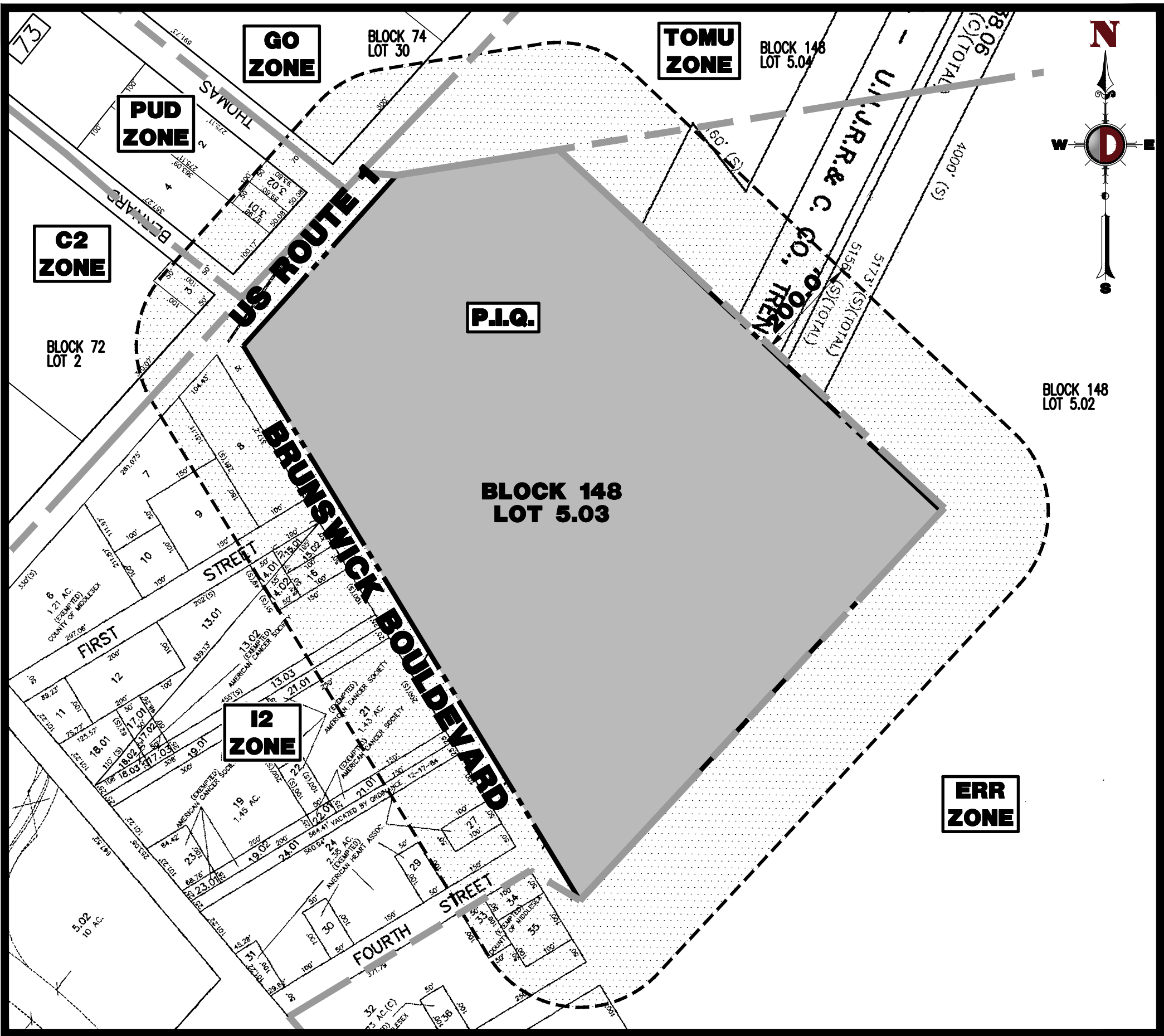


PRELIMINARY AND FINAL SITE PLAN
FOR
BEN HUR BRUNSWICK, LLC
PROPOSED WAREHOUSE EXPANSION
BLOCK 148, LOT 5.03; TAX MAP SHEET #34 - LATEST REV. DATED 05-04-2000
2400 U.S. ROUTE 1
TOWNSHIP OF NORTH BRUNSWICK
MIDDLESEX COUNTY, NEW JERSEY

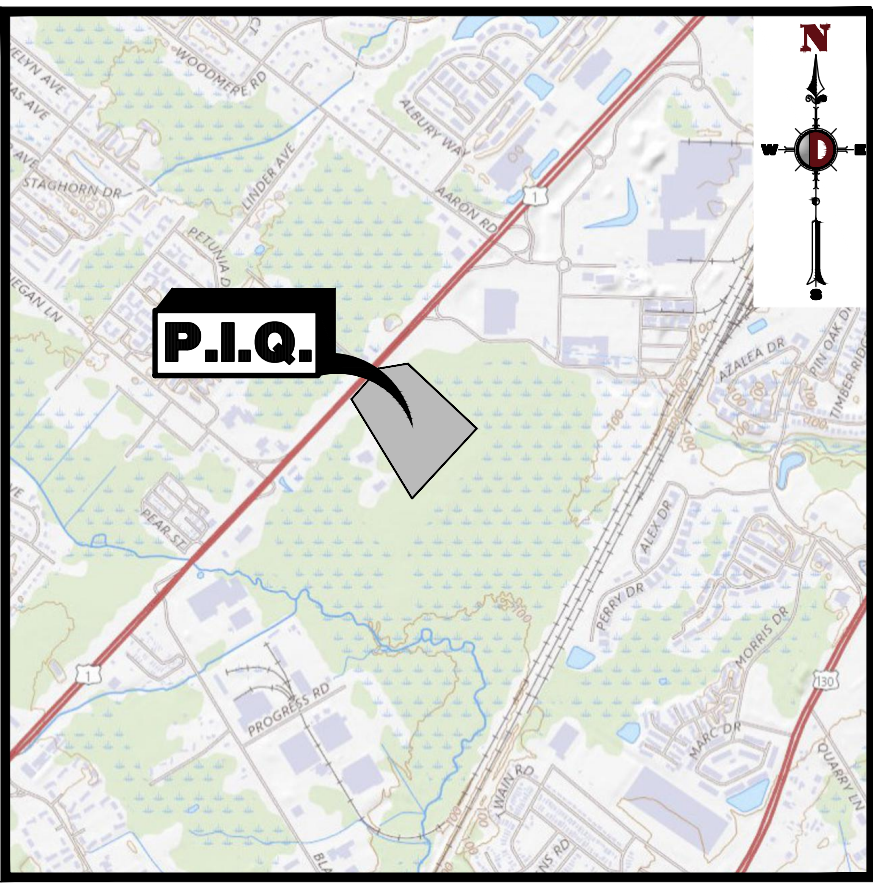
200' PROPERTY OWNERS LIST

Table with 5 columns: PROPERTY OWNER, BLOCK, LOT, PROPERTY OWNER, BLOCK, LOT. It lists property owners for blocks 72, 154, and 73, including entities like SHEIN SENDOFF LTD PARTNERSHIP, COUNTY OF MIDDLESEX, and BEN HUR ROUTE 1 LLC.

ALSO TO BE NOTIFIED:
MIDDLESEX COUNTY PLANNING BOARD
COUNTY ADMINISTRATION BUILDING
4TH FLOOR
75 BAYARD STREET
NEW BRUNSWICK, NJ 08901
PUBLIC SERVICE ELECTRIC & GAS CO.
MANAGER-CORPORATE PROPERTIES
80 PARK PLACE, 700
NEWARK, NJ 07102
CABLEVISION OF RANTAN VALLEY
275 CENTENNIAL AVENUE
CH 6805
PISCATAWAY, NJ 08855
ATTN: MARGUERITE PRENDIVILLE
CONSTRUCTION DEPARTMENT MR. TIM ALLEN
TEXAS EASTERN TRANSMISSION CORP.
501 OODLOUSE STREET
SOUTH PLAINFIELD, NJ 07080
NORTH BRUNSWICK TOWNSHIP
710 HERMANN ROAD
NORTH BRUNSWICK, NJ 08902
ATTN: TOWNSHIP CLERK
VERIZON
N.J. GEN. TAX ADMINISTRATION
BROAD STREET-ROOM 305
NEWARK, NJ 07101
DEPARTMENT OF TRANSPORTATION
STATE OF NEW JERSEY
1035 PARKWAY
TRENTON, NJ 08625
SUNOCO PIPELINE L.P.
RIGHT OF WAY
MONTICELLO COMPLEX
525 FRITZTOWN ROAD
SINKING SPRING, PA 19608



AREA MAP
1" = 200'



KEY MAP
1" = 2000'

DRAWING INDEX

Table with 2 columns: Drawing Title and Sheet Number. It lists various drawings including COVER SHEET, AERIAL MAP, GENERAL NOTES, OVERALL SITE PLAN, DEMOLITION PLAN, SITE PLAN, GRADING PLAN, DRAINAGE & UTILITY PLAN, LANDSCAPE PLAN, LIGHTING PLAN, SOIL EROSION & SEDIMENT CONTROL PLAN, SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS, SOIL MANAGEMENT & PREPARATION PLAN, CONSTRUCTION DETAILS, and VEHICLE CIRCULATION (WB-67).

PLANNING BOARD APPROVAL

Form for Planning Board Approval, including fields for APPROVED BY THE PLANNING BOARD OF NORTH BRUNSWICK, MIDDLESEX, NEW JERSEY, and checkboxes for CHAIRMAN, SECRETARY, and BOARD ENGINEER.

PREPARED BY
DYNAMIC ENGINEERING CONSULTANTS, P.C.
1904 MAIN STREET
LAKE COMO, NJ 07719
WWW.DYNAMICCEC.COM

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COVER SHEET
PROJECT: BEN HUR BRUNSWICK, LLC
PROPOSED WAREHOUSE EXPANSION
BLOCK 148, LOT 5.03
2400 U.S. ROUTE 1
TOWNSHIP OF NORTH BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY
JOB No: 2246-99-001
DATE: 01/13/2022
DRAWN BY: NSR
DESIGNED BY: ACC
CHECKED BY: JAP
CHECKED BY: -
RYAN MCDERMOTT
JOHN A. PALUS
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 56559
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 41975
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EXISTING UTILITIES BEFORE ANY DIGGING
PREPARED TO: OBTAIN THE STATE'S
SERVICE NUMBER IN AREA 311
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Plotted: 01/13/22 - 2:00 PM, By: kroy, - Product Ver: 24.1s (LMS Tech)  
File: \\despc.local\despc\Data\despc\_projects\2246\_ben\_hur\_group\99-001\_north\_brunswick\dwg\Site Plans\0224699001\_SAO.dwg, ---> 02 AERIAL MAP



THE AERIAL IMAGE DEPICTED ON THIS PLAN IS BASED ON IMAGERY PREPARED BY DIGITAL GLOBE, GEO EYE AND USDA FARM SERVICE AGENCY. THIS IMAGERY WAS PROVIDED BY GOOGLE MAPS ON 09/05/2021. THE CONDITIONS OF THE SITE AND SURROUNDING AREAS MAY HAVE CHANGED SINCE THE DATE OF AERIAL PHOTOGRAPHY AND THEREFORE THIS PLAN MAY NOT ACCURATELY REFLECT ALL CURRENT EXISTING CONDITIONS.

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Allen, Texas 1: 972.534.2100 | Austin, Texas 1: 512.446.2444 | Houston, Texas 1: 281.789.4400 | Cedar Beach, Florida 1: 561.921.8570  
Newtown, Pennsylvania 1: 267.685.0276 | Philadelphia, Pennsylvania 1: 215.253.4858 | Bethlehem, Pennsylvania 1: 610.398.4400

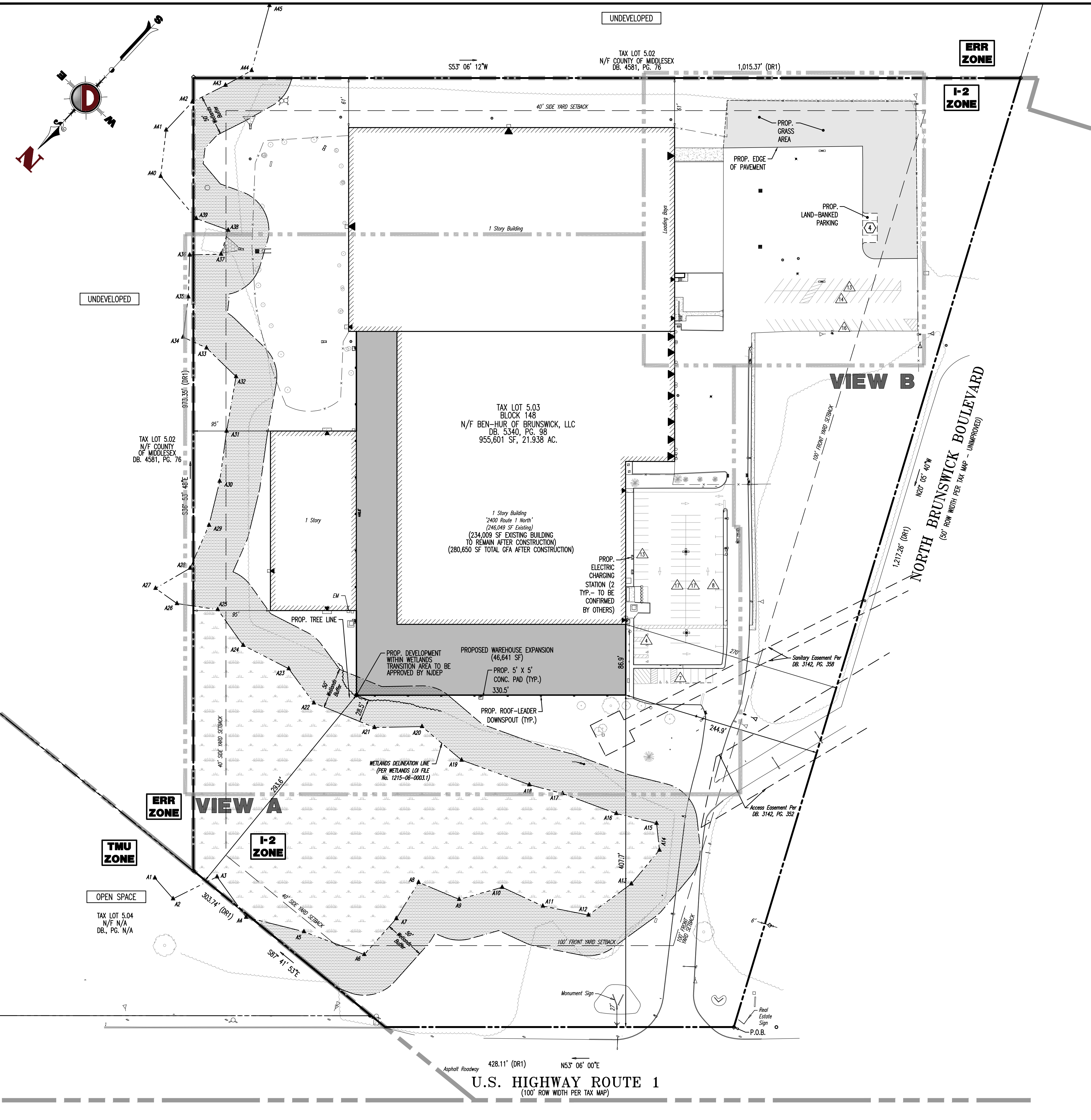
TITLE: <b>AERIAL MAP</b>	
PROJECT: <b>BEN HUR BRUNSWICK, LLC PROPOSED WAREHOUSE EXPANSION</b> BLOCK 148, LOT 5.03 2400 U.S. ROUTE 1 TOWNSHIP OF NORTH BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY	JOB No: 2246-99-001 DATE: 01/13/2022 DRAWN BY: NSR SCALE: (H) 1"=100' (V) DESIGNED BY: ACC SHEET No: <b>2</b> CHECKED BY: JAP CHECKED BY: —
RYAN MCDERMOTT PROFESSIONAL ENGINEER NEW JERSEY LICENSE No. 56559	JOHN A. PALUS PROFESSIONAL ENGINEER NEW JERSEY LICENSE No. 41975
<div><div><b>811</b> PROTECT YOURSELF ALL STATES REQUIRE NOTIFICATION OF UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION OR OTHER SOIL DISTURBANCE WORK. CALL 811 BEFORE YOU DIG. FOR STATE-SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM</div><div>Rev. # 0</div></div>	







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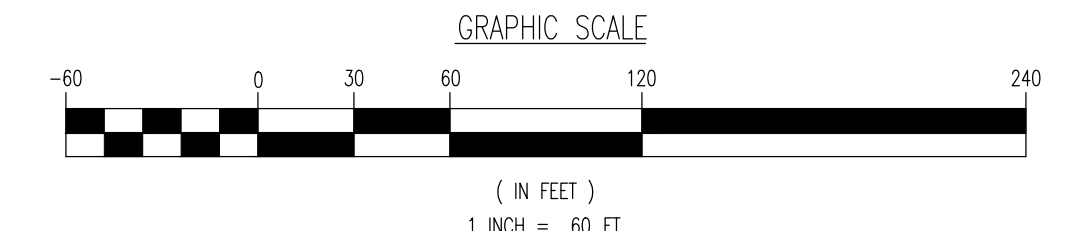


GENERAL NOTES

- THIS PLAN HAS BEEN PREPARED BASED ON REFERENCES INCLUDING:  
BOUNDARY AND TOPOGRAPHIC SURVEY  
PREPARED BY DYNAMIC SURVEY, LLC  
1904 MAIN STREET  
LAKE COMO, NJ 07719  
SURVEY FILE NO. 2246-99-0015  
DATED 03/31/2020, LAST REVISED 11/03/2020
- OWNER/APPLICANT: BEN HUR BRUNSWICK, LLC  
463 7TH AVENUE  
21ST FLOOR  
NEW YORK, NY 10018
- PARCEL DATA: BLOCK 148, LOT 5.03  
2400 ROUTE 1  
TOWNSHIP OF NORTH BRUNSWICK  
MIDDLESEX COUNTY, NJ
- ZONE: I-2 (INDUSTRIAL DISTRICT) ZONE
- EXISTING USE: MULTIPURPOSE WAREHOUSE DISTRIBUTION FACILITY (PERMITTED USE)
- PROPOSED USE: EXPANSION TO MULTIPURPOSE WAREHOUSE DISTRIBUTION FACILITY (PERMITTED USE)
- SCHEDULE OF ZONING REQUIREMENTS (§ 205 ATTACHMENT 6)

ZONE REQUIREMENT	I-2 ZONE	EXISTING	PROPOSED
MINIMUM LOT AREA	3 Ac	955,601 SF (21.94 AC.)	955,601 SF (21.94 AC.)
MINIMUM LOT WIDTH	350 FT	721.6 FT	721.6 FT
MINIMUM LOT FRONTAGE	N/S	428.1 FT	428.1 FT
MINIMUM LOT DEPTH	100 FT	973.3 FT	973.3 FT
MINIMUM FRONT YARD SETBACK	100 FT	270.0 FT	244.9 FT
MINIMUM REAR YARD SETBACK	75 FT	N/A	N/A
MINIMUM SIDE YARD SETBACK	40 FT	61.0 FT	61.0 FT
MINIMUM COMBINED SIDE YARD SETBACK (PRINCIPAL BUILDING)	80 FT	156.0 FT	156.0 FT
MAXIMUM BUILDING HEIGHT	3 STORIES OR 40 FT	± 43 FT (E)	± 43 FT (E) (EXPANSION AREA= 40 FT)
MAXIMUM LOT COVERAGE (BY PRINCIPAL BUILDINGS)	40%	25.7% (246,049 SF)	29.4% (280,650 SF)
MAXIMUM IMPERVIOUS COVERAGE	80%	43.2% (413,007 SF)	43.2% (413,003 SF)
N/S: NO STANDARD    N/A: NOT APPLICABLE    (E): EXISTING NON-CONFORMANCE    (V): VARIANCE			

SEE SHEET 3 OF 15 FOR SITE PLAN NOTES



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Allen, Texas 1:972.534.2100 | Austin, Texas 1:512.444.2844 | Houston, Texas 1:281.789.4400 | Lakewood Beach, Florida 1:561.921.8570  
Newtown, Pennsylvania 1:267.685.0276 | Philadelphia, Pennsylvania 1:215.253.4868 | Southampton, Pennsylvania 1:610.398.4400

TITLE:  
**OVERALL SITE PLAN**

PROJECT: **BEN HUR BRUNSWICK, LLC**  
**PROPOSED WAREHOUSE EXPANSION**  
BLOCK 148, LOT 5.03  
2400 U.S. ROUTE 1  
TOWNSHIP OF NORTH BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY

DESIGNED BY: ACC  
CHECKED BY: JAP  
CHECKED BY: -

PROFESSIONAL ENGINEER  
NEW JERSEY LICENSE No. 56559

PROFESSIONAL ENGINEER  
NEW JERSEY LICENSE No. 41975

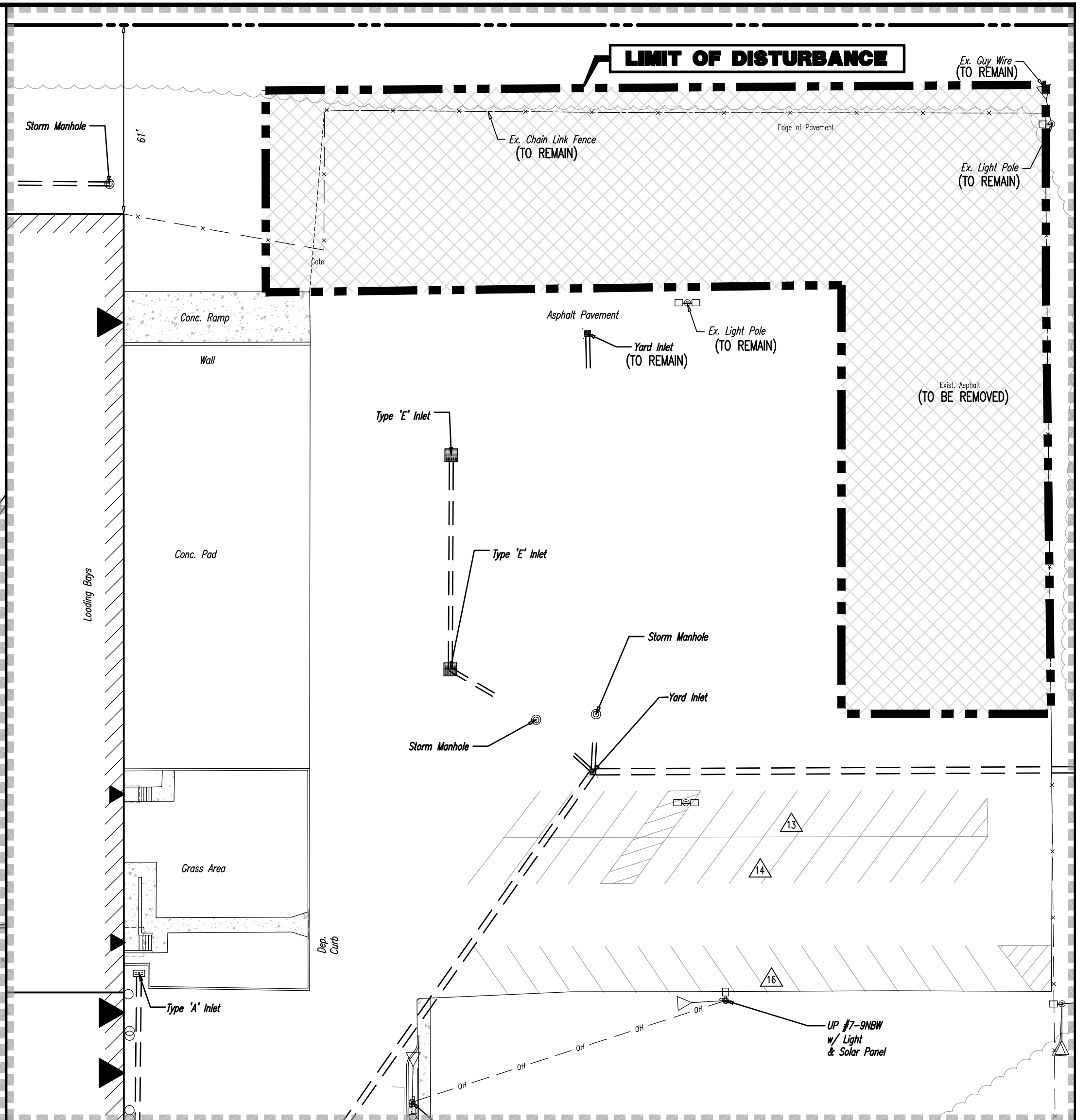
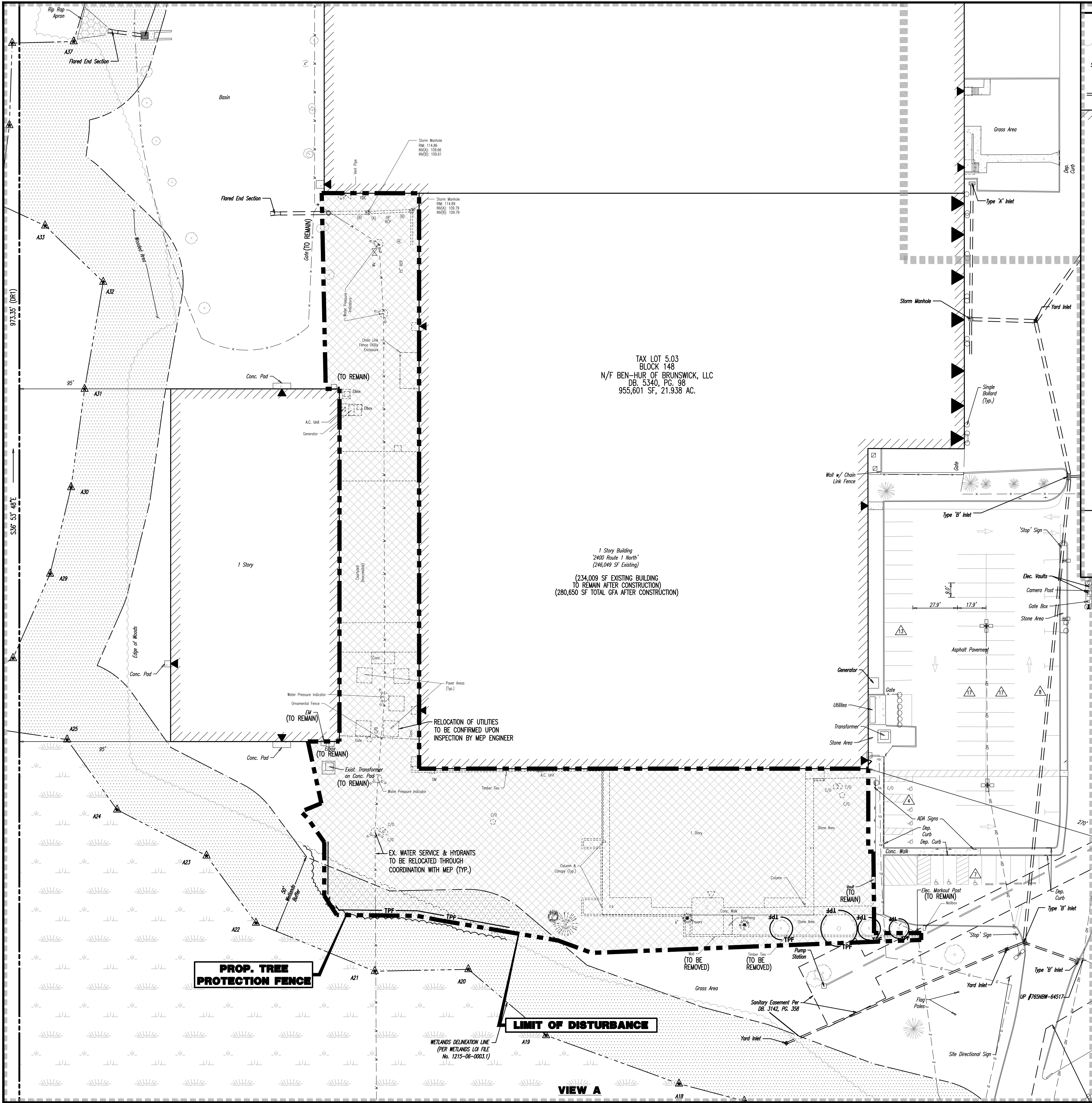
JOHN A. PALUS

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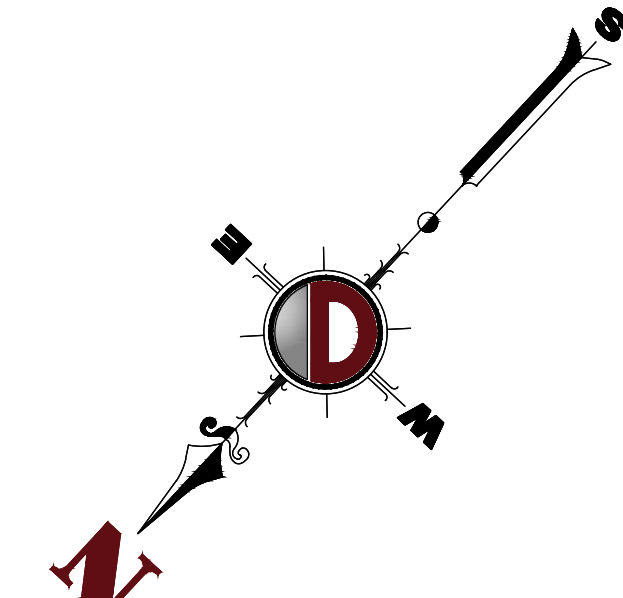
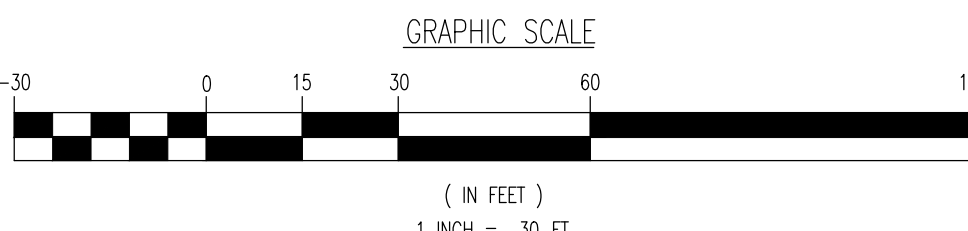
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DEMOLITION PLAN LEGEND

- PROPOSED LIMIT OF DISTURBANCE LINE
- PROPOSED TREE PROTECTION FENCE LINE
- EXISTING IMPROVEMENTS TO BE REMOVED UNLESS OTHERWISE NOTED
- TREES TO REMAIN

SEE SHEET 3 OF 15 FOR DEMOLITION PLAN NOTES



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DATE: 01/13/2022  
SCALE: (H) 1"=30'  
(V) 1"=30'

SHEET No: 5 OF 15

Rev. # 0

PROJECT: BEN HUR BRUNSWICK, LLC  
PROPOSED WAREHOUSE EXPANSION  
BLOCK 148, LOT 5.03  
2400 U.S. ROUTE 1  
TOWNSHIP OF NORTH BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY

JOB No: 2246-99-001  
DRAWN BY: KING  
DESIGNED BY: ACC  
CHECKED BY: JAP  
CHECKED BY: -

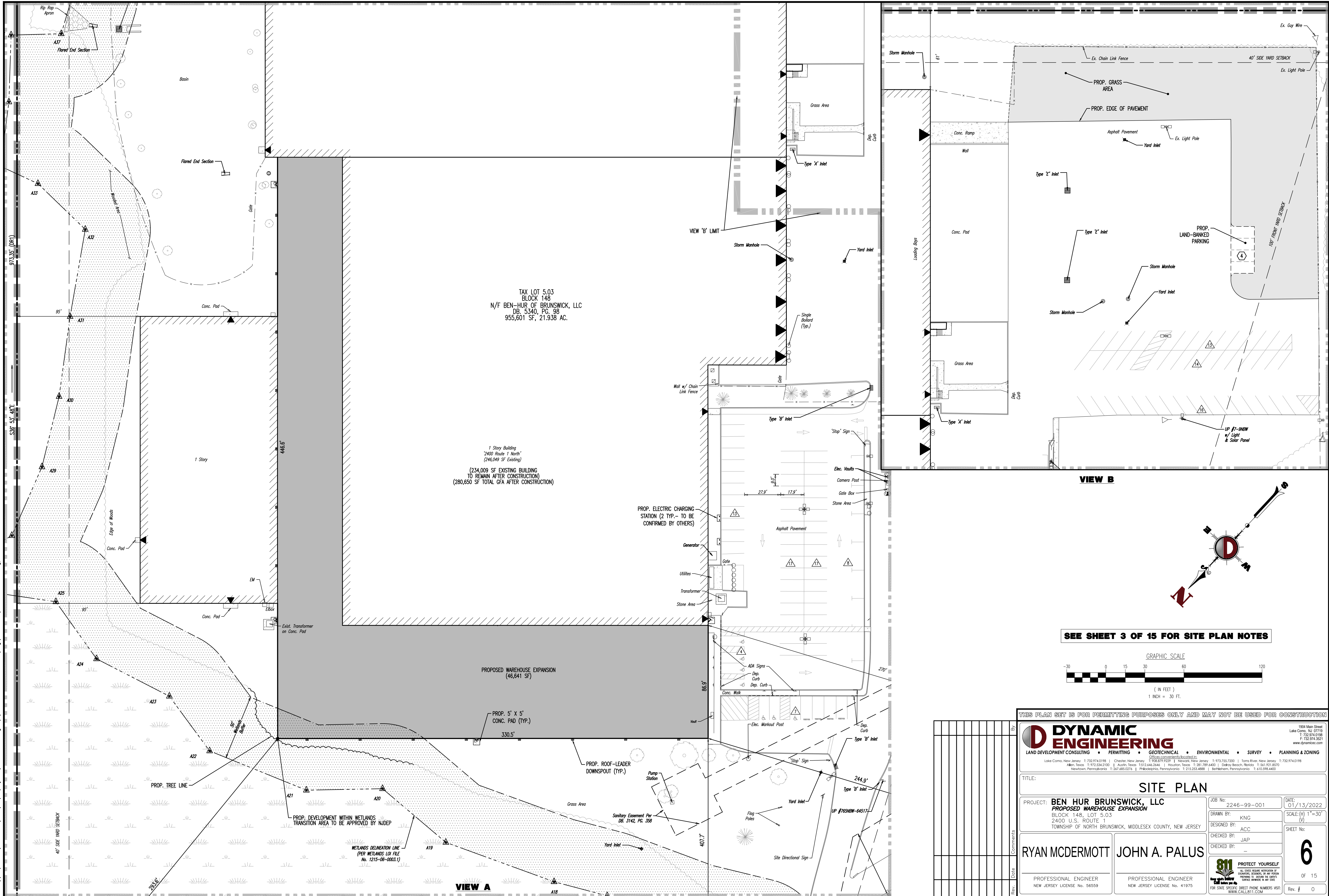
RYAN MCDERMOTT  
PROFESSIONAL ENGINEER  
NEW JERSEY LICENSE No. 56559

JOHN A. PALUS  
PROFESSIONAL ENGINEER  
NEW JERSEY LICENSE No. 41975

TITLE: DEMOLITION PLAN



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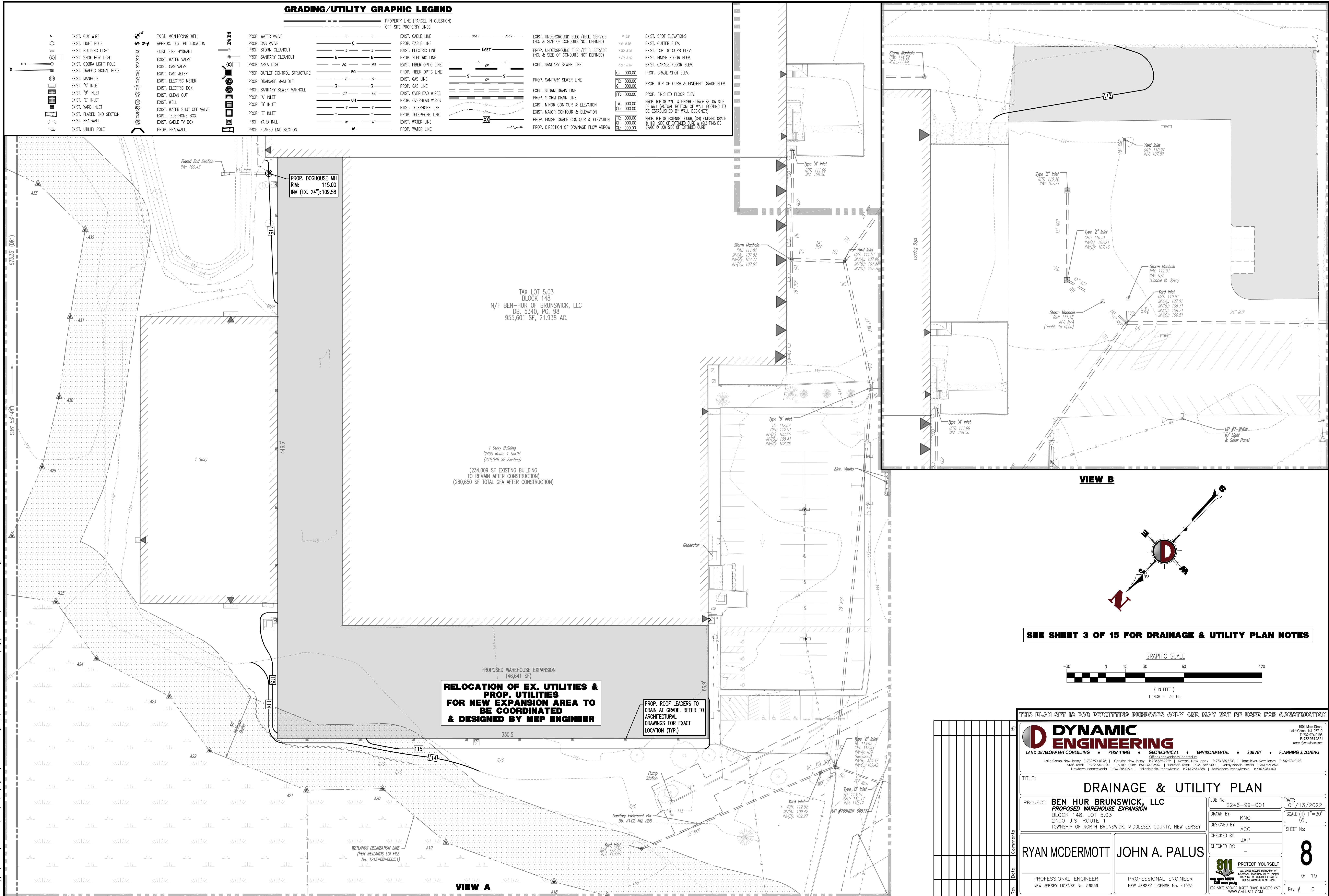






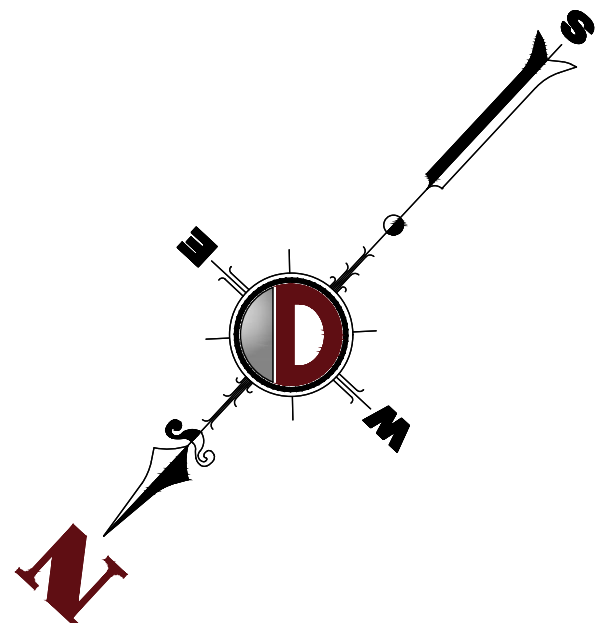
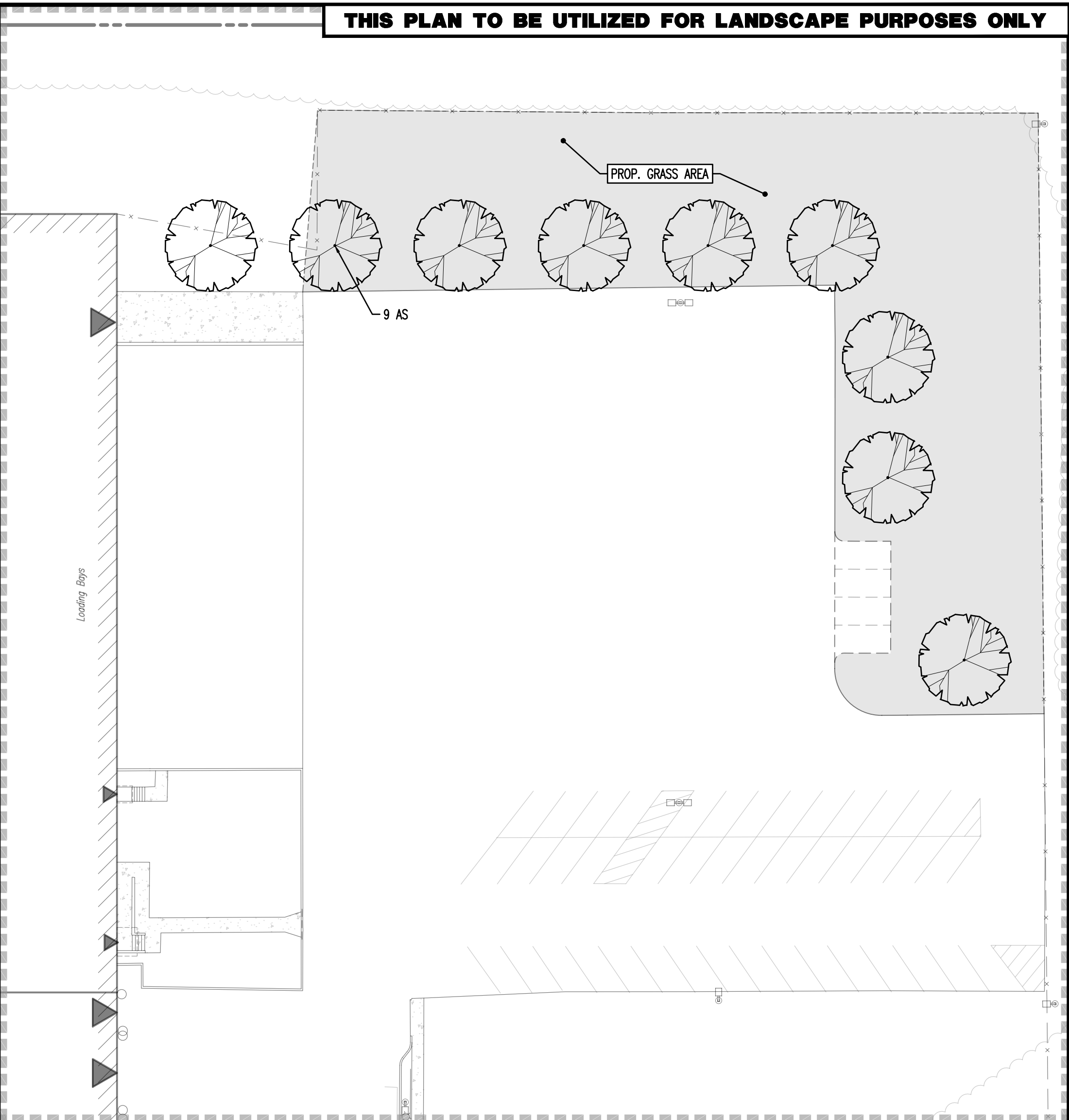
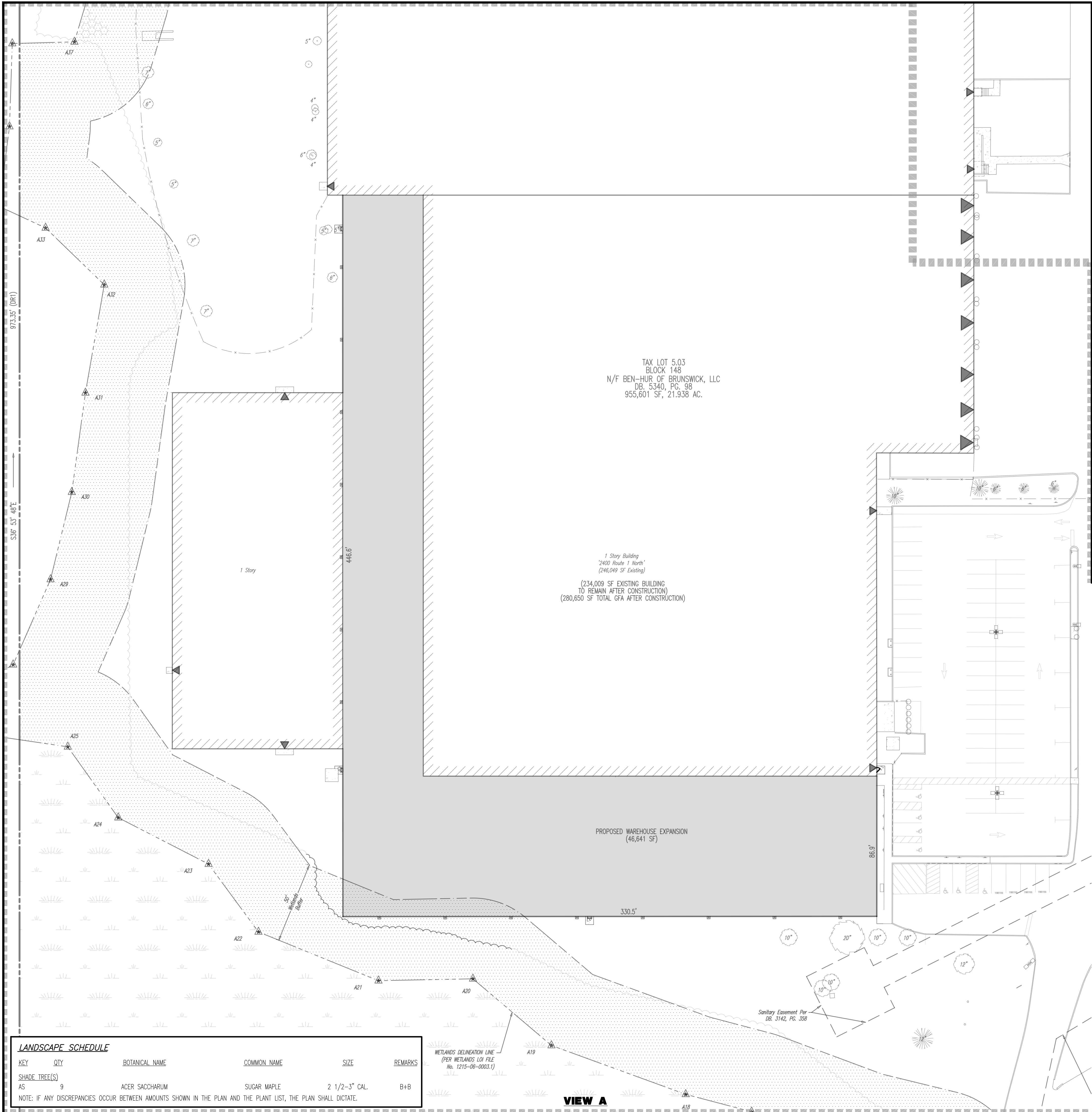


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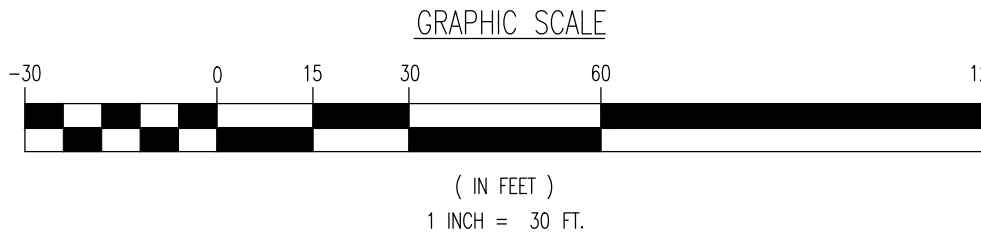




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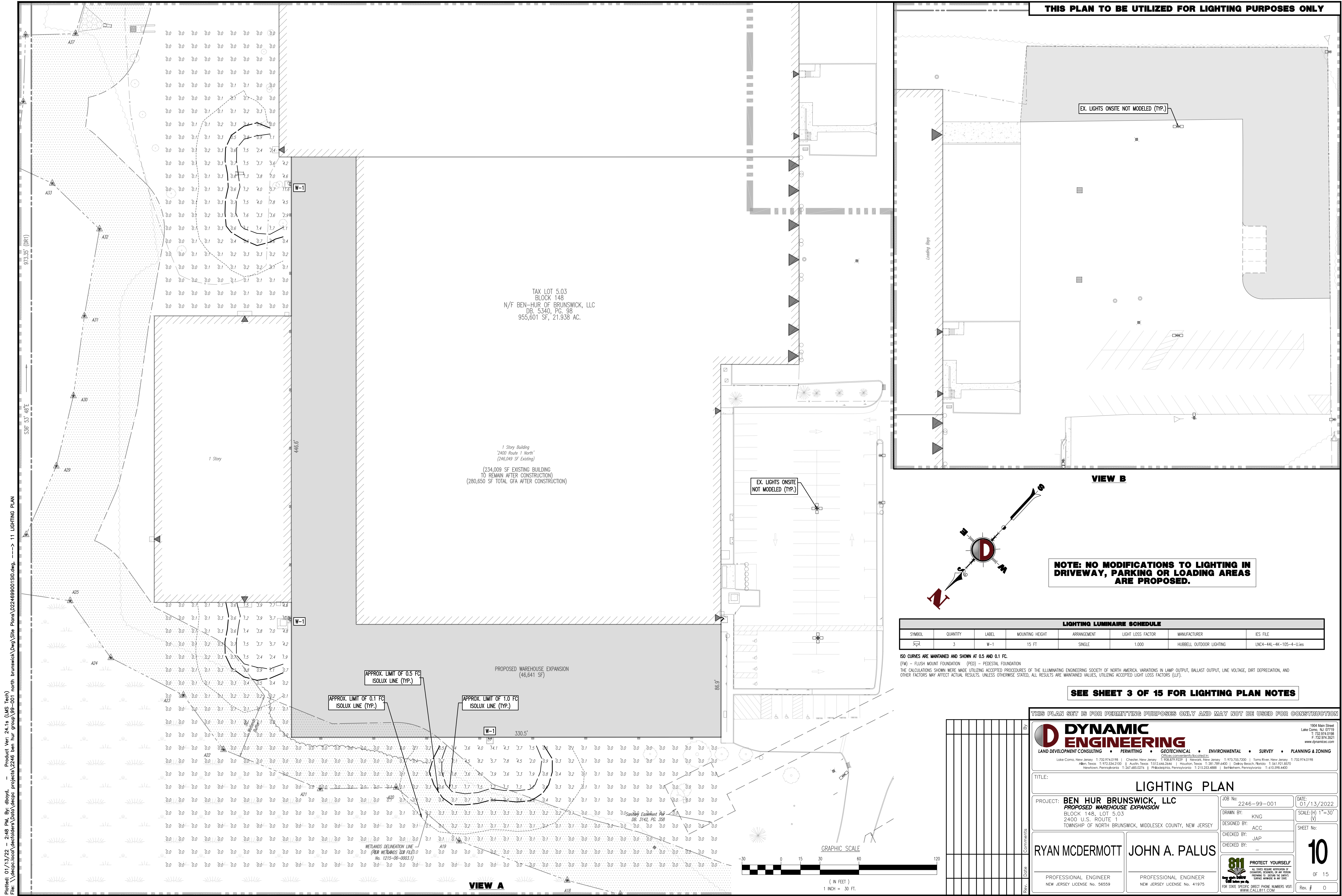
SEE SHEET 3 OF 15 FOR LANDSCAPE PLAN NOTES



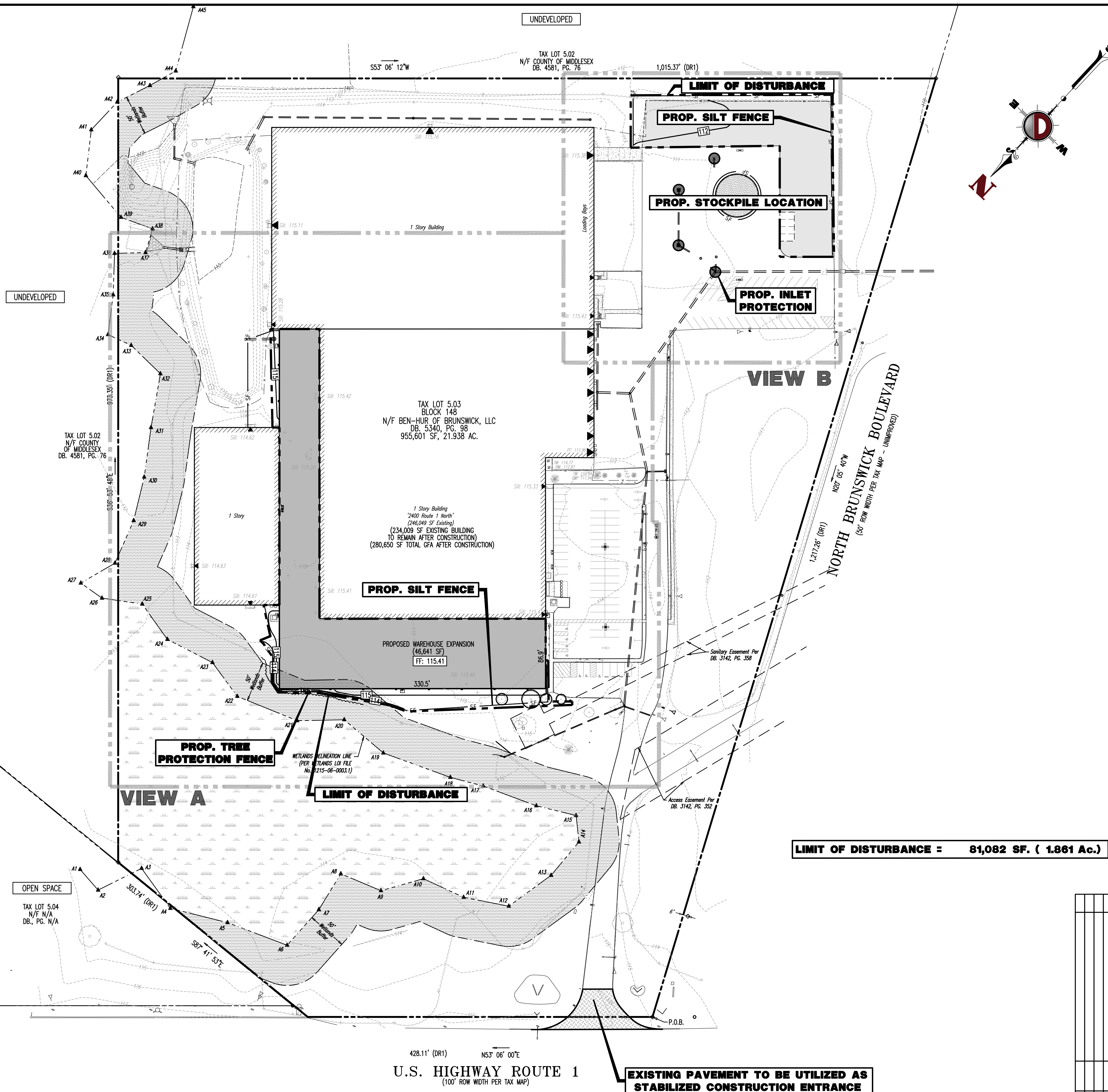
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TITLE: <b>LANDSCAPE PLAN</b>	
PROJECT: <b>BEN HUR BRUNSWICK, LLC PROPOSED WAREHOUSE EXPANSION</b> BLOCK 148, LOT 5.03 2400 U.S. ROUTE 1 TOWNSHIP OF NORTH BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY	JOB No: 2246-99-001 DATE: 01/13/2022 DRAWN BY: KING DESIGNED BY: ACC CHECKED BY: JAP SHEET No: 9 OF 15
RYAN MCDERMOTT PROFESSIONAL ENGINEER NEW JERSEY LICENSE No. 56559	JOHN A. PALUS PROFESSIONAL ENGINEER NEW JERSEY LICENSE No. 41975
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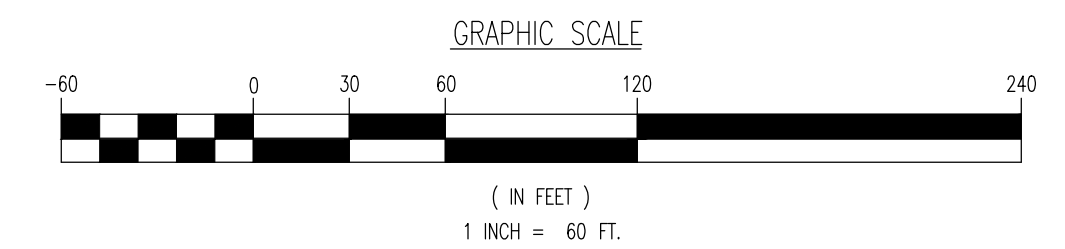




### EROSION CONTROL LEGEND



-  PROP. LIMIT OF DISTURBANCE LINE  
 PROP. SILT FENCE LINE  
 PROP. TREE PROTECTION FENCE LINE  
 PROP. HAYBALE SEDIMENT BARRIER

**SEE SHEET 12 OF 15 FOR SOIL EROSION & SEDIMENT  
CONTROL PLAN NOTES & DETAILS**



**LIMIT OF DISTURBANCE = 81,082 SF. ( 1.861 Ac.)**

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BY	 <b>DYNAMIC ENGINEERING</b> LAND DEVELOPMENT CONSULTING    PERMITTING    GEOTECHNICAL    ENVIRONMENTAL    SURVEY    PLANNING & ZONING		1504 Main Street Lake County, NJ 07730 T: 732.974.0198 F: 732.974.3521 <a href="http://www.dynamicinc.com">www.dynamicinc.com</a>	
			Local County, New Jersey: T: 732.974.0198   Chester, New Jersey: T: 603.875.9222   Newark, New Jersey: T: 973.755.7200   Toms River, New Jersey: T: 732.974.0198 Allen, Texas: T: 972.534.1010   Austin, Texas: T: 512.646.2646   Houston, Texas: T: 281.789.6400   Delray Beach, Florida: T: 561.921.8570 Newtown, Pennsylvania: T: 480.885.0276   Philadelphia, Pennsylvania: T: 215.533.4688   San Ramon, Pennsylvania: T: 610.978.4400	
TITLE: <b>SOIL EROSION AND SEDIMENT CONTROL PLAN</b>				
Comments	PROJECT: <b>BEN HUR BRUNSWICK, LLC</b> <i>PROPOSED WAREHOUSE EXPANSION</i> BLOCK 148, LOT 5.03 2400 U.S. ROUTE 1 TOWNSHIP OF NORTH BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY		JOB NO: 2246-99-001	DATE: 10/13/2022
			DRAWN BY: KING DESIGNED BY: ACC CHECKED BY: JAP CHECKED BY: —	SCALE: (H) "1"=60' (V) SHEET NO:
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PROFESSIONAL ENGINEER NEW JERSEY LICENSE NO. 56559		PROFESSIONAL ENGINEER NEW JERSEY LICENSE NO. 41975		
Date				OF 15
Rev.				Rev. # 0



FREEHOLD SOIL CONSERVATION DISTRICT  
SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE FREEHOLD 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. NJSEA §24-29 ET. SEQ. REQUIRES THAT NO CERTIFICATE 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 REQUEST A REPORT OF COMPLIANCE WITH CONDITIONS ON 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. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 1/2 TONS PER ACRE, ACCORDING TO THE STANDARD FOR STABILIZATION WITH MULCH ONLY.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. SOIL STOCKPILES, STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHORING, IN ACCORDANCE WITH STATE STANDARDS.
7. 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.
8. 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 ACCESS 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.
9. ALL SOIL WASHED, DISPERSED, SPOILED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
10. PERMANENT VEGETATION IS TO BE SEED OR SOODED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
11. 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.
12. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (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.
13. CONTINUED OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BEGINNING OPERATIONAL.
14. UNFILTERED DOWNSINKING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DOWNSINKING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DOWNSINKING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DOWNSINKING.
15. 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.
16. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGINGS AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
18. 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.

STABILIZATION SPECIFICATIONS  
TEMPORARY SEEDING AND MULCHING:

- SITE PREPARATION
- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, PG. 19-21.
  - 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.).
  - 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 SEEDED. 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.
- SEEDS:
- COOL SEASON:
- PERENNIAL RYE GRASS 100LBS/ACRE OR OTHER APPROVED SEEDS; PLANT BETWEEN MARCH 1 AND MAY 15 OR BETWEEN AUGUST 15 AND OCTOBER 1.
- WARM SEASON:
- PEARL MILLET AT 20 LBS/AC. OR OTHER APPROVED SEEDS; PLANT BETWEEN MAY 15 AND AUGUST 15.
- MULCH - UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY AT A RATE OF 1.5-2 TONS PER ACRE 70 TO 90 LBS/1,000 SQ FT BE APPLIED ACCORDING TO THE STATE STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, LIQUID MULCH BINDER, OR CRIMPER

PERMANENT SEEDING:

- SITE PREPARATION
- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
  - B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL 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 TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
  - D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
- SEEDING METHODS
- SEEDING
- A. SELECT A MIXTURE FROM TABLE 4-3 OR USE A MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES 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 RETESTED.
  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 SEEDED AREA AND WOOD CHIPS.
  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 3. PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLVS) AS DETERMINED BY GERMINATION TESTING RESULTS.
  3. COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 80°F. MANY GRASSES REQUIRE ACTIVE AT 85°F. SEE TABLE 4-3, MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PLVS 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 CULTPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTPACKER SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDED 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 SEEDED. 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.
- LIMESTONE - LIMING RATE SHALL BE DETERMINED BY TESTING, BUT IN NO CASE SHALL BE LESS THAN 2 TONS/ACRE.
- FERTILIZER - 500 LBS/ ACRE OR 11 LBS/ 1000 SF OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE.

GENERAL SITE SEEDING MIX:		
TALL FESCUE	265 LBS/ACRE	6.0 LBS/1000 SQ.FT.
KY. BLUEGRASS	20 LBS/ACRE	0.5 LBS/1000 SQ.FT.
PERENNIAL RYEGRASS	20 LBS/ACRE	0.5 LBS/1000 SQ.FT.

BASIN SEEDING MIX:		
CREeping BENTGRASS	45 LBS/ACRE	1.0 LBS/1000 SQ.FT.
CREeping RED FESCUE	45 LBS/ACRE	1.0 LBS/1000 SQ.FT.
ALKALI SALTGRASS	45 LBS/ACRE	1.0 LBS/1000 SQ.FT.

- PERMANENT STABILIZATION SPECIFICATIONS:
- A. MULCHING MULCH MATERIALS TO BE UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY AT THE RATE OF 1.5 TO 2 TONS PER ACRE OR 70 TO 90 POUNDS PER 1,000 SQ. FT. EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER THE RATE OF APPLICATION IS 3 TONS PER ACRE.
  - B. SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% OF SOIL SURFACE WILL BE COVERED.
  - C. MULCH ANCHORING TO BE DONE IMMEDIATELY AFTER PLACEMENT BY ONE OF THE FOLLOWING METHODS:
    - (1) PEG AND TWINE
    - (2) MULCH NETTING
    - (3) LIQUID MULCH-BINDERS
    - (4) CRIMPER (MULCH ANCHORING COULTER TOOL)

- STABILIZATION:
- PERMANENT, EROSION RESISTANT GROUND COVER TO BE PROVIDED BETWEEN PANEL ROWS AND UNDER PANEL ROWS AS WELL AS OTHER DISTURBED AREAS. ESTABLISHING VEGETATION UNDER PANELS MAY BE DIFFICULT DUE TO LACK OF SUN AND LIMITED PRECIPITATION. THOUGH SHOULD BE GIVEN TO ESTABLISHING VEGETATIVE GROUND COVER PRIOR TO PANEL CONSTRUCTION. INSTALLATION MAY BE FACILITATED BY PHASING THE GRADING AND STABILIZATION SEQUENCE OF SUBSEQUENT PROJECT AREAS TO ALLOW SUFFICIENT TIME TO ALLOW VEGETATION TO BECOME ESTABLISHED PRIOR TO PANEL INSTALLATION.

STANDARD FOR STABILIZATION WITH MULCH ONLY

- A. UNROTTED SMALL-GRAIN STRAW, OR SALT HAY AT 2.0 TO 2.5 TONS PER ACRE IS SPREAD UNIFORMLY AT 10 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH-BINDER, OR NETTING.
- B. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAYBE 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, FLEECESOR, COTTON, OR PLASTIC, MAYBE USED.
- E. WOOD CHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2 INCHES MAY BE USED EXCEPT IN AREAS OF FLOWING WATER.
- F. GRAVEL, CRUSHED STONE, OR SLAG AT RATE OF 9 CUBIC YARDS PER 1000 SQ. FT. AT DEPTH OF 3 INCHES.
- G. MULCH ANCHORING TO BE DONE IMMEDIATELY AFTER PLACEMENT BY ONE OF THE FOLLOWING METHODS:
  - (1) PEG AND TWINE
  - (2) MULCH NETTING
  - (3) LIQUID MULCH-BINDERS
  - (4) CRIMPER (MULCH ANCHORING COULTER TOOL)

STANDARD FOR DUST CONTROL

- DEFINITION - THE CONTROL OF DUST ON CONSTRUCTION SITES AND ROADS.
- PURPOSE - TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON-AND OFF- SITE DAMAGE AND HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.
- WHERE APPLICABLE - THE FOLLOWING METHODS SHOULD BE CONSIDERED FOR CONTROLLING DUST:
- MULCHES - SEE STANDARDS FOR STABILIZATION WITH MULCHES ONLY.
- VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER, PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOO.
- SPRAY-ON ADHESIVES - ON MINERAL SOILS (NOT EFFECTIVE ON MOCK SOILS). KEEP TRAFFIC OFF THESE AREAS.

	WATER DILUTION	TYPE OF NOZZLE
AMONIC ASPHALT	7:1	COARSE SPRAY
LATEX EMULSION	12.5:1	FINE SPRAY
RESIN IN WATER	4:1	FINE SPRAY

- TILLAGE - TO ROUGHEN SURFACE AND BRING CLOSURE TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, AND SPRING - TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
- SPRINKLING - SITE IS SPRINKLED UNTIL THE SURFACE IS WET.
- BARRIERS - SOLID BOARD FENCES, SNOW FENCES, BURIAL FENCES, CRATE WALLS, BALES OF HAY, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.
- CALCIUM CHLORIDE - SHALL BE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IF USED ON STEEPER SLOPES, THEN USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS.
- STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

SEQUENCE OF CONSTRUCTION:

- PHASE 1: INSTALL STONE ANTI-TRACKING PAD AND OTHER SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING SILT FENCING AND TREE PROTECTION FENCING.
- PHASE 2: CLEAR AND ROUGH GRADE FOR NEW BUILDING SITE AND OTHER STRUCTURES REQUIRING EXCAVATION.
- PHASE 3: EXCAVATE AND INSTALL UNDERGROUND PIPING AND DRAINAGE STRUCTURES.
- PHASE 4: EXCAVATE FOR BUILDING FOUNDATION.
- PHASE 5: COMPLETE BUILDING CONSTRUCTION.
- PHASE 6: EXCAVATE AND INSTALL ON-SITE IMPROVEMENTS.
- PHASE 7: FINAL GRADING ON SITE.
- PHASE 8: INSTALL PAVING, CONCRETE, AND FINAL VEGETATION INCLUDING SEEDING AND LANDSCAPING.
- PHASE 9: REMOVE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING SILT FENCING AND TREE PROTECTION FENCING.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
  - A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
  - B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL 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 TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
  - D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL-STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
2. SEEDED 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 MALERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAKES.RUTGERS.EDU/COUNTY/).
  - B. 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 AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE TO THE SURFACE AND ONE-HALF THE RATE TO THE SUBSOIL.
  - B. WORK LINE 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 SEEDED IS PREPARED.
  - C. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC RECOMMENDATIONS.
3. SEEDING
  - A. PERMANENT VEGETATIVE MIXTURES & PLANTING RATES
    - (1) HARD FESCUE - 175 LBS/ACRE 4 LBS/1000 SQ.FT.
    - (2) CHEWING FESCUE - 175 LBS/ACRE 4 LBS/1000 SQ.FT.
    - (3) STRONG CREeping RED FESCUE - 175 LBS/ACRE 4 LBS/1000 SQ.FT.
    - (4) PERENNIAL RYEGRASS - 45 LBS/ACRE 1 LBS/1000 SQ.FT.
    - (5) KY. BLUEGRASS - 45 LBS/ACRE 1 LBS/1000 SQ.FT.
  - B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTPACKER SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDED 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 SEEDED. 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

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, APPLIED AT THE RATE OF 1.5 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 CHIPPER-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 APPROXIMATELY 85% 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 IN ACCORDANCE WITH THE STATE STANDARDS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COST.
1. PEG AND TWINE
  2. MULCH NETTINGS
  3. CRIMPER MULCH ANCHORING COULTER TOOL
  4. LIQUID MULCH-BINDERS
- 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. PELLETED MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS, AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS. SEEDED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED, OR ON SITES WHERE STRAW MULCH AND TACKIFYING AGENT ARE NOT PRACTICAL OR DESIRABLE. APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

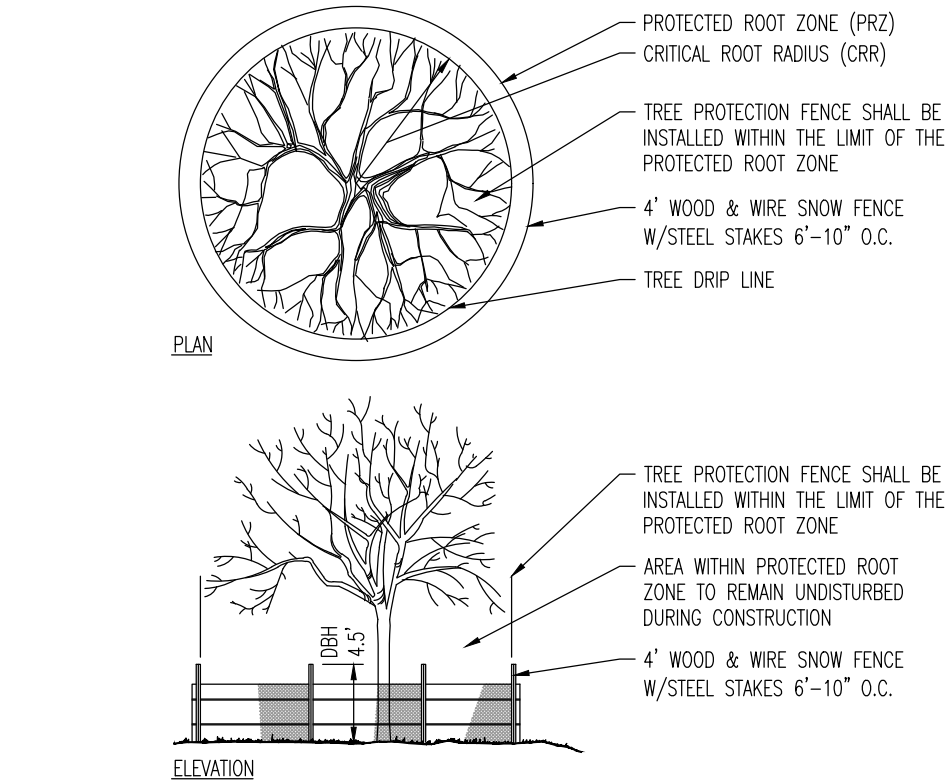
STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
  - A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
  - B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL 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 TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
  - D. 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.
  - E. 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. SEEDED PREPARATION
  - A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MALERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES.
  - B. 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.
  - C. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIVING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.
  - B. WORK LINE 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 SEEDED IS PREPARED.
  - C. INSPECT SEEDED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILED 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 STABILIZATION GRASSES, SEEDING RATES, DATES AND DEPTHS
    - COOL SEASON GRASSES:
      - (1) PERENNIAL RYEGRASS - 100 LBS / ACRE; PLANT BETWEEN MARCH 1 AND MAY 15 BETWEEN AUGUST 15 AND OCTOBER 1; AT A DEPTH OF 0.5 INCHES.
      - (2) SPRING OATS - 85 LBS / ACRE; PLANT BETWEEN MARCH 1 AND MAY 15 BETWEEN AUGUST 15 AND OCTOBER 1; AT A DEPTH OF 1.0 INCHES.
      - (3) WINTER BARLEY - 95 LBS / ACRE; PLANT BETWEEN AUGUST 15 AND OCTOBER 1; AT A DEPTH OF 1.0 INCHES.
      - (4) ANNUAL RYEGRASS - 100 LBS / ACRE; PLANT BETWEEN MARCH 1 AND JUNE 15 BETWEEN AUGUST 1 AND SEPTEMBER 15; AT A DEPTH OF 0.5 INCHES.
      - (5) WINTER CERIAL RYE - 112 LBS / ACRE; PLANT BETWEEN AUGUST 1 AND NOVEMBER 15; AT A DEPTH OF 1.0 INCHES.
    - WARM SEASON GRASSES:
      - (1) PEARL MILLET - 20 LBS / ACRE; PLANT BETWEEN MAY 15 AND AUGUST 15; AT A DEPTH OF 1.0 INCHES.
      - (2) MILLET (GERMAN OR HUNGARIAN) - 30 LBS / ACRE; PLANT BETWEEN MAY 15 AND AUGUST 15; AT A DEPTH OF 1.0 INCHES.
  - B. CONVENTIONAL SEEDING. APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDER OR CULTPACKER 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 SEEDED. 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 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.
4. 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.

  - A. 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 CHIPPER-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 APPROXIMATELY 85% 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 IN ACCORDANCE WITH THE STATE STANDARDS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COST.
1. PEG AND TWINE
  2. MULCH NETTINGS
  3. CRIMPER MULCH ANCHORING COULTER TOOL
  4. LIQUID MULCH-BINDERS
- 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. THIS 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. PELLETED MULCH. COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS. SEEDD AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFYING AGENT ARE NOT PRACTICAL OR DESIRABLE.
- APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

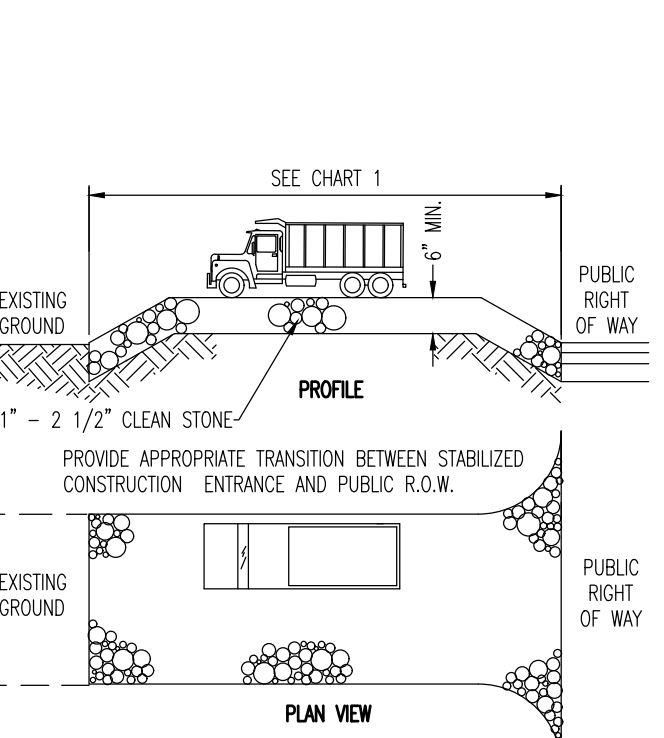


- ESTIMATE A TREE'S PROTECTED ROOT ZONE (PRZ) BY CALCULATING THE CRITICAL ROOT RADIUS (CRR)
1. MEASURE THE DBH (DIAMETER OF TREE AT BREAST HEIGHT, 4.5' ABOVE GROUND ON THE UPHILL SIDE OF TREE) IN INCHES.
  2. MULTIPLY MEASURED DBH BY 1.5 OR 1.0. EXPRESS THE RESULT IN FEET

DBH x 1.5: CRITICAL ROOT RADIUS FOR OLDER, UNHEALTHY, OR SENSITIVE SPECIES.  
DBH x 1.0: CRITICAL ROOT RADIUS FOR YOUNGER, HEALTHY OR TOLERANT SPECIES.

TREE PROTECTION DURING SITE CONSTRUCTION DETAIL

NOT TO SCALE

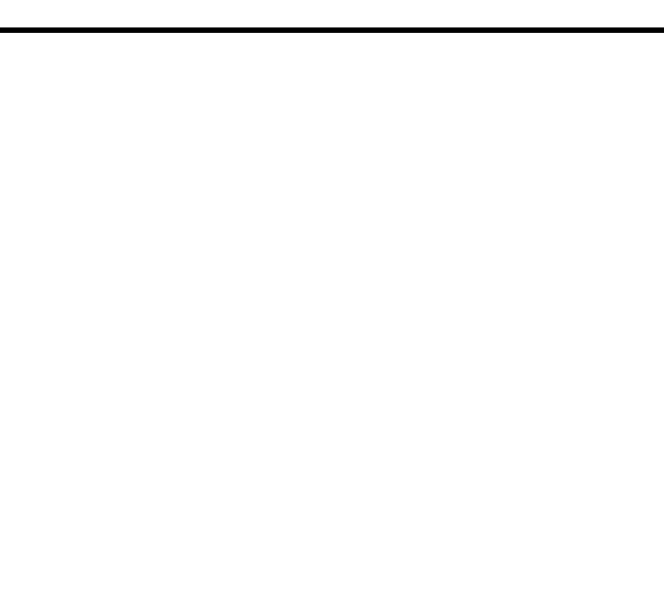


PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED
0 TO 2%	50 FT
2% TO 5%	100 FT
5% TO 10%	200 FT
>10%	ENTIRE ENTRANCE STABILIZED WITH FABRIC BARS COURSE (1)

(1) AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

STABILIZED CONSTRUCTION ENTRANCE

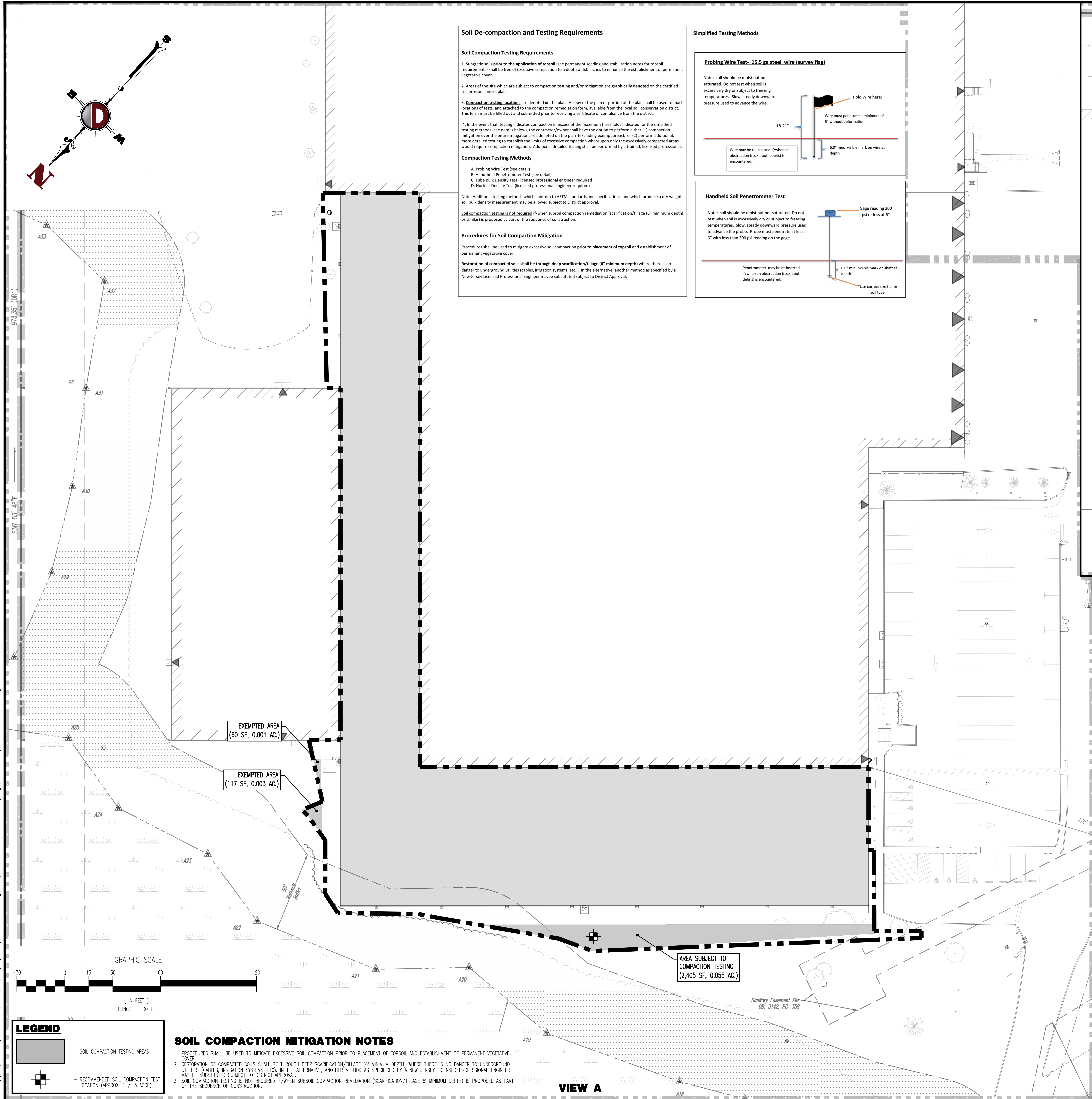
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TEMPORARY STOCKPILE DETAIL



Plotted: 01/13/22 - 2:48 PM, By: dbyod, - Product Ver: 24.1s (LMS Tech)  
File: \\dpc-local\desig\area\2246\ben hur group\99-001 north brunswick\DWG\Site Plans\0224699001.SNO.dwg, ----> 14 SOIL MANAGEMENT & PREPARATION PLAN



### Soil De-compaction and Testing Requirements

**Soil Compaction Testing Requirements**

- Subgrade soils prior to the application of topsoil (see permanent seeding and stabilization notes for topsoil requirements) shall be free of excessive compaction to a depth of 6.0 inches to enhance the establishment of permanent vegetative cover.
- Areas of the site which are subject to compaction testing and/or mitigation are **graphically denoted** on the certified soil erosion control plan.
- Compaction testing locations** are denoted on the plan. A copy of the plan or portion of the plan shall be used to mark locations of tests, and attached to the compaction remediation form, available from the local soil conservation district. This form must be filled out and submitted prior to receiving a certificate of compliance from the district.
- In the event that testing indicates compaction in excess of the maximum thresholds indicated for the simplified testing methods (see details below), the contractor/owner shall have the option to perform either (1) compaction mitigation over the entire mitigation area denoted on the plan (excluding exempt areas), or (2) perform additional, more detailed testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction mitigation. Additional detailed testing shall be performed by a trained, licensed professional.

**Compaction Testing Methods**

- Probing Wire Test (see detail)
- Hand-held Penetrometer Test (see detail)
- Tube Bulk Density Test (licensed professional engineer required)
- Nuclear Density Test (licensed professional engineer required)

Note: Additional testing methods which conform to ASTM standards and specifications, and which produce a dry weight, soil bulk density measurement may be allowed subject to District approval.

**Soil compaction testing is not required** if/when subsoil compaction remediation (scarification/tillage (6" minimum depth) or similar) is proposed as part of the sequence of construction.

**Procedures for Soil Compaction Mitigation**

Procedures shall be used to mitigate excessive soil compaction **prior to placement of topsoil** and establishment of permanent vegetative cover.

**Restoration of compacted soils shall be through deep scarification/tillage (6" minimum depth)** where there is no danger to underground utilities (cables, irrigation systems, etc.). In the alternative, another method as specified by a New Jersey Licensed Professional Engineer may be substituted subject to District Approval.

### Simplified Testing Methods

**Probing Wire Test- 15.5 ga steel wire (survey flag)**

Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the wire.

Wire must penetrate a minimum of 6" without deformation.

18-21"

6.0" min. visible mark on wire at depth

Wire may be re-inserted if/when an obstruction (rock, root, debris) is encountered.

**Handheld Soil Penetrometer Test**

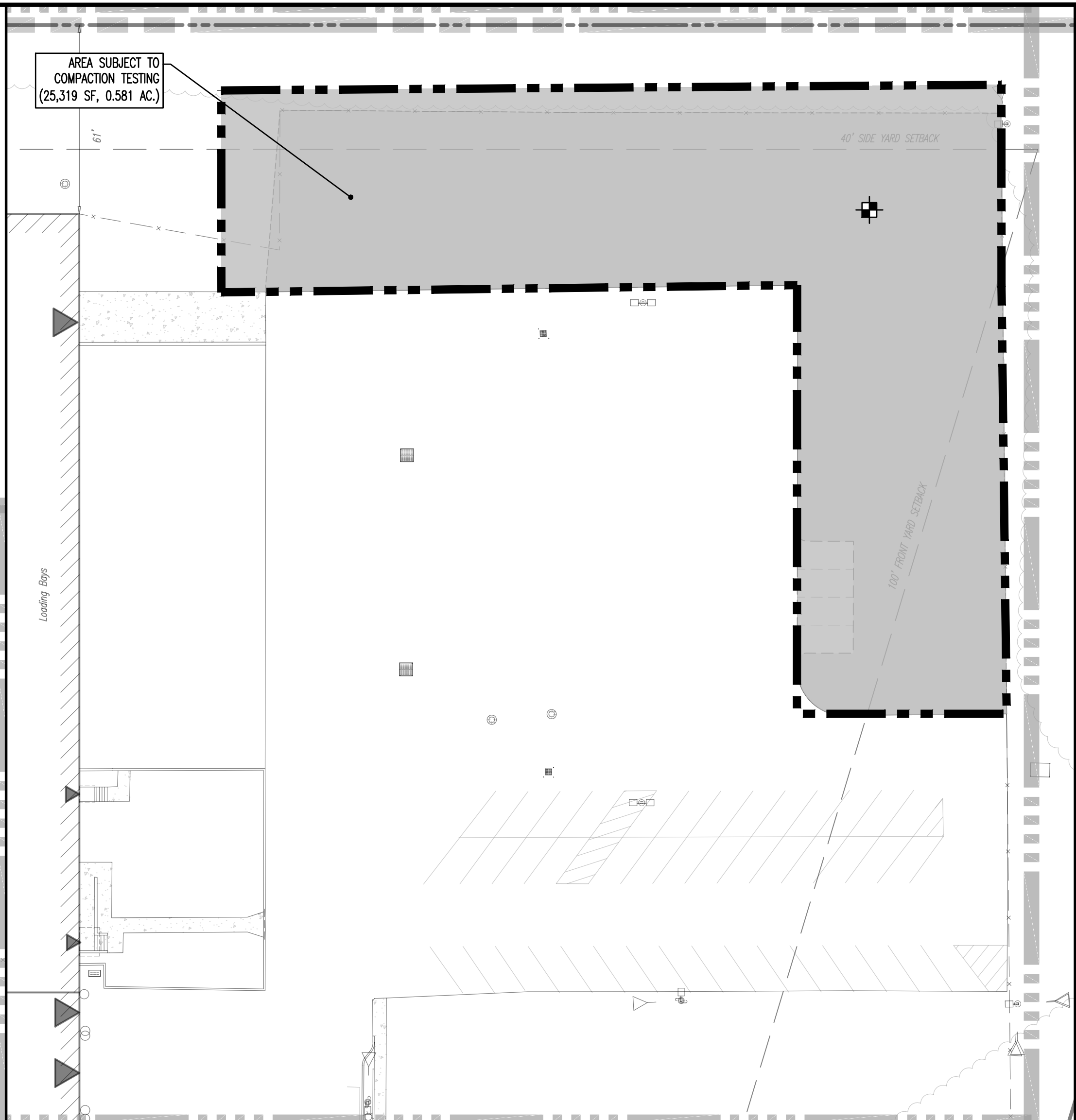
Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the probe. Probe must penetrate at least 6" with less than 300 psi reading on the gage.

Gage reading 300 psi or less at 6"

6.0" min. visible mark on shaft at depth

Penetrometer may be re-inserted if/when an obstruction (rock, root, debris) is encountered.

\*Use correct size tip for soil type



### VIEW B

COMPACTION TEST LOCATION (TYP.)

TESTING NOT REQUIRED WITHIN 12" AREA AROUND FOUNDATION WITH SLAB

NOTE:  
SOIL COMPACTION TESTING LOCATIONS IDENTIFIED ARE RECOMMENDED LOCATIONS FOR GRADING/DISTURBED AREAS WITHIN THE VICINITY OF BUILDINGS OR STRUCTURES OR ON INDIVIDUAL LOTS. FOR GRADED/DISTURBED AREAS WITHIN OPEN OR COMMON SPACES, SOIL COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE FREQUENCY LISTED IN THIS LEGEND (THIS SHEET).

**TYPICAL SOIL COMPACTION TESTING LOCATION DETAIL**

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Newtown, Pennsylvania T: 267.685.0276 | Philadelphia, Pennsylvania T: 215.253.4858 | Bethlehem, Pennsylvania T: 610.398.4400

TITLE: **SOIL MANAGEMENT & PREPARATION PLAN**

PROJECT: **BEN HUR BRUNSWICK, LLC  
PROPOSED WAREHOUSE EXPANSION**

BLOCK 148, LOT 5.03  
2400 U.S. ROUTE 1  
TOWNSHIP OF NORTH BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY

JOB No: 2246-99-001  
DATE: 01/13/2022  
DRAWN BY: KING  
SCALE: (H) 1"=30' (V)  
DESIGNED BY: ACC  
SHEET No:  
CHECKED BY: JAP  
CHECKED BY: -

**RYAN MCDERMOTT** **JOHN A. PALUS**

PROFESSIONAL ENGINEER  
NEW JERSEY LICENSE No. 56559

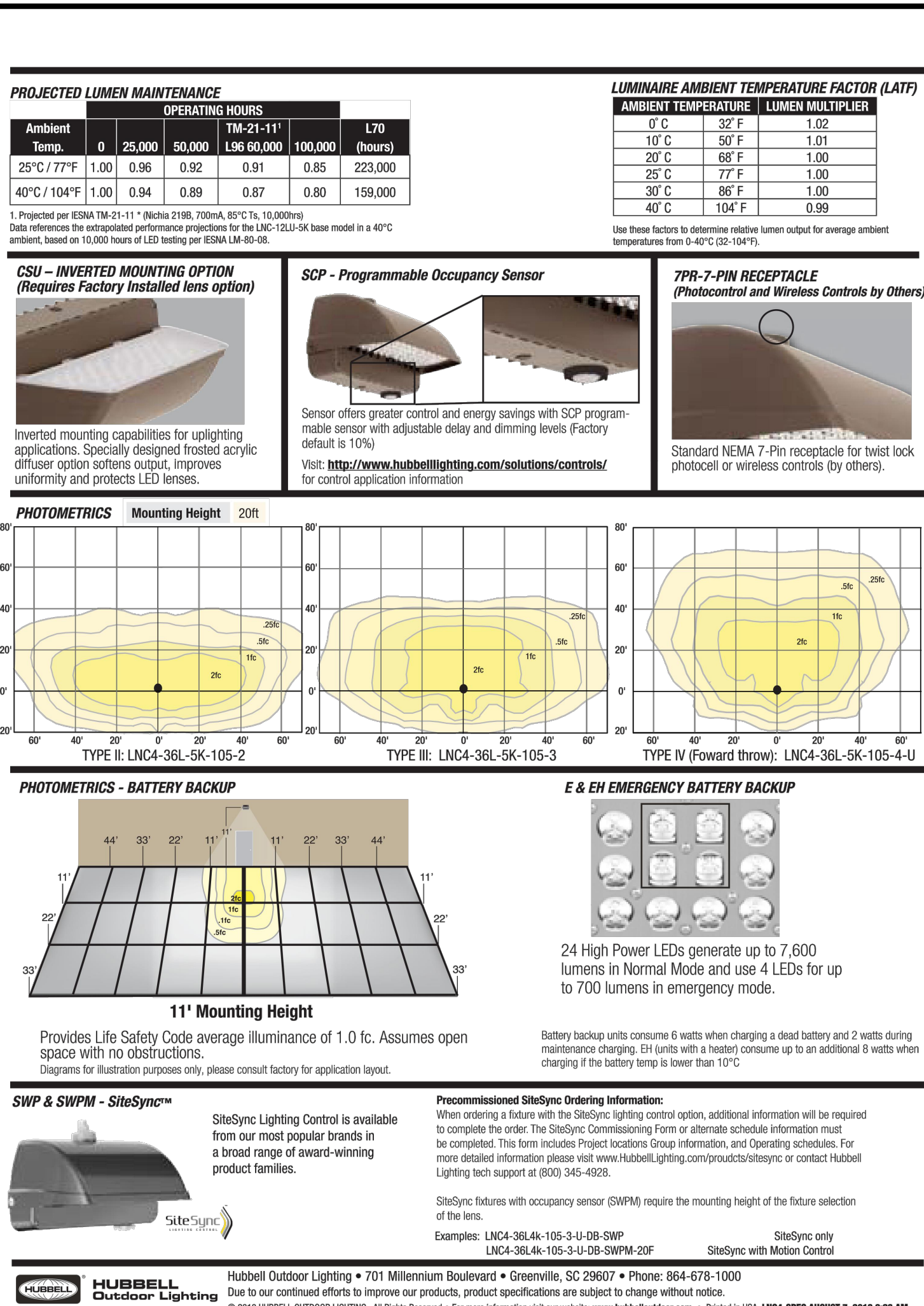
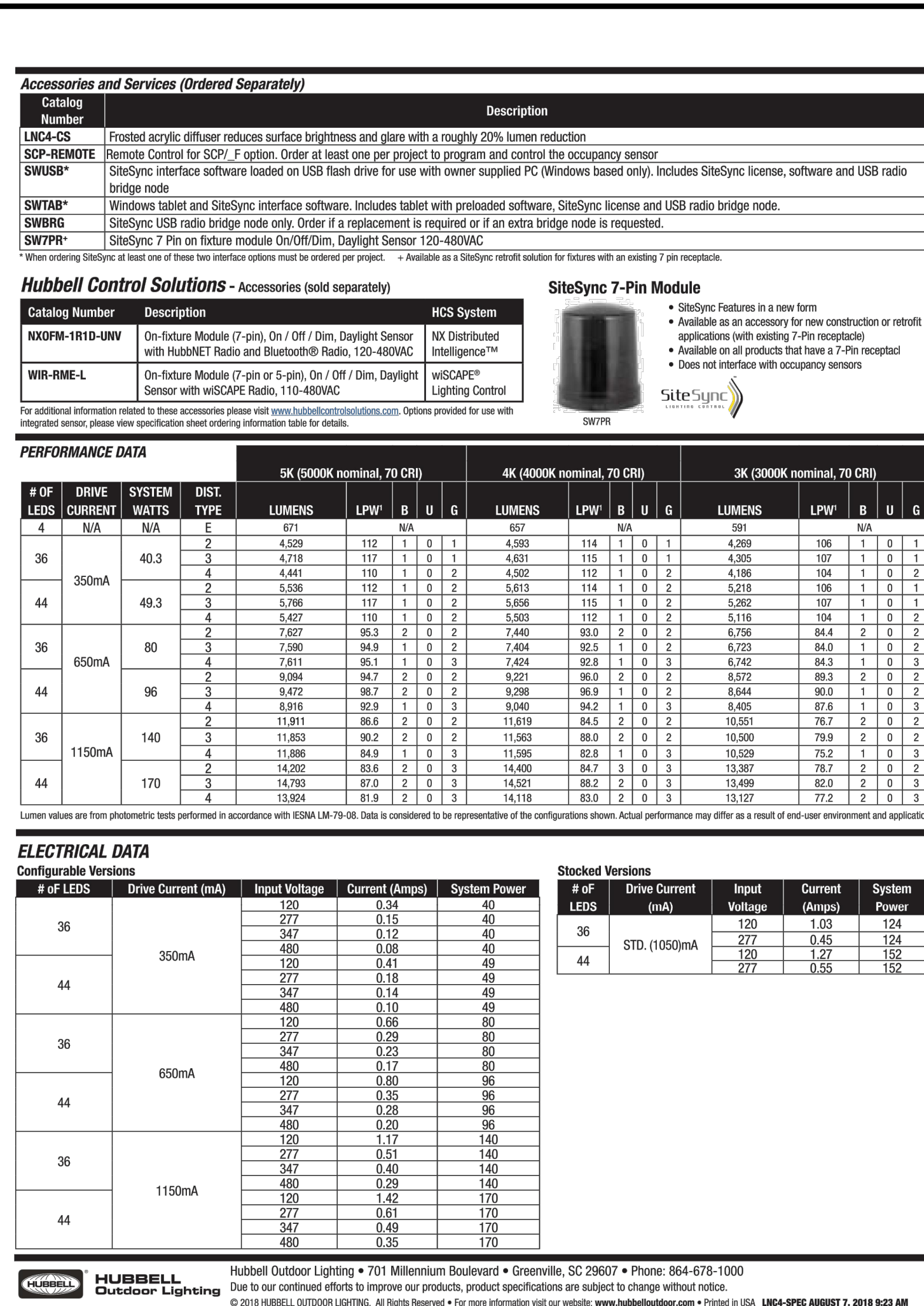
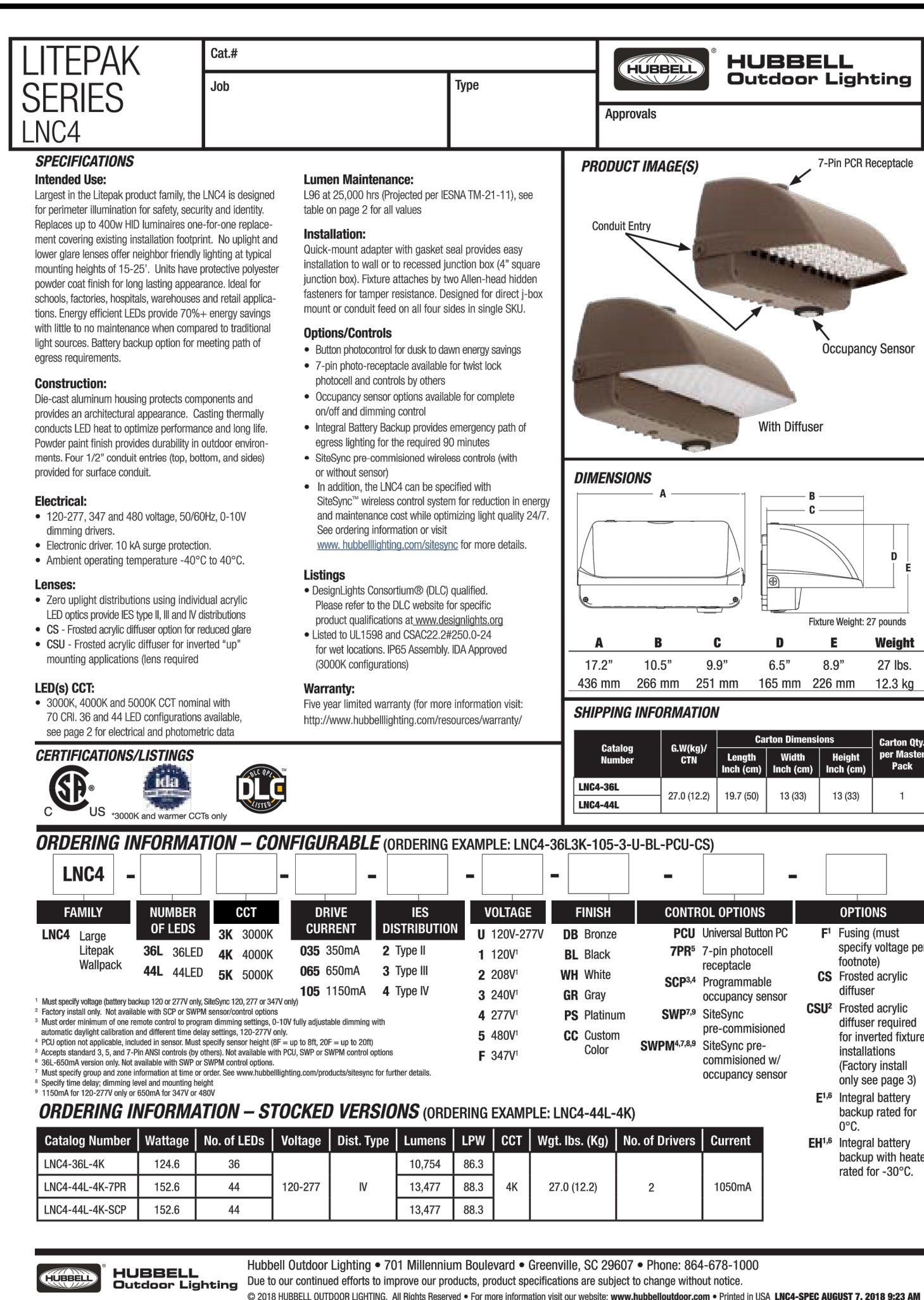
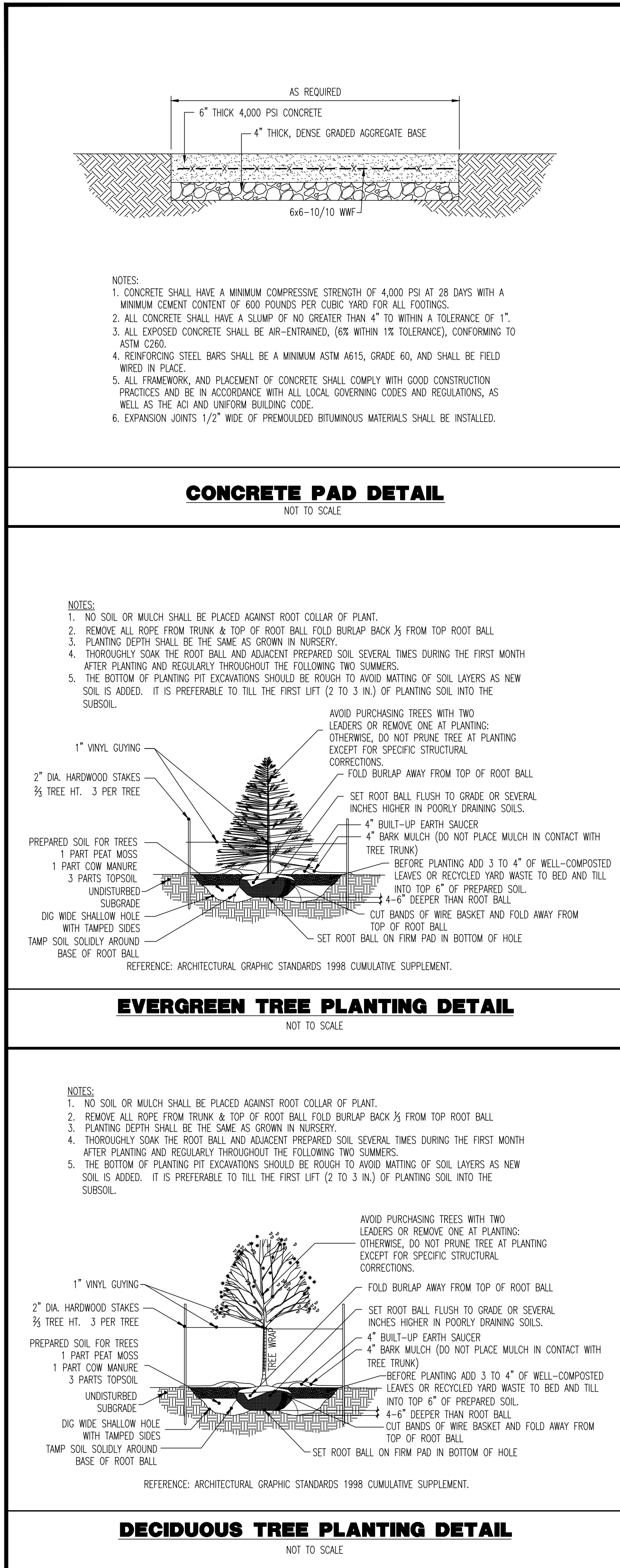
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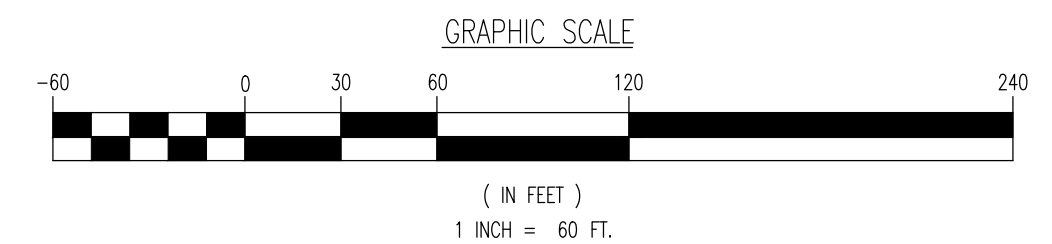
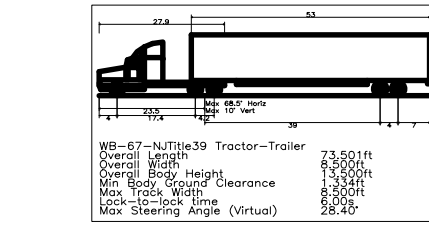
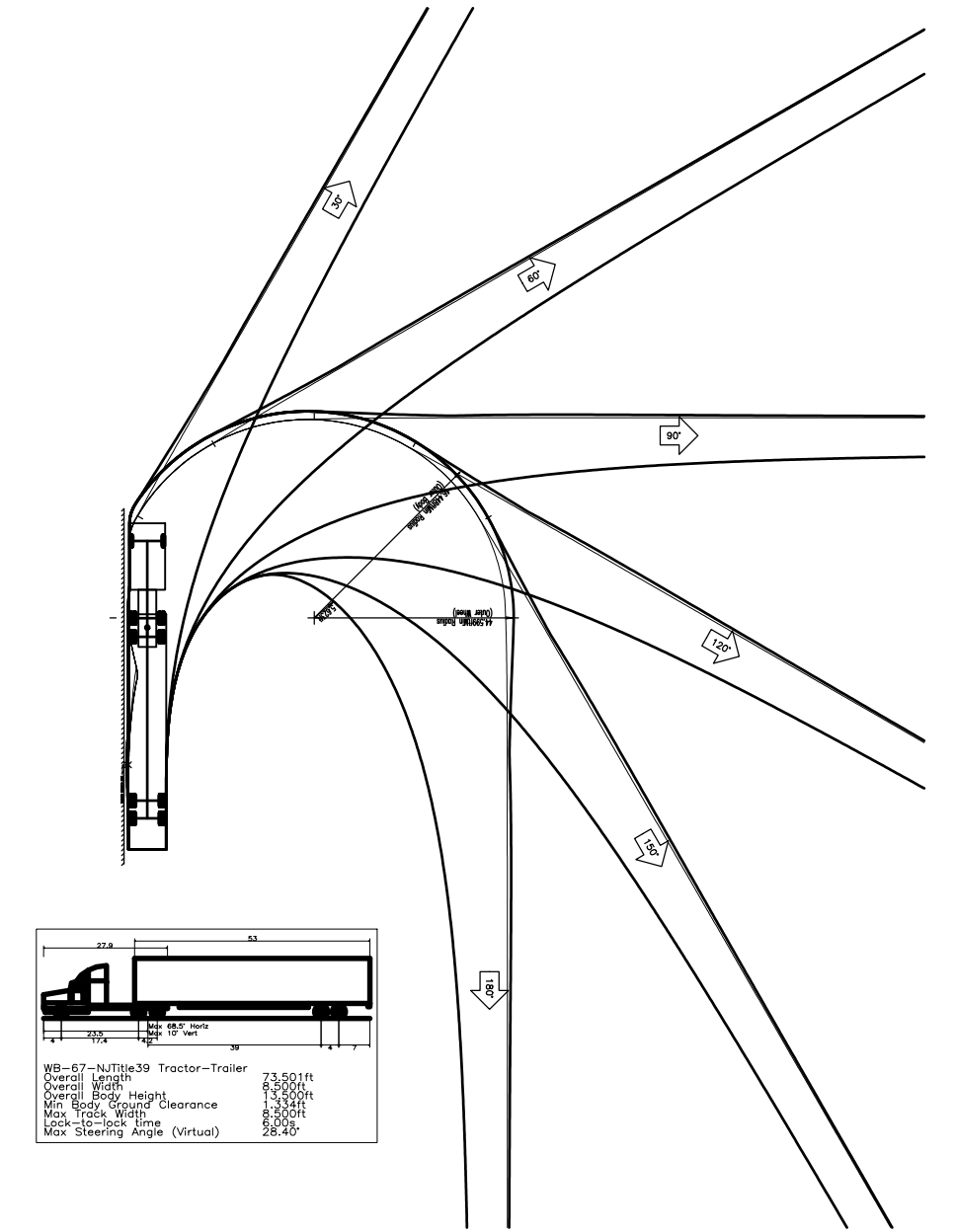
Rev. # 0









**THIS PLAN TO BE UTILIZED FOR VEHICLE CIRCULATION PURPOSES ONLY**



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		Newtown, Pennsylvania: T: 207-685-0276   Philadelphia, Pennsylvania: T: 215-323-4888   Southampton, Pennsylvania: T: 410-358-4400			
TITLE: <b>VEHICLE CIRCULATION (WB-67)</b>					
Date	New	PROJECT: <b>BEN HUR BRUNSWICK, LLC</b> <b>PROPOSED WAREHOUSE EXPANSION</b> PLOT 148, LOT 5.03 2440 U.S. ROUTE 1 TOWNSHIP OF NORTH BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY		JOB NO: 2246-99-001	
		DRAWN BY: NSR		DATE: 01/13/2022	
Scale	15	DESIGNED BY: ACC		SCALE: (H) 1"=60'	
		CHECKED BY: JAP		(V)	
		CHECKED BY: -		SHEET NO:	
RYAN MCDERMOTT		JOHN A. PALUS			
PROFESSIONAL ENGINEER NEW JERSEY LICENSE NO. 56559		PROFESSIONAL ENGINEER NEW JERSEY LICENSE NO. 41975		 ALL STATES REQUIRE NOTIFICATION OF EXISTING UTILITIES, OR ANY PERSON PERMITTED TO, BEFORE THE UTILITY SURVEILLANCE IS IN PLACE. FOR STATE SPECIFIC, DIAL-ONE NUMBERS VISIT: <a href="http://WWW.CALL811.COM">WWW.CALL811.COM</a>	
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Dated: 01/13/22 - 2:03 PM By: kgray, - Product Ver. 24.1s (LMS Tech)  
 Location: \\decap.local\deciders\Data\decap\_projects\2246 ben hur group\98-001 north brunswick\Dwg\Site Plans\02424699001\SIO.dwg, ----> 18 VEHICLE CIRCULATION (WB-67)

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