VILLAGE WEST

EMERALD ISLE, CARTERET COUNTY, NORTH CAROLINA

CLIENT:

A-TEAM VILLAGE WEST, LLC
125 HORTON DRIVE
MOREHEAD CITY, NC 28557
252-241-9568

ENGINEER:

THE CULLIPHER GROUP, P.A.
ENGINEERING & SURVEYING SERVICES
151-A HIGHWAY 24
MOREHEAD CITY, NC 28557
252-773-0090 LICENSE NO. C-4482

RONALD D. CULLIPHER, P.E. 4/18/19 DATE

NORTH CAROLINA PROFESSIONAL SEAL 13343 ENGINEER RONALD D. CULLIPHER

INDEX OF DRAWINGS

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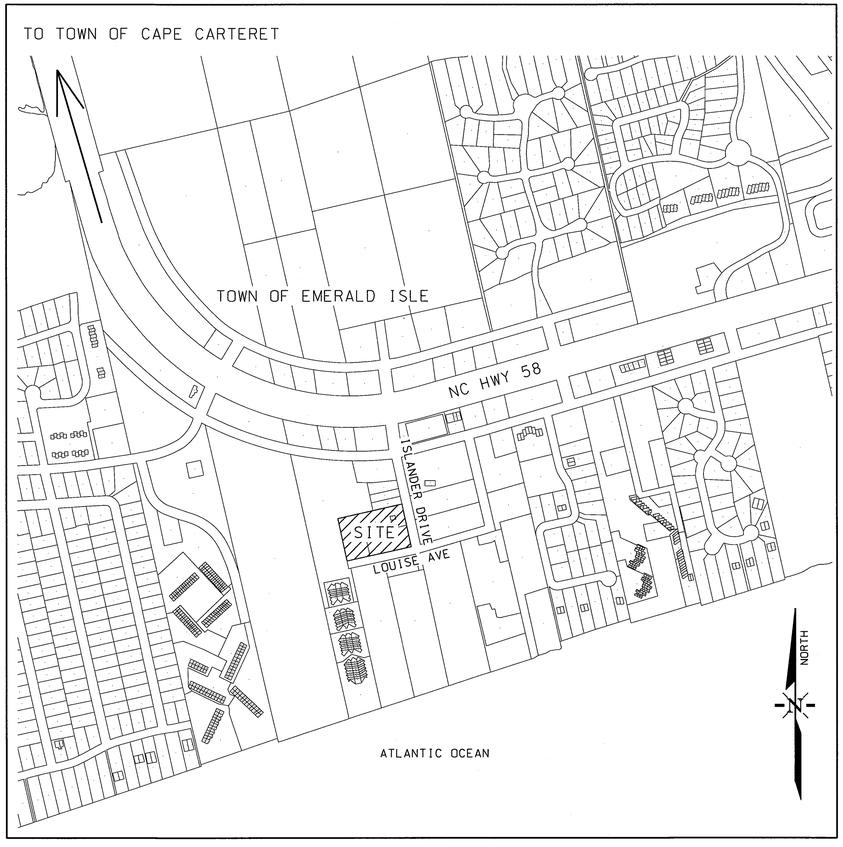

VICINITY MAP
SCALE:NOT TO SCALE

SHEET COVER SHEET
PROJECT #:PM636-87
DESIGN FILE #:PM636-87 CONSTRUCTION.DGN

SITE DATA

TOTAL TRACT AREA = 114,720.16 SF (2.63 ACRES)

EXISTING BUA FOR REDEVELOPMENT

TRACT 1 = 57,587 SF (PROVIDED BY THE TOWN)
TRACT 2 = 5,252 SF

TOTAL = 62,839 SF

RIGHT OF WAY

AREA = 35,827.13 SF

EXISTING BUA FOR PRE-POST DEVELOPMENT

TOTAL = 17,216 SF

LEGEND

AC	-	ACRE
BLDG	-	BUILDING
BRG	-	BEARING
CF	-	CUBIC FEET
CL	-	CENTERLINE
EL	-	ELEVATION
EIR	-	EX. IRON ROD
EOP	-	EDGE OF PAVEMENT
EX	-	EXISTING
FE	-	FINISHED ELEVATION
FF	-	FINISHED FLOOR
FT	-	FEET
GV	-	GATE VALVE
INV	-	INVERT
LF	-	LINEAR FEET
MAX	-	MAXIMUM
MBL	-	MINIMUM BUILDING LINE
MIN	-	MINIMUM
N/F	-	NOW OR FORMERLY
NTS	-	NOT TO SCALE
O.C.	-	ON CENTER
R	-	RADIUS
R/W	-	RIGHT-OF-WAY
SH	-	SHEET
SIR	-	SET IRON ROD
STA	-	STATION
TC	-	TOP OF CURB
TF	-	TOP OF FIELD
TP	-	TOP OF POOL
TSW	-	TOP OF SIDEWALK
TYP		TYPICAL

EXISTING WATERLINE
PROPOSED WATERLINE
EXISTING CONTOUR
PROPOSED CONTOUR
LAND DISTURBANCE LIMITS
SILT FENCE
OW OBSERVATION WELL
PERVIOUS PAVEMENT
CONCRETE
VEGETATED AREA

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(OR 1-800-632-4949)
IT'S THE LAW!

REVISIONS:

No.	BY	DATE	DESCRIPTION

EXISTING CONDITIONS/DEMOLITION PLAN

VILLAGE WEST

EMERALD ISLE, CARTERET COUNTY, NORTH CAROLINA

CLIENT: A-TEAM ENTERPRISES

ADDRESS: 125 HORTON DRIVE
MOREHEAD CITY, NC 28557

PHONE: 252-241-9568

DESIGNED: RDC/GYT
DRAWN: RDC/GYT
CHECKED: RDC/GYT
APPROVED: RDC
DATE: 3/29/19
SCALE: 1"= 20'

THE CULLIPHER GROUP, P.A.
ENGINEERING & SURVEYING SERVICES
151A HIGHWAY 24
MOREHEAD CITY, N.C. 28557
(252) 773-0090 LICENSE NO. C-4482

NORTH CAROLINA PROFESSIONAL SEAL 13343 ENGINEER RONALD D. CULLIPHER

RONALD D. CULLIPHER, P.E. 4/8/19 DATE

20 10 0 20 40
SCALE: 1"= 20'

SHEET 1 OF 10
PROJECT #:PM636-87
DESIGN FILE #:PM636-87 CONSTRUCTION.DGN

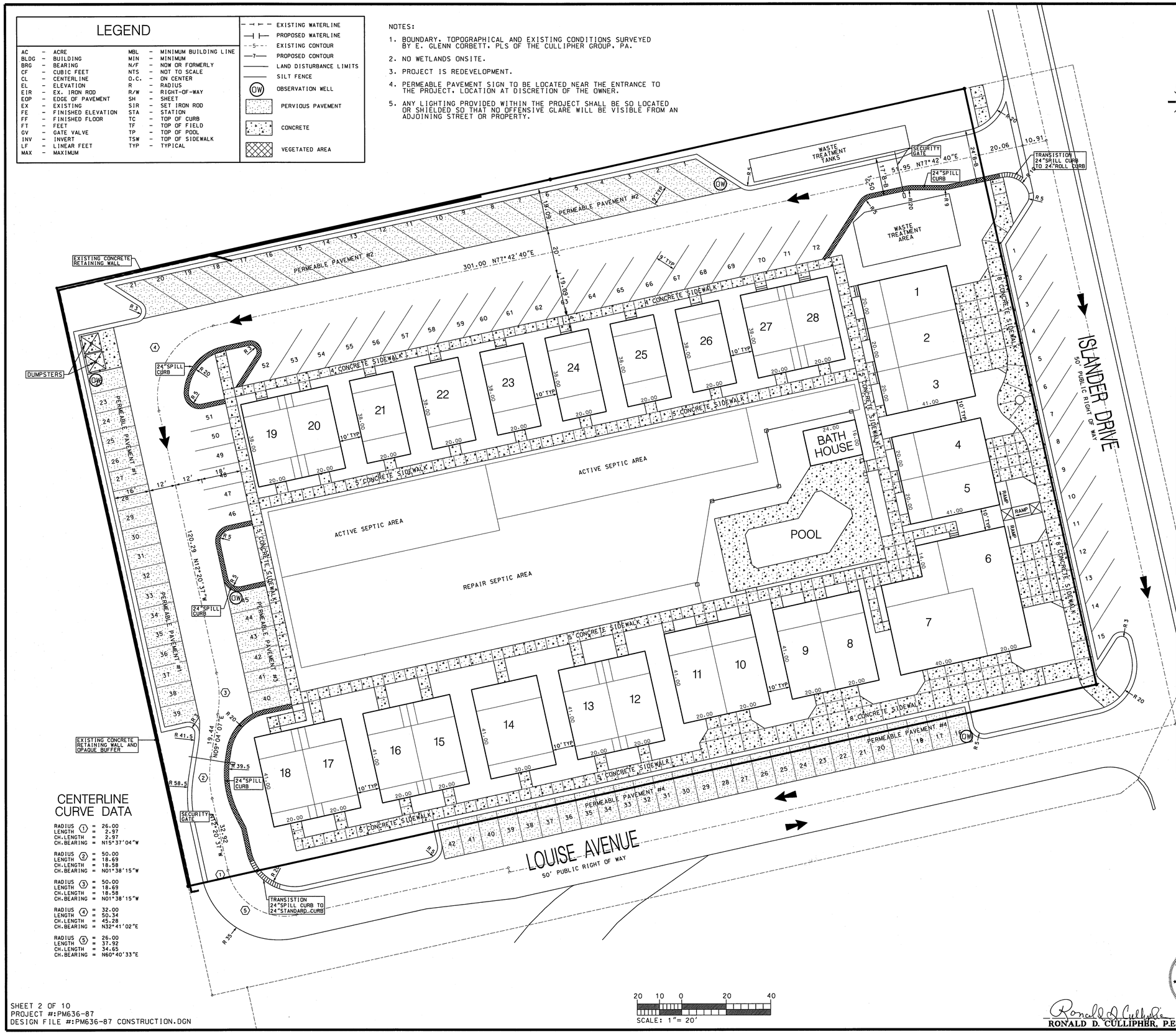
LEGEND

AC	ACRE	MBL	MINIMUM BUILDING LINE
BLDG	BUILDING	MIN	MINIMUM
BRG	BEARING	N/F	NOW OR FORMERLY
CF	CUBIC FEET	NTS	NOT TO SCALE
CL	CENTERLINE	O.C.	ON CENTER
EL	ELEVATION	R	RADIUS
EIR	EX. IRON ROD	R/W	RIGHT-OF-WAY
EOP	EDGE OF PAVEMENT	SH	SHEET
EX	EXISTING	SIR	SET IRON ROD
FE	FINISHED ELEVATION	STA	STATION
FF	FINISHED FLOOR	TC	TOP OF CURB
FT	FEET	TF	TOP OF FIELD
GV	GATE VALVE	TP	TOP OF POOL
INV	INVERT	TSW	TOP OF SIDEWALK
LF	LINEAR FEET	TYP	TYPICAL
MAX	MAXIMUM		

- EXISTING WATERLINE
- PROPOSED WATERLINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LAND DISTURBANCE LIMITS
- SILT FENCE
- OBSERVATION WELL
- PERVIOUS PAVEMENT
- CONCRETE
- VEGETATED AREA

NOTES:

1. BOUNDARY, TOPOGRAPHICAL AND EXISTING CONDITIONS SURVEYED BY E. GLENN CORBETT, PLS OF THE CULLIPHER GROUP, PA.
2. NO WETLANDS ONSITE.
3. PROJECT IS REDEVELOPMENT.
4. PERMEABLE PAVEMENT SIGN TO BE LOCATED NEAR THE ENTRANCE TO THE PROJECT. LOCATION AT DISCRETION OF THE OWNER.
5. ANY LIGHTING PROVIDED WITHIN THE PROJECT SHALL BE SO LOCATED OR SHIELDED SO THAT NO OFFENSIVE GLARE WILL BE VISIBLE FROM AN ADJOINING STREET OR PROPERTY.



SCALE: 1"= 20'

CENTERLINE CURVE DATA

RADIUS ①	=	26.00
LENGTH	=	2.97
CH.LENGTH	=	2.97
CH.BEARING	=	N15°37'04"W
RADIUS ②	=	50.00
LENGTH	=	18.69
CH.LENGTH	=	18.58
CH.BEARING	=	N01°38'15"W
RADIUS ③	=	50.00
LENGTH	=	18.69
CH.LENGTH	=	18.58
CH.BEARING	=	N01°38'15"W
RADIUS ④	=	32.00
LENGTH	=	50.34
CH.LENGTH	=	45.28
CH.BEARING	=	N32°41'02"E
RADIUS ⑤	=	26.00
LENGTH	=	37.92
CH.LENGTH	=	34.65
CH.BEARING	=	N60°40'33"E

Permeable Pavement Maintenance Requirements

At all times, the pavement shall be kept free of:

- Debris and particulate matter through frequent blowing that removes such debris, particularly during the fall and spring.
- Piles of soil, sand, mulch, building materials or other materials that could deposit particulates on the pavement.
- Piles of snow and ice.
- Chemicals of all kinds, including deicers.

The permeable pavement will be inspected **once a quarter**. Records of operation and maintenance will be kept in a known set location and will be available upon request.

Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

BMP element:	Potential problem:	How to remediate the problem:
The entire BMP	Trash/debris is present.	Remove the trash/debris.
The perimeter of the permeable pavement	Areas of bare soil and/or erosive gullies	Regrade the soil if necessary to remove the gully, then plant ground cover and water until established.
	A vegetated area drains toward the pavement.	Regrade the area so that it drains away from the pavement, then plant ground cover and water until established.
The inlet device	The pipe is clogged.	Unclog the pipe. Dispose of the sediment off-site.
	The pipe is cracked or otherwise damaged.	Replace the pipe.
	Erosion is occurring in the swale.	Regrade the swale if necessary to smooth it over and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.
	Stone verge is clogged or covered in sediment (if applicable).	Remove sediment and replace with clean stone.
The surface of the permeable pavement	Trash/debris present	Remove the trash/debris.
	Weeds	Do not pull the weeds (may pull out media as well). Spray them with a systemic herbicide such as glyphosate and then return within the week to remove them by hand. (Another option is to pour boiling water on them or steam them.)
	Sediment	Vacuum sweep the pavement.
	Rutting, cracking or slumping or damaged structure	Consult an appropriate professional.
Observation well	Water present more than five days after a storm event	Clean out clogged underdrain pipes. Consult an appropriate professional for clogged soil subgrade.
Educational sign	Missing or is damaged.	Replace the sign.
The outlet device	Clogging has occurred.	Clean out the outlet device. Dispose of the sediment off-site.
	The outlet device is damaged	Repair or replace the outlet device.
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Contact the local NC Department of Environment and Natural Resources Regional Office.

SITE DATA

TOTAL TRACT AREA = 114,720.16 SF (2.63 ACRES)

EXISTING BUA FOR REDEVELOPMENT = 62,839 SF

RIVER BASIN = WHITE OAK

RECEIVING STREAM = BOGUE SOUND

STREAM CLASS = SA;HQW

STREAM ID = 20-36-(8.5)

REDEVELOPMENT
PROPOSED BUILT UPON AREA

BUILDINGS	=	24,164 SF
PARKING/DRIVE	=	21,699 SF
CONCRETE SIDEWALK	=	14,318 SF
POOL APRON/BUILDING	=	2,332 SF
DUMPSTER	=	288 SF
TOTAL	=	62,801 SF

PROPOSED PERVIOUS PAVEMENT = 8,173 SF

RIGHT OF WAY
PROPOSED BUILT UPON AREA

PARKING/STREET	=	21,281 SF
CONCRETE SIDEWALK	=	101 SF
EXISTING DRIVE	=	770 SF
TOTAL	=	22,152 SF

PROPOSED PERVIOUS PAVEMENT = 3,888 SF

PARKING REQUIREMENTS

COMMERCIAL

MERCANTILE AREAS

UNIT 1	=	583 SF
UNIT 2	=	586 SF
UNIT 3	=	583 SF
UNIT 4	=	582 SF
UNIT 5	=	582 SF
UNIT 6	=	1,153 SF
UNIT 7	=	1,140 SF
UNIT 8	=	596 SF
UNIT 9	=	596 SF
UNIT 10	=	596 SF
UNIT 11	=	596 SF
TOTAL AREA	=	7,593 SF

PARKING REQUIREMENT
1 SPACE/300 SF + 1 PER EMPLOYEE

MERCANTILE SPACES REQUIRED = 26 SPACES

NUMBER OF EMPLOYEES = 11
EMPLOYEE SPACES REQUIRED = 11 SPACES

TOTAL SPACES REQUIRED = 37 SPACES

PROVIDED COMMERCIAL ON STREET SPACES = 42 SPACES

RESIDENTIAL

28 UNITS @ 2 SPC/UNIT = 56 SPACES

TOTAL SPACES REQUIRED = 56 SPACES
TOTAL SPACES PROVIDED = 72 SPACES

BEFORE YOU DIG!
NC ONE CALL
(TOLL FREE)
811
(OR 1-800-632-4949)
IT'S THE LAW!

REVISIONS:

NO.	BY	DATE	DESCRIPTION

SITE PLAN

VILLAGE WEST

EMERALD ISLE, CARTERET COUNTY, NORTH CAROLINA

CLIENT: A-TEAM ENTERPRISES

ADDRESS: 125 HORTON DRIVE
MOREHEAD CITY, NC 28557

PHONE: 252-241-9568

THE CULLIPHER GROUP, P.A.
ENGINEERING & SURVEYING SERVICES
151A HIGHWAY 24
MOREHEAD CITY, N.C. 28557
(252) 773-0090 LICENSE NO. C-4482

DESIGNED:	RDC/GYT
DRAWN:	RDC/GYT
CHECKED:	RDC/GYT
APPROVED:	RDC
DATE:	3/29/19
SCALE:	1"= 20'

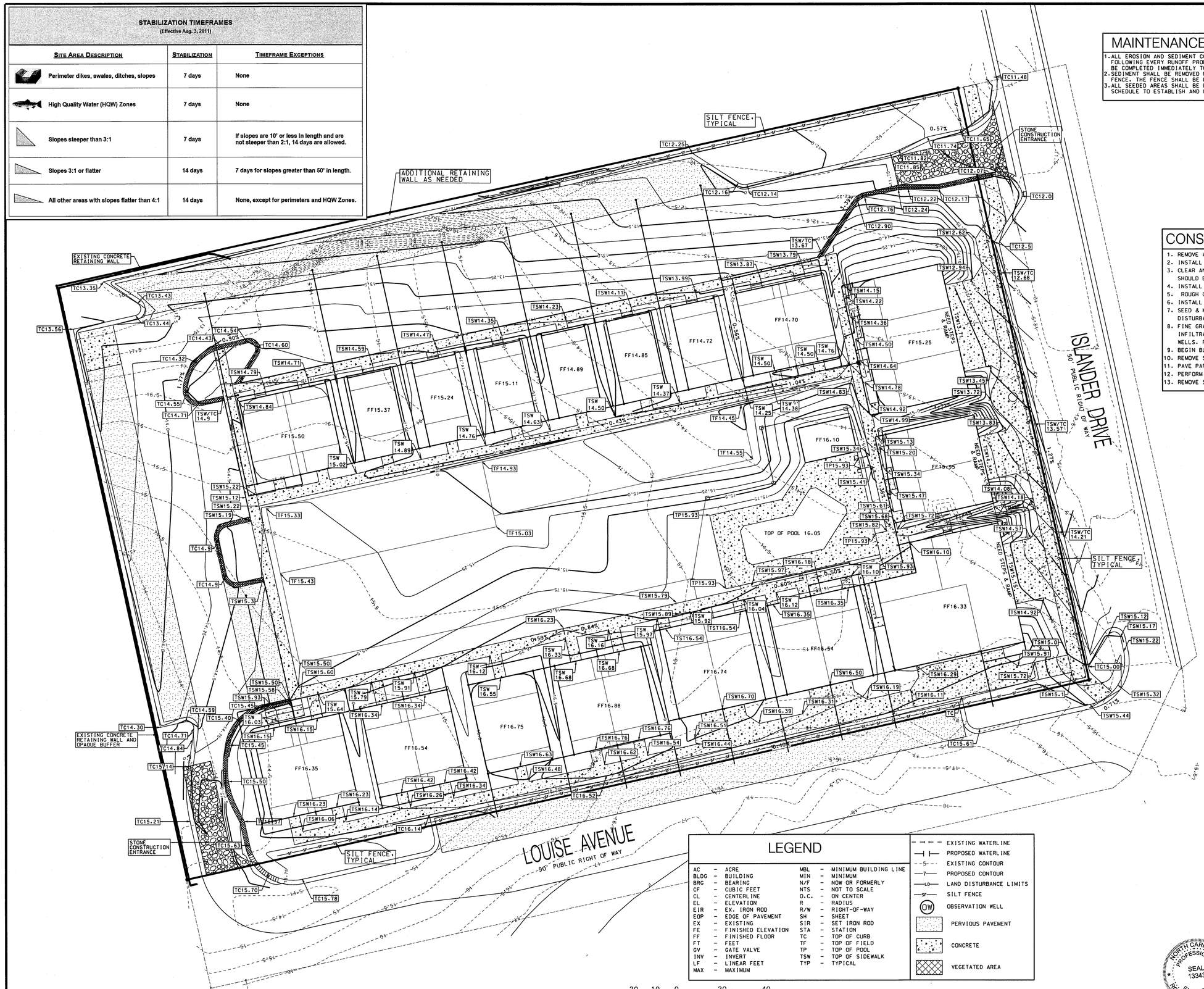
NORTH CAROLINA PROFESSIONAL SEAL 13343 ENGINEER RONALD D. CULLIPHER

RONALD D. CULLIPHER, P.E. 4/15/19 DATE

SHEET 2 OF 10
PROJECT #:PM636-87
DESIGN FILE #:PM636-87 CONSTRUCTION.DGN

STABILIZATION TIMEFRAMES
(Effective Aug. 3, 2011)

Site Area Description	Stabilization	Timeframe Exceptions
Perimeter dikes, swales, ditches, slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.



MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED FOR STABILITY AND EFFECTIVE OPERATION FOLLOWING EVERY RUNOFF PRODUCING RAINFALL EVENT OR AT LEAST ONCE A WEEK. REPAIRS REQUIRED SHALL BE COMPLETED IMMEDIATELY TO THE DIMENSION AND FUNCTION AS INDICATED ON THE PLAN.
2. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SEDIMENT FENCING WHEN IT BECOMES 0.5 FEET DEEP AT THE FENCE. THE FENCE SHALL BE REPLACED OR REPAIRED AS NECESSARY TO MAINTAIN BARRIER.
3. ALL SEEDED AREAS SHALL BE FERTILIZED, RESEEDED AND MULCHED AS NECESSARY ACCORDING TO THE SEEDING SCHEDULE TO ESTABLISH AND MAINTAIN A DENSE VEGETATIVE COVER.

NORTH

CONSTRUCTION SEQUENCE

1. REMOVE AND/OR RELOCATE EXISTING OBSTRUCTIONS AND OTHER FEATURES AS NOTED.
2. INSTALL GRAVEL CONSTRUCTION ENTRANCE(S).
3. CLEAR AND GRUB THE SITE. EXISTING WASTEWATER, DRAINAGE AND WATER UTILITIES SHOULD BE EXCAVATED, PROPERLY DISPOSED AND BACKFILLED WITH CLEAN SAND MATERIALS.
4. INSTALL SILT FENCING AT SPECIFIED LOCATIONS.
5. ROUGH GRADE SITE AND STREET.
6. INSTALL WATER AND SEWER AND OTHER UTILITIES.
7. SEED & MULCH ALL AREAS OF DISTURBANCE NOT TO BE PAVED WITHIN 7 DAYS OF LAND DISTURBANCE.
8. FINE GRADE PARKING AND PLACE STONE BASE COURSE. INSTALL WASHED STONE BASE FOR INFILTRATING PERVIOUS PAVEMENT AS SHOWN. DEPTH PER NOTE. CONSTRUCT OBSERVATION WELLS. PLACE PERVIOUS PAVEMENT AND PROTECT FROM SEDIMENT.
9. BEGIN BUILDING CONSTRUCTION.
10. REMOVE STONE CONSTRUCTION ENTRANCE(S).
11. PAVE PARKING AREA.
12. PERFORM FINAL GRADING. SEED AND MULCH ALL REMAINING DISTURBED AREAS.
13. REMOVE SILT FENCE. REGRADE ANY ERODED AREAS AND CLEAN PERVIOUS PAVEMENT AS NEEDED.

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(OR 1-800-632-4949)
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NOTES:
1. NO WETLANDS ONSITE.
2. PROJECT IS REDEVELOPMENT AND NOT LOCATED WITHIN 30' OF ANY WATER BODY.

REVISIONS:

No.	BY	DATE	DESCRIPTION

LEGEND

AC	ACRE	MBL	MINIMUM BUILDING LINE
BLDG	BUILDING	MIN	MINIMUM
BRG	BEARING	N/F	NOW OR FORMERLY
CF	CUBIC FEET	NTS	NOT TO SCALE
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EL	ELEVATION	R	RADIUS
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EX	EXISTING	SIR	SET IRON ROD
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MAX	MAXIMUM		

- EXISTING WATERLINE
- PROPOSED WATERLINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LAND DISTURBANCE LIMITS
- SILT FENCE
- OBSERVATION WELL
- PERVIOUS PAVEMENT
- CONCRETE
- VEGETATED AREA

20 10 0 20 40
SCALE: 1"= 20'

NORTH CAROLINA PROFESSIONAL SEAL 13343 ENGINEER RONALD D. CULLIPHER

Ronald D. Cullipher 4/10/19
RONALD D. CULLIPHER, P.E. DATE

GRADING & EROSION CONTROL PLAN

VILLAGE WEST

EMERALD ISLE, CARTERET COUNTY, NORTH CAROLINA

CLIENT: A-TEAM ENTERPRISES

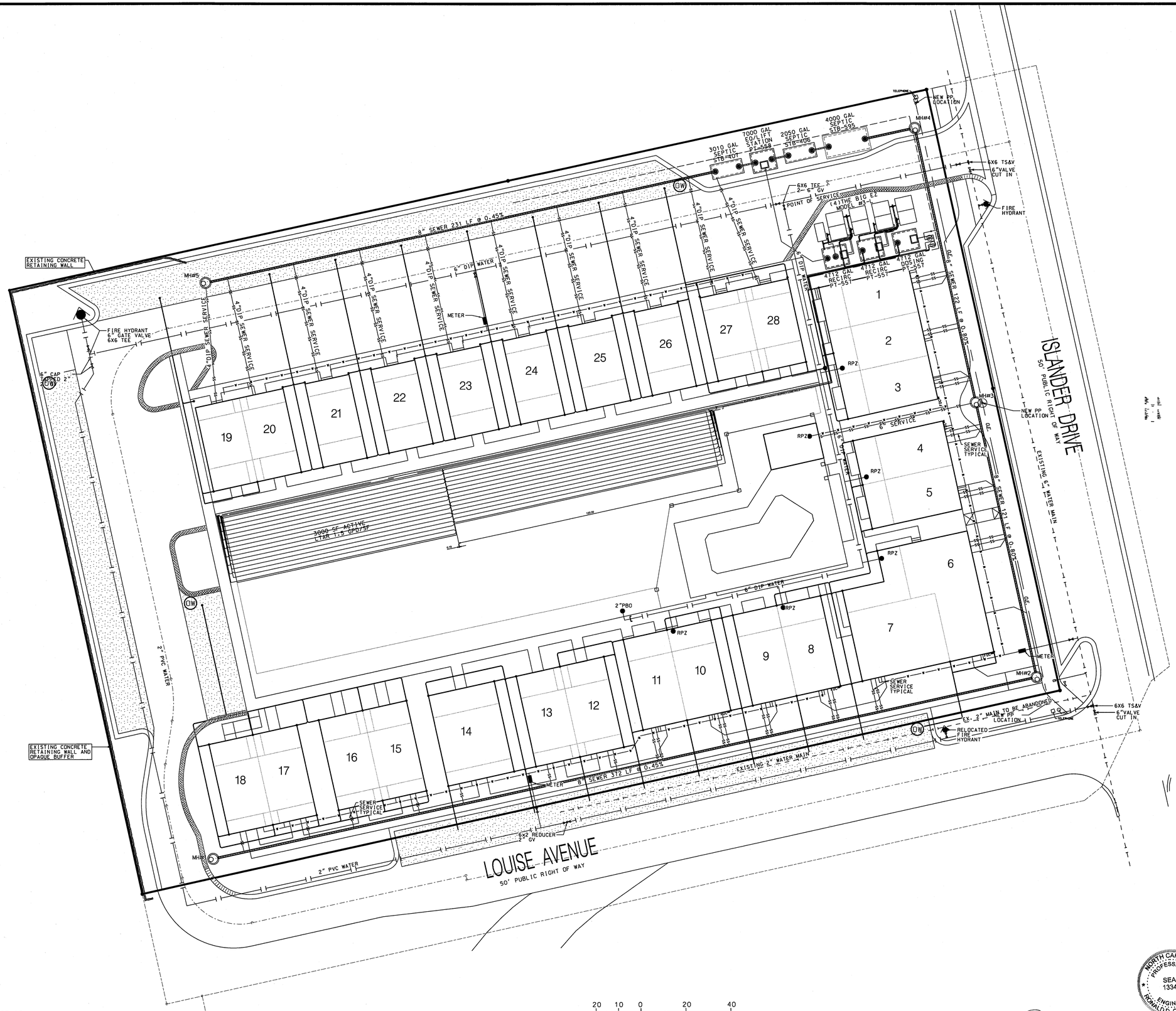
ADDRESS: 125 HORTON DRIVE
MOREHEAD CITY, NC 28557

PHONE: 252-241-9568

THE CULLIPHER GROUP, P.A.
ENGINEERING & SURVEYING SERVICES
151A HIGHWAY 24
MOREHEAD CITY, N.C. 28557
(252) 773-0090 LICENSE NO. C-4482

DESIGNED:	RDC/GYT
DRAWN:	RDC/GYT
CHECKED:	RDC/GYT
APPROVED:	RDC
DATE:	3/29/19
SCALE:	1"= 20'

SHEET 3 OF 10
PROJECT #:PM636-87
DESIGN FILE #:PM636-87 CONSTRUCTION.DGN



LEGEND

AC	-	ACRE
BLDG	-	BUILDING
BRG	-	BEARING
CF	-	CUBIC FEET
CL	-	CENTERLINE
EL	-	ELEVATION
EIR	-	EX. IRON ROD
EOP	-	EDGE OF PAVEMENT
EX	-	EXISTING
FE	-	FINISHED ELEVATION
FF	-	FINISHED FLOOR
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REVISIONS:

No.	BY	DATE	DESCRIPTION

SHEET 4 OF 10
PROJECT #:PM636-87
DESIGN FILE #:PM636-87 CONSTRUCTION.DGN

20 10 0 20 40
SCALE: 1"= 20'

NORTH CAROLINA PROFESSIONAL SEAL 13343 ENGINEER RONALD D. CULLIPHER

RONALD D. CULLIPHER, P.E. 4/18/19 DATE

UTILITY PLAN

VILLAGE WEST

EMERALD ISLE, CARTERET COUNTY, NORTH CAROLINA

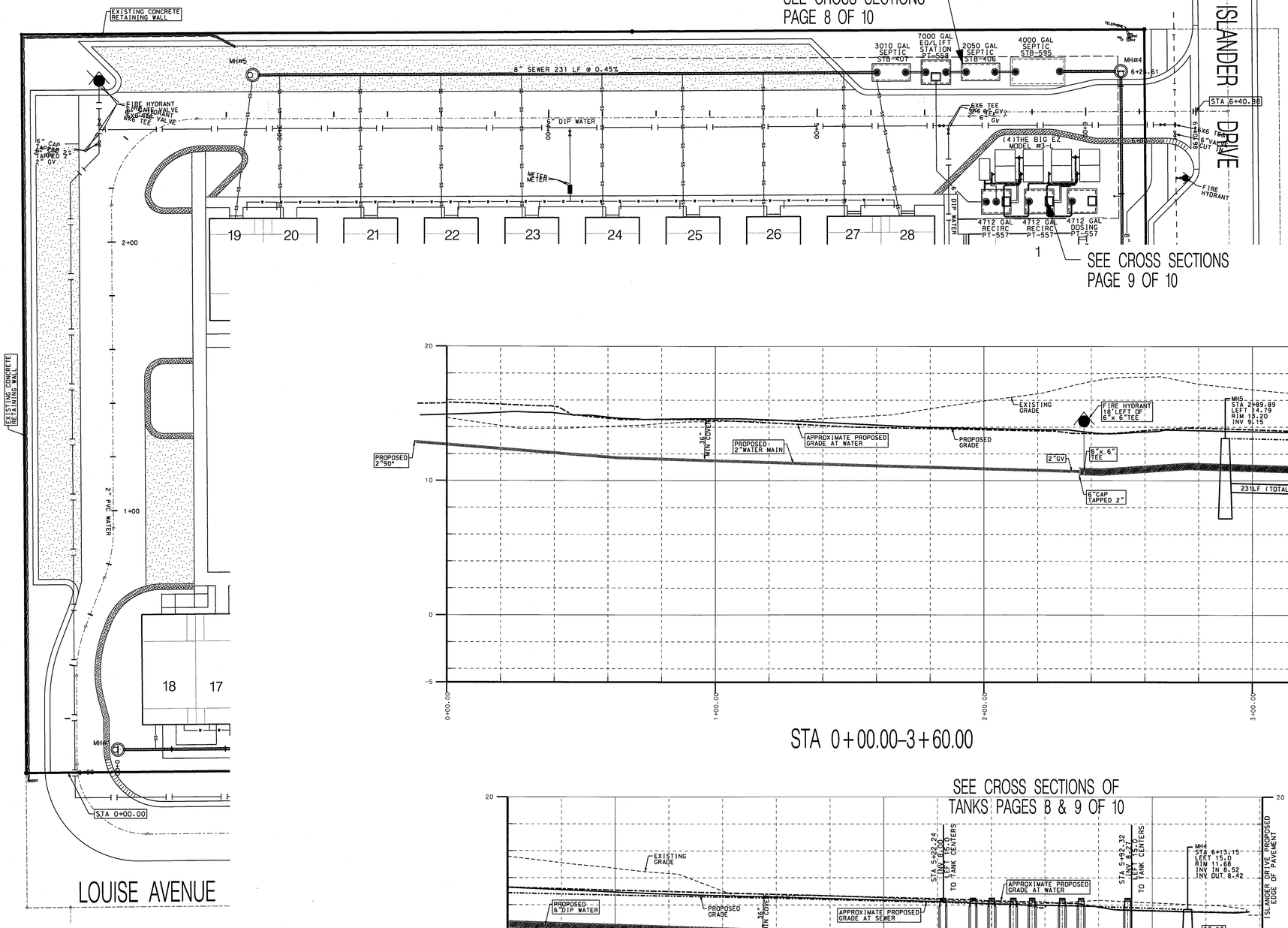
CLIENT: A-TEAM ENTERPRISES

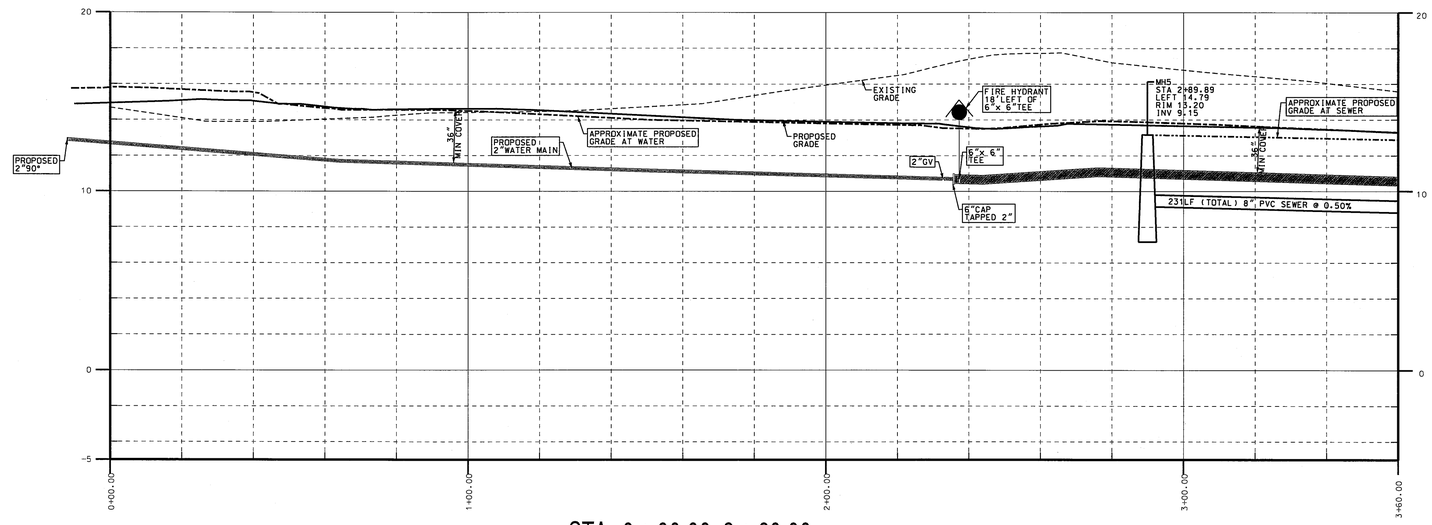
ADDRESS: 125 HORTON DRIVE
MOREHEAD CITY, NC 28557

PHONE: 252-241-9568

THE CULLIPHER GROUP, P.A.
ENGINEERING & SURVEYING SERVICES
151A HIGHWAY 24
MOREHEAD CITY, N.C. 28557
(252) 773-0090 LICENSE NO. C-4482

DESIGNED:	RDC/GYT
DRAWN:	RDC/GYT
CHECKED:	RDC/GYT
APPROVED:	RDC
DATE:	3/29/19
SCALE:	1"= 20'





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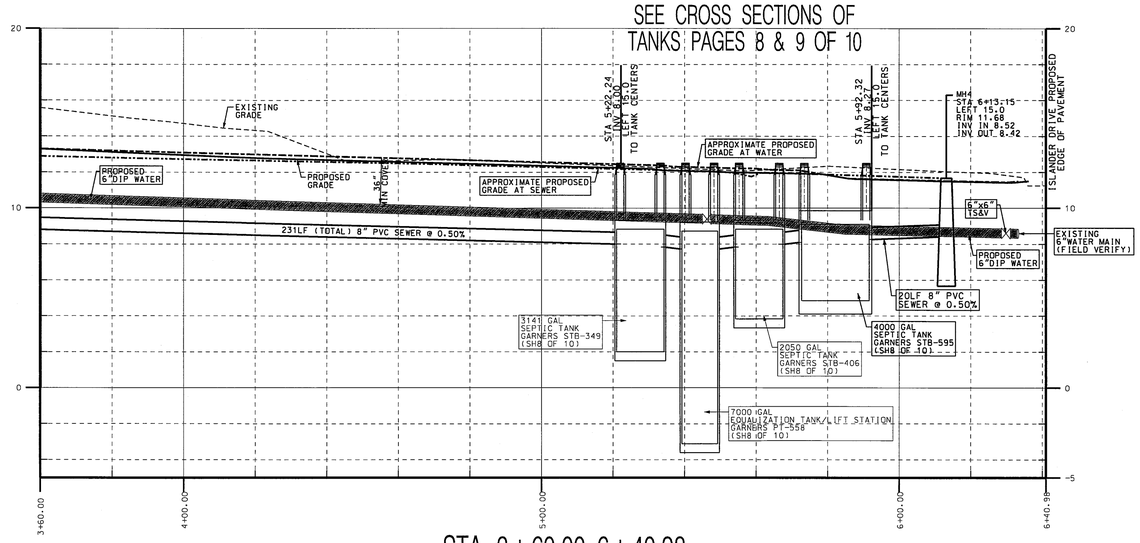

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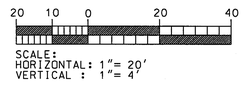

PROGRESS DRAWING
NOT FOR CONSTRUCTION

REVISIONS:			
No.	BY	DATE	DESCRIPTION
1			
2			
3			
4			
5			
6			

DESIGNED: CHECKED:
DRAWN: APPROVED:
SCALE: DATE:

CLIENT: A-TEAM ENTERPRISES
ADDRESS: 125 HORTON DRIVE
MOREHEAD CITY, NC 28557
PHONE: 252-241-9568

PLAN & PROFILE – CENTERLINE PARKING LOT

VILLAGE WEST

EMERALD ISLE, CARTERET CO., NORTH CAROLINA

THE CULLIPHER GROUP P.A.
ENGINEERING & SURVEYING SERVICES
151A HIGHWAY 24
MOREHEAD CITY, N.C. 28557
(252) 773-0090
LICENSE NO. C-1482

RONALD D. CULLIPHER, P.E. DATE

SHEET No.: 5 OF : 10

SHEET 5 OF 10
PROJECT #:PM636-87
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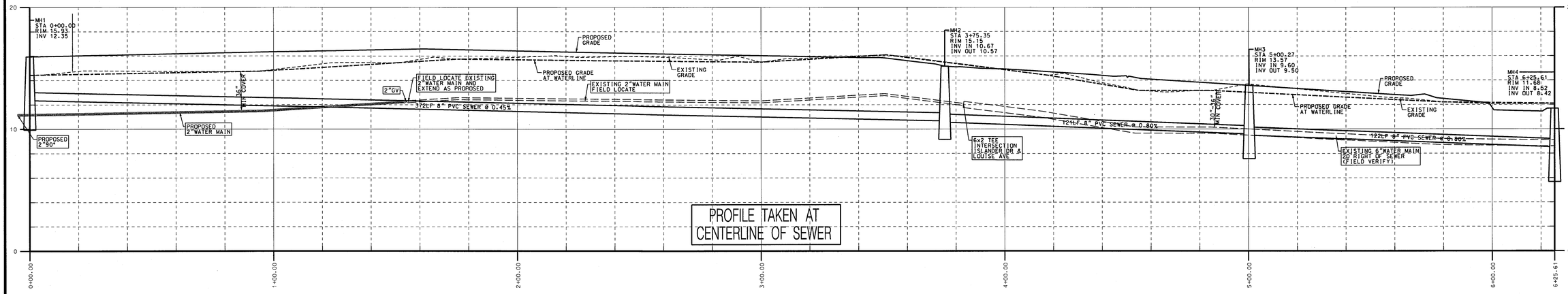
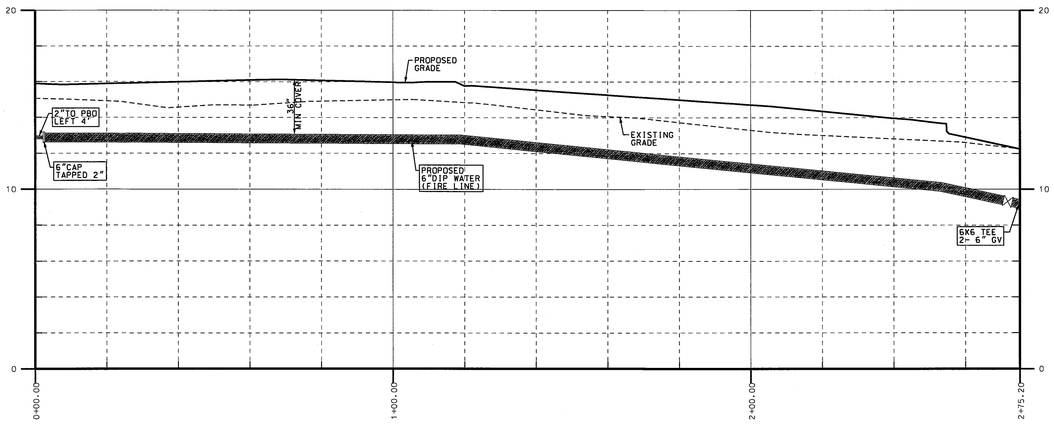
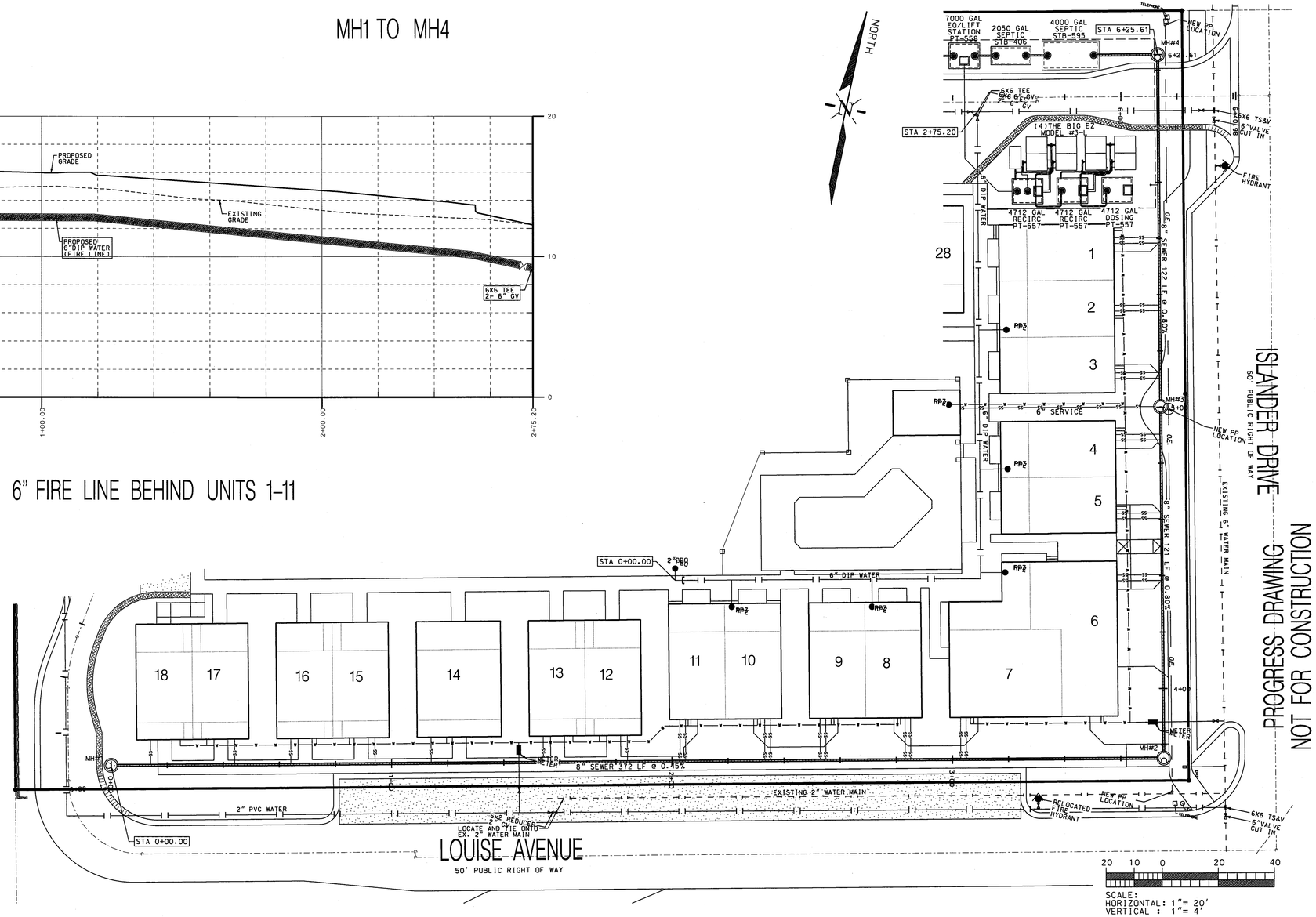


MH1 TO MH4



6" FIRE LINE BEHIND UNITS 1-11



REVISIONS:			
NO.	BY	DATE	DESCRIPTION
1			
2			
3			
4			
5			
6			

CHECKED:
APPROVED:
DATE:

DESIGNED:
DRAWN:
SCALE:

CLIENT: A-TEAM ENTERPRISES
ADDRESS: 125 HORTON DRIVE
MOREHEAD CITY, NC 28557
PHONE: 252-241-9568

PLAN & PROFILE - MH1 TO MH4

VILLAGE WEST

EMERALD ISLE, CARTERET CO., NORTH CAROLINA

THE CULLIPHER GROUP P.A.
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SHEET No.: 6 OF : 10

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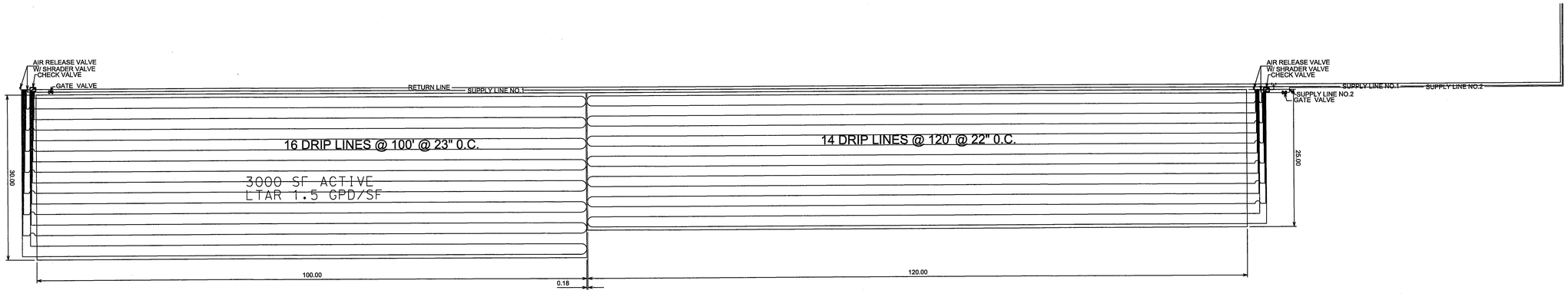


NOTE: MINIMUM OF 18" COVER OVER ALL MANIFOLDS

BEFORE YOU DIG!
NC ONE CALL
(TOLL FREE)
811
(OR 1-800-632-4949)
IT'S THE LAW!

REVISIONS:

No.	BY	DATE	DESCRIPTION

ENLARGED DRAINFIELD PLAN & DETAILS

VILLAGE WEST

EMERALD ISLE, CARTERET COUNTY, NORTH CAROLINA

CLIENT: A-TEAM ENTERPRISES

ADDRESS: 125 HORTON DRIVE
MOREHEAD CITY, NC 28557

PHONE: 252-241-9568

DESIGNED: RDC/GYT
DRAWN: RDC/GYT
CHECKED: RDC/GYT
APPROVED: RDC
DATE: 3/29/19
SCALE: 1"= 10'

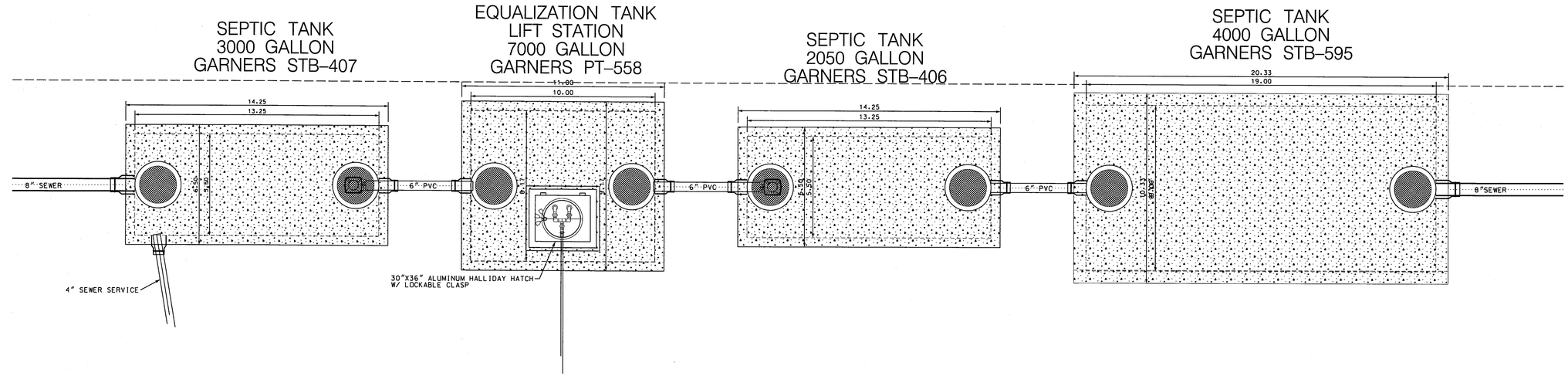
THE CULLIPHER GROUP, P.A.
ENGINEERING & SURVEYING SERVICES
151A HIGHWAY 24
MOREHEAD CITY, N.C. 28557
(252) 773-0090 LICENSE NO. C-4482

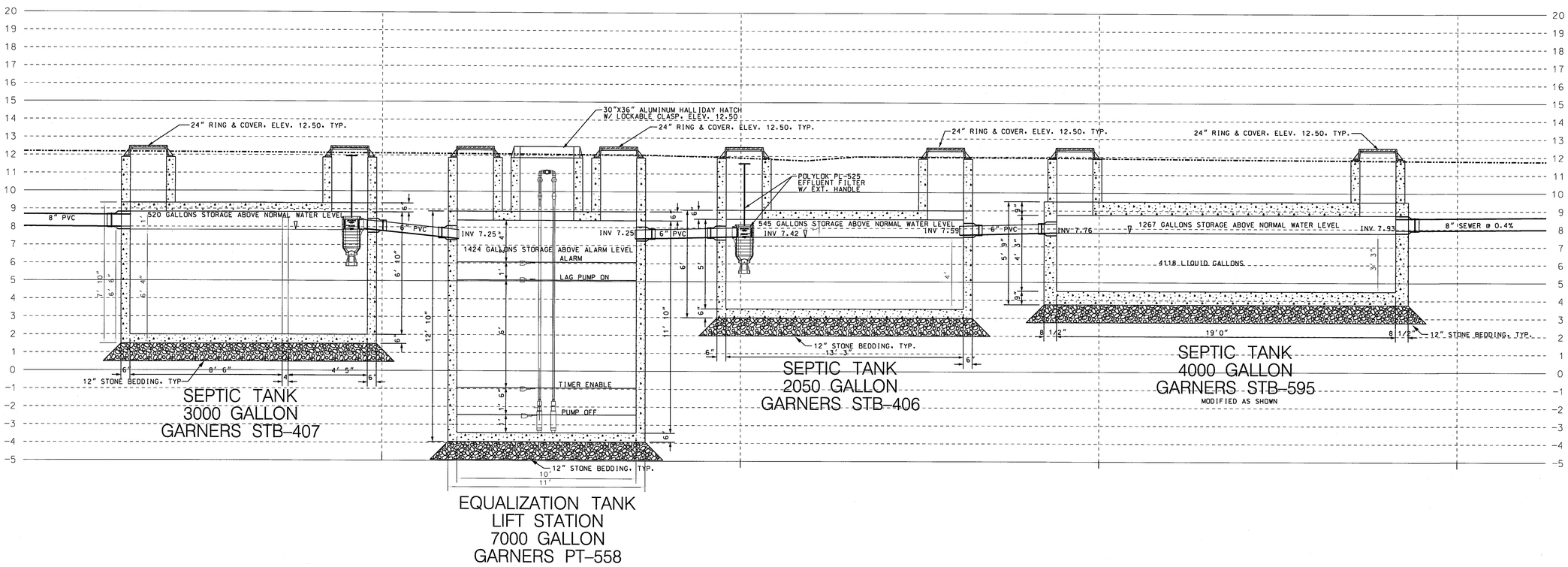
PROGRESS DRAWING
NOT FOR CONSTRUCTION

RONALD D. CULLIPHER, P.E. DATE

10 5 0 10 20
SCALE: 1"= 10'

SHEET 7 OF 10
PROJECT #:PM636-87
DESIGN FILE #:PM636-87 CONSTRUCTION.DGN





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UTILITY PLAN

VILLAGE WEST

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MOREHEAD CITY, NC 28557

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SCALE: 1"= 3'

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MOREHEAD CITY, N.C. 28557
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RONALD D. CULLIPHER, P.E. DATE

3 1.5 0 3 6
SCALE: 1"= 3'

SHEET 8 OF 10
PROJECT #:PM636-87
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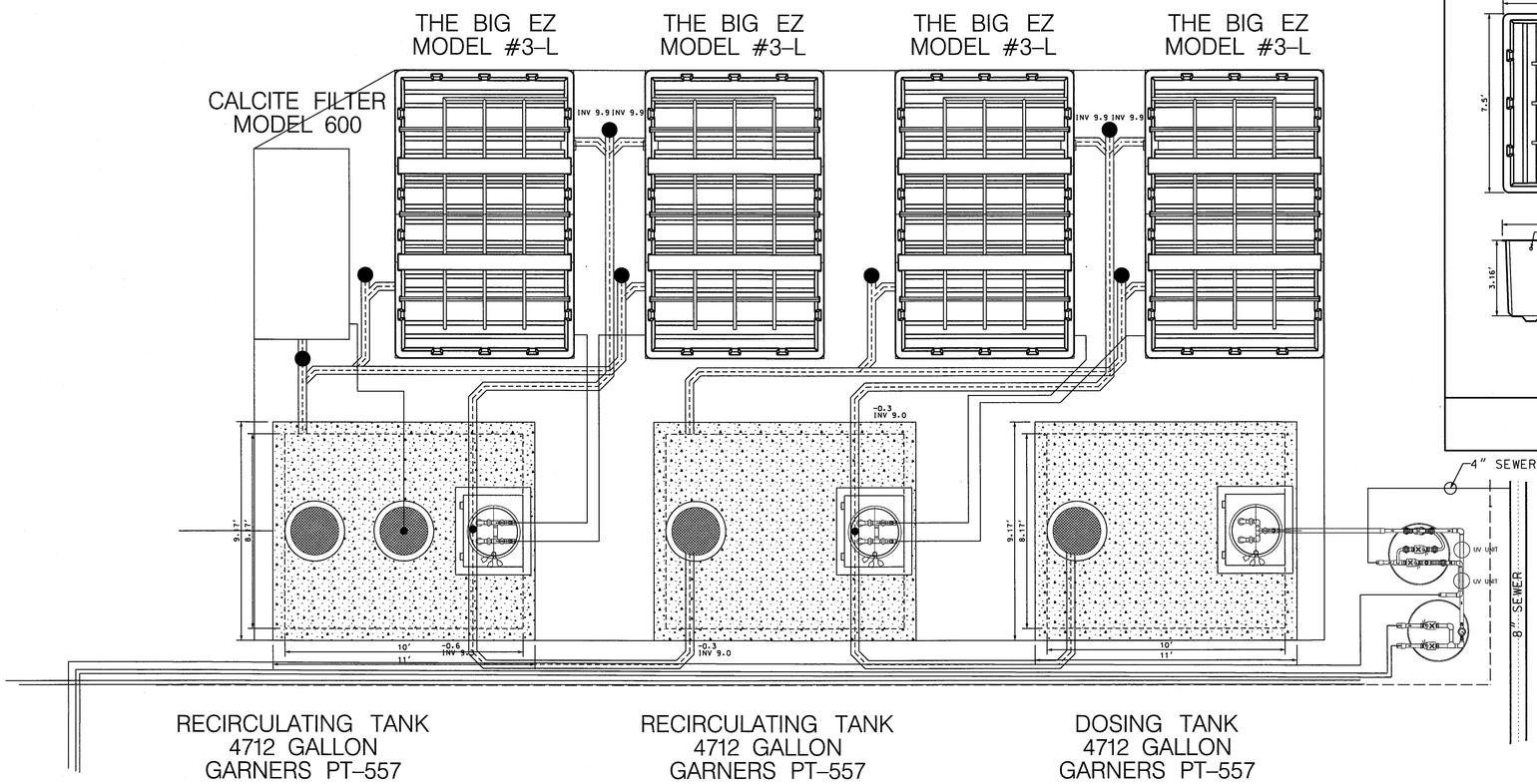
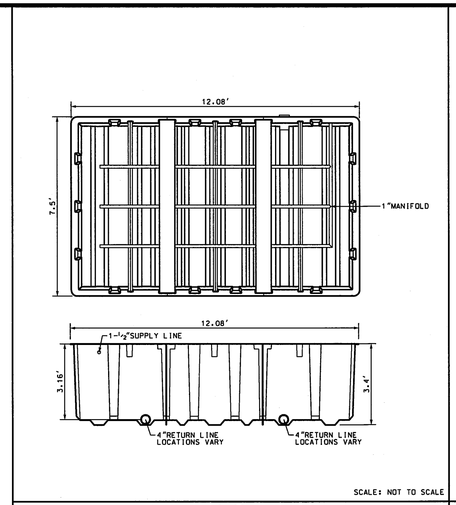
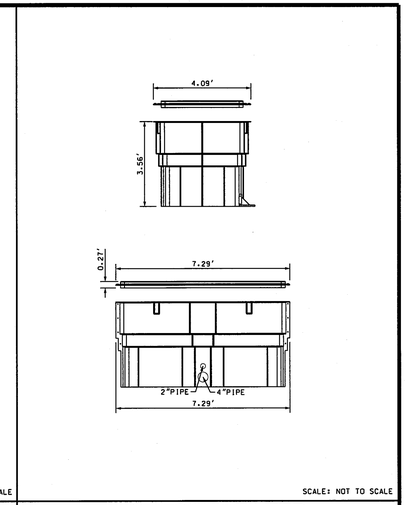




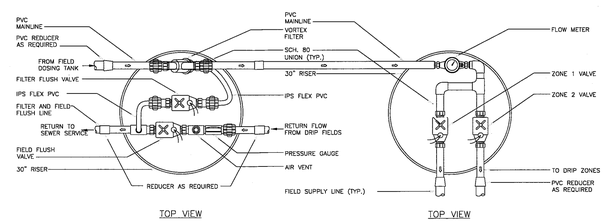
THE BIG EZ MODEL #3-L



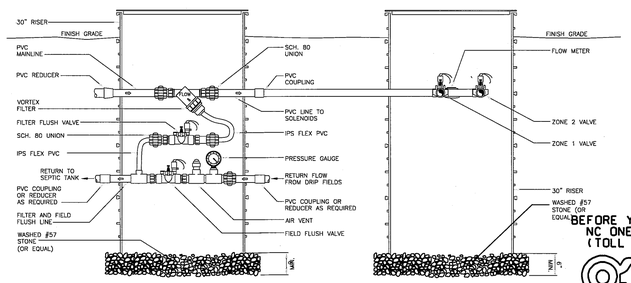
CALCITE FILTER MODEL 600

NOTE:

1. INSTALL 4" CPP. DRAIN TO DAYLIGHT PER SITE PLAN.
2. SEE SITE PLAN FOR SUPPLY AND RETURN LINE DIAMETERS
3. SEE SITE PLAN FOR NUMBER OF ZONE VALVES REQUIRED



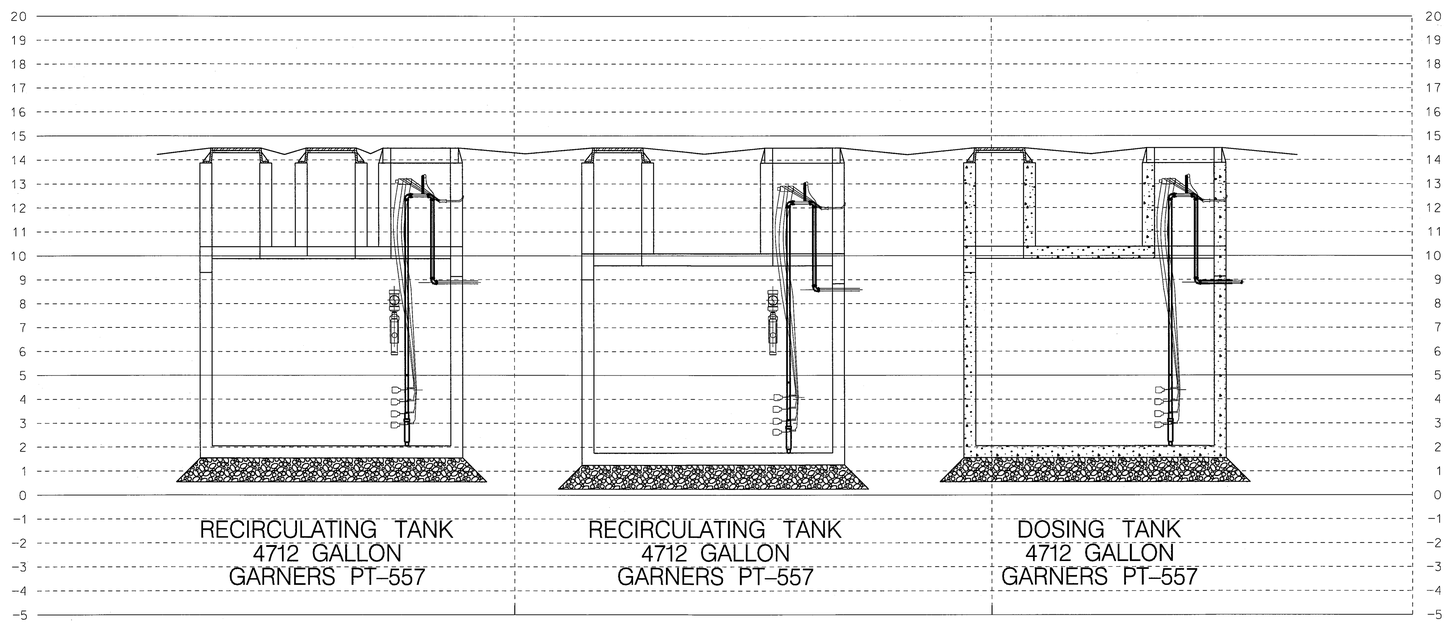
TOP VIEW TOP VIEW



SECTION VIEW SECTION VIEW

7 D-47 **HEADWORKS BOX WITH 2 ZONE VALVE BOX**
NTS (ORIENTATION MAY VARY SEE PLAN)

BEFORE YOU DIG! NC ONE CALL (TOLL FREE) 811 (OR 1-800-632-4949) IT'S THE LAW!



3 1.5 0 3 6
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PROGRESS DRAWING
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RONALD D. CULLIPHER, P.E. DATE

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TANK CROSS SECTIONS

VILLAGE WEST

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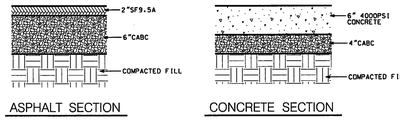
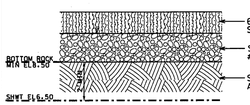


ASPHALT SECTION CONCRETE SECTION

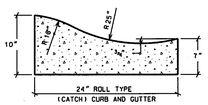
SCALE: NOT TO SCALE

ASPHALT & CONCRETE SECTION



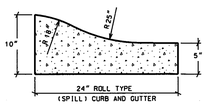
SCALE: NOT TO SCALE

PERVIOUS CONCRETE SECTION



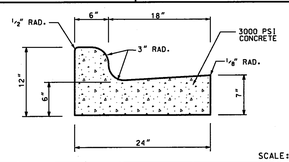
SCALE: NOT TO SCALE

24"ROLL



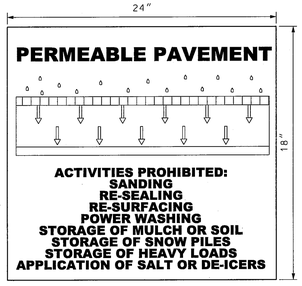
SCALE: NOT TO SCALE

24"ROLL SPILL



SCALE: NOT TO SCALE

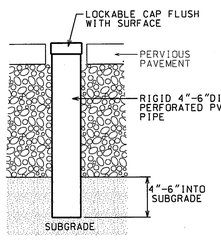
24"STANDARD CONCRETE CURB & GUTTER



NOTE: ONE SIGN TO BE LOCATED AT AN ENTRANCE OFF EACH PUBLIC RIGHT OF WAY.

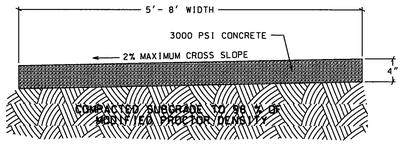
SCALE: NOT TO SCALE

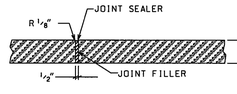
PERMEABLE PAVEMENT SIGN



SCALE: NOT TO SCALE

PERVIOUS CONCRETE OBSERVATION WELL





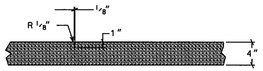
TRANSVERSE EXPANSION JOINT IN SIDEWALK

SCALE: NOT TO SCALE

NOTE:

A 1/2" EXPANSION JOINT SHALL BE REQUIRED AT 45' INTERVALS.

A 1/2" EXPANSION JOINT SHALL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.



GROOVED JOINT IN SIDEWALK

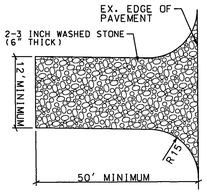
SCALE: NOT TO SCALE

NOTE:

A GROOVED JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS

SCALE: NOT TO SCALE

TYPICAL CONCRETE SIDEWALK



SCALE: NOT TO SCALE

STONE CONSTRUCTION ENTRANCE

SEED BED PREPARATION

LIME---------- 2 TONS/AC

10-10-10 ---------- 1,000 LBS/AC

SURFACE ROUGHENING: IF RECENT TILLAGE OPERATIONS HAVE RESULTED IN A LOOSE SURFACE, ADDITIONAL ROUGHENING MAY NOT BE REQUIRED EXCEPT TO BREAK UP LARGE CLODS. IF RAINFALL CAUSES THE SURFACE TO BECOME SEALED OR CRUSTED, LOOSEN IT JUST PRIOR TO SEEDING BY DISKING, RAKING OR HARROWING. GROOVE OR FURROW SLOPES STEEPER THAN 3:1 ON THE CONTOUR BEFORE SEEDING.

TEMPORARY SEEDING MIXTURE

(DECEMBER 1 -APRIL 15)

RYE (GRAIN)---------- 120 LBS/AC

KOBE LESPEDEZA (SCARIFIED)---50 LBS/AC

(OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE)

(APRIL 15 -AUGUST 15)

GERMAN MILLET---------- 40 LBS/AC

(AUGUST 15- DECEMBER 30)

RYE (GRAIN)---------- 25 LBS/AC

(IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYON JUNE 15, OVERSEED WITH 50LB/AC KOBE.)

PERMANENT SEEDING MIXTURE

TALL FESCUE---------- 60 LBS/AC

PENSACOLA BAHIAGRASS---------- 50 LBS/AC

SERICEA LESPEDEZA---------- 30 LBS/AC

KOBE LESPEDEZA---------- 10 LBS/AC

1. FROM SEPTEMBER 1 - MARCH 1, USE UNSCARIFIED SERICEA SEED
2. ON POORLY DRAINED SITES OMIT SERICEA AND INCREASE KOBE TO 30 LBS/AC
3. WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA AND INCREASE KOBE TO 40 LBS/AC.
4. BETWEEN APRIL 15 AND AUGUST 15, ADD 10 LB/AC GERMAN MILLET OR 15 LB/AC SUDANGRASS. PRIOR TO MAY 1 OR AFTER AUG 15, ADD 25 LB/AC RYE (GRAIN).

PERMANENT SEEDING MIXTURE (SWALES & DITCHES)

COMMON BERMUDAGRASS---------- 80 LBS/AC

MULCHING

STRAW(WHEAT, OATS, BARLEY,RYE)----- 1-2 TONS/AC (AFTER SEEDING)
(STRAW QUALITY SHALL BE DRY, UNCHOPPED & UNWEATHERED)

ASPHALT TACK----------200 GAL./TON OF MULCH

1. APPLY 4000 LB/AC 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.
2. A CHANNEL LINING MATERIAL (SEE DETAIL BELOW) SHALL COVER THE BOTTOM OF SWALES & DITCHES. THE LINING SHALL EXTEND ABOVE THE HIGHEST DEPTH OF FLOW WITHIN GIVEN CHANNEL. ON CHANNEL SIDE SLOPES ABOVE THIS HEIGHT APPLY STRAW AS PREVIOUSLY INSTRUCTED.

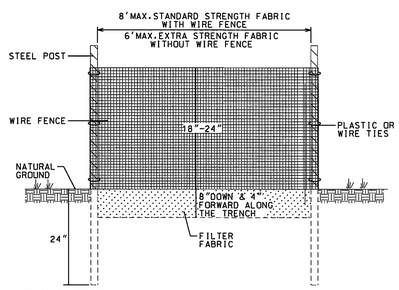
TIME OF APPLICATION

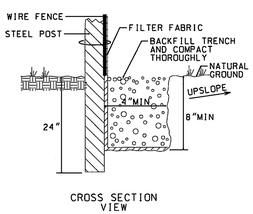
THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION-CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED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

MAINTENANCE

IF GROWTH IS LESS THAN FULLY ADEQUATE, REFERTILIZE IN THE SECOND YEAR WITH 500 LB/AC 10-10-10 FERTILIZER. MOW AS NEEDED WHEN SERICEA IS OMITTED FROM THE MIXTURE. RESEED, FERTILIZE AND MULCH DAMAGED AREAS IMMEDIATELY.

SEEDING SCHEDULE



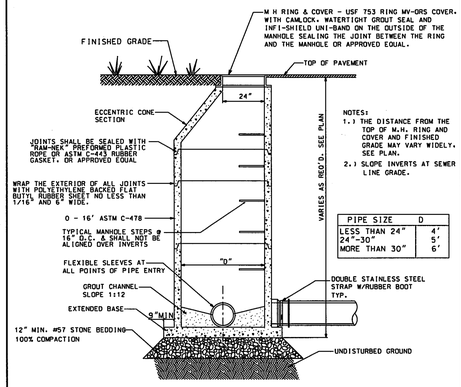


INSTALLATION NOTES:

1. THE BASE OF BOTH END POSTS SHOULD BE AT LEAST ONE FOOT HIGHER THAN THE MIDDLE OF THE FENCE. CHECK WITH A LEVEL IF NECESSARY.
2. INSTALL POSTS 4 FEET APART IN CRITICAL AREAS AND 6 FEET APART ON STANDARD APPLICATIONS.
3. INSTALL POSTS 2 FEET DEEP ON THE DOWNSTREAM SIDE OF THE SILT FENCE, AND AS CLOSE AS POSSIBLE TO THE FABRIC, ENABLING POSTS TO SUPPORT THE FABRIC FROM UPSTREAM WATER PRESSURE.
4. INSTALL POSTS WITH THE NIPPLES FACING AWAY FROM THE SILT FABRIC.
5. ATTACH THE FABRIC TO EACH POST WITH THREE TIES, ALL SPACED WITHIN THE TOP 8 INCHES OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1 INCH VERTICALLY APART, ALSO, EACH TIE SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.
6. WRAP APPROXIMATELY 6 INCHES OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
7. NO MORE THAN 24 INCHES OF A 36 INCH FABRIC IS ALLOWED ABOVE GROUND LEVEL.
8. THE INSTALLATION SHOULD BE CHECKED AND CORRECTED FOR ANY DEVIATIONS BEFORE COMPACTION.
9. COMPACTION IS VITALLY IMPORTANT FOR EFFECTIVE RESULTS. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQUARE INCH. COMPACT THE UPSTREAM SIDE FIRST, AND THEN EACH SIDE TWICE FOR A TOTAL OF 4 TRIPS.

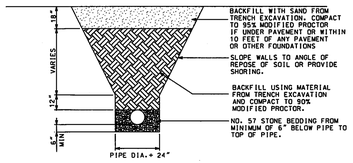
SCALE: NOT TO SCALE

SILT FENCE



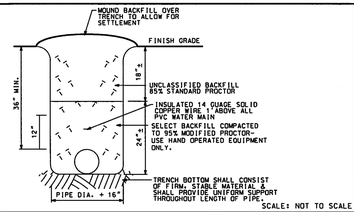
SCALE: NOT TO SCALE

TYPICAL PRECAST MANHOLE



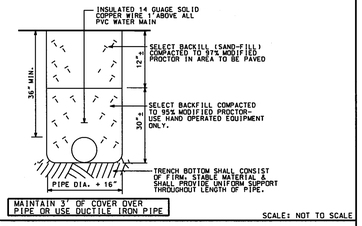
SCALE: NOT TO SCALE

SEWER PIPE TRENCH



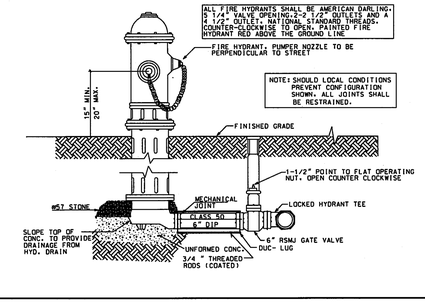
SCALE: NOT TO SCALE

WATER PIPE TRENCH DETAIL OUTSIDE PAVED AERA



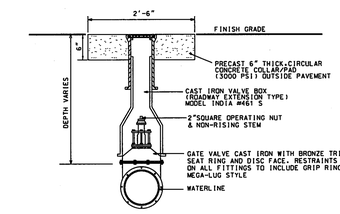
SCALE: NOT TO SCALE

WATER PIPE TRENCH DETAIL AREA TO BE PAVED



SCALE: NOT TO SCALE

TYPICAL FIRE HYDRANT ASSEMBLY



SCALE: NOT TO SCALE

NEW GATE VALVE & VALVE BOX DETAIL

RESULTANT THRUST AT FITTING AT 150 P.S.I. WATER PRESSURE

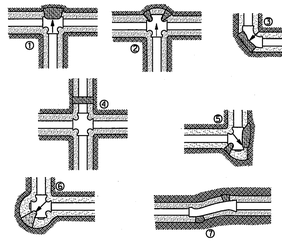
NORMAL PIPE DIA.	TOTAL POUNDS				
	DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4"	2,700	3,800	2,100	1,100	530
6"	5,600	8,000	4,300	2,200	1,100
8"	9,700	13,600	7,400	3,600	1,900
10"	14,500	20,500	11,100	5,700	2,800
12"	20,500	29,000	15,700	8,000	4,000
14"	27,600	39,000	21,100	11,000	5,400
16"	35,700	50,400	27,300	14,000	7,000
18"	44,800	63,400	34,400	17,500	8,800
20"	55,000	77,800	42,100	21,500	10,800
24"	78,500	111,000	60,000	31,600	15,400
30"	120,800	170,600	98,300	47,100	23,600
36"	172,800	274,400	132,300	67,500	33,900
42"	233,300	330,000	178,600	91,000	45,700
48"	304,000	430,000	232,700	118,600	59,800
54"	384,100	543,200	294,000	149,000	75,300

BEARING LOAD

SOIL	(LB./SQ FT.)
MUCK	0
SOFT CLAY	1,000
SILT	1,500
SANDY SILT	3,000
SAND	4,000
SANDY CLAY	6,000
HARD CLAY	9,000

TO DETERMINE THE SIZE OF A CONCRETE THRUST BLOCK, DIVIDE THE TOTAL FORCE BY THE BEARING VALUES OF THE SOIL. THE QUOTIENT WILL BE THE SIZE OF THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET. APPROXIMATE VALUES FOR VARIOUS TYPES OF SOILS ARE LISTED IN THE TABLE. NO RESPONSIBILITY CAN BE ASSUMED FOR THE ACCURACY OF THE DATA IN THIS TABLE DUE TO THE WIDE VARIATION OF BEARING LOAD CAPACITIES FOR EACH SOIL TYPE.

TYPES OF THRUST BLOCKING



1. THRU LINE CONNECTION, TEE
2. THRU LINE CONNECTION, CROSS USED AS TEE.
3. DIRECTION CHANGE, ELBOW
4. CHANGE LINE SIZE, REDUCER
5. DIRECTION CHANGE, TEE USED AS ELBOW
6. DIRECTION CHANGE, CROSS USED AS ELBOW
7. DIRECTION CHANGE

ALL FITTINGS SHALL BE PROVIDED WITH CONCRETE BLOCKING AND 2-40 LB BAGS OF CONCRETE MIX

THRUST BLOCKING DETAIL

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SHEET 10 OF 10
PROJECT #:PM636-87
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RONALD D. CULLIPHER, P.E. DATE

NORTH CAROLINA PROFESSIONAL SEAL 13343 ENGINEER RONALD D. CULLIPHER

DETAILS

VILLAGE WEST

EMERALD ISLE, CARTERET COUNTY, NORTH CAROLINA

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PHONE: 252-241-9568

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