WATER PLANTS FOR WET POND

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	CAL.	HGT.	ROOT
TREES						
	10	QUERCUS 'ALBA'	WHITE OAK		8-10'	
	6	ACER RUBRUM	RED MAPLE		8-10'	
	34	LIEX 'NELLIA R. STEVENS'	HOLLY 'NELLIA R. STEVENS'		4-6'	
	86	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR		4-6'	
	12	ARBORVITAE 'GREEN GIANT'	ARBORVITAE 'GREEN GIANT'		4-6'	
		EXISTING PRESERVED VEGETATION	EXISTING PRESERVED VEGETATION			
SHRUBS						
	132	MORELLA CERIFERA	SOUTHERN WAXMYRTLE		24"	3 GAL.
	39	LOROPETALUM CHINENSIS 'RUBY'	CHINESE FRINGE FLOWER (EVERGREEN SHRUB 6' TALL)		18-24"	3 GAL.
	13	CHAMAECYPARIS 'GOLD MOP'	CYPRESS 'GOLD MOP'		18-24"	3 GAL.
	12	GARDENIA JASMINOIDES	GARDENIA		18-24"	3 GAL.
SHALLOW WATER PLANTS FOR WET POND						
	1125	Acorus 'Ogon'				2.5" POTS
	1125	Carex				2.5" POTS
	1125	JUNCUS EFFUSUS				2.5" POTS



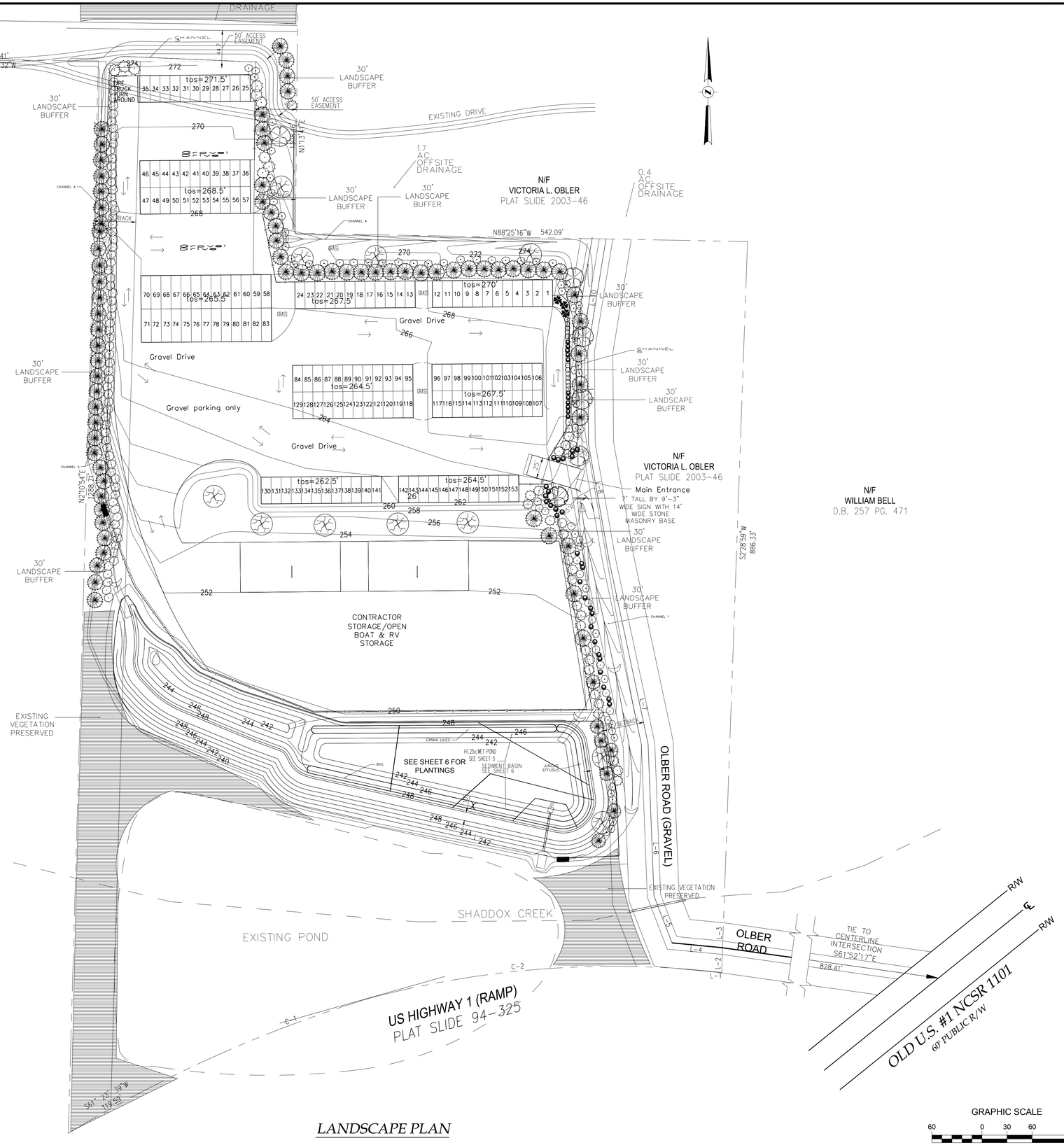
DECIDUOUS TREE PLANTING DETAIL

TYPICAL INSTALLATION – 3" (75MM) CALIPER OR LESS



SHRUB PLANTING DETAIL

TYPICAL INSTALLATION



LANDSCAPE PLAN

GRAPHIC SCALE

60 0 30 60 120

NOTE:
LANDSCAPE PLAN
BY MICHAEL GRESS

JOB NO. ?
DESIGN ARK
DRAWN MAT
CHECKED ARK
SCALE 1" = 60'
FILE Gress Storage.dwg
REVISIONS:

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GRESS STORAGE
CHATHAM COUNTY, NORTH CAROLINA

LANDSCAPE PLAN

SHEET 10 OF 10