

PRELIMINARY & FINAL MAJOR SITE PLAN FOR 501-511 LAKE TERRACE

BLOCK 7, LOT 2.03 TAX MAP SHEET #1 501-511 LAKE TERRACE

BOROUGH OF BRADLEY BEACH, MONMOUTH COUNTY, NJ

PROJECT INFORMATION

PROJECT NAME:
501-511 LAKE TERRACE

PROJECT LOCATION:
BLOCK 7, LOT 2.03
501-511 LAKE TERRACE
BOROUGH OF BRADLEY BEACH
MONMOUTH COUNTY, NJ
TAX MAP SHEET #1

OWNER:
501 LAKE TERRACE, LLC
1412 MAIN STREET
ASBURY PARK, NJ 07712
(732) 772-5656

APPLICANT:
501 LAKE TERRACE, LLC
1412 MAIN STREET
ASBURY PARK, NJ 07712
(732) 772-5656

APPLICANT'S PROFESSIONALS

ATTORNEY:
FOX ROTHSCHILD, LLP
49 MARKET STREET
MORRISTOWN, NJ 07960

ARCHITECT:
MICHAEL SAVARESE ASSOCIATES
34 SYCAMORE AVENUE, UNIT #1E
LITTLE SILVER, NJ 07739

LANDSCAPE ARCHITECT:
BML STUDIO, LLC
11 PERMINWAY DRIVE
BARNEGAT, NJ 08005

SURVEYOR:
INSITE SURVEYING, LLC
1955 ROUTE 34, SUITE 1A
WALL, NJ 07719



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SEWER	GREEN
TEMP. SURVEY MARKINGS	MAGENTA
MONUMENTS	WHITE



INSITE ENGINEERING, LLC
CERTIFICATE OF AUTHORIZATION: 24GA28083200
1955 ROUTE 34, SUITE 1A, WALL, NJ 07719
732-531-7100 (PH) 732-531-7344 (FAX)
InSite@InSiteEng.net www.InSiteEng.net

LICENSED IN: NEW JERSEY, NEW YORK, PENNSYLVANIA, DELAWARE, CONNECTICUT, NORTH CAROLINA, COLORADO, A DISTRICT OF COLUMBIA

CAUTION: IF THIS DOCUMENT DOES NOT CONTAIN THE SIGNATURE AND RAISED SEAL OF THE PROFESSIONAL, IT IS NOT AN ORIGINAL, AND MAY HAVE BEEN ALTERED.

Jason L. Fichter, PE, PP, CFM, CME
N.J.P.E. #3718 N.J.P.P. #726 P.A.P.E. #1968
732-531-7100 (PH) 732-531-7344 (FAX)
N.C.P.E. 3336 D.C.P.E. 900628 C.O.P.E. 36605

REVISIONS

Rev. #	Date	Comments
1		
2		
3	08/15/21	REV. PER COUNTY COMMENTS
4	08/15/21	REV. PER COUNTY COMMENTS
5	05/06/21	REV. PER COUNTY COMMENTS
6	11/20/20	INITIAL RELEASE

SCALE: AS SHOWN DESIGNED BY: CMB
DATE: 11/20/20 DRAWN BY: JLS
JOB #: 20-1472-01 CHECKED BY: JLF
CAD ID: 20-1472-01/2

NOT FOR CONSTRUCTION APPROVED BY:

FOR CONSTRUCTION PLAN INFORMATION

DRAWING TITLE:

PRELIMINARY & FINAL MAJOR SITE PLAN

SHEET TITLE:

TITLE SHEET

SHEET NO.: C100

INDEX OF SHEETS:

SHEET #	TITLE	INITIAL RELEASE	REV. DATE
C100	TITLE SHEET	11/20/20	09/15/21
C200	EXISTING CONDITIONS & SITE PREPARATION PLAN	11/20/20	09/15/21
C300	SITE LAYOUT PLAN	11/20/20	09/15/21
C301	TURNING MOVEMENT PLAN	11/20/20	09/15/21
C400	GRADING AND DRAINAGE PLAN	11/20/20	09/15/21
C500	PROFILES	05/06/21	09/15/21
C600	LANDSCAPE PLAN	11/20/20	09/15/21
C601	LANDSCAPE DETAILS	11/20/20	09/15/21
C602	LIGHTING PLAN AND DETAILS	11/20/20	09/15/21
C900	CONSTRUCTION DETAILS	11/20/20	09/15/21
C801	CONSTRUCTION DETAILS	11/20/20	09/15/21
C802	CONSTRUCTION DETAILS	11/20/20	09/15/21
C900	SOIL EROSION & SEDIMENT CONTROL PLAN	11/20/20	09/15/21
C901	SEDC. NOTES & DETAILS	11/20/20	09/15/21

PROPERTY OWNERS WITHIN 200' (BOROUGH OF BRADLEY BEACH)

Block/Lot	Property Owner	Mailing Address	City/State/Zip
1308-17-1	WONG WENDY & WINDIE & JEFFREY	83-25 VICTOR AVE-APT 7C	ELMHURST NY 11373
1308-17-19	BRANCH RICHARD T. SR. & PATRICIA	434 PARK PLACE AVE	BRADLEY BEACH NJ 07730
1308-17-2	COOPERMAN DANIEL & ENOCH E.	613 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-17-20	SCHENKER KAREN MCCLAIN ET ALS	4 BROOKFIELD COURT	CHESHIRE CT 06410
1308-17-3	O'CONNELL KEVIN & TIDIANA NATASHA	413 1/2 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-18-1	HOLLOWAY CANDACE	157 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-18-10	CARLITA DOMANIC & PANGNONGI BEATRICE	501 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-18-11	VILANDI THOMAS & CHRISTINE	2 HOOVER CT	CLARKSBURG NJ 08510
1308-18-12	MULLINS BLAIR & MULLINAW LOUISE	502 PARK PLACE AVE	BRADLEY BEACH NJ 07730
1308-18-13	O'NEILL CHARLES B. & MARY D.	108 EVERGREEN AVE	BRADLEY BEACH NJ 07730
1308-18-14	HYER GURURAJ & SONIEJA PRIYANKA	506 PARK PLACE AVE	BRADLEY BEACH NJ 07730
1308-18-15	MARTEL KARELA	1703 MARION AVE	OSION NJ 07121
1308-18-16	RANDOLPH KENNETH & CONSTANCE	508 PARK PLACE AVE	BRADLEY BEACH NJ 07730
1308-18-17	PREKOP JACQUELINE	508A PARK PLACE AVE	BRADLEY BEACH NJ 07730
1308-18-18	AJURIMBAR ARTHUR & SAVINO HOPE	84 OVERLOOK TERRACE	BROOKFIELD NJ 07003
1308-18-19	MELICK JENNIFER	512 PARK PLACE AVE	BRADLEY BEACH NJ 07730
1308-18-2	BARRETT KELLY A & JONATHAN L	515 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-18-20	AGUIAR DANIELE & CINDY	54 PARK PLACE AVE	BRADLEY BEACH NJ 07730
1308-18-21	MCCONDUSH DENNIS P & ROBERTA B	516 PARK PLACE AVENUE	BRADLEY BEACH NJ 07730
1308-18-3	HARR MICHAEL & RACHEL C.	14 WINDERMERE ROAD	LINDROFT NJ 07738
1308-18-4	MORICA MIRIAM	540 29TH ST	BROOKLYN NY 11218
1308-18-5	PERAZA LILLIAN	509 1/2 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-18-6	CONNOLLY ALICE T. TRUSTEE	223 A N MIDDLETOWN RD	PEARL RIVER NY 10965
1308-18-7	GRISIO HUB & JUANITA	507 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-18-8	ALBRECHT TRUST, JEFFREY TRUSTEE	1412 WEST 5 1/2 STREET	AUSTIN TX 78703
1308-18-9	HARTIGAN MARK & ELIZABETH P	64 BROOKFIELD AVE	NUTLEY NJ 07110
1308-18-10	NUTTINI JULIANN	605 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-18-6	ARIAS ROBERTO	903 1/2 NEWARK AVENUE	BRADLEY BEACH NJ 07730
1308-18-7	DORRIS PETER M & MICHELE M	8 CARNATION COURT	MT LAUREL NJ 08054
1308-18-8	KOESLER AMY BLOCK	P.O. BOX 544	MANHATTAN NY 10964
1308-18-9	SHRITA HENRI	7688 TIMBER CIRCLE	PANORAMA BEACH CA 92648
1308-2-1	OCEAN GROVE CAMPMEETING ASSOCIATION	PO BOX 248	OCEAN GROVE NJ 07756
1308-2-10	BOGS JUSTITH M	444 LAKE TERRACE	BRADLEY BEACH NJ 07730
1308-2-2	OCEAN GROVE CAMPMEETING ASSOCIATION	54 FITZMAURICE	OCEAN GROVE NJ 07756
1308-2-20	VANASSALLE THOMAS R III ETAL	412 LAKE TERRACE	BRADLEY BEACH NJ 07730
1308-2-30	WECZOREK FRANK C. & GIULIA	410 LAKE TERRACE	BRADLEY BEACH NJ 07730
1308-2-40	FURPE ROBIN	498 LAKE TERRACE	BRADLEY BEACH NJ 07730
1308-4-01-1	TRULLIO RICHARD	520 LAKE TERRACE	BRADLEY BEACH NJ 07730
1308-4-01-10	SHAH SHARON	123 POMONA ROAD	POMONA NY 10970
1308-4-01-11	SHAMON JUDITH	500 LAKE TERRACE	BRADLEY BEACH NJ 07730
1308-4-01-2	SHAH UPTAL & MARITON	4939 PROVIDENCE LANE ROAD	PRINCETON NJ 08540
1308-4-01-3	GIURICCO RICHARD & SUSAN	800 FILBERT STREET	BRADLEY BEACH NJ 07730
1308-4-01-4	MANELLA RICHARD & JEAN MARIE	524 LAKE TERR	BRADLEY BEACH NJ 07730
1308-4-01-5	BONOMOLO PETER A & PATRICIA	512 LAKE TERRACE	BRADLEY BEACH NJ 07730
1308-4-01-6	HURLEY KEVIN J & MARYANN	530 LAKE TERRACE	BRADLEY BEACH NJ 07730
1308-4-01-7	JULIAN LINDA	508 LAKE TERR	BRADLEY BEACH NJ 07730
1308-4-01-8	BELUNA CHARLES & NANCY	PO BOX 314	BRADLEY BEACH NJ 07730
1308-4-01-9	GRYSZKA MARLENE A & WILLIAM J	504 LAKE TERR	BRADLEY BEACH NJ 07730
1308-4-02-1	OCEAN GROVE CAMPMEETING ASSOCIATION	PO BOX 248	OCEAN GROVE NJ 07756
1308-4-03-1	BOROUGH OF BRADLEY BEACH	701 MAIN STREET	BRADLEY BEACH NJ 07730
1308-5-1-01	INTERMEDIATE HOLDINGS & REHABILITATION	1150 CAROLINE PARKWAY	NEWARK NJ 07102
1308-7-1	OCEAN GROVE CAMP MEETING ASSOC OF THE	PO BOX 248	OCEAN GROVE NJ 07756
1308-7-10	DALRYMPLE JOHN F & CEMPIOLA PAUL S	534 NEWARK AVENUE	BRADLEY BEACH NJ 07730
1308-7-11	HEER ROBERT JAY & KAREN	558 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-7-12	TRIGLO CHARLES E & LUZ RAFFERTY	520 NEWARK AVENUE	BRADLEY BEACH NJ 07730
1308-7-13	CLURDO DANIEL L	600 1/2 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-7-14	SHI CHENG HENG	155-208 STREET	BRONX NY 10453
1308-7-15	SCHMIDT PHYLLIS	602 NEWARK AVENUE	BRADLEY BEACH NJ 07730
1308-7-16	ANDERSON AMY LYNN	602 1/2 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-7-17	MORRIS SCOTT & JOANNE	604 NEWARK AVENUE	BRADLEY BEACH NJ 07730
1308-7-18	RIND JOHN P	606 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-7-19	TAYLOR ROBERT & INEZ	1024 ARNOLD AVE	RAKITAN NJ 08869
1308-7-20	HEUBER RICHARD & KATHLEEN PATRICIA	601 LAKE TERRACE	BRADLEY BEACH NJ 07730
1308-7-20	SIBLAN HELENA V&L EVINSON SIBLAN J	519 LAKE TERRACE	BRADLEY BEACH NJ 07730
1308-7-20	SOI LAKE TERR LLC	1412 MAIN STREET	ASBURY PARK NJ 07712
1308-7-3	BRADLEY MARK ALEXANDER	1100 RUTHERFORD LAKE AVE	BRADLEY BEACH NJ 07730
1308-7-4	BUTLER SHANE & JENSEN MELISSA	500 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-7-5	MERENDA ANTHONY R & MARGARET S	504 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-7-6	TOUGHIANIAN WALTER & SUSAN	600 PROSPECT ST	BRONX NY 10469
1308-7-7	HABUTY ARTHUR JR & CAROLYN	508 NEWARK AVE	BRADLEY BEACH NJ 07730
1308-7-8	MCKIM SIO LLC	206 ROBINSON RD	NEPTUNE NJ 07755
1308-7-8-01	ISAPORT ALLEN J	51 NEWARK AVENUE	BRADLEY BEACH NJ 07730
1308-8-1	BRADLEY BEACH BORO	703 MAIN ST	BRADLEY BEACH NJ 07730
1308-8-10	MURRAY ANTHONY P & ANNE M	412 NEWARK AVENUE	BRADLEY BEACH NJ 07730
1308-8-11	BAINS REAL ESTATE LLC	16 HINDROOFT TERRACE	HARRISBURG NJ 07961
1308-8-12	NEVADUNSKY JOS J & SUZANNE	416 NEWARK AVENUE	BRADLEY BEACH NJ 07730
1308-8-13	ENG VIRGINIA W & YEU LAURAV	12 QUARRY DRIVE	WOODLAND PARK NJ 07424
1308-8-14	ENG DANIEL D. & MARGARET L	17 GARDNER AVE	TEANECK NJ 07666
1308-8-15	LORO ALAN ARNOLD HOLLY	445 WEST 5TH ST, 3B	NY NY 10015
1308-8-16	BURNE MARIL	127 NAAGNOLA AVE	SEA GIRT NJ 08550
1308-8-8	BENDER TILDE & JEFFREY JENNIFER	1 LAURELVIEW RD	LAURELVILLE NJ 08530
1308-9	DONNELLY MICHAEL & KIRA	810 NEWARK AVENUE	BRADLEY BEACH NJ 07730

PROPERTY OWNERS WITHIN 200' (TOWNSHIP OF NEPTUNE)

Block	Lot	Qual.	CL	PROPERTY OWNER	PROPERTY LOCATION
291		150		NEPTUNE MARINE & BOAT-1114113130	1818 1/2 AVE
292	1	2		JOHNS PATRICKS INCOME ONLY TRUST	138 INDIAN AVE
292	2	2		NEW YORK, NY	10025
292	3	2		150 TANK AVE	100 INDIAN AVE
292	4	2		150 TANK AVE	100 INDIAN AVE
292	5	150		TOWNSHIP OF NEPTUNE	NEPTUNE AVE
293	1	2		GENTILE, JOE R & BALLAS, RICHARD	126 INDIAN AVE
293	2	2		150 TANK AVE	100 INDIAN AVE
293	3	2		SLAZO, BR & KENNY, DAVID	100 INDIAN AVE
293	4	2		CALDER, JAMES & GAIL	118 INDIAN AVE
293	5	2		JONES, FRANK & CO	116 INDIAN AVE
293	6	150		TOWNSHIP OF NEPTUNE	NEPTUNE AVE
294	1	4A		150 TANK AVE	100 INDIAN AVE

UTILITY CONTACTS

N.J. NATURAL GAS CO.
1450 WYCKOFF RD.
WALL, NJ 07719

N.J. AMERICAN WATER CO.
861 SHREWSBURY AVENUE
SHREWSBURY, NJ 07702

MONMOUTH COUNTY PLANNING BOARD
1501 EIGHTH AVENUE
FREEHOLD, NJ 07728

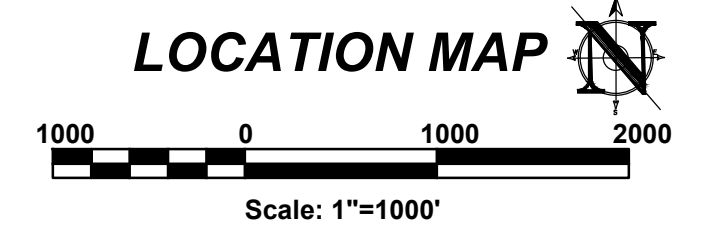
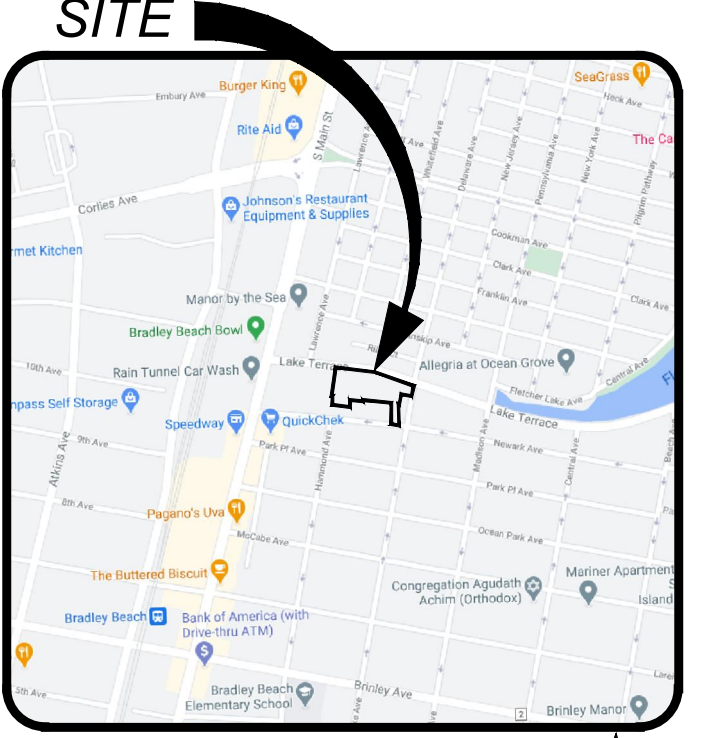
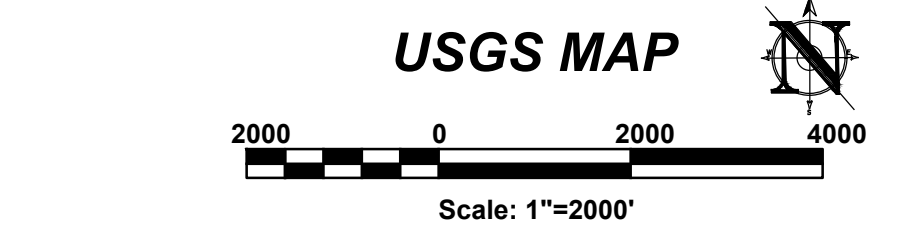
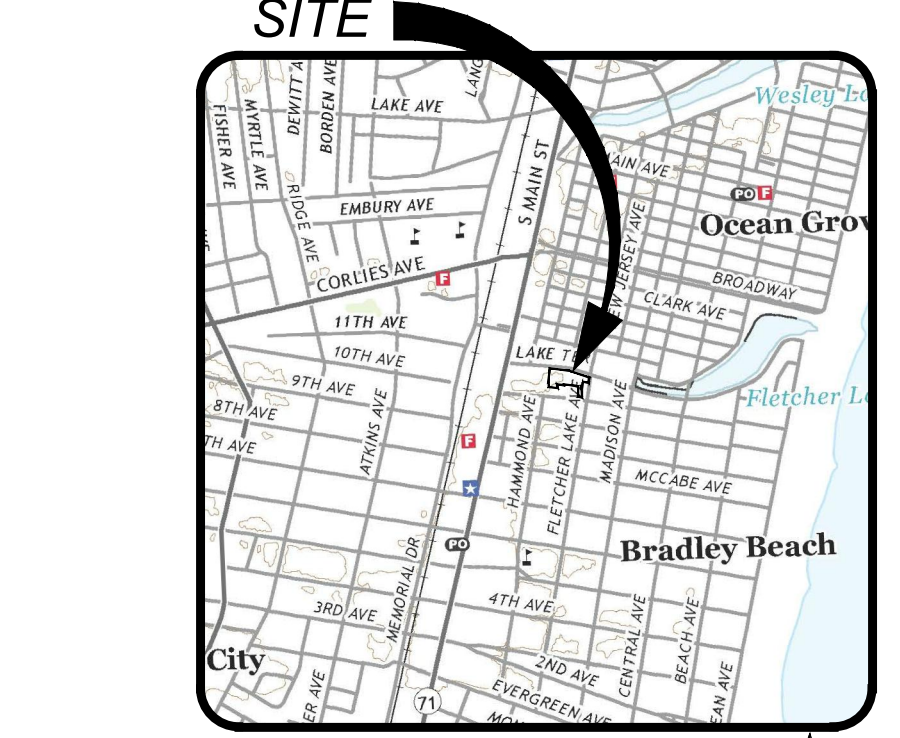
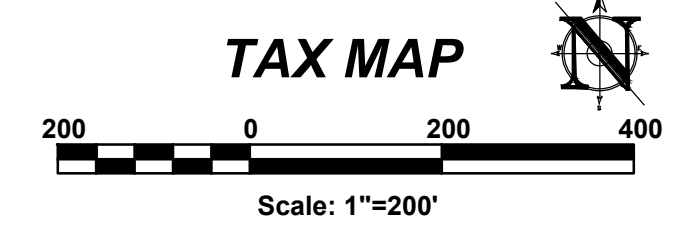
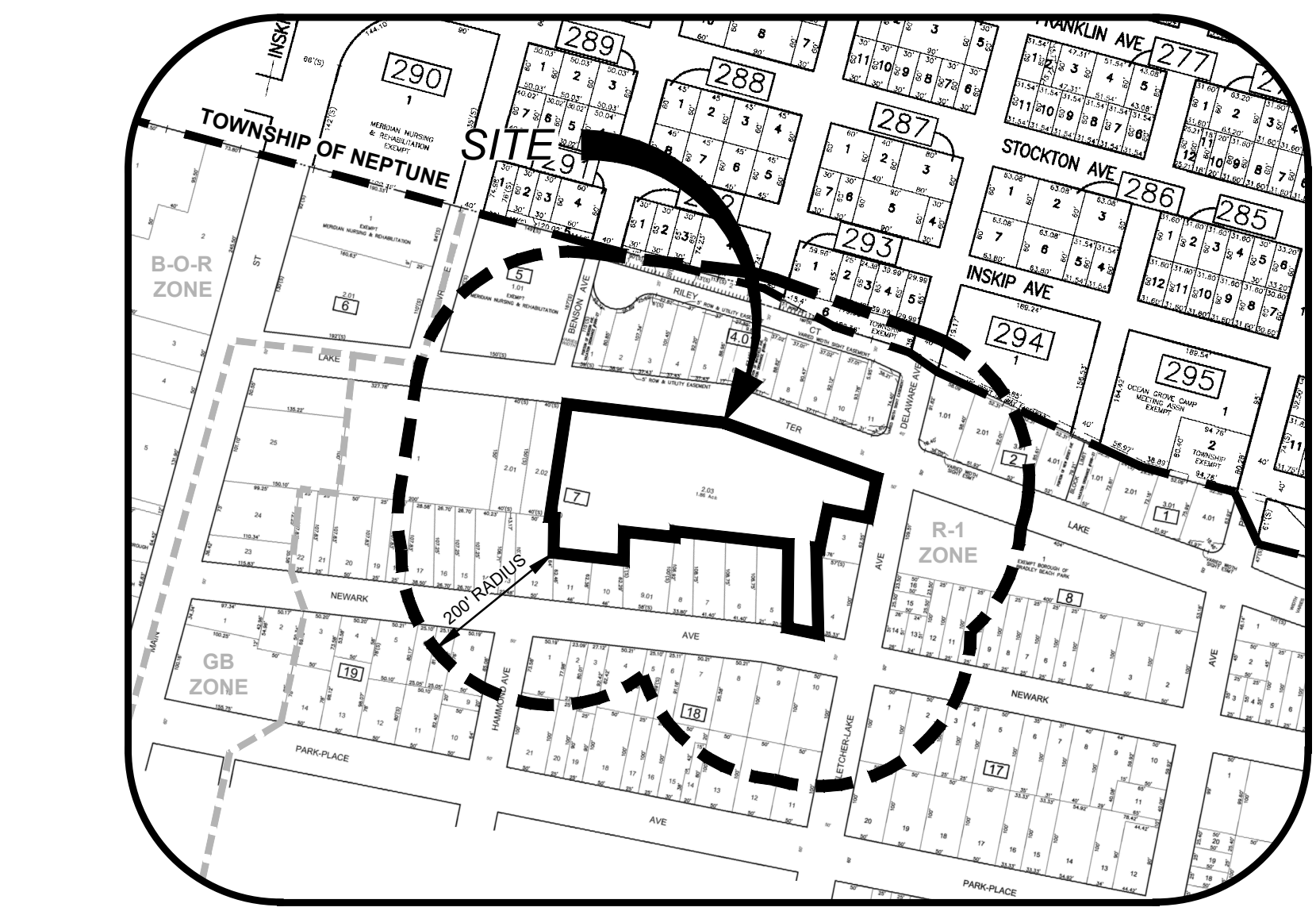
CABLEVISION
1501 EIGHTH AVENUE
P.O. BOX 58
WALL, NJ 07719

JERSEY CENTRAL POWER & LIGHT
300 MADISON AVENUE
MORRISTOWN, NJ 07960

VERIZON NEW JERSEY, INC.
175 WEST MAIN STREET
FREEHOLD, NJ 07728

TO BE NOTIFIED BY CERTIFIED MAIL,
DIVISION OF ENGINEERING
COUNTY OF MONMOUTH
P.O. BOX 1255
FREEHOLD, NJ 07728

STATE OF NEW JERSEY
COMMISSIONER OF TRANSPORTATION
1035 PARKWAY AVENUE, CN 600
TRENTON, NJ 08625



UTILITY CONTACTS

NEW JERSEY-AMERICAN WATER COMPANY, INC.
ATTN: DONNA SHORT GIS SUPERVISOR
1025 LAUREL OAK ROAD
VOORHEES, NJ 08043

VERIZON
LEGAL DEPARTMENT 17TH FLOOR
C/O LAND USE MATTERS
540 BROAD STREET
NEWARK, NJ 07102

JERSEY CENTRAL POWER & LIGHT COMPANY
ATTN: LAND USE MATTERS
300 MADISON AVENUE
MORRISTOWN, NJ 07960

MONMOUTH CABLEVISION
ATTN: LAND USE MATTERS
1501 18TH AVENUE
WALL TWP, NJ 07719

MONMOUTH COUNTY PLANNING BOARD
ATTN: LAND USE MATTERS
1501 18TH AVENUE
WALL TWP, NJ 07719

ZONING BOARD APPROVAL

APPROVED BY	DATE
BOARD CHAIRPERSON	DATE
BOARD SECRETARY	DATE
BOARD ENGINEER	DATE

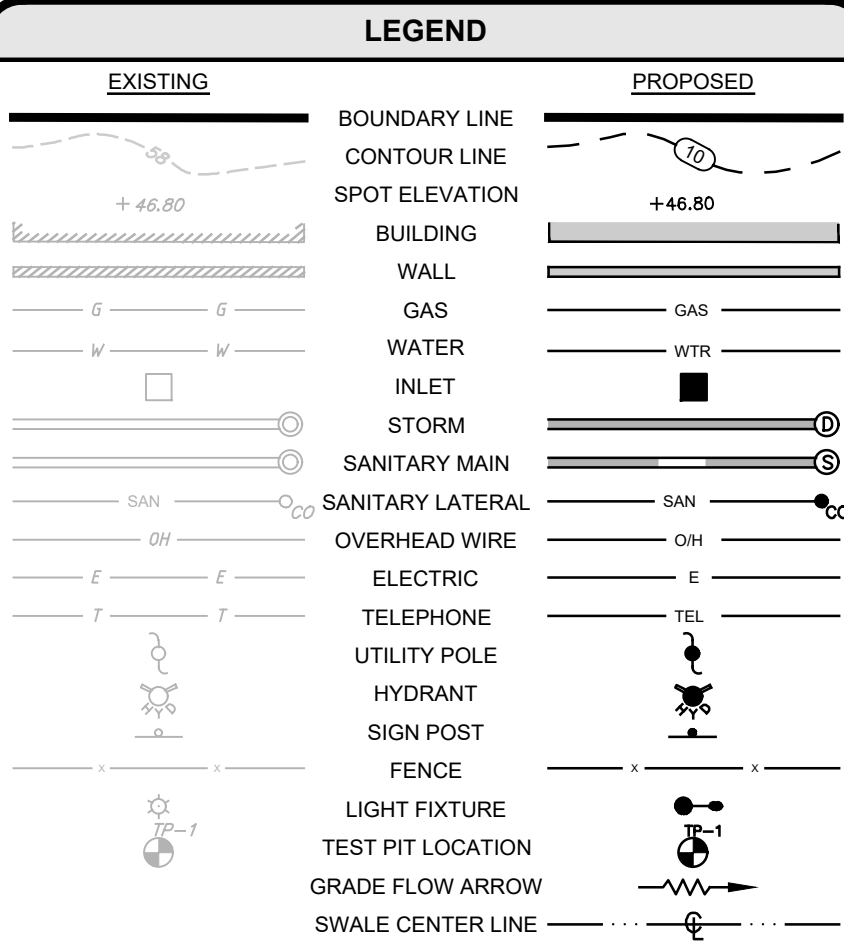
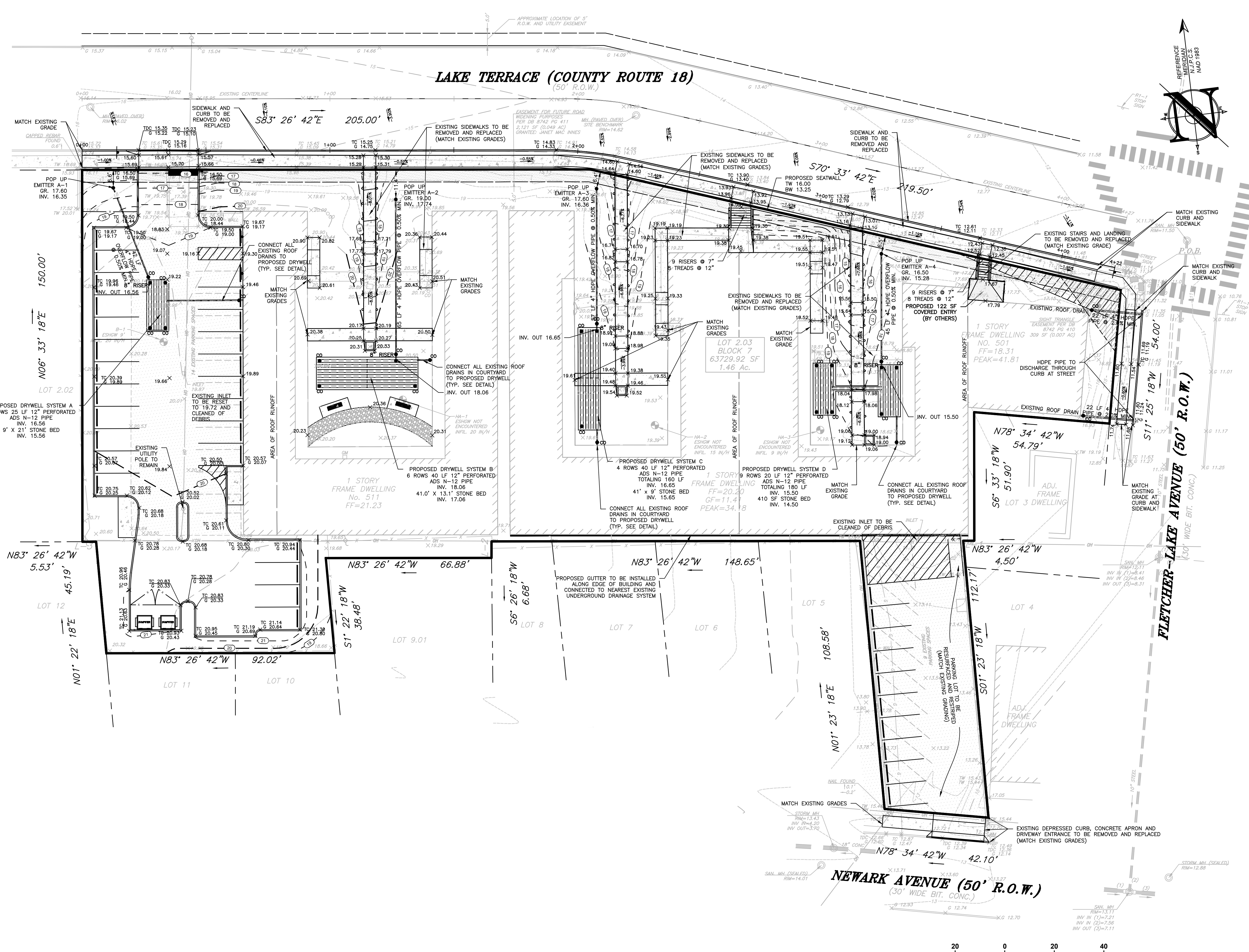
APPROVED BY THE BOROUGH OF BRADLEY BEACH ZONING BOARD OF ADJUSTMENT

APPROVED BY	DATE

File: S:\Vaux\1472 - 501 Lake Terrace, LLC\20-1472-01 - 501-511 Lake Terrace_Major_Site_Plan - Title_Sheet.dwg - 11/20/20. This sheet is the property of InSite Engineering, LLC. All rights reserved.

GRADING AND DRAINAGE NOTES

- ALL PROPOSED ON-SITE CURBING TO BE VERTICAL CURB WITH 6" REVEAL UNLESS OTHERWISE STATED.
- ALL CURBS SHALL BE DEPRESSED AT CROSSWALKS AND CONFORM TO APPLICABLE STATE AND FEDERAL BARRIER FREE DESIGN STANDARDS.
- FOR ALL AREAS LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY, ACCESSIBILITY SHALL BE IN ACCORDANCE WITH THE CURRENT PUBLIC RIGHTS-OF-WAY ACCESS ADVISORY COMMITTEE GUIDELINE (PROWAG).
 - ALL WALKING SURFACES TO HAVE A MAXIMUM RUNNING SLOPE OF 1:20 (5%).
 - ALL WALKING SURFACES GREATER THAN 1:20 (5%) WILL REQUIRE HANDRAILS.
 - RAMP RUNS SHALL HAVE A MAXIMUM CROSS SLOPE OF 1:12 (8.3%).
 - ALL WALKING SURFACES TO HAVE A MAXIMUM CROSS SLOPE OF 1:48 (2%).
 - ALL CROSSWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 1:48 (2%).
 - ALL CHANGES IN LONGITUDINAL / RUNNING SLOPE ARE PERPENDICULAR TO THE DIRECTION OF THE ASSOCIATED SIDEWALK.
- ALL GRADING WITHIN GRASSED AREAS TO BE A MINIMUM OF 2% AND A MAXIMUM OF 3:1 SLOPE UNLESS OTHERWISE NOTED.
- POSITIVE DRAINAGE TO BE MAINTAINED FROM ALL BUILDINGS IN ACCORDANCE WITH APPLICABLE REGULATIONS AND BUILDING CODE.
- ALL EXCAVATED SOIL TO BE DISPOSED SHALL BE PROPERLY CLASSIFIED, HANDLED, AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- ALL GRASSED AREAS TO HAVE A MINIMUM OF 4" CLEAN TOP SOIL, WHEN SOD IS BEING INSTALLED, OR 6" CLEAN TOP SOIL FOR SEEDING APPLICATIONS.
- ALL IMPORTED SOILS MUST BE CERTIFIED CLEAN FILL IN ACCORDANCE WITH THE NJDEP "ALTERNATIVE AND CLEAN FILL GUIDANCE FOR SRP SITES" LATEST EDITION. IMPORTED SOILS SHALL BE PLACED IN ACCORDANCE WITH THE GEOTECHNICAL SUBSURFACE INVESTIGATION REPORT. ALL IMPORTED MATERIAL REQUIRES APPROVAL BY OWNER PRIOR TO PLACEMENT ONSITE.
- SHOP DRAWINGS AND PRODUCT CATALOG INFORMATION FOR ALL STORM SEWER STRUCTURES, CONDUITS, MATERIALS, AND APPURTENANCES, TO BE PROVIDED TO THE PROJECT ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PURCHASING.
- BUILDING ROOF LEADERS TO CONNECT TO SITE STORM SEWER SYSTEM.
- STORMWATER MANAGEMENT FACILITIES SHALL BE REGULARLY MAINTAINED TO INSURE THEY FUNCTION AT DESIGN CAPACITY AND TO PREVENT HEALTH HAZARDS ASSOCIATED WITH DEBRIS BUILDUP AND STAGNANT WATER.
- RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF THE STORMWATER FACILITIES, INCLUDING PERIODIC REMOVAL AND DISPOSAL OF ACCUMULATED PARTICULATE MATERIAL AND DEBRIS, SHALL REMAIN WITH THE OWNER OR OWNERS OF THE PROPERTY. MAINTENANCE SHALL FOLLOW THE OPERATIONS MAINTENANCE MANUAL APPROVED BY THE BOARD ENGINEER.
- IN THE EVENT THAT THE FACILITY BECOMES A DANGER TO PUBLIC SAFETY OR PUBLIC HEALTH, OR IF IT IS IN NEED OF MAINTENANCE, THE OWNER SHALL AFFECT SUCH MAINTENANCE AND REPAIR OF THE FACILITY IN A MANNER THAT IS APPROVED BY THE BOROUGH ENGINEER.
- IF INSPECTION REVEALS LESS THAN ONE (1) FOOT CLEAR DISTANCE FROM ON-SITE STORM DRAINAGE STRUCTURES TO RIGHT-OF-WAY OF C.R. 18, LAKE TERRACE, THESE STRUCTURES SHALL BE RELOCATED AT CONTRACTOR'S EXPENSE.



PROJECT INFORMATION

PROJECT NAME: 501-511 LAKE TERRACE

PROJECT LOCATION: BLOCK 7, LOT 2.03 501-511 LAKE TERRACE BOROUGH OF BRADLEY BEACH MONMOUTH COUNTY, NJ TAX MAP SHEET #1

OWNER: 501 LAKE TERRACE, LLC 1412 MAIN STREET ASBURY PARK, NJ 07712 (732) 772-5656

APPLICANT: 501 LAKE TERRACE, LLC ASBURY PARK, NJ 07712 (732) 772-5656

APPLICANT'S PROFESSIONALS

ATTORNEY: FOX ROTHSCHILD, LLP 49 MARKET STREET MORRISTOWN, NJ 07960

ARCHITECT: MICHAEL SAVARESE ASSOCIATES 34 SYCAMORE AVENUE, UNIT #1E LITTLE SILVER, NJ 07739

LANDSCAPE ARCHITECT: BML STUDIO, LLC 11 PERMINWILE DRIVE BARNEGAT, NJ 08005

SURVEYOR: INSITE SURVEYING, LLC 1955 ROUTE 34, SUITE 1A WALL, NJ 07719

INSITE ENGINEERING, LLC
SINCE 2003

CALL BEFORE YOU DIG!
NJ ONE CALL... 800-272-1000

ELECTRIC	RED
TELEPHONE	YELLOW
COMMUNICATION / TV	ORANGE
WATER	BLUE
SEWER	GREEN
TEMP. SURVEY MARKINGS	MAGENTA
PROPOSED UTILITIES	WHITE

INSITE
Engineering • Surveying • Planning

InSite Engineering, LLC
CERTIFICATE OF AUTHORIZATION: 24GA28083200
1955 ROUTE 34, SUITE 1A, WALL, NJ 07719
732-531-7100 (PH) 732-531-7344 (FAX)
InSite@InSiteEng.net www.InSiteEng.net

LICENSED IN: NEW JERSEY, NEW YORK, PENNSYLVANIA, DELAWARE, CONNECTICUT, NORTH CAROLINA, COLORADO, & DISTRICT OF COLUMBIA

CAUTION: IF THIS DOCUMENT DOES NOT CONTAIN THE SIGNATURE AND RAISED SEAL OF THE PROFESSIONAL IT IS NOT AN ORIGINAL, AND MAY HAVE BEEN ALTERED.

PRELIMINARY
MASON K. FICHTER, P.E., P.P., C.F.M., C.M.E.

REVISIONS

Rev. #	Date	Comment
3	08/19/21	REV. PER COUNTY COMMENTS
2	08/10/21	REV. PER CLIENT COMMENTS
05/08/21		REV. PER COUNTY COMMENTS
0	11/20/20	INITIAL RELEASE

SCALE: 1"=20'

DATE: 11/20/20 DESIGNED BY: CMB

DRAWN BY: JLS

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NOT FOR CONSTRUCTION APPROVED BY:

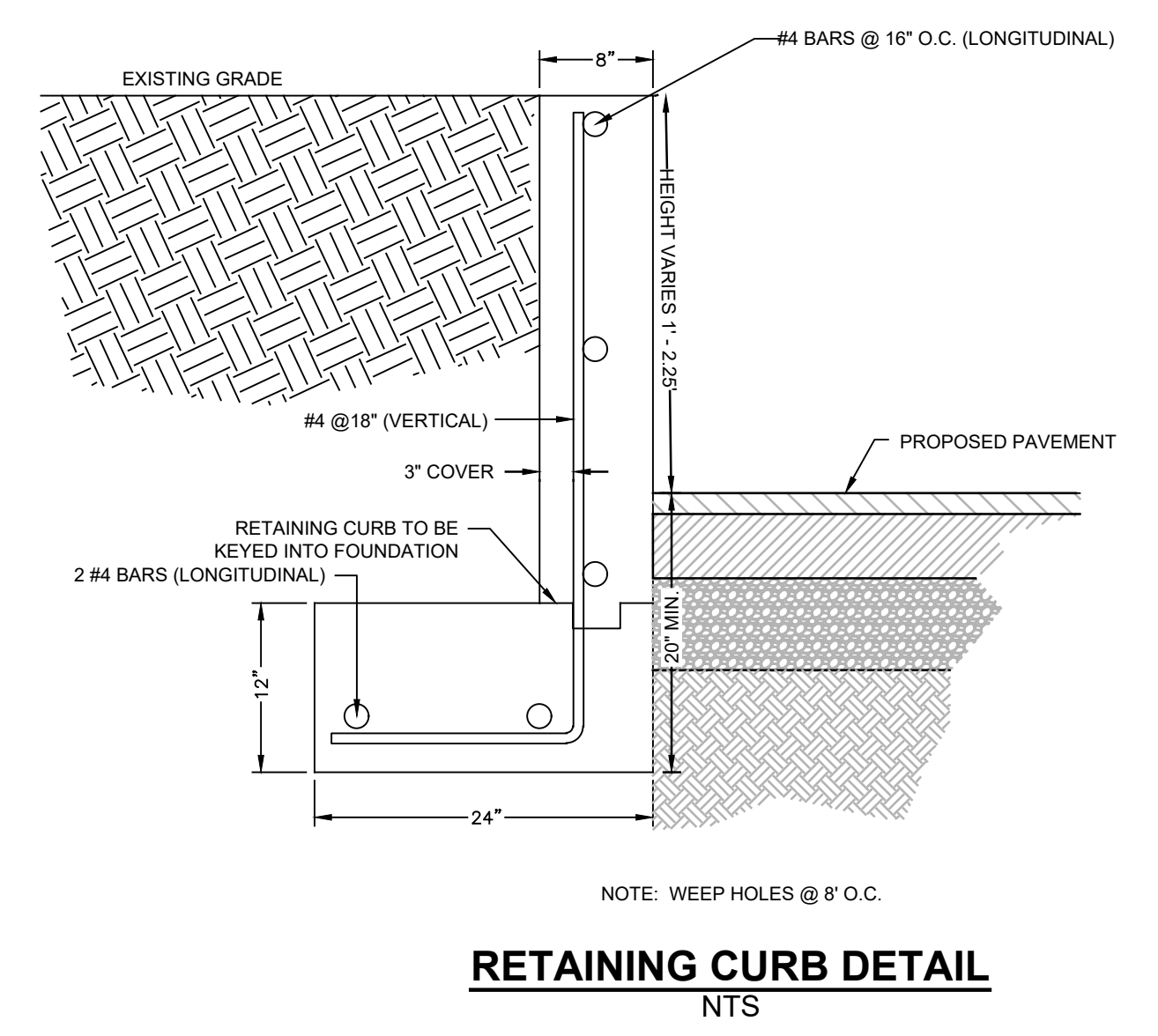
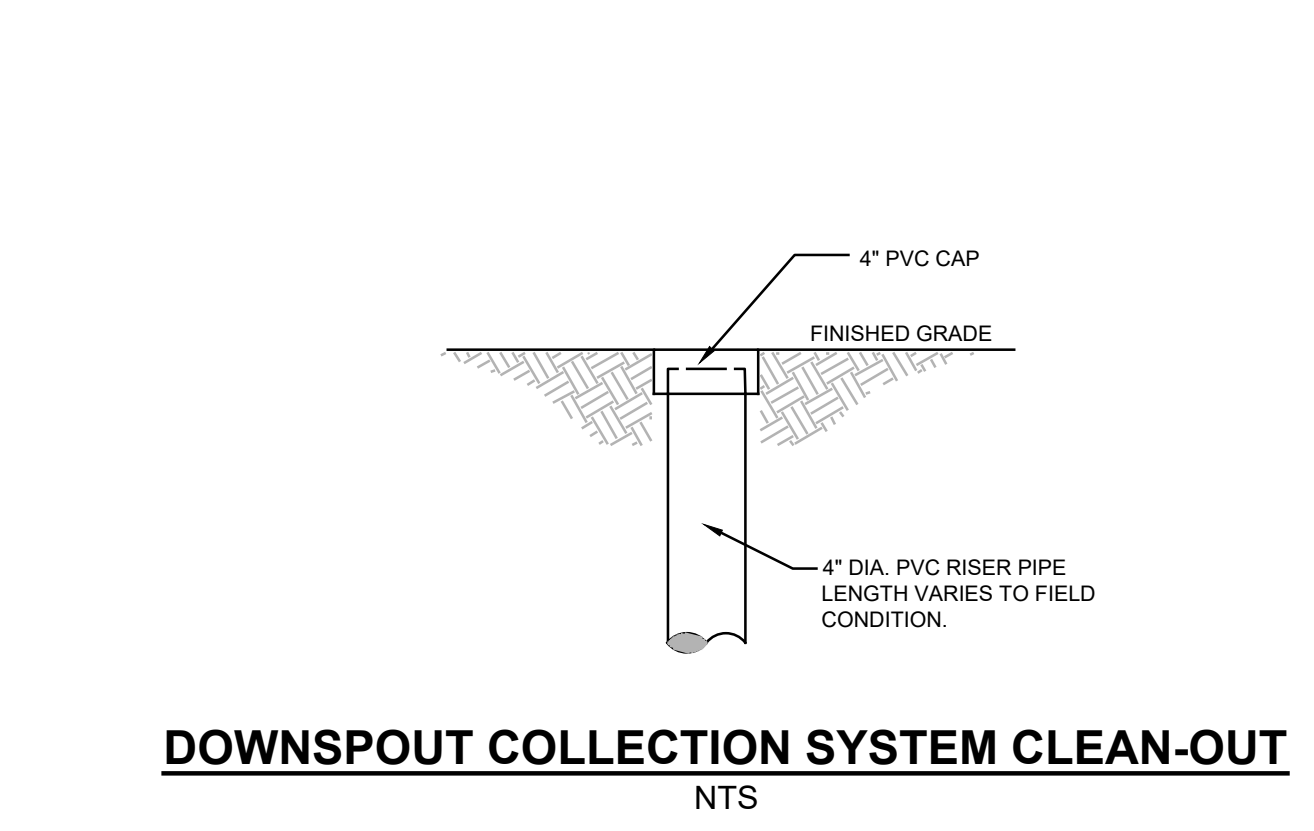
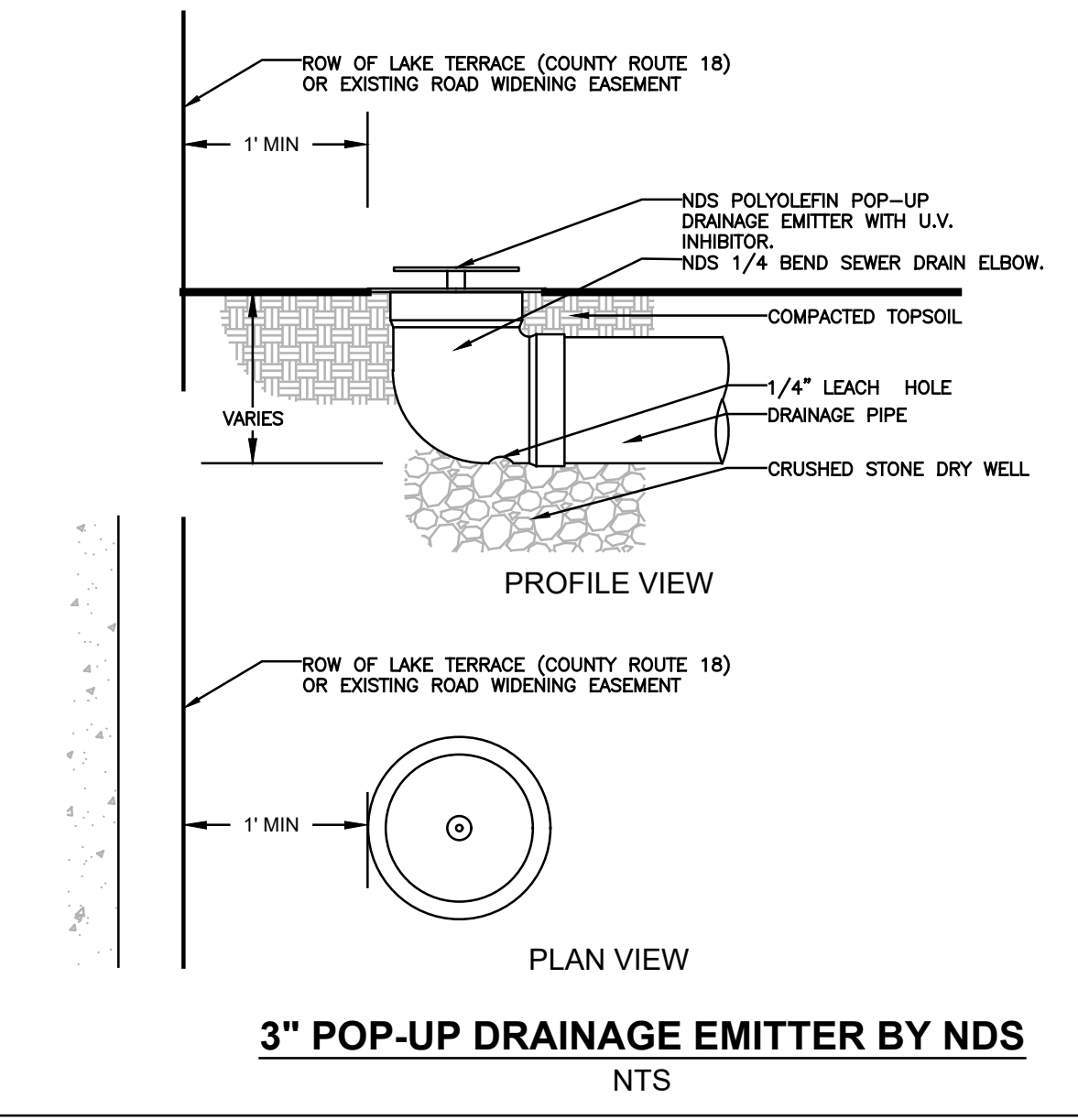
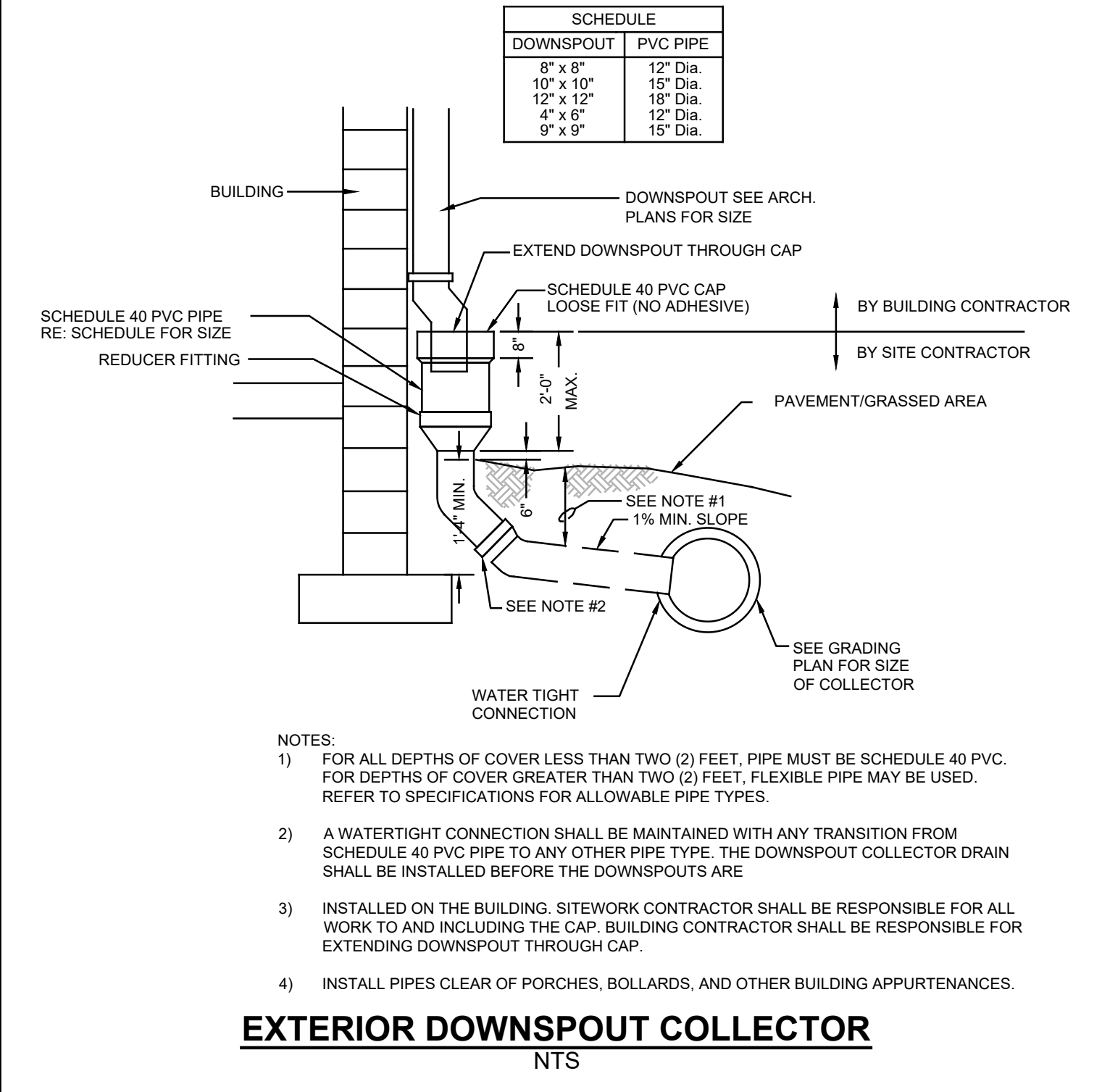
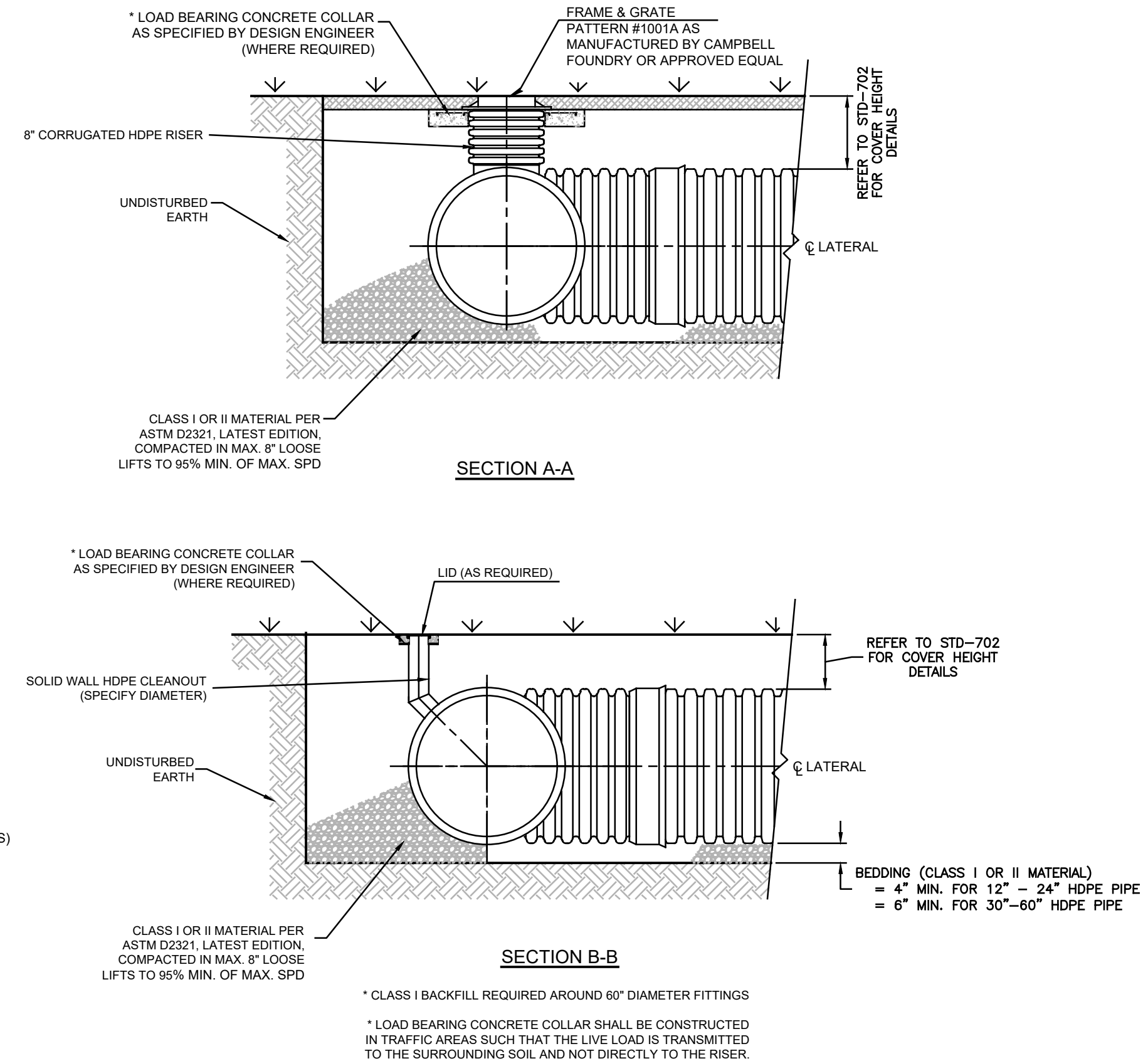
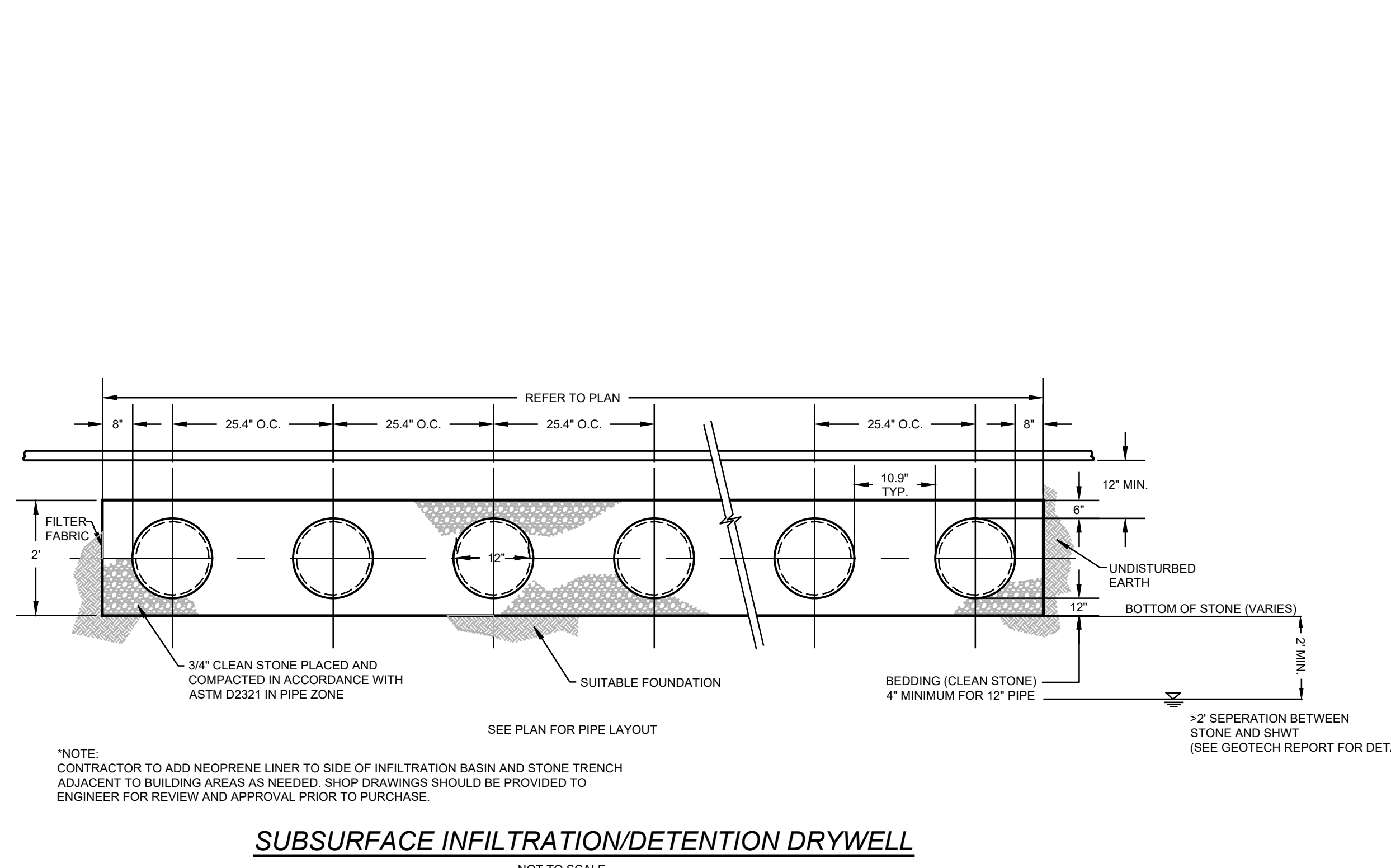
FOR CONSTRUCTION PLAN INFORMATION

PRELIMINARY & FINAL MAJOR SITE PLAN

SHEET TITLE: GRADING AND DRAINAGE PLAN

SHEET NO.: C400

File: S:\Sub\1472 - 501 Lake Terrace, LLC\20-1472-01 - 501-511 Lake Terrace, LLC\20-1472-01 - 501-511 Lake Terrace, LLC.dwg User: JLF Date: 11/20/20 10:00 AM



PROJECT INFORMATION

PROJECT NAME: 501-511 LAKE TERRACE

PROJECT LOCATION: BLOCK 7, LOT 2.03 501-511 LAKE TERRACE BOROUGH OF BRADLEY BEACH MONMOUTH COUNTY, NJ TAX MAP SHEET #1

OWNER: 501 LAKE TERRACE, LLC 1412 MAIN STREET ASBURY PARK, NJ 07712 (732) 772-5656

APPLICANT: 501 LAKE TERRACE, LLC 1412 MAIN STREET ASBURY PARK, NJ 07712 (732) 772-5656

APPLICANT'S PROFESSIONALS

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SURVEYOR: INSITE SURVEYING, LLC 1955 ROUTE 34, SUITE 1A WALL, NJ 07719

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LICENSED IN: NEW JERSEY, NEW YORK, PENNSYLVANIA, DELAWARE, CONNECTICUT, NORTH CAROLINA, COLORADO, & DISTRICT OF COLUMBIA

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JASON K. FICHTER, PE, PP, CFM, CME
NJPE #3718 NJPP #726 PAPE 61968
DEPE 3613 NYPE 80295 CIPPE 23391
NCPPE 33336 DCPE 900682 COPE 36605

REVISIONS

Rev. #	Date	Comment
3	08/19/21	REV. PER COUNTY COMMENTS
2	08/19/21	REV. PER CLIENT COMMENTS
1	05/06/21	REV. PER COUNTY COMMENTS
0	11/20/20	INITIAL RELEASE

SCALE: AS SHOWN DESIGNED BY: CMB
DATE: 11/20/20 DRAWN BY: JLS
JOB #: 20-1472-01 CHECKED BY: JLF
CAD ID: 20-1472-01r2

NOT FOR CONSTRUCTION APPROVED BY:

FOR CONSTRUCTION PLAN INFORMATION

DRAWING TITLE: PRELIMINARY & FINAL MAJOR SITE PLAN

SHEET TITLE: CONSTRUCTION DETAILS

SHEET NO.: C802

File: N:\Jobs\1472 - 501 Lake Terrace, LLC\20-1472-01 - 501-511 Lake Terrace_Bradley Beach, NJ\2017201\CAD\DWG\07-Detailing.dwg -> 0802 Construction Details
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SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE FRESHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.
2. 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.
3. 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.
4. NJ S.A. 4-2A-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 THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL. IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON A WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY GRANT A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
5. 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. 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 STATE STANDARD FOR STABILIZATION WITH MULCH ONLY.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STOCKPILES, STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH 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.
7. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE 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 ENTRANCE CONSISTING OF ONE INCH TO TWO INCH (1" - 2") STONE FOR A MINIMAL LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
8. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
9. PERMANENT VEGETATION IS TO BE SEEDING OR SOODED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
10. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATION 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 TO 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.
11. IN ACCORDANCE WITH MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING ION SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/1,000 SQ FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12" OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24" WHERE TREES OR SHRUBS ARE TO BE PLANTED.
12. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
13. 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.
14. TO CONTROL THE CONTROL OF DISCHARGE AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
15. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE DUST CONTROL. 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 IS DISTURBED.
16. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
17. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BEFORE STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

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, PG. 19-1.
 - B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL, STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
 - C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

2. **SEEDBED PREPARATION**
 - A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. LIMING RATES SHALL BE ESTABLISHED VIA SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.
 - B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
 - C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE WITH THE ABOVE.
 - D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG. 1-1.

3. **SEEDING**
 - A. TEMPORARY VEGETATIVE SEEDING COVER SHALL CONSIST OF PERENNIAL ryegrass APPLIED UNIFORMLY AT A RATE OF 1 POUND PER 1,000 SF (100 LBS/AC) WITH AN OPTIMUM SEED DEPTH OF 0.5" (TWICE THE DEPTH IF SANDY SOILS), IN ACCORDANCE WITH TABLE 7-2, PAGE 7-3.
 - *SEEDING DATES: 2/15-5/1 AND 8/15-10/15
 - B. CONVENTIONAL SEEDING, APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTIPACKED SEEDINGS, 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.
 - C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4 MULCHING) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
 - D. AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EFFICIENCY. THIS IS THE PREFERRED METHOD, WHEN PERFORMED ON THE CONTOUR. SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. **MULCHING**
 - A. MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
 - B. STRAW OR HAY, UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, 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.
 - C. 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 TO 90 POUNDS WITHIN EACH SECTION.
 - D. 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.
 1. 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 MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
 2. MULCH NETTINGS. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
 3. CRIMPER (MULCH ANCHORING 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.
 4. LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR 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 MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOLOGICAL 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 STATE.
 - (2) 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 RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

5. **PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION**
 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, PG. 19-1.
 - B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL, STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
 - C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
 2. **SEEDBED PREPARATION**
 - A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES (HTTP://NAEES.RUTGERS.EDU/COUNTY). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
 - B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
 - C. HIGH ACID PRODUCING SOILS HAVING A PH OF 4 OR LESS OR CONTAINING ION SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC RECOMMENDATIONS.
 3. **SEEDING**
 - A. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.
 - B. SEED MIXTURE

SEED MIXTURE	PLANTING RATE (LBS/1,000 (LBS/ACRE))
HARD FESCUE AND/OR STRONG CREEPING RED FESCUE	4 (175)
PERENNIAL RYEGRASS	1 (45)
KENTUCKY BLUEGRASS	1 (45)

 - *ACCEPTABLE SEEDING DATES: 2/1-4/30 AND 5/1-8/14**
 - *OPTIMAL SEEDING DATES: 8/15-10/30
 - **SUMMER SEEDING SHALL ONLY BE CONDUCTED WHEN SITE IS IRRIGATED
 - C. SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED TO ACHIEVE REPORT OF COMPLIANCE PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDBED AREA AND MOWED/CURED.
 - D. WARM-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES. GENERALLY 850 F AND ABOVE. SEE TABLE 4-3 MIXTURES 1 TO 7 PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
 - E. COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 850F. MANY GRASSES BECOME ACTIVE AT 650F. SEE TABLE 4-3 MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL-SEASON GRASSES.
 - F. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION 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.
 - G. AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EFFICIENCY. THIS IS THE PREFERRED METHOD, WHEN PERFORMED ON THE CONTOUR. SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
 - H. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4 MULCHING BELOW). HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.

4. **MULCHING**
 - A. 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 DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
 - B. STRAW OR HAY, UNROTTED SMALL GRAIN 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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 2. MULCH NETTINGS. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
 3. CRIMPER (MULCH ANCHORING 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.
 4. LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR SALT HAY, 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 MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOLOGICAL 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 STATE.
 - (2) 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 RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

5. **PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION**
 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, PG. 19-1.
 - B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL, STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
 - C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
 2. **SEEDBED PREPARATION**
 - A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES (HTTP://NAEES.RUTGERS.EDU/COUNTY). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
 - B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
 - C. HIGH ACID PRODUCING SOILS HAVING A PH OF 4 OR LESS OR CONTAINING ION SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC RECOMMENDATIONS.
 3. **SEEDING**
 - A. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.
 - B. SEED MIXTURE

SEED MIXTURE	PLANTING RATE (LBS/1,000 (LBS/ACRE))
HARD FESCUE AND/OR STRONG CREEPING RED FESCUE	4 (175)
PERENNIAL RYEGRASS	1 (45)
KENTUCKY BLUEGRASS	1 (45)

 - *ACCEPTABLE SEEDING DATES: 2/1-4/30 AND 5/1-8/14**
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 - **SUMMER SEEDING SHALL ONLY BE CONDUCTED WHEN SITE IS IRRIGATED
 - C. SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED TO ACHIEVE REPORT OF COMPLIANCE PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDBED AREA AND MOWED/CURED.
 - D. WARM-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES. GENERALLY 850 F AND ABOVE. SEE TABLE 4-3 MIXTURES 1 TO 7 PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
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 - H. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4 MULCHING BELOW). HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.

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