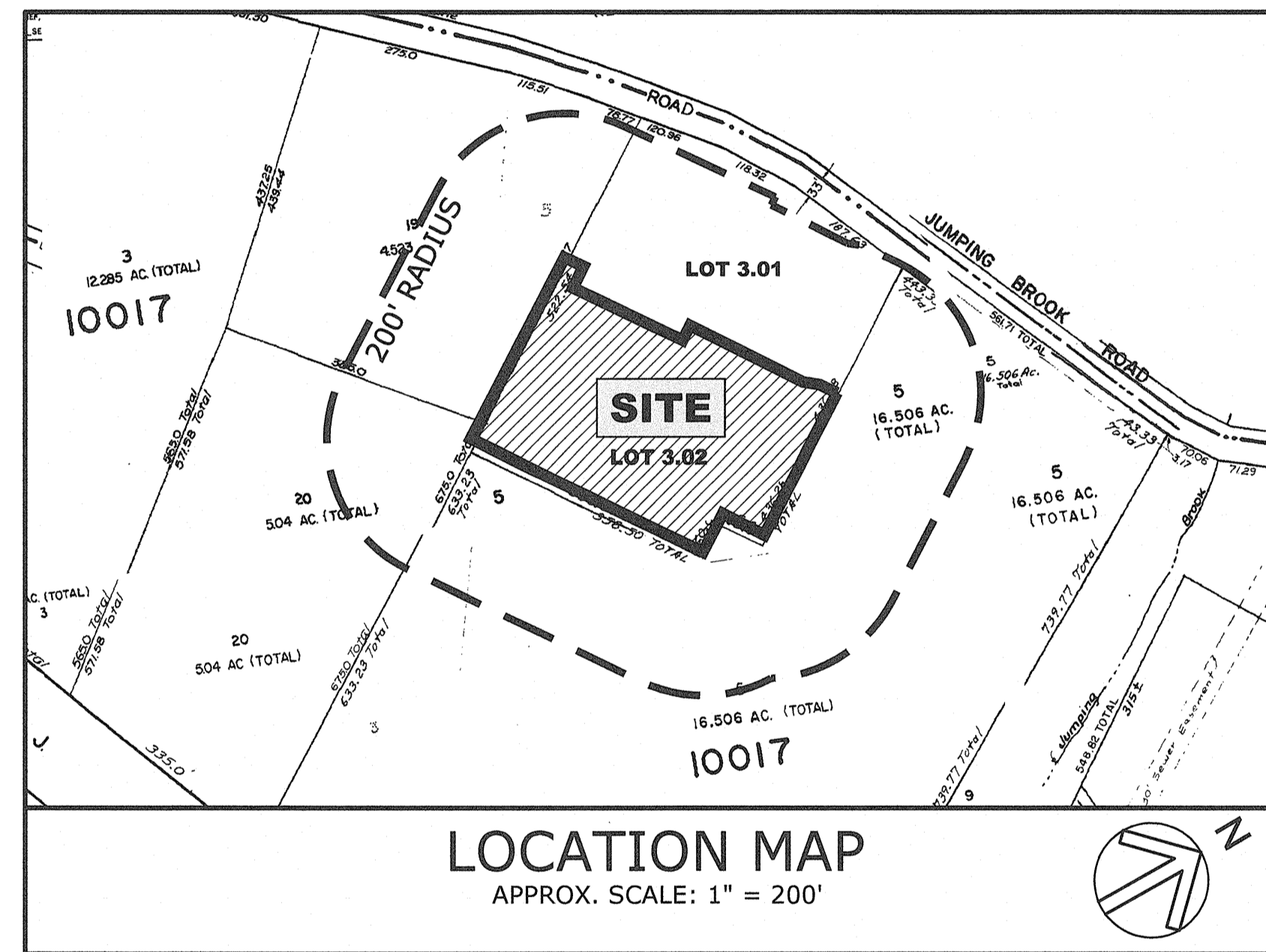


PRELIMINARY AND FINAL MAJOR SITE PLAN

PREPARED FOR:

UNITED SHIPPING ALLIANCE

LOT 3.02 - BLOCK 3903
 TOWNSHIP OF NEPTUNE
 MONMOUTH COUNTY - NEW JERSEY
 TAX MAP SHEETS 48.02 & 48.03 - LAST REVISED 06/18/1984



PROJECT ATTORNEY:
 RICK BRODSKY, ESQ.
 ANSELL GROMM & AARON, P.C.
 1500 LAWRENCE AVENUE, CN 7807
 OCEAN, NJ 07712
 732.922.1000

ARCHITECT:
 MICHAEL V. TESTA, AIA, NCARB
 MICHAEL V. TESTA, ARCHITECT, LLC.
 701 TENNENT ROAD, SUITE 201
 MANALAPAN, NJ 07726
 732.972.9177

PROJECT SURVEYOR:
 YORKANIS & WHITE, INC.
 23 VILLAGE COURT
 HAZLET, NJ 07730

GENERAL NOTES:

- PROPERTY BEING KNOWN AS LOT 3.02 OF BLOCK 3903 AS SHOWN ON SHEET 48.02 AND 48.03 OF THE CURRENT OFFICIAL TAX MAP OF THE TOWNSHIP OF NEPTUNE (SHEET 2 REVISED THROUGH JUNE 18, 1984).
- PRELIMINARY/FINAL MAJOR SITE PLAN APPROVAL IS HEREBY REQUESTED FOR THE DEVELOPMENT OF THE SUBJECT SITE. THE SITE PLAN WILL CONSIST OF THE CONVERSION OF THE EXISTING OFFICE BUILDING TO A WAREHOUSE USE WITH A SMALL 2,200 SF OFFICE PORTION TO REMAIN. SITE IMPROVEMENTS INCLUDE CIRCULATION AND PARKING AREA CHANGES TO ACCOMMODATE THE USE OF DELIVERY TRUCKS, A BUILDING ADDITION/EXTENSION WITH PROPOSED LOADING DOORS, AND LANDSCAPE BUFFERING.
- THE SUBJECT PROPERTY IS LOCATED WITHIN THE PLANNED COMMERCIAL DEVELOPMENT (C-1) ZONE.
- BOUNDARY & TOPOGRAPHICAL INFORMATION SHOWN HEREON TAKEN FROM TOPOGRAPHICAL SURVEY MAP OF PROPERTY KNOWN AS LOT 3.02 IN BLOCK 3903, TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NEW JERSEY PREPARED BY JOHN T. LUTS, PLS OF YORKANIS & WHITE, INC ON APRIL 13, 2022, AND CERTIFIED TO KENNEDY CONSULTING ENGINEERS, LLC.
- PROPERTY OWNER/APPLICANT:
 ADAM GREENFIELD / UNITED SHIPPING ALLIANCE
 37 WEST 39TH STREET, SUITE 601
 NEW YORK, NY 10018
- UTILITIES:
 WATER SERVICE: NEW JERSEY AMERICAN WATER COMPANY
 SEWER SERVICE: TOWNSHIP OF NEPTUNE SEWER DEPARTMENT
 TELEPHONE SERVICE: VERIZON
 ELECTRIC SERVICE: JERSEY CENTRAL POWER & LIGHT
 CABLE TELEVISION: FIOS, XFINITY, OPTIMUM
 GAS SERVICE: NEW JERSEY NATURAL GAS COMPANY

ZONING INFORMATION: BLOCK 3903, LOT 3.02 - ZONE C-1 - PLANNED COMMERCIAL DEVELOPMENT

DESCRIPTION	REQUIRED C-1 ZONE	EXISTING	PROPOSED
MIN. LOT AREA	2.5 ACRES	2.486 ACRES (108,712 SF)	2.486 ACRES (108,712 SF)
MAX F.A.R.	0.6	0.28	0.28
MIN. LOT WIDTH	500 FT	N/A*	N/A*
MIN. LOT FRONTAGE	500 FT	N/A*	N/A*
MIN. LOT DEPTH	600 FT	N/A*	N/A*
MIN. SETBACKS			
BUILDINGS TO DRIVEWAYS	10 FT	3 FT	3 FT
FRONT SETBACK	50 FT	N/A*	N/A*
REAR SETBACK	40 FT	N/A*	N/A*
SIDE SETBACK - ONE SIDE	30 FT	21.7 FT	21.7 FT
SIDE SETBACK - COMBINED	60 FT	100.3 FT	100.3 FT
MAX BUILDING COVERAGE	30%	29.25%	29.96%
MAX LOT COVERAGE	65%	85.1%	84.7%
MAX HEIGHT/STORIES	40 FT / 2 STORIES	30.3 FT / 1 STORY	30.3 FT / 1 STORY

* VARIANCE / NON-CONFORMANCE
 *LOT LINES ARE ALL CONSIDERED SIDE LOT LINES WITH NO FRONT OR REAR.

INDEX OF SHEETS

	FILE	NO.	PLAN DATE
TITLE SHEET	TS-1	1 OF 6	09/06/22
LAYOUT PLAN	LP-1	2 OF 6	09/06/22
GRADING PLAN	GP-1	3 OF 6	09/06/22
LIGHTING & LANDSCAPING PLAN	LL-1	4 OF 6	09/06/22
SOIL EROSION & SEDIMENT CONTROL PLAN	SE-1	5 OF 6	09/06/22
SOIL EROSION CONTROL NOTES	SESC-1	6 OF 6	09/06/22

OWNER'S CERTIFICATION:

I/WE ARE THE OWNER (S) OF THE SUBJECT PROPERTY AND HEREBY GIVE CONSENT TO THE DEVELOPMENT AS DEPICTED ON THESE PLANS.

DATE

CERTIFICATION:

CLASSIFIED AND APPROVED AS A PRELIMINARY/FINAL MAJOR SITE PLAN

BY THE TOWNSHIP OF NEPTUNE BOARD ON _____ DATE _____

CHAIRMAN: _____ DATE: _____

SECRETARY: _____ DATE: _____

BOARD ENGINEER: _____ DATE: _____

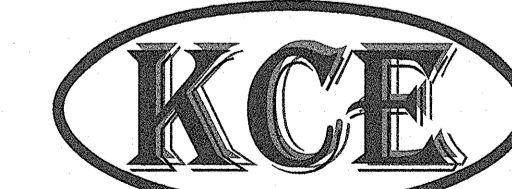
PARKING SUMMARY

- *AS PER TOWNSHIP ORDINANCE 412.17: PARKING REQUIREMENTS
- *PARKING REQUIRED AS PER TABLE 4.2 (PARKING REGULATIONS): OFF-STREET PARKING REQUIREMENTS:
 OFFICE:
 2,200 SF * 1/300 SF = 7.3 SPACES
 WAREHOUSE & DISTRIBUTION FACILITY:
 30,537 SF * 1/2,500 SF = 12.2 SPACES
 TOTAL REQUIRED = 20 SPACES
- *EXISTING PARKING: 152 SURFACE SPACES (INCLUDING 5 BARRIER FREE SPACES)
- *PROPOSED PARKING: 124 SURFACE SPACES (INCLUDING 5 BARRIER FREE SPACES)

09/06/22 RESUBMISSION TO TOWNSHIP DS

PRELIMINARY AND FINAL MAJOR SITE PLAN

UNITED SHIPPING ALLIANCE
 LOT 3.02 OF BLOCK 3903
 TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NJ
 TAX MAP SHEETS 48.02 & 48.03 - LAST REVISED 06/18/1984



Kennedy Consulting Engineers, LLC
 211 Maple Avenue
 Red Bank, New Jersey 07701
 732.212.9393 TEL • 732.212.9399 FAX

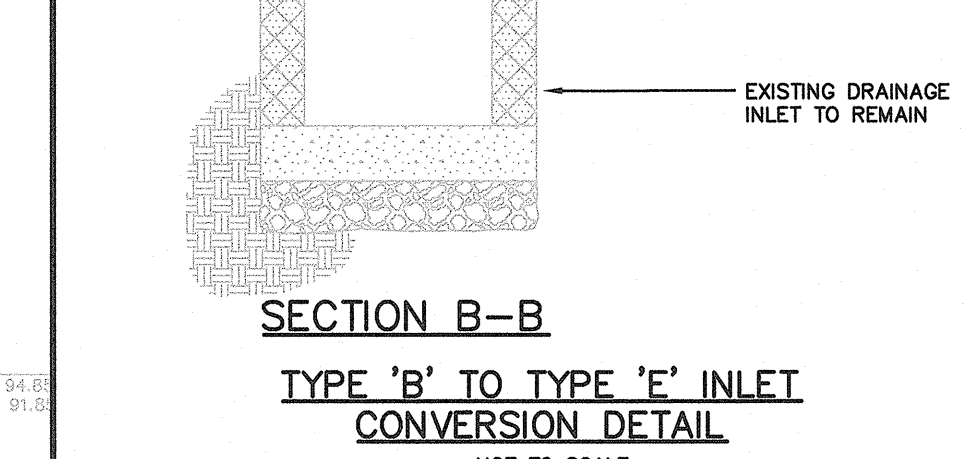
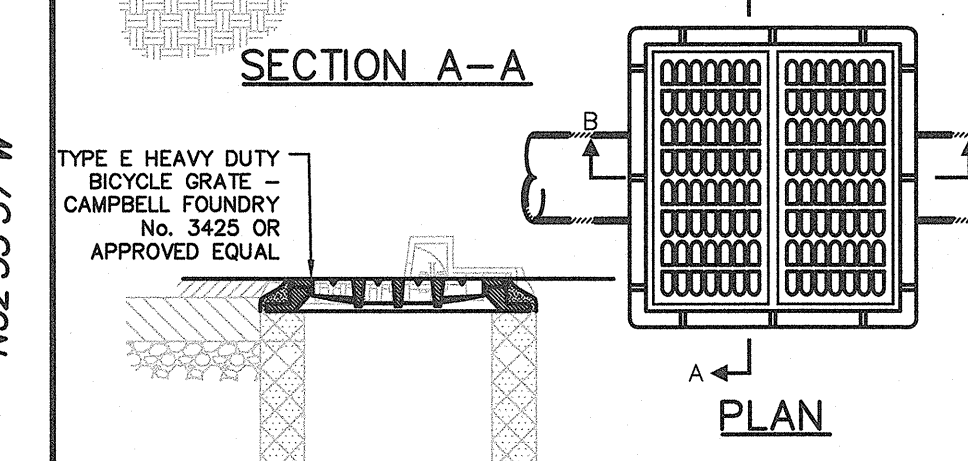
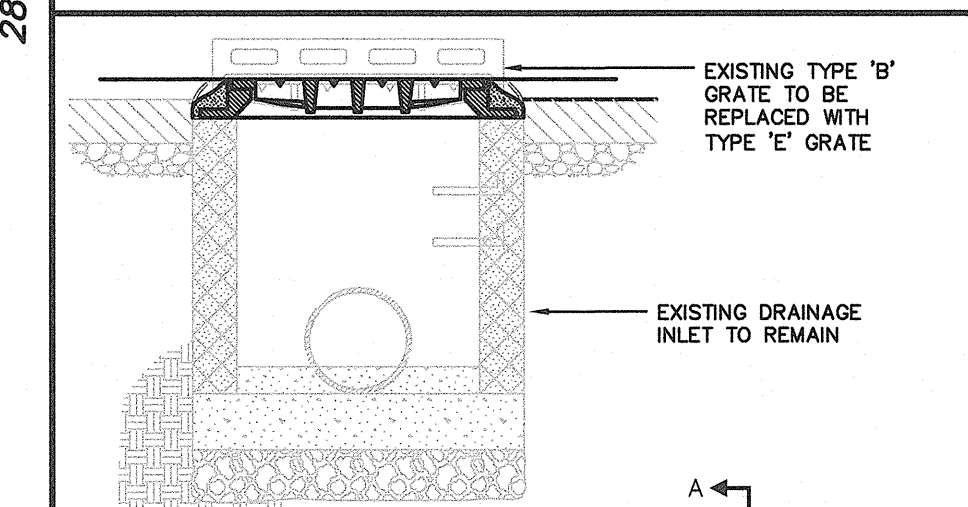
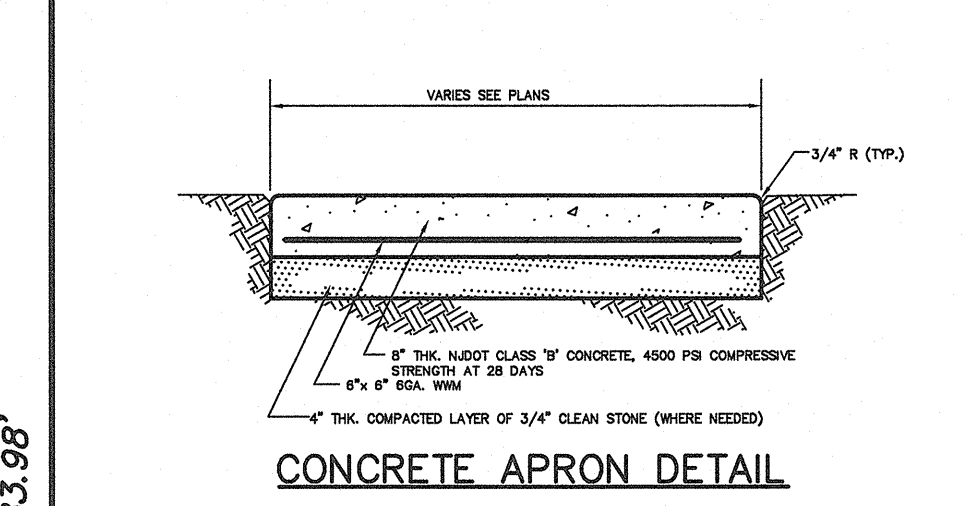
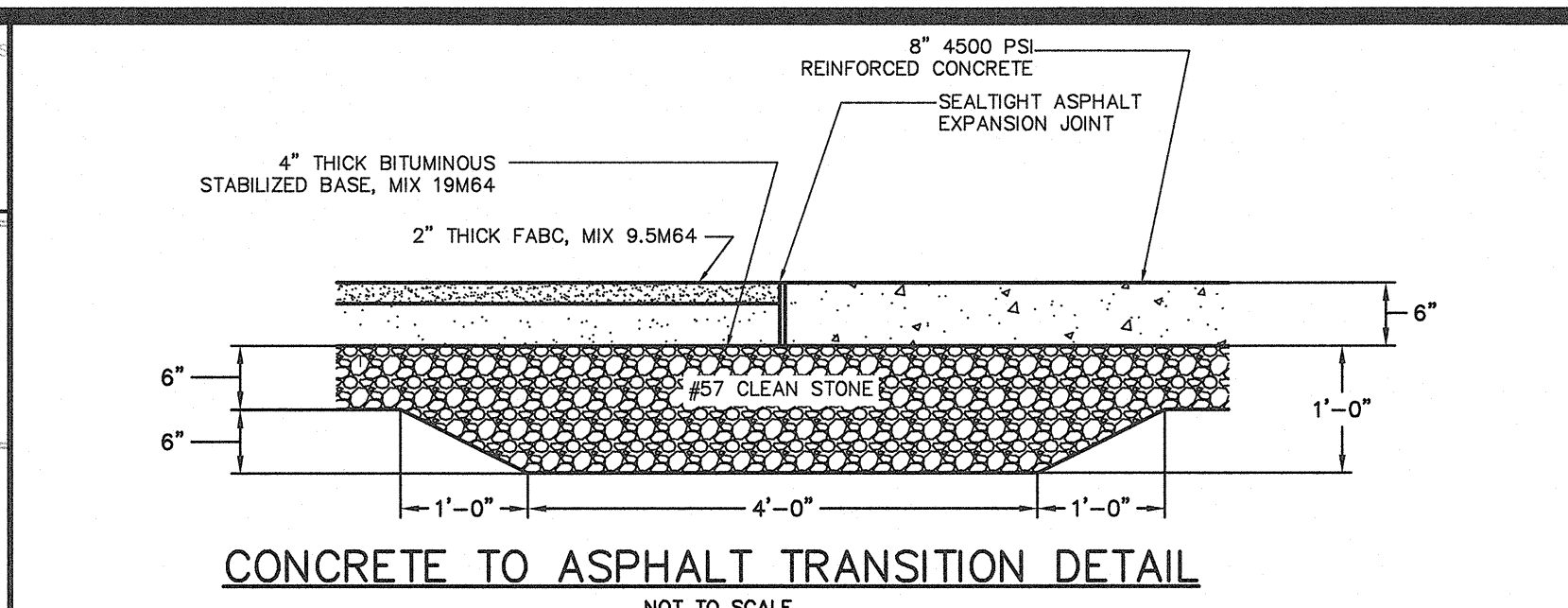
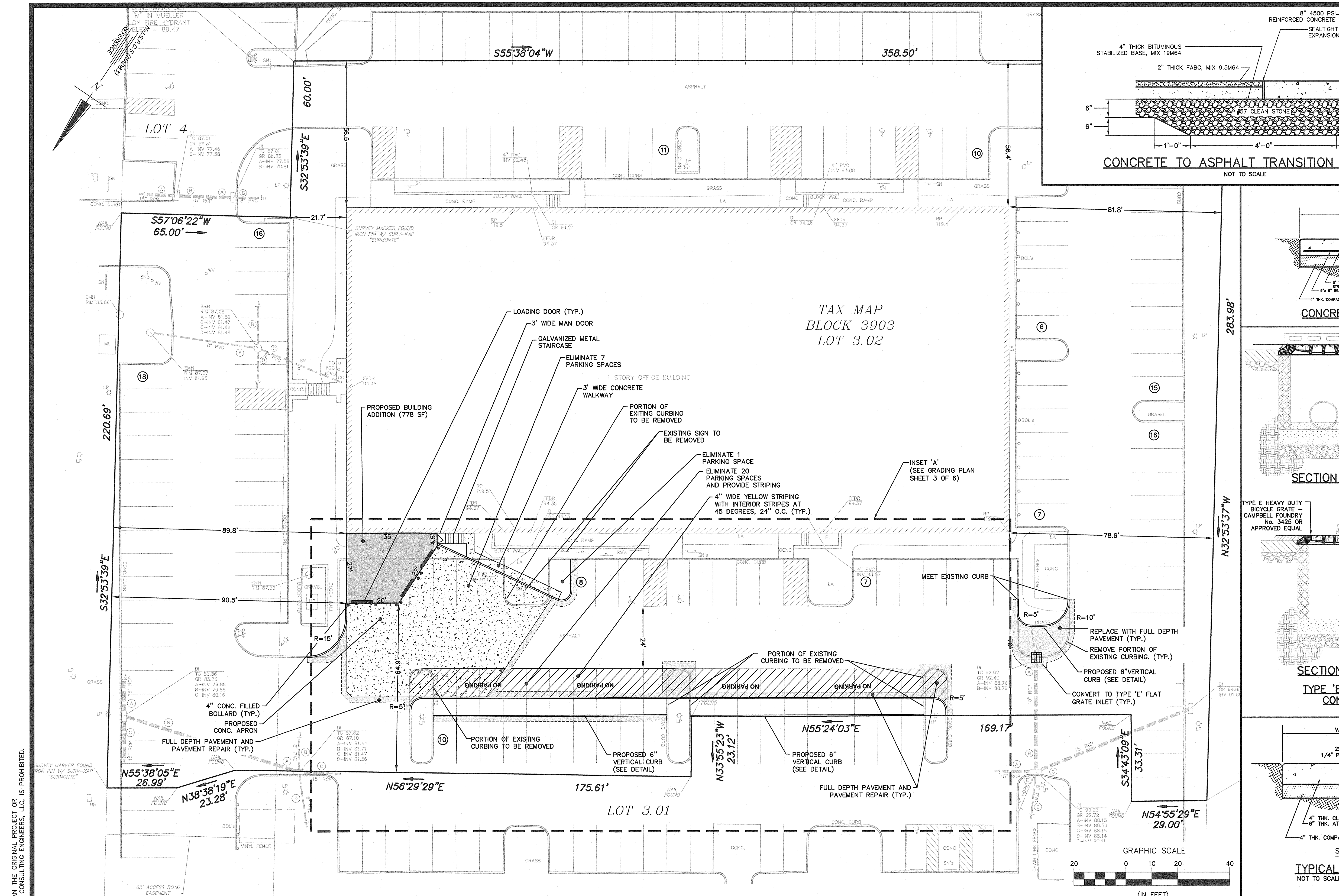
JAMES A. KENNEDY, P.E.
 NEW JERSEY PROFESSIONAL ENGINEER NO. 41275

TITLE SHEET

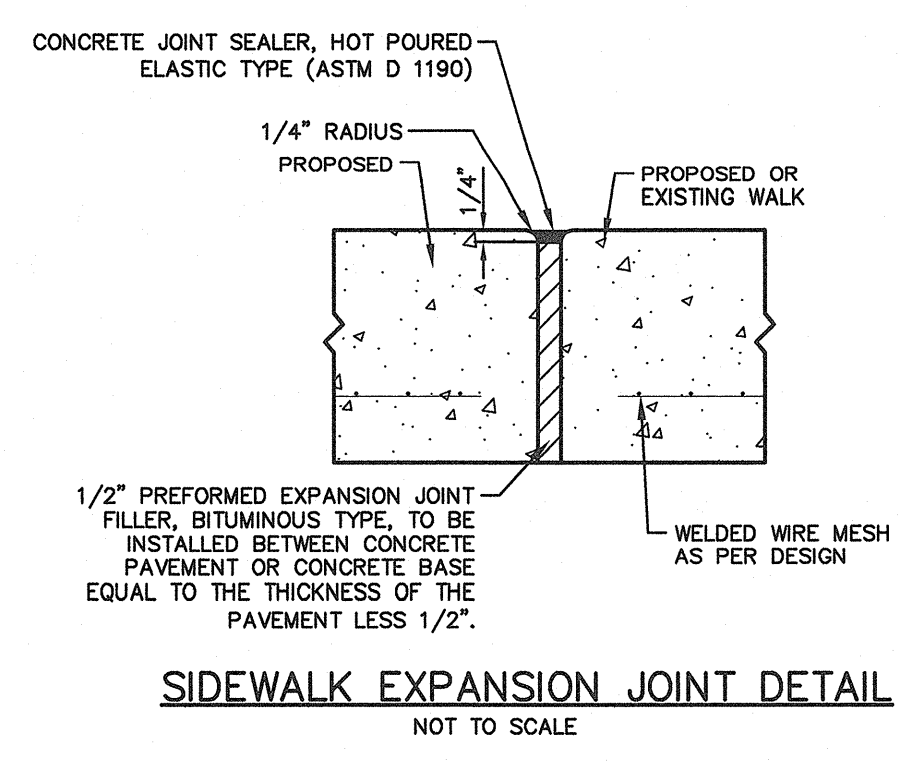
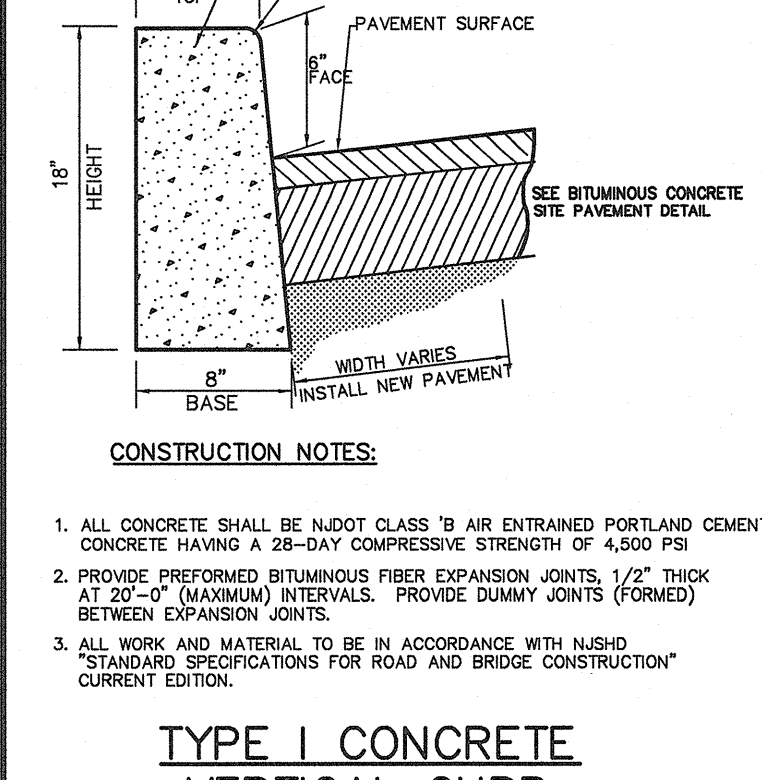
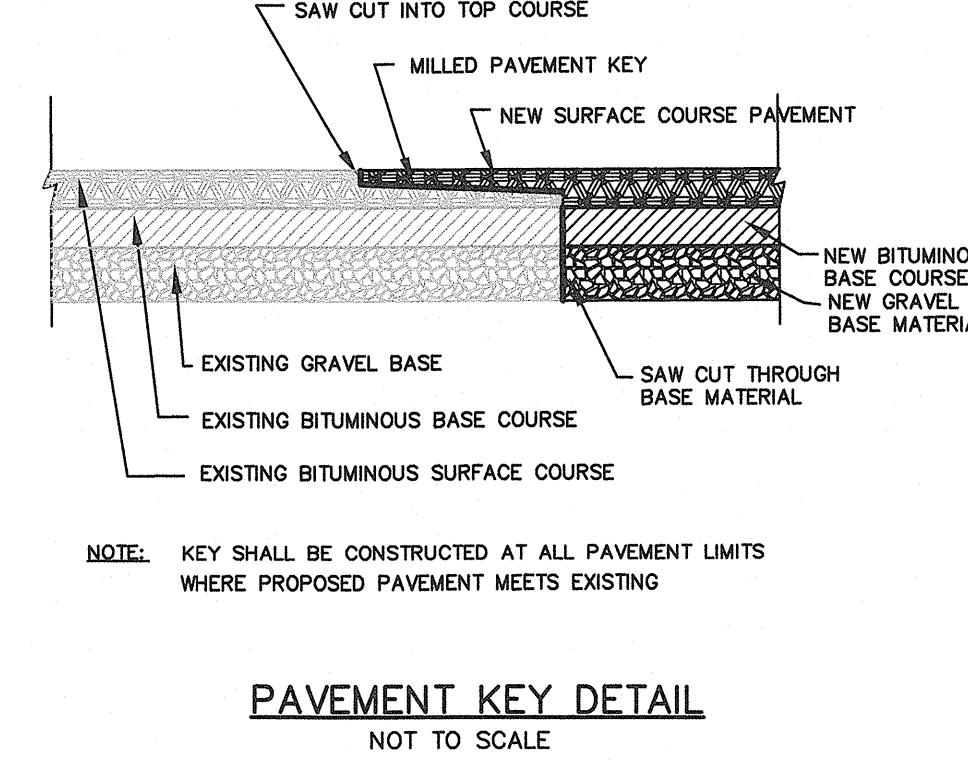
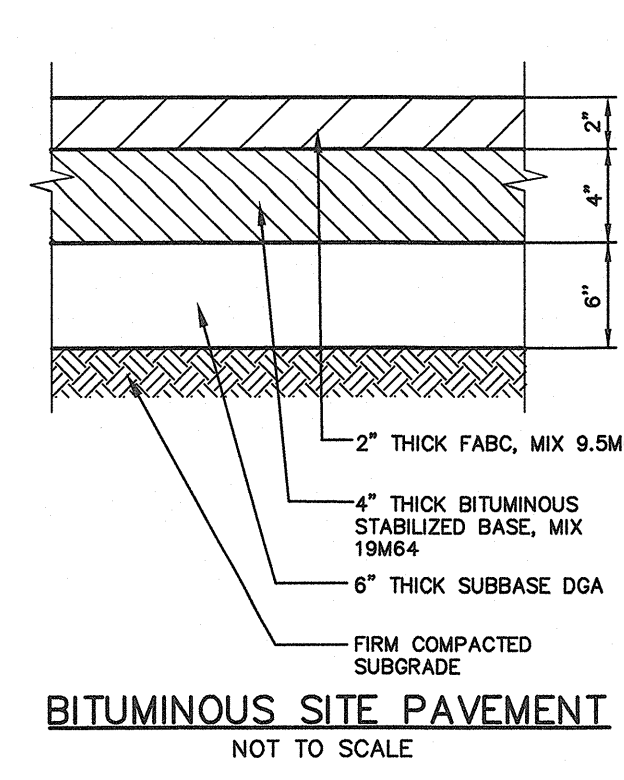
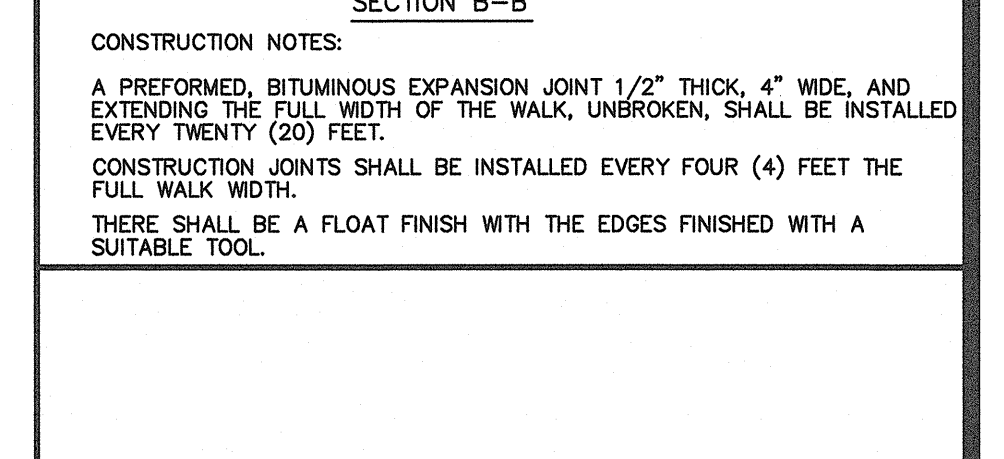
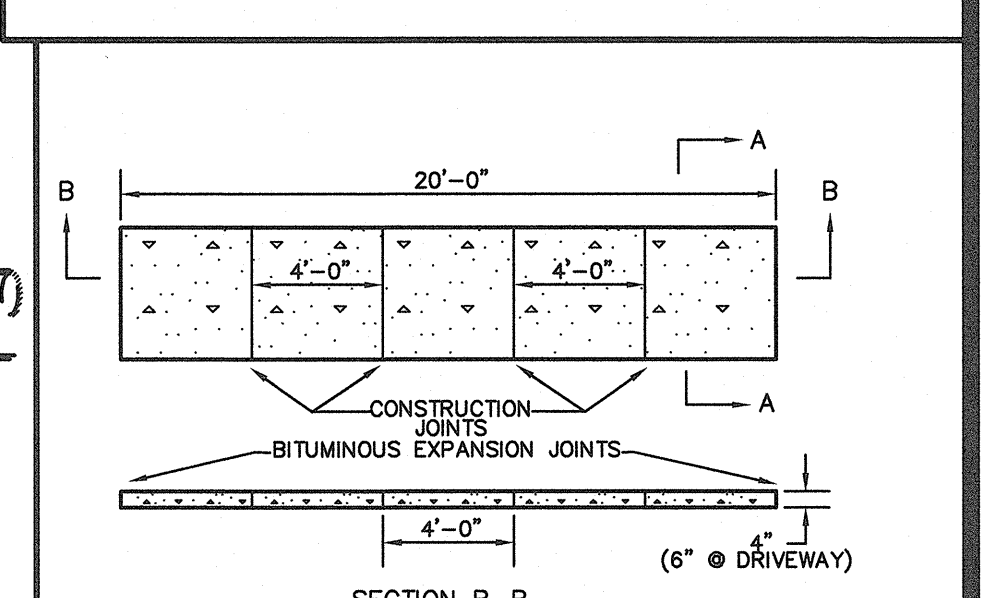
1 OF 6

FILENAME: TS-1
 DRAWN BY: KTS/ARC
 DATE: 06/01/22

DIGITAL SIGNATURE VALID FOR PDF ONLY



- General Construction Notes**
- ALL WORK TO CONFORM WITH THE LATEST EDITION OF THE FOLLOWING:
 - AASHTO SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
 - MONMOUTH COUNTY DESIGN STANDARDS
 - MUNICIPAL DESIGN STANDARDS
 - CURRENT MANUFACTURER'S SPECIFICATIONS, STANDARDS, AND REQUIREMENTS
 - CURRENT, PREVAILING UTILITY COMPANY OR AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS
 - ALL BARRIER FREE CONSTRUCTION TO BE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE AMERICANS WITH DISABILITY ACT, AND THE NJ BARRIER FREE SUBCODE.
 - CONTRACTOR IS RESPONSIBLE FOR 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 THE RESPONSIBLE PARTY DURING CONSTRUCTION OF THE IMPROVEMENTS SHOWN HEREON. AS SUCH, CONTRACTOR WILL PROVIDE ADEQUATE SAFETY TRAINING, EQUIPMENT, AND OVERSIGHT.
 - CONTRACTOR IS RESPONSIBLE FOR 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 SHOULD BE CONTACTED PRIOR TO EXCAVATION ON-SITE OR WITHIN R.O.W. (800) 272-1000
 - 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.
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 - 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 PART VI.
 - CONTRACTOR TO MATCH EXISTING PAVEMENT SPECIFICATIONS FOR ALL PAVEMENT REPAIR TO EXISTING ROADWAYS.
 - CONCRETE SHALL BE M4000 CLASS 'B' UNLESS OTHERWISE STATED HEREON OR WITHIN THE CONSTRUCTION DETAILS.
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 - BOUNDARY & TOPOGRAPHICAL INFORMATION SHOWN HEREON TAKEN FROM TOPOGRAPHICAL SURVEY MAP OF PROPERTY KNOWN AS LOT 3.02 IN BLOCK 3903, TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NEW JERSEY PREPARED BY JOHN T. LUTS, PLS OF YORKKANS & WHITE, INC. ON APRIL 13, 2022, AND CERTIFIED TO KENNEDY CONSULTING ENGINEERS, LLC.



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09/06/22 RESUBMISSION TO TOWNSHIP DS

PRELIMINARY AND FINAL MAJOR SITE PLAN

UNITED SHIPPING ALLIANCE
 LOT 3.02 OF BLOCK 3903
 TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NJ
 TAX MAP SHEETS 48.02 & 48.03 - LAST REVISED 06/18/1984

KCE
 Kennedy Consulting Engineers, LLC
 211 Maple Avenue
 Red Bank, New Jersey 07701
 732.212.9393 TEL • 732.212.9399 FAX

LAYOUT PLAN

2 OF 6

FILENAME: LP-1
 DRAWN BY: KTS/ARC
 DATE: 06/01/22

JAMES A. KENNEDY, P.E.
 NEW JERSEY PROFESSIONAL ENGINEER NO. 41275

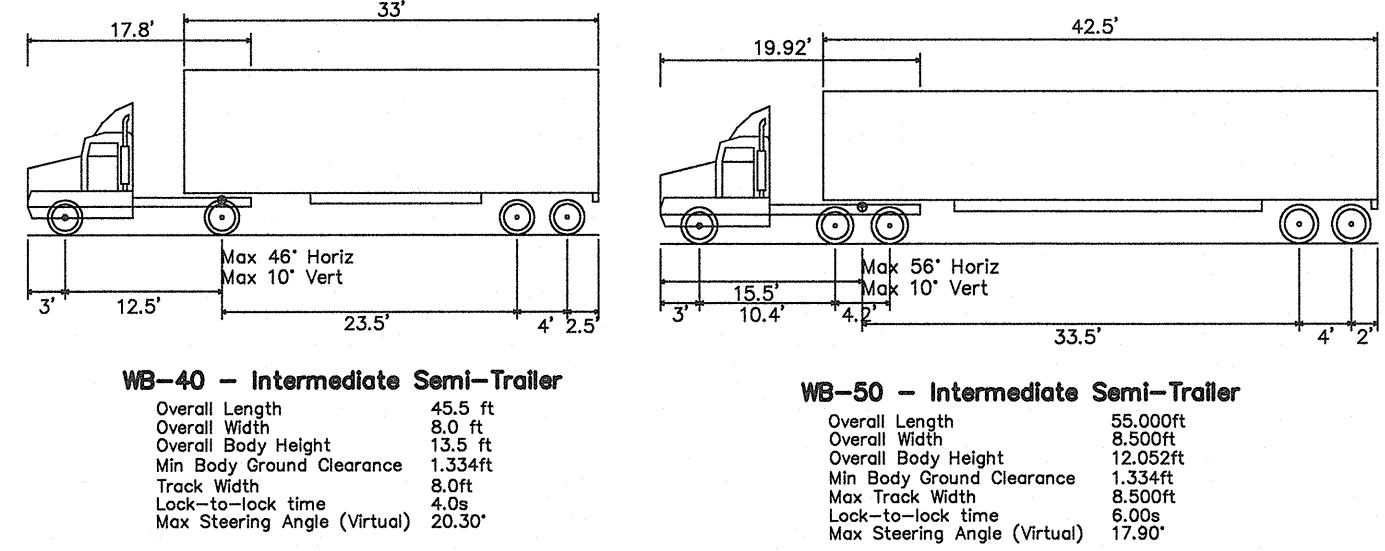
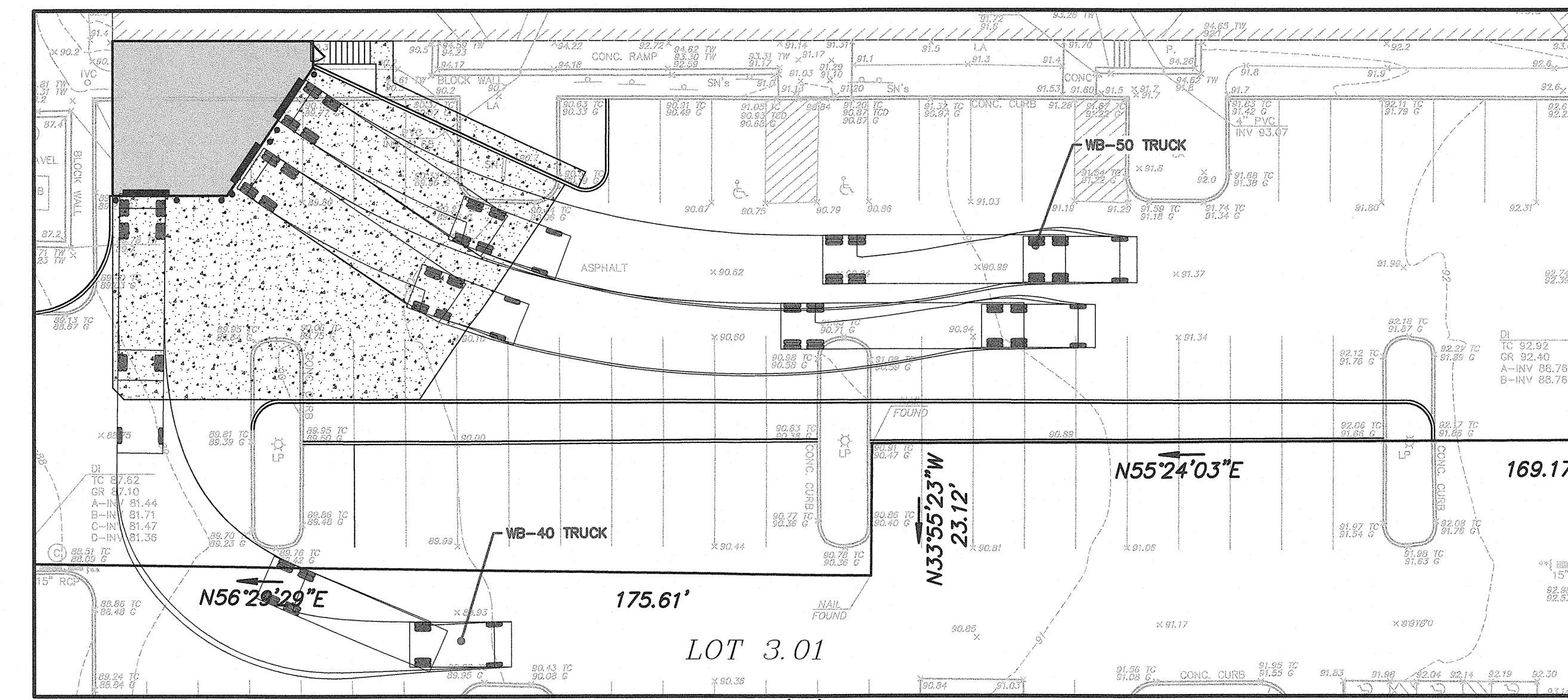
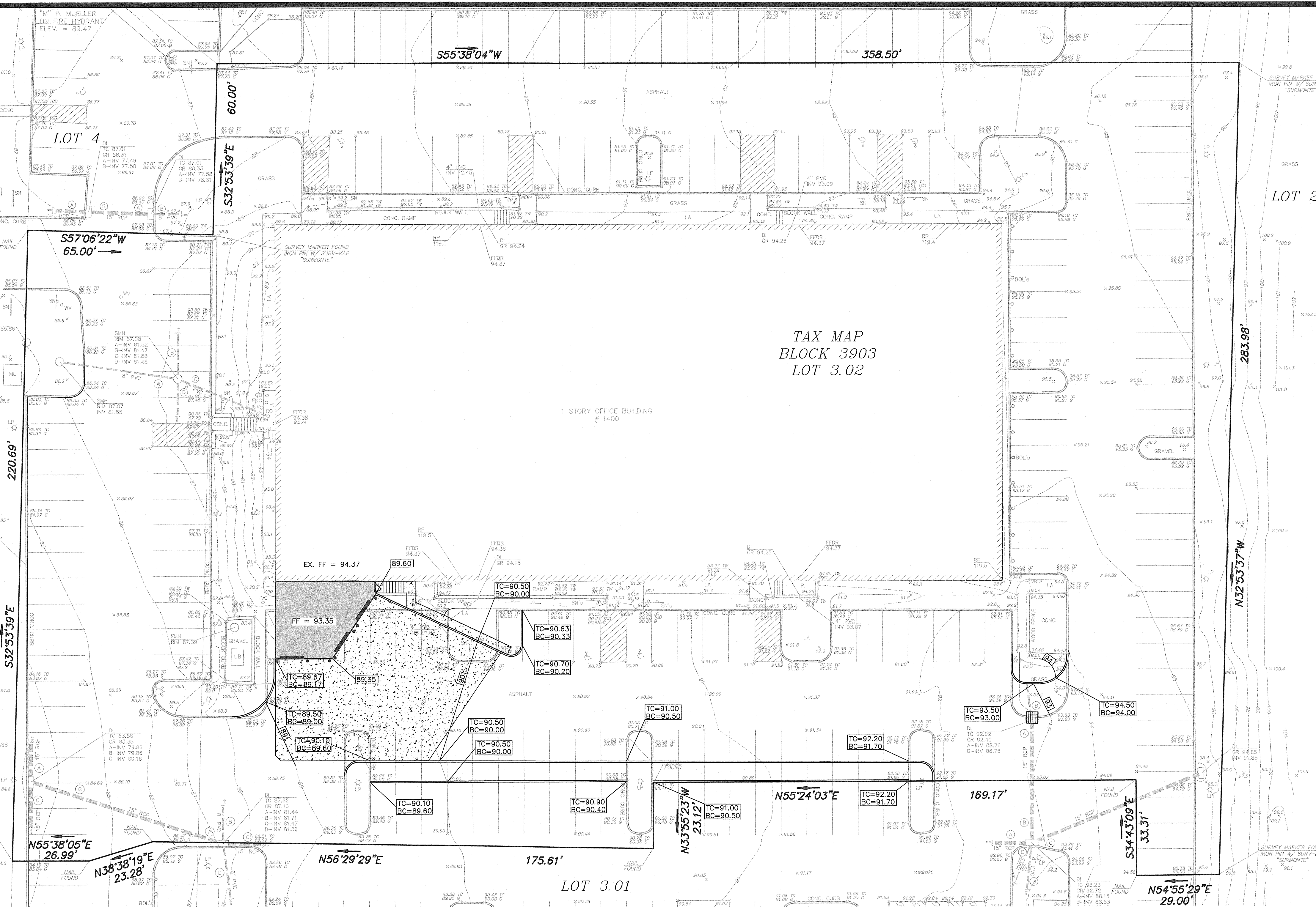
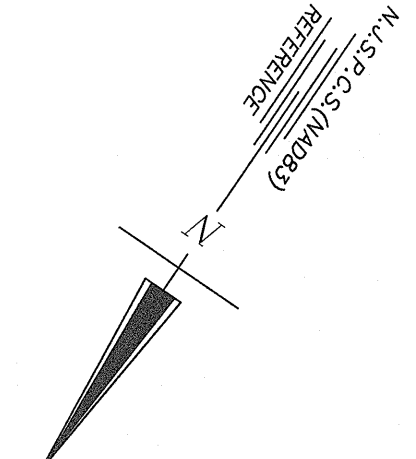
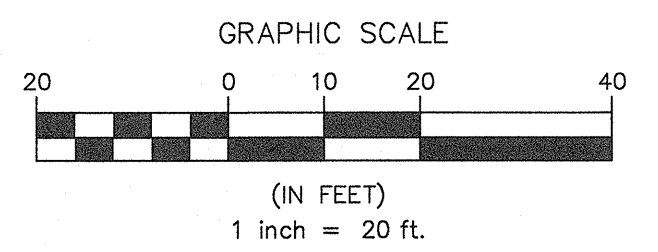
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TAX MAP
BLOCK 3903
LOT 3.02

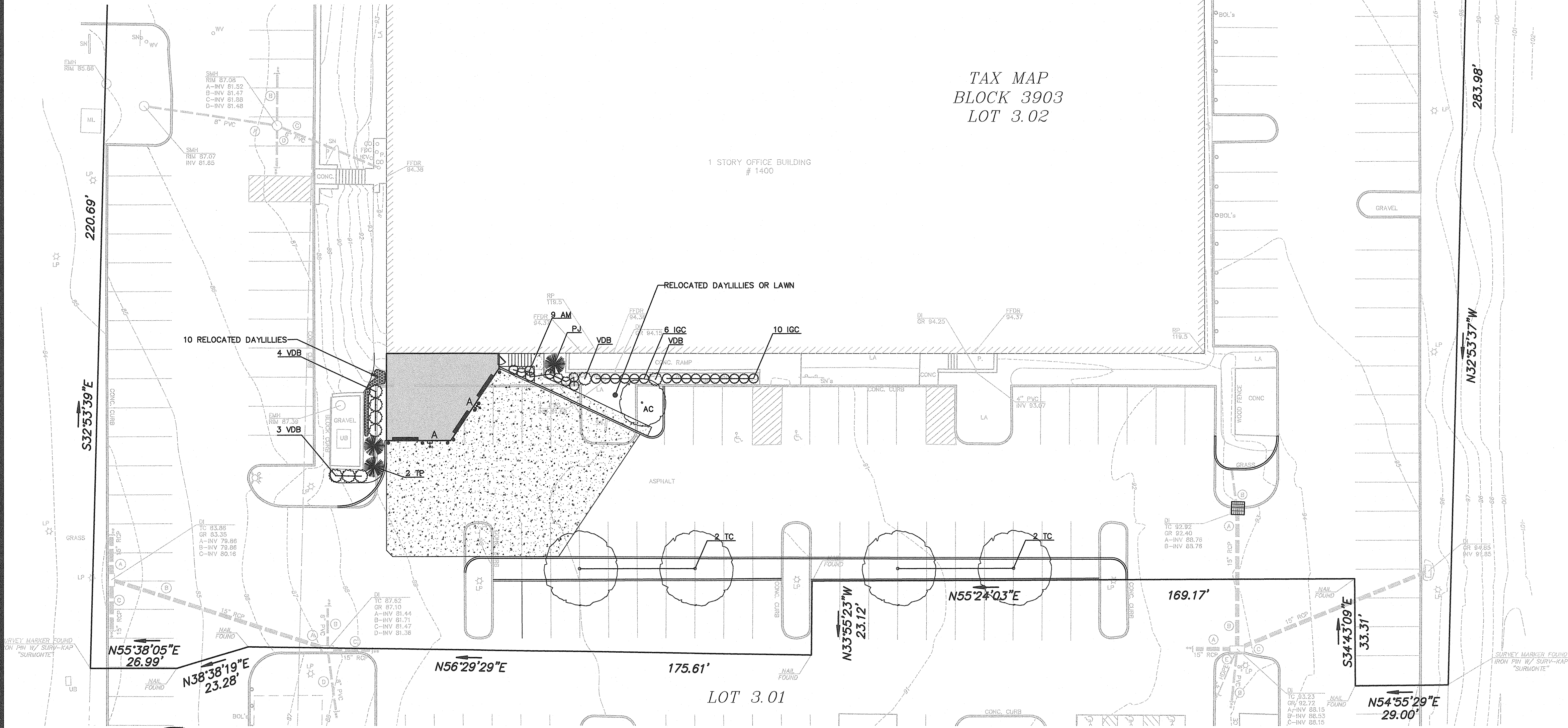
EXISTING		PROPOSED	
	CONTOUR		LOT LINE
	DRAINAGE PIPE		FENCE
	STRUCTURE		BUILDING SETBACK LINE
	CONCRETE CURB		SAN. SEWER MAIN PIPE
	SAN. SEWER LATERAL		SEWER MANHOLE
	DRAINAGE MANHOLE		CONC. SIDEWALK
	DRAINAGE INLET		SPOT GRADE
	ROADWAY REPAIR		DEPRESSED CURBING
	LIGHT POLE		WATER SUPPLY
	GAS LINE		ELECTRIC/TELEPHONE
	CLEANOUT		WATER VALVE



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09/06/22	RESUBMISSION TO TOWNSHIP	DS
PRELIMINARY AND FINAL MAJOR SITE PLAN		
UNITED SHIPPING ALLIANCE		
LOT 3.02 OF BLOCK 3903 TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NJ TAX MAP SHEETS 48.02 & 48.03 - LAST REVISED 06/18/1984		
 Kennedy Consulting Engineers, LLC 211 Maple Avenue Red Bank, New Jersey 07701 732.212.9393 TEL • 732.212.9399 FAX		GRADING PLAN 3 OF 6
 JAMES A. KENNEDY, P.E. NEW JERSEY PROFESSIONAL ENGINEER NO. 41275		FILENAME: GP-1 DRAWN BY: KTS/ARC DATE: 06/01/22

PLANTING SCHEDULE						
SYMBOL	QTY.	LATIN NAME	COMMON NAME	CAL.	HT.	ROOT COMMENTS
SHADE TREE						
TC	4	Tilia cordata 'Greenspire'	Little Leaf Linden	2"-2 1/2"	12'-14'	B&B First branch limbed up to 6'
ORNAMENTAL TREE						
AC	1	Amelanchier canadensis	Downy Shadblow		5'-6'	B&B Full Plants
EVERGREEN TREES						
TP	2	Thuja plicata 'Green Giant'	Green Giant Arborvitae		5'-6'	B&B Full Furnished specimens, 7' O.C.
SHRUBS						
AM	9	Aronia melanocarpa 'UCONNAM165'	Lowscape Mound Aronia		18"-24"	#3 Gal. Full Plants, 3' O.C.
IGC	16	Ilex glabra compacta 'Gem Box'	Gem Box Inkberry Holly		18"-24"	#5 Gal. Full Plants, 3' O.C.
PJ	1	Pieris japonica 'Dorothy Wyckoff'	Dorothy Wyckoff Andromeda		30"-36"	#7 Gal. Full Plants, 3' O.C.
VDB	9	Viburnum dentatum 'Blue Muffin'	Blue Muffin Viburnum		30"-36"	#7 Gal. Full Plants, 5' O.C.



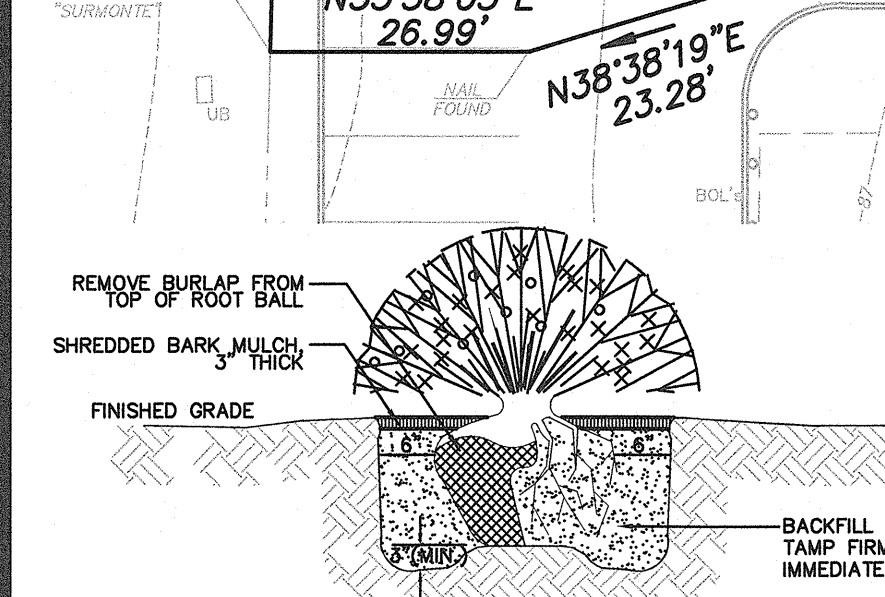
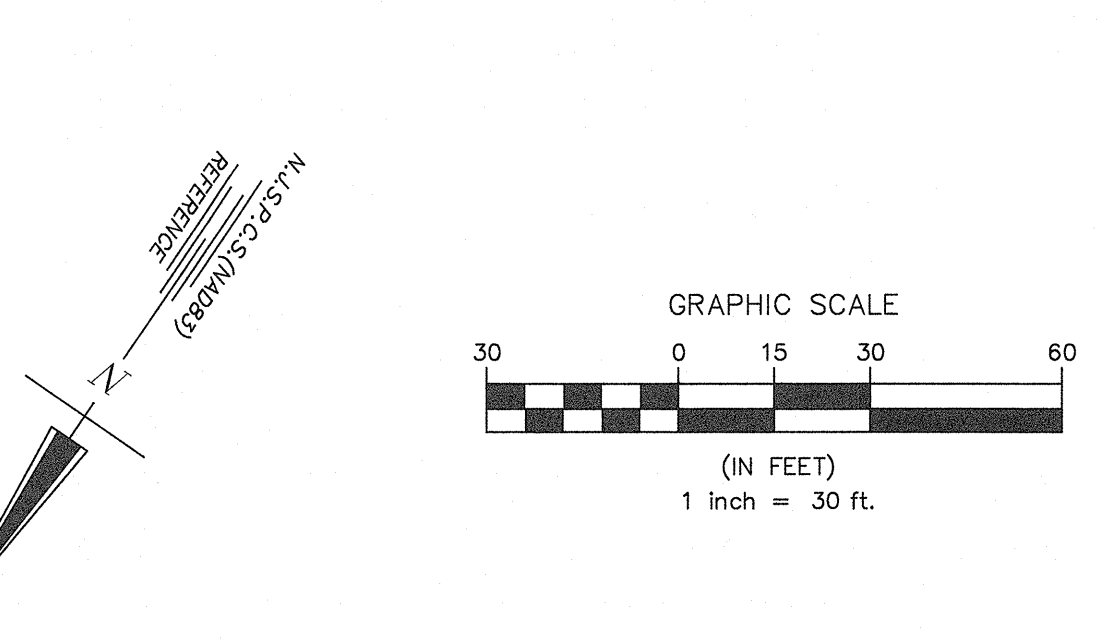
- GENERAL NOTES:
 - THIS PLAN TO BE USED ONLY FOR THE PURPOSES OF LANDSCAPING AND LIGHTING.
 - EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR CONDITIONS FOR SPECIFIC LOCATIONS OF UTILITIES, STRUCTURES, ETC. NOTIFY THE UNDERSIGNED IMMEDIATELY, IN WRITING, IN REFERENCE TO DISCREPANCIES OR LOCATION CONFLICTS.
 - IN THE EVENT THAT PLANT QUANTITY DISCREPANCIES OR MATERIAL OMISSIONS OCCUR IN THE PLANTING SCHEDULE, THE PLAN SHALL SUPERSEDE.
 - ALL PLANTING MATERIALS AND METHODS SHALL MEET OR EXCEED THE REQUIREMENTS OF THE MUNICIPAL ORDINANCES AND THE AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERMEN. IN THE EVENT OF CONFLICT BETWEEN A.M.A. AND MUNICIPAL STANDARDS, THE MUNICIPAL REQUIREMENTS SHALL SUPERSEDE.
 - ALL LANDSCAPING SHALL BE PLANTED SO AS TO NOT INTERFERE WITH UTILITY LINES, SIGHT TRIANGLES, UNDERGROUND UTILITIES OR PUBLIC WALKWAYS OR OTHER EXISTING OR PROPOSED STRUCTURES. ALL PLANT MATERIALS PROPOSED WITHIN THE REQUIRED SIGHT DISTANCES OR SIGHT TRIANGLES ARE SELECTED SO AS TO NOT EXCEED A MATURE HEIGHT GREATER THAN 30' ABOVE THE ELEVATION OF THE ADJACENT ROADWAY. STREET TREES AND SHADE TREES PLANTED NEAR INTERSECTION OR VEHICULAR ACCESSSES, OR WITHIN REQUIRED SIGHT DISTANCES OR SIGHT TRIANGLE EASEMENTS SHALL NOT BE BRANCHED ANY LOWER THAN 8'-0" ABOVE GRADE, AND MUST BE APPROPRIATELY PRUNED. NO WOODY PLANTS, EXCEPT GROUNDCOVERS, ARE TO HAVE THEIR CENTERS CLOSER THAN 30' TO THE BACK OF THE CURB.
 - ALL LAWN AREAS ARE TO RECEIVE 500 PER SOO PER INSTALLATION NOTES.

- PLANT MATERIAL:
 - NO PLANT SUBSTITUTION SHALL BE ALLOWED WITH REGARD TO SIZE, SPECIES, NAMED VARIETY OR CULTIVAR, WITHOUT PRIOR PERMISSION FROM THE SHADE TREE COMMISSION AND THE BOARD ENGINEER.
 - ALL PLANTS SHALL BE DUG, PACKED, TRANSPORTED AND HANDLED WITH THE UTMOST CARE TO ENSURE ADEQUATE PROTECTION FROM INJURY, DISCOLORATION.
 - ALL PLANTS SHALL BE FREE FROM DISEASE AND INFESTATION, AND ALL LEGALLY REQUIRED AGRICULTURAL CERTIFICATIONS.
 - ALL PLANTS SHALL BE PRUNED TO ENHANCE VIGOR PRIOR TO, OR UPON INSTALLATION, WHILE RETAINING NATURAL GROWTH HABIT OF THE CENTRAL LEADER SHALL NOT BE CUT. PLANTS PLANTS, THE PROCEEDED IN THIS CONDITION SHALL NOT BE ACCEPTED. DAMAGED, BROKEN OR CONFLICTING BRANCHES SHALL BE PRUNED CLEANLY, FLUSH WITH THE MAIN TRUNK OR BRANCH.
 - ALL PLANTS SHALL BE NURSERY-GROWN AND TAGGED WITH A DURABLE LABEL INDICATING THE GENUS, SPECIES AND SPECIFIED VARIETY OR CULTIVAR.

- PLANTING:
 - SOIL MUST BE FROST-FREE, FRIABLE AND NOT MUDDY AT THE TIME OF PLANTING.
 - BACKFILL MATERIAL FOR PLANTING PITS SHALL BE COMPOSED OF 70% TOPSOIL, 20% FULLY COMPOSTED COW OR HORSE MANURE AND 10% PEAT MOSS. TOPSOIL SHALL BE SELECTED MATERIAL WITH IN EXCESS OF 3% ORGANIC MATERIAL, NUTRIENT 90B10, AND MAY BE FROM ON-SITE OR SELECT IMPORTED SOURCES. SOIL SHALL CONTAIN NO ACIDIC MATERIAL, NOR ANY IMPORTED SOURCES.
 - PLANTS SHALL BE SET TO ULTIMATE FINISHED GRADE SO THAT THEY WILL BE LEFT IN THE RELATIONSHIP TO THE SURROUNDING GROUND AS THEY HAD, PRIOR TO BEING DUG. IF EVIDENCE OF SATURATED SOILS IS ENCOUNTERED DURING EXCAVATION OF THE PLANTING PITS, UPON DIRECTION BY THE ENGINEER, PLANTS SHALL BE SET SO THAT THEIR ROOT CROWNS ARE APPROXIMATELY THREE INCHES ABOVE THE FINAL GRADE, WITH TOPSOIL AND MULCH GENTLY MOULDED TO AVOID EXCESSIVE DRYING AT THE SURFACE. UNDER NO CIRCUMSTANCES SHALL PLANTINGS AT RELATIVELY DRY LOCATIONS BE PERFORMED IN A MOUNDING MANNER.
 - THE CORD BINDING THE BALL OF ALL BALLED AND BURLAPPED (B&B) PLANTS SHALL BE CUT AND REMOVED, AND BURLAP ON THE UPPER 1/3 OF THE ROOT BALL SHALL BE REMOVED. PLANTS WITH SYNTHETIC NON-DEGRADABLE ROOT BALL WRAPS SHALL NOT BE ACCEPTABLE.
 - ALL PROPOSED TREES SHALL BE SET IN BEDS AS SHOWN OR MULCHED TO THE LIMIT OF THEIR PLANTING PITS. ALL PROPOSED SHRUBS SHALL BE SET IN CONTINUOUS MASSES PLANTING BEDS, RATHER THAN ISOLATED INDIVIDUALS. ALL TREE AND SHRUB BEDS SHALL RECEIVE A 4" THICK APPLICATION OF HARDWOOD BARK MULCH.
 - A ROOT BARRIER PRODUCT SHOULD BE ADDED TO THE PLANTING PITS OF ALL TREES PROPOSED FOR INSTALLATION WITHIN 10 FEET OF NEW OR EXISTING CONCRETE CURB, SIDEWALK, BUILDING FOUNDATIONS OR BLACKTOP PAVEMENT AREAS.

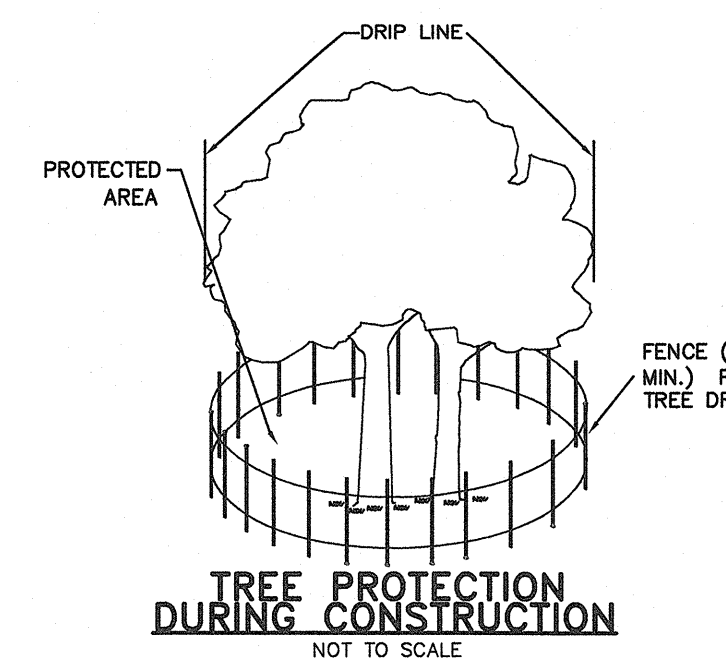
- MAINTENANCE
 - ALL PLANTINGS SHALL BE WATERED AS NECESSARY FOR SOUND HORTICULTURAL PRACTICE DURING THE FIRST GROWING SEASON, TO ENSURE THEIR PROPER ESTABLISHMENT.
 - IN GENERAL, SHRUBS ARE TO BE PLANTED AT INTERVALS WHICH WILL ALLOW THEM TO FULLY DEVELOP INTO CONTINUOUS MASSES OF THE INDIVIDUAL SPECIES, THEREFORE, NO PRUNING TO SHAPE OR SHEARING IS REQUIRED OR DESIRABLE, WHERE DEAD OR CONFLICTING BRANCHING DEVELOPS, IT SHOULD BE PRUNED OUT.
 - ALL GUY WIRES, PLANT STAKES AND THE LIKE SHALL BE REMOVED ONE YEAR AFTER INSTALLATION.
 - THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF TWO YEARS FROM THE DATE OF THE PERFORMANCE BOND RELEASE.

- SOO BED PREPARATION
 - ROUGH GRADING: REMOVE FROM THE SURFACE ALL STONES 1" OR LARGER, AS WELL AS WIRE, WOOD, ROOTS, CONCRETE, CLOUDS, LUMPS AND ANY OTHER UNSUITABLE MATERIAL.
 - FINE GRADING: A MINIMUM OF 3" OF SCREENED TOPSOIL SHALL BE SPREAD BY RAKE OR MECHANICALLY RAKED OVER ALL AREAS TO RECEIVE EITHER SEEDS OR SOO. THE SOO SHALL BE SMOOTH OF RUTS, FREE OF UNSUITABLE OBJECTS AND GENERALLY GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS.
 - BED INSPECTION: PRIOR TO SEEDING OR SOODING, THE BED SHALL BE INSPECTED FOR NEWLY CREATED RUTS OR EXTENSIVE TRAFFIC COMPACTION, AND THE AFFECTED AREAS REPAIRED ACCORDINGLY.
 - LIMING/FERTILIZING: APPLY PELLETED LIMESTONE AND FERTILIZER TO SOIL TEST RECOMMENDATIONS OR AS FOLLOWS:
 - A-LINE TO BE APPLIED AT THE RATE OF 600 LBS. PER ACRE, OR AS PER MANUFACTURER'S RECOMMENDATION.
 - STARTER FERTILIZER, SPECIFIED AS 10-20-10, IS TO BE APPLIED AT 500 LBS. PER ACRE.

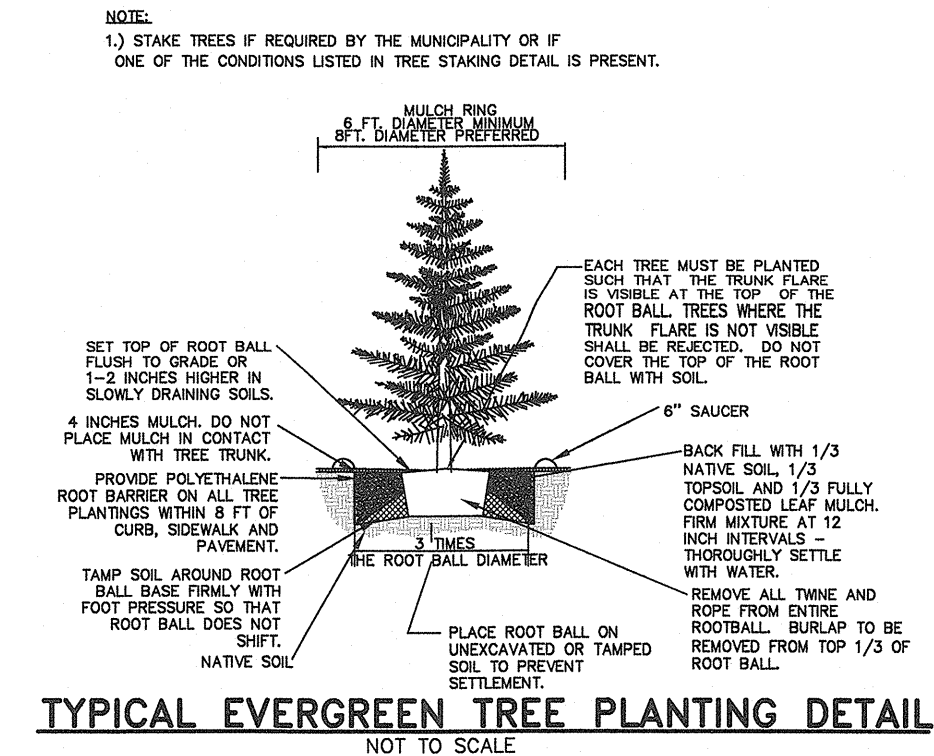


SHRUB PLANTING DETAIL
NOT TO SCALE

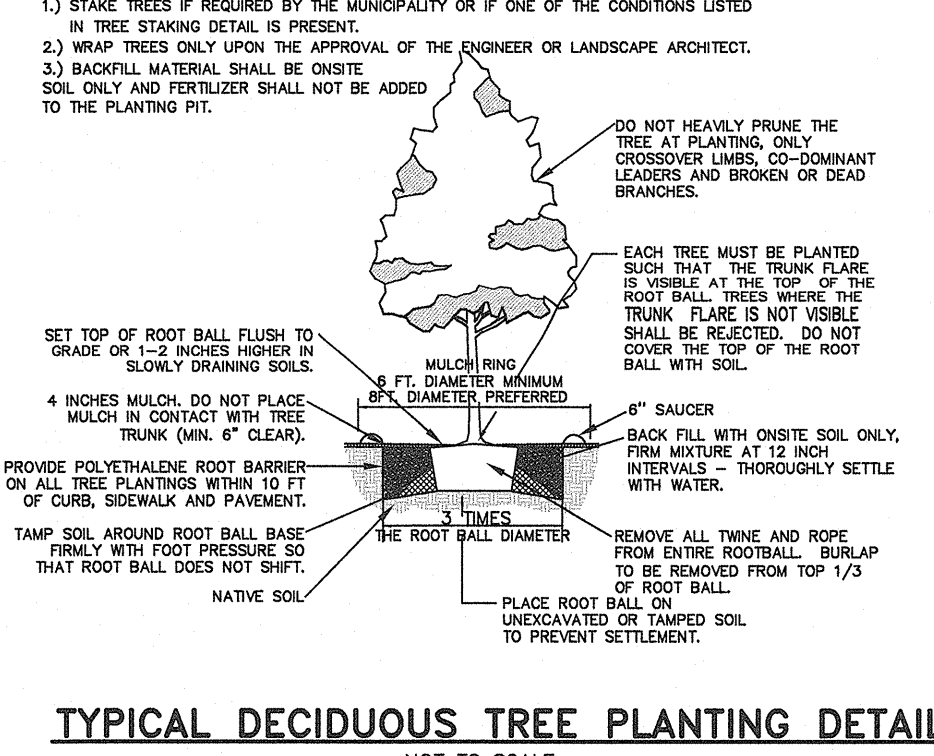
- NOTE:
- PLANTING PIT DIAMETER SHALL BE 3 TIMES THE ROOTBALL DIAMETER.
 - BACKFILL WITH ONSITE SOIL ONLY AND FERTILIZER SHALL NOT BE ADDED TO THE PLANTING PIT.



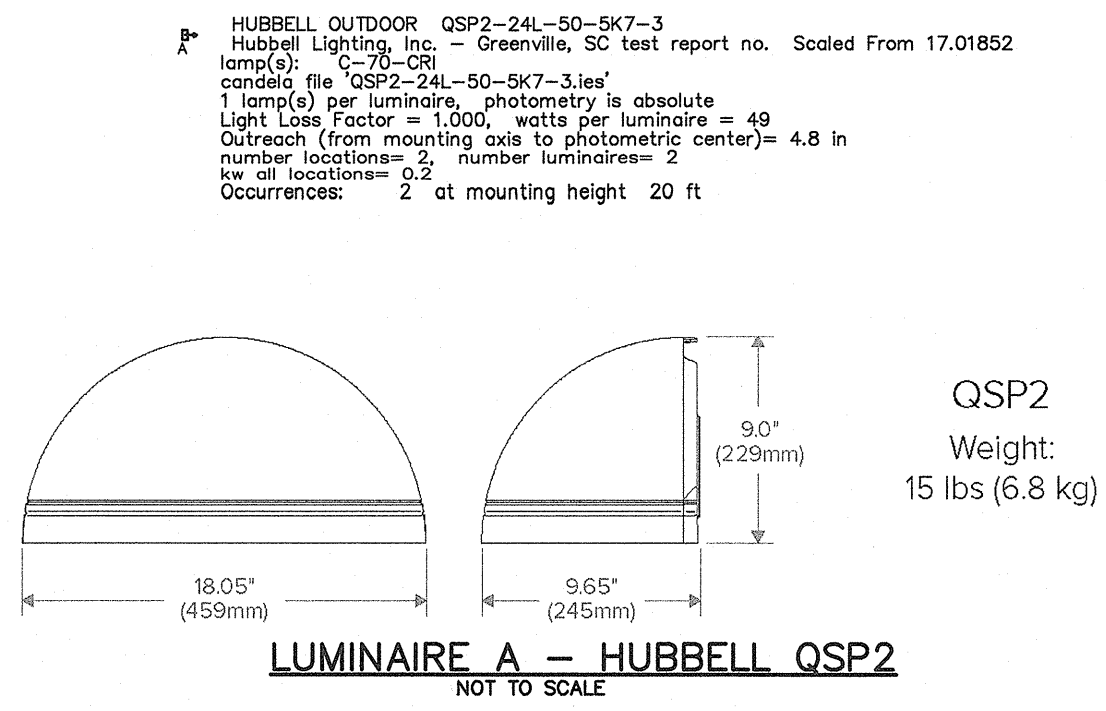
TREE PROTECTION DURING CONSTRUCTION
NOT TO SCALE



TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

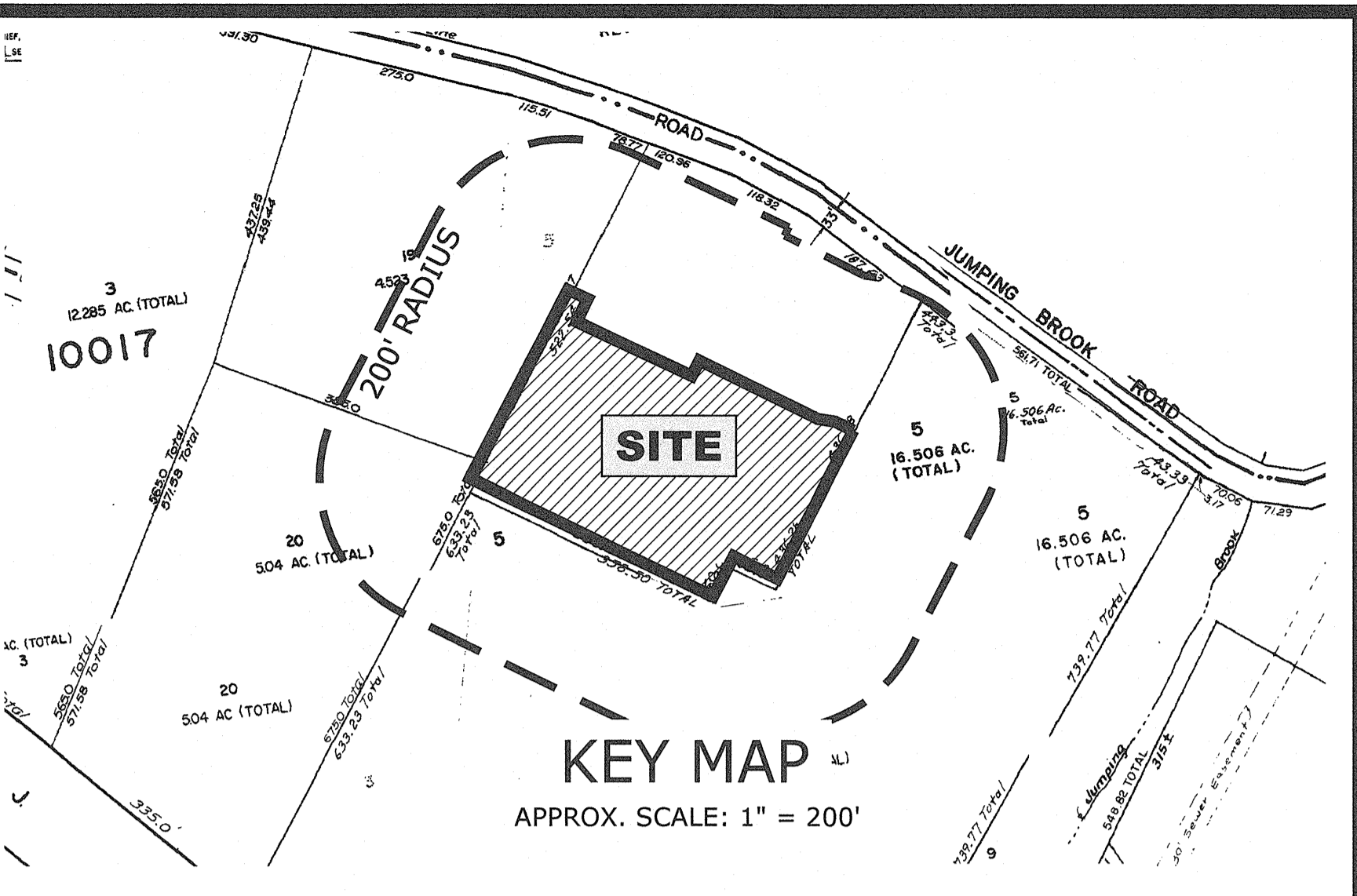
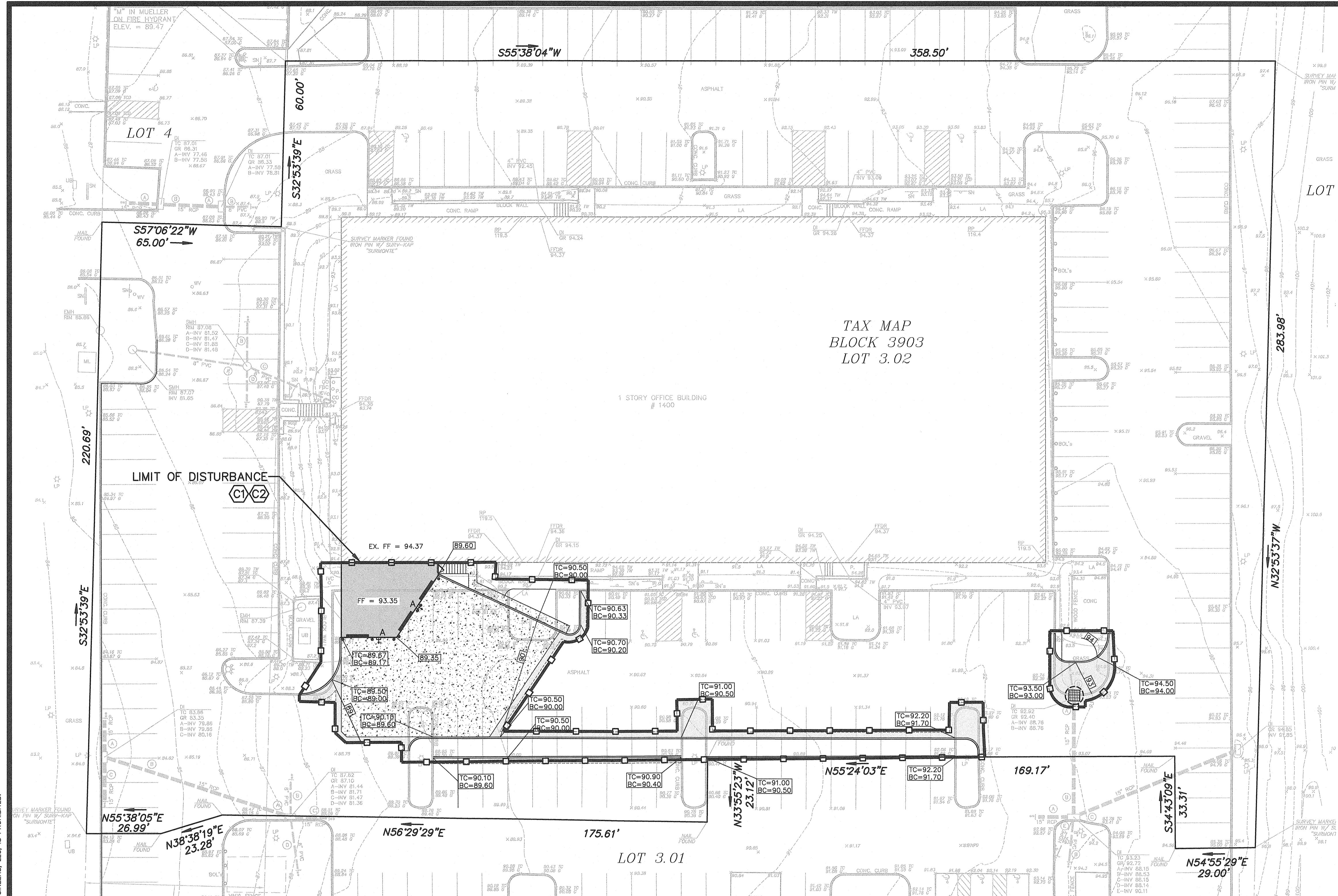


TYPICAL DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



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09/06/22	RESUBMISSION TO TOWNSHIP	DS
PRELIMINARY AND FINAL MAJOR SITE PLAN		
UNITED SHIPPING ALLIANCE		
LOT 3.02 OF BLOCK 3903		
TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NJ		
TAX MAP SHEETS 48.02 & 48.03 - LAST REVISED 06/18/1984		
		LIGHTING & LANDSCAPING PLAN
Kennedy Consulting Engineers, LLC 211 Maple Avenue Red Bank, New Jersey 07701 732.212.9399 TEL • 732.212.9399 FAX		4 OF 6
JAMES A. KENNEDY, P.E. NEW JERSEY PROFESSIONAL ENGINEER NO. 41275		FILENAME: LL-1 DRAWN BY: KTS/ARC DATE: 06/01/22
		DIGITAL SIGNATURE VALID FOR PDF ONLY

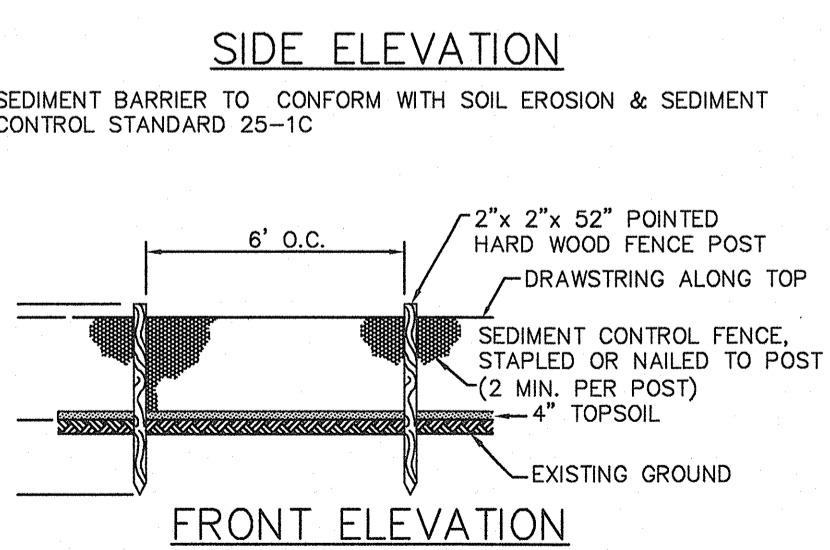
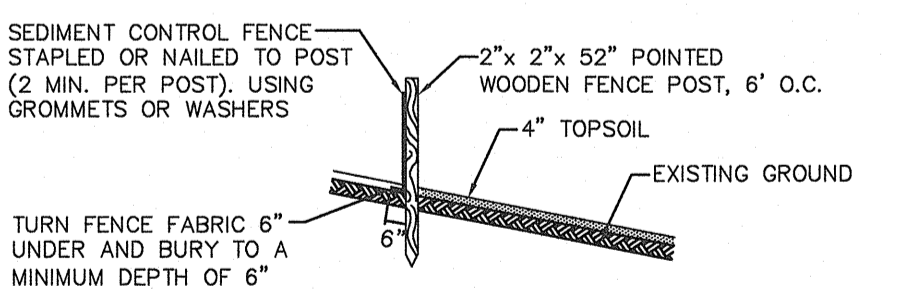


- SOIL EROSION AND SEDIMENT CONTROL NOTES**
- The Freehold Soil Conservation District shall be notified forty-eight (48) hours in advance of any soil disturbing activity.
 - All Soil Erosion and Sediment Control practices are to be installed prior soil disturbance, or in their proper sequence, and maintained 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 the 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 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.
 - 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 State Standards for Stabilization with Mulch Only.
 - Immediately following initial disturbance or rough grading, all critical areas subject to erosion (i.e. 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 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 minimum length of ten feet (10') equal to the lot 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 limed to a minimum of 12" of settled soil with a pH of 5 or more, or 24" where trees or 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.
 - Stockpiles and staging areas shall be 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 those activities if an area greater than 5,000 square feet is disturbed.
 - All soil stockpiles are to be temporarily stabilized in accordance with Soil Erosion and Sediment Control note #6.
 - The property owner shall be responsible for any erosion or sedimentation that may occur below stormwater outfalls or offsite as a result of construction of the project.
- Freehold Soil Conservation District
4000 Kozloski Road, Freehold, NJ 07728-5033, (732) 683-8500, fax (732) 683-9140, Email: info@freeholdscd.org
Revised March 2014

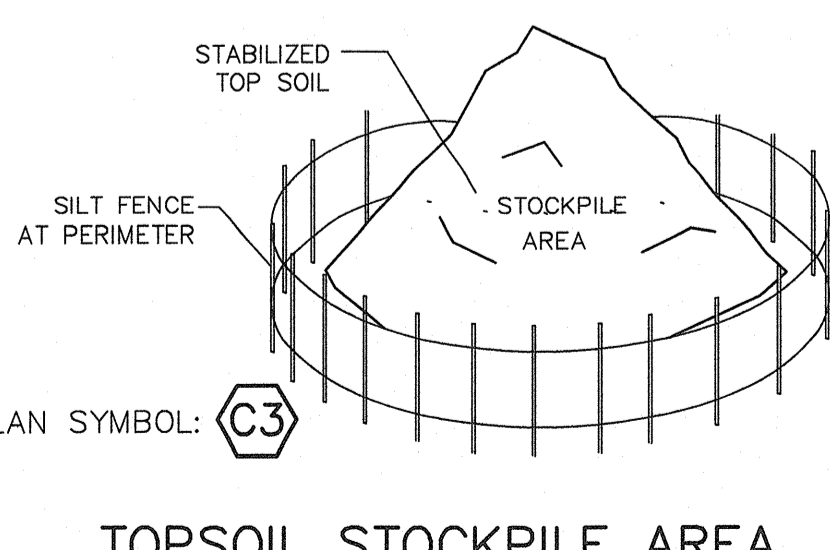
SOIL EROSION LEGEND	
LIMIT OF DISTURBANCE AND SILTFENCE/HAYBALE.	[Symbol]
INLET PROTECTION	(B1)
SILT FENCE	(C1)
HAY BALE	(C2)
STOCKPILE AREA	(C3)
STABILIZED CONSTRUCTION ENTRANCE (PAVED)	(E2)

CONTRACTOR SHALL USE (C1) ON PERVIOUS SURFACES AND (C2) ON IMPERVIOUS SURFACES.

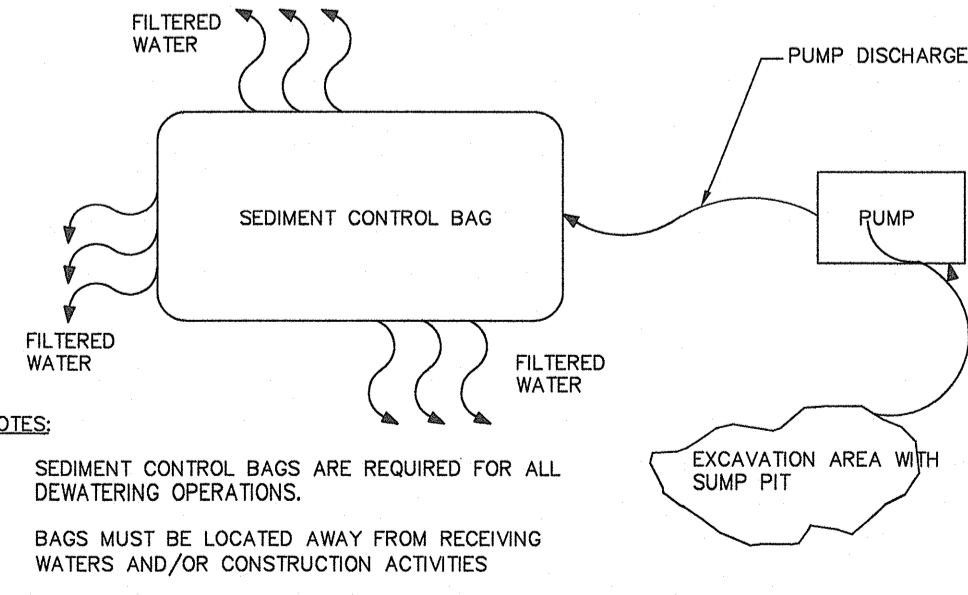
LIMIT OF DISTURBANCE
8,173 SF
(0.188 AC)



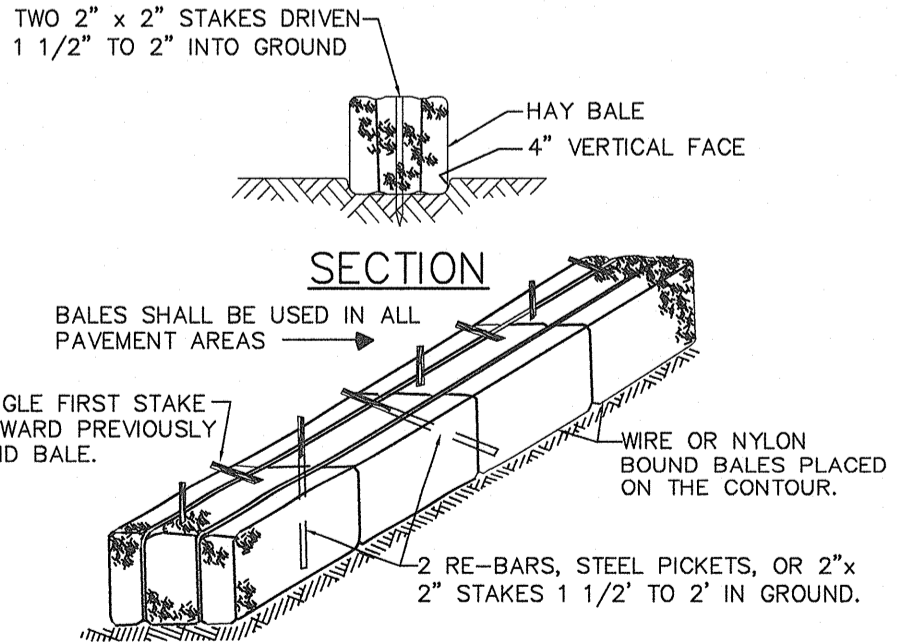
SILT FENCE
NOT TO SCALE
PLAN SYMBOL: (C1)



TOPSOIL STOCKPILE AREA
NOT TO SCALE
PLAN SYMBOL: (C3)

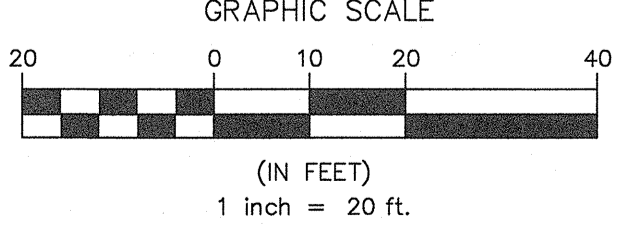


SEDIMENT CONTROL BAG DETAIL
NOT TO SCALE



STRAW BALE BARRIER DETAIL
NOT TO SCALE
PLAN SYMBOL: (C2)

- NOTES:**
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
 - INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 - BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.



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09/06/22 RESUBMISSION TO TOWNSHIP DS

PRELIMINARY AND FINAL MAJOR SITE PLAN
UNITED SHIPPING ALLIANCE
LOT 3.02 OF BLOCK 3903
TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NJ
TAX MAP SHEETS 48.02 & 48.03 - LAST REVISED 06/18/1984

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JAMES A. KENNEDY, P.E.
NEW JERSEY PROFESSIONAL ENGINEER NO. 41275

SOIL EROSION & SEDIMENT CONTROL PLAN
5 OF 6

FILENAME: SE-1
DRAWN BY: KTS/ARC
DATE: 06/01/22

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**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, NOR UNDER ACTIVE CONSTRUCTION, OR NOT SCHEDULED FOR PERMANENT SEEDING WITHIN 90 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 PROTECTION AGAINST THE IMPACTS OF WIND AND RAIN, SLOWS THE OVER LAND MOVEMENT OF STORMED WATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE

ON EXPOSED SOILS THAT HAVE THE POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

I. 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 GRADING, P. 19.
- 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.).

II. 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. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRES UNLESS SOIL TESTING INDICATES OTHERWISE. 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 REASONABLY UNIFORM SEEDBED IS PREPARED.
- C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AS ABOVE.
- D. SOILS HIGH ON SULFIDES OR HAVING A pH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS PG. 1-1.

III. SEEDING

- A. SELECT SEED FROM RECOMMENDATIONS IN TABLE 7-2.

SPECIES	SEEDING RATES (POUNDS)/1000 SQ. FEET	OPTIMUM SEEDING DATE BASED ON PLANT HARDINESS ZONE			OPTIMUM SEED DEPTH 2/ (INCHES)	
		ZONE 5	ZONE 6	ZONE 7		
COOL SEASON GRASSES						
PERENNIAL RHYDEGRASS	100	1.0	3/15 to 4/1 8/1 to 9/15	3/1 to 5/1 8/15 to 10/1	2/15 to 5/1 9/15 to 10/15	0.5
SPRING OATS	88	2.0	3/15 to 6/1 8/1 to 9/15	3/1 to 5/15 8/15 to 10/1	2/15 to 5/1 8/15 to 10/15	1.0
WINTER BARLEY	96	2.2	8/1 to 9/15 8/15 to 10/1	8/15 to 10/1	8/15 to 10/15	1.0
ANNUAL RHYDEGRASS	100	1.0	3/15 to 6/1 8/1 to 9/15	3/15 to 6/1 8/1 to 9/15	2/15 to 5/1 8/15 to 10/15	0.5
WINTER CERIAL RYE	112	2.8	8/1 to 11/1 8/1 to 10/15	8/1 to 10/15	8/1 to 12/15	1.0
COOL SEASON GRASSES						
PEARL MILLET	20	0.5	6/1 to 8/1 5/15 to 8/15	5/15 to 8/15	5/1 to 8/1	1.0
MILLET (GERMAN OR HUNGARIAN)	30	0.7	6/1 to 8/1 5/15 to 8/15	5/1 to 8/15	5/1 to 8/1	1.0

**RECOMMENDED
SEED MIXTURE**

- 1. SEEDING RATE FOR WARM SEASON GRASS SHALL BE ADJUSTED TO REFLECT THE AMOUNT OF PURE LINE SEED (PLS) AS DETERMINED BY A GERMINATION TEST RESULT. NO ADJUSTMENT IS REQUIRED FOR COOL SEASON GRASSES.
- 2. MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR SEEDS AREA CAN BE IRRIGATED.
- 3. PLANT HARDINESS ZONE (SEE FIG. 7-1)
ZONE 5 - PORTIONS OF SUSSEX AND WARREN COUNTIES
ZONE 6 - PORTIONS OF BERGEN, CAMDEN, ESSEX AND GLOUCESTER, ALL OF HUNTERDON, PORTIONS OF MERCER AND MIDDLESEX, ALL OF MORRIS AND PASSAIC, PORTIONS OF SOMERSET, SUSSEX, UNION AND WARREN COUNTIES.
ZONE 7 - ATLANTIC, PORTION OF BERGEN, ALL OF BURLINGTON, CAPE MAY AND CUMBERLAND, PORTIONS OF ESSEX AND GLOUCESTER, ALL OF HUDSON, PORTION OF MIDDLESEX, ALL OF MONMOUTH, OCEAN AND SALEM AND PORTION OF UNION COUNTY.
- 4. TWICE THE DEPTH FOR SANDY SOILS

- B. CONVENTIONAL SEEDING. APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDING 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 IV 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 SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

IV. MULCHING

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.
SEE MULCHING STANDARDS UNDER PERMANENT VEGETATIVE STABILIZATION.

PROPOSED CONSTRUCTION SEQUENCE

- 1. FIRST WEEK OF CONSTRUCTION APPLY PROPER MEASURES FOR THE CONTROL OF SOIL EROSION AND SEDIMENT CONTROL.
 - 2. SITE CLEARING AND DEMOLITION WILL TAKE APPROXIMATELY 2 DAYS.
 - 3. TEMPORARY STABILIZATION OF AREAS INITIALLY DISTURBED. STABILIZATION TO BE ACCOMPLISHED BY USE OF TEMPORARY SEEDING AND/OR STRAW MULCHING OR EQUIVALENT MATERIAL AT A RATE OF TWO TONS PER ACRE, ACCORDING TO STATE STANDARDS WILL OCCUR DURING THE FIRST WEEK.
 - 4. ROUGH GRADING WILL TAKE APPROXIMATELY 2 TO 3 DAYS.
 - 5. PAVEMENT CONSTRUCTION WILL TAKE APPROXIMATELY 2 TO 3 DAYS.
 - 6. BUILDING ADDITION CONSTRUCTION WILL TAKE APPROXIMATELY 2 TO 3 WEEKS.
 - 7. CONTINUOUS MAINTENANCE OF SOIL EROSION PROCEDURES.
 - 8. INSTALLATION OF LANDSCAPING MATERIALS WILL TAKE APPROXIMATELY 2 TO 3 DAYS.
 - 9. REMOVAL OF SOIL EROSION AND SEDIMENT CONTROL DEVICES AFTER ESTABLISHED VEGETATIVE GROWTH HAS OCCURRED.
- TOTAL DURATION OF PROJECT EXPECTED TO BE 4 - 6 WEEKS.

**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

I. SITE PREPARATION

- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
- B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOILING APPLICATION, THE SURFACE SHOULD BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
- C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITE. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
- D. INSTALL NEEDED EROSION CONTROL PRACTICES AND FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.

II. 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://NAJES.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. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRES UNLESS SOIL TESTING INDICATES OTHERWISE. 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, 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 IRON 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 REQUIREMENTS.

III. SEEDING

- A. SELECT A MIXTURE FROM TABLE 4-3 OR USE MIXTURE RECOMMENDED BY RUTGERS CO-OPERATIVE EXTENSION OR NATURE CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. 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 RE-TESTED.
- 1. SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS BOX VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDS AREA AND MOWED ONCE.
- 2. WARM SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES. GENERALLY 80°F AND ABOVE. SEE TABLE 4-3. MIXTURES 1 TO 7. PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LINE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
- 3. COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85°F. MANY GRASSES BECOME ACTIVE AT 65°F. 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.

- B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDING 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.
- C. AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
- D. 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 IV MULCHING). 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.

SOILS, SEED MIXTURES, AND DATES FOR PERMANENT SEEDINGS FOR SOIL STABILIZATION

SOIL AND SITE	SEED MIXTURE 1/	MINIMUM SEEDING RATES 2/ (POUNDS)	PER 1000 SQ. FT.	PER ACRE	PER ACRE	PER ACRE	PER ACRE	PER ACRE
				ZONE 5b	ZONE 6a	ZONE 7a	ZONE 7b	ZONE 7c
A. EXCESSIVELY DRAINED	REFER TO SEED MIXES TABLE 4-3							
1. RESIDENTIAL & COMMERCIAL LOTS	TALL FESCUE (TURF) PERENNIAL RHYDEGRASS WHITE CLOVER	200 50 5	8 5 0.1	3/15-5/1	3/1-4/30	2/1-4/30		
2. POND AND CHANNEL BANKS, DITCHES, BERMS & DAMS	TALL FESCUE (TURF) PERENNIAL RHYDEGRASS WHITE CLOVER	200 50 5	8 5 0.1	3/15-5/1	3/1-4/30	2/1-4/30		
3. DRAINAGE DITCH SWALE OR BASIN	DEERTONGUE WILD RYE (ELYNIAS) SWITCHGRASS	20 15 25	.45 .30 .60	3/15-5/1	3/1-4/30	2/1-4/30		
B. WELL TO MODERATELY WELL DRAINED	REFER TO SEED MIXES TABLE 4-2 & TABLE 4-3							
1. RESIDENTIAL & COMMERCIAL LOTS	TALL FESCUE (TURF) TREADLER RHYDEGRASS WHITE CLOVER	200 50 5	8 5 0.1	3/15-5/1	3/1-4/30	2/1-4/30		
2. POND AND CHANNEL BANKS, DITCHES, BERMS & DAMS	DEERTONGUE WILD RYE (ELYNIAS) SWITCHGRASS	20 15 25	.45 .30 .60	3/15-5/1	3/1-4/30	2/1-4/30		
3. DRAINAGE DITCH SWALE OR BASIN	DEERTONGUE WILD RYE (ELYNIAS) SWITCHGRASS	20 15 25	.45 .30 .60	3/15-5/1	3/1-4/30	2/1-4/30		
C. SOMEWHAT POORLY TO POORLY DRAINED	REFER TO SEED MIXES TABLE 4-2 & TABLE 4-3							
1. RESIDENTIAL & COMMERCIAL LOTS	ROUGH BLUEGRASS STRONG CREEPING RED FESCUE	80 150 3	2.0 3	8/1-10/01	8/15-10/15	8/15-10/30		
2. POND AND CHANNEL BANKS, DITCHES, BERMS & DAMS	ROUGH BLUEGRASS STRONG CREEPING RED FESCUE	80 150 3	2.0 3	8/1-10/01	8/15-10/15	8/15-10/30		
3. DRAINAGE DITCH SWALE OR BASIN	ROUGH BLUEGRASS STRONG CREEPING RED FESCUE	80 150 3	2.0 3	8/1-10/01	8/15-10/15	8/15-10/30		

NOTES:

- 1. SEEDING MIXTURES AND/OR RATES NOT LISTED ABOVE MAY BE USED IF RECOMMENDED BY THE LOCAL SOIL CONSERVATION DISTRICT, SOIL CONSERVATION SERVICE, RECOMMENDATIONS OF THE CO-OPERATIVE EXTENSION SERVICE MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. LEGUMES (FLATLEAF CROWFOOTCH, TREPON, LESPEDEZA) SHOULD BE MIXED WITH PROPER INOCULANT PRIOR TO PLANTING.
- 2. GRASS SEED MIXTURES CHECKED BY THE CHIEF OF THE BUREAU OF SEED CERTIFICATION, NEW JERSEY DEPARTMENT OF AGRICULTURE, TRENTON, NEW JERSEY, WILL ASSURE THE PURCHASER THAT THE MIXTURE OBTAINED IS THE MIXTURE ORDERED.
- 3. PLANT HARDINESS ZONE (SEE MAP, P. 4-15)
ZONE 5 - PORTIONS OF SUSSEX AND WARREN COUNTIES
ZONE 6 - PORTIONS OF BERGEN, CAMDEN, ESSEX AND GLOUCESTER, ALL OF HUNTERDON, PORTIONS OF MERCER AND MIDDLESEX, ALL OF MORRIS AND PASSAIC, PORTIONS OF SOMERSET, SUSSEX, UNION AND WARREN COUNTIES
ZONE 7 - ATLANTIC, PORTION OF BERGEN, ALL OF BURLINGTON, CAPE MAY AND CUMBERLAND, PORTIONS OF ESSEX AND GLOUCESTER, ALL OF HUDSON, PORTION OF MIDDLESEX, ALL OF MONMOUTH, OCEAN AND SALEM AND PORTION OF UNION COUNTY.

IV. 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 DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

- A. 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 CRUMPER 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.

APPLICATION. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST 85% (95% FOR TEMPORARY STABILIZATION) OF THE SOIL SURFACE WILL BE 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.

- 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 CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO 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. CRUMPER (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.
- 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 FORMULATE 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 PHYTOTONIC 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 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.

B. 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.

C. PELLETTIZED 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 SEEDS AREA AND WATERED, FORM A MULCH MAT. PELLETTIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 80-75 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. SEEDS ARE NOT PRACTICAL OR DESIRABLE.

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

V. IRRIGATION (where feasible)

IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

VI. TOPDRESSING

SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) IS PRESCRIBED IN SECTION II-A - SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 300 POUNDS PER ACRE OR 7 POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED..

VII. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION

THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 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 WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE. FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS BOX VEGETATIVE COVER (OF THE SEEDS SPECIES) AND MOWED ONCE. NOTE THIS DESIGNATION OF MOWED ONCE DOES NOT GUARANTEE THE PERMANENCY OF THE TURF SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED.

**STANDARD FOR
STABILIZATION WITH MULCH ONLY**

DEFINITION

STABILIZING EXPOSED SOILS WITH NON-VEGETATIVE MATERIALS EXPOSED 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

I. 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.
- 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.

II. PROTECTIVE MATERIALS

- A. UNROTTED SMALL-GRAIN 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 A MULCH ANCHORING TOOL. LIQUID MULCH BINDERS OR NETTING TIE DOWN, OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVAL RATES ABOVE HAVE BEEN MET WHEN MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, I.E. THE SOIL CANNOT BE SEEN BELOW THE MULCH.
- B. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS RECOMMENDED BY THE MANUFACTURER.
- C. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE MANUFACTURER'S REQUIREMENTS) MAY BE APPLIED BY A HYDROSEEDER.
- D. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.
- E. WOODCHIPS, APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2" MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATERS COULD WASH THEM INTO AN INLET AND PLUG IT.
- F. GRAVEL, CRUSHED STONE, OR SLAG AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQUARE FEET APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM C-33) IS RECOMMENDED.

III. MULCH ANCHORING

MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE