

# PRELIMINARY AND FINAL SITE PLAN

## FOR

# TENNENT ROAD WASH AND LUBE, LLC

**GENERAL NOTES:**

- PROPERTY KNOWN AS BLOCK 122 LOT 33, TOWNSHIP OF MARLBORO, MONMOUTH COUNTY, NEW JERSEY, AS SHOWN ON THE MARLBORO TOWNSHIP TAX MAP, SHEET NUMBER 9, LAST REVISED MAY 2002.
- THE PROPERTY IS LOCATED IN THE C-2 NEIGHBORHOOD COMMERCIAL DISTRICT ZONE CONTAINING 0.874 ACRES, 38,084 S.F.
- OUTBOUND INFORMATION BASED ON FIELD SURVEY CONDUCTED BY CRANMER ENGINEERING, PA IN MARCH 2012.
- TOPOGRAPHIC INFORMATION BASED ON MAP ENTITLED: "TOPOGRAPHIC SURVEY, TENNENT ROAD WASH & LUBE, LLC, LOT 33, BLOCK 122, TAX MAP NO. 9, TOWNSHIP OF MARLBORO, MONMOUTH COUNTY, NEW JERSEY" PREPARED BY RALPH C. FORD, PLS, DATED AUGUST 22, 2018.
- PROPERTY LINE WITHIN ZONE "X" - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD AS SHOWN ON FIRM MAP FLOOD INSURANCE RATE MAP NUMBER 34028C0038F EFFECTIVE 9/25/2009
- ELECTRIC, TELEPHONE, CABLE, ETC. SHALL BE INSTALLED PER UTILITY COMPANY DESIGN.
- THE CONTRACTOR SHALL BE SOLELY OBLIGATED TO LOCATE ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. SHOULD ANY KNOWN OR POTENTIAL CONFLICTS EXIST THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY EXISTING UTILITIES OR PHYSICAL FEATURES FOUND TO EXIST THAT DIFFER FROM THAT INDICATED ON THE SITE DRAWINGS SHALL REQUIRE IMMEDIATE NOTICE TO THE ENGINEER.
- CONTRACTORS INSTALLING ANY IMPROVEMENTS SHOWN HEREON ARE SOLELY RESPONSIBLE FOR PROVIDING ALL APPROPRIATE SAFETY DEVICES AND TRAINING TO ALL WORKERS IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL OCCUPATIONAL HEALTH AND SAFETY REGULATION.
- VERTICAL CONTROL BASED ON ASSUMED DATUM.
- EXISTING UNDERGROUND UTILITIES MUST BE MARKED OUT PRIOR TO ANY ON-SITE EXCAVATION BY CALLING THE UTILITY LOCATION SERVICE (1-800-272-1000) AND/OR LOCAL UTILITY COMPANIES, AS MAY BE NECESSARY.
- STRIPING IN THE PARKING LOT AREA SHALL BE 4" WIDE PAINTED WHITE LINE, UNLESS OTHERWISE NOTED.
- THIS SET OF PLANS HAS BEEN PREPARED FOR PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED ON THE DRAWINGS AND EACH DRAWING HAS BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION."
- THIS IS A SITE DEVELOPMENT PLAN AND UNLESS SPECIFICALLY NOTED ELSEWHERE HEREON IS NOT A SURVEY.
- EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO EXACTNESS OR COMPLETENESS. THE CONTRACTOR SHALL BE OBLIGATED TO CONFIRM EXACT HORIZONTAL LOCATIONS AND DEPTHS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO EXCAVATION. TO ASCERTAIN EXISTING INVERTS, MATERIAL AND SIZES, TEST FIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENT AS REQUIRED TO AVOID CONFLICTS. THE UNDERSIGNED PROFESSIONAL DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE EXISTING UTILITIES. THE CONTRACTOR SHALL OBTAIN A UTILITY MARKOUT.
- ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR SITE IMPROVEMENTS SHOWN HEREON SHALL BE IN ACCORDANCE WITH NJ DEPT. OF TRANSPORTATION "2001 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", AS CURRENTLY AMENDED, CURRENT, PREVAILING MUNICIPAL AND/OR COUNTY SPECIFICATIONS, STANDARDS AND REQUIREMENTS, AND CURRENT, PREVAILING UTILITY COMPANY/ AUTHORITY SPECIFICATIONS, STANDARDS AND REQUIREMENTS.
- THE CONTRACTOR SHALL NOTIFY THE UNDERSIGNED IMMEDIATELY IF ANY FIELD-CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HEREON, AND/OR IF SUCH CONDITIONS, IN THE CONTRACTOR'S OPINION, WOULD OR COULD RENDER THE DESIGNS SHOWN HEREON INAPPROPRIATE OR INEFFECTIVE.

APPLICANT: TENNENT ROAD WASH & LUBE, INC  
6 TENNENT ROAD  
MARLBORO, NJ 07751

OWNER: GENESIS ASSOCIATES, INC  
25 ASBURY AVENUE  
OCEANPORT, NJ 07757

**200' PROPERTY OWNERS LIST**

BLOCK	LOT	PROPERTY OWNER	PROPERTY LOCATION
122	30	SPADE, WILLIAM E. 10 ORCHARD PLACE MORGANVILLE, NJ 07751	10 ORCHARD PLACE
123	4.01	PODOLLA, KATHI & MICHAEL 24 CHURCH LANE MORGANVILLE, NJ 07751	24 CHURCH LANE
123	4.02	YERRAM, MADHUSUDHAN & SWAROOPA 11 TENNENT ROAD MORGANVILLE, NJ 07751	11 TENNENT ROAD
123	1	NJ ENERGY REALTY LLC 536 MAIN STREET NEW PALTZ, NY 12561	1 ROUTE 79
123	9	NJ ENERGY REALTY LLC 536 MAIN STREET NEW PALTZ, NY 12561	1 ROUTE 79
123	2	LIN, ZHANYI 3 TENNENT ROAD MORGANVILLE, NJ 07751	3 TENNENT ROAD
123	3	SINGH, BALJINDER 7 TENNENT ROAD MORGANVILLE, NJ 07751	7 TENNENT ROAD
122	32	SYNERGY FEDERAL SAVING BANK 615 MERRICK AVENUE WESTBURY, NY 11590	473 ROUTE 79
122	31	GENESIS ASSOCIATES INC, A N.J. CORP 25 ASBURY AVENUE OCEANPORT, NJ 07757	ROUTE 79
122	35	14' TENNENT ROAD LLC 28 INDUSTRIAL DRIVE CLIFFWOOD, NJ 07735	14 TENNENT ROAD
122	34	STRAND INSURANCE FINANCE CO., INC. 22 TENNENT ROAD MORGANVILLE, NJ 07751	22 TENNENT ROAD

**UTILITIES**

W.M.U.A. 103 PENSION ROAD ENGLISHTOWN, NJ 07726 ATTENTION: KATHY LEATHERMAN
MARLBORO TOWNSHIP WATER UTILITY 1979 TOWNSHIP DRIVE MARLBORO, NJ 07746
GORDONS CORNER WATER UTILITY 27 VANDERBURG ROAD MARLBORO, NJ 07746
N.J. NATURAL GAS COMPANY 1415 WYCKOFF ROAD WALL, NJ 07719 ATTENTION: FRANK GRAF
CABLEVISION OF MONMOUTH 40 PINE STREET TINTON FALLS, NJ 07753
VERIZON NEW JERSEY INC 789 WAYSIDE ROAD NEPTUNE, NJ 07753
JERSEY CENTRAL POWER & LIGHT COMPANY 331 NEWMAN SPRING ROAD STE 325 BLDG 3 RED BANK, NJ 07701 ATTN: JOY BOSTICK
STATE OF NJ DEPT OF TRANSPORTATION 100 DANIELS WAY FREEHOLD, NJ 07728



**KEY MAP**

1" = ±400'

SITUATED IN  
**BLOCK 33, LOT 122**  
**TOWNSHIP OF MARLBORO**  
**MONMOUTH COUNTY, NEW JERSEY**

**ZONING SCHEDULE (C-2 ZONE)**

BULK STANDARDS	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA	130,680 SF 3 ACRES	38,083.88 SF** 0.874 ACRES**	38,083.88 SF** 0.874 ACRES**
MIN. LOT FRONTAGE	300 FT	150 FT**	150 FT**
MIN. LOT WIDTH	300 FT	135 FT**	135 FT**
MIN. LOT DEPTH	200 FT	253 FT	253 FT
MAX BUILDING COVERAGE	30%	N/A	11.42%
MAX BUILDING HEIGHT	35 FT	N/A	< 35 FT
MAX IMPERVIOUS COVERAGE	60%	N/A	59.97%
FLOOR AREA RATIO (FAR)	0.30	N/A	0.12
<b>PRINCIPAL BUILDING</b>			
FRONT YARD SETBACK	75 FT	N/A	126.0 FT
SIDE YARD SETBACK	50 FT	N/A	21.0 FT*
REAR YARD SETBACK	50 FT	N/A	59.8 FT
<b>PARKING REQUIREMENTS</b>			
PROPOSED CAR WASH (1 LANE)	12 SPACES/LANE (RESERVOIR)	N/A	16 SPACES
PROP. LUBE CENTER		N/A	12 SPACES 9 STACKING
PARKING SETBACK TO BUILDING	30 FT		8.0 FT*
<b>BARRIER-FREE SPACES</b>			
1% TOTAL PARKING/MINIMUM 2			
TOTAL SPACES	2 SPACES		1 SPACE*

\* PROPOSED VARIANCE

\*\* EXISTING NON-CONFORMITY

**PROPOSED SIGNAGE:**

- 220-99 (1) FREE-STANDING SIGN:  
MAX HEIGHT 15'  
MAX AREA 60 SF  
MIN. SETBACK 10 FT
- (1) WALL MOUNTED SIGN:  
MAX. 10% TOTAL FACADE AREA

**LIST OF VARIANCES AND WAIVERS:**

- 220-34 MIN. LOT AREA 3 AC. REQUIRED, 0.874 AC. EXISTING NON-CONFORMITY TO CONTINUE.
- 220-34 MIN. LOT FRONTAGE 300 FT. REQUIRED, 150 FT. EXISTING NON-CONFORMITY TO CONTINUE.
- 220-34 MIN. LOT WIDTH 300 FT. REQUIRED, 150 FT. EXISTING NON-CONFORMITY TO CONTINUE.
- 220-34 MIN. LOT SIDE SETBACK 50 FT. REQUIRED, 21.0 FT. PROPOSED.
- 220-97B MIN. PARKING STALL LENGTH 20 FT. REQUIRED, 18 FT. PROPOSED. MIN. PARKING STALL WIDTH 10 FT. REQUIRED, 9 FT. PROPOSED.
- 220-97C MIN. PARKING SETBACK FROM FACE OF BUILDING, 30 FT. REQUIRED, 8 FT. PROPOSED.

APPROVED BY THE ZONING BOARD OF THE TOWNSHIP OF MARLBORO

I HEREBY CERTIFY THAT I AM THE OWNER OF RECORD AND THAT I CONCUR WITH THE PLANS AS SHOWN.

CHAIRMAN DATE

*Dwight MacCock*  
DWIGHT MACCOCK  
GENESIS ASSOCIATES, INC

SECRETARY DATE

ENGINEER DATE

**SHEET INDEX**

No.	DESCRIPTION	DATE	LAST REVISED
1	TITLE SHEET	2/6/2020	
2	EXISTING CONDITIONS	2/6/2020	
3	SITE PLAN	2/6/2020	
4	GRADING & SOIL EROSION & SEDIMENT CONTROL PLAN	2/6/2020	
5	DRAINAGE PLAN	2/6/2020	
6	PIPE PROFILE	2/6/2020	
7	LANDSCAPING PLAN	2/6/2020	
8	LIGHTING PLAN	2/6/2020	
9	CONSTRUCTION DETAILS & SOIL EROSION & SEDIMENT CONTROL DETAILS	2/6/2020	
10	CONSTRUCTION DETAILS	2/6/2020	
11	CONSTRUCTION DETAILS	2/6/2020	
12	SOIL EROSION & SEDIMENT CONTROL DETAILS	2/6/2020	
13	SOIL EROSION & SEDIMENT CONTROL DETAILS	2/6/2020	

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REVISION NO.	DATE	REVISION

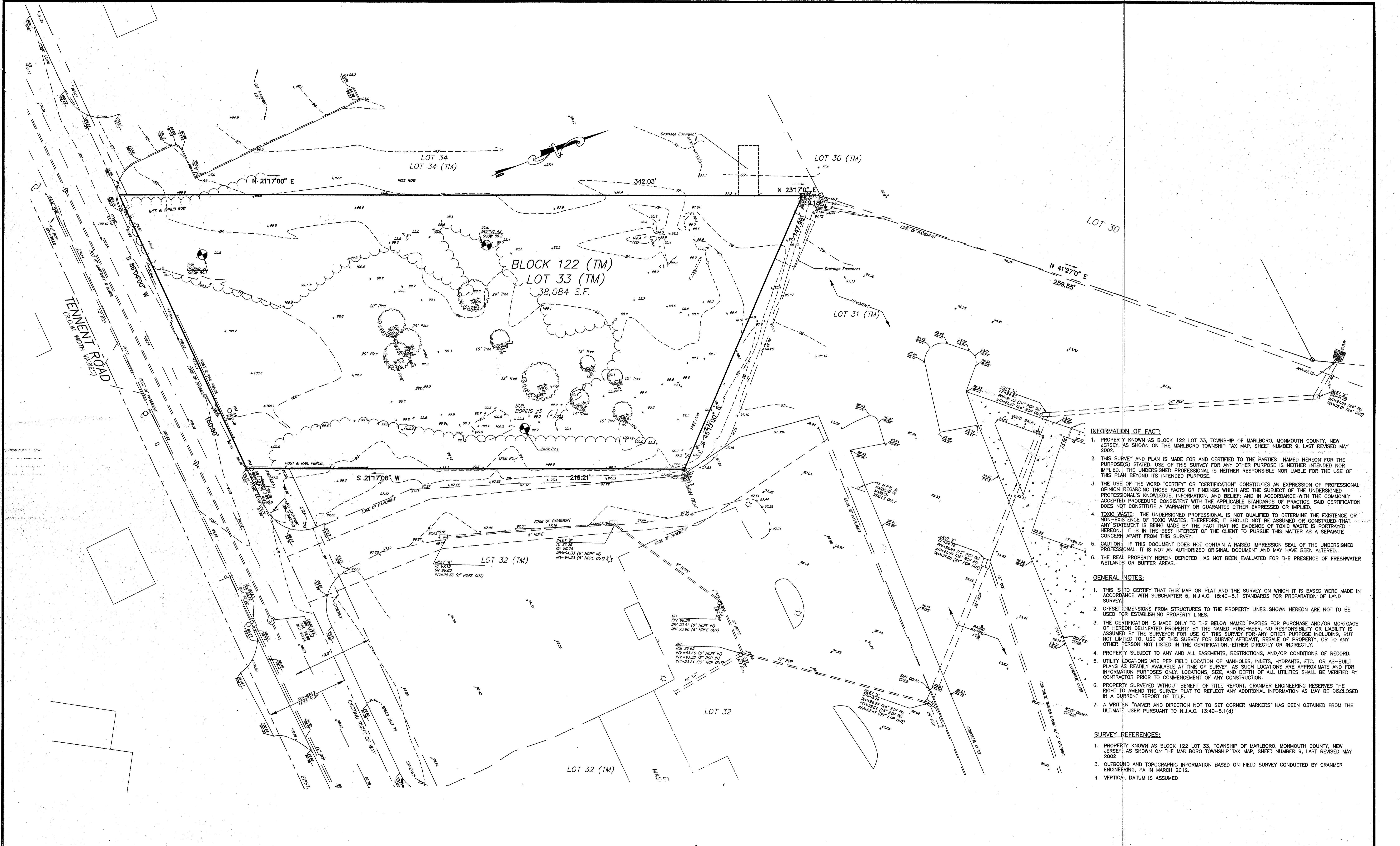
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*David A. Cranmer*  
**DAVID A. CRANMER, PE**  
LICENSED PROFESSIONAL ENGINEER  
STATE OF NEW JERSEY LICENSE No. 41926

**CE**™ **Cranmer Engineering, P.A.**  
CORPORATE HEADQUARTERS: 499 Broad Street, Suite 1008, Shrewsbury, NJ 07702, Tel: (732) 212-8900, Fax: (732) 212-8910  
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**COVER SHEET**  
**TENNENT ROAD WASH & LUBE, LLC**  
LOT 33, BLOCK 122  
TAX MAP SHEET NO. 9  
TOWNSHIP OF MARLBORO MONMOUTH COUNTY NEW JERSEY

PROJECT No: 2018-015-125 | FILE: 01- COVER.dwg  
DRAWN BY: NM | DESIGNED BY: DAC  
SCALE: | CHECKED BY: DAC  
DATE: FEBRUARY 6, 2020 | SHEET NO.: 1 of 13



**INFORMATION OF FACT:**

1. PROPERTY KNOWN AS BLOCK 122 LOT 33, TOWNSHIP OF MARLBORO, MONMOUTH COUNTY, NEW JERSEY, AS SHOWN ON THE MARLBORO TOWNSHIP TAX MAP, SHEET NUMBER 9, LAST REVISED MAY 2002.
2. THIS SURVEY AND PLAN IS MADE FOR AND CERTIFIED TO THE PARTIES NAMED HEREON FOR THE PURPOSE(S) STATED. USE OF THIS SURVEY FOR ANY OTHER PURPOSE IS NEITHER INTENDED NOR IMPLIED. THE UNDERSIGNED PROFESSIONAL IS NEITHER RESPONSIBLE NOR LIABLE FOR THE USE OF THIS PLAN BEYOND ITS INTENDED PURPOSE.
3. THE USE OF THE WORD "CERTIFY" OR "CERTIFICATION" CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OR FINDINGS WHICH ARE THE SUBJECT OF THE UNDERSIGNED PROFESSIONAL'S KNOWLEDGE, INFORMATION AND BELIEF; AND IN ACCORDANCE WITH THE COMMONLY ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE. SAID CERTIFICATION DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE EITHER EXPRESSED OR IMPLIED.
4. TOXIC WASTE: THE UNDERSIGNED PROFESSIONAL IS NOT QUALIFIED TO DETERMINE THE EXISTENCE OR NON-EXISTENCE OF TOXIC WASTES. THEREFORE, IT SHOULD NOT BE ASSUMED OR CONSTRUED THAT ANY STATEMENT IS BEING MADE BY THE FACT THAT NO EVIDENCE OF TOXIC WASTE IS PORTRAYED HEREON. IT IS IN THE BEST INTEREST OF THE CLIENT TO PURSUE THIS MATTER AS A SEPARATE CONCERN APART FROM THIS SURVEY.
5. CAUTION: IF THIS DOCUMENT DOES NOT CONTAIN A RAISED IMPRESSION SEAL OF THE UNDERSIGNED PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT AND MAY HAVE BEEN ALTERED.
6. THE REAL PROPERTY HEREIN DEPICTED HAS NOT BEEN EVALUATED FOR THE PRESENCE OF FRESHWATER WETLANDS OR BUFFER AREAS.

**GENERAL NOTES:**

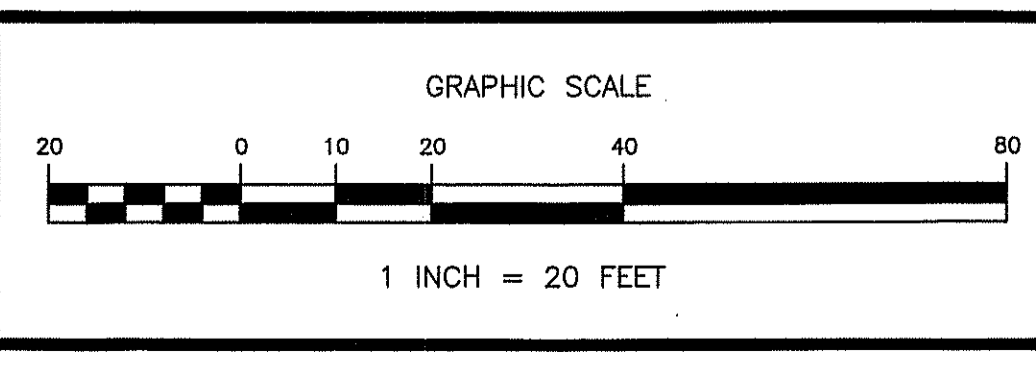
1. THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH SUBCHAPTER 5, N.J.A.C. 15:40-5.1 STANDARDS FOR PREPARATION OF LAND SURVEY.
2. OFFSET DIMENSIONS FROM STRUCTURES TO THE PROPERTY LINES SHOWN HEREON ARE NOT TO BE USED FOR ESTABLISHING PROPERTY LINES.
3. THE CERTIFICATION IS MADE ONLY TO THE BELOW NAMED PARTIES FOR PURCHASE AND/OR MORTGAGE OF HEREON DELINEATED PROPERTY BY THE NAMED PURCHASER. NO RESPONSIBILITY OR LIABILITY IS ASSUMED BY THE SURVEYOR FOR USE OF THIS SURVEY FOR ANY OTHER PURPOSE INCLUDING, BUT NOT LIMITED TO, USE OF THIS SURVEY FOR SURVEY AFFIDAVIT, RESALE OF PROPERTY, OR TO ANY OTHER PERSON NOT LISTED IN THE CERTIFICATION, EITHER DIRECTLY OR INDIRECTLY.
4. PROPERTY SUBJECT TO ANY AND ALL EASEMENTS, RESTRICTIONS, AND/OR CONDITIONS OF RECORD.
5. UTILITY LOCATIONS ARE PER FIELD LOCATION OF MANHOLES, INLETS, HYDRANTS, ETC., OR AS-BUILT PLANS AS READILY AVAILABLE AT TIME OF SURVEY. AS SUCH LOCATIONS ARE APPROXIMATE AND FOR INFORMATION PURPOSES ONLY. LOCATIONS, SIZE, AND DEPTH OF ALL UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. PROPERTY SURVEYED WITHOUT BENEFIT OF TITLE REPORT. CRANMER ENGINEERING RESERVES THE RIGHT TO AMEND THE SURVEY PLAT TO REFLECT ANY ADDITIONAL INFORMATION AS MAY BE DISCLOSED IN A CURRENT REPORT OF TITLE.
7. A WRITTEN "WAIVER AND DIRECTION NOT TO SET CORNER MARKERS" HAS BEEN OBTAINED FROM THE ULTIMATE USER PURSUANT TO N.J.A.C. 13:40-5.1(d)

**SURVEY REFERENCES:**

1. PROPERTY KNOWN AS BLOCK 122 LOT 33, TOWNSHIP OF MARLBORO, MONMOUTH COUNTY, NEW JERSEY, AS SHOWN ON THE MARLBORO TOWNSHIP TAX MAP, SHEET NUMBER 9, LAST REVISED MAY 2002.
2. OUTBOUND AND TOPOGRAPHIC INFORMATION BASED ON FIELD SURVEY CONDUCTED BY CRANMER ENGINEERING, P.A. MARLBORO, NJ 08053.
3. VERTICAL DATUM IS ASSUMED

REVISION NO.	DATE	REVISION

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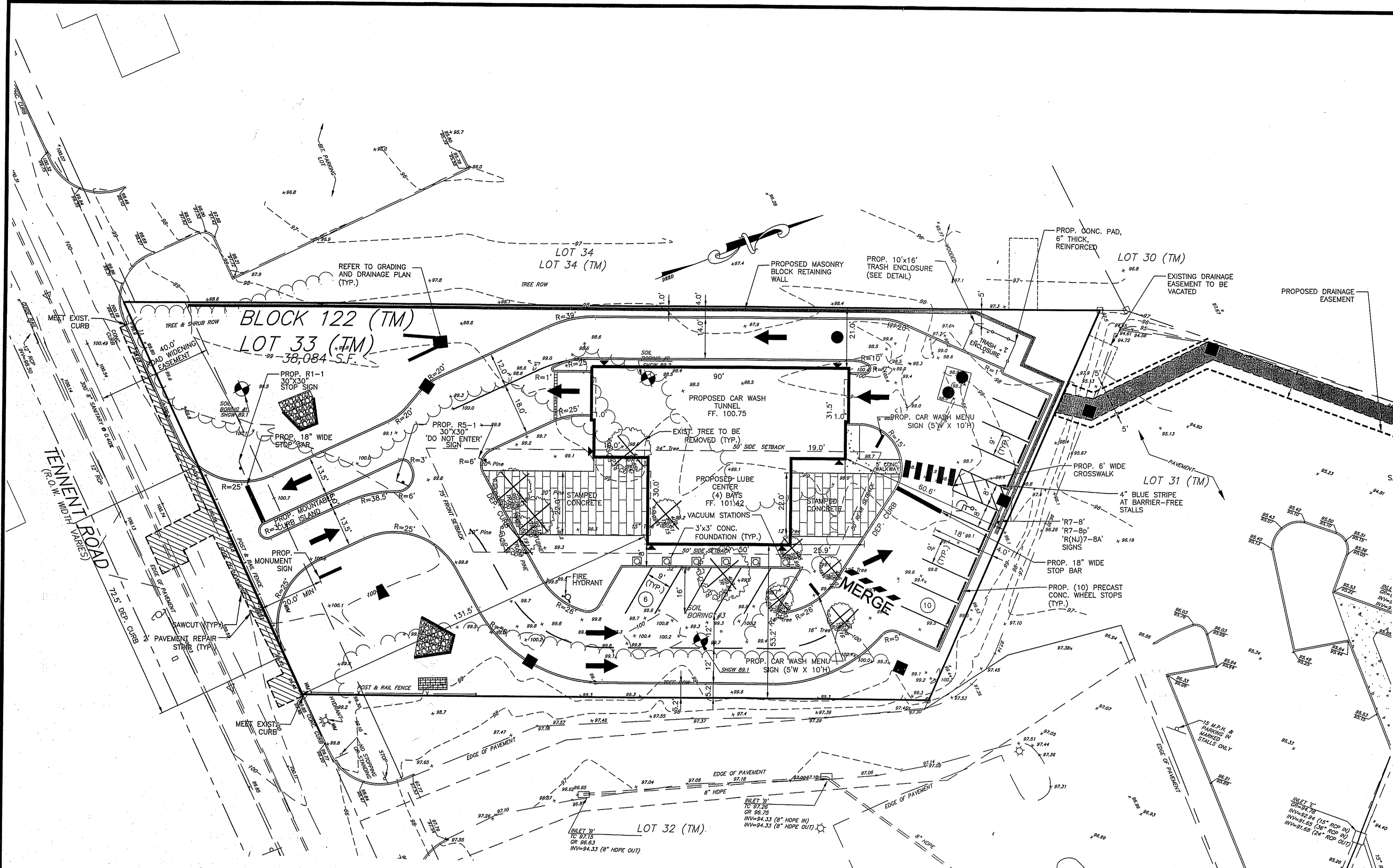
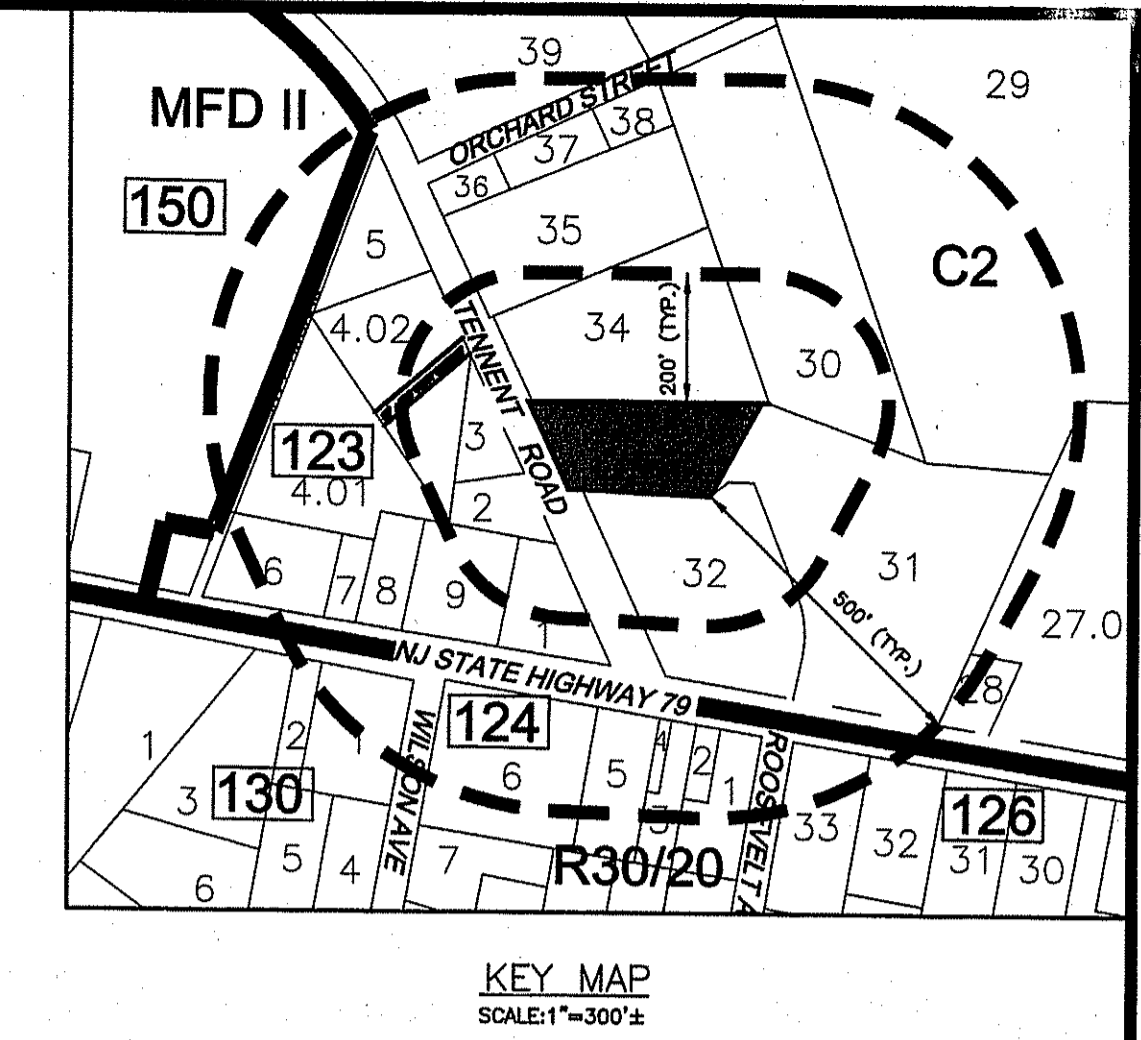
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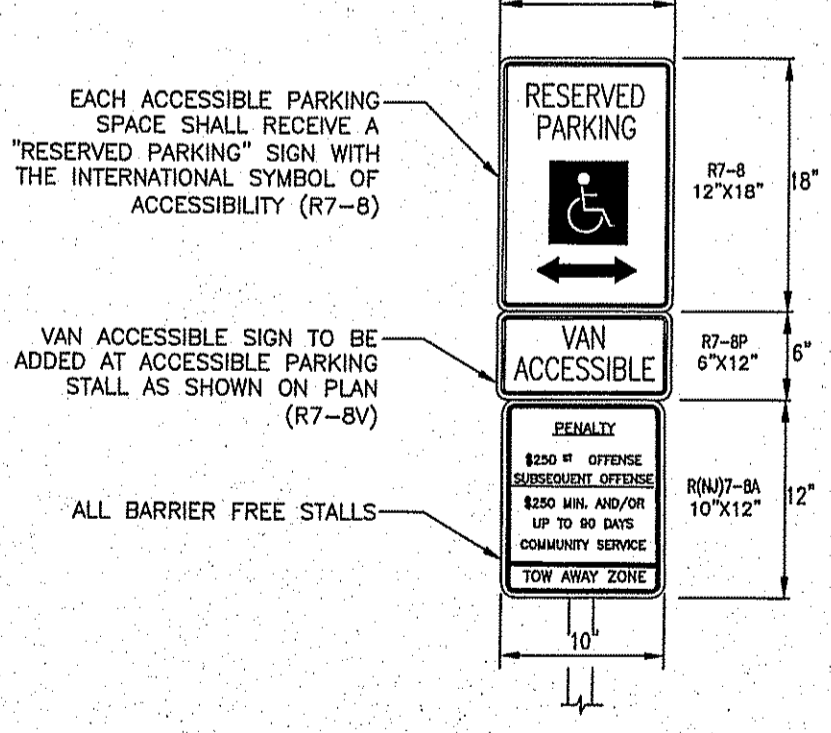
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**EXISTING SITE CONDITIONS**  
**TENENT ROAD WASH & LUBE, LLC**  
LOT 33, BLOCK 122  
TAX MAP SHEET NO. 9  
TOWNSHIP OF MARLBORO MONMOUTH COUNTY NEW JERSEY

PROJECT No. 2018-015-125	FILE 02-SURVEY.DWG
DRAWN BY NM	DESIGNED BY
SCALE 1"=20'	CHECKED BY DAC
DATE FEBRUARY 06, 2020	SHEET NO. 2 of 13

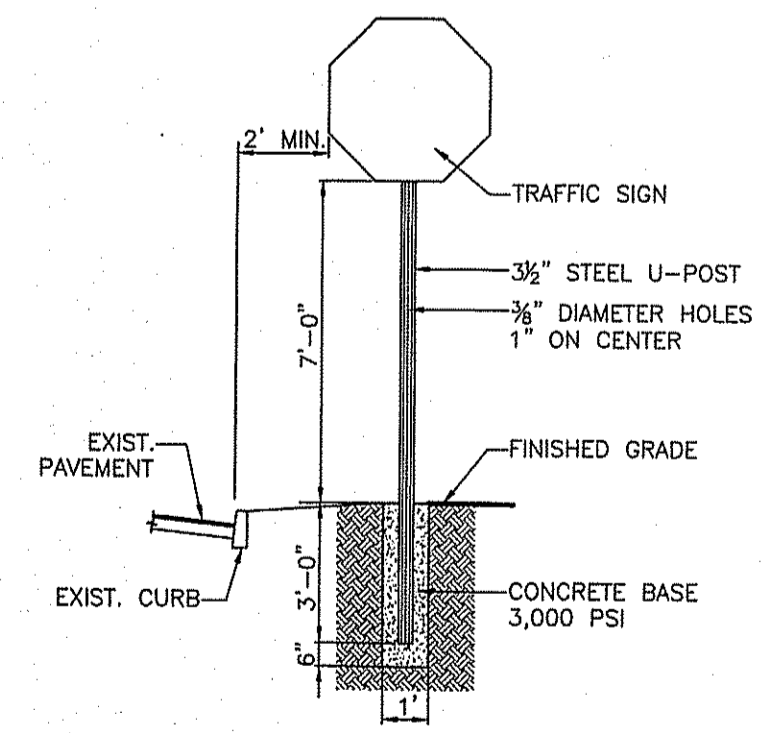


- CONSTRUCTION NOTES:**
- ALL WORK TO CONFORM WITH THE LATEST EDITION OF THE FOLLOWING:  
NJDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION  
MONMOUTH COUNTY DESIGN STANDARDS  
MUNICIPAL DESIGN STANDARDS  
CURRENT MANUFACTURERS SPECIFICATIONS, STANDARDS, AND REQUIREMENTS  
CURRENT, PREVAILING UTILITY COMPANY OR AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.
  - ALL BARRIER FREE CONSTRUCTION TO BE IN ACCORDANCE WITH THE NJ UNIFORM CONSTRUCTION CODE, SUBCHAPTER 7: BARRIER FREE SUBCODE AND ADA REGULATIONS WHERE REQUIRED.
  - CONTRACTOR IS RESPONSIBLE TO SECURE ALL WORKER SAFETY, TRAINING, AND SAFETY DEVICE USAGE FOR AND DURING THE CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THIS PLAN.
  - THE CONTRACTOR IS DESIGNATED AS RESPONSIBLE PARTY DURING CONSTRUCTION OF THE IMPROVEMENTS SHOWN HEREON. AS SUCH, CONTRACTOR WILL PROVIDE ADEQUATE SAFETY TRAINING, EQUIPMENT, AND OVERSIGHT.
  - CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL REQUIRED PERMITS AND APPROVALS FOR CONSTRUCTION OF THE DEPICTED SITE IMPROVEMENTS.
  - ALL DISTURBED AREAS ON SITE TO BE STABILIZED IN ACCORDANCE WITH THE FREEHOLD SOIL CONSERVATION DISTRICT STANDARDS.
  - ALL AREAS NOT COVERED BY IMPERVIOUS SURFACE SHALL BE SEEDED OR OTHERWISE STABILIZED IN ACCORDANCE WITH SOIL EROSION CONTROL SPECIFICATIONS.
  - THE NEW JERSEY ONE CALL SYSTEM MUST BE CONTACTED PRIOR TO EXCAVATION ON-SITE OR WITHIN R.O.W. (800) 242-1000.
  - ALL UTILITY CONNECTIONS AND RELOCATIONS ARE SHOWN SCHEMATICALLY. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH EACH UTILITY COMPANY AND ARCHITECT TO PROVIDE THE MOST APPROPRIATE LOCATION FOR UTILITY CONNECTIONS AND/OR RELOCATIONS.
  - EXISTING SITE AND UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS.
  - ALL TRAFFIC SIGNS AND STRIPING SHALL CONFORM WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
  - ALL WATER AND SEWER SERVICES SHALL BE INSTALLED WITH A HORIZONTAL SEPARATION OF 10' OR A VERTICAL SEPARATION OF 18", OR BE ENCASED IN CONCRETE, 6" THICK, 18" ON EITHER SIDE OF CROSSINGS.
  - ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THIS DEVELOPMENT, SHALL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR.
  - DURING R.O.W. WORK, TRAFFIC TO BE PROTECTED AND MAINTAINED IN ACCORDANCE WITH MUTCD REQUIREMENTS.
  - CONTRACTOR TO MATCH EXISTING PAVEMENT SPECIFICATIONS FOR ALL PAVEMENT REPAIR TO EXISTING ROADWAYS.
  - CONCRETE SHALL BE NJDOT CLASS B UNLESS OTHERWISE STATED HEREIN OR WITHIN THE CONSTRUCTION DETAILS.
  - ALL IMPROVEMENTS SHOWN HEREON TO BE REMOVED SHALL BE DISPOSED OF IN A MANNER NOT CONTRARY TO LOCAL OR STATE ORDINANCES.
  - CONTRACTOR TO NOTIFY THE UNDERSIGNED PROFESSIONAL IF FIELD CONDITIONS VARY FROM THAT WHICH IS SHOWN HEREON.
  - THIS PLAN SET HAS BEEN PREPARED FOR MUNICIPAL AND AGENCY APPROVALS. THIS PLAN NOT TO BE UTILIZED FOR CONSTRUCTION UNTIL MARKED "FOR CONSTRUCTION"
  - ALL ROOF LEADER DOWNSPOUTS ARE TO BE FITTED WITH SPLASH BLOCKS AND DIRECTED TO THE STREET UNLESS OTHERWISE SPECIFIED.
  - ANY EXISTING STREET TREES DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY A TREE OF SUITABLE SIZE AND SPECIES AS APPROVED BY THE BOROUGH, PLANTED BEHIND THE SIDEWALK IN THE RIGHT OF WAY.

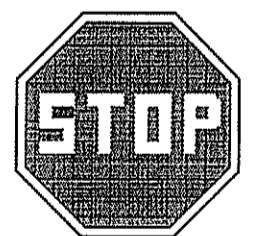


**BARRIER FREE PARKING SIGNS**  
N.T.S.

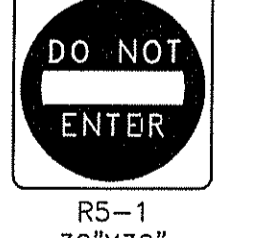
NOTE:  
THE DESIGN AND PLACEMENT OF ALL TRAFFIC SIGNS AND STRIPING SHALL FOLLOW THE REQUIREMENTS SPECIFIED IN THE LATEST "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," (MUTCD) PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION AND ADOPTED BY THE NJ DEPARTMENT OF TRANSPORTATION.



**TYPICAL SIGN POST DETAIL**  
N.T.S.

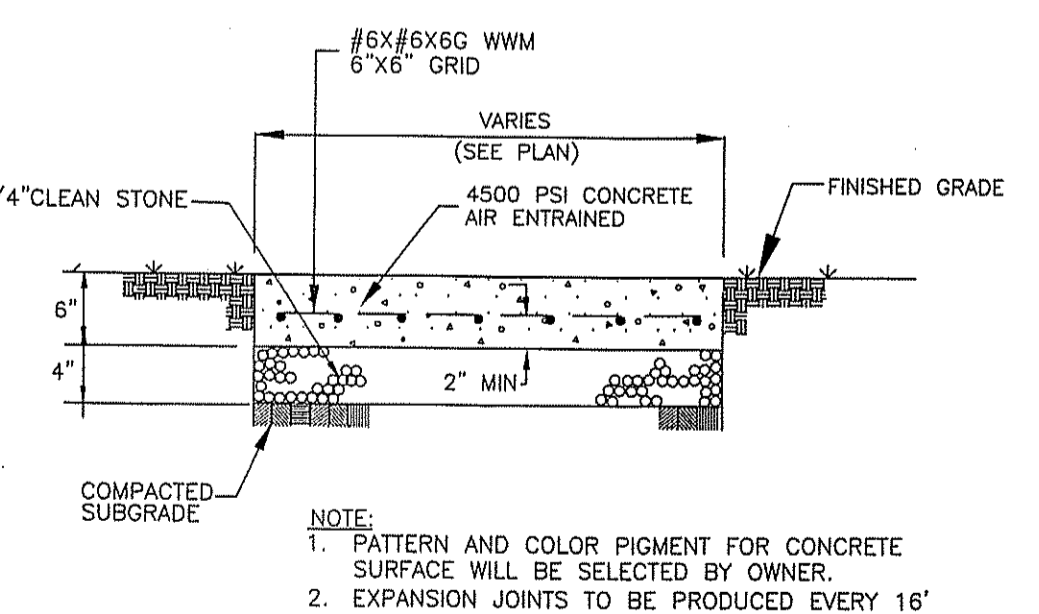


R1-1  
30"X30"

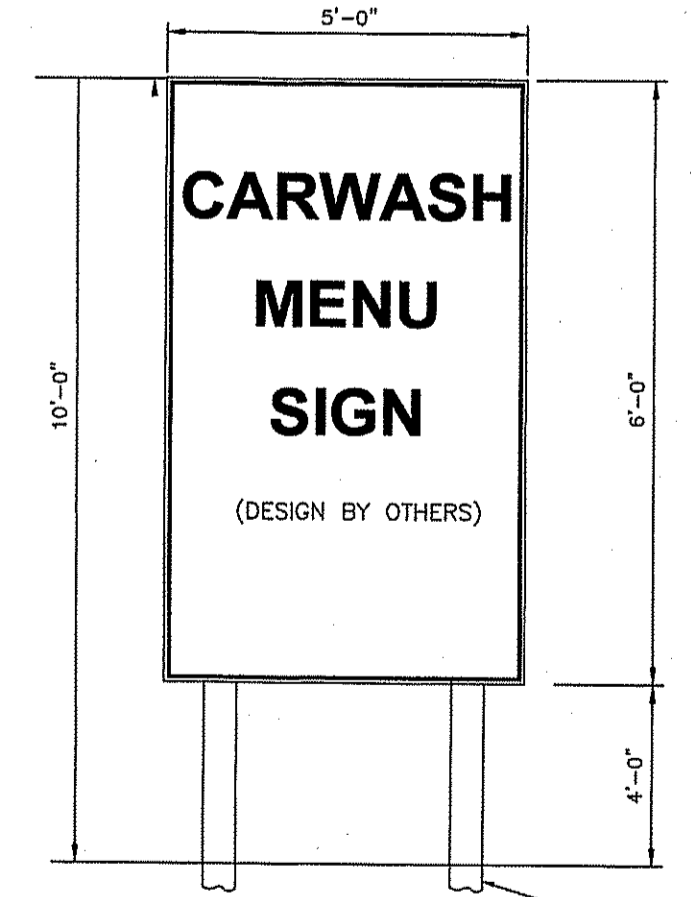


R5-1  
30"X30"

**SIGNS**  
N.T.S.



**REINFORCED STAMPED CONCRETE DETAIL**  
N.T.S.



**CARWASH MENU SIGN**  
N.T.S.

REVISION NO.	DATE	REVISION

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GRAPHIC SCALE  
1 INCH = 20 FEET

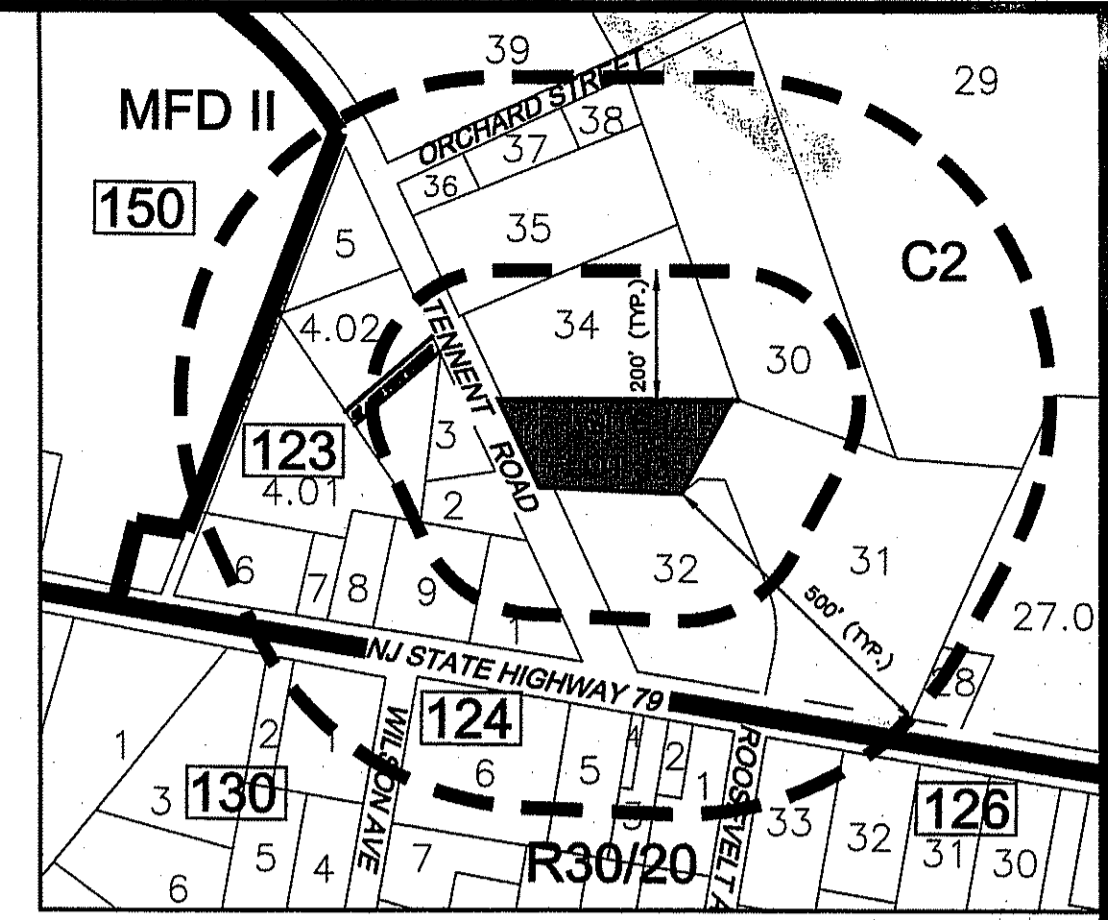
**DAVID A. CRANMER, PE**  
LICENSED PROFESSIONAL ENGINEER  
STATE OF NEW JERSEY LICENSE No. 41926

**Cranmer Engineering, P.A.**  
CORPORATE HEADQUARTERS: 499 Broad Street, Suite 1008, Shrewsbury, NJ 07702, Tel: (732) 212-8900, Fax: (732) 212-8910  
SOUTHEAST REGIONAL OFFICE: 301 McCollough Drive, Charlotte, NC 28262, Tel: (704) 909-2900, Fax: (704) 909-2898

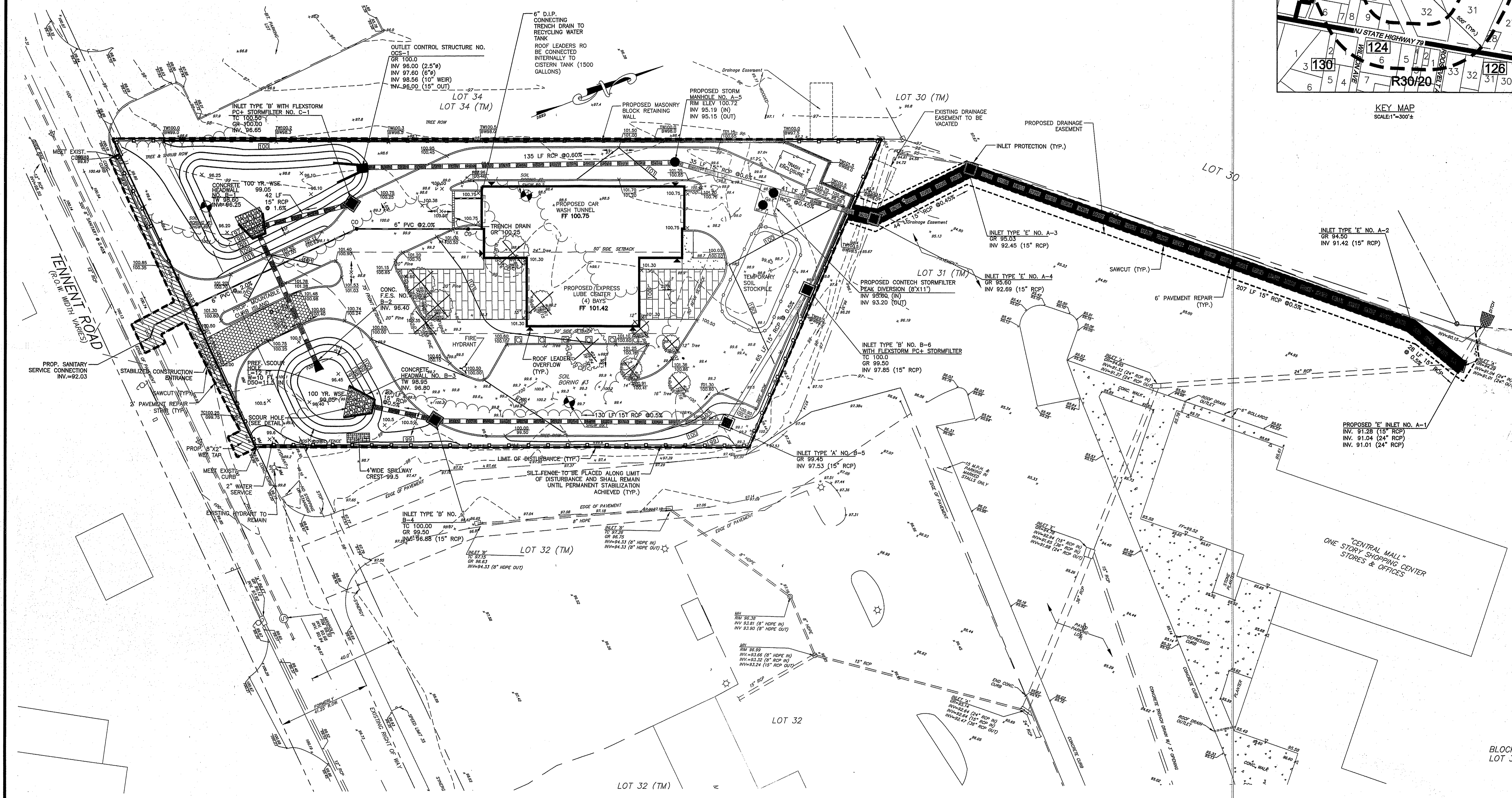
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**SITE PLAN**  
**TENNENT ROAD WASH & LUBE, LLC**  
LOT 33, BLOCK 122  
TAX MAP SHEET NO. 9  
TOWNSHIP OF MARLBORO  
MONMOUTH COUNTY  
NEW JERSEY

PROJECT No. 2018-015-125	FILE 03-07 SITE.dwg
DRAWN BY NM	DESIGNED BY DAC
CHECKED BY DAC	CHECKED BY DAC
SCALE 1"=20'	SHEET NO. 3 of 13
DATE FEBRUARY 6, 2020	



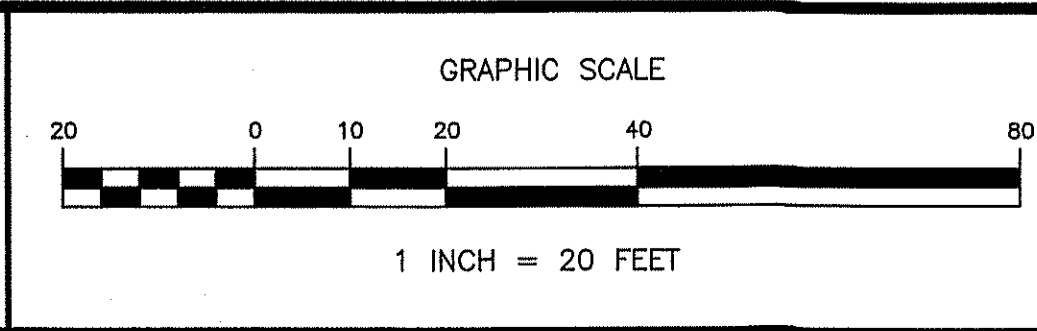
KEY MAP  
SCALE: 1"=300'



AREA OF DISTURBANCE 40,810 S.F. = 0.937 AC.

REVISION NO.	DATE	REVISION

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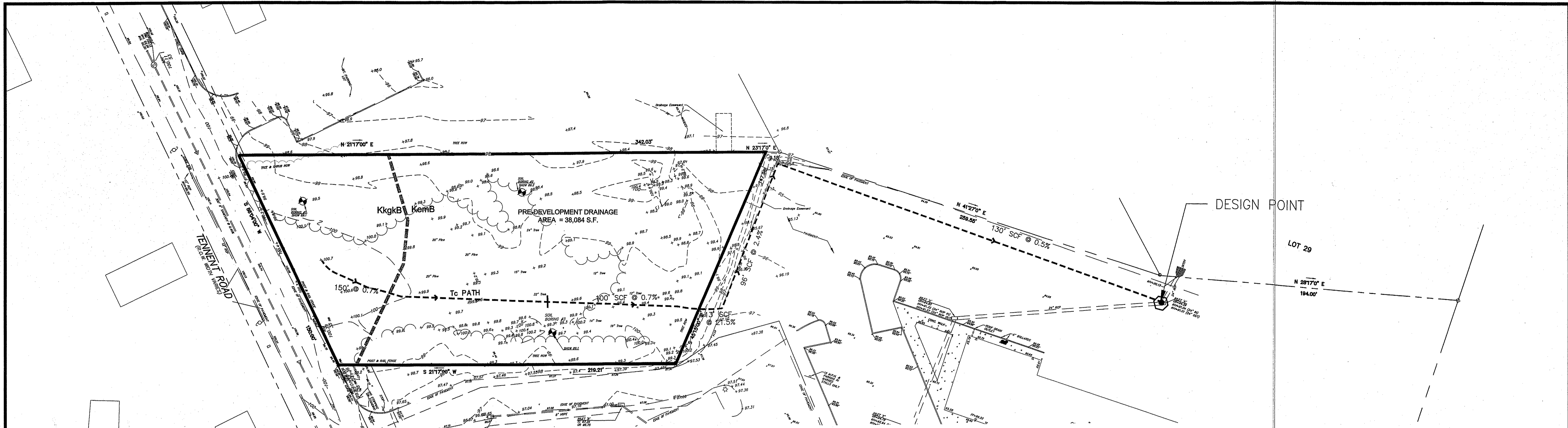


**DAVID A. CRANMER, PE**  
LICENSED PROFESSIONAL ENGINEER  
STATE OF NEW JERSEY LICENSE No. 41926

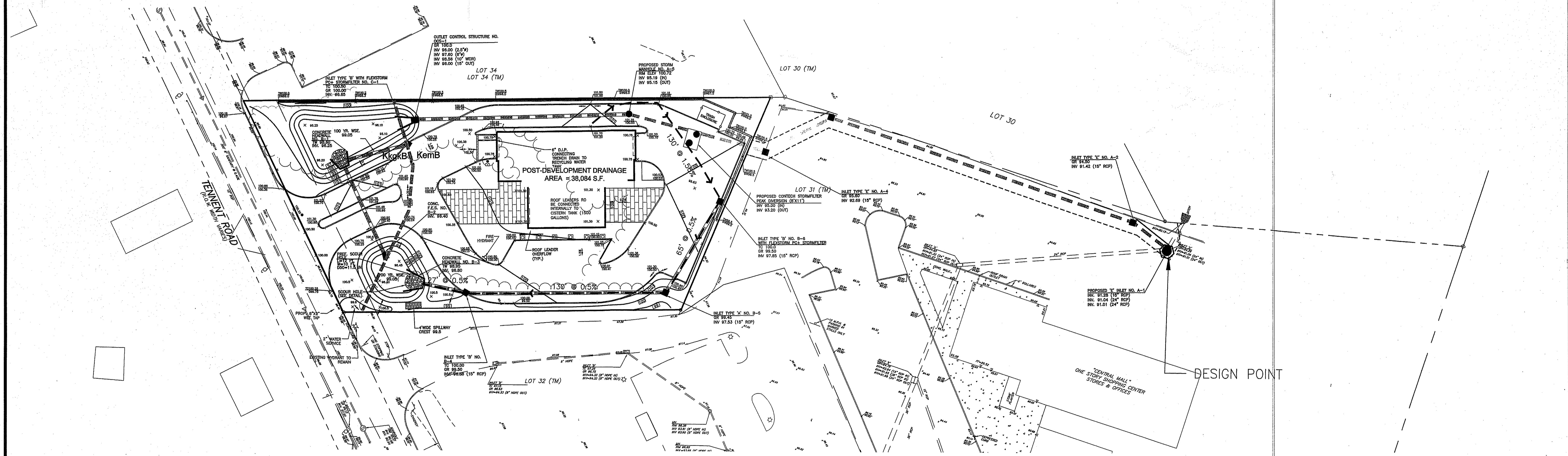
**CE™ Cranmer Engineering, P.A.**  
CORPORATE HEADQUARTERS: 499 Broad Street, Suite 1008, Shrewsbury, NJ 07702, Tel. (732) 212-8900, Fax (732) 212-8910  
SOUTHEAST REGIONAL OFFICE: 301 McCollough Drive, Charlotte, NC 28262, Tel. (704) 909-2900, Fax (704) 909-2898  
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**GRADING PLAN AND SOIL EROSION SEDIMENT CONTROL PLAN**  
**TENNENT ROAD WASH & LUBE, LLC**  
LOT 33, BLOCK 122  
TAX MAP SHEET NO. 9  
TOWNSHIP OF MARLBORO MONMOUTH COUNTY NEW JERSEY

PROJECT No	2018-015-125	FILE	03-07 SITE.dwg
DRAWN BY	NM	DESIGNED BY	DAC
SCALE	AS SHOWN	CHECKED BY	DAC
DATE	FEBRUARY 6, 2020	SHEET NO.	4 of 13



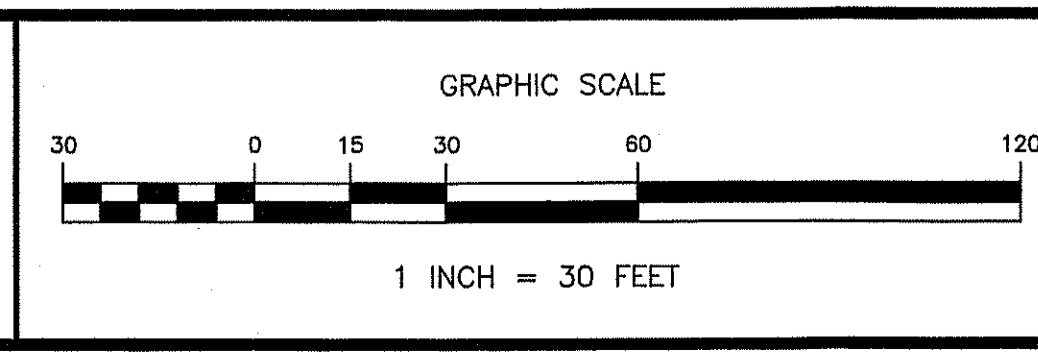
**PRE DEVELOPMENT DRAINAGE AREA MAP**



**POST DEVELOPMENT DRAINAGE AREA MAP**

REVISION NO.	DATE	REVISION

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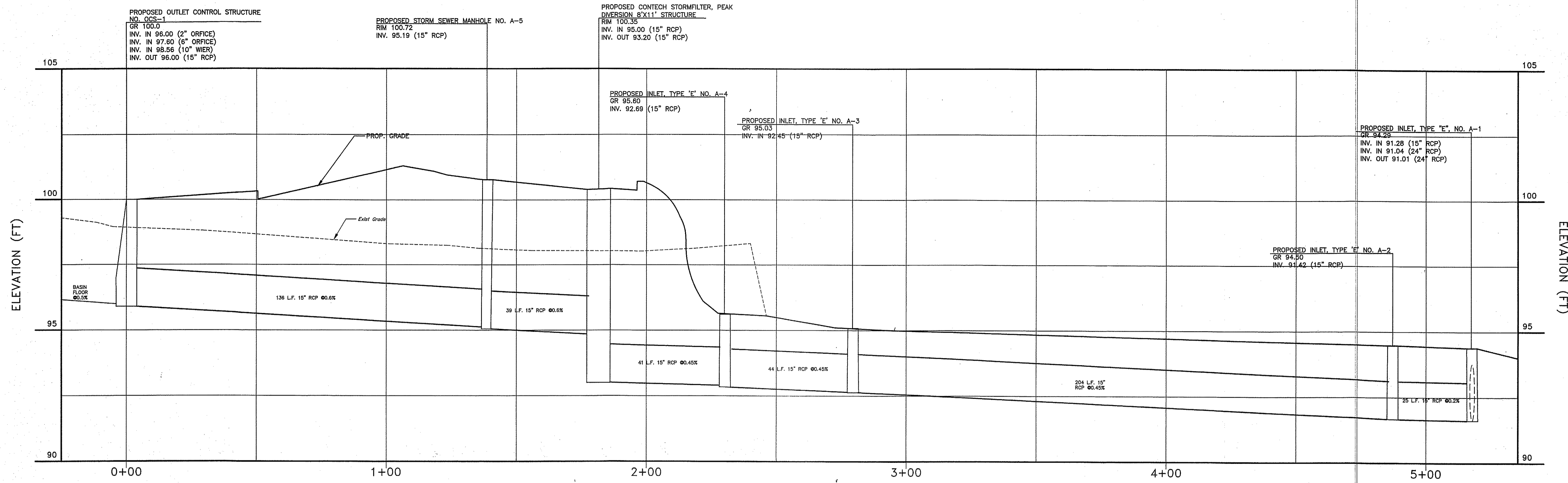
*David A. Cranmer*  
**DAVID A. CRANMER, PE**  
LICENSED PROFESSIONAL ENGINEER  
STATE OF NEW JERSEY LICENSE No. 41926

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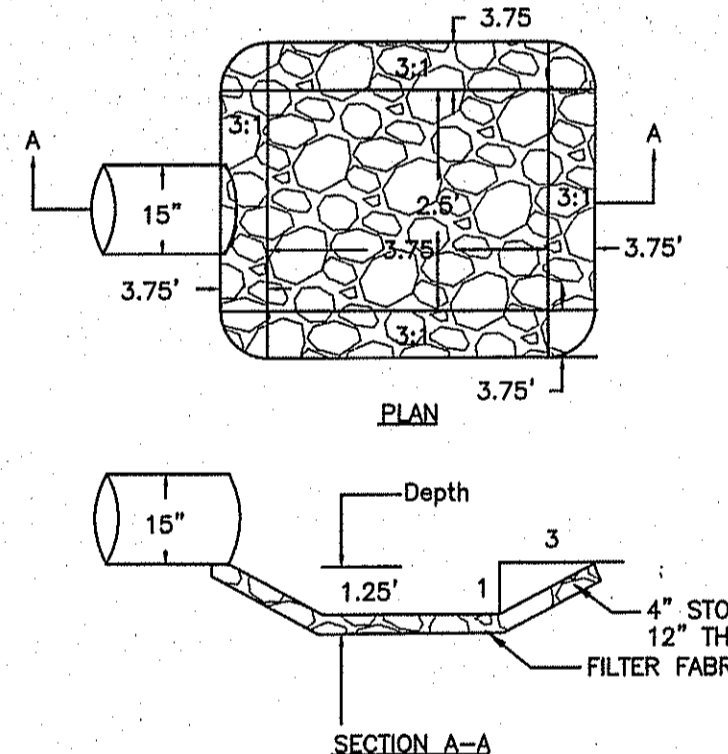
**DRAINAGE AREA MAP**  
**TENNENT ROAD WASH & LUBE, LLC**  
LOT 33, BLOCK 122  
TAX MAP SHEET NO. 9  
TOWNSHIP OF MARLBORO    MONMOUTH COUNTY    NEW JERSEY

PROJECT No. 2018-015-125	FILE 05- STORM.DWG
DRAWN BY NM	DESIGNED BY DAC
SCALE 1"=30'	CHECKED BY DAC
DATE FEBRUARY 6, 2020	SHEET NO. 5 of 13



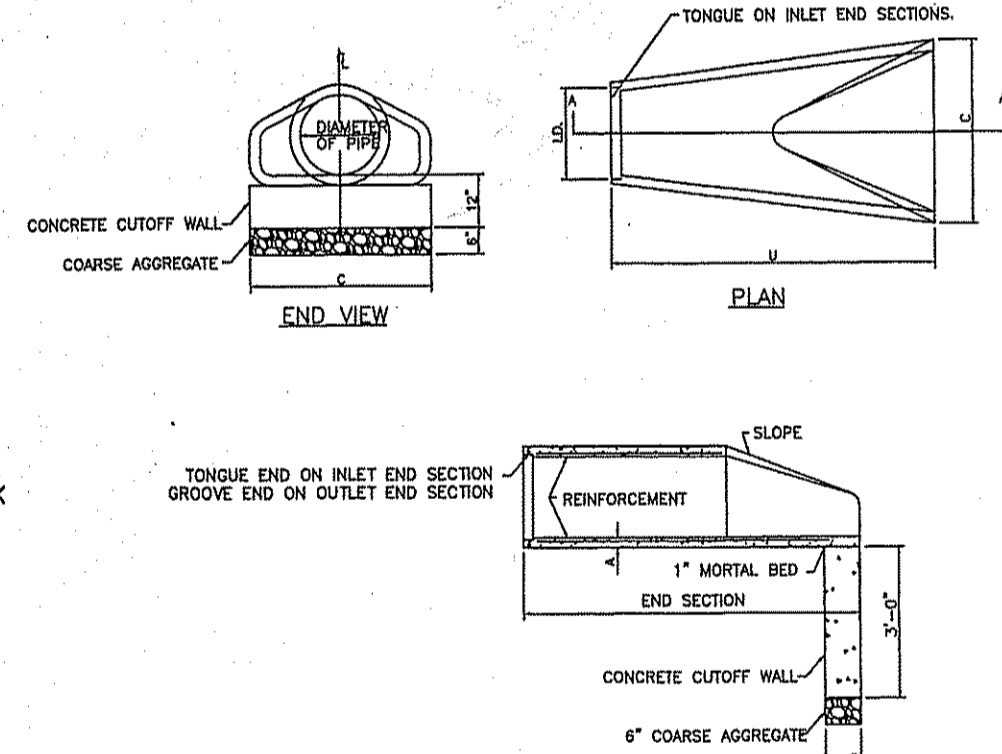
**STORM SEWER PROFILE** SCALE: H. 1"=20'  
V. 1"=2'

DIMENSIONS (INCHES)											
L.D.	12	18	24	30	36	42	48	54	60	66	72
A	2	3	4	5	6	7	8	9	10	11	12
U	72	72	72	72	72	72	72	72	72	72	72
C	28	34.5	41	47.5	54	60.5	67	73.5	80	86.5	93

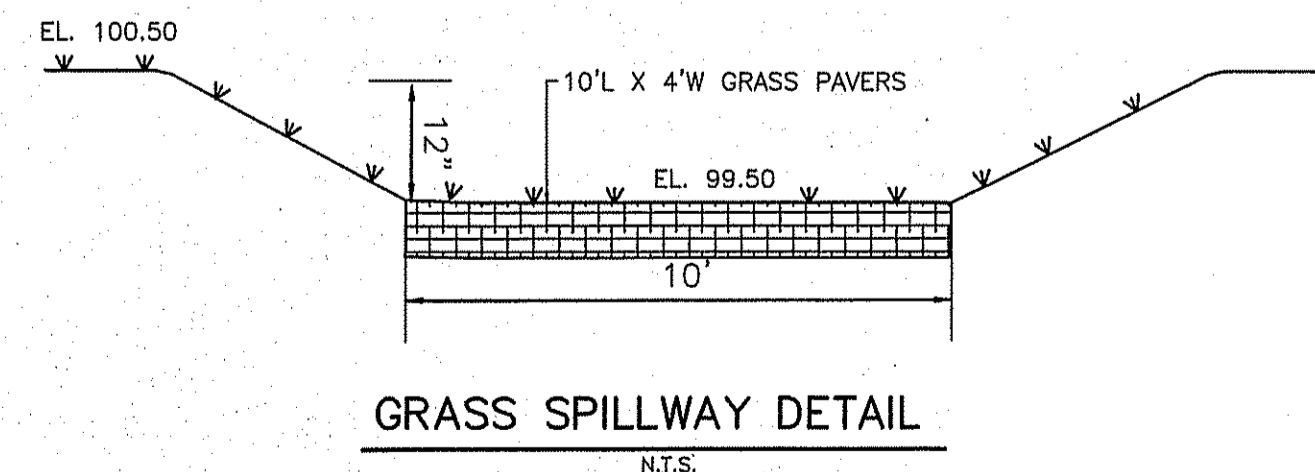


BASIN	Do	L	W	DEPTH	D50	TH
A	15"	3.75'	2.5'	3.75'	4"	12"
B	15"	3.75'	2.5'	3.75'	4"	12"

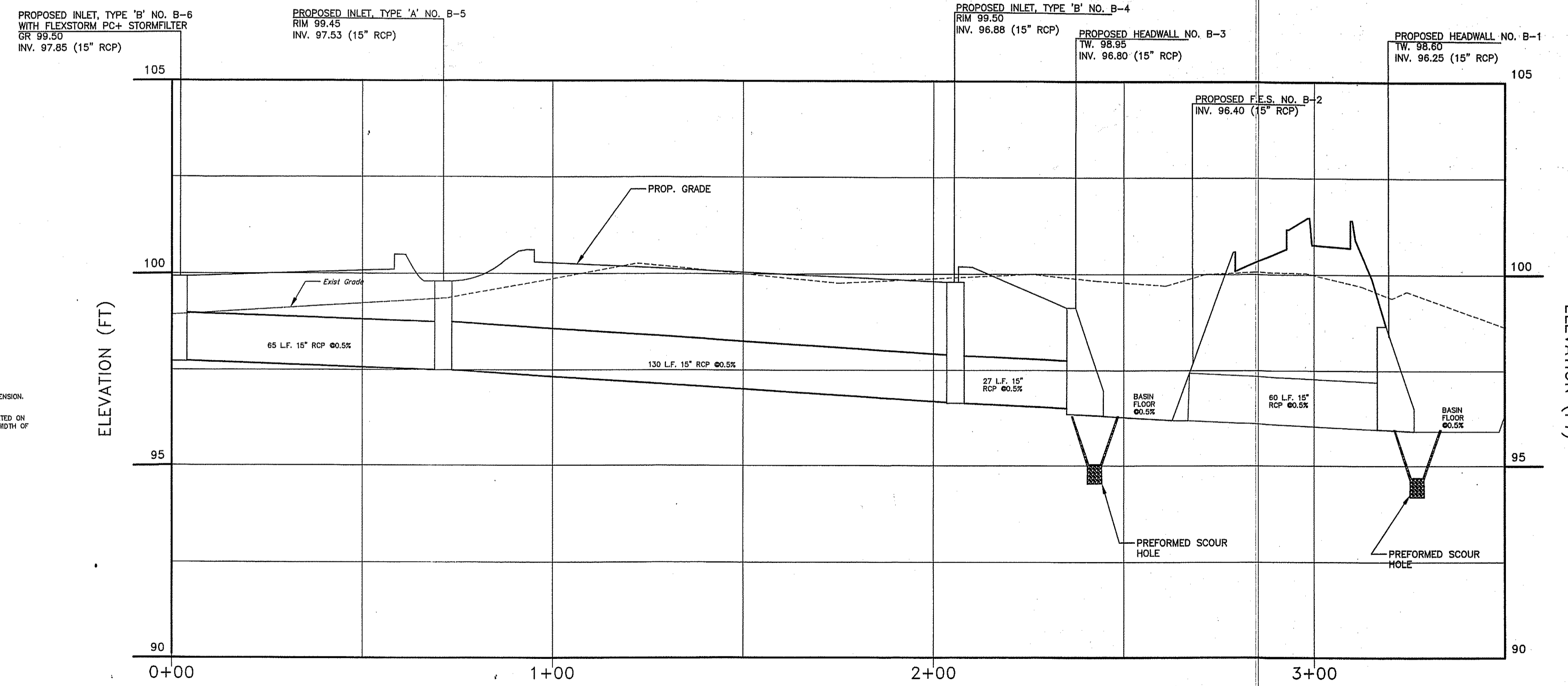
**PREFORMED SCOUR HOLE DETAIL**  
N.T.S.



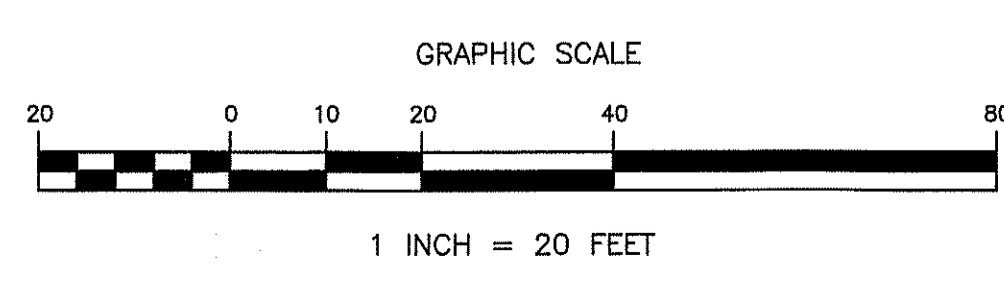
**REINFORCED CONCRETE END SECTION**  
NOT TO SCALE



**GRASS SPILLWAY DETAIL**  
N.T.S.



**STORM SEWER PROFILE** SCALE: H. 1"=20'  
V. 1"=2'



**DAVID A. CRANMER, PE**  
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STATE OF NEW JERSEY LICENSE No. 41926

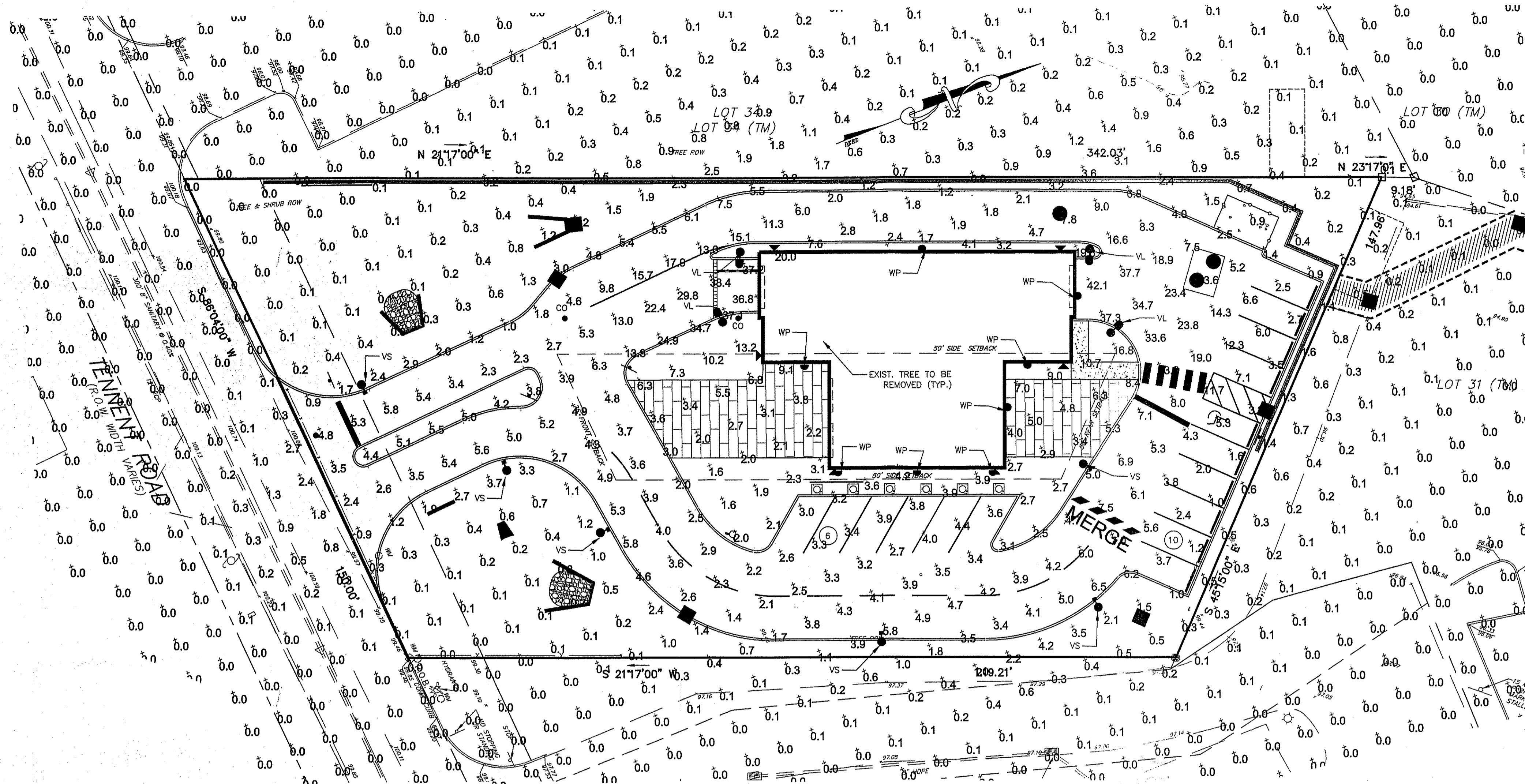
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**PIPE PROFILE**  
**TENNENT ROAD WASH & LUBE, LLC**  
LOT 33, BLOCK 122  
TAX MAP SHEET NO. 9  
TOWNSHIP OF MARLBORO MONMOUTH COUNTY NEW JERSEY

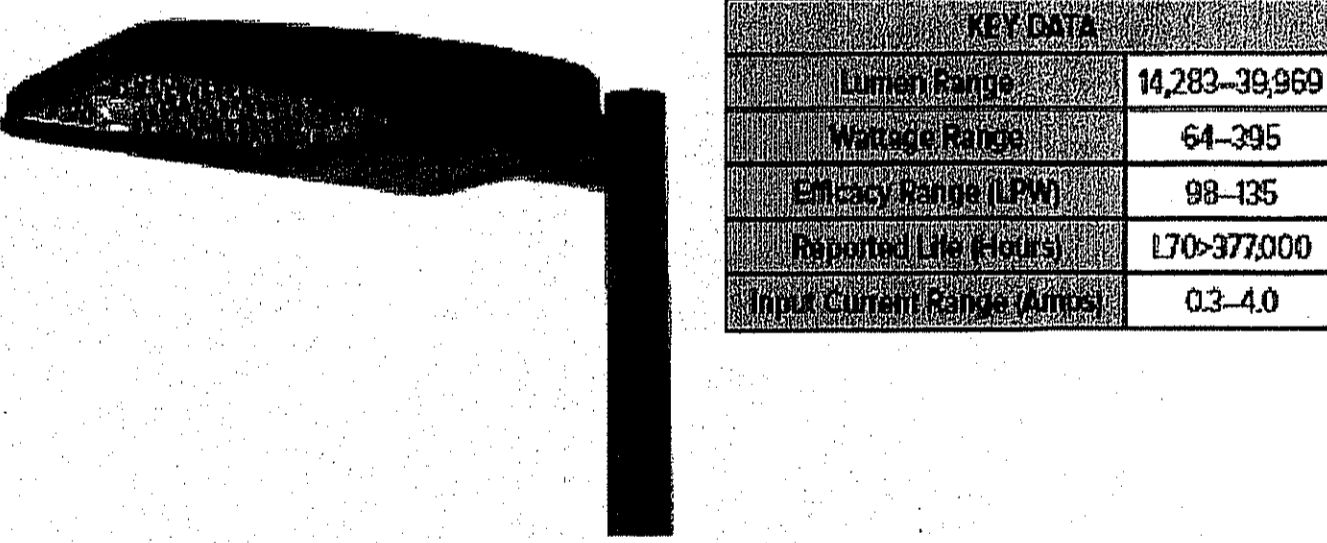
PROJECT No. 2018-015-125	FILE 03-07 SITE.dwg
DRAWN BY NM	DESIGNED BY DAC
SCALE	CHECKED BY DAC
DATE FEBRUARY 6, 2020	SHEET NO. 6 of 13

J:\2018-015-125 Tech Comm & Lube\2018-015-125.dwg



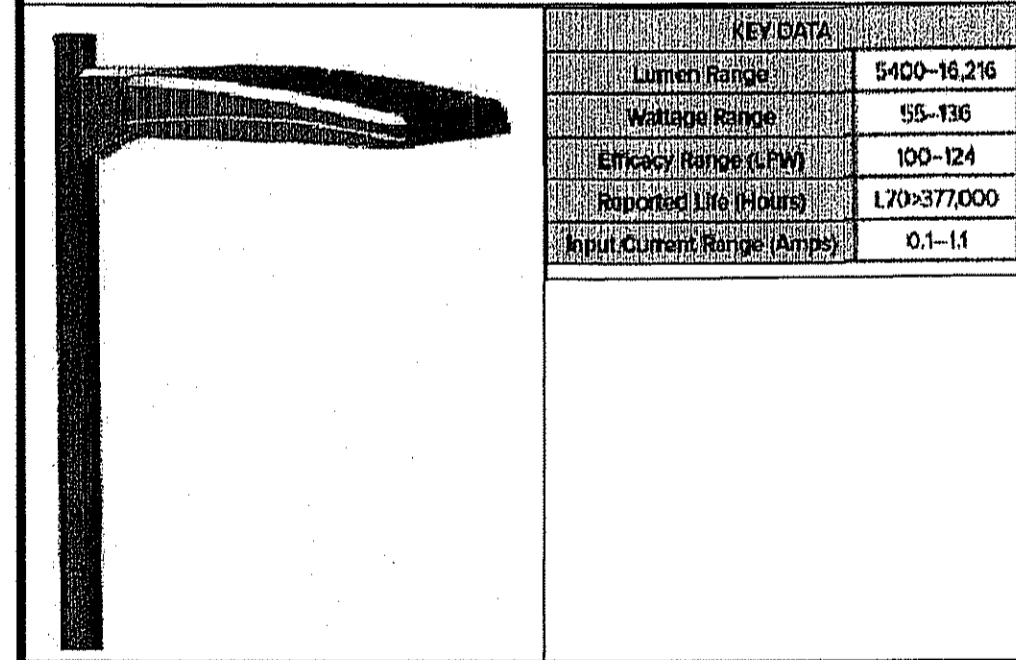


DELIVERED LUMENS	5000K nominal 70 CRI	4000K nominal 70 CRI	3000K nominal 70 CRI
VS	14,283	39,969	
VL			
WP			

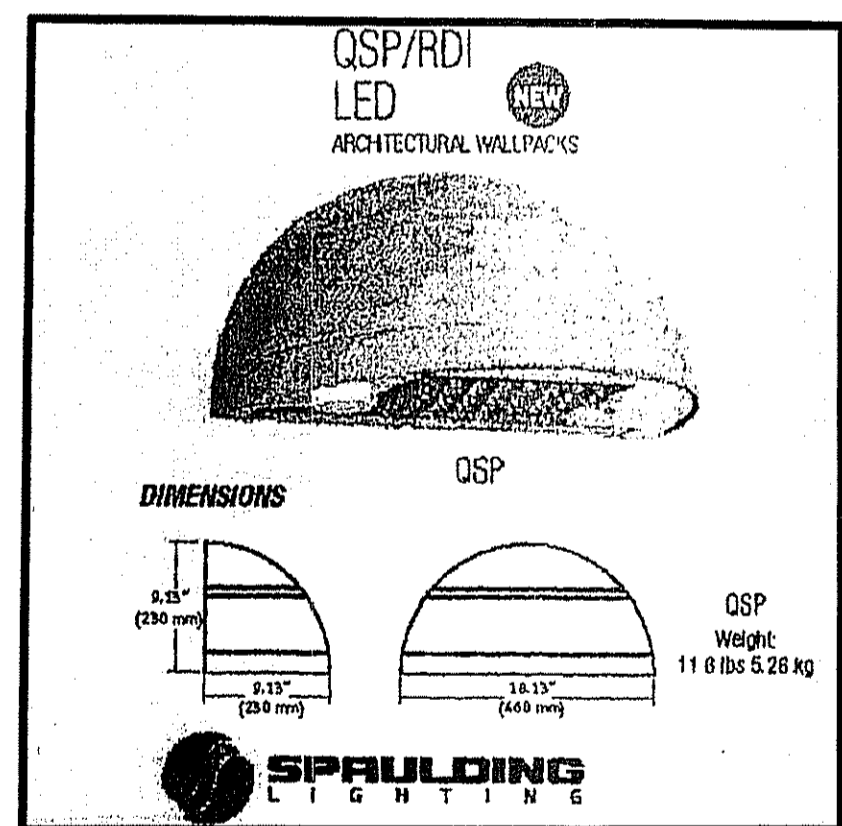


POLE MOUNTED (VL) LIGHT FIXTURE SPECIFICATIONS  
N.T.S.

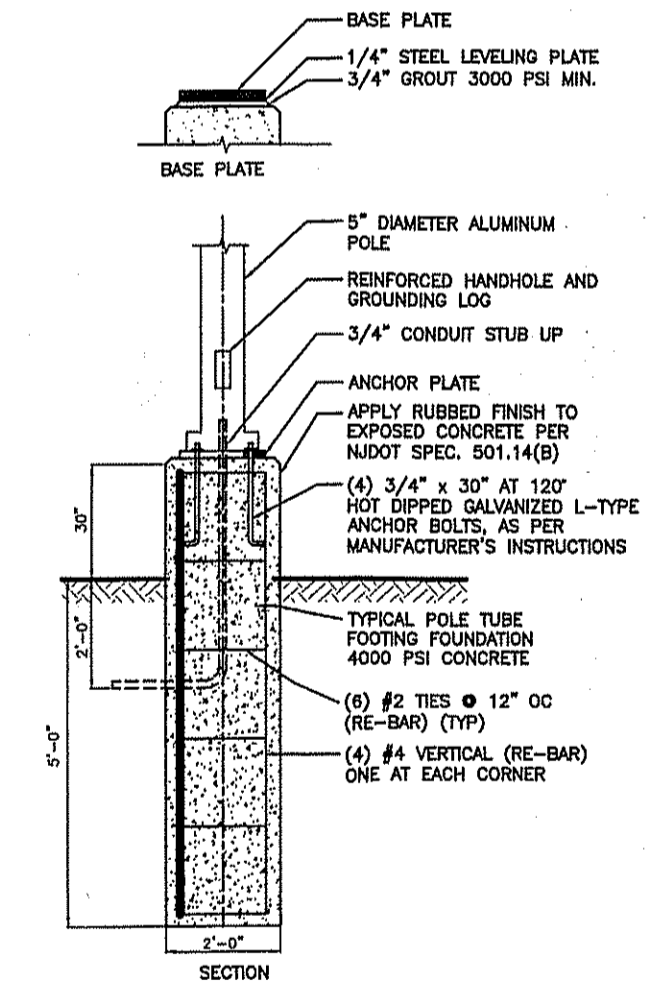
QUANTITY	TYPE	WATTAGE	DELIVERED LUMENS	DELIVERED LUMENS PER WATT
6	VS	110	14,283	129.84
4	VL	395	39,969	102.20
8	WP	395	14,283	36.16



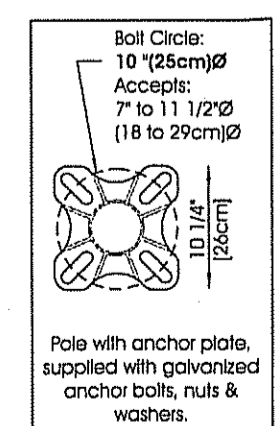
POLE MOUNTED (VS) LIGHT FIXTURE SPECIFICATIONS  
N.T.S.



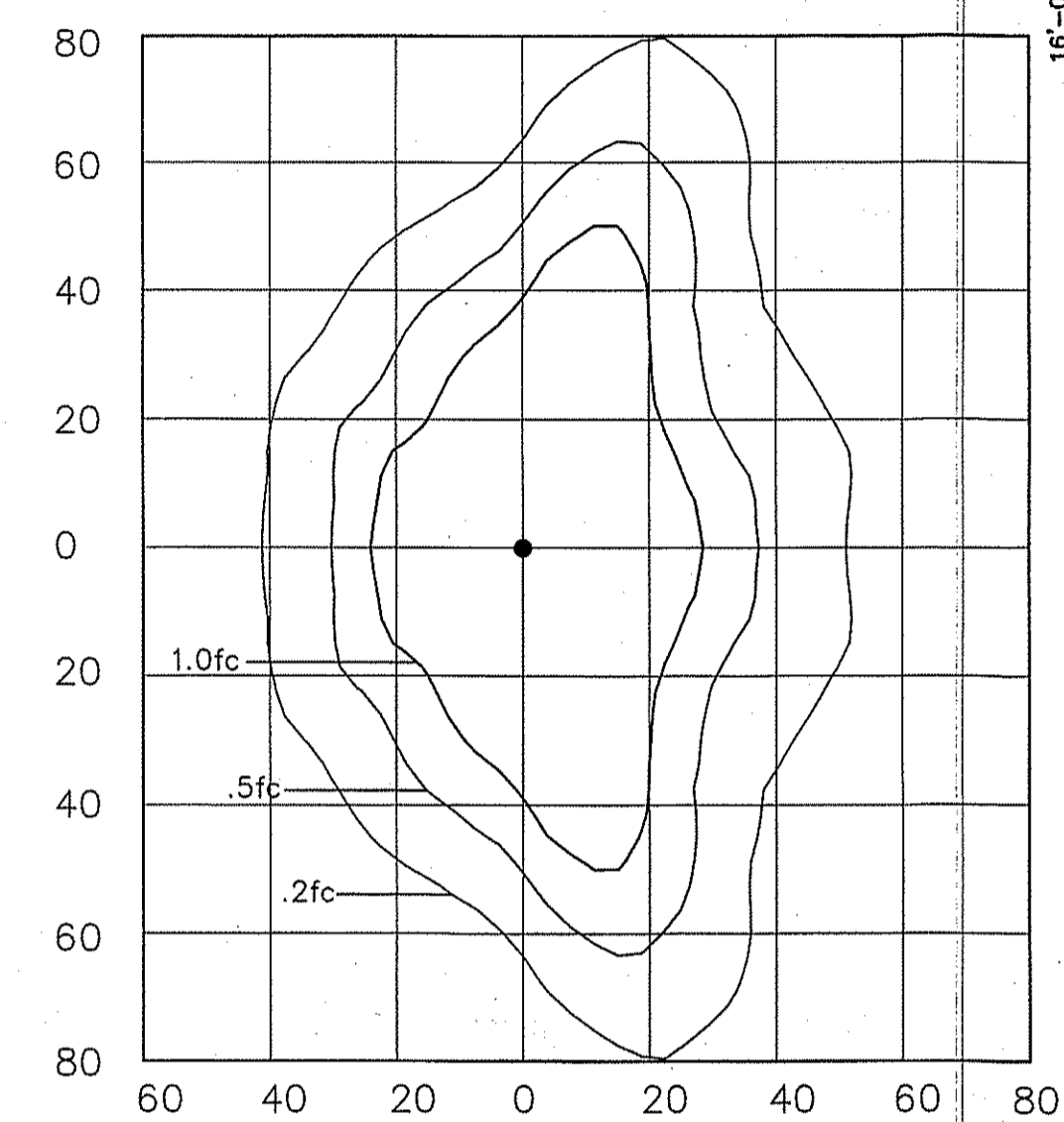
WALL PACK LIGHT FIXTURE DETAIL  
N.T.S.



LIGHT FOOTING DETAIL FOR VIPER-SMALL AND LARGE LIGHT FIXTURES  
N.T.S.

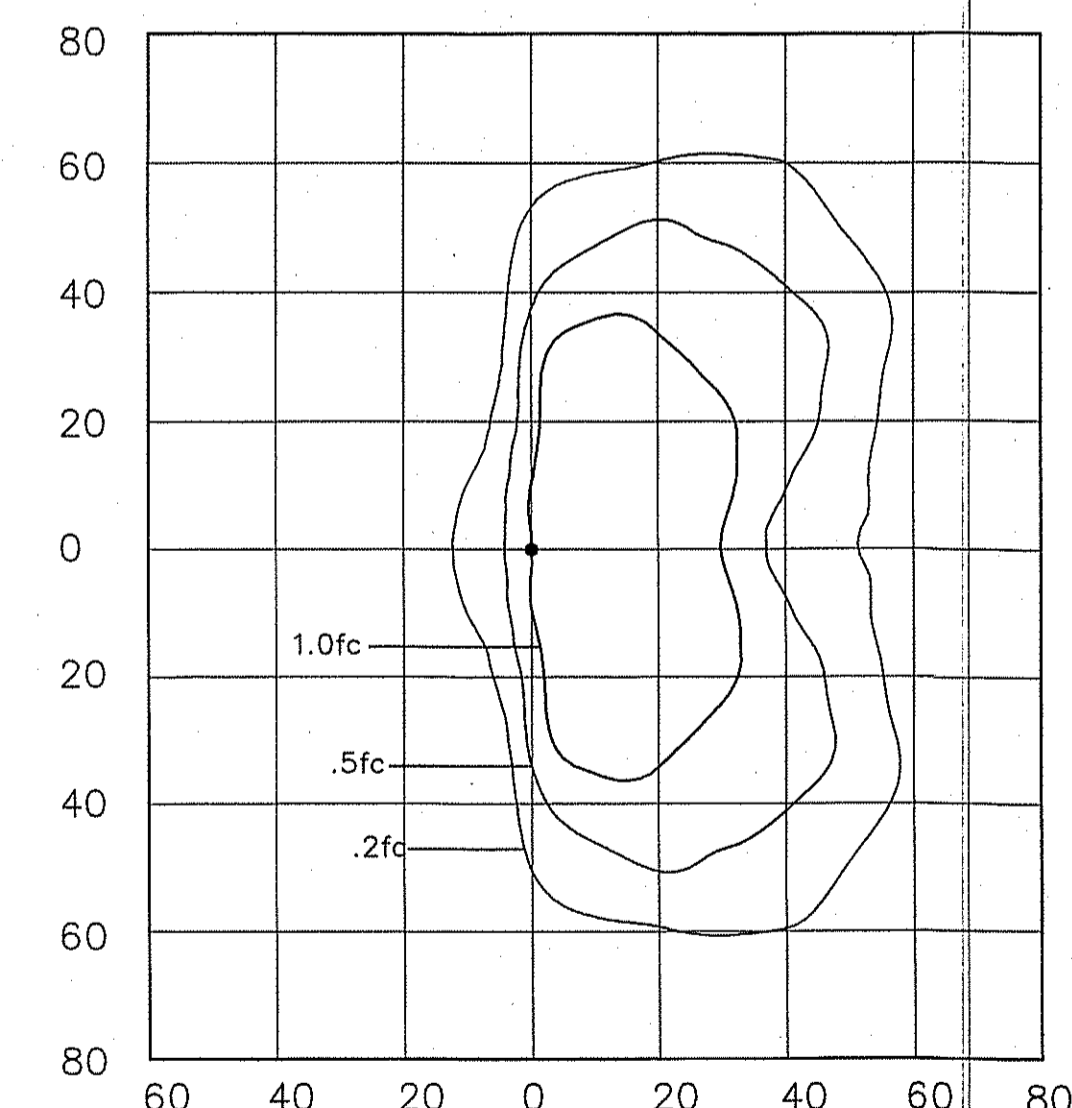


STREET LIGHT POLE ANCHOR  
N.T.S.



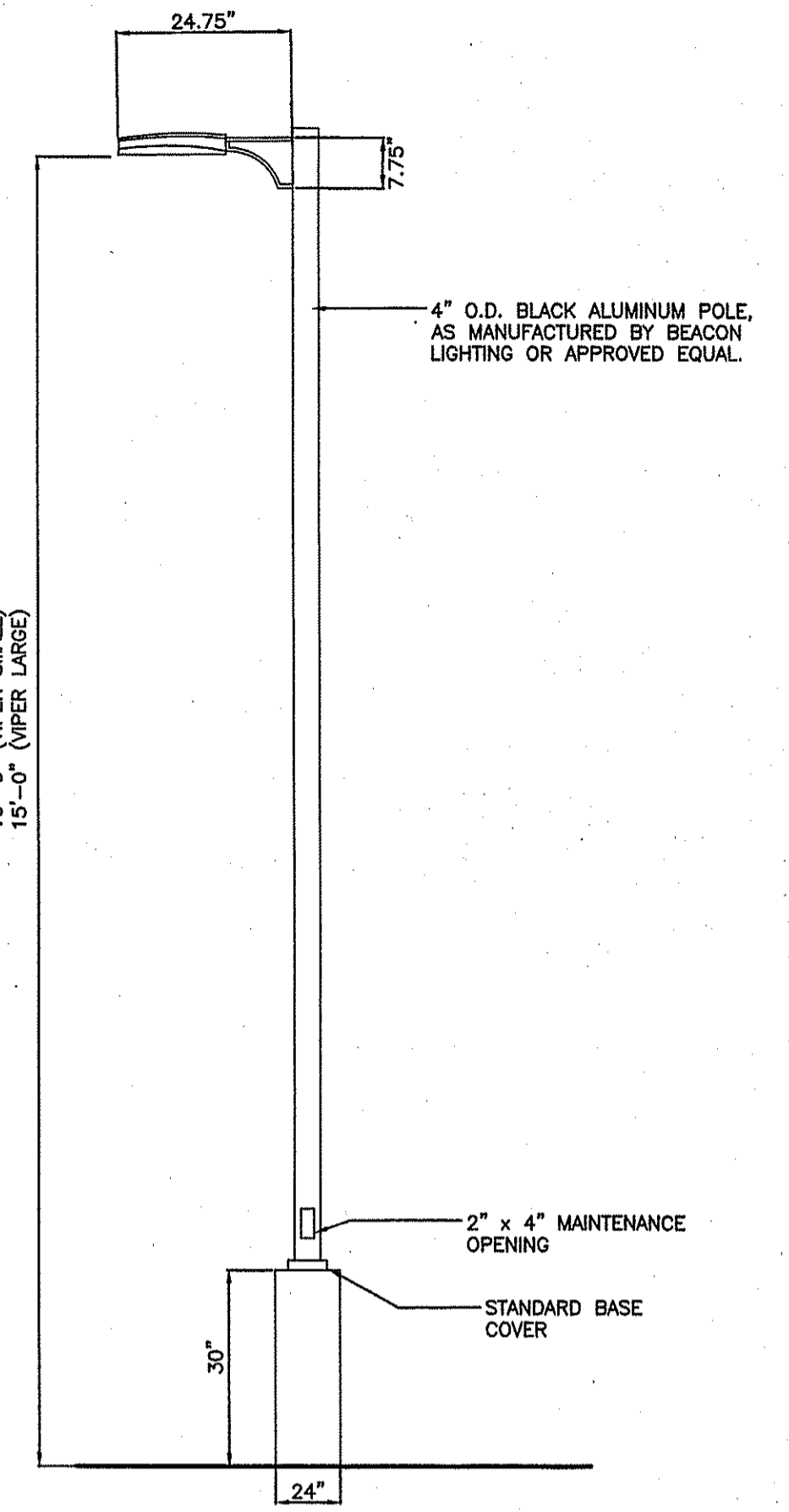
LAMP: 395 WATT LED  
OPTICAL SYSTEM: 4W DISTRIBUTION  
AS MANUFACTURED BY BEACON LIGHTING OR APPROVED EQUAL.

15' MOUNTING HEIGHT



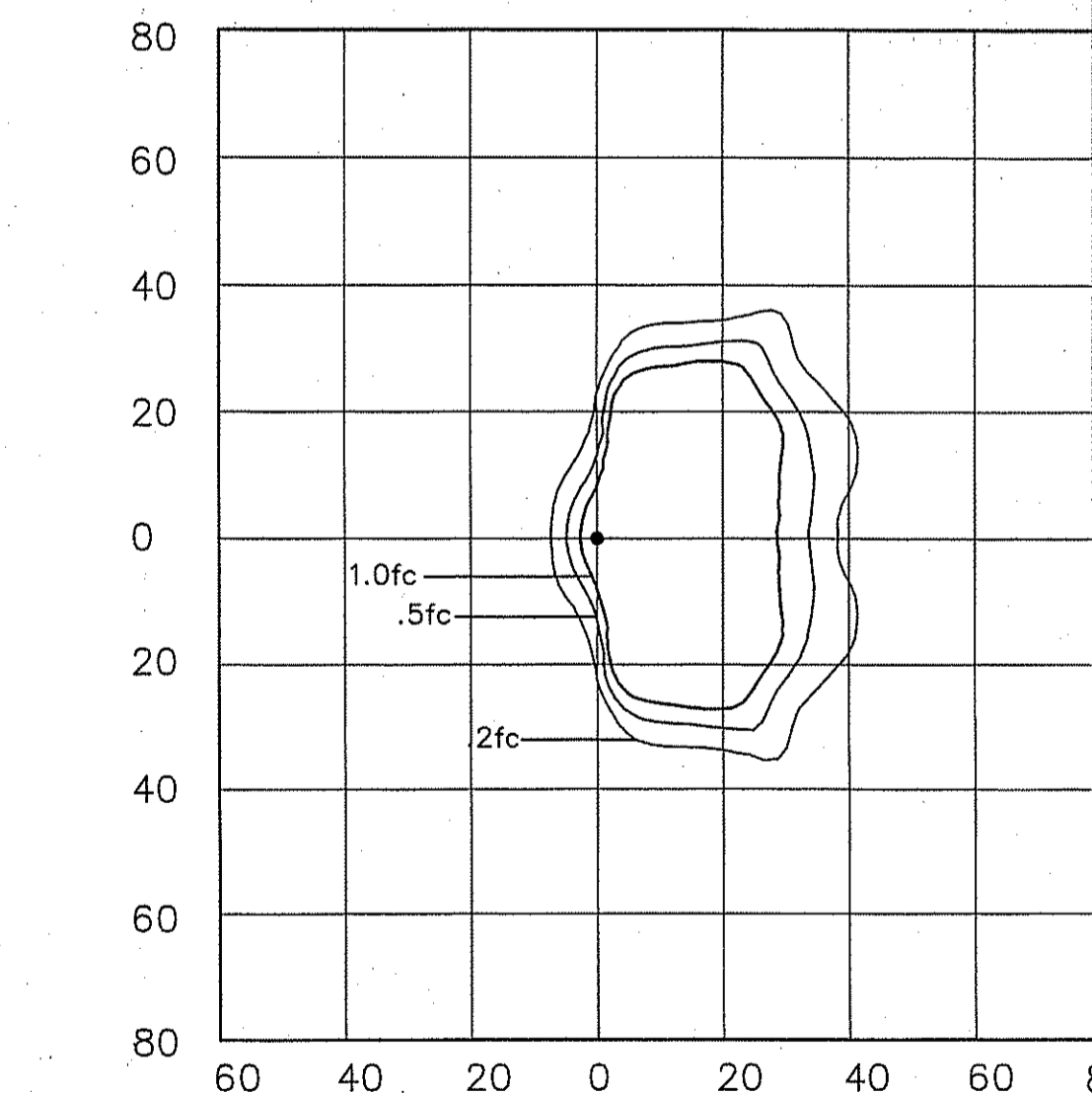
LAMP: 110 WATT LED  
OPTICAL SYSTEM: 4W DISTRIBUTION  
AS MANUFACTURED BY BEACON LIGHTING OR APPROVED EQUAL.

16' MOUNTING HEIGHT



- NOTES
- VIPER SMALL LAMP TO BE 110 WATT LED
  - VIPER LARGE LAMP TO BE 395 WATT LED
  - 4 LENSES MECHANICALLY SECURED POND ACRYLIC/POLY CARBONATE
  - OPTICAL SYSTEM IS I.E.S. TYPE 3L SEGMENTED REFLECTOR
  - LUMINAIRE AND POLE ARE TO HAVE BLACK TEXTURED FINISH
  - LIGHT FIXTURE OPERATION IS TO BE PHOTOCELL.

STREET LIGHT FIXTURE & POLE  
N.T.S.



LAMP: 35 WATT LED  
OPTICAL SYSTEM: 4W DISTRIBUTION  
AS MANUFACTURED BY SPAULDING LIGHTING OR APPROVED EQUAL.

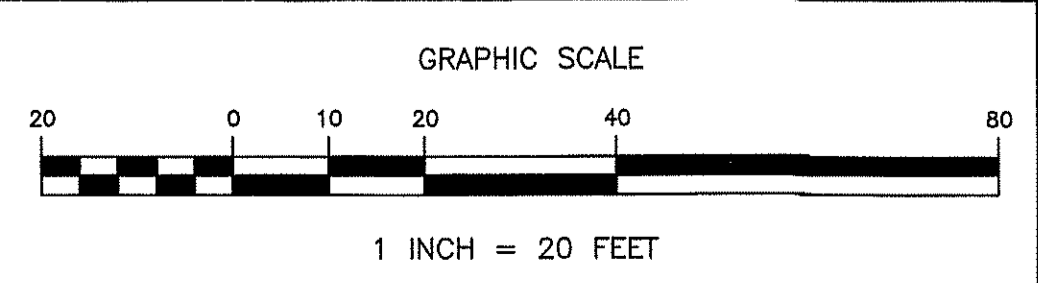
12' MOUNTING HEIGHT

PHOTOMETRIC PATTERNS  
N.T.S.

SYMBOL	QTY	LABEL	DESCRIPTION	ARRANGEMENT	TOTAL LAMP LUMENS	LLF	LUMINERS
VS	6	VS	VIPER SMALL TYPE IV 110 WATTS	SINGLE	N.A.	0.900	VIPER-VPS-48L-110-4K7-4W-UNV
VL	4	VL	VIPER LARGE TYPE IV 395 WATTS	SINGLE	N.A.		VIPER-VPL-96L-395-4K7-4W-UNV
WP	8	WP	GSP WALLPACK TYPE III	SINGLE	N.A.	1.000	SPAULDING LIGHTING RDI-30L4K-035-3

LSI POLE NO. (OR EQ.)	QTY	MOUNTING HEIGHT	SHAFT	BASE SIZE
5RPP	6	16 FT.	5"	8.5" BOLT CIRCLE

LIGHT POLE FIXTURE



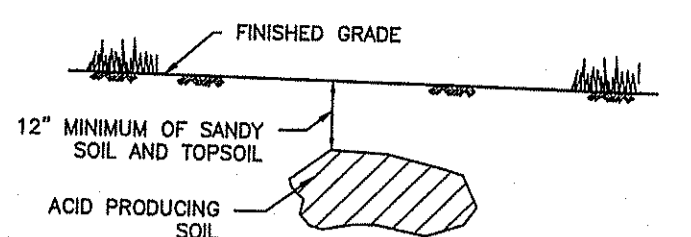
DAVID A. CRANMER, PE  
LICENSED PROFESSIONAL ENGINEER  
STATE OF NEW JERSEY LICENSE No. 41926

**Cranmer Engineering, P.A.**  
CORPORATE HEADQUARTERS: 499 Broad Street, Suite 1008, Shrewsbury, NJ 07702  
SOUTHEAST REGIONAL OFFICE: 301 McCollough Drive, Charlotte, NC 28262

**LIGHTING PLAN**  
TENNENT ROAD WASH & LUBE, LLC  
LOT 33, BLOCK 122  
TAX MAP SHEET NO. 9  
TOWNSHIP OF MARLBORO, MONMOUTH COUNTY, NEW JERSEY

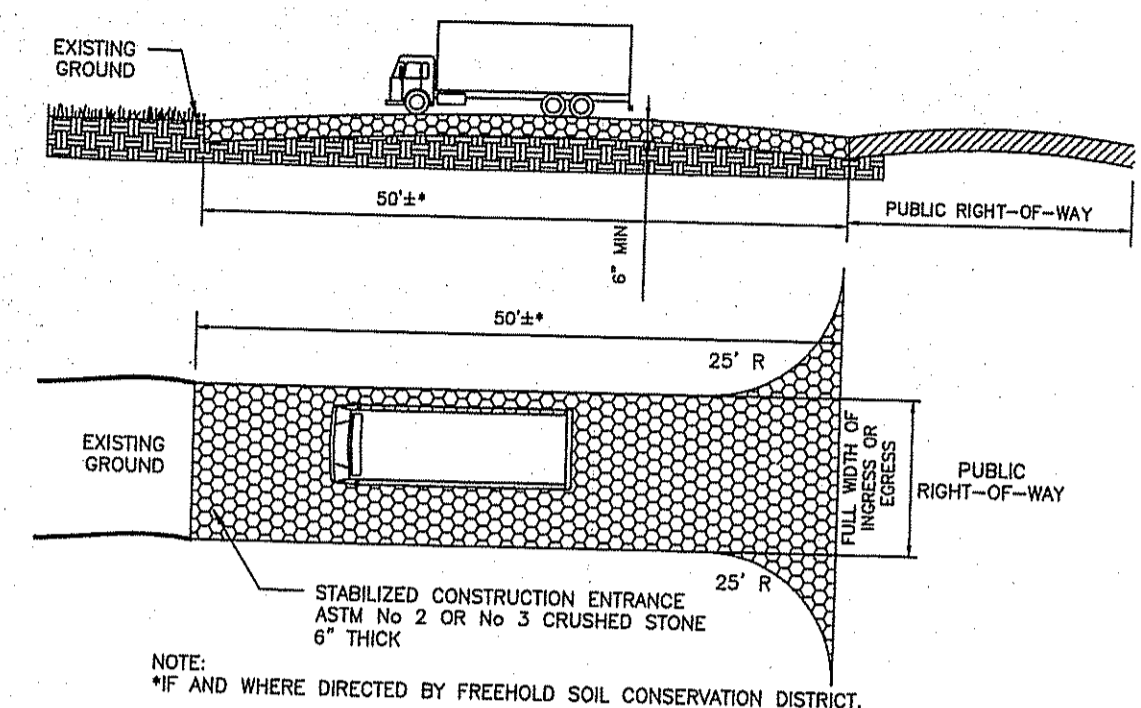
PROJECT No: 2018-015-125	FILE: 05-LIGHTING.DWG
DRAWN BY: NM	DESIGNED BY: DAC
SCALE: 1" = 20'	CHECKED BY: DAC
DATE: FEBRUARY 6, 2020	SHEET No: 8 of 13



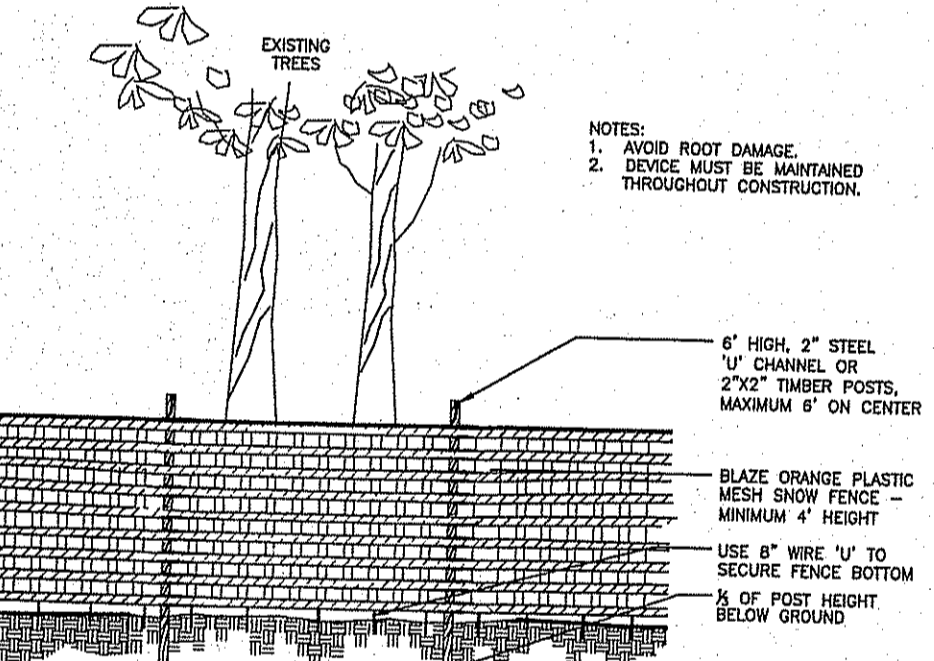
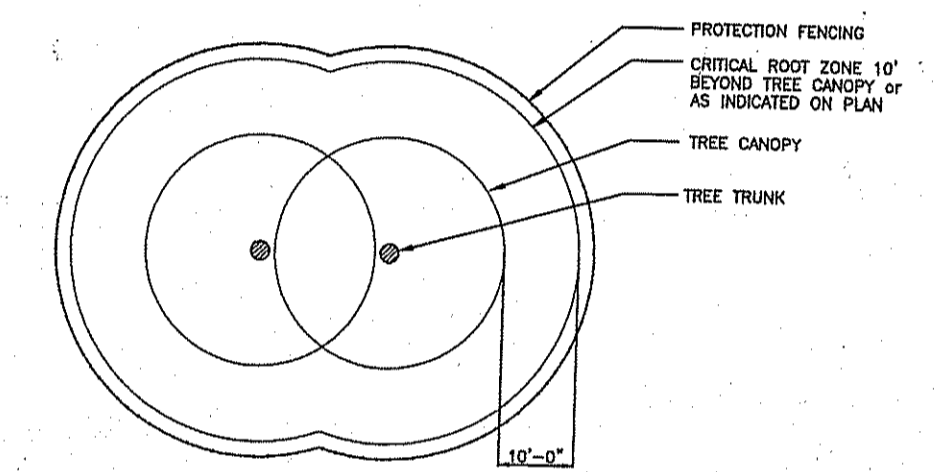


- NOTES:**
- ACID PRODUCING SOILS ARE DEFINED AS SOILS CONTAINING IRON SULFIDE MINERALS OR SOILS WITH A pH OF 4.0 OR LESS.
  - IRON SULFIDE MINERALS WILL PRODUCE SULFURIC ACID WHEN EXPOSED TO THE AIR OR SURFACE WATERS.
  - SOIL USED TO COVER ACID PRODUCING SOILS SHALL HAVE A pH OF 5.0 OR MORE.
- ADDITIONAL NOTES:**
- AREAS ON SLOPES SHALL BE COVERED WITH 2 FEET OF SUITABLE SOIL HAVING A pH OF 5 OR MORE. THE TOP 5 INCHES (UNSETTLED) SHALL BE TOPSOIL.
  - AREAS WHERE TREES/SHRUBS WILL BE PLANTED SHALL ALSO BE COVERED WITH A MINIMUM OF 2 FEET OF SUITABLE MATERIAL INCLUDING TOPSOIL TO A DEPTH OF 6 INCHES UNSETTLED.
  - ACID SOIL PLACEMENT SHALL AVOID, IF POSSIBLE, PLACEMENT IN AREAS PROPOSED FOR FUTURE RESIDENTIAL LOTS.

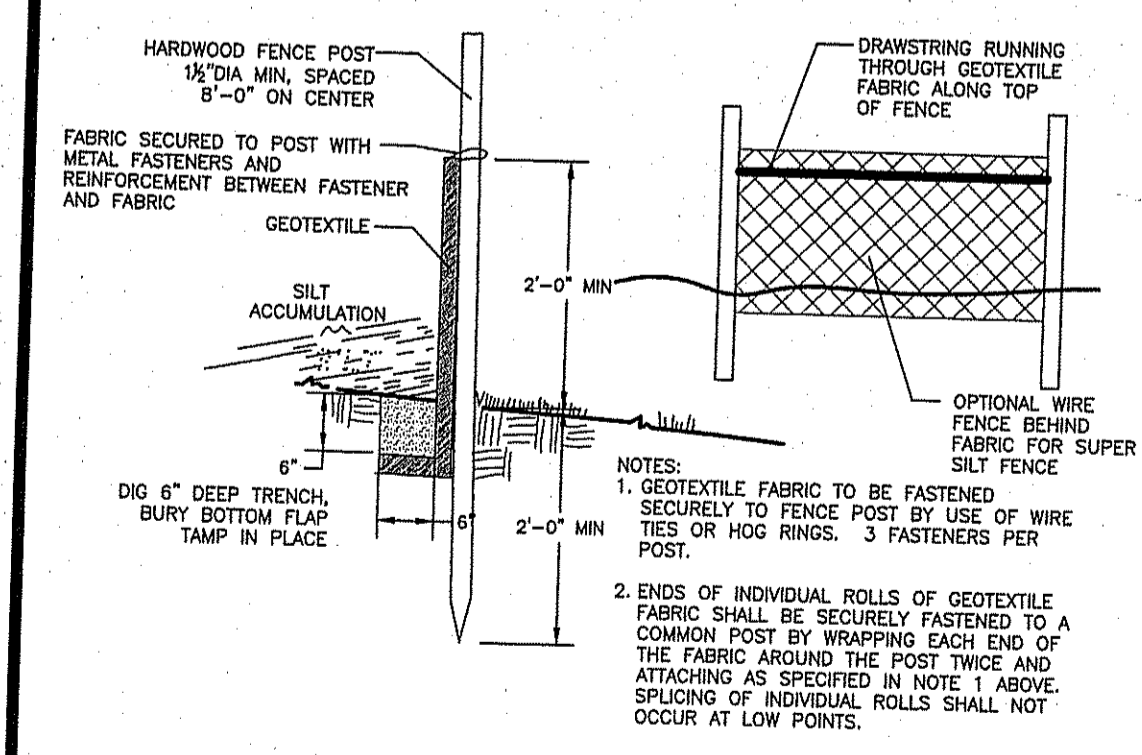
**BURIAL OF ACID PRODUCING SOILS**  
N.T.S.



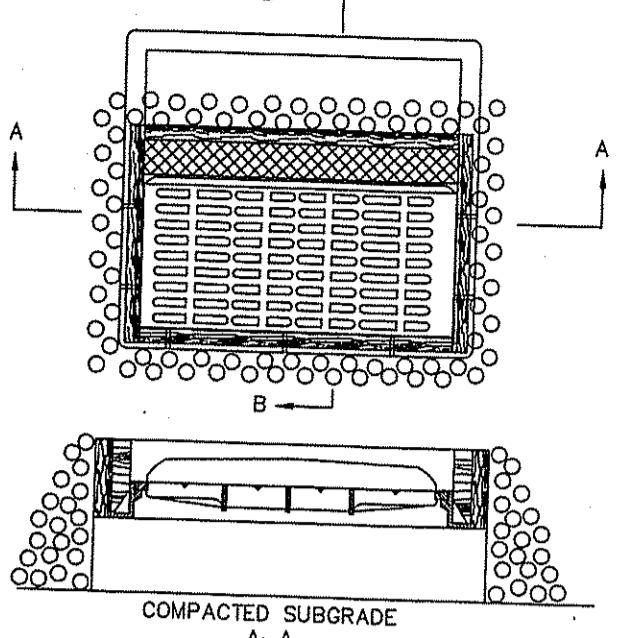
**STABILIZED CONSTRUCTION ENTRANCE**  
N.T.S.



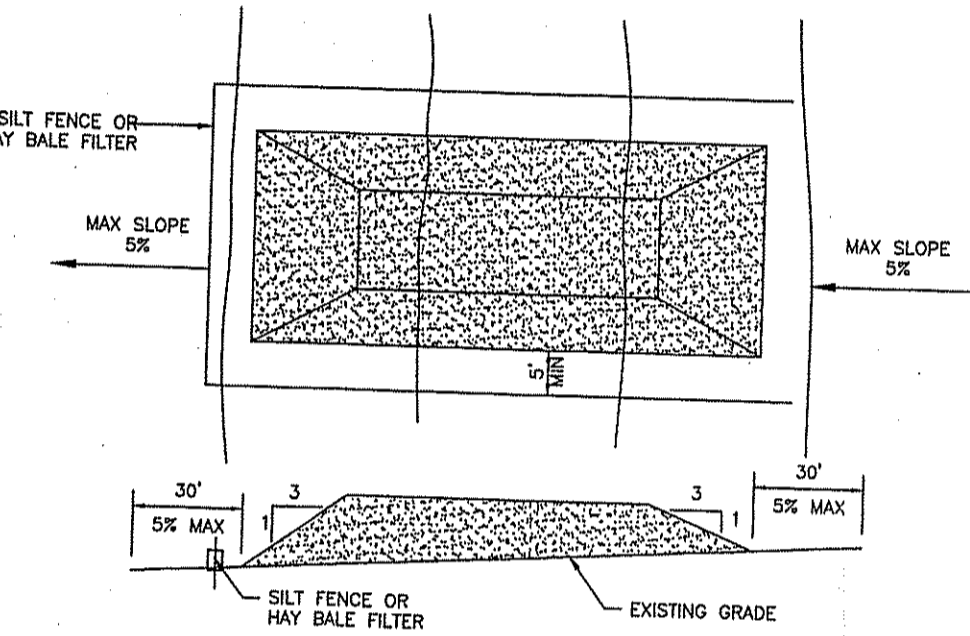
**TREE PROTECTION FENCE**  
N.T.S.



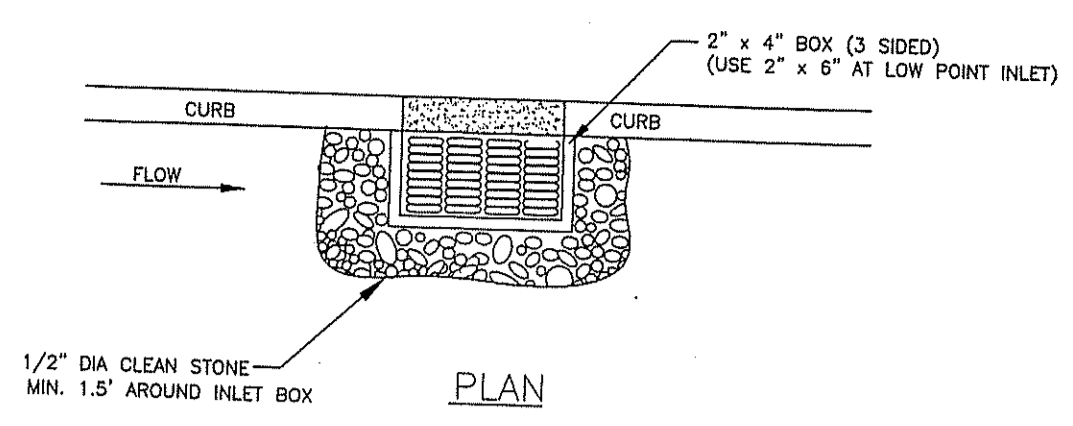
**SILT FENCE**  
N.T.S.



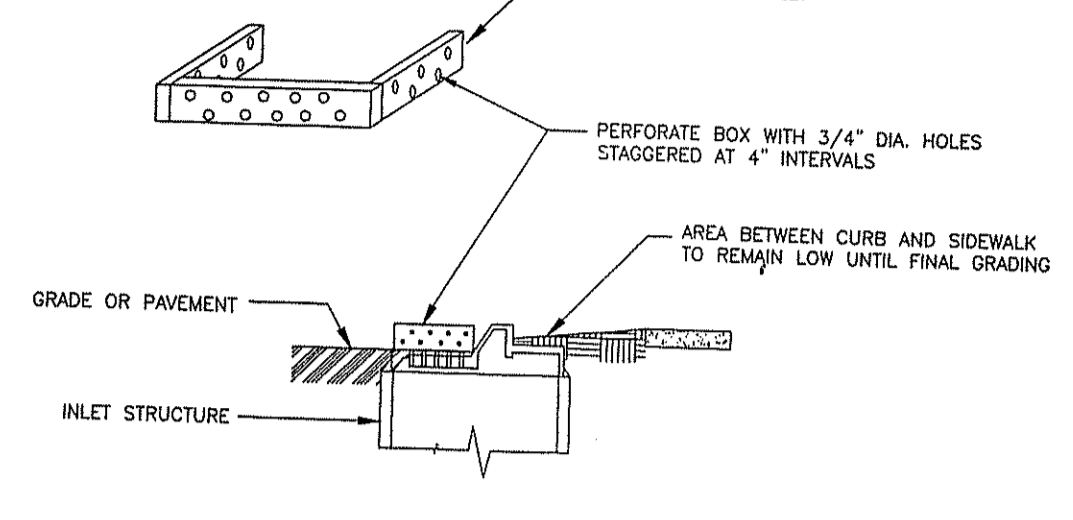
**INLET PROTECTION DETAIL**  
N.T.S.



**TEMPORARY SOIL STOCKPILE**  
N.T.S.



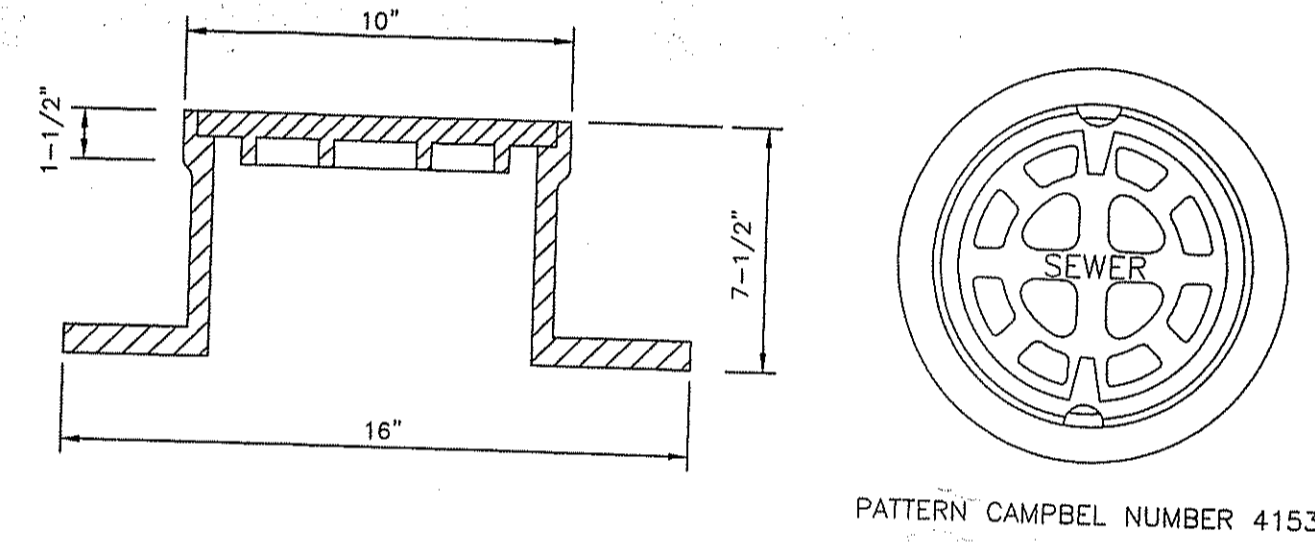
**PLAN**



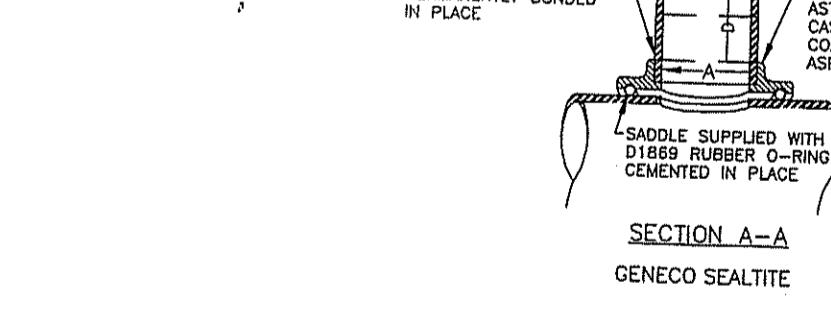
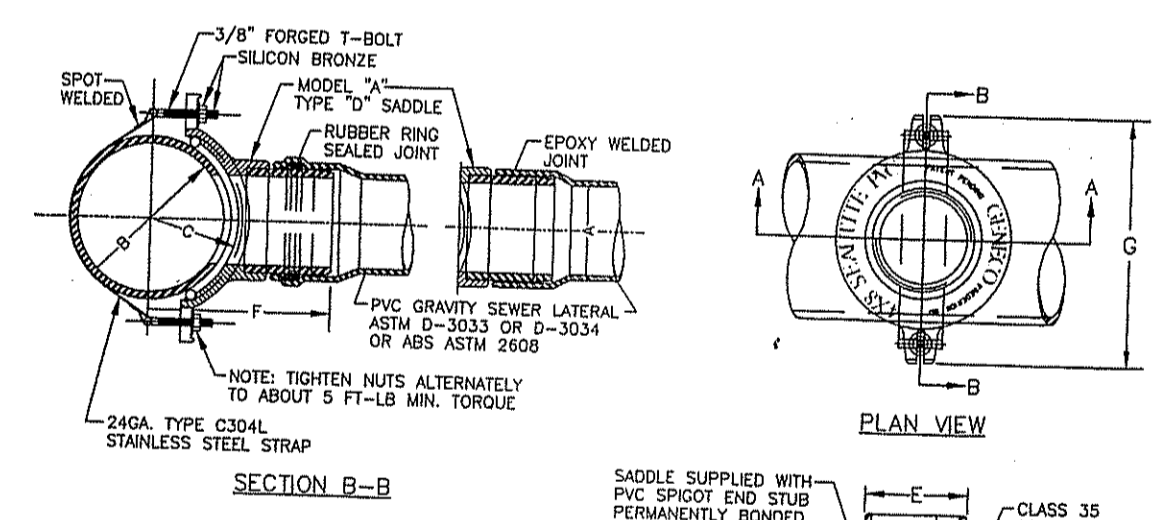
**SECTION**

**CURB TYPE INLET**  
**INLET PROTECTION DETAIL**  
N.T.S.

- CONSTRUCTION NOTES:**
- PERIODIC CHECKS MUST BE MADE AFTER EACH RAINFALL TO EXCAVATE AND REMOVE EXCESS SEDIMENT FROM AROUND INLETS.



**CLEANOUT BOX & COVER FOR 4" DIA. AND 6" DIA.**  
**CLEANOUTS LOCATED IN SIDEWALK AREAS.**  
N.T.S.



**SYMBOL PVC TYPE 'D' SADDLE**  
USE FOR PLASTIC  
SDR-35 OR 41  
ASTM D-3033 OR D-3034

SIZE	A	B	C	D	E	F	G
4"	1.75	2.75	2.75	1.75	1.75	1.75	1.75
6"	2.75	3.75	3.75	2.75	2.75	2.75	2.75
8"	3.75	4.75	4.75	3.75	3.75	3.75	3.75
10"	4.75	5.75	5.75	4.75	4.75	4.75	4.75
12"	5.75	6.75	6.75	5.75	5.75	5.75	5.75
14"	6.75	7.75	7.75	6.75	6.75	6.75	6.75
16"	7.75	8.75	8.75	7.75	7.75	7.75	7.75
18"	8.75	9.75	9.75	8.75	8.75	8.75	8.75
20"	9.75	10.75	10.75	9.75	9.75	9.75	9.75
24"	11.75	12.75	12.75	11.75	11.75	11.75	11.75
30"	14.75	15.75	15.75	14.75	14.75	14.75	14.75
36"	17.75	18.75	18.75	17.75	17.75	17.75	17.75
42"	20.75	21.75	21.75	20.75	20.75	20.75	20.75
48"	23.75	24.75	24.75	23.75	23.75	23.75	23.75
54"	26.75	27.75	27.75	26.75	26.75	26.75	26.75
60"	29.75	30.75	30.75	29.75	29.75	29.75	29.75

**SYMBOL CI OR DI TYPE 'D' SADDLE**  
USE FOR  
XII CAST IRON  
OR ALL CLASSES A-C

SIZE	A	B	C	D	E	F	G
4"	1.75	2.75	2.75	1.75	1.75	1.75	1.75
6"	2.75	3.75	3.75	2.75	2.75	2.75	2.75
8"	3.75	4.75	4.75	3.75	3.75	3.75	3.75
10"	4.75	5.75	5.75	4.75	4.75	4.75	4.75
12"	5.75	6.75	6.75	5.75	5.75	5.75	5.75
14"	6.75	7.75	7.75	6.75	6.75	6.75	6.75
16"	7.75	8.75	8.75	7.75	7.75	7.75	7.75
18"	8.75	9.75	9.75	8.75	8.75	8.75	8.75
20"	9.75	10.75	10.75	9.75	9.75	9.75	9.75
24"	11.75	12.75	12.75	11.75	11.75	11.75	11.75
30"	14.75	15.75	15.75	14.75	14.75	14.75	14.75
36"	17.75	18.75	18.75	17.75	17.75	17.75	17.75
42"	20.75	21.75	21.75	20.75	20.75	20.75	20.75
48"	23.75	24.75	24.75	23.75	23.75	23.75	23.75
54"	26.75	27.75	27.75	26.75	26.75	26.75	26.75
60"	29.75	30.75	30.75	29.75	29.75	29.75	29.75

**SYMBOL CON. TYPE 'D' SADDLE**  
USE FOR  
C-14 CONCRETE

SIZE	A	B	C	D	E	F	G
4"	1.75	2.75	2.75	1.75	1.75	1.75	1.75
6"	2.75	3.75	3.75	2.75	2.75	2.75	2.75
8"	3.75	4.75	4.75	3.75	3.75	3.75	3.75
10"	4.75	5.75	5.75	4.75	4.75	4.75	4.75
12"	5.75	6.75	6.75	5.75	5.75	5.75	5.75
14"	6.75	7.75	7.75	6.75	6.75	6.75	6.75
16"	7.75	8.75	8.75	7.75	7.75	7.75	7.75
18"	8.75	9.75	9.75	8.75	8.75	8.75	8.75
20"	9.75	10.75	10.75	9.75	9.75	9.75	9.75
24"	11.75	12.75	12.75	11.75	11.75	11.75	11.75
30"	14.75	15.75	15.75	14.75	14.75	14.75	14.75
36"	17.75	18.75	18.75	17.75	17.75	17.75	17.75
42"	20.75	21.75	21.75	20.75	20.75	20.75	20.75
48"	23.75	24.75	24.75	23.75	23.75	23.75	23.75
54"	26.75	27.75	27.75	26.75	26.75	26.75	26.75
60"	29.75	30.75	30.75	29.75	29.75	29.75	29.75

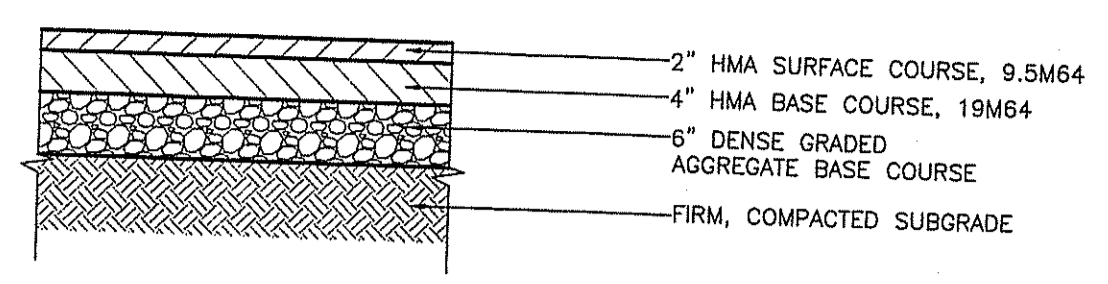
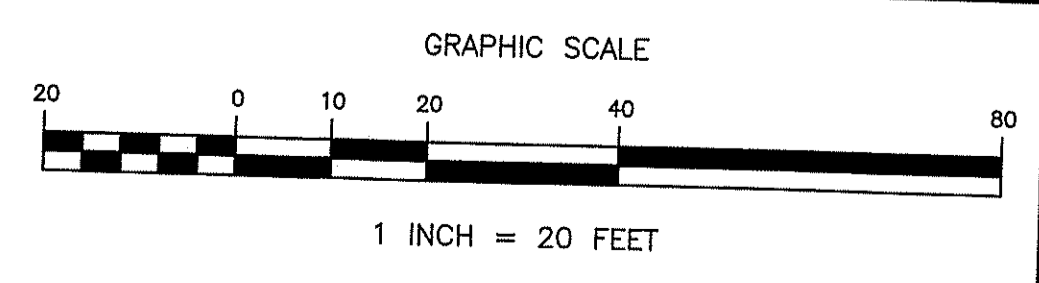
**SYMBOL CLAY TYPE 'D' SADDLE**  
USE FOR  
C-200 CLAY

SIZE	A	B	C	D	E	F	G
4"	1.75	2.75	2.75	1.75	1.75	1.75	1.75
6"	2.75	3.75	3.75	2.75	2.75	2.75	2.75
8"	3.75	4.75	4.75	3.75	3.75	3.75	3.75
10"	4.75	5.75	5.75	4.75	4.75	4.75	4.75
12"	5.75	6.75	6.75	5.75	5.75	5.75	5.75
14"	6.75	7.75	7.75	6.75	6.75	6.75	6.75
16"	7.75	8.75	8.75	7.75	7.75	7.75	7.75
18"	8.75	9.75	9.75	8.75	8.75	8.75	8.75
20"	9.75	10.75	10.75	9.75	9.75	9.75	9.75
24"	11.75	12.75	12.75	11.75	11.75	11.75	11.75
30"	14.75	15.75	15.75	14.75	14.75	14.75	14.75
36"	17.75	18.75	18.75	17.75	17.75	17.75	17.75
42"	20.75	21.75	21.75	20.75	20.75	20.75	20.75
48"	23.75	24.75	24.75	23.75	23.75	23.75	23.75
54"	26.75	27.75	27.75	26.75	26.75	26.75	26.75
60"	29.75	30.75	30.75	29.75	29.75	29.75	29.75

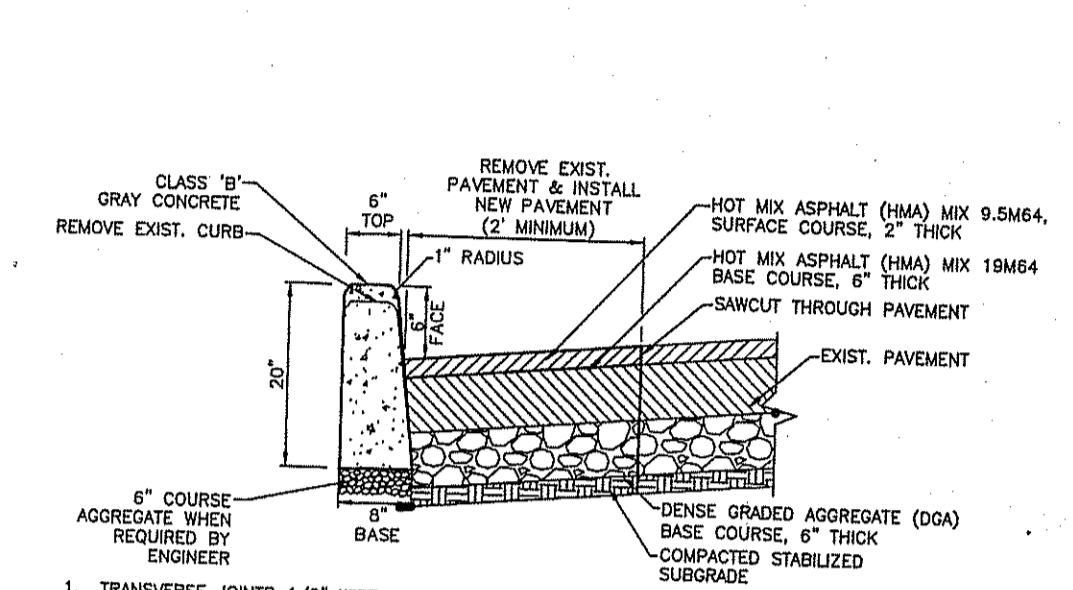
**NOTES:**

- ALL COUPLINGS, PLUGS, SOIL PIPES & CAPS TO BE STANDARD FOR TYPE OF PIPE USED.
- INSTALLATION TO BE WATER-TIGHT.
- CLEANOUTS & INSPECTION TEES VARY FROM E.O.P.
- WHERE CURBS DO NOT EXIST PLACE CLEANOUT 1 FOOT OUTSIDE OF STREET R.O.W.
- CLEANOUTS AS SHOWN ARE REQUIRED.
- HOUSE CONNECTIONS ARE TO BE 4" P.V.C.
- ALL PLUG THREADS SHALL BE GREASED AT TIME OF INSTALLATION.
- MINIMUM DEPTH OF COVER ON SANITARY SEWER MAINS SHALL BE 4 FEET.
- POLYVINYL CHLORIDE PIPE AND FITTINGS FOR HOUSE LATERALS SHALL CONFORM TO A.S.T.M. D-3034.

**SANITARY SEWER CONNECTION DETAIL**  
N.T.S.  
(IF REQUIRED)

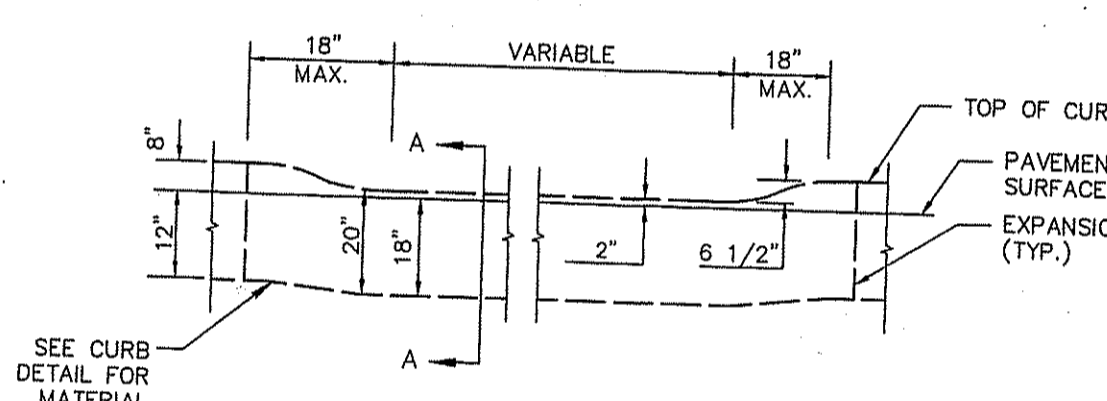


**ON-SITE PAVEMENT SECTION**  
N.T.S.

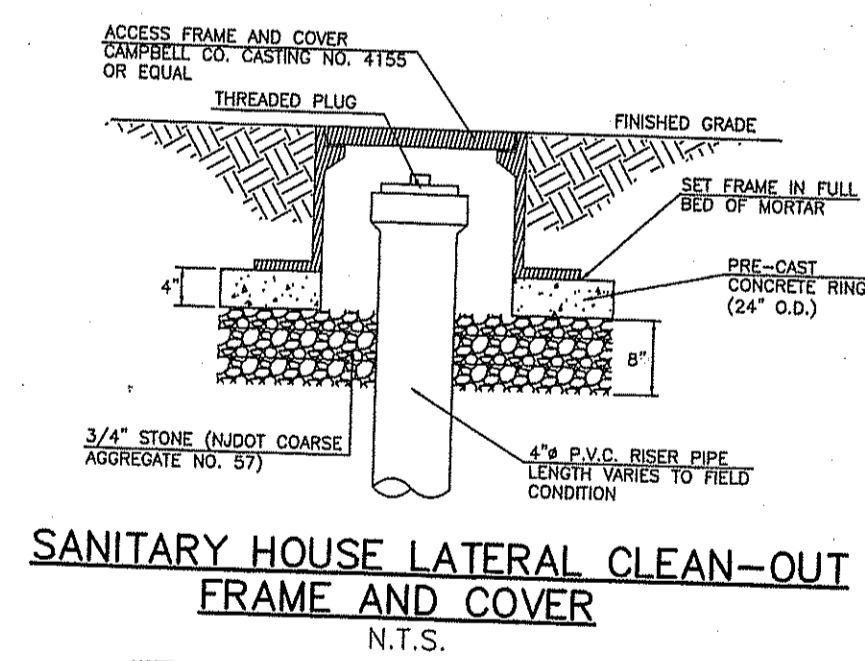


- TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 30"-40" APART AND SHALL BE FILLED WITH PREFORMED BITUMINOUS-IMPREGNATED FIBER JOINT FILLER RECESSED 1/4" IN FROM THE FACE AND TOP OF CURB.
- EXISTING CURB SHALL BE MET AT CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED ON THE PLANS. PROPOSED CURB SHALL MATCH SURROUNDING CURB REVEAL AND GRADE.

**CONCRETE VERTICAL CURB AND PAVEMENT REPAIR STRIP**  
N.T.S.

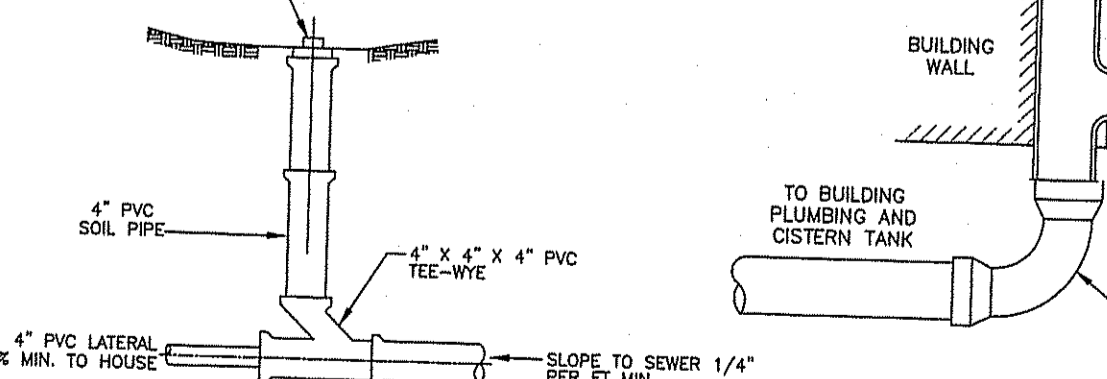


**METHOD OF DEPRESSING CURB**  
N.T.S.

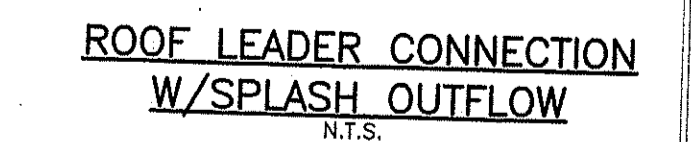


**SANITARY HOUSE LATERAL CLEAN-OUT FRAME AND COVER**  
N.T.S.

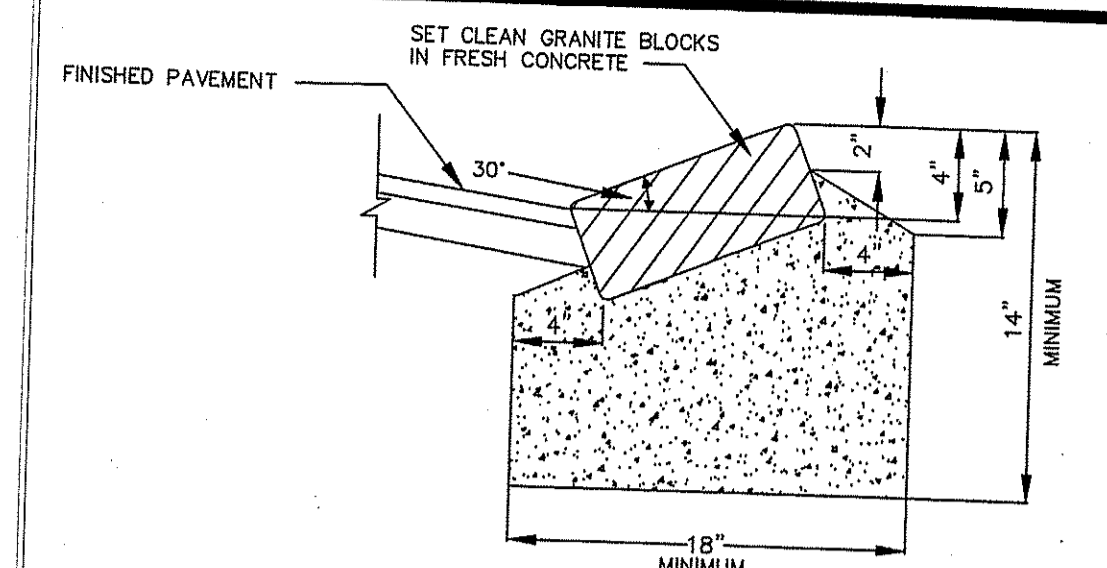
- NOTE:** USE WHERE CLEANOUT IS LOCATED IN PAVED AREA OR WHERE INDICATED ON PLANS



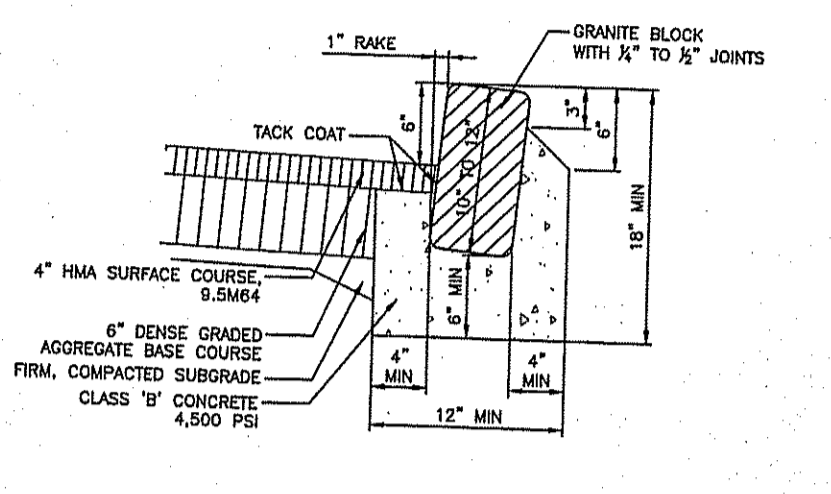
**TYPICAL CLEANOUT RISER**  
N.T.S.



**ROOF LEADER CONNECTION W/SPLASH OUTFLOW**  
N.T.S.

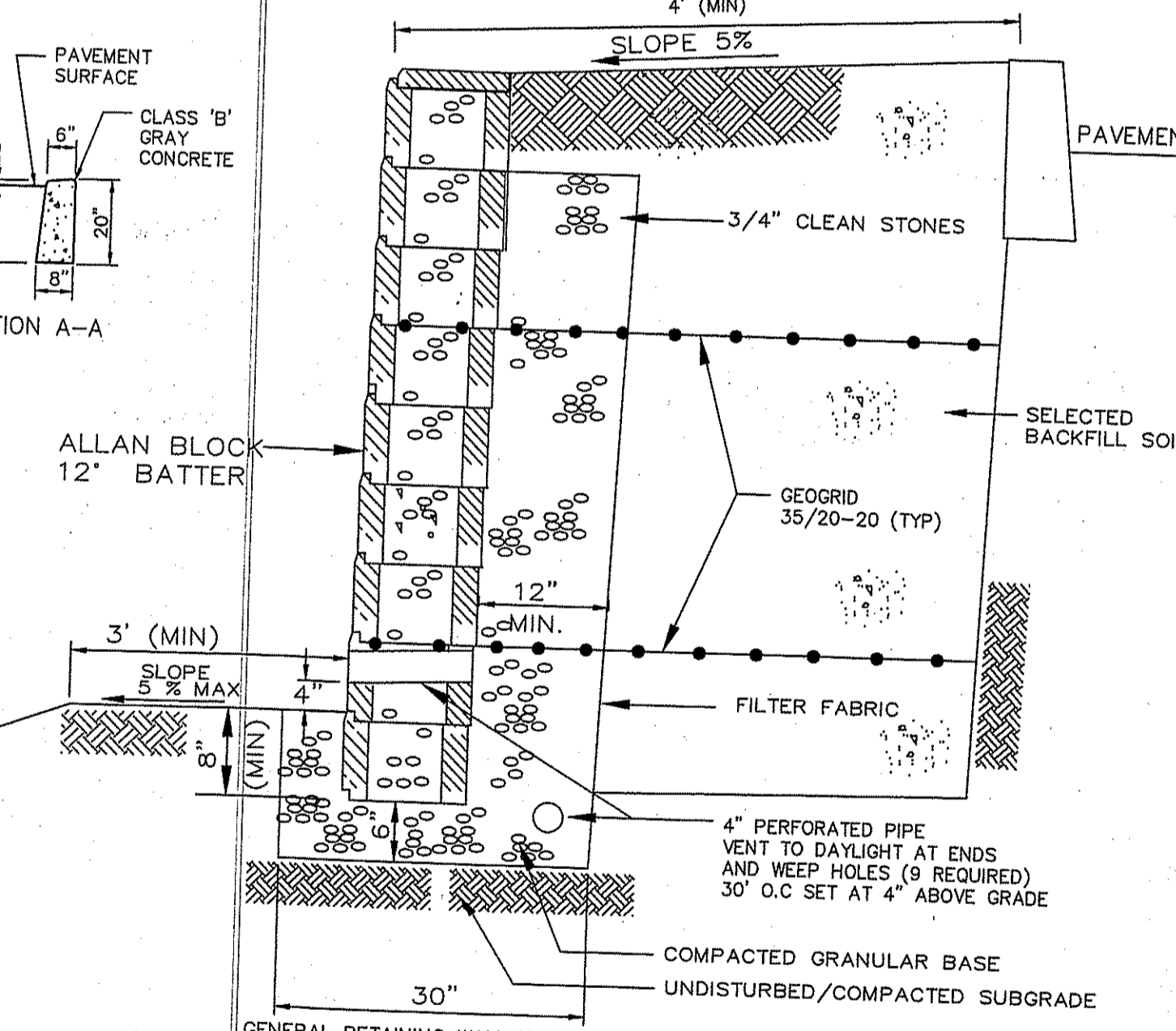


**MOUNTABLE BELGIAN BLOCK CURB**  
N.T.S.



**GRANITE BLOCK CURB**  
N.T.S.

- NOTE:** METHODS AND MATERIALS USED FOR BELGIAN BLOCK CURB CONSTRUCTION SHALL COMPLY WITH ALL TOWNSHIP REQUIREMENTS.



**GENERAL RETAINING WALL NOTES:**

- ALL RETAINING WALLS OVER 3' HIGH SHALL REQUIRE STRUCTURAL SHOP DRAWINGS AND CALCULATIONS PREPARED BY A QUALIFIED PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION OF SAID RETAINING WALLS.
- ALL RETAINING WALLS, WHERE SO NOTED ON THE SITE PLANS, SHALL BE PROVIDED WITH A 4' HIGH POST AND RAIL FENCE W/ GREEN WIRE MESH ON THE HIGH SIDE OF THE RETAINING WALL IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS

**MASONRY BLOCK WALL DETAIL**  
N.T.S.

**NOTICE:**

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REVISION NO.	DATE	REVISION

**DAVID A. CRANMER, PE**  
LICENSED PROFESSIONAL ENGINEER  
STATE OF NEW JERSEY LICENSE No. 41926

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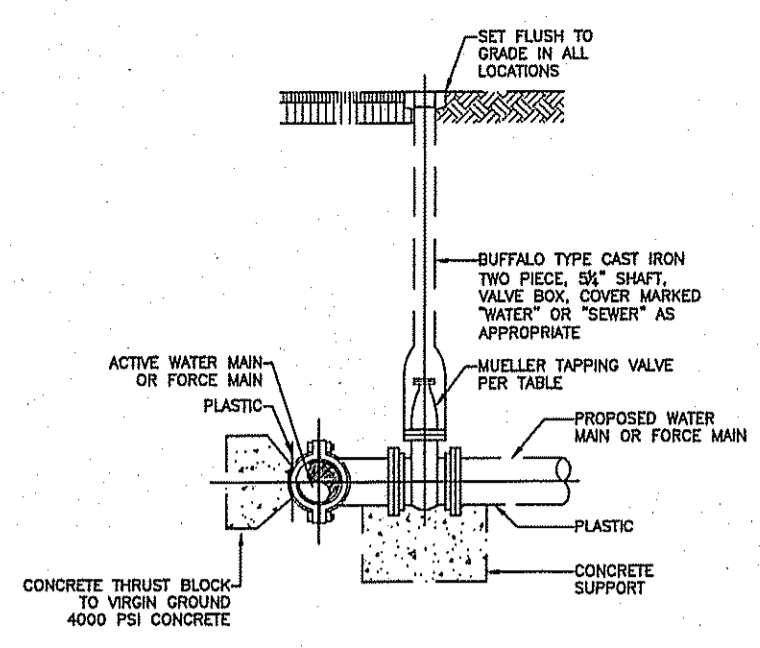
SOUTHEAST REGIONAL OFFICE  
301 McCollough Drive  
Charlotte, NC 28262  
Tel. (704) 909-2900  
Fax (704) 909-2898

www.cranmerengineering.com

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**CONSTRUCTION DETAILS AND SOIL EROSION & SEDIMENT CONTROL DETAILS**  
**TENNENT ROAD WASH & LUBE, LLC**  
LOT 33, BLOCK 122  
TAX MAP SHEET NO. 9  
TOWNSHIP OF MARLBORO  
MONMOUTH COUNTY  
NEW JERSEY

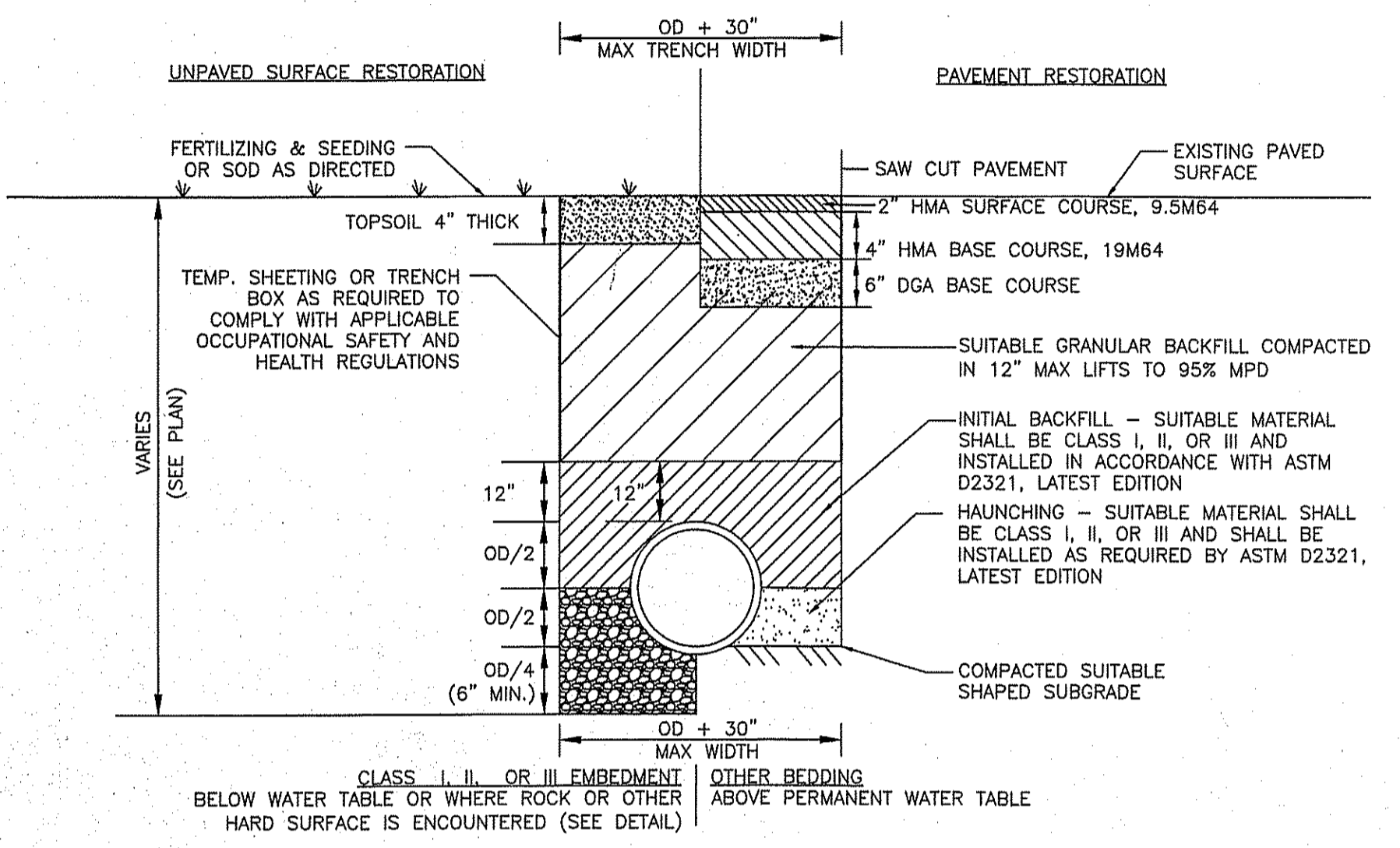
PROJECT No	FILE
2018-015-125	09-11 DETAILS.dwg
DRAWN BY	DESIGNED BY
N.M.	DAC
SCALE	CHECKED BY
N.T.S.	DAC
DATE	SHEET NO.
FEBRUARY 6, 2020	9 of 13



TYPE OF PIPE	SLEEVE	GROSS	VALVE	SIZE RANGE
CAST IRON	H-815	H-715	T-2360-16	2" - 12"
DUCTILE IRON	H-815	H-715	T-2360-16	2" - 12"
ASBESTOS CEMENT	H-819	H-719	T-2360-16	2" - 12"
AWVAL C800 PVC	H-815	H-715	T-2360-16	2" - 12"

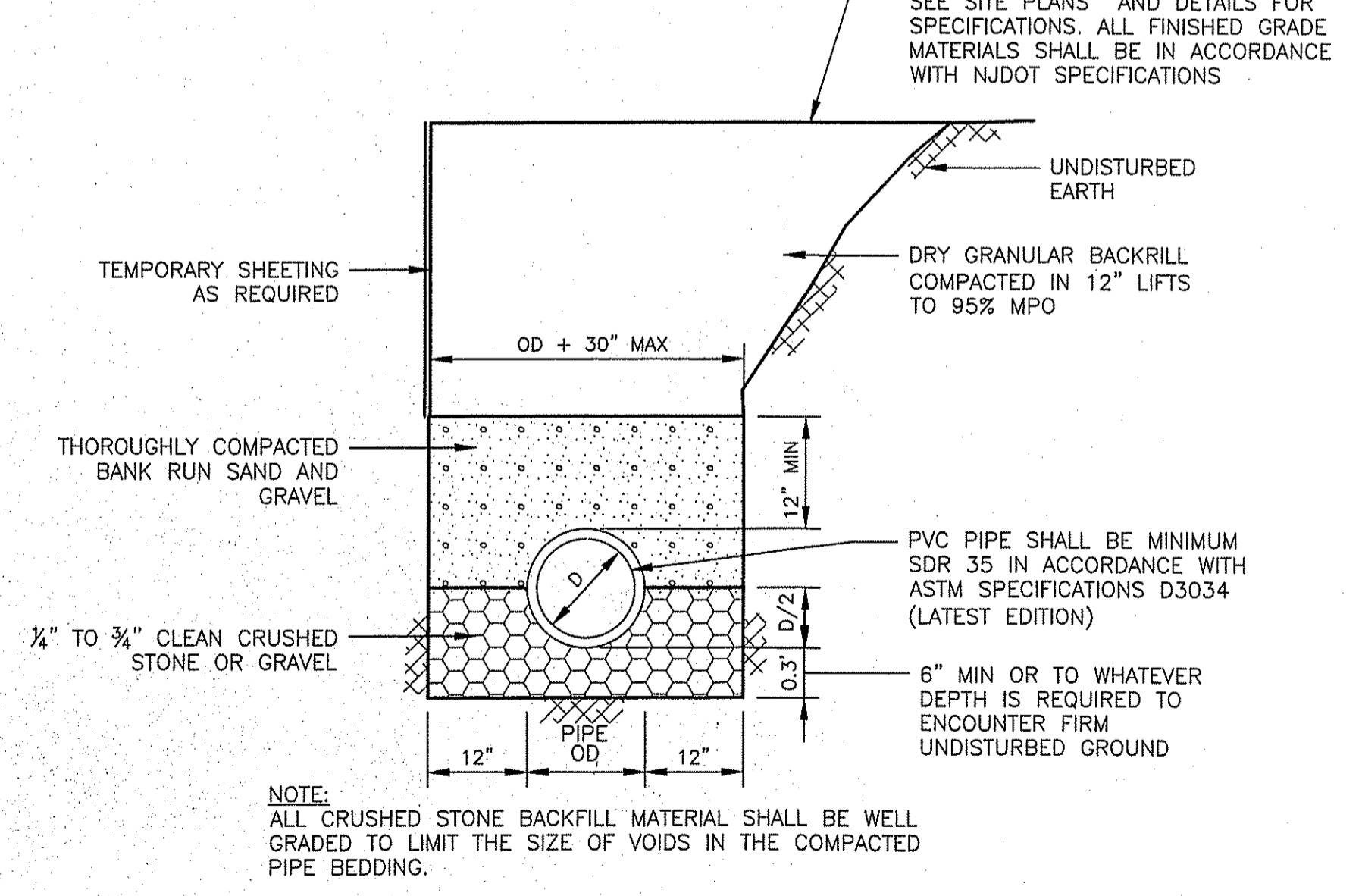
- NOTES:
1. ALL PART NUMBERS REFER TO PRODUCTS OF THE MUELLER COMPANY, DECATUR, IL OR APPROVED EQUAL.
  2. ALL FLANGE DIMENSIONS AND DRILLING CONFORM WITH ANSI B16.1, CLASS 125 AND WITH MSS SP-60. MECHANICAL JOINTS CONFORM WITH ANSI/AWWA D111.
  3. PROVIDE THRUST BLOCKS AND VISCOUS WRAPPING IN CONFORMANCE WITH STANDARD DETAILS.
  4. ALL VALVES SHALL OPEN IN THE COUNTERCLOCKWISE DIRECTION.
  5. ALL TAPPING EQUIPMENT MUST BE DISINFECTED (CHLORINE MAY BE SWABBED ON INTERIOR OF ALL FITTINGS).
  6. LINE MUST BE SUBSEQUENTLY BLOW OFF.

**WET TAP CONNECTION WITH TAPPING SLEEVES, CROSSES & VALVES**  
N.T.S.

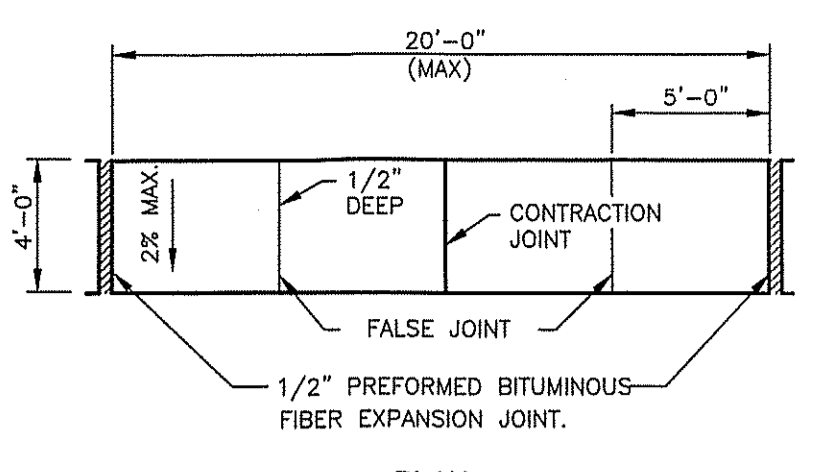


- UNPAVED SURFACE RESTORATION
- PAVEMENT RESTORATION
- NOTES:
1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321. "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC APPLICATIONS," LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
  2. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
  3. HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
  4. THE TRENCH BOTTOM SHALL BE MAINTAINED DRY AND SUITABLY SHAPED OR PREPARED PRIOR TO THE INSTALLATION OF STORM SEWERS.
  5. ALL TRENCHES SHALL BE BACKFILLED AND PROPERLY COMPACTED AT THE END OF EACH WORK DAY.
  6. WHERE EXCAVATED MATERIAL IS UNSUITABLE FOR RE-USE, SELECT FILL SATISFACTORY TO THE ENGINEER SHALL BE UTILIZED.
  7. CONSTRUCTION Dewatering and Trench Protection in Full Compliance with Federal O.S.H.A REMAINS THE RESPONSIBILITY OF THE OWNER, DEVELOPER, CONTRACTOR, AND SUBCONTRACTOR(S). CONSTRUCTION Dewatering and Trench Protection in Full Compliance with Federal O.S.H.A REMAINS THE RESPONSIBILITY OF THE OWNER, DEVELOPER, CONTRACTOR, AND SUBCONTRACTOR(S).

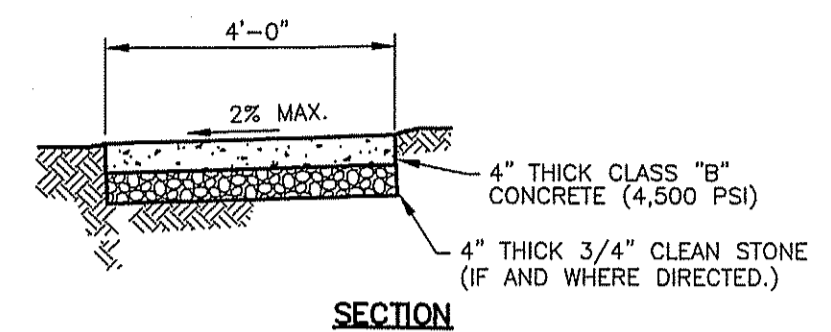
**TYPICAL STORM TRENCH**  
N.T.S.



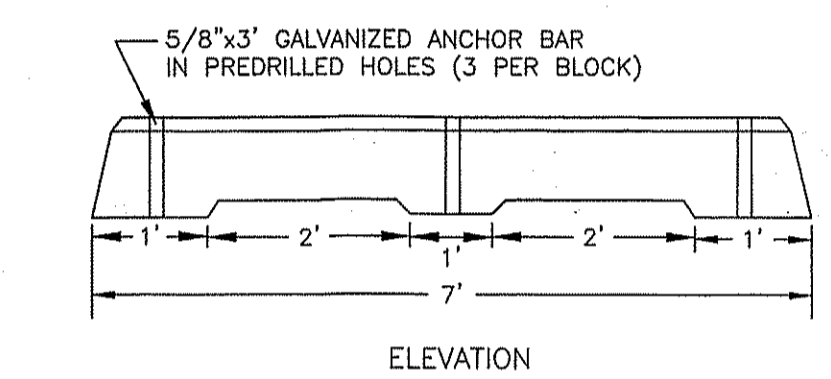
**TYPICAL PVC BEDDING**  
N.T.S.



- PLAN
- NOTES:
1. 6" THICK CONCRETE SHALL EXTEND MIN. OF 3' BEYOND EACH EDGE OF ALL DRIVEWAYS.
  2. DIRECTION OF SLOPE AND GRADE TO BE AS SHOWN ON GRADING PLANS.
  3. SIDEWALKS IN BARRIER - FREE ACCESS PATHS SHALL COMPLY WITH ADA REQUIREMENTS.

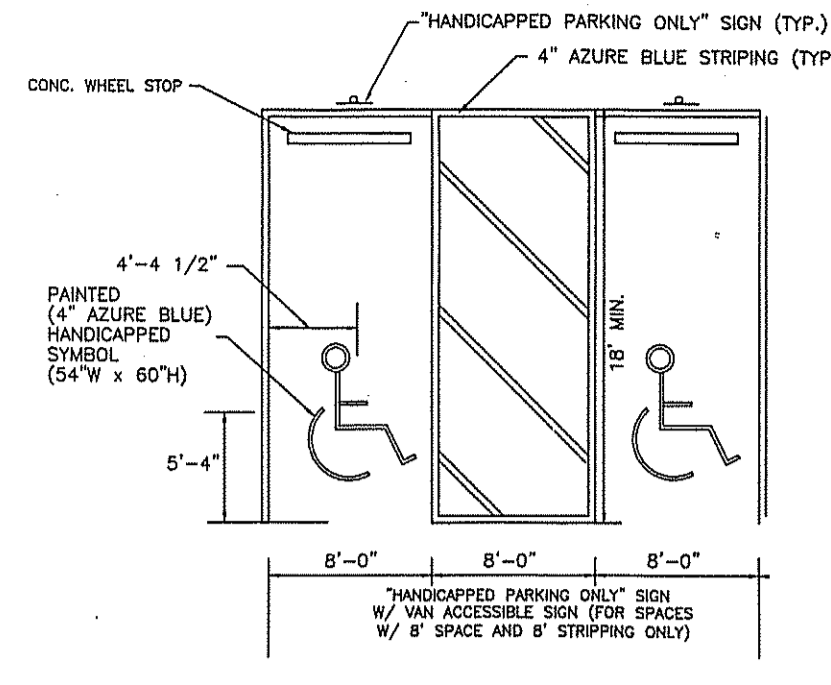


**SECTION CONCRETE SIDEWALK DETAIL**  
N.T.S.



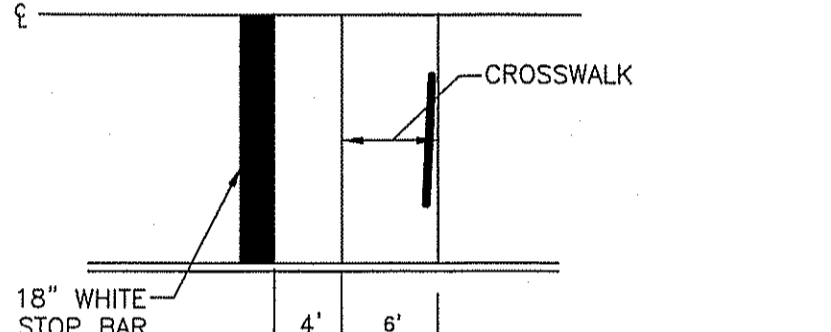
**PRECAST CONCRETE WHEEL STOP**  
N.T.S.

NOTE: CONCRETE PARKING BLOCKS TO BE PROVIDED AT 12 PROPOSED PARKING STALLS. SEE SHEET 1 FOR LOCATIONS

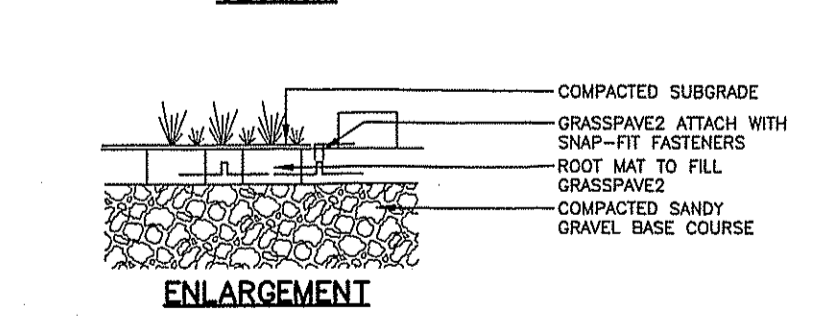
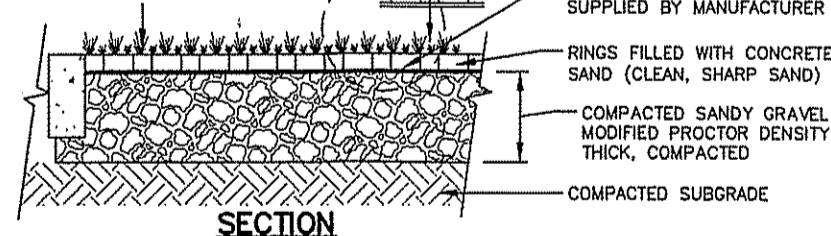
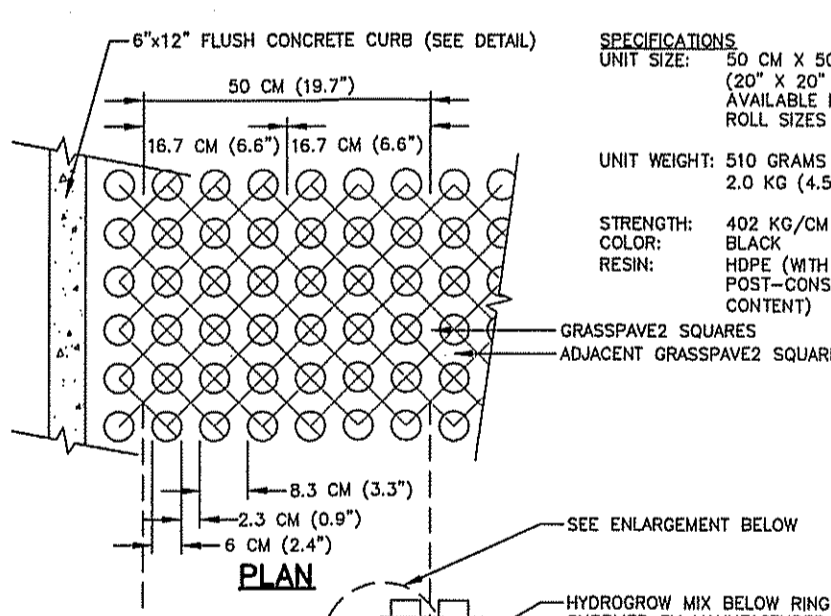


**BARRIER-FREE PARKING STALL MARKINGS**  
N.T.S.

NOTE: CROSS SLOPE SHALL BE NOT MORE THAN 2% WITHIN PARKING STALL OR AISLE

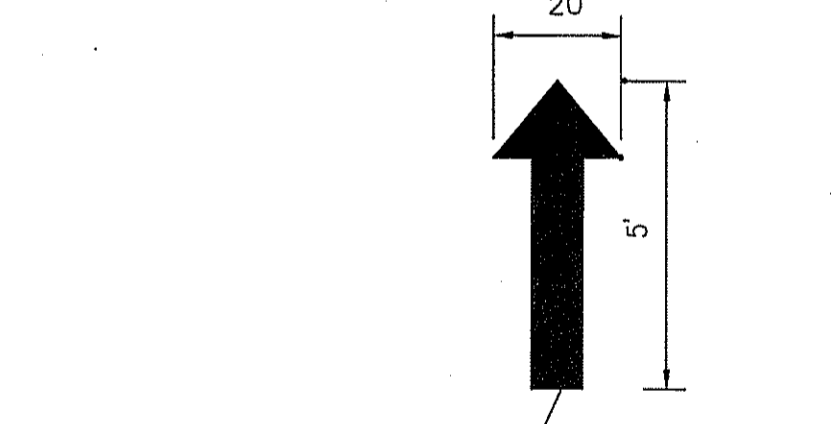


**CROSSWALK & STOP BAR**  
N.T.S.

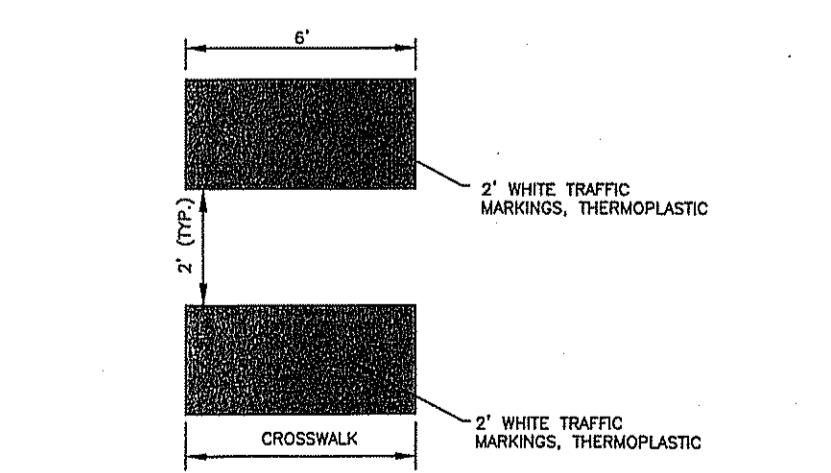


- NOTES:
1. TYPES SHALL BE SPECIFIED BY A LANDSCAPE ARCHITECT OR LANDSCAPE DESIGNER.
  2. TYPICAL GRASSPAVE DETAIL PER INVISIBLE STRUCTURES, INC. 1800 JACKSON ST., STE 110 GOLDEN, COLORADO 80401 855-233-1510 OR 303-233-2363 FAX: 800-233-1822 OR 303-233-8282 WWW.INVISIBLESTRUCTURES.COM

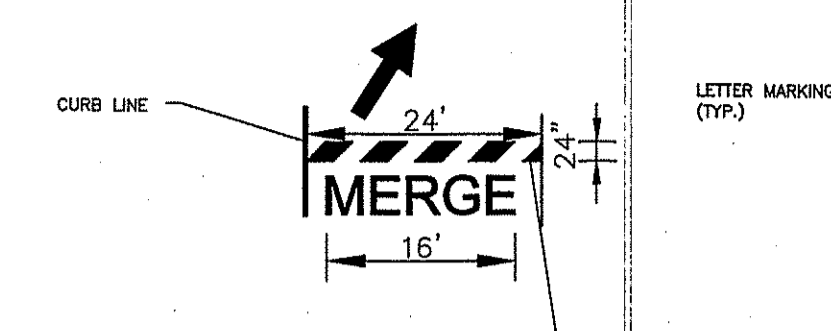
**GRASS PAVER**  
N.T.S.



**ARROW MARKING DETAILS**  
N.T.S.

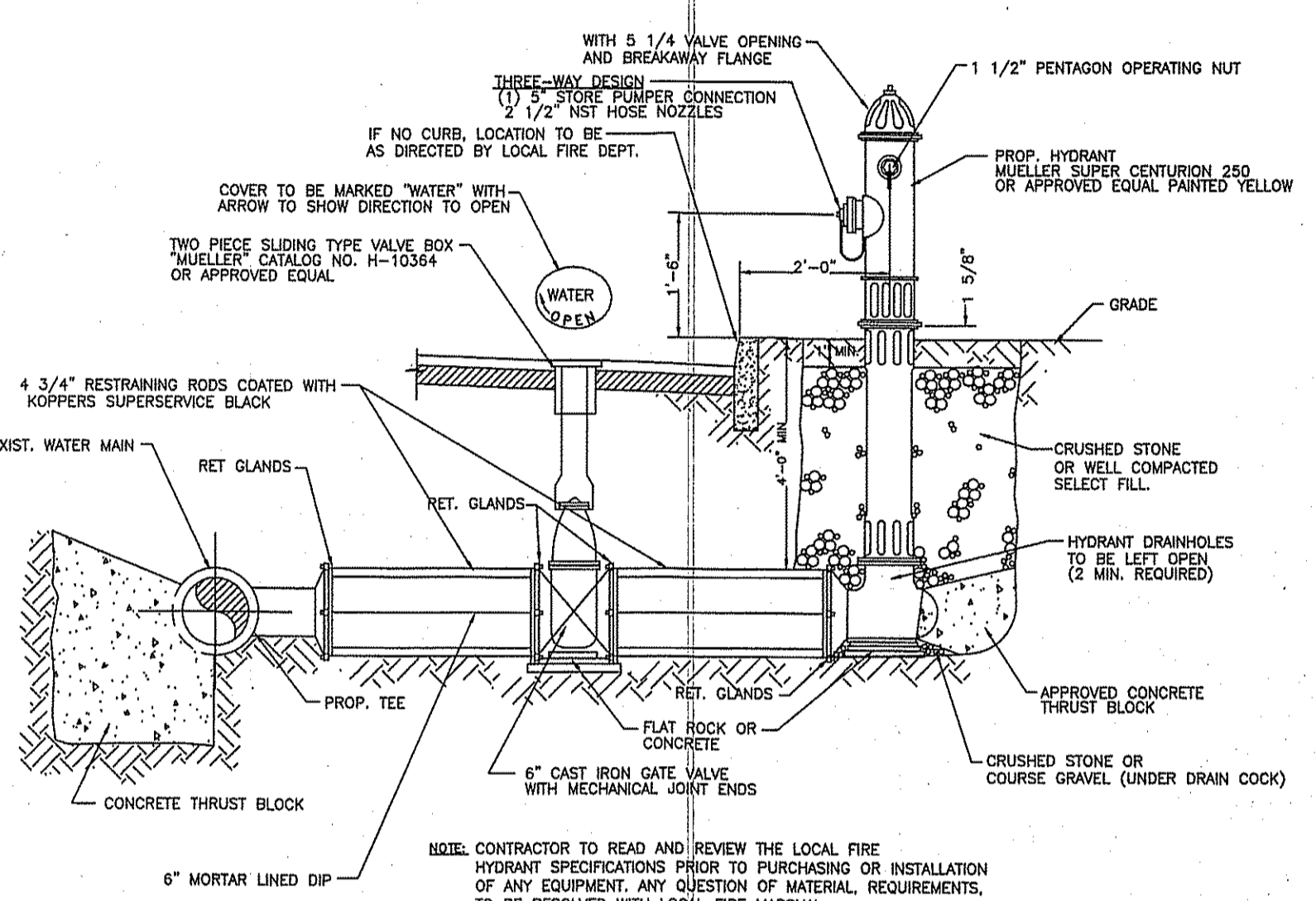


**CROSSWALK MARKING**  
N.T.S.



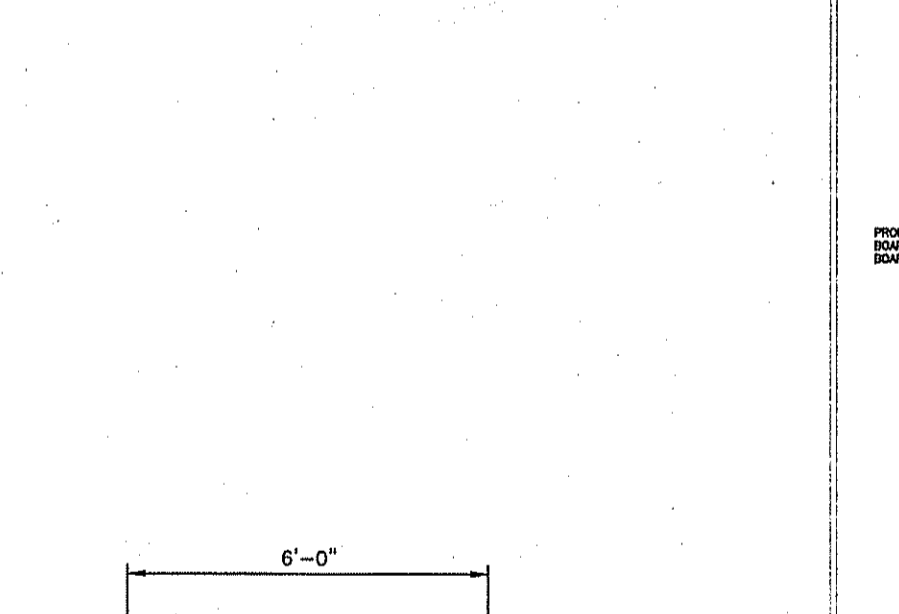
1. STRIPING COLOR: WHITE
2. MARKINGS ARE TO BE MARKED IN THE MANNER SHOWN ABOVE

**MARKING OF MERGE**  
N.T.S.



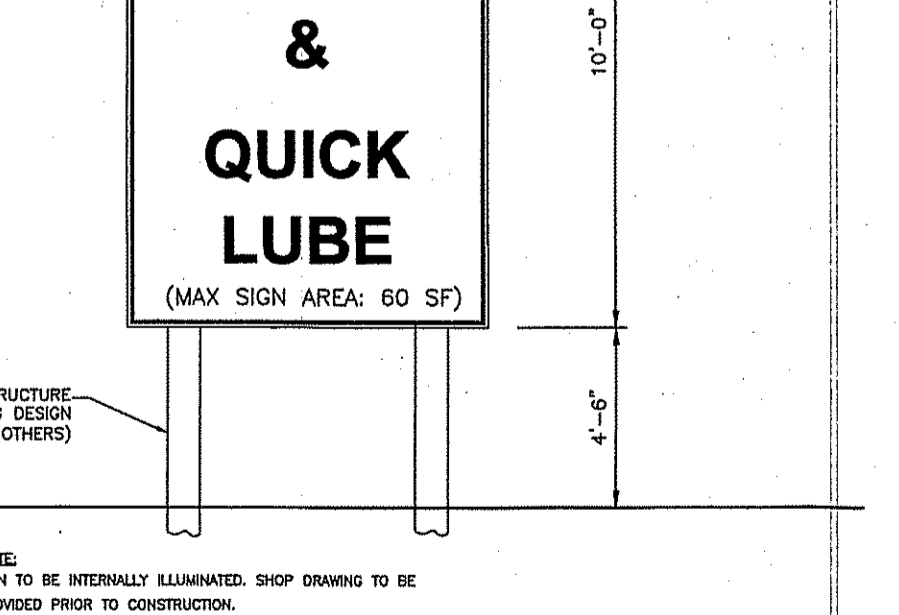
**FIRE HYDRANT**  
N.T.S.

NOTE: CONTRACTOR TO READ AND REVIEW THE LOCAL FIRE HYDRANT SPECIFICATIONS PRIOR TO PURCHASING OR INSTALLATION OF ANY EQUIPMENT. ANY QUESTION OF MATERIAL REQUIREMENTS, TO BE RESOLVED WITH LOCAL FIRE MARSHAL.



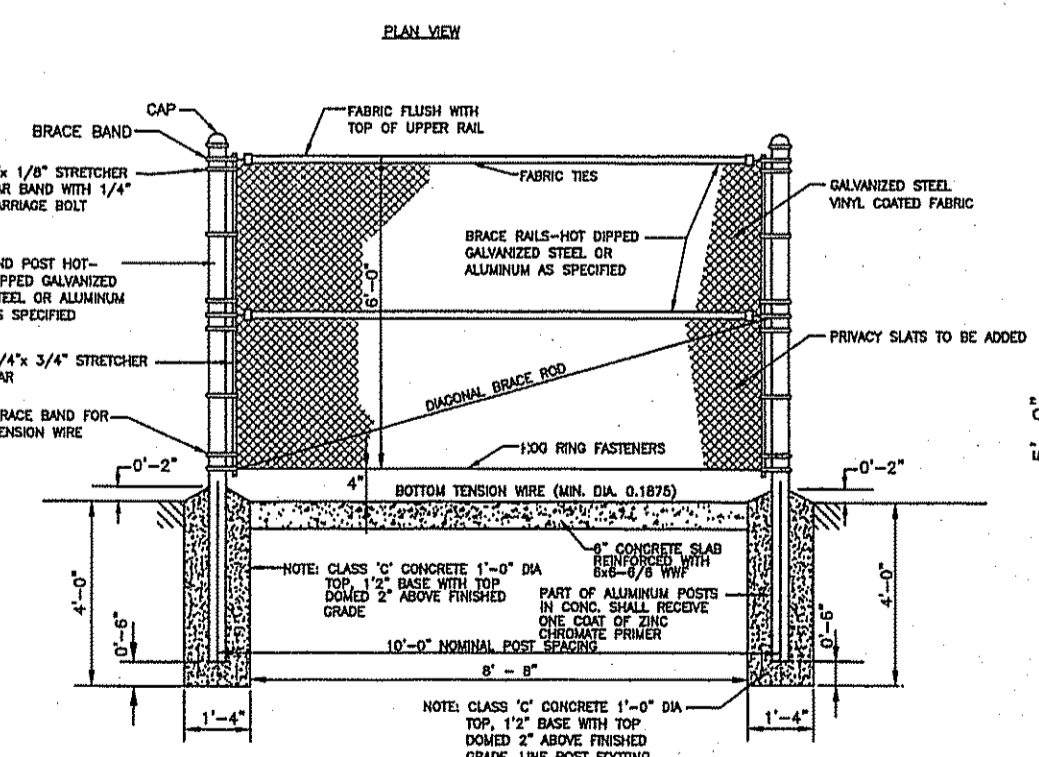
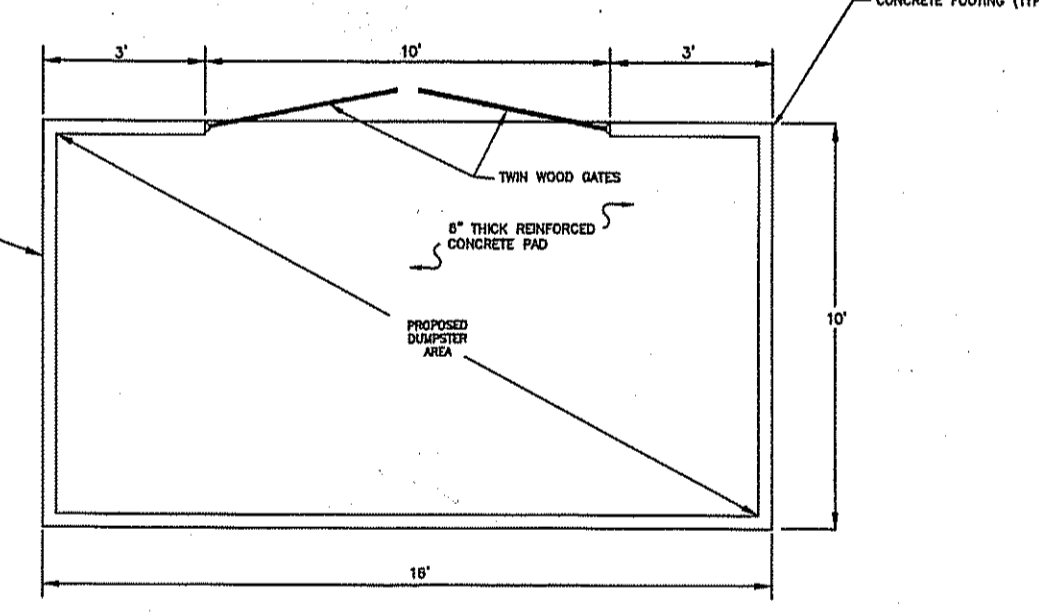
**PROJECT IDENTIFICATION SIGN**  
N.T.S.

REFER TO STRUCTURE FOOTING DESIGN (BY OTHERS)



**CHAIN LINK FENCE TRASH ENCLOSURE**  
N.T.S.

- NOTES:
1. FENCE MAY BE ALUMINUM COATED STEEL OR GALVANIZED STEEL TYPE CONSTRUCTION
  2. POST STIES TO BE IN ACCORDANCE WITH SCHEDULE CITED.
  3. FOOTING SIZES MAY VARY WITH REGIONAL FENCE REQUIRE.
  4. UNLESS OTHERWISE PROVIDED, FENCE DETAILS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 115-160.



- NOTES:
1. FENCE MAY BE ALUMINUM COATED STEEL OR GALVANIZED STEEL TYPE CONSTRUCTION
  2. POST STIES TO BE IN ACCORDANCE WITH SCHEDULE CITED.
  3. FOOTING SIZES MAY VARY WITH REGIONAL FENCE REQUIRE.
  4. UNLESS OTHERWISE PROVIDED, FENCE DETAILS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 115-160.

**CHAIN LINK FENCE TRASH ENCLOSURE**  
N.T.S.

REVISION NO.	DATE	REVISION

GRAPHIC SCALE

1 INCH = 20 FEET

DAVID A. CRANMER, PE  
LICENSED PROFESSIONAL ENGINEER  
STATE OF NEW JERSEY LICENSE No. 41926

**Cranmer Engineering, P.A.**

CORPORATE HEADQUARTERS: 499 Broad Street, Suite 1008, Shrewsbury, NJ 07702, Tel: (732) 212-8900, Fax: (732) 212-8910

SOUTHEAST REGIONAL OFFICE: 301 McCollough Drive, Charlotte, NC 28262, Tel: (704) 909-2900, Fax: (704) 909-2898

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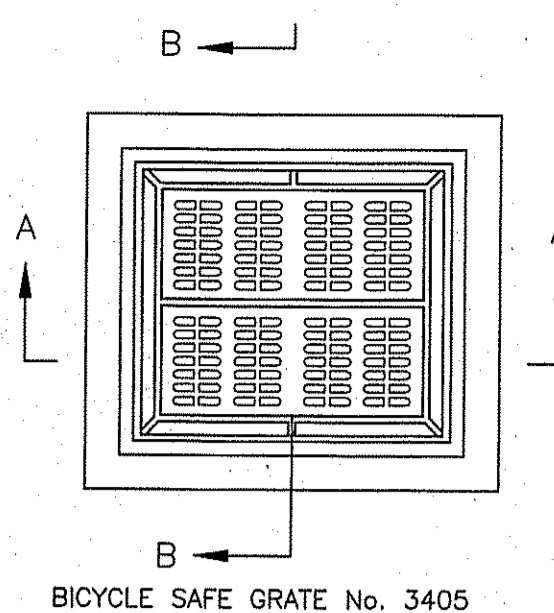
**CONSTRUCTION DETAILS**

**TENNENT ROAD WASH & LUBE, LLC**

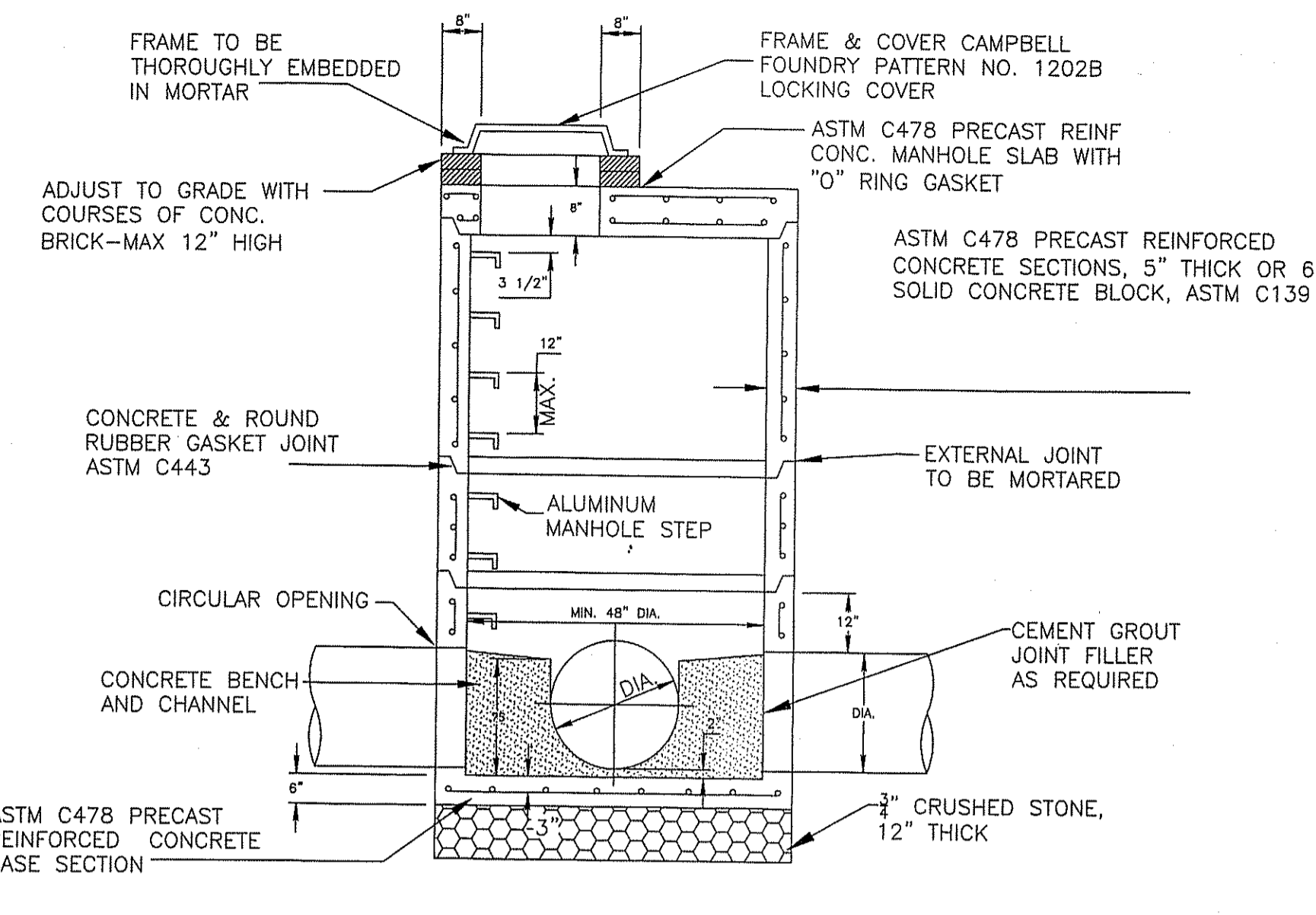
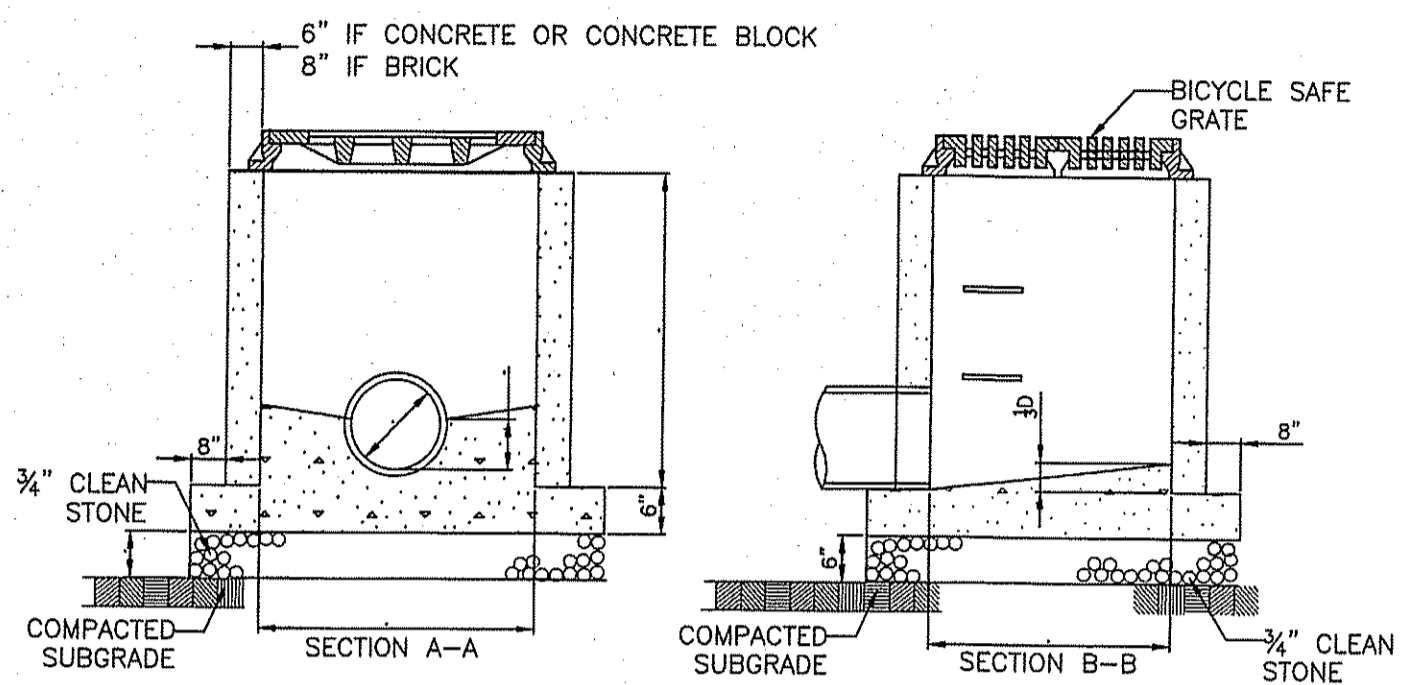
LOT 33, BLOCK 122  
TAX MAP SHEET NO. 9

TOWNSHIP OF MARLBORO MONMOUTH COUNTY NEW JERSEY

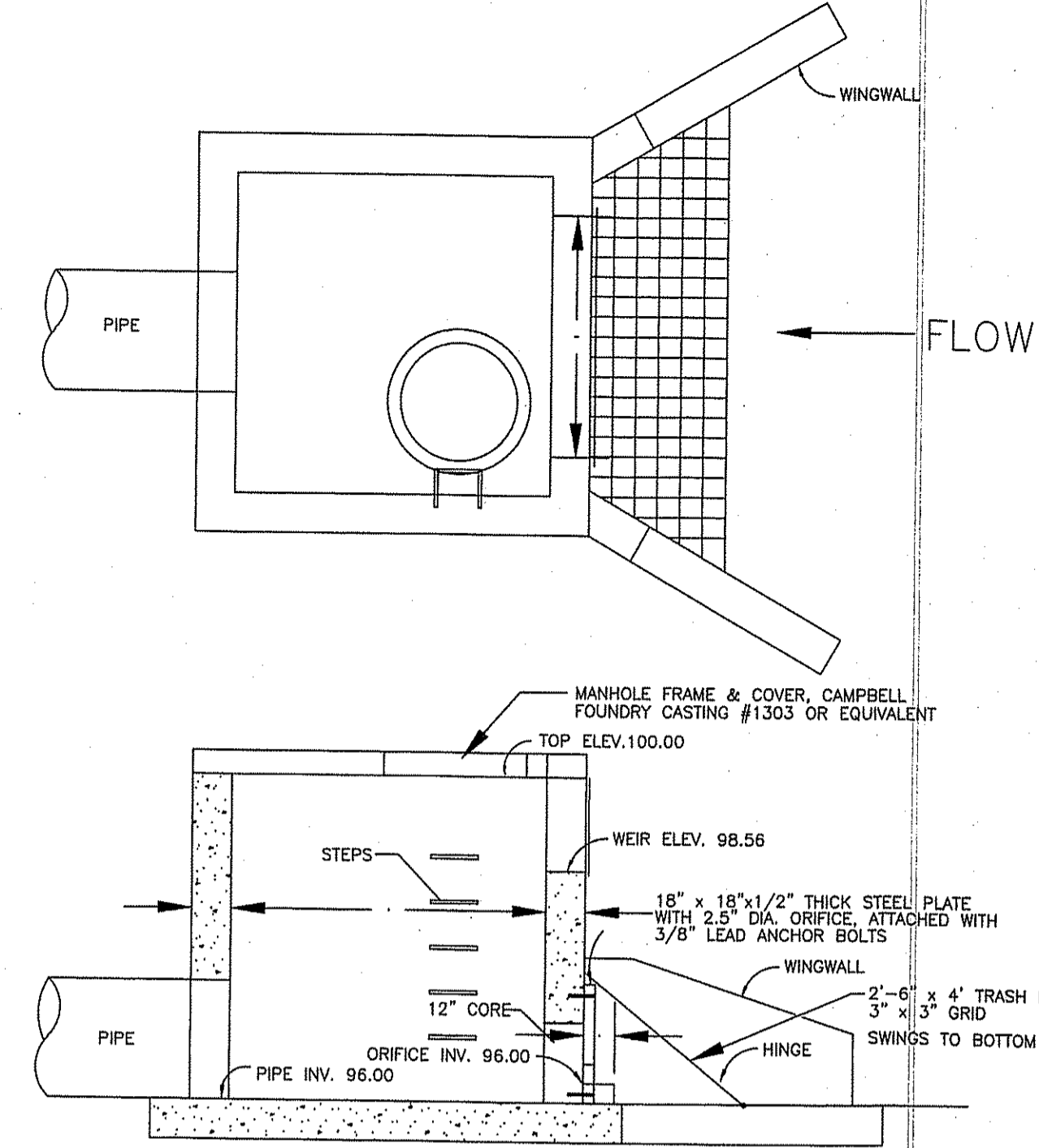
PROJECT No	FILE
2018-015-125	09-11 DETAILS.dwg
DRAWN BY	DESIGNED BY
NAM	DAC
SCALE	CHECKED BY
N.T.S.	DAC
DATE	SHEET NO.
FEBRUARY 6, 2020	10 of 13



- GENERAL NOTES:**
- FOOTER TO BE NUDOT CLASS "B" CONCRETE.
  - INVERT TO BE CLASS "B" CONCRETE.
  - IF WALL CONSTRUCTION IS OTHER THAN CONCRETE, THE WALLS SHALL BE PLASTERED BOTH INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT PLASTER.
  - FRAME AND GRATE TO BE No. 3405 (BICYCLE SAFE) AS MANUFACTURED BY CAMPBELL FOUNDRY COMPANY OR APPROVED EQUAL.
  - PROVIDE 3/4" DIAMETER ALUMINUM LADDER RUNGS, 18" O.C.
  - WHEN ADDITIONAL DEPTH IS SCHEDULED, WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO INVERT SHALL BE 12" THICK. THE FOUNDATION DIMENSIONS SHALL BE INCREASED TO 12" IN WIDTH AND 12" IN DEPTH.



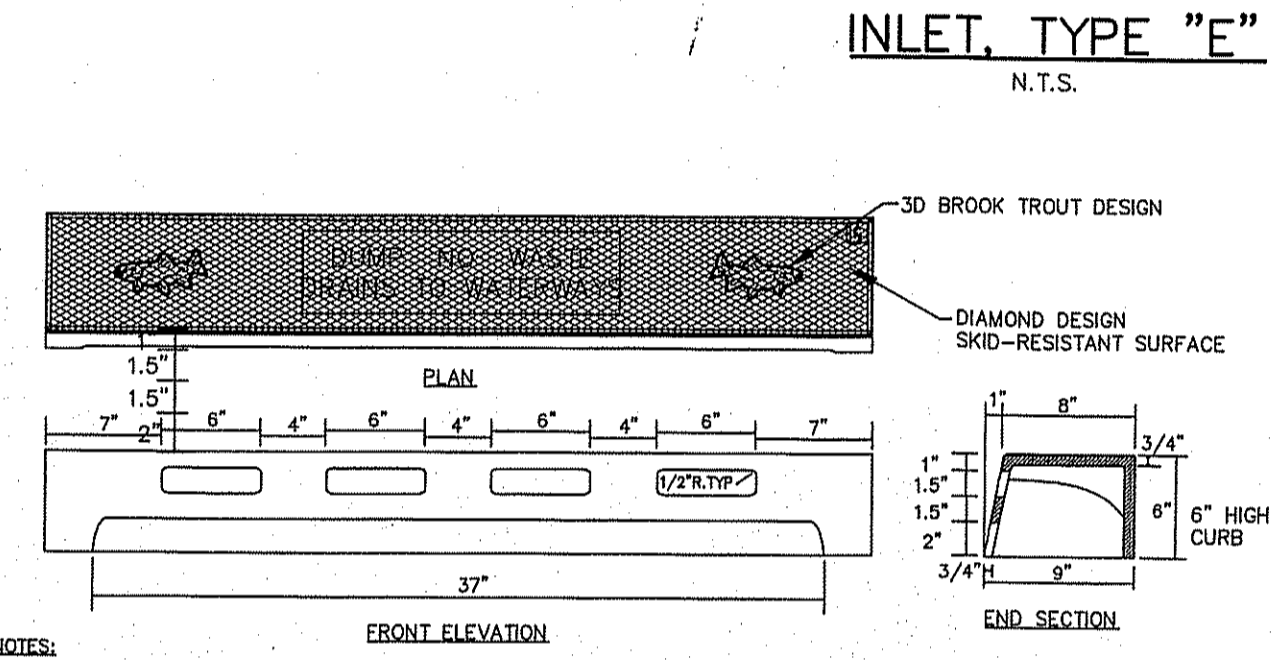
**PRECAST CONCRETE STORM MANHOLE**  
N.T.S.



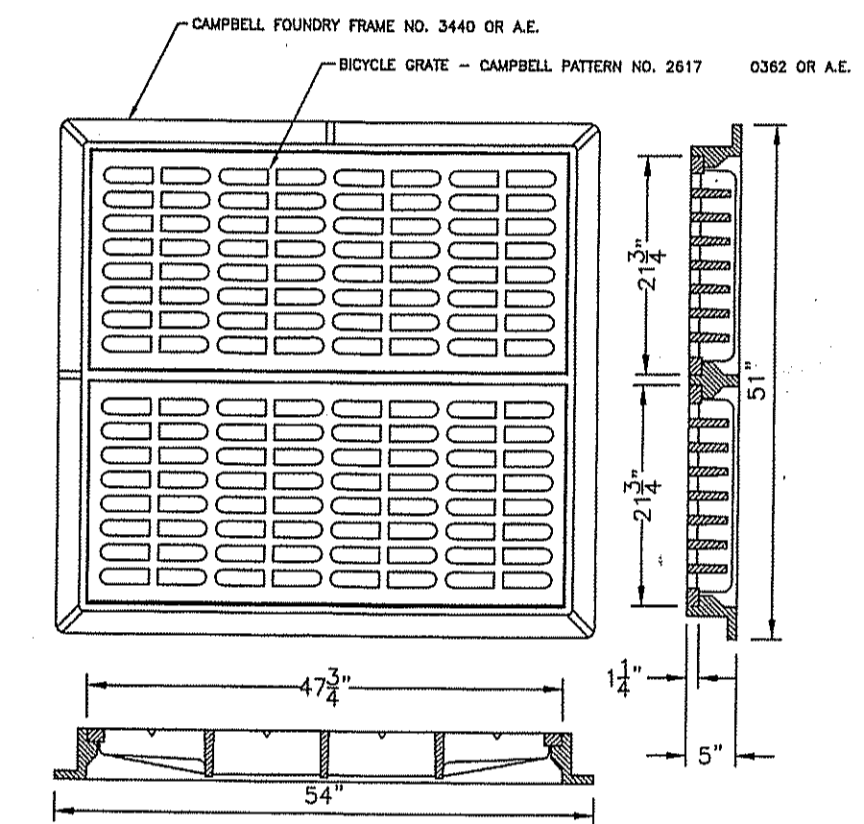
**OUTLET STRUCTURE DATA TABLE**

STRUCTURE	LOCATION	TOP ELEV.	WEIR ELEV.	WEIR WIDTH	ORIF. INV.	PIPE	PIPE INV.
OUTLET #1	BASIN	100.00	98.56	10"	2.5' 96.00	15" RCP	96.00

**DETAIL OUTLET STRUCTURE**  
N.T.S.

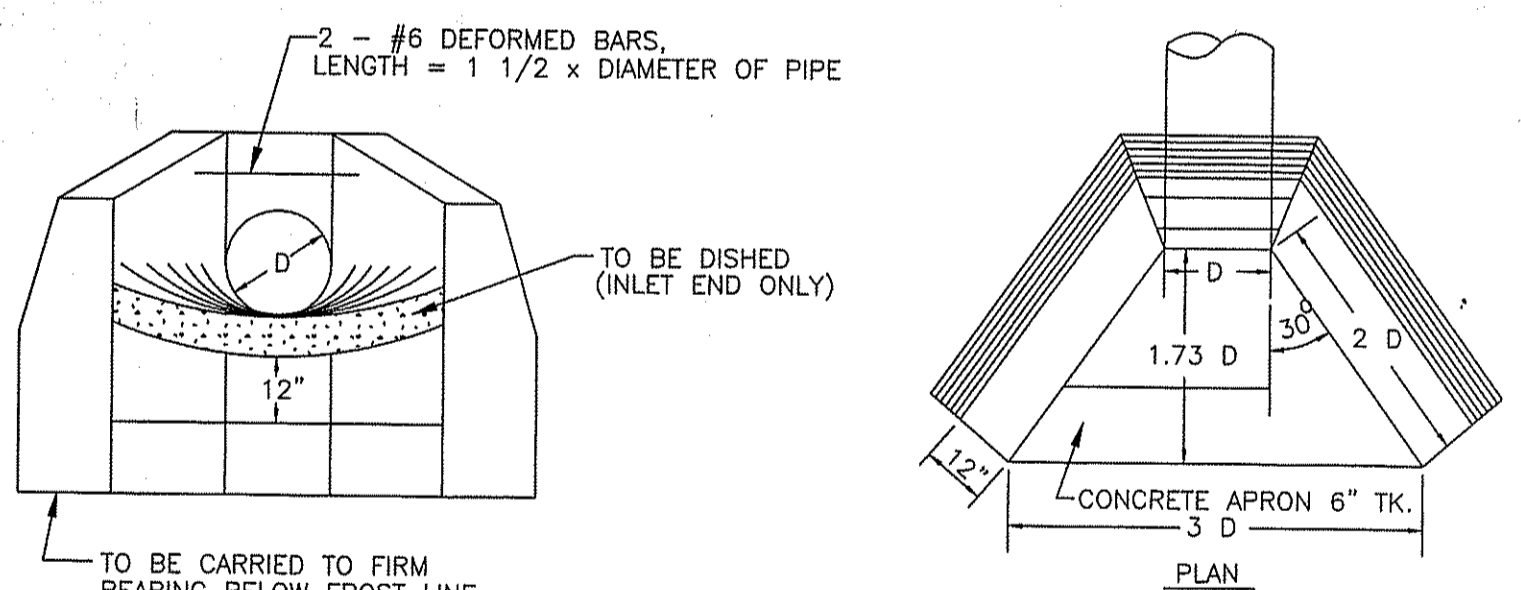
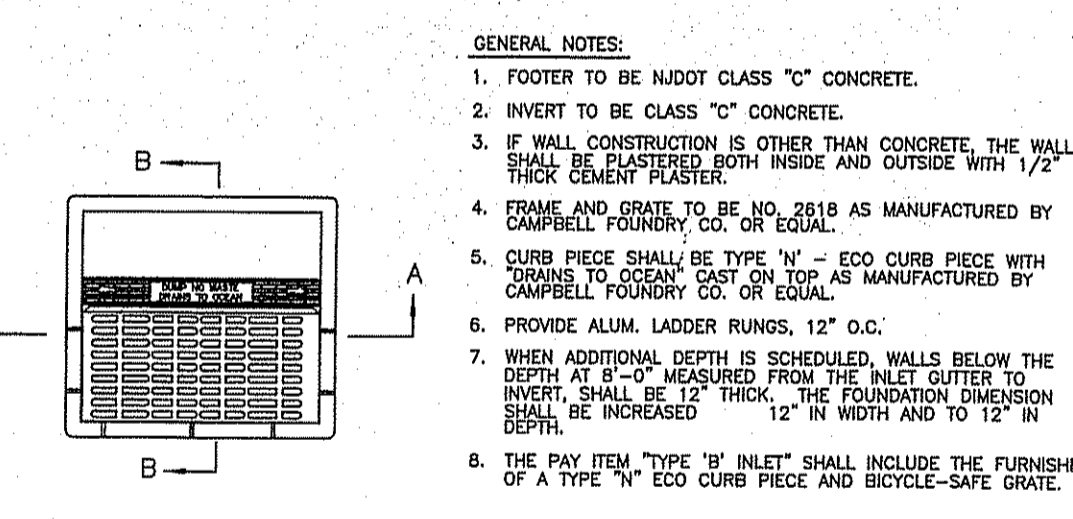


**INLET, TYPE "E"**  
N.T.S.



**FRAME AND GRATE - TYPE "E" INLET**  
N.T.S.

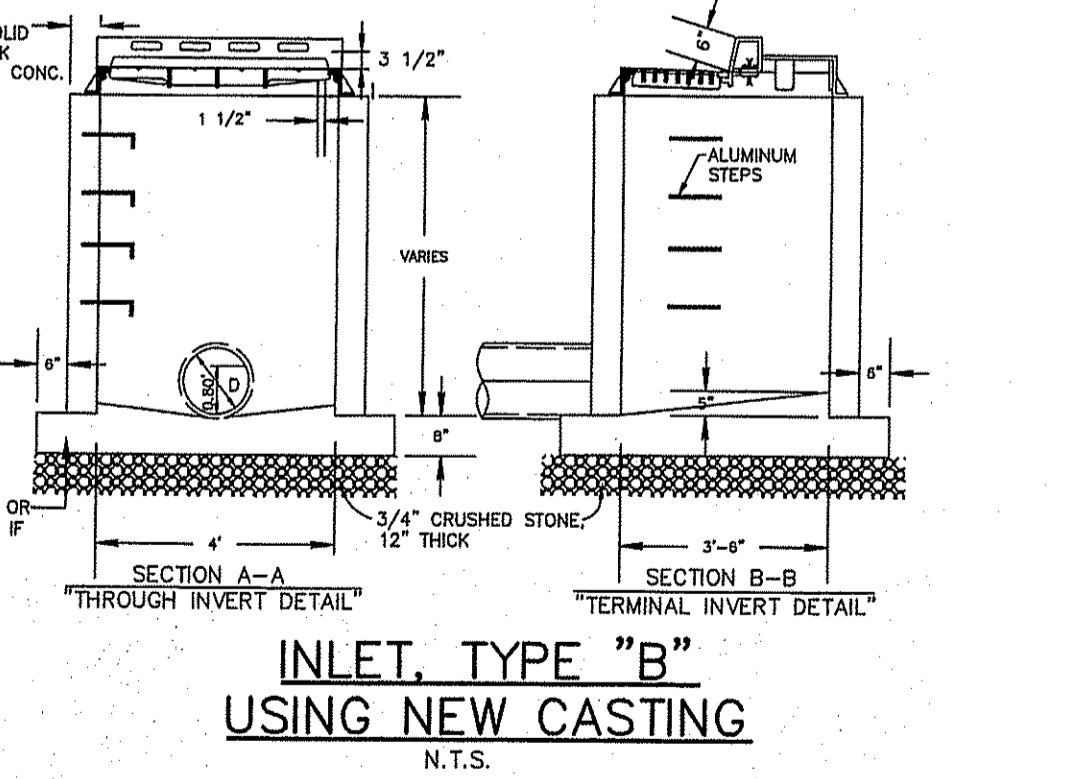
**CURB PIECE TYPE 'N-ECO' DETAIL**  
N.T.S.



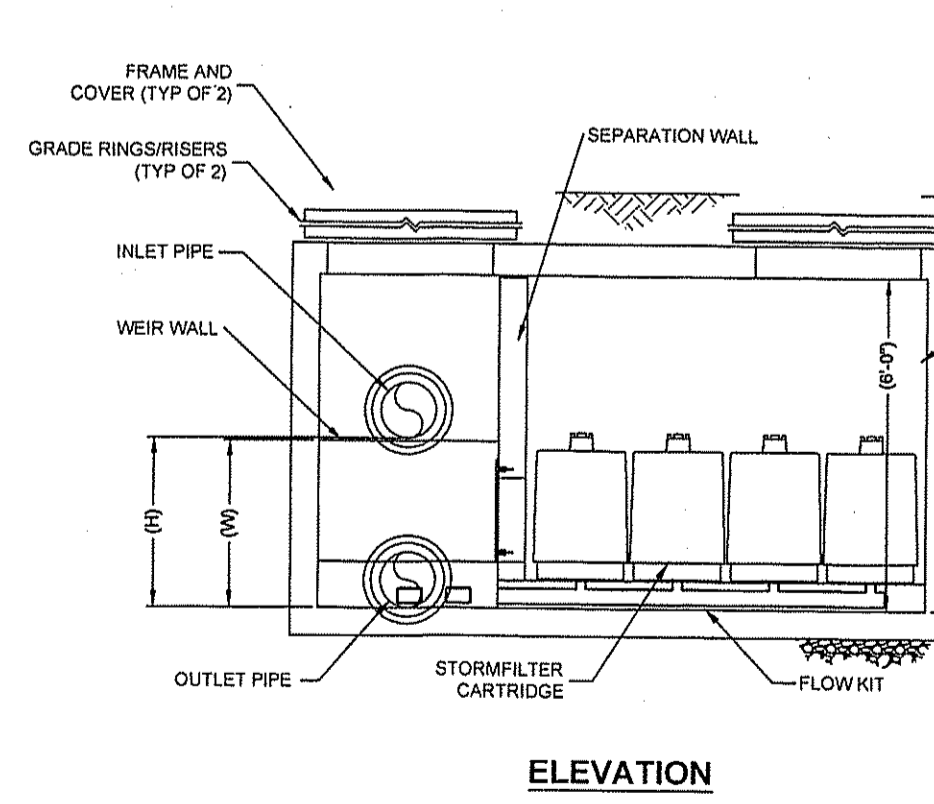
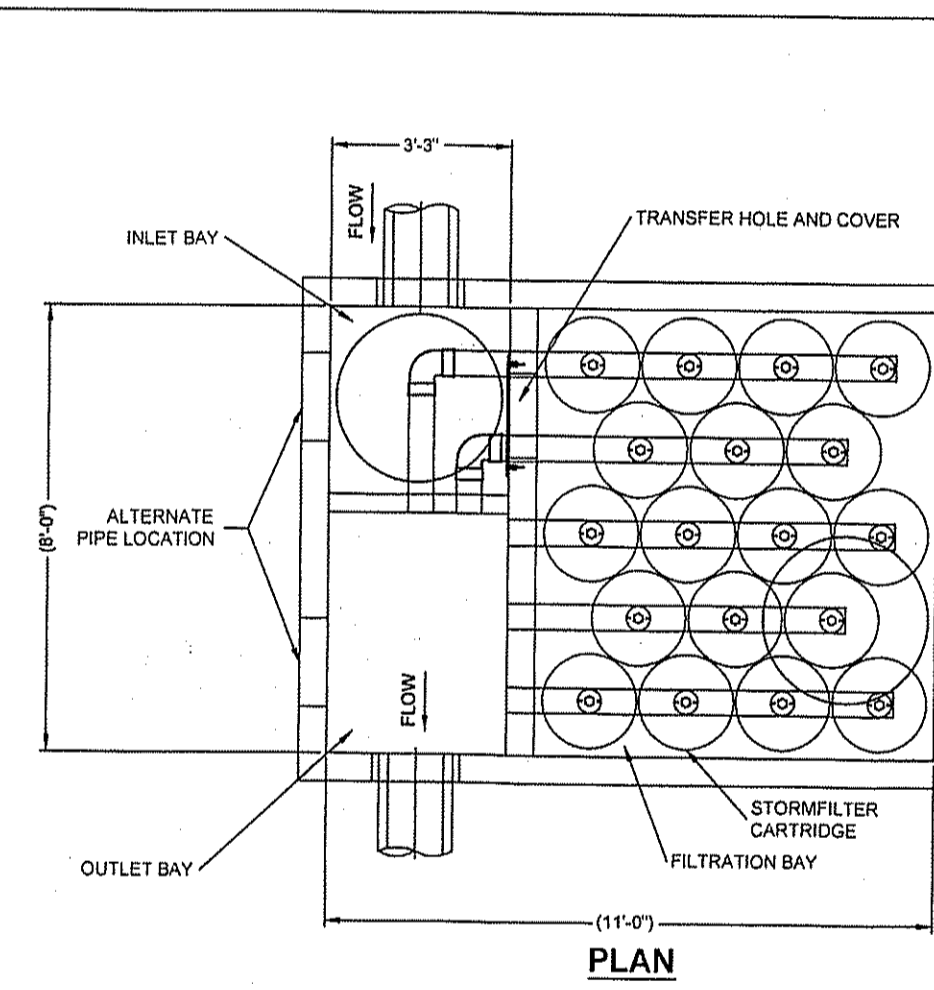
**HEADWALL IN CUBIC YARDS**

PIPE SIZE	CORR. METAL	REIN. CONC.	APRONS IN CUBIC YDS.
12"	1.4	0.2	0.2
15"	1.7	0.2	0.2
18"	2.1	0.3	0.3
21"	2.5	0.4	0.4
24"	2.9	0.5	0.5
27"	3.3	0.6	0.6
30"	3.7	0.7	0.7
36"	4.7	0.9	0.9
42"	5.8	1.2	1.2
48"	7.6	1.5	1.5
54"	9.7	1.8	1.8
60"	12.2	2.1	2.1
66"	15.0	2.5	2.5
72"	18.1	3.0	3.0

**HEADWALL DETAIL**  
STORM/STORM.DWG



**INLET, TYPE "B" USING NEW CASTING**  
N.T.S.



**STORMFILTER DESIGN NOTES**

- THE 6" x 11" PEAK DIVERSION STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCALLY APPROVED SURFACE AREA.
- SPECIFIC FLOW RATE, PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.
- THE PEAK DIVERSION STORMFILTER IS AVAILABLE IN A LEFT INLET AS SHOWN OR RIGHT INLET CONFIGURATION.
- ALL PARTS AND INTERNAL ASSEMBLY PROVIDED BY CONTECH UNLESS OTHERWISE NOTED.

CARTRIDGE SELECTION	27"	18"	LOW DROP
CARTRIDGE HEIGHT	3.25"	2.3"	1.8"
RECOMMENDED HYDRAULIC DROP (H)	3.02"	2.28"	1.72"
HEIGHT OF WEIR (W)	2.28"	1.67"	1.25"
SPECIFIC FLOW RATE (gpm/ft)	2 gpm/ft	1.67 gpm/ft	1 gpm/ft
CARTRIDGE FLOW RATE (gpm)	22.5	18.75	11.25

**SITE SPECIFIC DATA REQUIREMENTS**

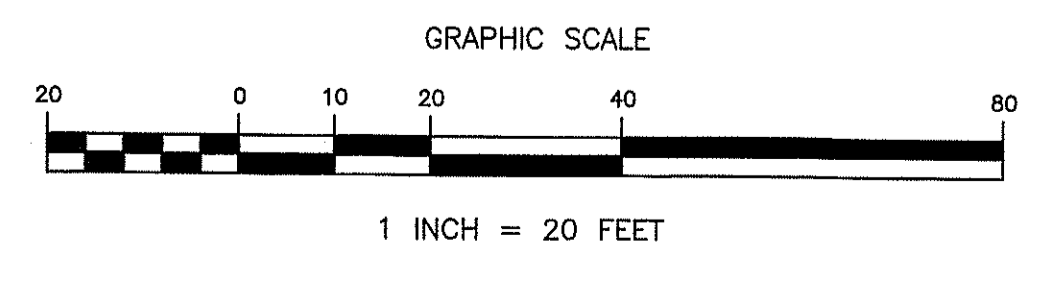
STRUCTURE ID	WATER QUALITY FLOW RATE (cfs)	SIPO0911
	0.183	
	2.214	
	100 YRS	
	1.72'	
	1.07'	
	10 GPM	
	PERLITE	

- PERFORMANCE SPECIFICATION**
- CONTECH SHALL PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - DIMENSIONS MARKED WITH (1) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
  - FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. [www.conteches.com](http://www.conteches.com)
  - STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
  - STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 5'-0" AND GROUNDWATER ELEVATION AT CASTINGS SHALL MEET AASHTO M300 AND BE CAST WITH THE CONTECH LOGO.
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING CLUTCHES PROVIDED).
  - CONTRACTOR TO INSTANTLY SEALANT BETWEEN ALL SECTIONS AND ASSEMBLE STRUCTURE.
  - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
  - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
  - CONTRACTOR TO REMOVE THE TRANSFER HOLE COVER WHEN THE SYSTEM IS BROUGHT ONLINE.

**CONTECH ENGINEERED SOLUTIONS LLC**  
www.conteches.com  
802 Centre Pointe Dr., Suite 400, West Chester, OH 45380  
600-338-1122 513-545-7000 513-645-7990 FAX

**THE STORMWATER MANAGEMENT STORMFILTER 8" x 11" PEAK DIVERSION STORMFILTER STANDARD DETAIL**

NOTICE: THIS DRAWING AND ALL INFORMATION CONTAINED HEREIN IS AUTHORIZED FOR USE ONLY BY THE PARTY FOR WHOM THIS WORK WAS CONTRACTED OR TO WHOM IT IS CERTIFIED. THIS DRAWING MAY NOT BE COPIED, REPRODUCED, DISTRIBUTED OR RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF CRANMER ENGINEERING, P.A. COPYRIGHT 2020 - CRANMER ENGINEERING, P.A. - ALL RIGHTS RESERVED.



**DAVID A. CRANMER, PE**  
LICENSED PROFESSIONAL ENGINEER  
STATE OF NEW JERSEY LICENSE No. 41926

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INTEGRITY | INNOVATION | EXCELLENCE

**CONSTRUCTION DETAILS**  
**TENNENT ROAD WASH & LUBE, LLC**  
LOT 33, BLOCK 122  
TAX MAP SHEET No. 9  
TOWNSHIP OF MARLBORO MONMOUTH COUNTY NEW JERSEY

PROJECT No. 2018-015-125 FILE 09-11 DETAILS.dwg  
DRAWN BY NM DESIGNED BY DAC  
SCALE N.T.S. CHECKED BY DAC  
DATE FEBRUARY 6, 2020 SHEET No. 11 of 13

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION: ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON SOILS EXPOSED FOR PERIODS OF TWO TO 6 MONTHS WHICH ARE NOT BEING GRADED, NOT UNDER ACTIVE CONSTRUCTION OR NOT SCHEDULED FOR PERMANENT SEEDING WITHIN 60 DAYS.
PURPOSE: TO TEMPORARILY STABILIZE THE SOIL AND REDUCE DAMAGE FROM WIND AND WATER EROSION UNTIL PERMANENT STABILIZATION IS ACCOMPLISHED.
WATER QUALITY ENHANCEMENT: PROVIDES TEMPORARY MECHANICAL PROTECTION AGAINST WIND OR RAINFALL INDUCED SOIL EROSION UNTIL PERMANENT VEGETATIVE COVER MAY BE ESTABLISHED.
WHERE APPLICABLE: THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO EROSION, WHERE THE SEASON AND OTHER CONDITIONS MAY NOT BE SUITABLE FOR GROWING AN EROSION-RESISTANT COVER OR WHERE STABILIZATION IS NEEDED FOR A SHORT PERIOD UNTIL MORE SUITABLE PROTECTION CAN BE APPLIED.

METHODS AND MATERIALS: 1. SITE PREPARATION A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.

2. SEEDING A. SELECT SEED FROM RECOMMENDATIONS AS SPECIFIED IN STANDARDS FOR SOILS EROSION AND SEDIMENT CONTROL IN NEW JERSEY. B. SEEDING EQUIPMENT: APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER CONVENTIONAL SEEDING FOR DRILLED, HYDROSEEDER OR CULTRIPACKER SEEDING, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

3. SEEDING A. SELECT SEED FROM RECOMMENDATIONS AS SPECIFIED IN STANDARDS FOR SOILS EROSION AND SEDIMENT CONTROL IN NEW JERSEY. B. SEEDING EQUIPMENT: APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER CONVENTIONAL SEEDING FOR DRILLED, HYDROSEEDER OR CULTRIPACKER SEEDING, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

4. MULCHING MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DETERMINED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

5. STRAW OR HAY. UNROTTED SMALL GRASS STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.

6. APPLICATION - SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST 85% OF THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION. ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

7. PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS. TWINE BETWEEN PEGS IN A CRISS-CROSS AND SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

8. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. 9. CRIMPER (MULCH ANCHORING COULTER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL, SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.

10. LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR SALT, HAY, OR STRAW MULCH. a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE. b. USE ONE OF THE FOLLOWING: (1) ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER-BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDG GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS SITE.

(2) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION OF MULCH, DRYING AND CURING, SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS. NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

11. WOOD-FIBER OR PAPER-FIBER MULCH - SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

12. PELLETED MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS, AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDBED AREA AND WATERED, FORM A MULCH MAT. PELLETED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS./1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDBED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED, OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

13. APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

14. SEEDING A. SELECT SEED FROM RECOMMENDATIONS IN TABLE (SEE THIS SHEET).

STANDARD FOR STABILIZATION FOR MULCH ONLY

DEFINITION: STABILIZING EXPOSED SOILS WITH NON-VEGETATIVE MATERIALS FOR PERIODS LONGER THAN 14 DAYS.
PURPOSE: TO PROTECT EXPOSED SOIL SURFACES FROM EROSION DAMAGE AND TO REDUCE OFFSITE ENVIRONMENTAL DAMAGE.
WATER QUALITY ENHANCEMENT: PROVIDES TEMPORARY MECHANICAL PROTECTION AGAINST WIND OR RAINFALL INDUCED SOIL EROSION UNTIL PERMANENT VEGETATIVE COVER MAY BE ESTABLISHED.
WHERE APPLICABLE: THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO EROSION, WHERE THE SEASON AND OTHER CONDITIONS MAY NOT BE SUITABLE FOR GROWING AN EROSION-RESISTANT COVER OR WHERE STABILIZATION IS NEEDED FOR A SHORT PERIOD UNTIL MORE SUITABLE PROTECTION CAN BE APPLIED.

METHODS AND MATERIALS: 1. SITE PREPARATION A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.

2. PROTECTIVE MATERIALS A. UNROTTED SMALL-GRASS STRAW, AT 2.0 TO 2.5 TONS PER ACRE, IS SPREAD UNIFORMLY AT 90 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING THE DOWN, OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, I.E. THE SOIL CANNOT BE SEEN BELOW THE MULCH.

3. MULCH ANCHORING - SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.

4. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDG GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.

5. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING, AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

6. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.

7. USE ONE OF THE FOLLOWING: a. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDG GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.

b. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING, AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

8. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.

9. USE ONE OF THE FOLLOWING: a. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDG GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.

b. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING, AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

10. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.

11. USE ONE OF THE FOLLOWING: a. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDG GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.

b. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING, AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

12. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.

13. USE ONE OF THE FOLLOWING: a. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDG GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.

b. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING, AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

14. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.

15. USE ONE OF THE FOLLOWING: a. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDG GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.

b. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING, AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

16. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.

17. USE ONE OF THE FOLLOWING: a. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDG GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.

b. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING, AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION: ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON EXPOSED SOILS WHERE PERENNIAL VEGETATION IS NEEDED FOR LONG-TERM PROTECTION.
PURPOSE: TO PERMANENTLY STABILIZE THE SOIL, ENSURING CONSERVATION OF SOIL AND WATER, AND TO ENHANCE THE ENVIRONMENT.
WATER QUALITY ENHANCEMENT: SLOWS THE OVER-LAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.
WHERE APPLICABLE: ON EXPOSED SOILS THAT HAVE A POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS: 1. SITE PREPARATION A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.

2. SEEDING A. SELECT SEED FROM RECOMMENDATIONS AS SPECIFIED IN STANDARDS FOR SOILS EROSION AND SEDIMENT CONTROL IN NEW JERSEY. B. SEEDING EQUIPMENT: APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER CONVENTIONAL SEEDING FOR DRILLED, HYDROSEEDER OR CULTRIPACKER SEEDING, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

3. SEEDING A. SELECT SEED FROM RECOMMENDATIONS AS SPECIFIED IN STANDARDS FOR SOILS EROSION AND SEDIMENT CONTROL IN NEW JERSEY. B. SEEDING EQUIPMENT: APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER CONVENTIONAL SEEDING FOR DRILLED, HYDROSEEDER OR CULTRIPACKER SEEDING, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

4. MULCHING MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DETERMINED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

5. STRAW OR HAY. UNROTTED SMALL GRASS STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.

6. APPLICATION - SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST 85% OF THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION. ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

7. PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS. TWINE BETWEEN PEGS IN A CRISS-CROSS AND SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

8. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. 9. CRIMPER (MULCH ANCHORING COULTER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL, SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.

10. LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR SALT, HAY, OR STRAW MULCH. a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE. b. USE ONE OF THE FOLLOWING: (1) ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER-BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDG GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS SITE.

(2) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION OF MULCH, DRYING AND CURING, SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS. NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

11. WOOD-FIBER OR PAPER-FIBER MULCH - SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

12. PELLETED MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS, AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDBED AREA AND WATERED, FORM A MULCH MAT. PELLETED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS./1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDBED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED, OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

13. APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

14. SEEDING A. SELECT SEED FROM RECOMMENDATIONS IN TABLE (SEE THIS SHEET).

STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS

DEFINITION: HIGH ACID-PRODUCING SOILS ARE SOILS WITH A PH OF 4.0 OR LESS OR CONTAIN IRON SULFIDE.
PURPOSE: TO PREVENT OR LIMIT EXPOSURE AREA, TIME, AND SPREADING BY EQUIPMENT OR RAINFALL. ON- AND OFF-SITE AND TO MINIMIZE EROSION, SEDIMENTATION AND ACID LEACHATE-RELATED DAMAGES. HIGH ACID-PRODUCING SOILS MAY BE EXPOSED DURING EXCAVATION AND LAND GRADING ACTIVITIES, OR MAY BE INTRODUCED IN DREDGED SEDIMENT OR SOILS AND SEDIMENT CONTAINING IRON SULFIDE, SULFURIC ACID AND RESULT IN SOIL PH LEVELS FALLING TO PH 4.0 OR LOWER. MOST VEGETATION IS INCAPABLE OF GROWTH AT THIS PH LEVEL. ADJACENT LAND AND RECEIVING WATERS WILL BE NEGATIVELY IMPACTED BY THE ACID LEACHATE. CALCIUM-CONTAINING DEGRADATION, AGRICULTURAL LIMESTONE MATERIALS APPLIED AT RATES OF 8 TONS PER ACRE HAVE RESULTED IN ONLY A TEMPORARY BUFFERING EFFECT, AND "LIMING-ONLY" IS THEREFORE NOT CONSIDERED AN ACCEPTABLE MITIGATION PRACTICE.

METHODS AND MATERIALS: 1. SITE PREPARATION A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.

2. SEEDING A. SELECT SEED FROM RECOMMENDATIONS AS SPECIFIED IN STANDARDS FOR SOILS EROSION AND SEDIMENT CONTROL IN NEW JERSEY. B. SEEDING EQUIPMENT: APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER CONVENTIONAL SEEDING FOR DRILLED, HYDROSEEDER OR CULTRIPACKER SEEDING, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

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4. MULCHING MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DETERMINED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

5. STRAW OR HAY. UNROTTED SMALL GRASS STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.

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**STANDARD FOR TOPSOILING**

**DEFINITION:**  
TOPSOILING ENTAILS THE DISTRIBUTION OF SUITABLE QUALITY SOIL ON AREAS TO BE VEGETATED.

**PURPOSE:**  
TO IMPROVE THE SOIL MEDIUM FOR PLANT ESTABLISHMENT AND MAINTENANCE.

**WATER QUALITY ENHANCEMENT:**  
GROWTH AND ESTABLISHMENT OF A VIGOROUS VEGETATIVE COVER IS FACILITATED BY TOPSOIL, PREVENTING SOIL LOSS BY WIND AND RAIN AND INTO STREAMS AND OTHER STORMWATER CONVEYANCES.

**WHERE APPLICABLE:**  
TOPSOIL SHALL BE USED WHERE SOILS ARE TO BE DISTURBED AND WILL BE REVEGETATED.

**METHODS AND MATERIALS:**

- MATERIALS**
  - A. TOPSOIL SHOULD BE FRABLE, LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMOS PER CENTIMETER. MORE THAN 0.5 MILLIMOS MAY DESICCATO SEEDLINGS AND ADVERSELY IMPACT GROWTH). IMPORTED TOPSOIL SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC MATTER CONTENT MAY BE RAISED BY ADJUSTS.
  - B. TOPSOIL SUBSTITUTE IS A SOIL MATERIAL WHICH MAY HAVE BEEN AMENDED WITH SAND, SILT, CLAY, ORGANIC MATTER, FERTILIZER OR LIME AND HAS THE APPEARANCE OF TOPSOIL. TOPSOIL SUBSTITUTES MAY BE UTILIZED ON SITES WITH INSUFFICIENT TOPSOIL FOR ESTABLISHING PERMANENT VEGETATION. ALL TOPSOIL SUBSTITUTE MATERIALS SHALL MEET THE REQUIREMENTS OF TOPSOIL NOTED ABOVE. SOIL TESTS SHALL BE PERFORMED TO DETERMINE THE COMPONENTS OF SAND, SILT, CLAY, ORGANIC MATTER, SOLUBLE SALTS, AND PH LEVEL.
- STRIPPING AND STOCKPILING**
  - A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
  - B. STRIPPING SHOULD BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.
  - C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY SOIL TESTS TO BRING THE SOIL PH TO APPROXIMATELY 6.5.
  - D. A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.
  - E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.
  - F. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS PREVIOUSLY DESCRIBED HEREIN; SEE STANDARDS FOR PERMANENT (PG. 4-1) OR TEMPORARY (PG.7-1) VEGETATIVE COVER FOR SOIL STABILIZATION. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.
- SITE PREPARATION**
  - A. GRADE AT THE ONSET OF THE OPTIMAL SEEDING PERIOD SO AS TO MINIMIZE THE DURATION AND AREA OF EXPOSURE OF DISTURBED SOIL TO EROSION. IMMEDIATELY PROCEED TO ESTABLISH VEGETATIVE COVER IN ACCORDANCE WITH THE SPECIFIED SEED MIXTURE. TIME IS OF THE ESSENCE.
  - B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. SEE THE STANDARD FOR LAND GRADING, PG.19-1.
  - C. AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT. LIME, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL TO A PH OF APPROXIMATELY 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
  - D. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE STANDARD FOR LAND GRADING, PG. 19-1.
  - E. EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
  - F. APPLYING TOPSOIL
    - A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE; I.E., LESS THAN FIELD CAPACITY (SEE GLOSSARY).
    - B. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5.0 INCHES, MINIMUM OF 4 INCHES, FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE CONSIDERED WHERE SPECIAL REGULATORY AND/OR INDUSTRY DESIGN STANDARDS ARE APPLICABLE SUCH AS ON COURSES, SPORTS FIELDS, LANDFILL CAPPING, ETC. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE, IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOIL. (PG. 1-1).
    - C. PURSUANT TO THE REQUIREMENTS IN SECTION 7 OF THE STANDARD FOR VEGETATIVE STABILIZATION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE PERMANENT VEGETATIVE COVER BECOMES ESTABLISHED ON AT LEAST 80% OF SOILS TO BE STABILIZED WITH VEGETATION. FAILURE TO ACHIEVE THE MINIMUM COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED BY THE CONTRACTOR TO INCLUDE SOME OR ALL OF THE FOLLOWING: SUPPLEMENTAL SEEDING, RE-APPLICATION OF LIME AND FERTILIZERS, AND/OR THE ADDITIONAL MEASURES SHALL BE BASED ON SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION SERVICE OR OTHER APPROVED LABORATORY FACILITIES QUALIFIED TO TEST SOIL SAMPLES FOR AGRONOMIC PROPERTIES.

**STANDARD FOR LAND GRADING**

**DEFINITION:**  
RESHAPING THE GROUND SURFACE BY GRADING TO PLANNED ELEVATIONS WHICH ARE DETERMINED BY TOPOGRAPHIC SURVEY AND LAYOUT.

**PURPOSE:**  
THE PRACTICE IS FOR ONE OR MORE OF THE FOLLOWING: PROVIDE MORE SUITABLE SITES FOR LAND DEVELOPMENT; IMPROVE SURFACE DRAINAGE AND CONTROL EROSION.

**CONDITIONS WHERE PRACTICE APPLIES:**  
THIS PRACTICE IS APPLICABLE WHERE GRADING TO PLANNED ELEVATIONS IS PRACTICAL AND IT IS DETERMINED THAT GRADING IS NEEDED. GRADING THAT INVOLVES THE DISTURBANCE OF VEGETATION OVER LARGE AREAS SHALL BE AVOIDED. IT MAY BE NECESSARY TO PROVIDE FOR TEMPORARY STABILIZATION OF LARGE AREAS.

**WATER QUALITY ENHANCEMENT:**  
PROPER GRADING OF DISTURBED SITES WILL PROTECT AGAINST SOIL LOSS FROM EROSION, ENHANCE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER AND HELP TO PROPERLY MANAGE STORM WATER RUNOFF ALL OF WHICH WILL REDUCE OFFSITE DISCHARGE OF POLLUTANTS.

**PLANNING CRITERIA:**  
THE GRADING PLAN AND INSTALLATION SHALL BE BASED UPON ADEQUATE TOPOGRAPHIC SURVEYS AND INVESTIGATIONS. THE PLAN IS TO SHOW THE LOCATION, SLOPE, CUT, FILLS AND FINISH ELEVATION OF THE SURFACES TO BE GRADED. THE PLAN SHOULD ALSO INCLUDE AUXILIARY PRACTICES FOR SAFE DISPOSAL OF RUNOFF WATER, SLOP STABILIZATION, EROSION CONTROL AND DRAINAGE. FACILITIES SUCH AS WATERWAYS, DITCHES, DIVERSIONS, GRADE STABILIZATION STRUCTURES, RETAINING WALLS AND SUBSURFACE DRAINS SHOULD BE INCLUDED WHERE NECESSARY.

EROSION CONTROL MEASURES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE APPLICABLE STANDARD CONTAINED HEREIN. THE DEVELOPMENT AND ESTABLISHMENT OF THE PLAN SHALL INCLUDE THE FOLLOWING:

- THE CUT FACE OF EARTH EXCAVATIONS AND FILLS SHALL BE STEEPER THAN THE SAFE ANGLE OF REPOSE FOR THE MATERIALS ENCOUNTERED AND FLAT ENOUGH FOR PROPER MAINTENANCE.
- THE PERMANENTLY EXPOSED FACES OF EARTH CUTS AND FILLS SHALL BE VEGETATED OR OTHERWISE PROTECTED FROM EROSION.
- PRESENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILL SLOPES.
- SUBSURFACE DRAINAGE IS TO BE PROVIDED IN AREAS HAVING A HIGH WATER TABLE, TO INTERCEPT SEEPAGE THAT WOULD ADVERSELY AFFECT SOIL STABILITY, BUILDING FOUNDATIONS OR CREATE UNDESIRABLE WETNESS. SEE STANDARD FOR SUBSURFACE DRAINAGE, PG. 32-1.
- ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS.
- FILL SHALL NOT BE PLACED ADJACENT TO THE BANK OF A STREAM OR CHANNEL, UNLESS PROVISIONS ARE MADE TO PROTECT THE HYDRAULIC, BIOLOGICAL, AESTHETIC AND OTHER ENVIRONMENTAL FUNCTIONS OF THE STREAM.

**SEQUENCE OF CONSTRUCTION**

ACTIVITY	DURATION
INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES	3 DAYS
STRIPPING OF TOPSOIL CLEARING, GRUBBING	5 DAYS
CONSTRUCTION OF CARWASH	ON-GOING THROUGH COMPLETION
ROUGH GRADING AND TEMPORARY STABILIZATION	2 WEEKS
INSTALLATION OF SITE AMENITIES	4 WEEKS
FINAL GRADING AND PERMANENT STABILIZATION	2 WEEKS
SOIL DE-COMPACTION TESTING	1 DAY
FINAL CLEANUP AND REMOVAL OF SOIL EROSION MEASURES	2 WEEKS

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**SOIL MANAGEMENT AND PREPARATION**

SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

THIS SECTION OF THIS STANDARD ADDRESSES THE POTENTIAL FOR EXCESSIVE SOIL COMPACTION IN LIGHT OF THE INTENDED LAND USE, TESTING FOR EXCESSIVE SOIL COMPACTION WHERE PERMANENT VEGETATION IS TO BE ESTABLISHED AND MITIGATION OF EXCESSIVE SOIL COMPACTION WHEN APPROPRIATE.

DUE TO USE OR SETTING, CERTAIN DISTURBED AREAS WILL NOT REQUIRE COMPACTION REMEDIATION INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

- WITHIN 20 FEET OF BUILDING FOUNDATIONS WITH BASEMENTS, 12 FEET FROM SLAB OR CRAWL SPACE CONSTRUCTION.
- WHERE SOILS OR GRAVEL SURFACES WILL BE REQUIRED TO SUPPORT POST-CONSTRUCTION VEHICULAR TRAFFIC LOADS SUCH AS ROADS, PARKING LOTS AND DRIVEWAYS (INCLUDING GRAVEL SURFACES), INCLUDING PATHS OR PEDESTRIAN WALKWAYS (SIDEWALKS ETC)
- AIRPORTS, RAILWAYS OR OTHER TRANSPORTATION FACILITIES
- AREAS REQUIRING INDUSTRY OR GOVERNMENT SPECIFIED SOIL DESIGNS, INCLUDING GOLF COURSES, LANDFILLS, WETLAND RESTORATION, SEPTIC DISPOSAL FIELDS, WET/LINED PONDS, ETC
- AREAS GOVERNED OR REGULATED BY OTHER LOCAL, STATE OR FEDERAL REGULATIONS WHICH DICTATE SOIL CONDITIONS.
- BROWNFIELDS (CAPPED USES), URBAN REDEVELOPMENT AREAS, IN-FILL AREAS, RECYCLING YARDS, JUNK YARDS, QUARRIES AND PORTIONS OF A SITE WHERE NO HEAVY EQUIPMENT FOR SAFE OPERATION OF EQUIPMENT
- AREAS RECEIVING TEMPORARY VEGETATIVE STABILIZATION IN ACCORDANCE WITH THE STANDARD
- WHERE THE AREA AVAILABLE FOR REMEDIATION PRACTICES IS 500 SQUARE FEET OR LESS IN SIZE
- LOCATIONS CONTAINING SHALLOW (CLOSE TO THE SURFACE) BEDROCK CONDITIONS

AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION SHALL BE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL PLAN.

SOIL COMPACTION REMEDIATION OR TESTING TO PROVE REMEDIATION IS NOT NECESSARY WILL BE REQUIRED IN AREAS WHERE PERMANENT VEGETATION IS TO BE ESTABLISHED THAT ARE NOT OTHERWISE EXEMPTED ABOVE. TESTING METHOD SHALL BE SELECTED, AND SOIL COMPACTION TESTING SHALL BE PERFORMED BY THE CONTRACTOR OR OTHER PROJECT OWNER'S REPRESENTATIVE (E.G. ENGINEER). A MINIMUM OF TWO (2) TESTS SHALL BE PERFORMED FOR PROJECTS WITH AN OVERALL LIMIT OF DISTURBANCE OF UP TO ONE (1) ACRE AND AT A RATE OF TWO (2) TESTS PER ACRE OF THE OVERALL LIMIT OF DISTURBANCE FOR LARGER AREAS WHICH SHALL BE EVENLY DISTRIBUTED OVER THE AREA OF DISTURBANCE SUBJECT TO TESTING. TESTS SHALL BE PERFORMED IN AREAS REPRESENTATIVE OF THE CONSTRUCTION ACTIVITY PREVAILING IN THE AREA. IN THE EVENT THIS TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE TESTING METHOD, THE CONTRACTOR/OWNER SHALL HAVE THE OPTION TO PERFORM COMPACTION MITIGATION OVER THE ENTIRE DISTURBED AREA (EXCLUDING EXEMPT AREAS) OR TO PERFORM ADDITIONAL TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION.

SOIL COMPACTION TESTING IS NOT REQUIRED IF WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

**SOIL TEST METHOD OPTIONS**

- PROBING WIRE TEST METHOD**  
THIS TEST SHALL BE CONDUCTED WITH A FIRM WIRE (15-1/2 GAUGE STEEL WIRE-E.G. SURVEY MARKER FLAG, STRAIGHT WIRE STOCK, ETC.) 18 TO 21 INCHES IN LENGTH, WITH 6" INCHES FROM ONE END VISIBLY MARKED ON THE WIRE. CONDUCT WIRE FLAG TEST BY HOLDING THE WIRE FLAG NEAR THE FLAG END AND PUSH IT VERTICALLY INTO THE SOIL AT SEVERAL DIFFERENT LOCATIONS IN THE FIELD TO LESSER OF A 6 INCH DEPTH OR THE DEPTH AT WHICH IT BENDS DUE TO RESISTANCE IN THE SOIL. RECORD THE DEPTH AT WHICH IT BENDS DUE TO RESISTANCE IN THE SOIL. THE WIRE SHOULD PENETRATE WITHOUT BENDING OR DEFORMING AT LEAST 6" INTO THE GROUND BY HAND. WITHOUT THE USE OF TOOLS, IF PENETRATION FAILS AND AN OBSTRUCTION IS SUSPECTED (ROCKS, EXCESSIVELY COMPACTED, IF THE WIRE IS DIFFICULT TO INSERT (WIRE BENDS OR DEFORMS PRIOR TO REACHING 6 INCHES IN DEPTH) THE SOIL MAY BE EXCESSIVELY COMPACTED AND COMPACTION MITIGATION OR FURTHER TESTING VIA METHOD 3 OR 4 BELOW IS REQUIRED, THE CHOICE OF WHICH IS AT THE CONTRACTOR/OWNER'S DISCRETION.
  - HANDHELD SOIL PENETROMETER TEST METHOD**  
THIS TEST SHALL BE CONDUCTED BASED ON THE STANDARD OPERATION PROCEDURE (SOP) #RCE2010-001, PREPARED BY THE RUTGERS COOPERATIVE EXTENSION, IMPLEMENTED JUNE 1, 2010, LAST REVISED FEBRUARY 28, 2011. A RESULT OF LESS THAN OR EQUAL TO 300 PSI SHALL BE CONSIDERED PASSING. IF THE RESULT IS GREATER THAN 300 PSI THE SOIL MAY BE EXCESSIVELY COMPACTED AND COMPACTION MITIGATION OR FURTHER TESTING VIA METHOD 3 OR 4 BELOW IS REQUIRED, THE CHOICE OF WHICH IS AT THE CONTRACTOR/OWNER'S DISCRETION.
  - TUBE BULK DENSITY TEST METHOD**  
THIS TEST SHALL BE CERTIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER UTILIZING ONLY UNDISTURBED SAMPLES (RECONSTRUCTION OF THE SAMPLE NOT PERMITTED) COLLECTED UTILIZING THE PROCEDURE FOR SOIL BULK DENSITY TESTS AS DESCRIBED IN THE USDA NRC'S SOIL QUALITY TEST KIT GUIDE, SECTION 1-4, JULY 2001. WHEN THE TEXTURE OF THE SOIL TO BE TESTED IS A SAND OR LOAMY SAND AND LACK OF SOIL COHESION OR THE PRESENCE OF LARGE AMOUNTS OF COARSE FRAGMENTS, ROOTS OR WORM CHANNELS PREVENT THE TAKING OF UNDISTURBED SAMPLES, THIS TEST SHALL NOT BE USED. WHERE THE RESULTS OF REPLICATE TESTS DIFFER BY MORE THAN TEN PERCENT (10%), THE SAMPLES SHALL BE EXAMINED FOR THE FOLLOWING DEFECTS:
    - CRACKS, WORM CHANNELS, LARGE ROOT CHANNELS OR POOR SOIL TUBE CONTACT WITHIN THE SAMPLES;
    - SMEARING OR COMPACTION OF THE UPPER OR LOWER SURFACE OF THE SAMPLES.
IF ANY OF THE DEFECTS DESCRIBED IN 3. (I-III) ABOVE ARE FOUND, THE DEFECTIVE CORE(S) SHALL BE DISCARDED AND THE TEST REPEATED USING A NEW REPLICATE SAMPLE FOR EACH DEFECTIVE REPLICATE SAMPLE. THE BULK DENSITY (DEFINED AS THE WEIGHT LESS THAN OR EQUAL TO THE APPLICABLE MAXIMUM BULK DENSITY SHALL BE CONSIDERED PASSING. IF THE RESULT IS GREATER THAN THE MAXIMUM BULK DENSITY THE SOIL SHALL BE CONSIDERED EXCESSIVELY COMPACTED AND COMPACTION MITIGATION IS REQUIRED.
- NUCLEAR DENSITY TEST METHOD**  
THIS TEST SHALL BE CERTIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER AND CONDUCTED BY A NUCLEAR GAUGE CERTIFIED INSPECTOR PURSUANT TO ASTM D938. THE BULK DENSITY MEASUREMENT RESULTS SHALL BE COMPARED WITH THE MAXIMUM DRY BULK DENSITIES IN TABLE 19-1. A RESULT OF LESS THAN OR EQUAL TO THE APPLICABLE MAXIMUM BULK DENSITY SHALL BE CONSIDERED PASSING. IF THE RESULT IS GREATER THAN THE MAXIMUM BULK DENSITY THE SOIL SHALL BE CONSIDERED EXCESSIVELY COMPACTED AND COMPACTION MITIGATION IS REQUIRED.

TABLE 19-1 MAXIMUM DRY BULK DENSITIES (GRAMS/CUBIC CENTIMETER) BY SOIL TYPE

SOIL TYPE/TEXTURE	BULK DENSITY (G/CC)
COARSE, MEDIUM AND FINE SANDS AND LOAMY SANDS	1.80
VERY FINE SAND AND LOAMY VERY FINE SAND	1.77
SANDY LOAM	1.75
LOAM, SANDY CLAY LOAM	1.70
CLAY LOAM	1.65
SANDY CLAY	1.60
SILT, SILT LOAM	1.55
SILTY CLAY LOAM	1.50
SILTY CLAY	1.45
CLAY	1.40

SOURCE: USDA NATURAL RESOURCE CONSERVATION SERVICE, SOIL QUALITY INFORMATION SHEET, SOIL QUALITY RESOURCE CONCERNS: COMPACTION, APRIL 1998

5. ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

IF SUBGRADE SOILS ARE DETERMINED TO BE EXCESSIVELY COMPACTED BY TESTING, AS IDENTIFIED ABOVE, PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER. RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.) OR IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER.

**INSTALLATION REQUIREMENTS**  
TIMBER, LOGS, BRUSH, RUBBISH, ROCKS, STUMPS AND VEGETATIVE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OF FILL AREAS SHALL BE REMOVED AND DISPOSED OF ACCORDING TO THE PLAN.

TOPSOIL IS TO BE STRIPPED AND STOCKPILED IN AMOUNTS NECESSARY TO COMPLETE TO FINISH GRADING OF ALL EXPOSED AREAS REQUIRING TOPSOIL.

FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN THE AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTING STABLE FILLS.

ALL STRUCTURAL FILLS SHALL BE COMPACTED AS DETERMINED BY STRUCTURAL ENGINEERING REQUIREMENTS FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESSIVE SATURATION.

ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED FROM EROSION. SEE STANDARDS FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION.

TREES TO BE RETAINED SHALL BE PROTECTED IF NECESSARY IN ACCORDANCE WITH THE STANDARD FOR TREE PROTECTION DURING CONSTRUCTION.

**STANDARD FOR STABILIZED CONSTRUCTION ACCESS**

**DEFINITION:**  
A STABILIZED PAD OF CLEAN CRUSHED STONE LOCATED AT POINTS WHERE TRAFFIC WILL BE ACCESSING A CONSTRUCTION SITE.

**PURPOSE:**  
THE PURPOSE OF A STABILIZED CONSTRUCTION ACCESS IS TO REDUCE THE TRACKING OF FLOWING OF SEDIMENT ONTO PAVED ROADWAYS (OR OTHER IMPERVIOUS SURFACES).

**CONDITIONS WHERE PRACTICE APPLIES:**  
A STABILIZED CONSTRUCTION EXIT APPLIES TO POINTS OF CONSTRUCTION INGRESS AND EGRESS WHERE SEDIMENT MAY BE TRACKED, OR FLOW OFF, THE CONSTRUCTION SITE.

**WATER QUALITY ENHANCEMENT:**  
IN ADDITION TO MINIMIZING SEDIMENTS WHICH CAN BE TRACKED DIRECTLY ONTO PAVEMENT DURING CONSTRUCTION, OILS, GREASES, AND DIESEL FUELS WHICH BECOME MIXED WITH SEDIMENT DURING CONSTRUCTION MAY ALSO MIGRATE INTO THE OFFSITE DRAINAGE SYSTEM WHERE THEY MAY ENTER DIRECTLY INTO A WATERWAY. BY PREVENTING OR MINIMIZING THE TRACKING OF SEDIMENTS ONTO PAVED AREAS, A SIGNIFICANT REDUCTION IN CONSTRUCTION RELATED HYDROCARBON POLLUTION WILL ALSO BE CONTROLLED.

**DESIGN CRITERIA:**  
STONE SIZE- USE ASTM C-33, SIZE NO. 2 (2 1/2 TO 1 1/2 IN) OR 3 (2 TO 1 IN). USE CLEAN CRUSHED ANGULAR STONE; CRUSHED CONCRETE OF SIMILAR SIZE MAY BE SUBSTITUTED BUT WILL REQUIRE MORE FREQUENT UPGRADING AND MAINTENANCE.  
THICKNESS- NOT LESS THAN SIX (6) INCHES.  
WIDTH- NOT LESS THAN FULL WIDTH OF POINTS OF INGRESS OR EGRESS.  
LENGTH- 50 FEET MINIMUM WHERE THE SOILS ARE COARSE GRAINED (SANDS OR GRAVELS) OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS), EXCEPT WHERE THE TRAVELED LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY. THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE. STORM WATER FROM UP-SLOPE AREAS SHALL BE DIVERTED AWAY FROM THE STABILIZED PAD (SEE STANDARD FOR DIVERSIONS, PG. 15-1). WHERE DIVERSION IS NOT POSSIBLE, THE LENGTH OF THE STABILIZED PAD SHALL BE AS SHOWN IN TABLE 27-1. WHERE THE SLOPE OF THE ACCESS ROAD EXCEEDS 5%, A STABILIZED BASE OF HOT MIX ASPHALT BASE COURSE, MIX 1-2 OR ORDINANCE OR OTHER GOVERNING AUTHORITY.  
AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE GRAVEL FILTER OR GEOTEXTILE SHALL BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE.

TABLE 27-1: LENGTHS OF CONSTRUCTION EXITS ON SLOPING ROADBEDS

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FT	100 FT
2 TO 5%	100 FT	200 FT
>5%	ENTIRE SURFACE STABILIZED WITH HOT MIX ASPHALT BASE COURSE, MIX 1-2	

- AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.
- WHERE A STABILIZED CONSTRUCTION EXIT TRAVERSES BETWEEN TWO BUILDINGS, IT SHALL BE STONED THE ENTIRE LENGTH OF THE RIGHT-OF-WAY. MOUNTABLE STONE BERMS BY STORM WATER FLOWING ALONG THE CURB LINE.  
**INDIVIDUAL LOT ENTRANCE AND EGRESS-** AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOT INGRESS/EGRESS POINTS MAY REQUIRE A STABILIZED CONSTRUCTION ENTRANCE AND SHALL BE A MINIMUM OF TEN FEET IN LENGTH.  
**TIRE WASHING-** IF SPACE IS LIMITED, VEHICLE TIRES MAY BE WASHED WITH CLEAN WATER BEFORE ENTERING A PAVED AREA. A WASH STATION MUST BE LOCATED SUCH THAT WASH WATER WILL NOT FLOW ONTO PAVED ROADWAYS OR INTO UNPROTECTED STORM DRAINAGE SYSTEMS. WHEN THE CONSTRUCTION ACCESS EXISTS ONTO A MAJOR ROADWAY, A PAVED TRANSITION AREA MAY BE INSTALLED BETWEEN THE MAJOR ROADWAY AND THE STONED ENTRANCE TO PREVENT LOOSE STONES FROM BEING TRANSPORTED OUT ONTO THE ROADWAY BY HEAVY EQUIPMENT ENTERING OR LEAVING THE SITE.

**MAINTENANCE:**  
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND OR REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO ROADWAYS (PUBLIC OR PRIVATE) OR OTHER IMPERVIOUS SURFACES MUST BE REMOVED IMMEDIATELY. WHERE ACCUMULATION OF DUST/SEDIMENT IS INADEQUATE CLEANED OR REMOVED BY CONVENTIONAL METHODS, A POWER BROOM OR STREET SWEEPER WILL BE REQUIRED TO CLEAN PAVED OR IMPERVIOUS SURFACES. ALL OTHER ACCESS POINTS WHICH ARE NOT STABILIZED SHALL BE BLOCKED OFF.

**SOIL EROSION AND SEDIMENT CONTROL NOTES**

- THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.
- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- N.J.S.A. 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
- ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 1/2 TONS PER ACRE, ACCORDING TO THE STANDARD FOR STABILIZATION WITH MULCH ONLY.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. SOIL STOCKPILES, STEEP SLOPES AND ROADWAY EMBANKMENTS WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.
- A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
- THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THAT INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ACCESS (CONSISTING ) STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT "2" OF ONE INCH TO TWO INCH (1 ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
- ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
- PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
- AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, 90R 450LBS/1,000 SQ FT OF SURFACE AREA) AND WHERE TREES OR OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24 " COVERED WITH A MINIMUM OF 12 SHRUBS ARE TO BE PLANTED.
- CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
- UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
- SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
- STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET ARE DISTURBED.
- ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #8.
- THIS PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORM WATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

FREEHOLD SOIL CONSERVATION DISTRICT  
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**LAWN AREA SEEDING SPECIFICATION**

SEED	APPLICATION RATE
TALL FESCUE	265 LBS./ACRE
KENTUCKY BLUEGRASS (BLEND)	20 LBS./ACRE
PERENNIAL RYEGRASS (BLEND)	20 LBS./ACRE

**SOIL EROSION & SEDIMENT CONTROL NOTES**

**TENNENT ROAD WASH & LUBE, LLC**  
LOT 33, BLOCK 122  
TAX MAP SHEET NO. 9  
TOWNSHIP OF MARLBORO MONMOUTH COUNTY NEW JERSEY

PROJECT No 2018-015-125	FILE 12-13 SESC.dwg
DRAWN BY NM	DESIGNED BY DAC
SCALE N/A	CHECKED BY DAC
DATE FEBRUARY 6, 2020	SHEET NO. 13 OF 13

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