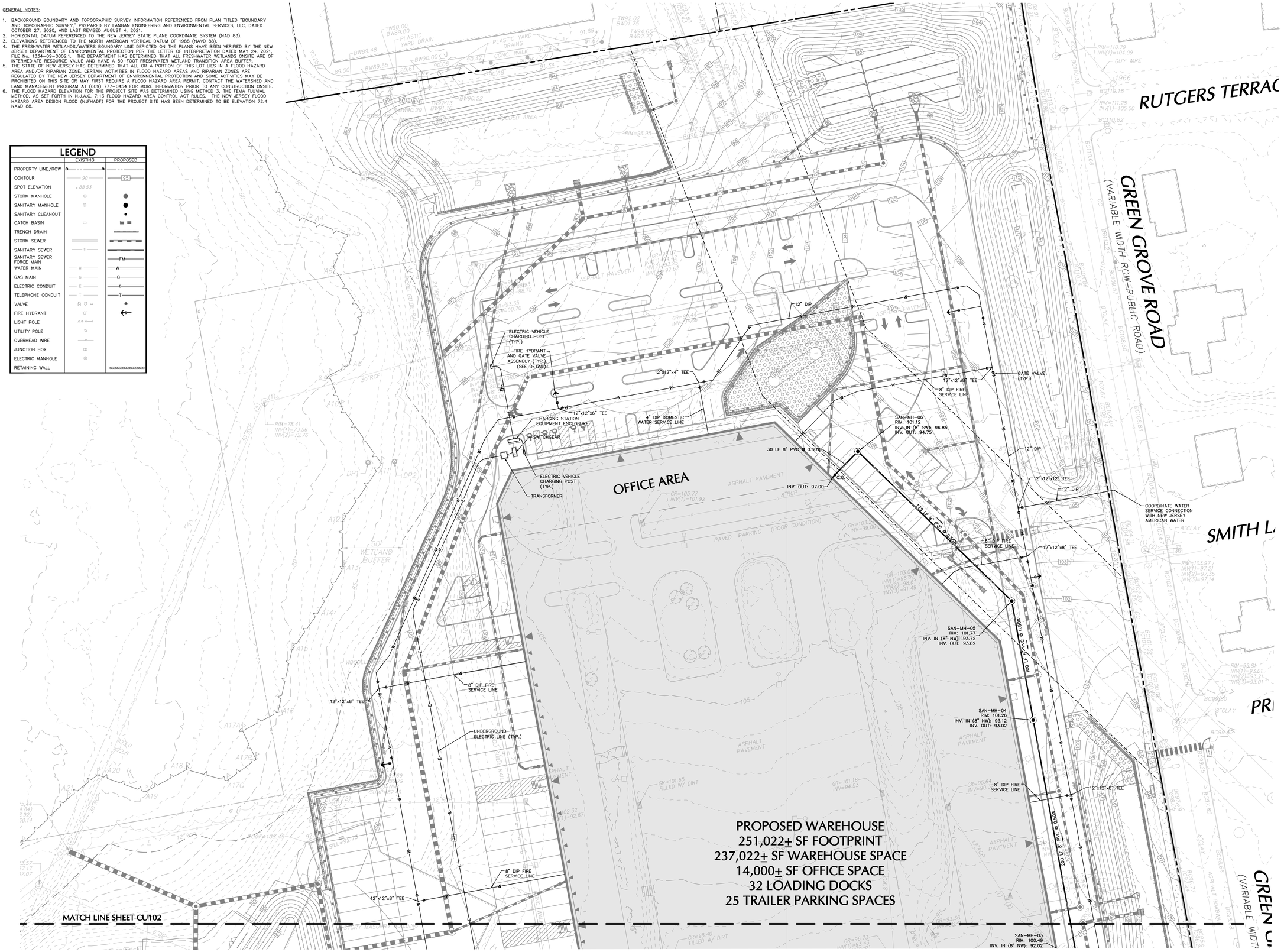
GENERAL NOTES:

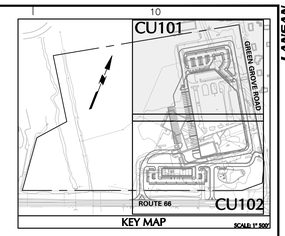
1. BACKGROUND BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM PLAN TITLED "BOUNDARY AND TOPOGRAPHIC SURVEY," PREPARED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, LLC, DATED OCTOBER 27, 2020, AND LAST REVISED AUGUST 4, 2021.
2. HORIZONTAL DATUM REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD 83).
3. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. THE FRESHWATER WETLANDS/WATERS BOUNDARY LINE DEPICTED ON THE PLANS HAVE BEEN VERIFIED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION PER THE LETTER OF INTERPRETATION DATED MAY 24, 2021, FILE No. 1334-09-0002.1. THE DEPARTMENT HAS DETERMINED THAT ALL FRESHWATER WETLANDS ONSITE ARE OF INTERMEDIATE RESOURCE VALUE AND HAVE A 50-FOOT FRESHWATER WETLAND TRANSITION AREA BUFFER.
5. THE STATE OF NEW JERSEY HAS DETERMINED THAT ALL OR A PORTION OF THIS LOT LIES IN A FLOOD HAZARD AREA AND/OR RIPARIAN ZONE. CERTAIN ACTIVITIES IN FLOOD HAZARD AREAS AND RIPARIAN ZONES ARE REGULATED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SOME ACTIVITIES MAY BE PROHIBITED ON THIS SITE OR MAY FIRST REQUIRE A FLOOD HAZARD AREA PERMIT. CONTACT THE WATERSHED AND LAND MANAGEMENT PROGRAM AT (609) 777-0454 FOR MORE INFORMATION PRIOR TO ANY CONSTRUCTION ONSITE.
6. THE FLOOD HAZARD ELEVATION FOR THE PROJECT SITE WAS DETERMINED USING METHOD 3, THE FEMA FLUVIAL METHOD, AS SET FORTH IN N.J.A.C. 7:13 FLOOD HAZARD AREA CONTROL ACT RULES. THE NEW JERSEY FLOOD HAZARD AREA DESIGN FLOOD (NJFHADF) FOR THE PROJECT SITE HAS BEEN DETERMINED TO BE ELEVATION 72.4 NAVD 88.

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	90	95
SPOT ELEVATION	x 88.53	
STORM MANHOLE		
SANITARY MANHOLE		
SANITARY CLEANOUT		
CATCH BASIN		
TRENCH DRAIN		
STORM SEWER		
SANITARY SEWER	S	
SANITARY SEWER FORCE MAIN		FM
WATER MAIN	W	W
GAS MAIN	G	G
ELECTRIC CONDUIT	E	E
TELEPHONE CONDUIT	T	T
VALVE		
FIRE HYDRANT		
LIGHT POLE		
UTILITY POLE		
OVERHEAD WIRE		
JUNCTION BOX		
ELECTRIC MANHOLE		
RETAINING WALL		



PROPOSED WAREHOUSE
251,022± SF FOOTPRINT
237,022± SF WAREHOUSE SPACE
14,000± SF OFFICE SPACE
32 LOADING DOCKS
25 TRAILER PARKING SPACES



SCALE: 1 INCH = 30 FEET

Date	Description	No.
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REVISIONS

SIGNATURE JOHN COTE 5/3/2024 DATE SIGNED
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

LANGAN
Langan Engineering and Environmental Services, LLC
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ Certificate of Authorization No. 24GA27996400

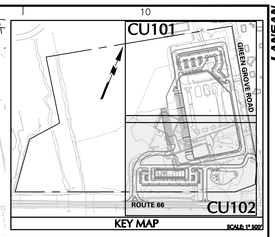
Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL UTILITY PLAN

Project No. 100775002	Drawing No. CU101
Date MAY 03, 2024	
Drawn By TEG	
Checked By MJV	Sheet 33 of 48

Project No. 100775002

MATCH LINE SHEET CU101



SAN–MH–03
RIM: 100.49
INV. IN (8" NW): 92.02
INV. OUT: 91.92

8" DIP FIRE SERVICE LINE

12" DIP

12"x12"x8" TEE

12"x12"x8" TEE

249 LF 8" PVC @ 3.00%

FIRE HYDRANT AND GATE VALVE ASSEMBLY (TYP.) (SEE DETAIL)

12"x12"x6" TEE

12"x12"x8" TEE

8" DIP FIRE SERVICE LINE

12" DIP

TRANSFORMER (TYP.)

SAN–MH–02
RIM: 90.10
INV. IN (8" NW): 84.55
INV. OUT: 84.45

COORDINATE GAS SERVICE CONNECTION WITH NEW JERSEY NATURAL GAS

12" DIP

43 LF 8" PVC @ 0.50%

12"x12"x8" TEE

86 LF 8" PVC @ 0.50%

SAN–MH–12 (DOGHOUSE)
RIM: 86.45
INV. IN (8" W): 80.32

SAN–MH–11
RIM: 89.12
INV. IN (6" S): 85.20
INV. OUT: 85.10

SAN–MH–10
RIM: 88.85
INV. IN (6" W): 83.86
INV. OUT: 83.76

12"x12"x6" TEE

12"x12"x6" TEE

SAN–MH–08
RIM: 90.96
INV. IN (6" W): 81.62
INV. OUT: 81.52

81 LF 6" PVC @ 0.50%

HOT BOX

6"x6"x4" TEE

249 LF 6" PVC @ 0.50%

6" DIP

12" DIP

283 LF 6" PVC @ 0.50%

SAN–MH–09
RIM: 90.79
INV. IN (6" W): 82.34
INV. OUT: 82.24

123 LF 6" PVC @ 0.50%

6"x6"x6" TEE

SAN–MH–01 (DROP)
RIM: 88.31
INV. IN (6" W): 84.23
INV. IN (6" S): 80.81
INV. OUT: 80.81

SAN–MH–07
RIM: 90.34
INV. IN (6" SW): 81.31
INV. OUT: 81.21

43 LF 6" PVC @ 0.50%

COORDINATE WATER SERVICE CONNECTION WITH NEW JERSEY AMERICAN WATER

TRANSFORMER

6"x6"x6" TEE

DOMESTIC AND FIRE SERVICE LINES (TYP.)

TRANSFORMER

SWITCHGEAR

CHARGING STATION EQUIPMENT ENCLOSURE

ELECTRIC VEHICLE CHARGING POST (TYP.)

24 LF 6" PVC @ 1.24%

INV. OUT: 85.50

12"x12"x6" TEE

ELECTRIC VAULT (TYP.)

TELECOM VAULT (TYP.)

RETAIL
15,000± SF

6" DIP

6"x6"x6" TEE

UNDERGROUND ELECTRIC LINE (TYP.)

UNDERGROUND TELECOMMUNICATIONS LINE (TYP.)

COORDINATE INSTALLATION OF NEW UTILITY POLE WITH JCP&L

COORDINATE INSTALLATION OF NEW UTILITY POLE AND ELECTRIC SERVICE CONNECTION WITH JCP&L

EXISTING UTILITY POLE TO BE REMOVED

COORDINATE TELECOMMUNICATIONS LINE CONNECTION WITH SERVICE PROVIDER

NEW JERSEY STATE HIGHWAY ROUTE 66
(140' WIDE PUBLIC R.O.W.)

GENERAL NOTES:

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LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	90	95
SPOT ELEVATION	x 88.53	
STORM MANHOLE	S	
SANITARY MANHOLE	S	
SANITARY CLEANOUT		
CATCH BASIN		
TRENCH DRAIN		
STORM SEWER		
SANITARY SEWER	S	
SANITARY SEWER FORCE MAIN		FM
WATER MAIN	W	W
GAS MAIN	G	G
ELECTRIC CONDUIT	E	E
TELEPHONE CONDUIT	T	T
VALVE		
FIRE HYDRANT		
LIGHT POLE		
UTILITY POLE		
OVERHEAD WIRE		
JUNCTION BOX		
ELECTRIC MANHOLE		
RETAINING WALL		

30 0 15 30
SCALE: 1 INCH = 30 FEET

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REVISIONS

SIGNATURE JOHN COTE DATE SIGNED 5/3/2024
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

LANGAN
Langan Engineering and Environmental Services, LLC
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ Certificate of Authorization No. 24GA27996400

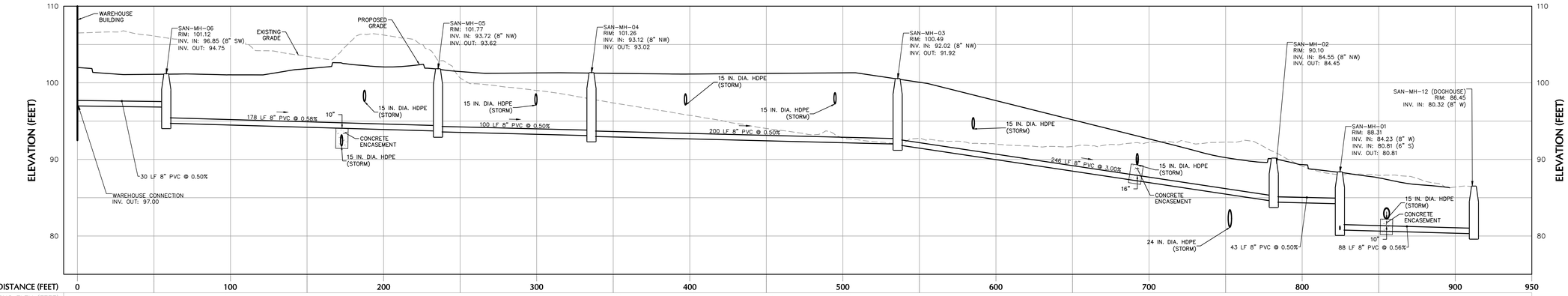
Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL UTILITY PLAN

Project No.	100775002
Date	MAY 03, 2024
Drawn By	TEG
Checked By	MJV

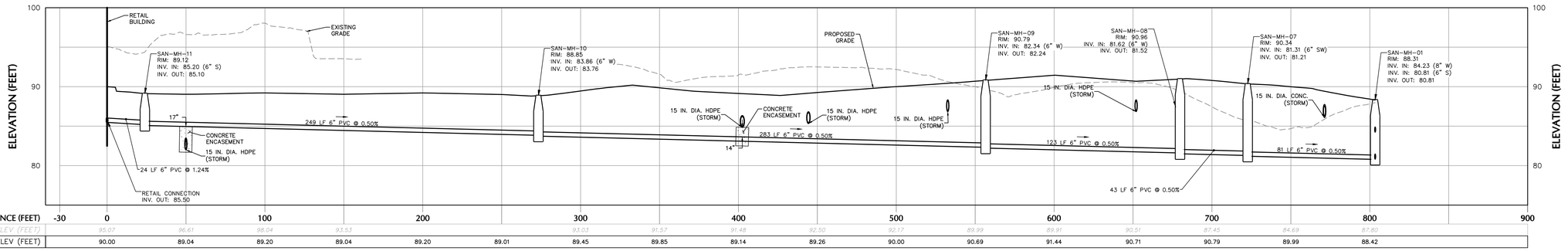
Drawing No. CU102
Sheet 34 of 48

Project No. 100775002



DISTANCE (FEET)	0	100	200	300	400	500	600	700	800	900	950
EXISTING ELEV (FEET)	106.50	106.11	105.27	103.44	106.23	100.65	99.00	97.37	95.75	94.04	92.77	92.75	91.99	91.68	92.20	92.25	89.12	87.92	86.39
PROPOSED ELEV (FEET)	102.00	101.10	101.04	101.84	102.07	101.46	101.28	101.23	101.14	101.22	101.30	100.07	97.67	95.17	92.67	90.23	89.32	87.59	

WAREHOUSE CONNECTION TO SAN-MH-12



DISTANCE (FEET)	-30	0	100	200	300	400	500	600	700	800	900
EXISTING ELEV (FEET)	95.07	96.61	98.04	93.53		93.03	91.57	91.48	92.50	92.17	89.99	89.91	90.51	87.45	84.69	87.80	
PROPOSED ELEV (FEET)	90.00	89.04	89.20	89.04	89.20	89.01	89.45	89.85	89.14	89.26	90.00	90.69	91.44	90.71	90.79	89.99	88.42

RETAIL CONNECTION TO SAN-MH-01

30 0 15 30
HORIZONTAL SCALE: 1 INCH = 30 FEET

6 0 3 6
VERTICAL SCALE: 1 INCH = 6 FEET

Date	Description	No.
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REVISIONS

NEW JERSEY LICENSED PROFESSIONAL ENGINEER JOHN COTE 24GE03705800

SIGNATURE JOHN COTE PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 — DATE SIGNED 5/3/2024

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Parsippany, NJ 07054
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NJ Certificate of Authorization No. 24GA27996400

Project

3501 STATE ROUTE 66 REDEVELOPMENT

BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP

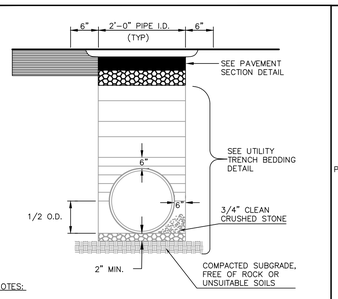
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title

SANITARY PROFILES

Project No.	Drawing No.
100775002	CU201
Date: **MAY 03, 2024**	
Drawn By: **SS**	
Checked By: **MJV**	Sheet **35** of **48**

LANGAN
Project No. 100775002

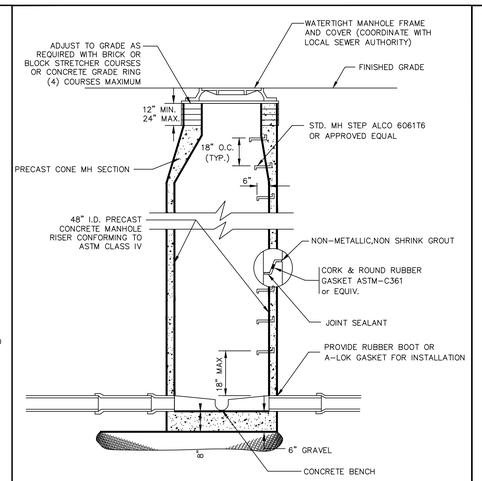


NOTES:

1. THE ABOVE DETAIL IS A GENERAL PAVEMENT REPAIR DETAIL WHICH MAY BE REVISED TO SUIT VARIOUS CONDITIONS ENCOUNTERED IN THE FIELD.
2. SAW CUTTING WILL BE REQUIRED OF ROADS WHICH WERE CONSTRUCTED AND/OR RESURFACED WITHIN THE LAST FIVE(5) YEARS.
3. CONTRACTOR TO INSTALL 4" STONE AND 5" STABILIZED BASE AND MAINTAIN FOR A PERIOD OF AT LEAST 3 MONTHS. SURFACE COURSE OF 1 1/2" AND VARIABLE FABC-1 TO BE PLACED AFTER 5 MONTHS MAINTENANCE PERIOD AND AFTER ALL SETTLEMENT AND DAMAGED SECTION(S) HAVE BEEN REPAIRED. FINAL SURFACE COURSE SHALL NOT BE INSTALLED WITHOUT SPECIFIC APPROVAL OF THE ENGINEER.
4. THE CITY ENGINEER SHALL RESERVE THE OPTION TO REQUEST TEMPORARY PAVEMENT WHICH MUST BE REPLACED WITH A PERMANENT PAVEMENT REPAIR IF THE CITY ENGINEER FEELS THAT THE DEPTH, LOCATION, OR SOIL CONDITIONS WARRANT SUCH.
5. ALL TRENCHES CUT INTO THE PUBLIC RIGHT-OF-WAY ARE REQUIRED TO BE SAWCUT FOR RESTORATION.

N.T.S.

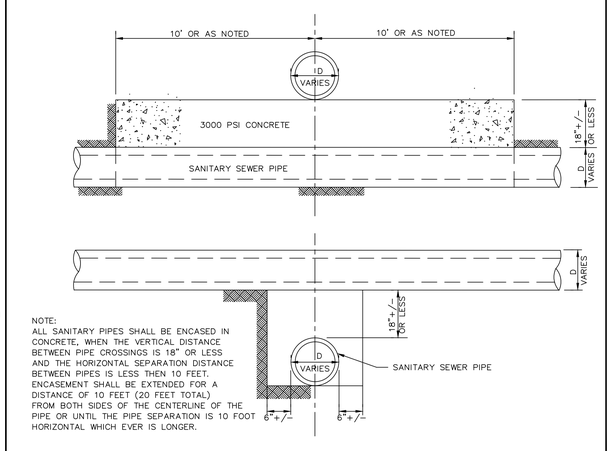
TRENCH REPAIR IN PAV'T AREA



NOTE: PROVIDE EXTERIOR DROP WHEN INVERTS IN AND OUT EXCEED 2 FEET.

N.T.S.

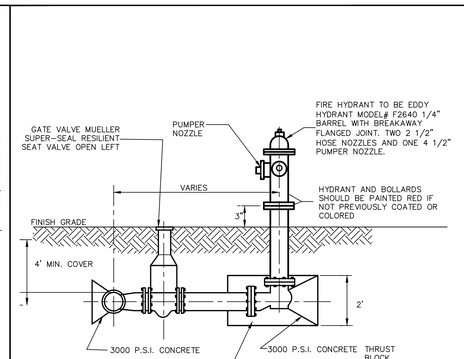
SANITARY MANHOLE



NOTE:
ALL SANITARY PIPES SHALL BE ENCASED IN CONCRETE, WHEN THE VERTICAL DISTANCE BETWEEN PIPE CROSSINGS IS 18" OR LESS AND THE HORIZONTAL SEPARATION DISTANCE BETWEEN PIPES IS LESS THEN 10 FEET. ENCASEMENT SHALL BE EXTENDED FOR A DISTANCE OF 10 FEET (20 FEET TOTAL) FROM BOTH SIDES OF THE CENTERLINE OF THE PIPE OR UNTIL THE PIPE SEPARATION IS 10 FOOT HORIZONTAL WHICH EVER IS LONGER.

N.T.S.

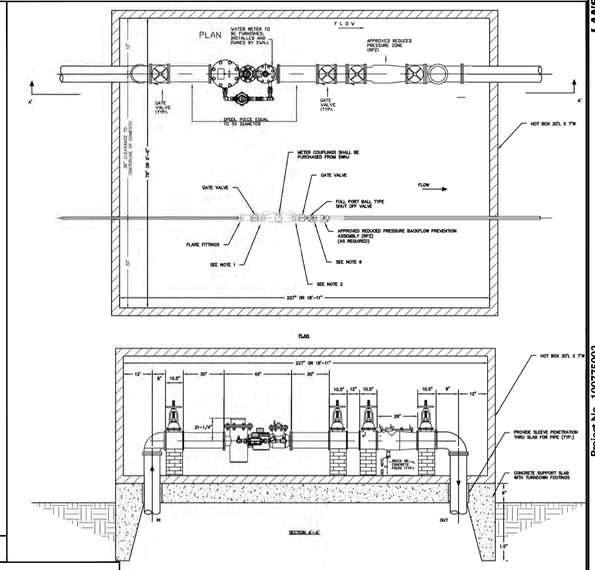
SANITARY PIPE ENCASEMENT



NOTE:
1. TYPE OF HYDRANT TO BE AS APPROVED BY LOCAL FIRE DEPARTMENT, GOVERMENT AGENCY AND OR WATER COMPANY
2. ALL PUMPER NOZZLES TO BE INSTALLED FACING TRAVELED WAY.

N.T.S.

HYDRANT

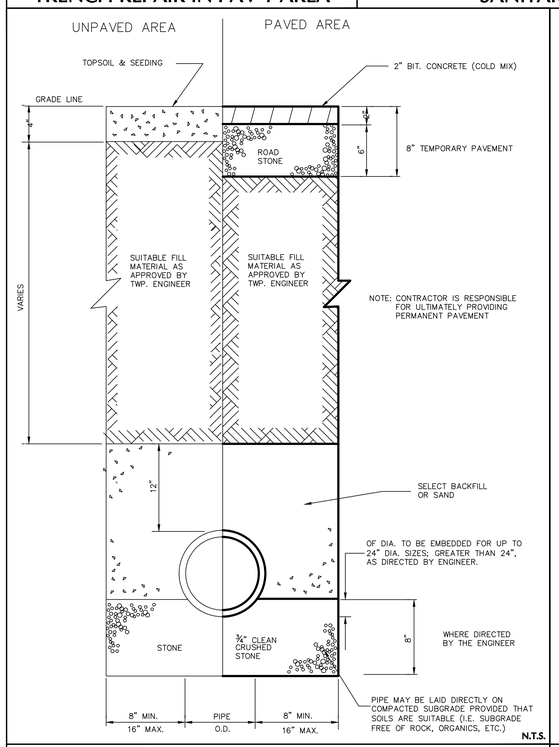


APPROXIMATE DIMENSIONS					
ITEM	90 BEND	SPOOL PIECE	METER	RPDA	CLEARANCE TO REMOVE STRAINER
METER SIZE	A	B	C	D	E
6"	8"	30"	45"	VARIES	21 1/2"
8"	9"	40"	53"	VARIES	25 1/2"
10"	11"	50"	68"	VARIES	36 1/2"

NOTES:
1. WITH THE EXCEPTION OF THE PROTECTUS III METER FURNISHED AND INSTALLED BY SWNJ, ALL OF THE PIPING, METER AND APPURTENANCES SHOWN SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER.
2. A MIN OF 18" FROM THE FLOOR TO THE RELIEF PORT AND MAX 36' FROM THE FLOOR TO THE CENTERLINE OF THE APPROVED REDUCED PRESSURE ZONE ASSEMBLY (RPZ).
3. ALL METERING ELEMENTS AND APPURTENANCES SHALL BE INSTALLED HORIZONTALLY.
4. A FLOOR DRAIN IS RECOMMENDED TO CAPTURE RPZ RELIEF DISCHARGE.
5. BYPASS METER CAN BE MANUFACTURED TO BE INSTALLED ON EITHER SIDE OF PROTECTUS III METER. PREFERENCE MUST BE MADE CLEAR TO SWNJ AT TIME OF APPLICATION.
6. SEE SHEETS 1065, 1067, OR 1069 FOR ADDITIONAL METER DIMENSIONS.

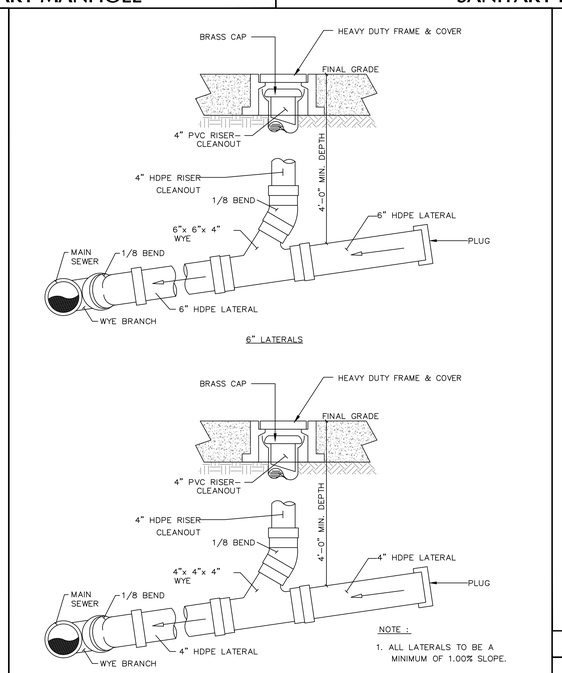
HOTBOX ENCLOSURE AND INTERIOR EQUIPMENT DETAIL

N.T.S.



N.T.S.

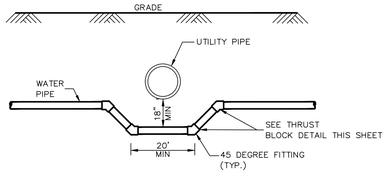
UTILITY TRENCH BEDDING



NOTE 1
1. ALL LATERALS TO BE A MINIMUM OF 1.00% SLOPE.
2. TRANSITION RISER-CLEANOUT FROM HDPE TO PVC AT 3 FEET BELOW GRADE MINIMUM WITH FERNCO COUPLING, OR EQUAL.

N.T.S.

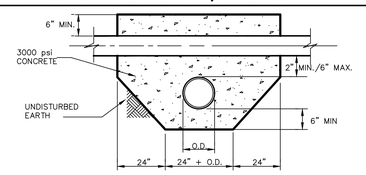
SANITARY LATERAL / CLEANOUT



NOTE:
ONE FULL LENGTH OF WATER PIPE SHOULD BE CENTERED UNDER THE CROSS PIPE SO THAT ALL JOINTS WILL BE AS FAR FROM THE CROSSING AS POSSIBLE

N.T.S.

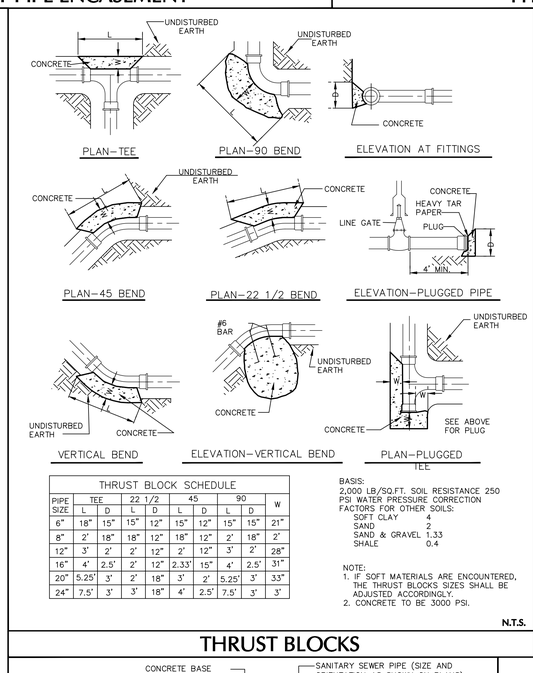
LOOPING WATER MAIN



NOTES:
1. ENCASEMENT OF LOWER PIPE TO BE CARRIED 24" IN EACH DIRECTION BEYOND THE WALLS OF THE UPPER CONDUIT.
2. CONCRETE ENCASEMENT NOT NEEDED WHEN CLEARANCE EXCEEDS 4" EXCEPT WHERE SEWER AND WATER MAINS CONFLICT.

N.T.S.

UTILITY CROSSING



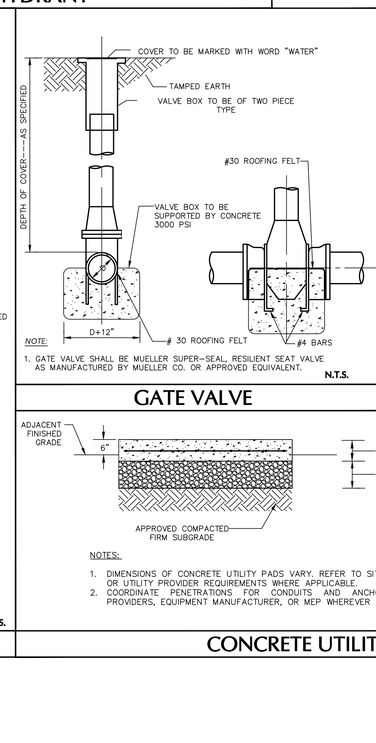
THRUST BLOCK SCHEDULE									
PIPE SIZE	TEE		22 1/2		45		90		W
	L	D	L	D	L	D	L	D	
6"	18"	15"	15"	12"	15"	12"	15"	15"	21"
8"	2'	18"	18"	12"	18"	12"	2'	18"	2'
12"	3'	2'	2'	12"	2'	12"	3'	2'	28"
16"	4'	2.5'	2'	12"	2.33'	15"	4'	2.5'	31"
20"	5.25'	3'	2'	18"	3'	2'	5.25'	3'	33"
24"	7.5'	3'	3'	18"	4'	2.5'	7.5'	3'	3'

BASIS:
2,000 LB/SQ.FT. SOIL RESISTANCE 250 PSI WATER PRESSURE CORRECTION FACTORS FOR OTHER SOILS:
SOFT CLAY 4
SAND 2
SAND & GRAVEL 1.33
SHALE 0.4

NOTE:
1. IF SOFT MATERIALS ARE ENCOUNTERED, THE THRUST BLOCKS SIZES SHALL BE ADJUSTED ACCORDINGLY.
2. CONCRETE TO BE 3000 PSI.

N.T.S.

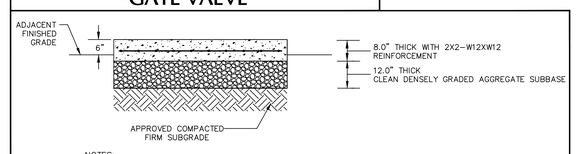
THRUST BLOCKS



NOTE:
1. GATE VALVE SHALL BE MUELLER SUPER-SEAL, RESILIENT SEAT VALVE AS MANUFACTURED BY MUELLER CO. OR APPROVED EQUIVALENT.

N.T.S.

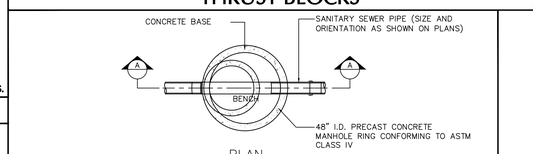
GATE VALVE



NOTES:
1. DIMENSIONS OF CONCRETE UTILITY PADS VARY. REFER TO SITE PLANS FOR PAD DIMENSIONS OR UTILITY PROVIDER REQUIREMENTS WHERE APPLICABLE.
2. COORDINATE PENETRATIONS FOR CONDUITS AND ANCHORING SYSTEM WITH UTILITY PROVIDERS, EQUIPMENT MANUFACTURER, OR MEP WHEREVER APPLICABLE.

N.T.S.

CONCRETE UTILITY PAD



NOTE:
DROP REQUIRES EMBEDMENT AT BENDS AND JOINTS.

NOTE:
1. PROPOSED DROP CONNECTION TO EXISTING SANITARY MANHOLE

N.T.S.

DROP SANITARY MANHOLE

No.	Description	Date
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REVISIONS

NEW JERSEY LICENSED PROFESSIONAL ENGINEER JOHN COTE 24GE03705800

SIGNATURE JOHN COTE DATE SIGNED 5/3/2024
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

LANGAN
Langan Engineering and Environmental Services, LLC
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ Certificate of Authorization No. 24GA27996400

Project

3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

Drawing Title

UTILITY DETAILS

Project No.	100775002
Date	MAY 03, 2024
Drawn By	SS
Checked By	TH

Drawing No. CU501

Sheet 36 of 48

LANGAN
Project No. 100775002

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	90	95
SPOT ELEVATION	x 88.53	
STORM MANHOLE		
SANITARY MANHOLE		
CATCH BASIN		
STORM SEWER		
SANITARY SEWER		
LIMIT OF DISTURBANCE		
SILT FENCE		
INLET PROTECTION		
CONSTRUCTION ENTRANCE		
SOIL BOUNDARY		
SOIL TYPE SYMBOL		USBOOB
STOCKPILE LOCATION		
STAGING AREA		
SUPER SILT FENCE		
SOIL REMEDIATION AREA		
SOIL COMPACTION TEST LOCATION		SCT-1

TOTAL LIMIT OF DISTURBANCE = 22.61 ± AC

TOTAL SOIL COMPACTION REMEDIATION AREA = 1.88 ± AC

REQUIRED NUMBER OF SOIL COMPACTION TEST (2 PER ACRE) = 4

GENERAL NOTES:

1. BACKGROUND BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM PLAN TITLED "BOUNDARY AND TOPOGRAPHIC SURVEY," PREPARED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, LLC, DATED OCTOBER 27, 2020, AND LAST REVISED AUGUST 4, 2021.
2. HORIZONTAL DATUM REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD 83).
3. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. THE FRESHWATER WETLANDS/WATERS BOUNDARY LINE DEPICTED ON THE PLANS HAVE BEEN VERIFIED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION PER THE LETTER OF INTERPRETATION DATED MAY 24, 2021, FILE No. 1334-09-0002.1. THE DEPARTMENT HAS DETERMINED THAT ALL FRESHWATER WETLANDS ONSITE ARE OF INTERMEDIATE RESOURCE VALUE AND HAVE A 50-FOOT FRESHWATER WETLAND TRANSITION AREA BUFFER.
5. THE STATE OF NEW JERSEY HAS DETERMINED THAT ALL OR A PORTION OF THIS LOT LIES IN A FLOOD HAZARD AREA AND/OR RIPARIAN ZONE. CERTAIN ACTIVITIES IN FLOOD HAZARD AREAS AND RIPARIAN ZONES ARE REGULATED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SOME ACTIVITIES MAY BE PROHIBITED ON THIS SITE OR MAY FIRST REQUIRE A FLOOD HAZARD AREA PERMIT. CONTACT THE WATERSHED AND LAND MANAGEMENT PROGRAM AT (609) 777-0454 FOR MORE INFORMATION PRIOR TO ANY CONSTRUCTION ONSITE.
6. THE FLOOD HAZARD ELEVATION FOR THE PROJECT SITE WAS DETERMINED USING METHOD 3, THE FEMA FLUVIAL METHOD, AS SET FORTH IN N.J.A.C. 7:13 FLOOD HAZARD AREA CONTROL ACT RULES. THE NEW JERSEY FLOOD HAZARD AREA DESIGN FLOOD (NJFHADF) FOR THE PROJECT SITE HAS BEEN DETERMINED TO BE ELEVATION 72.4 NAVD 88.

SCALE: 1 INCH = 60 FEET (60 0 20 40 60)

Date	Description	No.
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5/3/24	REVISED FOR SUBMISSION TO NEPTUNE	2
7/28/23	REVISED PER NJDOT, NJDEP, & FIRST ENERGY COMMENTS	1

REVISIONS

SIGNATURE JOHN COTE DATE SIGNED 5/3/2024
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

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Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
OVERALL SOIL EROSION & SEDIMENT CONTROL PLAN

Project No.	100775002
Date	AUGUST 26, 2022
Drawn By	LMP
Checked By	MJV
Drawing No.	CE100
Sheet	37 of 48

LANGAN
Project No. 100775002

GENERAL NOTES:

1. BACKGROUND BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM PLAN TITLED "BOUNDARY AND TOPOGRAPHIC SURVEY," PREPARED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, LLC, DATED OCTOBER 27, 2020, AND LAST REVISED AUGUST 4, 2021.
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LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	90	95
SPOT ELEVATION	x 88.53	
STORM MANHOLE		
SANITARY MANHOLE		
CATCH BASIN		
STORM SEWER		
SANITARY SEWER		
LIMIT OF DISTURBANCE		
SILT FENCE		
INLET PROTECTION		
CONSTRUCTION ENTRANCE		
SOIL BOUNDARY		
SOIL TYPE SYMBOL		USBOOB
STOCKPILE LOCATION		
STAGING AREA		
SUPER SILT FENCE		
SOIL REMEDIATION AREA		
SOIL COMPACTION TEST LOCATION		SCT-1

SOIL COMPACTION REMEDIATION AREA (TYP.)

SOIL COMPACTION NOT REQUIRED IN AREAS WITH SLOPES OF 3H:1V OR GREATER (TYP.)

INLET PROTECTION (TYP.)

TEMPORARY STOCKPILE

SOIL COMPACTION REMEDIATION NOT REQUIRED WITHIN 12-FT OF BUILDING FOUNDATION (TYP.)

LIMIT OF DISTURBANCE (TYP.)

SUPER SILT FENCE (TYP.)

STAGING AREA

OFFICE AREA

PROPOSED WAREHOUSE
251,022± SF FOOTPRINT
237,022± SF WAREHOUSE SPACE
14,000± SF OFFICE SPACE
32 LOADING DOCKS
25 TRAILER PARKING SPACES

GREEN GROVE ROAD
(VARIABLE WIDTH ROW-PUBLIC ROAD)

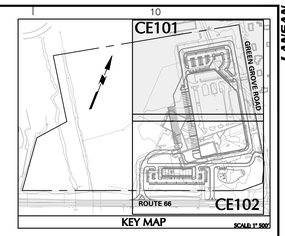
RUTGERS TERR

SMITH

KkhB

DouB

MATCH LINE SHEET CE102



KEY MAP SCALE: 1" = 800'

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5/3/24	REVISED FOR SUBMISSION TO NEPTUNE	2
7/28/23	REVISED PER NJDOT, NJDEP, & FIRST ENERGY COMMENTS	1
Date	Description	No.

REVISIONS

NEW JERSEY LICENSED PROFESSIONAL ENGINEER JOHN COTE 24GE03705800

SIGNATURE JOHN COTE PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 DATE SIGNED 5/3/2024

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NJ Certificate of Authorization No. 24GA27996400

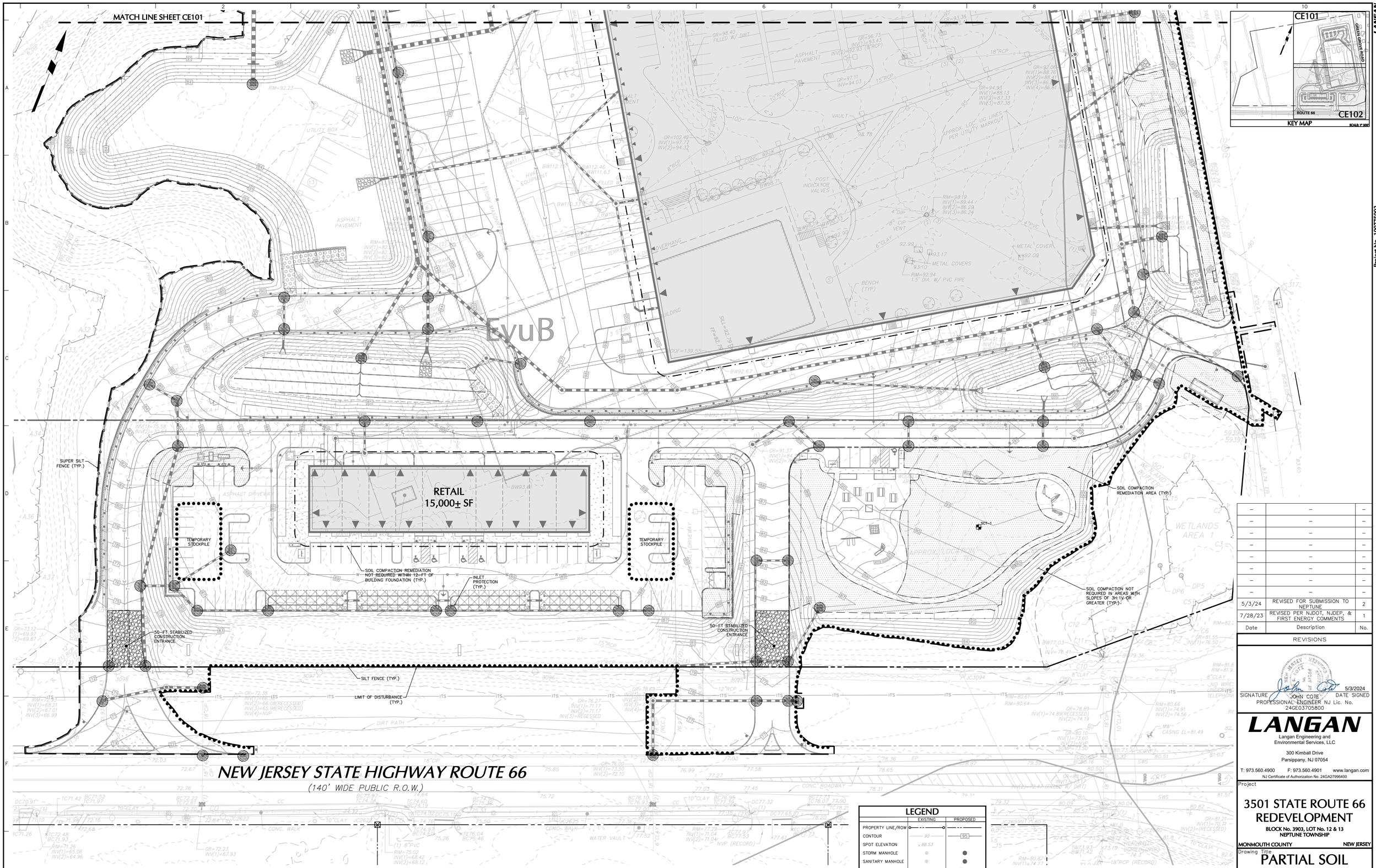
Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL SOIL EROSION & SEDIMENT CONTROL PLAN

Project No. 100775002	Drawing No. CE101
Date AUGUST 26, 2022	
Drawn By LMP	
Checked By MJV	Sheet 38 of 48

SCALE: 1 INCH = 30 FEET

Project No. 100775002



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LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	90	95
SPOT ELEVATION	x 88.53	
STORM MANHOLE		
SANITARY MANHOLE		
CATCH BASIN		
STORM SEWER		
SANITARY SEWER	S	
LIMIT OF DISTURBANCE		
SILT FENCE		
INLET PROTECTION		
CONSTRUCTION ENTRANCE		
SOIL BOUNDARY		
SOIL TYPE SYMBOL		USBOOB
STOCKPILE LOCATION		
STAGING AREA		
SUPER SILT FENCE		

SCALE: 1 INCH = 30 FEET

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5/3/24	REVISED FOR SUBMISSION TO NEPTUNE	2
7/28/23	REVISED PER NJDOT, NJDEP, & FIRST ENERGY COMMENTS	1
Date	Description	No.

REVISIONS

SIGNATURE 5/3/2024
JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 — DATE SIGNED

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Project

3501 STATE ROUTE 66 REDEVELOPMENT

BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP

MONMOUTH COUNTY **NEW JERSEY**

Drawing Title

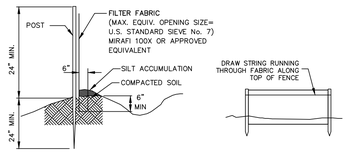
PARTIAL SOIL EROSION & SEDIMENT CONTROL PLAN

Project No.	**100775002**
Date	**AUGUST 26, 2022**
Drawn By	**LMP**
Checked By	**MJV**

Drawing No. **CE102**

Sheet **39** of **48**

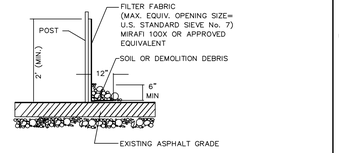
Project No. 100775002



METHOD OF INSTALLATION

1. CONTRACTOR TO DIG 6" MIN.TRENCH AND LINE TRENCH WITH FILTER FABRIC PRIOR TO BACK FILL.
2. EXCEPT FOR THE END POST, DRIVE ALL POSTS INTO THE GROUND AT BACK SIDE OF TRENCH SPACED A MAXIMUM OF 8 FT O.C.
3. ATTACH FILTER FABRIC TO POST AND STRETCH BETWEEN POSTS. SECURE FABRIC TO POST WITH METAL FASTENER AND REINFORCEMENT MATERIAL PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC.
4. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1-1/2 INCHES.

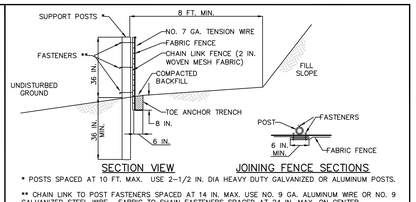
N.T.S.



METHOD OF INSTALLATION:

1. PLACE AND MAINTAIN SOIL OR DEMOLITION. DEBRIS ON TOP OF FILTER FABRIC AS SHOWN.
2. ATTACH FILTER FABRIC TO POST AND STRETCH BETWEEN POSTS.

N.T.S.



SECTION VIEW

JOINING FENCE SECTIONS

* POSTS SPACED AT 10 FT. MAX. USE 2-1/2 IN. DIA HEAVY DUTY GALVANIZED OR ALUMINUM POSTS.

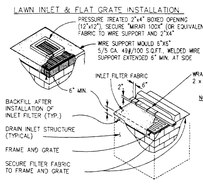
** CHAIN LINK TO POST FASTENERS SPACED AT 14 IN. MAX. USE NO. 9 GA. ALUMINUM WIRE OR NO. 9 GALVANIZED STEEL WIRE. FABRIC TO SHAIN FASTENERS SPACED AT 24 IN. MAX. ON CENTER.

NOTES:

- CHAIN LINK SHALL BE GALVANIZED NO. 11.5 GA. STEEL WIRE WITH 2-1/4 IN. OPENING, NO. 11 GA. ALUMINUM COATED STEEL WIRE IN ACCORDANCE WITH ASTM-A-491, OR GALVANIZED NO. 9 GA. STEEL WIRE TOP AND BOTTOM WITH GALVANIZED NO. 11 GA. STEEL INTERMEDIATE WIRES. NO. 7 GAGE TENSION WIRE TO BE INSTALLED HORIZONTALLY THROUGH HOLES AT TOP AND BOTTOM OF CHAIN-LINK FENCE OR ATTACHED WITH HOG RINGS AT 5 FT MAX. CENTERS.
- GEOTEXTILE FILTER FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS REQUIRED IN THE NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL MANUAL.
- FABRIC WIDTH SHALL BE 42 IN. MINIMUM.
- POSTS SHALL BE INSTALLED USING A POSTHOLE DRILL
- SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
- SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.
- FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

N.T.S.

SILT FENCE IN PERVIOUS AREAS



NOTES:

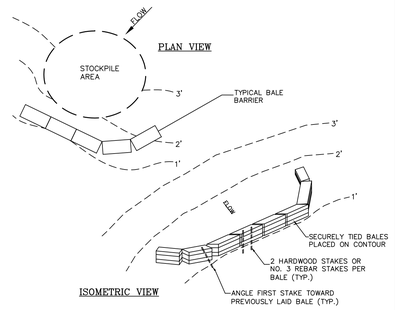
1. CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM.
2. CONTRACTOR TO REMOVE FABRIC AND MESH JUST PRIOR TO PAVING.
3. IF BOTTOM OF ROADWAY IS BELOW TOP OF INLET GRATE, CONSTRUCT PROPERLY FITTED OPENING(S) IN INLET WALL TO ALLOW PASSAGE OF WATER.
4. THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM.

INLET FILTER BARRIER PROTECTION DETAIL

NTS

N.T.S.

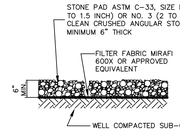
SILT FENCE IN PAVMENT AREAS



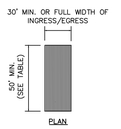
ISOMETRIC VIEW

N.T.S.

SUPER SILT FENCE



SECTION



PLAN

MAINTENANCE:
THE STRUCTURES THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL WILL BE MAINTAINED ON THE SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC ROADWAYS, WILL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE. WASHING OF THE ROADWAY WITH WATER IS NOT PERMITTED.

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	SAND / GRAVEL AREAS	CLAY / SILT AREAS
0 – 2%	50'	100'
2 – 5%	100'	200'
> 5%	ENTIRE SURFACE STABILIZED WITH FABC* BASE COURSE	

*FABC – FINE AGGREGATE BITUMINOUS CONCRETE

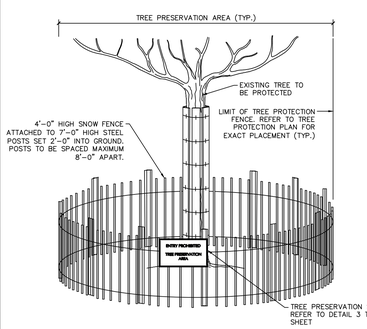
N.T.S.

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. 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.
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 ½ 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 anchor, 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, dropped, spilled, or tracked outside the limit of disturbance or onto public right-of-ways will be removed immediately.
10. Permanent vegetation is to be seeded or sodded 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. Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operational.
14. 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.
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. Staging and stockpiles not located within the limit of disturbance will require certification of a revised Soil Erosion and Sediment Control Plan. Certification of a new Soil Erosion and Sediment Control Plan may be required for these activities if an area greater than 5,000 square feet is disturbed.
17. All soil stockpiles are to be temporarily stabilized in accordance with Soil Erosion and Sediment Control note #6.
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.

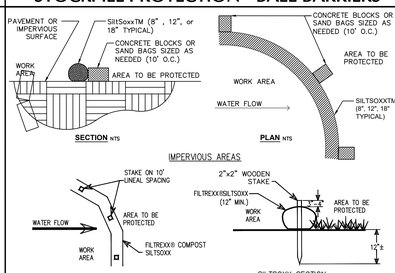
Freehold Soil Conservation District
4000 Kozloski Road, Freehold, NJ 07728-5033, (732) 683-8500, fax (732) 683-9140, Email: info@freeholdscd.org.

INLET FILTER PROTECTION

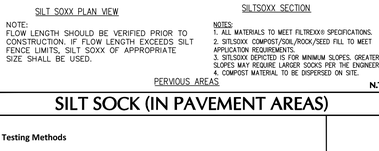


N.T.S.

STOCKPILE PROTECTION - BALE BARRIERS



IMPERVIOUS AREAS



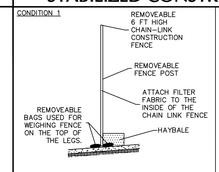
NOTE:
FLOW LENGTH SHOULD BE VERIFIED PRIOR TO CONSTRUCTION. IF FLOW LENGTH EXCEEDS SILT FENCE LIMITS, SILT SOXX OF APPROPRIATE SIZE SHALL BE USED.

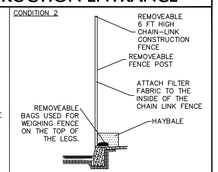
NOTES
1. ALL MATERIALS TO MEET FILTREXX® SPECIFICATIONS.
2. SILTSOXX COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
4. COMPOST MATERIAL TO BE DISPERSED ON SITE.

PERVIOUS AREAS

N.T.S.

STABILIZED CONSTRUCTION ENTRANCE





NOTES:

1. WHERE POSSIBLE, HAYABLES SHALL BE ANCHORED IN ACCORDANCE WITH "HAYBALE ANCHORING" DETAIL
2. CHAIN LINK FENCE SECTIONS TO BE TIED WITH CHAIN AND PADLOCK.
3. FOR USE AT LOCATIONS AS DIRECTED BY THE PMF.

N.T.S.

TREE PROTECTION FENCING

SILT SOCK (IN PAVEMENT AREAS)

TEMPORARY CHAIN-LINK FENCE

GRADING NOTES

1. THE CUT FACE OF EARTH EXCAVATIONS SHALL BE NO STEEPER THAN THE SAFE ANGLE OF REPOSE FOR THE MATERIALS ENCOUNTERED AND FLAT ENOUGH FOR PROPER MAINTENANCE.
2. PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES IN FILL SLOPES.
3. ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS.
4. TIMBER, LOGS, BRUSH, RUBBISH, ROCKS, STUMPS, AND VEGETATIVE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OR FILL AREAS SHALL BE REMOVED AND DISPOSED OF PER LOCAL, STATE, AND FEDERAL WASTE REMOVAL STANDARDS BY THE CONTRACTOR AT CONTRACTOR'S OWN EXPENSE.
5. ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED FROM EROSION.

STABILIZATION WITH MULCH ONLY NOTES

1. NON-GROWING STABILIZATION MEASURES SHALL BE USED WHERE THE SEASON & OTHER CONDITIONS MAY NOT BE SUITABLE FOR GROWING AN EROSION RESISTANT COVE OR WHERE STABILIZATION IS NEEDED FOR A SHORT PERIOD UNTIL MORE SUITABLE PROTECTION CAN CE APPLIED.
2. SALT HAY, HAY FREE OF SEEDS OR UN-ROTTED SMALL GRAIN STRAW AT A RATE OF 70 TO 90 LBS./1,000 SF; TO BE APPLIED ACCORDING TO NEW JERSEY STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS IMMEDIATELY AFTER PLACEMENT (SUCH AS PEG & TWINE, MULCH NETTING OR LIQUID MULCH-BINDER)

MAINTENANCE NOTES

1. MAINTENANCE IS NECESSARY TO ALLOW FOR CONTINUING PERFORMANCE OF EROSION CONTROL DEVICES DURING THE CONSTRUCTION PERIOD AND LONG TERM MAINTENANCE, FOLLOWING COMPLETION OF CONSTRUCTION, FOR THE LIFE OF STRUCTURAL MEASURES. ALL STRUCTURAL MEASURES FOR CONTROL OF SOIL EROSION AND SEDIMENTATION MUST HAVE TIMELY MAINTENANCE. PARTICULAR ATTENTION SHOULD BE GIVEN TO TEMPORARY STRUCTURES SUCH AS SEDIMENT BARRIERS AND CONSTRUCTION APRONS.

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

1. PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY." THE FOLLOWING SEEDING SCHEDULE SHOULD BE USED FOR PERMANENT SEEDING (UNLESS OTHERWISE NOTED)
   - A. APPLY TOPSOIL TO A DEPTH OF 5".
   - B. LIME – 90 LBS/1,000 SF GROUND LIMESTONE.
   - C. FERTILIZER – 14 LBS/1,000 SF; 10-20-10 OR EQUIVALENT, WITH 50% WATER INSOLUBLE NITROGEN, WORKED INTO SOIL TO A DEPTH OF 4 INCHES.
   - D. SEED – 70% TURF TYPE TALL FESCUE
     20% PERENNIAL RYEGRASS
     10% KENTUCKY BLUEGRASS
     SEED AT A RATE OF 200 LBS/ACRE

   OPTIMAL PLANTING PERIOD BETWEEN FEBRUARY 15 AND MAY 1 OR BETWEEN AUGUST 15 AND OCTOBER 15.

DUST CONTROL SPECIFICATIONS

1. ONE OR MORE OF THE FOLLOWING METHODS SHALL BE USED FOR CONTROLLING:
   - A. MULCHING (SEE SPECIFICATIONS, THIS SHEET).
   - B. VEGETATIVE COVER (SEE SPECIFICATIONS, THIS SHEET)
   - C. TILLAGE – TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE AND SHOULD BE USED BEFORE SOIL PLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART AND SPRING-TOOTHED HARROWS MAY PRODUCE THE DESIRED EFFECT.
   - D. SPRINKLING – SITE IS SPRINKLED UNTIL THE SURFACE IS WET.
   - E. BARRIERS – SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY USED TO CONTROL AIR CURRENTS, AND SOIL PLOWING.
   - F. CALCIUM CHLORIDE – 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 SLOPES, USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS.
   - G. STONE – COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.
   - H. SPRAY-ON ADHESIVES – ON MINERAL SOILS. KEEP TRAFFIC OFF THESE AREAS.

SEQUENCE OF CONSTRUCTION

1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHOULD BE NOTIFIED IN WRITING 48 HOURS PRIOR TO ANY LAND DISTURBANCES. A PRE-CONSTRUCTION MEETING IS TO BE HELD WITH THE DISTRICT, ON SITE, PRIOR TO DISTURBANCE. AN OWNER REPRESENTATIVE, THE SITE CONTRACTOR REPRESENTATIVE, PROJECT ENGINEER, AND ANY OTHER PERTINENT PERSONNEL SHOULD ATTEND. THE TOWNSHIP SHALL BE NOTIFIED OF SAID MEETING. (DURATION – 1 DAY)
2. INSTALL CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN AND IN ACCORDANCE WITH THE DETAIL. TRAFFIC SHOULD USE ONLY THIS AREA FOR INGRESS AND EGRESS. AS CONDITIONS WARRANT, THIS LOCATION MAY BE MODIFIED WITH THE PRIOR APPROVAL FROM THE FREEHOLD SOIL CONSERVATION DISTRICT. (DURATION – 2 DAYS)
3. INSTALL SILT FENCE, FILTER SOCK, AND INLET PROTECTION AS INDICATED ON THE PLAN. METHOD OF INSTALLATION AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL AND AS INDICATED ON THE CONSTRUCTION DETAILS. (DURATION – 2 DAYS)
4. ALL TREES WITHIN THE PROPOSED LIMIT OF DISTURBANCE AREA, UNLESS OTHERWISE INDICATED ON THE PLANS, SHALL BE CUT DOWN AND HAULED AWAY IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. THE CLEARING OF UNDERLYING VEGETATION, STUMPING AND GRUBBING SHALL TAKE PLACE PRIOR TO MASS GRADING ACTIVITIES.
5. BEGIN DEMOLITION OF EXISTING OFFICE BUILDING, ALONG WITH ASSOCIATED UTILITY INFRASTRUCTURE, FOUNDATION ELEMENTS, AND CONCRETE AND ASPHALT PAVEMENT. EXISTING PAVEMENT MATERIAL IS TO BE CRUSHED AND STOCKPILED FOR RE-USE AS FILL MATERIAL WHERE SUITABLE AS GRADING OPERATIONS COMMENCE. EXCAVATED SOIL IS TO BE STOCKPILED AND TEMPORARILY STABILIZED IN ACCORDANCE WITH THE SPECIFICATIONS AND CONSTRUCTION DETAIL. (DURATION – 60 DAYS)
6. CONSTRUCT STORM DRAINAGE SYSTEM AND STORMWATER MANAGEMENT BASINS CONCURRENTLY WITH GRADING OPERATIONS TO MINIMIZE CUTS. AS CATCH BASINS ARE CONSTRUCTED, PLACE INLET PROTECTION OVER GRATES AND MAINTAIN AS INDICATED ON THE PLAN AND DETAILS. (DURATION – 90 DAYS)
7. CONSTRUCT UNDERGROUND UTILITIES, CONCURRENTLY WITH GRADING OPERATIONS TO MINIMIZE CUTS. ON-SITE UTILITIES SHALL CONSIST OF GAS, ELECTRIC, TELEPHONE, CABLE, WATER AND SANITARY SEWER. ADVANCE TRENCH EXCAVATION SHALL BE LIMITED TO THE LENGTH OF PIPE WHICH CAN BE COMPLETED IN THE SAME DAY. IF NO FURTHER GRADING IS REQUIRED IN THE AREA OF THE COMPLETED UTILITY TRENCH THEN THE TRENCH SHALL BE GRADED TO FINISH SUB-GRADE ELEVATION AS SHOWN ON THE PLAN AND IMMEDIATELY THEREAFTER STABILIZED. (DURATION – 30 DAYS)
8. BEGIN CONSTRUCTION OF WAREHOUSE AND RETAIL BUILDINGS. (DURATION – 180 DAYS)
9. CONSTRUCT CONCRETE CURB, PARKING AREAS, DRIVEWAYS AND ACCESS WAYS AND PLACE GRAVEL SUB-BASE AND BITUMINOUS BAS COURSE. (DURATION – 60 DAYS)
10. PRIOR TO THE PLACEMENT OF TOPSOIL, CONDUCT SOIL COMPACTION TESTING AND REMEDIATE SUBSOIL (SCARIFICATION/TILLAGE TO A MINIMUM DEPTH OF 6") AS NECESSARY. (DURATION – 10 DAYS)
11. COMPLETE FINAL SITE GRADING AND LANDSCAPE OF ALL APPROPRIATE AREAS AS INDICATED ON THE LANDSCAPE PLAN. STABILIZE WITH PERMANENT SEEDING. (DURATION – 30 DAYS)
12. CONTRACTOR TO JET CLEAN ALL SITE DRAINAGE STRUCTURES AND PIPES OF ANY SILT OR DEBRIS RESULTING FROM SITE CONSTRUCTION PRIOR TO FINAL TURNOVER. (DURATION – 10 DAYS)
13. NOTIFY THE FREEHOLD SOIL CONSERVATION DISTRICT AT COMPLETION OF CONSTRUCTION (DURATION – 1 DAY)
14. CONSTRUCTION ENTRANCE, SILT FENCE, FILTER SOCK, INLET PROTECTION, AND ALL OTHER SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED UNTIL ALL DISTURBED PORTIONS OF THE SITE ARE PERMANENTLY STABILIZED AND A REPORT OF COMPLIANCE IS OBTAINED FROM THE SOIL CONSERVATION DISTRICT. THE CONTRACTOR SHALL COORDINATE WITH THE DISTRICT ON BEHALF OF THE OWNER / APPLICANT AND OBTAIN THE REPORT OF COMPLIANCE PRIOR TO OBTAINING A CERTIFICATE OF OCCUPANCY. (DURATION – VARIABLE)
15. ONCE ALL PERMANENT STABILIZATION MEASURES HAVE BEEN INSTALLED AND ARE ESTABLISHED, THE CONSTRUCTION ENTRANCE, SILT FENCE, FILTER SOCK, INLET PROTECTION, AND ALL OTHER TEMPORARY SOIL EROSION AND SEDIMENT CONTROL DEVICES MAY BE REMOVED. ALL DISTURBED AREAS CAUSED BY THE REMOVAL OF TEMPORARY SEDIMENT POLLUTION CONTROL DEVICES MUST BE IMMEDIATELY PERMANENTLY STABILIZED. (DURATION – VARIABLE)

SOIL COMPACTION REMEDIATION NOTES

Soil De-compaction and Testing Requirements

Soil Compaction Testing Requirements

1. 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.

2. Areas of the site which are subject to compaction testing and/or mitigation are **graphically denoted** on the certified soil erosion control plan.

3. **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.

4. 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

A. Probing Wire Test (see detail)
B. Hand-held Penetrometer Test (see detail)
C. Tube Bulk Density Test (licensed professional engineer required
D. 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

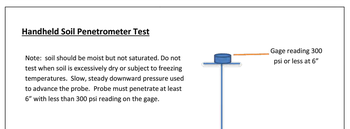
Procedures shall be used to mitigate excessive soil compaction **prior to placement of topsoil** and establishment of permanent vegetative cover.

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 maybe substituted subject to District Approval.

Simplified Testing Methods

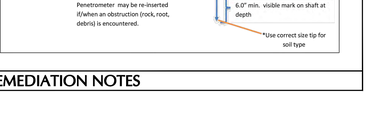
Probing Wire Test- 15.5 ga steel wire (survey flag)

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.



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.



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5/3/24	REVISED FOR SUBMISSION TO NEPTUNE	2
7/28/23	REVISED PER NJDOT, NJDEP, & FIRST ENERGY COMMENTS	1
Date	Description	No.

REVISIONS

SIGNATURE JOHN COTE DATE SIGNED 5/3/2024
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

LANGAN
Langan Engineering and Environmental Services, LLC
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ Certificate of Authorization No. 24GA27996400

Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

Drawing Title
SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS

Project No. 100775002	Drawing No. CE501
Date AUGUST 26, 2022	
Drawn By SS	
Checked By TH	Sheet 40 of 48

Project No. 100775002

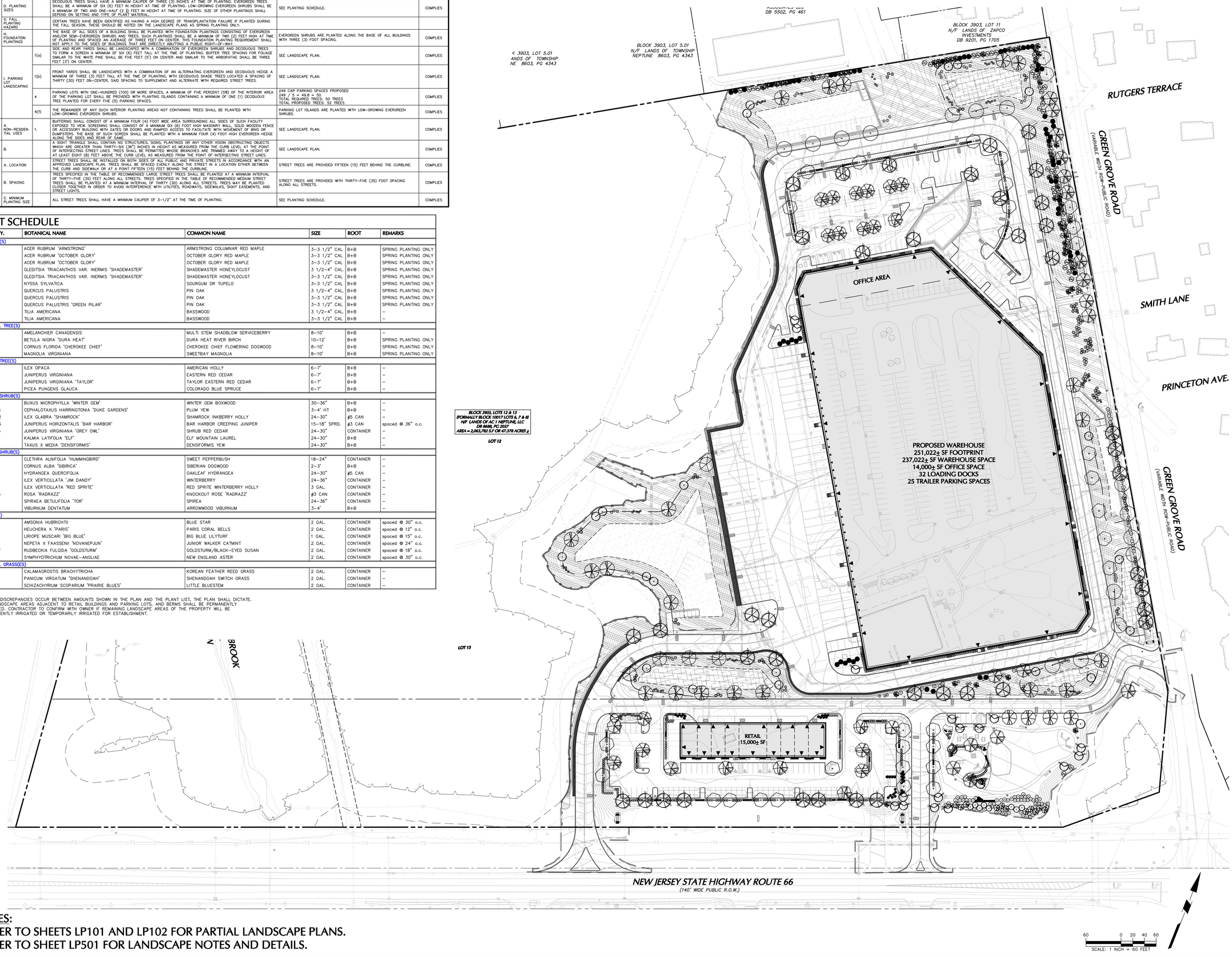
ORDINANCE COMPLIANCE CHART - TOWNSHIP OF NEPTUNE, NJ

SECTION			REQUIREMENT	PROPOSED	COMPLIANCE
§503 – BUFFERING AND SCREENING	C. LOADING AREAS	2.	SCREENING SHALL CONSIST OF A MINIMUM TEN (10) FOOT HIGH VISUALLY IMPERVIOUS SCREEN. IF SUCH SCREEN CONSISTS OF A WALL OR FENCE, THE BUFFER AREA BETWEEN THE WALL OR FENCE AND THE LOT LINE SHALL BE A MINIMUM OF TEN (10) FEET IN WIDTH AND SHALL ALSO BE EXTENSIVELY PLANTED WITH BOTH DECIDUOUS AND EVERGREEN TREES.	LOADING AREAS ARE SCREENED WITH EVERGREEN AND DECIDUOUS TREES.	COMPLIES
§509 – LANDSCAPING	D. PLANTING SIZES		DECIDUOUS TREES SHALL HAVE A MINIMUM CALIPER OF THREE (3) INCHES AT TIME OF PLANTING. EVERGREEN TREES SHALL BE A MINIMUM OF SIX (6) FEET IN HEIGHT AT TIME OF PLANTING. LOW-GROWING EVERGREEN SHRUBS SHALL BE A MINIMUM OF TWO AND ONE-HALF (2 ½) FEET IN HEIGHT AT TIME OF PLANTING. SIZE OF OTHER PLANTINGS SHALL DEPEND ON SETTING AND TYPE OF PLANT MATERIAL.	SEE PLANTING SCHEDULE.	COMPLIES
	G. FALL PLANTING HAZARD		CERTAIN TREES HAVE BEEN IDENTIFIED AS HAVING A HIGH DEGREE OF TRANSPLANTATION FAILURE IF PLANTED DURING THE FALL SEASON. THESE SHOULD BE NOTED ON THE LANDSCAPE PLANS AS SPRING PLANTING ONLY.		
	H. FOUNDATION PLANTINGS		THE BASE OF ALL SIDES OF A BUILDING SHALL BE PLANTED WITH FOUNDATION PLANTINGS CONSISTING OF EVERGREEN AND/OR SEMI-EVERGREEN SHRUBS AND TREES. SUCH PLANTINGS SHALL BE A MINIMUM OF TWO (2) FEET HIGH AT TIME OF PLANTING AND SPACED AN AVERAGE OF THREE FEET ON CENTER. THIS FOUNDATION PLANTING REQUIREMENT SHALL NOT APPLY TO THE SIDES OF BUILDINGS THAT ARE DIRECTLY ABUTTING A PUBLIC RIGHT-OF-WAY.	EVERGREEN SHRUBS ARE PLANTED ALONG THE BASE OF ALL BUILDINGS WITH THREE (3) FOOT SPACING.	COMPLIES
	I. PARKING LOT LANDSCAPING	1(a)	SIDE AND REAR YARDS SHALL BE LANDSCAPED WITH A COMBINATION OF EVERGREEN SHRUBS AND DECIDUOUS TREES TO FORM A SCREEN A MINIMUM OF SIX (6) FEET TALL AT THE TIME OF PLANTING. BUFFER TREE SPACING FOR FOLIAGE SIMILAR TO THE WHITE PINE SHALL BE FIVE FEET (5') ON CENTER AND SIMILAR TO THE ARBORVITAE SHALL BE THREE FEET (3') ON CENTER.	SEE LANDSCAPE PLAN.	COMPLIES
		1(b)	FRONT YARDS SHALL BE LANDSCAPED WITH A COMBINATION OF AN ALTERNATING EVERGREEN AND DECIDUOUS HEDGE A MINIMUM OF THREE (3) FEET TALL AT THE TIME OF PLANTING, WITH DECIDUOUS SHADE TREES LOCATED A SPACING OF THIRTY (30) FEET ON-CENTER, SAID SPACING TO SUPPLEMENT AND ALTERNATE WITH REQUIRED STREET TREES.	SEE LANDSCAPE PLAN.	COMPLIES
		4	PARKING LOTS WITH ONE-HUNDRED (100) OR MORE SPACES, A MINIMUM OF FIVE PERCENT (5%) OF THE INTERIOR AREA OF THE PARKING LOT SHALL BE PROVIDED WITH PLANTING ISLANDS CONTAINING A MINIMUM OF ONE (1) DECIDUOUS TREE PLANTED FOR EVERY FIVE (5) PARKING SPACES.	249 CAR PARKING SPACES PROPOSED 249 / 5 = 49.8 = 50 TOTAL REQUIRED TREES: 50 TREES TOTAL PROPOSED TREES: 52 TREES	COMPLIES
		4(f)	THE REMAINDER OF ANY SUCH INTERIOR PLANTING AREAS NOT CONTAINING TREES SHALL BE PLANTED WITH LOW-GROWING EVERGREEN SHRUBS.	PARKING LOT ISLANDS ARE PLANTED WITH LOW-GROWING EVERGREEN SHRUBS.	COMPLIES
§515 – REFUSE AND RECYCLING AREAS	A. NON-RESIDENTIAL USES	1.	BUFFERING SHALL CONSIST OF A MINIMUM FOUR (4) FOOT WIDE AREA SURROUNDING ALL SIDES OF SUCH FACILITY EXPOSED TO VIEW. SCREENING SHALL CONSIST OF A MINIMUM SIX (6) FOOT HIGH MASONRY WALL, SOLID WOODEN FENCE OR ACCESSORY BUILDING WITH GATES OR DOORS AND RAMPED ACCESS TO FACILITATE WITH MOVEMENT OF BINS OR DUMPSTERS. THE BASE OF SUCH SCREEN SHALL BE PLANTED WITH A MINIMUM FOUR (4) FOOT HIGH EVERGREEN HEDGE ALONG THE SIDES AND REAR OF SAME.	SEE LANDSCAPE PLAN.	COMPLIES
§520 – SIGHT TRIANGES	B.		A SIGHT TRIANGLE SHALL CONTAIN NO STRUCTURES, SIGNS, PLANTINGS OR ANY OTHER VISION OBSTRUCTING OBJECTS WHICH ARE GREATER THAN THIRTY-SIX (36") INCHES IN HEIGHT AS MEASURED FROM THE CURB LEVEL AT THE POINT OF INTERSECTING STREET LINES. TREES SHALL BE PERMITTED WHOSE BRANCHES ARE TRIMMED AWAY TO A HEIGHT OF AT LEAST EIGHT (8) FEET ABOVE THE CURB LEVEL AS MEASURED FROM THE POINT OF INTERSECTING STREET LINES.	SEE LANDSCAPE PLAN.	COMPLIES
§523 – STREET TREES	A. LOCATION		STREET TREES SHALL BE INSTALLED ON BOTH SIDES OF ALL PUBLIC AND PRIVATE STREETS IN ACCORDANCE WITH AN APPROVED LANDSCAPE PLAN. TREES SHALL BE SPACED EVENLY ALONG THE STREET IN A LOCATION EITHER BETWEEN THE CURB AND SIDEWALK OR AT A POINT FIFTEEN (15) FEET BEHIND THE CURBLINE.	STREET TREES ARE PROVIDED FIFTEEN (15) FEET BEHIND THE CURBLINE.	COMPLIES
	B. SPACING		TREES SPECIFIED IN THE TABLE OF RECOMMENDED LARGE STREET TREES SHALL BE PLANTED AT A MINIMUM INTERVAL OF THIRTY-FIVE (35) FEET ALONG ALL STREETS. TREES SPECIFIED IN THE TABLE OF RECOMMENDED MEDIUM STREET TREES SHALL BE PLANTED AT A MINIMUM INTERVAL OF THIRTY (30) ALONG ALL STREETS. TREES MAY BE PLANTED CLOSER TOGETHER IN ORDER TO AVOID INTERFERENCE WITH UTILITIES, ROADWAYS, SIDEWALKS, SIGHT EASEMENTS, AND STREET LIGHTS.	STREET TREES ARE PROVIDED WITH THIRTY-FIVE (35) FOOT SPACING ALONG ALL STREETS.	COMPLIES
	C. MINIMUM PLANTING SIZE		ALL STREET TREES SHALL HAVE A MINIMUM CALIPER OF 3-1/2" AT THE TIME OF PLANTING.	SEE PLANTING SCHEDULE.	COMPLIES

PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
SHADE TREE(S)						
ARA	11	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG COLUMNAR RED MAPLE	3-3 1/2" CAL	B+B	SPRING PLANTING ONLY
AROG*	7	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3-3 1/2" CAL	B+B	SPRING PLANTING ONLY
AROG	33	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3-3 1/2" CAL	B+B	SPRING PLANTING ONLY
GTIS*	11	GLEDITSIA TRIACANTHOS VAR. INERMIS 'SHADEMASTER'	SHADEMASTER HONEYLOCUST	3 1/2-4" CAL.	B+B	SPRING PLANTING ONLY
GTIS	29	GLEDITSIA TRIACANTHOS VAR. INERMIS 'SHADEMASTER'	SHADEMASTER HONEYLOCUST	3-3 1/2" CAL	B+B	SPRING PLANTING ONLY
NS	5	NYSSA SYLVATICA	SOURGUM OR TUPELO	3-3 1/2" CAL	B+B	SPRING PLANTING ONLY
QP*	4	QUERCUS PALUSTRIS	PIN OAK	3 1/2-4" CAL.	B+B	SPRING PLANTING ONLY
QP	11	QUERCUS PALUSTRIS	PIN OAK	3-3 1/2" CAL	B+B	SPRING PLANTING ONLY
QPG	8	QUERCUS PALUSTRIS 'GREEN PILAR'	PIN OAK	3-3 1/2" CAL	B+B	SPRING PLANTING ONLY
TA*	5	TILIA AMERICANA	BASSWOOD	3 1/2-4" CAL.	B+B	–
TA	28	TILIA AMERICANA	BASSWOOD	3-3 1/2" CAL	B+B	–
ORNAMENTAL TREE(S)						
AC	3	AMELANCHIER CANADENSIS	MULTI STEM SHADBLOW SERVICEBERRY	8-10'	B+B	–
BND	24	BETULA NIGRA 'DURA HEAT'	DURA HEAT RIVER BIRCH	10-12'	B+B	SPRING PLANTING ONLY
CFC	17	CORNUS FLORIDA 'CHEROKEE CHIEF'	CHEROKEE CHIEF FLOWERING DOGWOOD	8-10'	B+B	SPRING PLANTING ONLY
MV	20	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA	8-10'	B+B	SPRING PLANTING ONLY
EVERGREEN TREE(S)						
ID	44	ILEX OPACA	AMERICAN HOLLY	6-7'	B+B	–
JV	49	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6-7'	B+B	–
JVT	36	JUNIPERUS VIRGINIANA 'TAYLOR'	TAYLOR EASTERN RED CEDAR	6-7'	B+B	–
PPG	58	PICEA PUNGENS GLAUCA	COLORADO BLUE SPRUCE	6-7'	B+B	–
EVERGREEN SHRUB(S)						
BMWG	50	BUXUS MICROPHYLLA 'WINTER GEM'	WINTER GEM BOXWOOD	30-36"	B+B	–
CHD	133	CEPHALOTAXUS HARRINGTONIA 'DUKE GARDENS'	PLUM YEW	3-4' HT	B+B	–
IGS	282	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	24-30"	#5 CAN	–
JHBH	366	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR CREEPING JUNIPER	15-18" SPRD.	#3 CAN	spaced @ 36" o.c.
JVGO	155	JUNIPERUS VIRGINIANA 'GREY OWL'	SHRUB RED CEDAR	24-30"	CONTAINER	–
KLE	63	KALMIA LATIFOLIA 'ELF'	ELF MOUNTAIN LAUREL	24-30"	B+B	–
TMD	28	TAXUS X MEDIA 'DENSIFORMIS'	DENSIFORMIS YEW	24-30"	B+B	–
DECIDUOUS SHRUB(S)						
CAH	97	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	18-24"	CONTAINER	–
CAS	97	CORNUS ALBA 'SIBIRICA'	SIBERIAN DOGWOOD	2-3'	B+B	–
HQ	82	HYDRANGEA QUERCIFOLIA	OAKLEAF HYDRANGEA	24-30"	#5 CAN	–
IVAJD	11	ILEX VERTICILLATA 'JIM DANDY'	WINTERBERRY	24-36"	CONTAINER	–
IVRS	99	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY HOLLY	3 GAL.	CONTAINER	–
RRAD	125	ROSA 'RADRAZZ'	KNOCKOUT ROSE 'RADRAZZ'	#3 CAN	CONTAINER	–
SBT	52	SPIRAEA BETULIFOLIA 'TOR'	SPIREA	24-36"	CONTAINER	–
VD	113	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3-4'	B+B	–
PERENNIAL(S)						
AHI	64	AMSONIA HUBRICHTII	BLUE STAR	2 GAL.	CONTAINER	spaced @ 30" o.c.
HP	91	HEUCHERA X 'PARIS'	PARIS CORAL BELLS	2 GAL.	CONTAINER	spaced @ 12" o.c.
LM	201	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	1 GAL.	CONTAINER	spaced @ 15" o.c.
NFN	114	NEPETA X FAASSENII 'NOVANEPJUN'	JUNIOR WALKER CATMINT	2 GAL.	CONTAINER	spaced @ 24" o.c.
RFG	147	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM/BLACK-EYED SUSAN	2 GAL.	CONTAINER	spaced @ 18" o.c.
SN	41	SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	2 GAL.	CONTAINER	spaced @ 30" o.c.
ORNAMENTAL GRASS(ES)						
CBT	47	CALAMAGROSTIS BRACHYTRICHA	KOREAN FEATHER REED GRASS	2 GAL.	CONTAINER	–
PVS	110	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	2 GAL.	CONTAINER	–
SSCO	86	SCHIZACHYRIUM SCOPARIUM 'PRAIRIE BLUES'	LITTLE BLUESTEM	2 GAL.	CONTAINER	–

NOTES:
1. IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN IN THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.
2. ALL LANDSCAPE AREAS ADJACENT TO RETAIL BUILDINGS AND PARKING LOTS, AND BERMS SHALL BE PERMANENTLY IRRIGATED. CONTRACTOR TO CONFIRM WITH OWNER IF REMAINING LANDSCAPE AREAS OF THE PROPERTY WILL BE PERMANENTLY IRRIGATED OR TEMPORARILY IRRIGATED FOR ESTABLISHMENT.



NOTES:
- REFER TO SHEETS LP101 AND LP102 FOR PARTIAL LANDSCAPE PLANS.
- REFER TO SHEET LP501 FOR LANDSCAPE NOTES AND DETAILS.

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5/3/24	REVISED FOR SUBMISSION TO NEPTUNE	3
1/22/24	REVISED FOR REDEVELOPMENT AGREEMENT	2
7/28/23	REVISED PER NJDOT, NJDEP, & FIRST ENERGY COMMENTS	1
Date	Description	No.

REVISIONS

SIGNATURE MICHAEL SZARA DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. AS00815

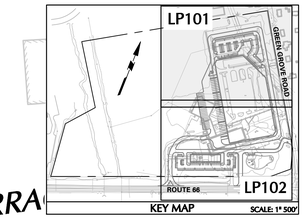
LANGAN
Langan Engineering and Environmental Services, LLC
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ Certificate of Authorization No. 24GA27996400

Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

Drawing Title
OVERALL LANDSCAPE PLAN

Project No. 100775002	Drawing No. LP100
Date AUGUST 26, 2022	
Drawn By SD	
Checked By DB	Sheet 41 of 48

Project No. 100775002



NOTES:
- REFER TO SHEET LP100 FOR OVERALL LANDSCAPE PLAN, COMPLIANCE CHART, AND PLANT SCHEDULE.
- REFER TO SHEET LP501 FOR LANDSCAPE NOTES AND DETAILS.

SCALE: 1 INCH = 30 FEET

No.	Description	Date
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3	REVISED FOR SUBMISSION TO NEPTUNE	5/3/24
2	REVISED FOR REDEVELOPMENT AGREEMENT	1/22/24
1	REVISED PER NJDOT, NJDEP, & FIRST ENERGY COMMENTS	7/28/23

REVISIONS

SIGNATURE MICHAEL SZURA DATE SIGNED
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Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

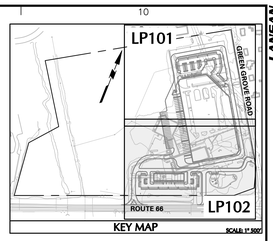
Drawing Title
LANDSCAPING PLANTING PLAN

Project No.	100775002
Date	AUGUST 26, 2022
Drawn By	SD
Checked By	DB
Drawing No.	LP101
Sheet	42 of 48

Project No. 100775002

Date: 5/3/2024 Time: 12:47 User: sswora Style Table: Langan.stb Layout: LP101 Document Code: 100775002-0301-LP101-0102

MATCH LINE SHEET LP101



KEY MAP SCALE: 1" = 300'

RETAIL
15,000± SF

12" GRAVEL STRIP (TYP.)

MEADOW MIX TYPE 'B' (TYP.)
SAND BOTTOM (DO NOT PLANT)

LIMIT OF DISTURBANCE (TYP.)
MEADOW MIX TYPE 'B' UP TO LIMIT OF DISTURBANCE (TYP.)

LAWN (TYP.)

GRAVEL (TYP.)

MEADOW MIX TYPE 'A' (TYP.)

MEADOW MIX TYPE 'B' (TYP.)

4 FT LAWN STRIP (TYP.)

MEADOW WITHIN FENCE AREA (TYP.)

(2) EXISTING EVERGREEN TREES TO REMAIN AND BE PROTECTED

EXISTING TREE LINE TO REMAIN (TYP.)

NEW JERSEY STATE HIGHWAY ROUTE 66
(140' WIDE PUBLIC R.O.W.)

NOTES:
- REFER TO SHEET LP100 FOR OVERALL LANDSCAPE PLAN, COMPLIANCE CHART, AND PLANT SCHEDULE.
- REFER TO SHEET LP501 FOR LANDSCAPE NOTES AND DETAILS.

SCALE: 1 INCH = 30 FEET

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REVISIONS

SIGNATURE MICHAEL SZARA DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
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Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

Drawing Title
LANDSCAPING PLANTING PLAN

Project No. 100775002
Date AUGUST 26, 2022
Drawn By SD
Checked By DB
Drawing No. LP102
Sheet 43 of 48

Project No. 100775002

GENERAL LANDSCAPE PLANTING NOTES

1. NAMES OF PLANTS AS DESCRIBED ON THIS PLAN CONFORM TO THOSE GIVEN IN "STANDARDIZED PLANT NAMES", 1942 EDITION, PREPARED BY THE AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE. NAMES OF PLANT VARIETIES NOT INCLUDED THEREIN CONFORM TO NAMES GENERALLY ACCEPTED IN NURSERY TRADE.
2. STANDARDS FOR TYPE, SPREAD, HEIGHT, ROOT BALL AND QUALITY OF NEW PLANT MATERIAL SHALL BE IN ACCORDANCE WITH GUIDELINES AS SET FORTH IN THE "AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION. PLANT MATERIAL SHALL HAVE NORMAL HABIT OF GROWTH AND BE HEALTHY, VIGOROUS, AND FREE FROM DISEASES AND INSECT INFESTATION.
3. NEW PLANT MATERIAL SHALL BE NURSERY GROWN UNLESS SPECIFIED OTHERWISE. ALL PLANTS SHALL BE SET PLUMB AND SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING. PLANT MATERIAL OF THE SAME SPECIES AND SPECIFIED AS THE SAME SIZE SHOULD BE SIMILAR IN SHAPE, COLOR AND HABIT. THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REJECT PLANT MATERIAL THAT DOES NOT CONFORM TO THE TYPICAL OR SPECIFIED HABIT OF THAT SPECIES. ALL TREES SHALL HAVE A STRAIGHT TRUNK AND FULL HEAD AND MEET ALL REQUIREMENTS SPECIFIED. ANY TREE THAT LOSES THE MAIN LEADER SHALL BE REPLACED.
4. THE BACKFILL MIXTURE AND SOIL MIXES TO BE INSTALLED PER THE SPECIFICATIONS.
5. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE AND SUBGRADE DRAINAGE OR PERCOLATION CHARACTERISTICS, WHETHER THE SUBGRADE SOILS ARE EXISTING TO REMAIN OR IMPORTED AND PLACED. CONTRACTOR TO ENSURE POSITIVE VERTICAL DRAINAGE THROUGHOUT PLANTED AREAS. DISCREPANCIES SHALL BE ADDRESSED WITH THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PURCHASING PLANT MATERIALS.
6. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE FINISH GRADING HAS BEEN COMPLETED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR PROJECT ENGINEER.
7. ALL PLANT INSTALLATIONS SHALL BE COMPLETED EITHER BETWEEN APRIL 1 – JUNE 15 OR SEPT 1 – NOVEMBER 1, UNLESS OTHERWISE DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT. SEE LAWN SEEDING DATES IN SEEDING NOTES.
8. ALL FENCE AND GUIDE RAIL INSTALLATIONS SHALL BE COMPLETED PRIOR TO COMMENCEMENT OF ANY LANDSCAPE PLANTING, LAWN AND GRASSES, OR IRRIGATION WORK.
9. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITY AND SEWER LINES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF CONSTRUCTION. NOTIFY THE PROJECT ENGINEER AND OWNER IMMEDIATELY OF ANY CONFLICTS WITH PROPOSED PLANTING LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE.
10. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR 1) TO VERIFY THE LOCATIONS OF UTILITY LINES AND ADJACENT TO THE WORK AREA 2) TO PROTECT OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.
11. THE CONTRACTOR SHALL NOT MAKE SUBSTITUTIONS. IF THE SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE, THE CONTRACTOR SHALL SUBMIT PROOF OF NON–AVAILABILITY TO THE LANDSCAPE ARCHITECT AND OWNER, TOGETHER WITH A WRITTEN PROPOSAL FOR USE OF AN EQUIVALENT MATERIAL.
12. LANDSCAPE CONTRACTOR TO STAKE OUT PLANTING LOCATIONS, FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT AND/OR OWNER BEFORE PLANTING WORK BEGINS. THE LANDSCAPE ARCHITECT AND/OR OWNER SHALL DIRECT THE CONTRACTOR IN THE FINAL PLACEMENT OF ALL PLANT MATERIAL AND LOCATION OF PLANTING BEDS TO ENSURE COMPLIANCE WITH DESIGN INTENT UNLESS OTHERWISE INSTRUCTED.
13. ALL MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION. THE LANDSCAPE ARCHITECT MAY REVIEW PLANT MATERIALS AT THE SITE FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, SIZE, AND QUALITY. THE LANDSCAPE ARCHITECT RETAINS THE RIGHT TO FURTHER REVIEW PLANT MATERIALS FOR SIZE AND CONDITION OF BALLS AND ROOT SYSTEM, INSECTS, INJURIES, AND LATENT DEFECTS, AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK. THE CONTRACTOR SHALL REMOVE REJECTED PLANT MATERIALS IMMEDIATELY FROM PROJECT SITE AS DIRECTED BY THE LANDSCAPE ARCHITECT OR OWNER.
14. ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE. ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, MISSING, 25% OR MORE DEAD, WHICH DO NOT DEVELOP FROM PLANTING STOCK, THAT APPEAR UNHEALTHY OR UNSIGHTLY AND/OR HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES DEAD, OR REJECTED FOR ANY OTHER REASON (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY SCHEDULE AND PROTECTION BETWEEN DELIVERY AND PLANTING PER SPECIFICATIONS TO MAINTAIN HEALTHY PLANT CONDITIONS.
16. DELIVERY, STORAGE, AND HANDLING
    A. PACKAGED MATERIALS: PACKAGED MATERIALS SHALL BE DELIVERED IN CONTAINERS SHOWING WEIGHT, ANALYSIS, AND NAME OF MANUFACTURER. MATERIALS SHALL BE PROTECTED FROM DETERIORATION DURING DELIVERY, AND WHILE STORED AT SITE.
    B. TREES AND SHRUBS: THE CONTRACTOR SHALL PROVIDE TREES AND SHRUBS DUG FOR THE GROWING SEASON FOR WHICH THEY WILL BE PLANTED. DO NOT PRUNE PRIOR TO DELIVERY UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT. DO NOT BEND OR BIND–TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DAMAGE BARK, BREAK BRANCHES, OR DESTROY NATURAL SHAPE. PROVIDE PROTECTIVE COVERING DURING TRANSIT. DO NOT DROP BALLED AND BURLAPPED STOCK DURING DELIVERY OR HANDLING.
    C. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOTBALL WRAPPING AND BINDING MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED FROM THE TOP OF THE BALL AT THE TIME OF PLANTING. IF THE PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, THE WIRE BASKET SHALL BE CUT AND FOLDED DOWN 8 INCHES INTO THE PLANTING HOLE. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE ROOT BALL SHALL BE CUT THROUGH THE SURFACE IN TWO LOCATIONS.
    D. THE CONTRACTOR SHALL HAVE TREES AND SHRUBS DELIVERED TO SITE AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND PLANT IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN 6 HOURS AFTER DELIVERY, THE CONTRACTOR SHALL SET TREES AND SHRUBS IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE AND KEEP ROOTS MOIST BY COVERING WITH MULCH, BURLAP OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE.
17. ALL LANDSCAPED AREAS TO BE CLEARED OF ROCKS, STUMPS, TRASH AND OTHER UNSIGHTLY DEBRIS. ALL FINE GRADED AREAS SHOULD BE HAND RAKED SMOOTH ELIMINATING ANY CLUMPS AND UNEVEN SURFACES PRIOR TO PLANTING OR MULCHING.
18. ALL PLANT MATERIAL SHALL BE INSTALLED AS PER DETAILS, NOTES AND CONTRACT SPECIFICATIONS. THE LANDSCAPE ARCHITECT MAY REVIEW INSTALLATION AND MAINTENANCE PROCEDURES.
19. CONTRACTOR'S GUARANTEE: ALL PLANTINGS AND PLANTING AREAS SHALL BE PERMANENTLY MAINTAINED. NEW PLANT MATERIAL SHALL BE GUARANTEED TO BE ALIVE AND IN VIGOROUS GROWING CONDITION FOR A PERIOD OF TWO YEARS FOLLOWING ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO: WATERING, PRUNING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL OF THE PLANT MATERIALS AND LAWN FOR THE DURATION OF THE GUARANTEED PERIOD. PLANT MATERIAL FOUND TO BE UNHEALTHY, DYING OR DEAD DURING THIS PERIOD, SHALL BE REMOVED AND REPLACED IN KIND BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
20. THE CONTRACTOR SHALL KEEP AREA CLEAN DURING DELIVERY AND INSTALLATION OF PLANT MATERIALS. REMOVE AND DISPOSE OF OFF–SITE ANY ACCUMULATED DEBRIS OR UNUSED MATERIALS. REPAIR DAMAGE TO ADJACENT AREAS CAUSED BY LANDSCAPE INSTALLATION OPERATIONS.
21. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24– HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED WEEKLY OR AS REQUIRED BY SITE AND WEATHER CONDITIONS TO MAINTAIN VIGOROUS AND HEALTHY PLANT GROWTH.
22. ON–SITE WATER SHALL BE FURNISHED BY THE CONTRACTOR. HOSE AND OTHER WATERING EQUIPMENT SHALL BE FURNISHED BY THE CONTRACTOR.
23. AFTER PLANT IS PLACED IN TREE PIT LOCATION, ALL TWINE HOLDING ROOT BALL TOGETHER SHOULD BE COMPLETELY REMOVED AND THE BURLAP SHOULD BE PULLED DOWN SO 1/3 OF THE ROOT BALL IS EXPOSED. SYNTHETIC BURLAP SHOULD BE COMPLETELY REMOVED AFTER INSTALLATION.
24. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
25. ALL EXPOSED GROUND SURFACES THAT ARE NOT PAVED WITHIN THE CONTRACT LIMIT LINE, AND THAT ARE NOT COVERED BY LANDSCAPE PLANTING OR SEEDING AS SPECIFIED, SHALL BE COVERED BY A NATURAL MULCH FROM A LOCAL SOURCE HARVESTED IN A SUSTAINABLE MANNER THAT WILL PREVENT SOIL EROSION AND THE EMANATION OF DUST. MULCH SHALL BE A FIBROUS SHREDDED HARDWOOD MULCH. MULCH SHOULD NOT BE PILED UP AROUND THE TRUNK OF ANY PLANT MATERIAL. NO MULCH OR TOPSOIL SHOULD BE TOUCHING THE BASE OF THE TRUNK ABOVE THE ROOT COLLAR.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK. FOR ANY DISCREPANCIES BETWEEN THE PLANT SCHEDULE AND PLANTING PLAN THE GRAPHIC QUANTITY SHOWN SHALL GOVERN.
27. LANDSCAPE PUNCH LIST SITE VISITS TO BE PERFORMED BY THE PROJECT LANDSCAPE ARCHITECT, IF UNDER CONTRACT FOR SUCH WORK, WILL NOT BE SCHEDULED UNTIL CONFIRMATION IS RECEIVED THAT ALL PROPOSED LANDSCAPE ITEMS HAVE BEEN INSTALLED, OR DEFICIENCIES NOTED IN THE PRIOR PUNCH LIST REPORT HAVE BEEN CORRECTED. THE PUNCH LIST SITE VISIT WILL THEN BE PERFORMED WITHIN 10 BUSINESS DAYS.
28. CONTRACTOR SHALL ASSESS THE NEED FOR DEER PROTECTION ON SITE. IF DEEMED NECESSARY, SHADE AND ORNAMENTAL TREES SHALL BE PROTECTED THROUGH WINTER WITH SPIRAL WRAP TREE GUARDS, OR APPROVED EQUAL. PROTECTION LENGTH TO BE FROM BELOW THE LOWEST BRANCH AND DOWN TO WITHIN A FEW INCHES OF THE GROUND. THE GUARDS CAN BE REMOVED IN SPRING AND SAVED FOR RE–INSTALLATION DURING FOLLOWING WINTERS AS PART OF A MAINTENANCE PROGRAM.
29. ALL SLOPES 3:1 OR GREATER AND ALL SIDE SLOPES OF BASINS SHALL REQUIRE AN EROSION CONTROL BLANKET: ERONET SC150 BY NORTH AMERICAN GREEN, OR APPROVED EQUAL.

LANDSCAPE MAINTENANCE NOTES

1. MAINTENANCE OPERATIONS BEFORE APPROVAL:
    A. PLANT CARE SHALL BEGIN IMMEDIATELY AFTER EACH PLANT IS SATISFACTORILY INSTALLED AND SHALL CONTINUE THROUGHOUT THE LIFE OF THE CONTRACT UNTIL FINAL ACCEPTANCE OF THE PROJECT.
    B. CARE SHALL INCLUDE, BUT NOT BE LIMITED TO, REPLACING MULCH THAT HAS BEEN DISPLACED BY EROSION OR OTHER MEANS, REPAIRING AND RESHAPING WATER RINGS OR SAUCERS, MAINTAINING STAKES AND GUYS AS ORIGINALLY INSTALLED, WATERING WHEN NEEDED OR DIRECTED, AND PERFORMING ANY OTHER WORK REQUIRED TO KEEP THE PLANTS IN A HEALTHY CONDITION.
    C. CONTRACTOR SHALL REMOVE AND REPLACE ALL DEAD, DEFECTIVE AND/OR REJECTED PLANTS AS REQUIRED BEFORE FINAL ACCEPTANCE.
2. MAINTENANCE DURING CONSTRUCTION:
    A. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING. PLANTS SHALL BE WATERED, MULCHED, WEEDED, PRUNED, SPRAYED, FERTILIZED, CULTIVATED, AND OTHERWISE MAINTAINED AND PROTECTED UNTIL PROVISIONAL ACCEPTANCE. SETTLED PLANTS SHALL BE RESET TO PROPER GRADE AND POSITION, PLANTING SAUCER RESTORED AND DEAD MATERIAL REMOVED. STAKES AND WIRES SHALL BE TIGHTENED AND REPAIRED. DEFECTIVE WORK SHALL BE CORRECTED AS SOON AS POSSIBLE AFTER IT BECOMES APPARENT AND WEATHER AND SEASON PERMIT.
    B. IF A SUBSTANTIAL NUMBER OF PLANTS ARE SICKLY OR DEAD AT THE TIME OF INSPECTION, ACCEPTANCE SHALL NOT BE GRANTED AND THE CONTRACTOR'S RESPONSIBILITY FOR MAINTENANCE OF ALL PLANTS SHALL BE EXTENDED FROM THE TIME REPLACEMENTS ARE MADE OR EXISTING PLANTS ARE DEEMED ACCEPTABLE BY THE LANDSCAPE ARCHITECT.
    C. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE SPECIFIED ON THE PLANT LIST OR THAT WHICH WAS TO REMAIN OR BE RELOCATED. THEY SHALL BE FURNISHED AND PLANTED AS SPECIFIED. THE COST SHALL BE BORNE BY THE CONTRACTOR. REPLACEMENTS RESULTING FROM REMOVAL, LOSS, OR DAMAGE DUE TO OCCUPANCY OF THE PROJECT IN ANY PART, VANDALISM, PHYSICAL DAMAGE BY ANIMALS, VEHICLES, ETC., AND LOSSES DUE TO CURTAILMENT OF WATER BY LOCAL AUTHORITIES SHALL BE APPROVED AND PAID FOR BY THE OWNER.
    D. PLANTS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER INSPECTION AND PROVISIONAL ACCEPTANCE.
    E. AT THE END OF THE ESTABLISHMENT PERIOD, INSPECTION SHALL BE MADE AGAIN. ANY PLANT REQUIRED UNDER THIS CONTRACT THAT IS DEAD OR UNSATISFACTORY TO THE LANDSCAPE ARCHITECT OR OWNER SHALL BE REMOVED FROM THE SITE AND REPLACED DURING THE NORMAL PLANTING SEASON.
3. LAWN MAINTENANCE:
    A. BEGIN MAINTENANCE IMMEDIATELY AFTER EACH PORTION OF LAWN IS PLANTED AND CONTINUE FOR 8 WEEKS AFTER ALL LAWN PLANTING IS COMPLETED.
    B. WATER TO KEEP SURFACE SOIL MOIST, REPAIR WASHED OUT AREAS BY FILLING WITH TOPSOIL, LIMING, FERTILIZING AND RE–SEEDING; MOW TO 2 1/2 – 3 INCHES AFTER GRASS REACHES 3 1/2 INCHES IN HEIGHT, AND MOW FREQUENTLY ENOUGH TO KEEP GRASS FROM EXCEEDING 3 1/2 INCHES. WEED BY LOCAL SPOT APPLICATION OF SELECTIVE HERBICIDE ONLY AFTER GRASS IS WELL–ESTABLISHED.

PLANTING SOIL SPECIFICATIONS

1. PLANTING SOIL, ALTERNATELY MAY BE REFERRED TO AS TOPSOIL, SHOULD BE FRIABLE, FERTILE, WELL DRAINED, FREE OF DEBRIS, TOXINS, TRASH AND STONES OVER 1/2" DIA., IT SHOULD HAVE A HIGH ORGANIC CONTENT SUITABLE TO SUSTAIN HEALTHY PLANT GROWTH AND SHOULD LOOK AESTHETICALLY PLEASING HAVING NO NOXIOUS ODORS.
2. PLANTING SOIL:

   REUSE SURFACE SOILS STOCKPILED ON SITE, VERIFYING COMPLIANCE WITH PLANTING SOIL AND TOPSOIL CRITERIA IN THIS SPECIFICATION THROUGH TESTING. CLEAN SURFACE SOIL OF ALL ROOTS, PLANTS, SOD, AND GRAVEL OVER 1" IN DIAMETER AND DELETERIOUS MATERIALS. IF ON–SITE SOILS ARE TO BE USED FOR PROPOSED PLANTING, THE CONTRACTOR SHALL DEMONSTRATE, THROUGH SOIL TESTING, THAT ON–SITE SOILS MEET THE SAME CRITERIA AS INDICATED IN NOTES PLANS AND SPECIFICATIONS.

   SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF SITE SOURCES WHEN TOPSOIL AND PLANTING SOIL QUANTITIES ARE INSUFFICIENT. OBTAIN SOIL DISPLACED FROM NATURALLY WELL–DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4" DEEP. DO NOT OBTAIN FROM AGRICULTURAL LAND, BOGS, MARSHES OR CONTAMINATED SITES.

   AT A MINIMUM, PLANTING SOILS MEETING THESE SPECIFICATIONS MAY BE OBTAINED FROM WECARE DENALI, P:888–325–1522, OR APPROVED EQUAL.

   CONTRACTOR SHALL TEST SOILS AND FURNISH SAMPLES UPON REQUEST. PACKAGED MATERIALS SHALL BE UNOPENED BAGS OR CONTAINERS, EACH BEARING A NAME, GUARANTEE, AND TRADEMARK OF THE PRODUCER, MATERIAL COMPOSITION, MANUFACTURER'S CERTIFIED ANALYSIS, AND THE WEIGHT OF THE MATERIALS. SOIL OR AMENDMENT MATERIALS SHALL BE STORED ON SITE TEMPORARILY IN STOCKPILES PRIOR TO PLACEMENT AND SHALL BE PROTECTED FROM INTRUSION OF CONTAMINANTS AND EROSION. AFTER MIXING, SOIL MATERIALS SHALL BE COVERED WITH A TARPAULIN UNTIL TIME OF ACTUAL USE.

   ALL PLANTING SOILS SHALL BE SUBMITTED FOR TESTING TO THE STATE COOPERATIVE EXTENSION SERVICE, OR APPROVED EQUAL, PRIOR TO DELIVERY TO THE SITE. CONTRACTOR SHALL FURNISH SOIL SAMPLES AND SOIL TEST RESULTS TO LANDSCAPE ARCHITECT OR OWNER AT A RATE OF ONE SAMPLE PER 500 CUBIC YARDS TO ENSURE CONSISTENCY ACROSS THE TOTAL VOLUME OF PLANTING SOIL REQUIRED. TEST RESULTS SHALL EVALUATE FOR ALL CRITERIA LISTED IN THIS SPECIFICATION. IF TESTING AGENCY DETERMINES THAT THE SOILS ARE DEFICIENT IN ANY MANNER AND MAY BE CORRECTED BY ADDING AMENDMENTS, THE CONTRACTOR SHALL FOLLOW STATED RECOMMENDATIONS FOR SOIL IMPROVEMENT AND FURNISH SUBMITTALS FOR ALL AMENDMENTS PRIOR TO DELIVERY OF SOIL TO THE PROJECT SITE.

   THE FOLLOWING TESTING SHOULD BE PERFORMED AND RESULTS GIVEN TO THE LANDSCAPE ARCHITECT FOR APPROVAL BEFORE INSTALLATION:
    A. WHERE A PERMANENT IRRIGATION SYSTEM IS PLANNED:
        a. PARTICLE SIZE ANALYSIS – LOAMY SAND: 60–75% SAND, 25–40% SILT, AND 5–15% CLAY.
        b. GRAVEL CONTENT (2mm): LESS THAN 10%
        c. FERTILITY ANALYSIS: pH (5.5–6.5), SOLUBLE SALTS (0.2 to 1.5 MMHO/CM), NITRATE, PHOSPHATE, POTASSIUM, CALCIUM AND MAGNESIUM
        d. ORGANIC MATTER CONTENT: 2.5–5% IN NATIVE SOILS; UP TO 10% IN AMENDED SOILS
        e. TOXIC SUBSTANCE ANALYSIS
        f. MATERIAL DRAINAGE RATE: 60% PASSING IN 2 MINUTES, 40% RETAINED
        g. NOT MORE THAN 1% OF MATERIAL SHALL BE RETAINED BY A #4 SIEVE
    B. WHERE NO PERMANENT IRRIGATION IS PLANNED:
        a. PARTICLE SIZE ANALYSIS – LOAM: 40–65% SAND, 25–60% SILT, AND 5–20% CLAY.
        b. GRAVEL CONTENT (2mm): LESS THAN 10%
        c. FERTILITY ANALYSIS: pH (5.5–6.5), SOLUBLE SALTS (0.2 to 1.5 MMHO/CM), NITRATE, PHOSPHATE, POTASSIUM, CALCIUM AND MAGNESIUM
        d. ORGANIC MATTER CONTENT: 2.5–5% IN NATIVE SOILS; UP TO 10% IN AMENDED SOILS
        e. TOXIC SUBSTANCE ANALYSIS
        f. MATERIAL DRAINAGE RATE: 60% PASSING IN 2 MINUTES, 40% RETAINED
        g. NOT MORE THAN 1% OF MATERIAL SHALL BE RETAINED BY A #4 SIEVE
3. SOIL AMENDMENT FOR PLANT MATERIAL:
   IF SOIL ORGANIC CONTENT IS INADEQUATE, SOIL SHALL BE AMENDED WITH COMPOST OR ACCEPTABLE, WEED FREE, ORGANIC MATTER. ORGANIC AMENDMENT SHALL BE WELL COMPOSTED, PH RANGE OF 6–8; MOISTURE CONTENT 35–55% BY WEIGHT 100% PASSING THROUGH 1" SIEVE; SOLUBLE SALT CONTENT LESS THAN 0.5 MM HOS/CM; MEETING ALL APPLICABLE ENVIRONMENTAL CRITERIA FOR CLEAN FILL.
    A. ORGANIC MATTER AS A SOIL AMENDMENT: LEAF MOLD WITH 60–90% ORGANIC CONTENT BY WEIGHT. SHREDDED LEAF LITTER, COMPOSTED FOR A MINIMUM OF 1 YR. SHOULD BE FREE OF DEBRIS, STONES OVER 1/2", WOOD CHIPS OVER 1".
    B. SOIL IN BEDS AND PLANTING ISLANDS OTHER THAN BACKFILL MATERIAL AND TOPSOIL, SHOULD BE FRIABLE, WELL DRAINED, AND FREE OF DEBRIS, INCLUDING STONES AND TRASH.
    C. AMENDMENTS FOR BACK FILL IN TREE AND SHRUB PITS:
        a. GROUND LIMESTONE (WITH A MIN. OF 88% OF CALCIUM AND MAGNESIUM CARBONATES) USED PENDING RESULTS OF SOIL ANALYSIS.
            - – BRING pH LEVELS TO 5.5 MIN. TO 6.5 FOR NON–ERICACEOUS PLANTS
            - – BRING pH LEVELS TO 4.5 MIN. TO 5.5 FOR ERICACEOUS PLANTS
        b. TERRA–SORB BY 'PLANT HEALTH CARE' 800–421–9051 (SEE MANUFACTURER RECOMMENDATIONS) USED IN PLANTER BACKFILL MIXTURE WITH TREES AND SHRUBS.
        c. MYCOR–ROOT SAVER BY 'PLANT HEALTH CARE' 800–421–9051 (SEE MANUFACTURER RECOMMENDATIONS) USED IN BACKFILL MIXTURE WITH TREES.
4. WHERE PLANTING AREAS ARE PROPOSED FOR FORMER PAVED OR GRAVEL AREAS, BEDS SHALL BE EXCAVATED TO A MINIMUM 30" DEPTH AND, AT A MINIMUM, BE BACKFILLED WITH BOTTOM LAYER OF SANDY LOAM (ORGANIC CONTENT LESS THAN 2%) OVER WHICH TOPSOIL AND PLANTING SOILS WILL BE PLACED AT DEPTHS INDICATED IN PLANS, DETAILS AND NOTES.
5. CLEAN SOIL FILL IN LANDSCAPE AREAS:
   LANDSCAPE FILL MATERIAL, BELOW PLANTING SOILS, SHALL HAVE THE PHYSICAL PROPERTIES OF A SANDY LOAM WITH AN ORGANIC CONTENT OF LESS THAN 2% AND A PH BETWEEN 5 – 7.
6. SOIL PLACEMENT:
    A. CONTRACTOR TO PROVIDE SIX INCHES (6") MINIMUM DEPTH PLANTING SOIL LAYER IN LAWN AREAS, TWELVE INCHES (12") MINIMUM DEPTH PLANTING SOIL LAYER IN GROUNDCOVER AND PERENNIAL AREAS, EIGHTEEN INCHES (18") MINIMUM DEPTH PLANTING SOIL LAYER IN SHRUB AREAS, AND THIRTY–SIX INCHES (36") MINIMUM DEPTH PLANTING SOIL LAYER IN TREE PLANTING AREAS.
    B. SCARIFY AND/OR TILL COMPACTED SUBSOILS TO A MINIMUM DEPTH OF 6 INCHES. THOROUGHLY MIX A 6 INCH DEPTH LAYER OF PLANTING SOIL INTO THE SUBSOIL PRIOR TO PLACING PLANTING SOIL AT THE DEPTHS INDICATED ABOVE. PLANTING SOIL SHALL BE PLACED IN 12–18" LIFTS AND WATER THOROUGHLY BEFORE INSTALLING NEXT LIFT. REPEAT UNTIL DEPTHS AND FINISH GRADES HAVE BEEN ACHIEVED. NO SOILS SHALL BE PLACED IN A FROZEN OR MUDDY CONDITION.
    C. PLANTING SOIL PRESENT AT THE SITE, IF ANY, MAY BE USED TO SUPPLEMENT TOTAL AMOUNT REQUIRED. CONTRACTOR TO FURNISH AN ANALYSIS OF ON–SITE PLANTING SOIL UTILIZED IN ALL PLANTING AREAS.
7. SOIL CONDITIONING:
    A. ADJUST pH AND NUTRIENT LEVELS AS REQUIRED TO ENSURE AN ACCEPTABLE GROWING MEDIUM. LOWER pH USING ELEMENTAL SULFUR ONLY. PEAT MOSS OR COPPER SULFATE MAY NOT BE USED. GROUND LIMESTONE AS A SOIL AMENDMENT MATERIAL WILL ONLY BE USED PENDING RESULTS OF SOIL ANALYSIS. PROVIDE WITH MINIMUM 88% CALCIUM AND MAGNESIUM CARBONATES AND SHALL HAVE TOTAL 100% PASSING THE 10 MESH SIEVE, MINIMUM 90% PASSING 20 MESH SIEVE, AND MINIMUM 60% PASSING 100 MESH SIEVE.
    B. ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
    C. SOIL MODIFICATIONS (PENDING RESULTS OF SOIL ANALYSIS):
        a. THOROUGHLY TILL ORGANIC MATTER (LEAF COMPOST) INTO THE TOP 6 TO 12 IN. OF MOST PLANTING SOILS TO IMPROVE THE SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A pH HIGHER THAN 7.0. PEAT MOSS MAY NOT BE USED AS ORGANIC MATTER AMENDMENT.
        b. MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. IMPROVE DRAINAGE IN HEAVY SOILS BY PLANTING ON RAISED MOUNDS OR BEDS AND INCLUDING SUBSURFACE DRAINAGE LINES.
        c. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

LAWN SEED MIX

1. PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL DEBRIS LARGER THAN 1/2" DIAMETER.
2. PRIOR TO SEEDING, CONSULT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
3. SEEDING RATE AT 220 POUNDS PER ACRE:

   10% DEEPBLUE KENTUCKY BLUEGRASS
   25% DAKOTA TALL FESCUE
   25% TAOS TALL FESCUE
   40% FRONTIER PERENNIAL RYEGRASS
4. SEEDING DATES FOR THIS MIXTURE SHALL BE BETWEEN MARCH 15TH TO MAY 15TH OR SEPT 1ST TO OCTOBER 30TH.
5. GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDED AREA UNTIL A STAND OF COVER IS ESTABLISHED AND FOUND ACCEPTABLE TO THE OWNER. SEE LAWN WATERING SCHEDULE NOTES.

GENERAL SEEDING NOTES:

1. FINAL SEED MIXTURES, RATES & SPECIES TO BE DETERMINED BASED ON SCD REVIEW.
2. SEEDING SHALL TAKE PLACE IN THE SPRING (APRIL 1 TO JUNE 1) OR THE FALL (SEPTEMBER 1 TO OCTOBER 1).
3. ELIMINATE UNWANTED VEGETATION PRIOR TO SEEDING USING A BROAD–SPECTRUM NON–SELECTIVE HERBICIDE PER MANUFACTURER'S SPECIFICATIONS.
4. IT IS RECOMMENDED THAT CONTRACTOR INSTALL SEED MIXTURE USING A NO–TILL TRUAX–TYPE DRILL WHERE APPLICABLE.
5. CONTINUOUS MOISTURE FOR 4–6 WEEKS MUST BE INSURED TO ALLOW PROPER GERMINATION.
6. MULCHING/TACKING IS REQUIRED ON ALL SEEDING IN ACCORDANCE WITH THE STANDARDS.

WEED CONTROL / MAINTENANCE

1. DURING THE ESTABLISHMENT YEAR, CONTRACTOR SHALL MOW SEEDING IF WEED HEIGHT EXCEEDS MEADOW MIX HEIGHT. MOW AT A HEIGHT OF 8"–10". DO NOT MOW CLOSE, AS SOME OF THE MEADOW MIX MAY BE DAMAGED.
2. AFTER THE FIRST GROWING SEASON, AND IF MEADOW MIX IS WELL ESTABLISHED, THE MEADOW MIX SHALL BE MOWED ONLY ONCE ANNUALLY. ANNUAL MAINTENANCE MOWING SHALL BE DONE IN LATE WINTER DURING THE MONTH OF MARCH.
3. MOW IN WETLAND AND WETLAND TRANSITION AREAS DURING DRIER SITE CONDITIONS WHEN SOIL DISTURBANCE WILL NOT OCCUR . MAINTENANCE FOR WETLAND AND WETLAND TRANSITION AREAS SHALL OCCUR DURING LATE SUMMER (JULY 15 – AUGUST 15) WHEN THE WATER TABLE IS USUALLY AT ITS LOWEST POINT OF THE YEAR. DO NOT MOW IN WETLAND OR WETLAND TRANSITION AREAS AFTER ESTABLISHMENT OF MEADOW MIX.

LAWN WATERING SCHEDULE (seed)

THE FOLLOWING WATERING SCHEDULE COVERS ROUGHLY 8 WEEKS TO ESTABLISH A HEALTHY STAND OF GRASS FROM SEED. THE CONTRACTOR SHALL BE OBLIGATED TO ENSURE A HEALTHY STAND OF GRASS AT THE END OF THE MAINTENANCE/BOND PERIOD. ANY BARE OR DEAD AREAS IN THE LAWN SHALL BE PREPARED, RESEEDED AND REESTABLISHED PRIOR TO THE END OF THE MAINTENANCE/BOND PERIOD AND TO THE SATISFACTION OF THE PROJECT LANDSCAPE ARCHITECT AND THE OWNER.

IMPORTANT ASPECTS TO ATTAINING AND SUSTAINING A HEALTHY STAND OF GRASS ARE THE INSTALLATION OF TOPSOIL, SEED BED PREPARATION, ATTAINING OPTIMAL PH FOR THE INTENDED PLANT SPECIES, FERTILIZING, MULCH COVERING, AND SUFFICIENT WATERING PER THESE NOTES AND/OR PROJECT SPECIFICATIONS.

1. SEEDING SHALL BE DONE DURING THE SEASONS SPECIFIED IN THE LAWN SEED MIX NOTES AND/OR PROJECT SPECIFICATIONS.
2. AFTER THE SEEDBED IS PREPARED, SEED IS INSTALLED, AND MULCH IS APPLIED, WATER LIGHTLY TO KEEP THE TOP 2 INCHES OF SOIL CONSISTENTLY MOIST, NOT SATURATED. AT NO TIME SHOULD WATER BE APPLIED TO THE POINT OF RUNOFF OR THE DISPLACEMENT OF SEED.
3. DEPENDING ON SOIL TEMPERATURES, IT MAY TAKE SEVERAL WEEKS FOR GERMINATION TO OCCUR. DIFFERENT SPECIES WITHIN THE MIX GERMINATE AT DIFFERENT TIMES AND THEREFORE CONTRACTOR SHOULD CONTINUE THE LIGHT WATERING, AS DESCRIBED ABOVE, UNTIL THERE IS AT LEAST 2 INCHES OF GROWTH THROUGHOUT.
4. AT THIS POINT, WATERING FREQUENCY MAY BE REDUCED TO EVERY 3 TO 5 DAYS. WATER SHALL BE APPLIED TO WET A 6 INCH MINIMUM SOIL DEPTH TO PROMOTE HEALTHY DEEP ROOTS.
5. BEGIN MOWING ONCE PER WEEK AFTER THE GRASS HAS REACHED 3 INCHES HEIGHT. MOW TO A HEIGHT OF NO LESS THAN 2–½ INCHES. AFTER 2 TO 3 WEEKS OF MOWING, CONTINUE TO WATER TO A 6 INCH MINIMUM SOIL DEPTH AS NECESSARY PER WEATHER CONDITIONS, AND SOIL MOISTURE SENSORS IF APPLICABLE.

MEADOW SEEDING NOTES:

1. MEADOW SEED MIX A

   – NEW ENGLAND WETMIX (AS SUPPLIED BY NEW ENGLAND WETLAND PLANTS INC;
   PHONE: 413–548–8000)

   FOX SEDGE (CAREX VULPINOIDEA),
   LURID SEDGE (CAREX LURIDA),
   BLUNT BROOM SEDGE (CAREX SCOPARIA),
   BLUE VERVAIN (VERBENA HASTATA),
   FOWL BLUEGRASS (POA PALUSTRIS),
   HOP SEDGE (CAREX LUPULINA),
   GREEN BULRUSH (SCIRPUS ATROVIRENS),
   CREEPING SPIKE RUSH (ELEOCHARIS PALUSTRIS),
   FRINGED SEDGE (CAREX CRINITA),
   SOFT RUSH (JUNCUS EFFUSUS),
   SPOTTED JOE PYE WEED (EUPATORIUM MACULATUM),
   RATTLESNAKE GRASS (GLYCERIA CANADENSIS),
   SWAMP ASTER (ASTER PUNICEUS),
   BLUEFLAG (IRIS VERSICOLOR),
   SWAMP MILKWEED (ASCLEPIAS INCARNATA),
   SQUARE STEMMED MONKEY FLOWER (MIMULUS RINGENS)

   NOTES:
   1. SEED AT A RATE OF 20–40 LBS./ACRE OF 100% PURE LIVE SEED.
   2. FOR SPRING SEEDING, APPLY A NURSE CROP OF OATS AT A RATE OF 30 LBS./ACRE.
   3. FOR FALL SEEDING, APPLY A NURSE CROP OF WINTER RYE AT A RATE OF 30 LBS./ACRE.

2. MEADOW SEED MIX B

   – NEW ENGLAND WILDFLOWER MIX (AS SUPPLIED BY NEW ENGLAND WETLAND PLANTS INC;
   PHONE: 413–548–8000)

   LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM),
   RED FESCUE (FESTUCA RUBRA),
   INDIAN GRASS (SORGHASTRUM NUTANS),
   PARTRIDGE PEA (CHAMAECRISTA FASCICULATA),
   CANADA WILD RYE (ELYMUS CANADENSIS),
   VIRGINIA WILD RYE (ELYMUS VIRGINICUS),
   BLUE VERVAIN (VERBENA HASTATA),
   BUTTERFLY MILKWEED (ASCLEPIAS TUBEROSA),
   NARROWLEAFED BLUE EYED GRASS (SISYRINCHIUM ANGUSTIFOLIUM),
   BLACK EYED SUSAN (RUDBECKIA HIRTA),
   NEW ENGLAND ASTER (SYMPHYOTRICHUM NOVAE–ANGLIAE),
   SPIKED GAYFEATHER/ MARSH BLAZING STAR (LIATRIS SPICATA),
   STARVED/CALICO ASTER (ASTER LATERIFLORUS/SYMPHYOTRICHUM LATERIFLORUM),
   EARLY GOLDENROD (SOLIDAGO JUNCEA),
   HOLLOW–STEM JOE PYE WEED (EUPATORIUM FISTULOSUM/EUTROCHIUM FISTULOSUM)

   NOTES:
   1. SEED AT A RATE OF 20–40 LBS./ACRE OF 100% PURE LIVE SEED.
   2. FOR SPRING SEEDING, APPLY A NURSE CROP OF OATS AT A RATE OF 30 LBS./ACRE.
   3. FOR FALL SEEDING, APPLY A NURSE CROP OF WINTER RYE AT A RATE OF 30 LBS./ACRE.

3. MEADOW SEED MIX C

   – ERNMX–105 MESIC TO DRY NATIVE POLLINATOR MIX (AS SUPPLIED BY ERNST SEEDS;
   PHONE: 800–473–3321)

26.7% SCHIZACHYRIUM SCOPARIUM, 'PRAIRIE VIEW'	LITTLE BLUESTEM 'PRAIRIE VIEW'
20.0% SORGHASTRUM NUTANS	INDIANGRASS
15.0% ELYMUS VIRGINICUS, MADISON	VIRGINIA WILDRYE
8.0% ECHINACEA PURPUREA	PURPLE CONEFLOWER
5.0% PANICUM CLANDESTINUM, TIOGA	DEERTONGUE, TIOGA
3.0% CHAMAECRISTA FASCICULATA	PARTRIDGE PEA
3.0% COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS
3.0% RUDBECKIA HIRTA	BLACKEYED SUSAN
3.0% VERBENA HASTATA	BLUE VERVAIN
2.0% ASCLEPIAS INCARNATA	SWAMP MILKWEED
2.0% HELIOPSIS HELIANTHOIDES	OXEYE SUNFLOWER
2.0% ZIZIA AUREA	GOLDEN ALEXANDERS
1.2% ASTER NOVAE–ANGLIAE	NEW ENGLAND ASTER
1.0% PENSTEMON DIGITALIS	TALL WHITE BEARDTONGUE
1.0% PYCNANTHEMUM TENUIFOLIUM	NARROWLEAF MOUNTAINMINT
1.0% SENNA HEBECARPA	WILD SENNA, VA & WV ECOTYPE
0.8% TRADESCANTIA OHIENSIS	OHIO SPIDERWORT, PA ECOTYPE
0.5% BAPTISIA AUSTRALIS	BLUE FALSE INDIGO
0.5% MONARDA FISTULOSA	WILD BERGAMOT
0.5% SOLIDAGO NEMORALIS	GRAY GOLDENROD
0.3% ASCLEPIAS SYRIACA	COMMON MILKWEED
0.2% EUPATORIUM PERFOLIATUM	BONESE
0.2% SOLIDAGO RUGOSA	WRINKLELEAF GOLDENROD
0.1% SOLIDAGO BICOLOR	WHITE GOLDENROD

NOTE: SEED AT A RATE OF 20 LBS./ACRE WITH 30 LBS./ACRE OF A COVER CROP. FOR A COVER CROP USE EITHER GRAIN OATS (1 JAN TO 31 JUL) OR GRAIN RYE (1 AUG TO 31 DEC).

GENERAL SEEDING NOTES:

1. FINAL SEED MIXTURES, RATES & SPECIES TO BE DETERMINED BASED ON SCD REVIEW.
2. ALL SEEDING RATES ARE BASED ON PURE LIVE SEED (PLS). CONTRACTOR SHALL ADJUST ANY SUPPLIER BULK SEEDING RATES (BSR) TO PROVIDE PLS EQUIVALENTS.
3. SEEDING SHALL TAKE PLACE IN THE SPRING (APRIL 1 TO JUNE 1) OR THE FALL (SEPTEMBER 1 TO OCTOBER 1).
4. ELIMINATE UNWANTED VEGETATION PRIOR TO SEEDING USING A BROAD–SPECTRUM NON–SELECTIVE HERBICIDE PER MANUFACTURER'S SPECIFICATIONS.
5. IT IS RECOMMENDED THAT CONTRACTOR INSTALL SEED MIXTURE USING A NO–TILL TRUAX–TYPE DRILL WHERE APPLICABLE.
6. MULCHING/TACKING IS REQUIRED ON ALL SEEDING IN ACCORDANCE WITH THE STANDARDS. AN EROSION CONTROL BLANKET WITH A MINIMUM 12–MONTH DEGRADABLE LIFE SPAN MAY BE USED IN LIEU OF STANDARD MULCHING/TACKING. PERMANENT BLANKETS WILL NOT BE ACCEPTED UNLESS OTHERWISE NOTED.
7. CONTRACTOR SHALL USE ANIMAL CONTROL MEASURES AS NECESSARY FOR BASIN SEEDING, INCLUDING BUT NOT LIMITED TO GOOSE NETTING, TO PROTECT PLANTS DURING ESTABLISHMENT.
8. CONTINUOUS MOISTURE MUST BE INSURED DURING ESTABLISHMENT TO ALLOW PROPER GERMINATION. SOIL WILL REMAIN CONTINUOUSLY MOIST FOR THE TOP 4 INCHES OF TOPSOIL. DO NOT SATURATE OR WATER TO THE POINT OF RUNOFF OR THE DISPLACEMENT OF SEED.
9. DEPENDING ON SOIL TEMPERATURES, IT MAY TAKE SEVERAL WEEKS FOR GERMINATION TO OCCUR. DIFFERENT SPECIES WITHIN THE MIX GERMINATE AT DIFFERENT TIMES AND THEREFORE CONTRACTOR SHOULD CONTINUE THE LIGHT WATERING, AS DESCRIBED ABOVE, UNTIL THERE IS AT LEAST 2 INCHES OF GROWTH THROUGHOUT.
10. AT THIS POINT, WATERING FREQUENCY MAY BE REDUCED TO EVERY 3 TO 5 DAYS. WATER SHALL BE APPLIED TO WET A 6 INCH MINIMUM SOIL DEPTH TO PROMOTE HEALTHY DEEP ROOTS.

WEED CONTROL / MAINTENANCE

1. MOWING MEADOW AREAS SHALL BE DONE VIA STRING TRIMMER, WHERE LARGER MACHINES CANNOT REASONABLY BE USED AND WHERE DAMAGE OR RUTTING COULD OCCUR.
2. DURING THE ESTABLISHMENT YEAR, CONTRACTOR SHALL MOW SEEDING IF WEED HEIGHT EXCEEDS MEADOW MIX HEIGHT. MOW AT A HEIGHT OF 8"–10". DO NOT MOW CLOSE, AS SOME OF THE MEADOW MIX MAY BE DAMAGED.
3. AFTER THE FIRST GROWING SEASON, AND IF MEADOW MIX IS WELL ESTABLISHED, THE MEADOW MIX SHALL BE MOWED ONLY ONCE ANNUALLY. ANNUAL MAINTENANCE MOWING SHALL BE DONE IN LATE WINTER DURING THE MONTH OF MARCH.
4. MOW IN BASINS, WETLAND AND WETLAND TRANSITION AREAS DURING DRIER SITE CONDITIONS WHEN SOIL DISTURBANCE WILL NOT OCCUR . MAINTENANCE FOR WETLAND AND WETLAND TRANSITION AREAS SHALL OCCUR DURING LATE SUMMER (JULY 15 – AUGUST 15) WHEN THE WATER TABLE IS USUALLY AT ITS LOWEST POINT OF THE YEAR. DO NOT MOW IN WETLAND OR WETLAND TRANSITION AREAS AFTER ESTABLISHMENT OF MEADOW MIX.
5. DURING THE FIRST 2–4 YEARS OF ESTABLISHMENT, AND AFTER ESTABLISHMENT DEPENDING ON THE LOOK DESIRED, SELECTIVE WEEDING WITH A BROADLEAF WEED–CONTROL HERBICIDE, OVER–SEEDING BARE SPOTS AND WATERING TO PROMOTE A UNIFORM DROUGHT–TOLERANT STAND OF PLANTS MAY BE NECESSARY.
6. FERTILIZERS ARE NOT GENERALLY NEEDED OR RECOMMENDED FOR NATIVE MEADOWS UNLESS SOIL TEST RESULTS SHOW A SIGNIFICANT LACK OF NUTRIENTS. USE ONLY SLOW–RELEASE FERTILIZERS WITH LITTLE TO NO NITROGEN IN APRIL OR SEPTEMBER.

DECIDUOUS TREE PLANTING

NTS

EVERGREEN TREE PLANTING

NTS

NOTES:
1. ALL SHRUBS TO BE SET PLUMB.
2. REFER TO LANDSCAPE PLAN FOR SPACING OF INDIVIDUAL PLANTS.
3. REMOVE ALL WIRE, PLASTIC, TAGS OR SYNTHETIC MATERIAL FROM PLANTS PRIOR TO PLANTING.

SHRUB PLANTING

NTS

NOTES:
1. PLANTS ARE TO BE SPACED EQUIDISTANT FROM EACH OTHER.
2. REFER TO PLAN AND SCHEDULE FOR SPACING OF INDIVIDUAL PLANTS.
3. REMOVE ALL WIRE, PLASTIC, TAGS OR SYNTHETIC MATERIAL FROM PLANTS PRIOR TO PLANTING.

GROUNDCOVER/ PERENNIAL PLANTING

NTS

NOTES:
1. ISLAND AREAS TO BE FREE OF DEBRIS AND RUBBLE PRIOR TO PLANTING OPERATION.
2. MOUND PARKING ISLAND AS SHOWN.
3. REMOVE ALL WIRE, PLASTIC, TAGS OR SYNTHETIC MATERIAL FROM PLANTS PRIOR TO PLANTING.
4. SET PLANTS AT GRADE WHICH IS EVEN WITH ORIGINAL NURSERY GRADE.

PARKING ISLAND PLANTING

NTS

GENERAL NOTES:

1. WHERE PLANTING AREAS ARE PROPOSED AT FORMER PAVED OR GRAVEL AREAS, BEDS SHALL BE EXCAVATED TO A MINIMUM 30" DEPTH AND, AT A MINIMUM, BE BACKFILLED WITH BOTTOM LAYER OF SANDY LOAM (ORGANIC CONTENT LESS THAN 2%) OVER WHICH TOPSOIL AND PLANTING SOILS WILL BE PLACED AT DEPTHS INDICATED IN PLANS, DETAILS AND NOTES.
2. SIMILARLY, DUE TO GENERAL CONSTRUCTION ACTIVITIES AND ADJACENT SITE COMPACTION REQUIREMENTS, SUBGRADE SOILS WITHIN PROPOSED PLANTING AREAS TEND TO BECOME HIGHLY COMPACTED. IN ORDER TO CREATE A HEALTHY GROWTH MEDIUM TO ALLOW PROPOSED PLANTINGS TO ESTABLISH A VIGOROUS ROOT MASS, THIS SUBGRADE SOIL MUST UNDERGO A RESTORATION PROCESS. IN ADDITION, IMPORTED OR AMMENDED EXISTING SOILS SHALL BE MIXED WITH SUBGRADE SOILS WHERE THEY MEET IN ORDER TO CREATE A TRANSITIONAL GRADIENT TO ALLOW FOR PROPER DRAINAGE.

IMPORTED OR AMENDED EXISTING PLANTING SOIL WITHIN AREAS OF RAISED GRADE

AMENDED EXISTING PLANTING SOIL WITHIN AREAS OF UNCHANGED OR CUT GRADE

NOTES:

1. CONTRACTOR IS RESPONSIBLE TO SEND SAMPLES OF EXISTING SOILS INTENDED FOR USE IN PLANTING AREAS (1 PER 500 CY.) TO TESTING LABORATORY OR UNIVERSITY COOPERATIVE EXTENSION FOR TESTING. ALL TESTING COSTS ARE AT THE CONTRACTOR'S EXPENSE.
2. RECYCLED CRUSHED CONCRETE AND ASPHALT MILLINGS SHALL NOT BE PLACED WITHIN 2'–6" OF FINISH GRADE IN PROPOSED LANDSCAPE AREAS.
3. IMPORTED FILL SHALL CONTAIN NO CONTAMINATION IN EXCEEDENCE OF THE PROJECT STATE ENVIRONMENTAL REVIEW AGENCY STANDARDS AND MEET THE ENVIRONMENTAL REQUIREMENTS FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF COMPLIANCE PRIOR TO DELIVERY OF ANY FILL TO THE SITE.
4. CONTRACTOR TO LIGHTLY COMPACT ALL PLACED PLANTING SOILS AND RAISE GRADES ACCORDINGLY TO ALLOW FOR FUTURE SETTLEMENT OF PLANTING SOILS (TYP.)
5. NO STONES, WOOD CHIPS, OR DEBRIS LARGER THAN 1/2" SHALL BE ACCEPTABLE WITHIN PLANTING AREAS.

PLANTING SOIL

NTS

NOTE:
RIVER STONE TO BE INSTALLED AS SHOWN ON THE LANDSCAPE PLANS.

GRAVEL STRIP

NTS

Date	Description	No.
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5/3/24	REVISED FOR SUBMISSION TO NEPTUNE	3
1/22/24	REVISED FOR REDEVELOPMENT AGREEMENT	2
7/28/23	REVISED PER NJDOT, NJDEP, & FIRST ENERGY COMMENTS	1

REVISIONS

Michael Szura
SIGNATURE MICHAEL SZURA DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. AS00815

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NJ Certificate of Authorization No. 24GA27996400

Project
3501 STATE ROUTE 66
REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

Drawing Title
LANDSCAPE NOTES & DETAILS

Project No. 100775002
Date AUGUST 26, 2022
Drawn By SD
Checked By DB
Drawing No. LP501
Sheet 44 of 48

SITE LIGHTING SCHEDULE

SYMBOL	KEY	QTY.	FIXTURE MANUFACTURER	FIXTURE MODEL	FIXTURE DESCRIPTION	FIXTURE MOUNTING HEIGHT	LAMP	OPTICS	LUMENS PER LAMP	LLF	COLOR TEMP	IES FILE	FIXTURE CATALOGUE NO.	POLE MANUFACTURER	POLE DESCRIPTION	POLE LENGTH	POLE CATALOGUE NO.
⊠	A	16	BEACON LIGHTING (HUBBELL)	VP (STRIKE) VIPER LED	WALL-MOUNTED AREA LIGHT FIXTURE; COLOR - BLACK	14'-0" ABOVE FFE	LED	TYPE 4W	5,945	0.90	3000K	VP-1-36L-55-3K7-4W.IES	VP-ST-1-36L-55-3K7-4W-VOLTS-A_BLT	-			
⊠	B	5	BEACON LIGHTING (HUBBELL)	VP (MICRO STRIKE) VIPER LED	WALL-MOUNTED AREA LIGHT FIXTURE; COLOR - BLACK	25'-0" ABOVE FFE	LED	TYPE 4F	45,217	0.90	3000K	VP-3-480L-390-3K7-4F.IES	VP-3-480L-390-3K7-4F-VOLTS-A_BLT				
	C	8	BEACON LIGHTING (HUBBELL)	VP (STRIKE) VIPER LED	POLE-MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR - BLACK	14'-0"	LED	TYPE 3 WITH BC	3,698	0.90	3000K	VP-ST-1-36L-39-3K7-3-UNV-BC.IES	VP-ST-1-36L-39-3K7-3-VOLTS-A_BLT-BC	BEACON LIGHTING (HUBBELL)	SQUARE STRAIGHT STEEL; COLOR - BLACK	11'-0"	RSA-B-11-40-A-1-B3-BLT
	D	11	BEACON LIGHTING (HUBBELL)	VP (STRIKE) VIPER LED	POLE-MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR - BLACK	14'-0"	LED	TYPE 4F WITH BC	4,598	0.90	3000K	VP-ST-1-36L-39-3K7-4F-UNV-BC.IES	VP-ST-1-36L-39-3K7-4F-VOLTS-A_BLT-BC	BEACON LIGHTING (HUBBELL)	SQUARE STRAIGHT STEEL; COLOR - BLACK	11'-0"	RSA-B-11-40-A-1-B3-BLT
	E	12	BEACON LIGHTING (HUBBELL)	VP (STRIKE) VIPER LED	POLE-MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR - BLACK	14'-0"	LED	TYPE 3	6,771	0.90	3000K	VP-1-36L-55-3K7-3.IES	VP-ST-1-36L-55-3K7-3-VOLTS-A- BLT	BEACON LIGHTING (HUBBELL)	SQUARE STRAIGHT STEEL; COLOR - BLACK	11'-0"	RSA-B-11-40-A-1-B3-BLT
	F	1	BEACON LIGHTING (HUBBELL)	VP (STRIKE) VIPER LED	POLE-MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR - BLACK	20'-0"	LED	TYPE 3 WITH BC	7,914	0.90	3000K	VP-ST-1-36L-85-3K7-3-UNV-BC.IES	VP-ST-1-36L-85-3K7-3-VOLTS-A_BLT-BC	BEACON LIGHTING (HUBBELL)	SQUARE STRAIGHT STEEL; COLOR - BLACK	17'-0"	RSA-B-17-40-A-1-B3-BLT
	F*	1	BEACON LIGHTING (HUBBELL)	VP (STRIKE) VIPER LED	POLE-MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR - BLACK	28'-0"	LED	TYPE 3 WITH BC	7,914	0.90	3000K	VP-ST-1-36L-85-3K7-3-UNV-BC.IES	VP-ST-1-36L-85-3K7-3-VOLTS-A_BLT-BC	BEACON LIGHTING (HUBBELL)	SQUARE STRAIGHT STEEL; COLOR - BLACK	25'-0"	RSA-B-25-40-A-1-B3-BLT (SEE NOTE 3 BELOW)
	G	3	BEACON LIGHTING (HUBBELL)	VP (STRIKE) VIPER LED	POLE-MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR - BLACK	20'-0"	LED	TYPE 4F WITH BC	28,509	0.90	3000K	VP-ST-2-72L-240-3K7-4F-UNV-BC.IES	VP-ST-2-72L-240-3K7-4F-VOLTS-A_BLT-BC	BEACON LIGHTING (HUBBELL)	SQUARE STRAIGHT STEEL; COLOR - BLACK	17'-0"	RSA-B-17-40-A-1-B3-BLT
	G*	1	BEACON LIGHTING (HUBBELL)	VP (STRIKE) VIPER LED	POLE-MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR - BLACK	23'-0"	LED	TYPE 4F WITH BC	28,509	0.90	3000K	VP-ST-2-72L-240-3K7-4F-UNV-BC.IES	VP-ST-2-72L-240-3K7-4F-VOLTS-A_BLT-BC	BEACON LIGHTING (HUBBELL)	SQUARE STRAIGHT STEEL; COLOR - BLACK	20'-0"	RSA-B-20-40-A-1-B3-BLT (SEE NOTE 3 BELOW)
	H	8	BEACON LIGHTING (HUBBELL)	VP (STRIKE) VIPER LED	POLE-MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR - BLACK	14'-0"	LED	TYPE 5QM	12,237	0.90	3000K	VP-1-36L-120-3K7-5QM.IES	VP-ST-1-36L-120-3K7-5QM-VOLTS-A_BLT	BEACON LIGHTING (HUBBELL)	SQUARE STRAIGHT STEEL; COLOR - BLACK	11'-0"	RSA-B-11-40-A-1-B3-BLT
	I	5	BEACON LIGHTING (HUBBELL)	VP (STRIKE) VIPER LED	POLE-MOUNTED DOUBLE AREA LIGHT FIXTURE; COLOR - BLACK	14'-0"	LED	TYPE 4W	5,945	0.90	3000K	VP-1-36L-55-3K7-4W.IES	VP-ST-1-36L-55-3K7-4W-VOLTS-A_BLT	BEACON LIGHTING (HUBBELL)	SQUARE STRAIGHT STEEL; COLOR - BLACK	11'-0"	RSA-B-11-40-A-2-B3-BLT
⊠	J	4	KIM LIGHTING (HUBBELL)	UR20 OURO	DECORATIVE WALL MOUNTED LIGHT FIXTURE; COLOR - BLACK	14'-0" ABOVE FFE	LED	TYPE 4	14,615	0.90	3000K	UR20-56L-140-3K7-4-CLR-PT.IES	UR20-56L-140-3K7-4-VOLTS-BLT-CLR-WBFM4	-			
●	K	2	KIM LIGHTING (HUBBELL)	UR20 OURO	DECORATIVE POST TOP FIXTURE; COLOR - BLACK	14'-0"	LED	TYPE 5R	15,154	0.90	3000K	UR20-56L-140-3K7-5R-CLR-PT.IES	UR20-56L-140-3K7-5R-VOLTS-FMSA44-BLT-CLR	BEACON LIGHTING (HUBBELL)	ROUND STRAIGHT ALUMINUM; COLOR - BLACK	12'-0"	RSA-B-12-40-A-TENON-BLT
●	L	4	KIM LIGHTING (HUBBELL)	UR20 OURO	DECORATIVE POST TOP FIXTURE; COLOR - BLACK	14'-0"	LED	TYPE 3 WITH BC	8,136	0.90	3000K	UR20-56L-140-3K7-3-BC-CLR-PT.IES	UR20-56L-140-3K7-3-VOLTS-FMSA44-BLT-BC-CLR	BEACON LIGHTING (HUBBELL)	ROUND STRAIGHT ALUMINUM; COLOR - BLACK	12'-0"	RSA-B-12-40-A-TENON-BLT
●	M	6	KIM LIGHTING (HUBBELL)	UR20 OURO	DECORATIVE POST TOP FIXTURE; COLOR - BLACK	14'-0"	LED	TYPE 4	14,615	0.90	3000K	UR20-56L-140-3K7-4-CLR-PT.IES	UR20-56L-140-3K7-4-VOLTS-FMSA44-BLT-CLR	BEACON LIGHTING (HUBBELL)	ROUND STRAIGHT ALUMINUM; COLOR - BLACK	12'-0"	RSA-B-12-40-A-TENON-BLT
●	N	9	KIM LIGHTING (HUBBELL)	UR20 OURO	DECORATIVE POST TOP FIXTURE; COLOR - BLACK	14'-0"	LED	TYPE 2	1,632	0.90	3000K	UR20-24L-25-3K7-2-BC-CLR-PT.IES	UR20-24L-25-3K7-2-VOLTS-FMSA44-BLT-CLR	BEACON LIGHTING (HUBBELL)	ROUND STRAIGHT ALUMINUM; COLOR - BLACK	12'-0"	RSA-B-12-40-A-TENON-BLT
●	O	2	KIM LIGHTING (HUBBELL)	UR20 OURO	DECORATIVE POST TOP FIXTURE; COLOR - BLACK	14'-0"	LED	TYPE 5R	9,244	0.90	3000K	UR20-56L-75-3K7-5R-CLR-PT.IES	UR20-56L-75-3K7-5R-VOLTS-FMSA44-BLT-CLR	BEACON LIGHTING (HUBBELL)	ROUND STRAIGHT ALUMINUM; COLOR - BLACK	12'-0"	RSA-B-12-40-A-TENON-BLT
⊠	P	4	KIM LIGHTING (HUBBELL)	UR20 OURO	DECORATIVE WALL MOUNTED LIGHT FIXTURE; COLOR - BLACK	14'-0" ABOVE FFE	LED	TYPE 4W	6,903	0.90	3000K	UR20-24L-65-3K7-4W-PT.IES	UR20-24L-65-3K7-4W-VOLTS-WB-BLT-CLR	BEACON LIGHTING (HUBBELL)	ROUND STRAIGHT ALUMINUM; COLOR - BLACK	12'-0"	RSA-B-12-40-A-TENON-BLT

NOTES:
1. REFER TO ELECTRICAL DRAWINGS FOR SITE LIGHTING VOLTAGES AND ELECTRICAL LAYOUTS.
2. CONTRACTOR TO CONFIRM CONTROLS SYSTEM REQUIRED BY THE OWNER AND PER CODE. BID PRICING SHALL INCLUDE CONTROL SYSTEM.
3. FIXTURES WITH AN ASTERISK (*) ARE ON SLOPE.
4. FIXTURE CATALOG NUMBERS TO BE CONFIRMED WITH MANUFACTURER BEFORE ORDERING.

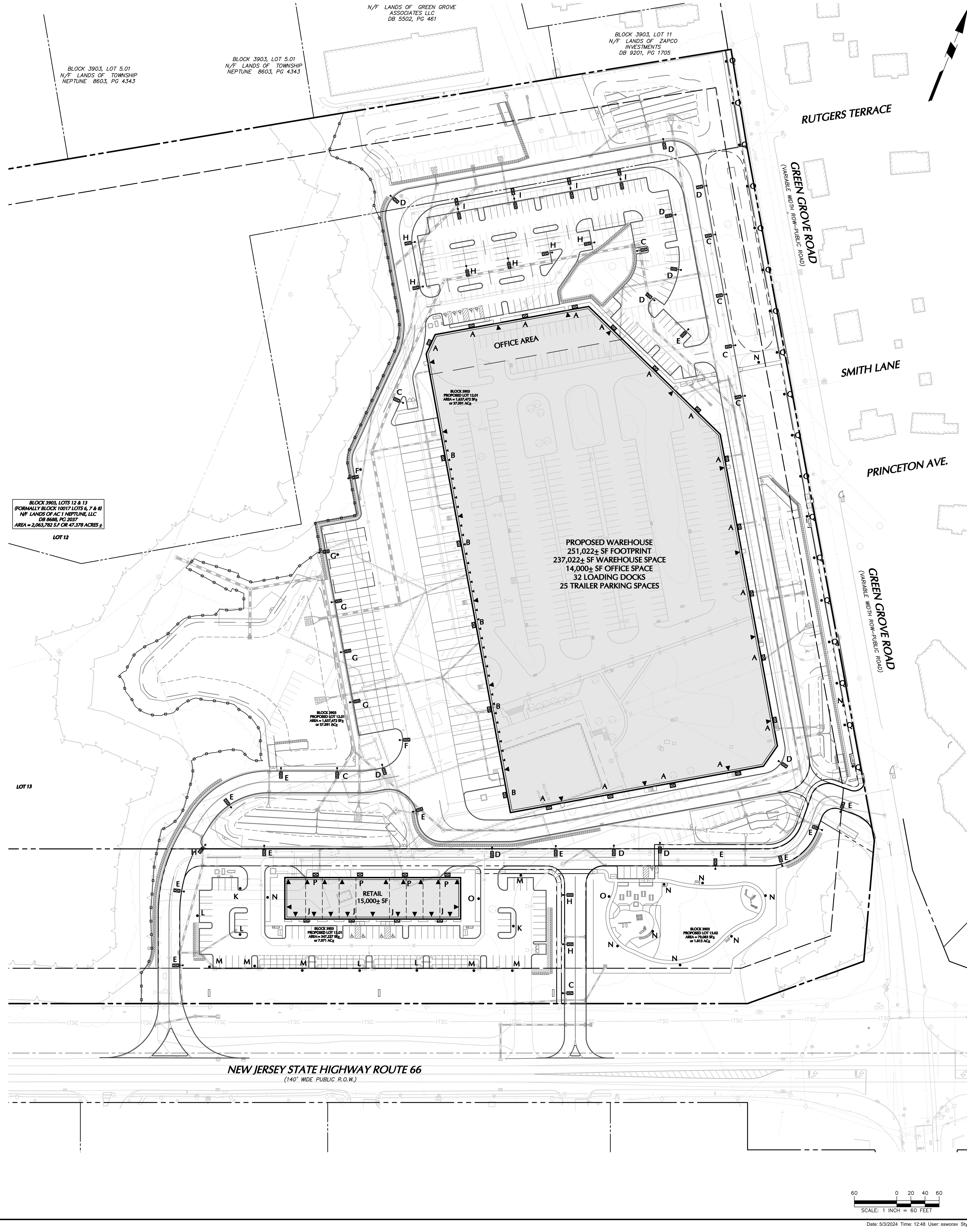
COMPLIANCE CHART - TOWNSHIP OF NEPTUNE

ORDINANCE SECTION NO.	ORDINANCE REQUIREMENT	PROPOSED	COMPLIANCE
LIGHTING			
§412.11	LIGHTING SHALL BE PROVIDED BY FIXTURES WITH A MOUNTING HEIGHT NOT MORE THAN FOURTEEN (14) FEET OR THE HEIGHT OF THE BUILDING, WHICHEVER IS LESS, MEASURED FROM THE GROUND LEVEL TO THE CENTERLINE OF THE LIGHT SOURCE.	MAXIMUM MOUNTING HEIGHT IS 14 FEET EVERYWHERE ON SITE WITH AN EXCEPTION OF TRUCK ENTRY, DRIVES, LOADING AND PARKING.	WAIVER
§511.G	MINIMUM ILLUMINATION FOR SURFACE PARKING - LOW ACTIVITY - 0.5 FC MIN. MEDIUM ACTIVITY - 1.0 FC MIN. HIGH ACTIVITY - 1.5 FC MIN.	SEE STATISTICS TABLE	COMPLIES
§511.G.2	THE RATIO OF AVERAGE ILLUMINATION, MEASURED IN FOOTCANDLES, TO MINIMUM ILLUMINATION, SHALL NOT EXCEED 4 TO 1. THE MAXIMUM ILLUMINATION PROVIDED ON ANY SITE SHALL NOT EXCEED THE MINIMUM ILLUMINATION BY MORE THAN A RATIO OF 10 TO 1.	AVERAGE TO MINIMUM IS 4.0:1 MAXIMUM TO MINIMUM IS 9.8:1	COMPLIES

STATISTICS

DESCRIPTION	AVG.	MAX.	MIN.	MAX./MIN.	AVG./MIN.
CAR PARKING AREA - RETAIL	3.8fc	9.2fc	1.5fc	6.1:1	2.5:1
CAR PARKING AREA - WAREHOUSE	1.9fc	5.0fc	0.5fc	10.0:1	3.8:1
DRIVE	1.7fc	5.0fc	0.5fc	10.0:1	3.4:1
LOADING AREA	4.4fc	11.1fc	1.1fc	10.0:1	4.0:1
OPEN YARD	1.2fc	3.8fc	0.4fc	9.5:1	3.0:1
TRUCK PARKING	5.0fc	9.8fc	1.4fc	7.0:1	3.6:1
PARK WALK	1.0fc	4.0fc	0.1fc	40.0:1	10.0:1

NOTE:
1. LIGHT PHOTOMETRY AND CALCULATIONS FOR EXISTING AND ADJACENT LIGHTING TO REMAIN ARE NOT INCLUDED IN THE ABOVE STATISTICS.



NOTE: REFER TO SHEET LL501 FOR LIGHTING NOTES & DETAILS.

Date	Description	No.
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REVISIONS

SIGNATURE — DATE SIGNED
MICHAEL SZURA
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. AS00815

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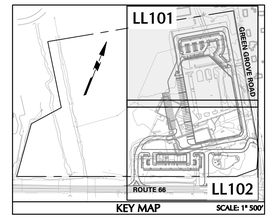
NJ Certificate of Authorization No. 24GA27996400

Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY — NEW JERSEY

Drawing Title
OVERALL LIGHTING PLAN

Project No. 100775002
Date MAY 03, 2024
Drawn By GR
Checked By DB/JC
Drawing No. LL100
Sheet 45 of 48

Project No. 100775002



NOTE: REFER TO SHEET LL501 FOR LIGHTING NOTES & DETAILS.

SCALE: 1 INCH = 30 FEET

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REVISIONS

SIGNATURE MICHAEL SZURA DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. AS00815

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Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

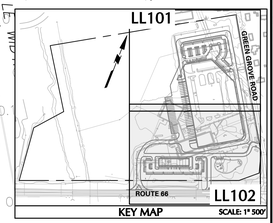
Drawing Title
PARTIAL LIGHTING PLAN

Project No.	Drawing No.
100775002	LL101
Date: MAY 03, 2024	
Drawn By: GR	
Checked By: DB/JC	Sheet 46 of 48

Project No. 100775002

Date: 5/3/2024 Time: 12:49 User: sswora Style Table: Langan.stb Layout: LL101 Document Code: 100775002-0301-LL101-0102

MATCH LINE SHEET LL101



WALL MOUNTED FIXTURE (TYP.)

REFER TO ARCHITECTURE PLANS FOR EGRESS LIGHTING (TYP.)

1.0 FOOTCANDLES (TYP.)
0.5 FOOTCANDLES (TYP.)
POLE MOUNTED FIXTURE (TYP.)

REFER TO ARCHITECTURE PLANS FOR EGRESS LIGHTING (TYP.)

RETAIL
15,000± SF

1.0 FOOTCANDLES (TYP.)
0.5 FOOTCANDLES (TYP.)
DECORATIVE POST-TOP FIXTURE (TYP.)

NEW JERSEY STATE HIGHWAY ROUTE 66

NOTE: REFER TO SHEET LL501 FOR LIGHTING NOTES & DETAILS.

SCALE: 1 INCH = 30 FEET

Date	Description	No.
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REVISIONS

SIGNATURE MICHAEL SZAFRA DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. AS00815

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NJ Certificate of Authorization No. 24GA27996400

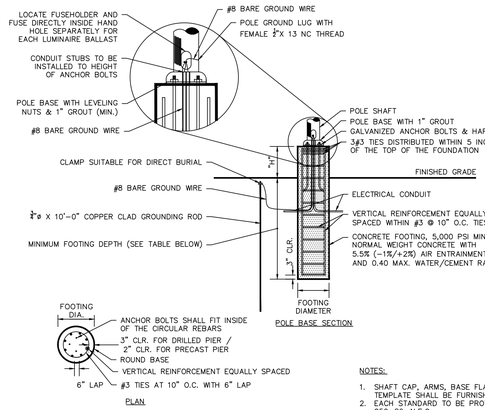
Project
3501 STATE ROUTE 66 REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

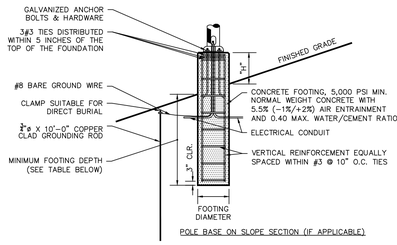
Drawing Title
PARTIAL LIGHTING PLAN

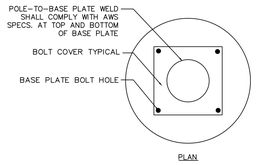
Project No. 100775002	Drawing No. LL102
Date MAY 03, 2024	
Drawn By GR	
Checked By DB/JC	Sheet 47 of 48

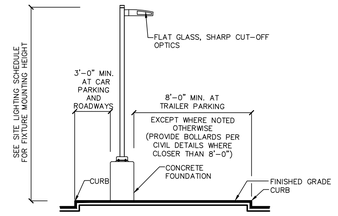
Project No. 100775002

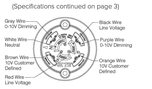
Date: 5/3/2024 Time: 12:49 User: sswora Style Table: Langan.stb Layout: LL102 Document Code: 100775002-0301-LL101-0103

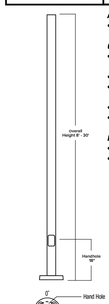


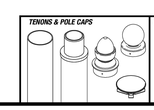


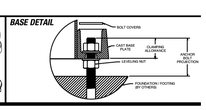












LIGHTING NOTES:

GENERAL

1. POINT–BY–POINT CALCULATIONS PROVIDED WITHIN HAVE BEEN PREPARED IN ACCORDANCE TO IESNA STANDARDS AND IN CONSIDERATION OF THE VARIABLES WITHIN THESE NOTES AND SITE LIGHTING SCHEDULE. THE VALUES SHOWN ON THE PLANS ARE NOT AN INDICATION OF THE INITIAL LIGHT INTENSITIES OF THE LAMPS. THESE VALUES ARE AN APPROXIMATION OF THE MAINTAINED INTENSITIES DELIVERED TO THE GROUND PLANE USING INDUSTRY STANDARD LIGHT LOSS FACTORS (LLF) WHICH COVER LAMP DEGRADATION AND NATURAL BUILDUP/ DIRT DEGRADATION ON THE FIXTURE LENS. THE LIGHTING PLAN IS DESIGNED WITH AN INDUSTRY STANDARD LLF IN ACCORDANCE WITH GUIDANCE AS PROVIDED BY IESNA. MINOR VARIATIONS IN TOPOGRAPHY, PHYSICAL OBSTRUCTIONS, AMBIENT OR ADJACENT LIGHT SOURCES AND/OR OTHER POTENTIAL IMPACTS HAVE NOT BEEN INCLUDED IN THESE CALCULATIONS. THEREFORE, AS–BUILT LIGHT INTENSITIES MAY VARY, IN EITHER DIRECTION, FROM WHAT IS EXPLICITLY PORTRAYED WITHIN THESE DRAWINGS.NO GUARANTEE OF LIGHT LEVELS IS EXPRESSED OR IMPLIED BY THE POINT BY POINT CALCULATIONS SHOWN ON THESE PLANS.
2. LIGHT LEVEL POINT SPACING IS 20 FT. LEFT TO RIGHT AND 20 FT. TOP TO BOTTOM. POINT BY POINT CALCULATIONS ARE BASED ON THE LIGHT LOSS FACTOR AS STATED IN THE LIGHTING SCHEDULE.

COMPLIANCE

3. ALL SITE LIGHTING RELATED WORK AND MATERIALS SHALL COMPLY WITH CITY, COUNTY, AND OTHER APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.
4. LIGHTING LAYOUT COMPLIES WITH THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) SAFETY STANDARDS FOR LIGHT LEVELS.

COORDINATION

5. CONTRACTOR TO COORDINATE POWER SOURCE WITH LIGHT FIXTURES TO ENSURE ALL SITE LIGHTING IS OPERATING EFFECTIVELY, EFFICIENTLY AND SAFELY.
6. REFER TO ELECTRIFICATION PLAN FOR PROVIDING ADEQUATE POWER FOR SITE LIGHTING.
7. CONTRACTOR TO COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.
8. INSTALLATION OF ALL LIGHTING FIXTURES, POLES, FOOTINGS, AND FEEDER CABLE TO BE COORDINATED WITH ALL SITE WORK TRADES TO AVOID CONFLICT WITH FINISHED AND PROPOSED WORK.
9. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND FEEDER CABLE FOR EXTERIOR LIGHTING WITH EXISTING AND PROPOSED UTILITIES, SITE DRAINAGE SYSTEMS, AND PAVING. CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE SHOULD ANY UTILITIES, NOT SHOWN ON THE PLANS, BE FOUND DURING EXCAVATIONS.

POLES AND FOOTINGS

10. PROVIDE A CONCRETE BASE FOR EACH LIGHT POLE AT THE LOCATIONS INDICATED ON THE CONSTRUCTION DRAWINGS AND/OR IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS RELATING DIRECTLY TO CAST–IN–PLACE CONCRETE. THE USE OF ALTERNATE LIGHTING FOUNDATIONS, SUCH AS PRECAST, MAY CHANGE THE SIZING AND REINFORCEMENT REQUIREMENTS FROM THOSE SHOWN ON THESE PLANS. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ORDERING ANY SUBSTITUTED PRODUCTS.
11. CONTRACTOR SHALL EXAMINE AND VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO SUPPORT LOADS EXERTED UPON THE FOUNDATIONS DURING EXCAVATION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNSATISFACTORY CONDITIONS.
12. POLE FOUNDATIONS SHALL NOT BE POURED IF FREE STANDING WATER IS PRESENT IN EXCAVATED AREA.
13. ALL POLES 25 FT. OR GREATER SHALL BE EQUIPPED WITH FACTORY INSTALLED VIBRATION DAMPENERS.

WALL MOUNTED FIXTURES

14. CONTRACTOR TO COORDINATE INSTALLATION OF ALL THE WALL MOUNTED FIXTURES AND ELECTRICAL CONNECTIONS TO SITE STRUCTURE(S) WITH BUILDING MEP, ARCHITECT, AND/OR OWNER.
15. INSTALLATION AND ELECTRICAL CONNECTIONS FOR WALL MOUNTED FIXTURES TO BE COORDINATED WITH ARCHITECTURAL, STRUCTURAL, UTILITY AND SITE PLANS AND TO BE IN ACCORDANCE WITH ALL APPLICABLE CODES.

ADJUSTMENT AND INSPECTION

16. CONTRACTOR TO OPERATE EACH LUMINAIRE AFTER INSTALLATION AND CONNECTION. INSPECT FOR IMPROPER CONNECTIONS AND OPERATION.
17. CONTRACTOR TO AIM AND ADJUST ALL LUMINAIRES TO PROVIDE ILLUMINATION LEVELS AND DISTRIBUTION AS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE LANDSCAPE ARCHITECT AND/OR OWNER.
18. CONTRACTOR TO CONFIRM THAT LIGHT FIXTURES, TILT ANGLE AND AIMING MATCH SPECIFICATIONS ON THE PLANS.

REQUIREMENTS FOR ALTERNATES

19. ALL LIGHTING SUBSTITUTIONS MUST BE MADE WITHIN 14 DAYS PRIOR TO THE BID DATE TO PROVIDE AMPLE TIME FOR REVIEW AND TO ISSUE AN ADDENDUM INCORPORATING THE SUBSTITUTION WITH THE FOLLOWING REQUIREMENTS:
    - A. ANY SUBSTITUTION TO LIGHTING FIXTURES, POLES, ETC. MUST BE APPROVED BY THE OWNER, ENGINEER AND TENANTS. ANY COST ASSOCIATED WITH REVIEW AND/OR APPROVAL OF THE SUBSTITUTIONS SHALL BE ENTIRELY BORNE BY THE CONTRACTOR
    - B. COMPUTER PREPARED PHOTOMETRIC LAYOUT OF THE PROPOSED LIGHTED AREA WHICH INDICATES, BY ISOFOOTCANDLE, THE SYSTEM'S PERFORMANCE.
    - C. A PHOTOMETRIC REPORT FROM A NATIONAL INDEPENDENT TESTING LABORATORY WITH REPORT NUMBER, DATE, FIXTURE CATALOG NUMBER, LUMINAIRE AND LAMP SPECIFICATIONS; IES CALCULATIONS, POINT BY POINT FOOT CANDLE PLAN, STATISTIC ZONES SHOWING AVERAGE, MAXIMUM, MINIMUM AND UNIFORMITY RATIOS, SUMMARY, ISOLUX PLOT, AND CATALOGUE CUTS. CATALOGUE CUTS MUST IDENTIFY OPTICS, LAMP TYPE, DISTRIBUTION TYPE, REFLECTOR, LENS, BALLASTS, WATTAGE, VOLTAGE, FINISH HOUSING DESCRIPTION AND ALL OTHER PERTINENT INFORMATION.
    - D. POLE MANUFACTURER AASHTO CALCULATIONS INDICATING THE POLE AND ANCHOR BOLTS BEING SUBMITTED ARE CAPABLE OF SUPPORTING THE POLE AND FIXTURE SYSTEMS BEING UTILIZED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
    - E. THE UNDERWRITERS LABORATORY LISTING AND FILE NUMBER FOR THE SPECIFIC FIXTURE(S) TO BE UTILIZED.
    - F. A COLOR PHOTOGRAPH THAT CLEARLY SHOWS THE REPLACEMENT FIXTURE POLE MOUNTED, THE FIXTURE'S COLOR, FINISH, AND PHYSICAL CHARACTERISTICS.

POLE BASE SECTION

PLAN

MOUNTING HEIGHT	FOOTING DEPTH	FOOTING DIAMETER	EXPOSED HEIGHT "H"	VERTICAL REINFORCEMENT
10'–0"	4'–6"	2'–0"	0'–2"	6#5 BARS
14'–0" (VIPER)	4'–6"	2'–0"	3'–0"	6#5 BARS
14'–0" (OURO)	4'–6"	2'–0"	0'–2"	6#5 BARS
20'–0"	4'–6"	2'–0"	3'–0"	6#5 BARS
23'–0"	5'–0"	2'–0"	3'–0"	6#5 BARS
28'–0"	5'–6"	2'–0"	3'–0"	6#5 BARS

NOTES:

EXPOSED HEIGHT OF POLE BASE (H) SHALL BE MEASURED ON THE UPHILL SIDE OF A SLOPE. FOOTING DEPTH (D) SHALL BE MEASURED ON THE DOWNHILL SIDE OF A SLOPE. AN ADDITIONAL VARIABLE HEIGHT (V) WILL BE BASED ON THE SLOPE ON WHICH THE POLE BASE IS LOCATED. CONTRACTOR TO CALCULATE FULL LENGTH OF EACH POLE BASE REQUIRED ON SLOPES (H+D+V = TOTAL BASE LENGTH)

POLE BASE ON SLOPE SECTION (IF APPLICABLE)

NOTES:

1. SHAFT CAP, ARMS, BASE FLANGE, ANCHOR BOLTS, LEVELING NUTS, CONNECTION HARDWARE, BOLT COVERS, HANDHOLE COVER, AND BOLT CIRCLE TEMPLATE SHALL BE FURNISHED BY POLE MANUFACTURER.
2. EACH STANDARD TO BE PROTECTED AGAINST LIGHTNING WITH AN INTERCONNECTED GROUND ROD. THIS ROD SHALL BE BONDED PER SECTION NUMBER 250–86, N.E.C.
3. CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENT OF ACI 318. CAST–IN–PLACE SHALL HAVE UNCONFINED COMPRESSIVE STRENGTH OF AT LEAST 5,000 PSI AT 28–DAYS. DEFORMED REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60.
4. CONTRACTOR TO ENSURE CONCRETE POLE BASES ARE POURED / PLACED ABSOLUTELY VERTICAL & LEVEL.
5. IF POLE BASE IS CAST–IN–PLACE, POLE BASE SHALL BE ONE CONTINUOUS POUR. EXPOSED PORTION OF BASE SHALL BE HAND–RUBBED SMOOTH.
6. CONTRACTOR TO COMPACT SUBGRADE AROUND POLE BASE PER EARTHWORK SPECIFICATIONS / GEOTECH REPORT.
7. CONTRACTOR TO CONFIRM GROUNDING DESIGN WITH MEP.

THE INFORMATION ILLUSTRATED IN THE LIGHT POLE FOUNDATION DETAIL HAS BEEN PROVIDED FOR GENERAL REFERENCE AND PRELIMINARY COST ESTIMATE PURPOSES. LIGHT POLE FOUNDATIONS SHOULD BE DESIGNED AND DETAILED BY A LICENSED STRUCTURAL ENGINEER BASED ON EXISTING SOIL CONDITIONS, LOCAL DESIGN STANDARDS AND MANUFACTURERS RECOMMENDATIONS.

PLAN

SECTION

NOTE:

1. CURB LOCATION IS SHOWN FOR SCHEMATIC PURPOSE. LIGHT POLES SHALL BE LOCATED PER THE LIGHTING PLANS IF THERE IS A CONFLICT..

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FGL

DECORATIVE & POST TOP

DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

Federal Globe™

Federal Globe Large

FEATURES

- Reliable, efficient operation
- Type 2, 3, 4, 5 distributions
- 3000K, 4000K, 5000K CCT
- 0-10V dimming ready
- Integral surge protection
- IP66

SPECIFICATIONS

CONSTRUCTION
- Luminaire housings are cast aluminum, A356 alloy
- Outer lens are acrylic and sealed to the housing with a silicone gasket on the top and bottom.
- All internal and external hardware are stainless steel
- Finial and optional cast filigree basket are painted to match housing
- Luminaire finish shall consist of a five stage pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish.
- Luminaire finish shall meet the AAMA 2604-05 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance

OPTICAL MODULE
- Light emitting diode (LED) assembly are sealed to a die-cast anodized aluminum heat sink with an injection molded silicone rubber gasket and stainless steel bezel, IP66
- • LED optics are injection molded PMMA acrylicnd be mounted to a metal printed circuit board with a uniform conformal coating over the panel surface and electrical features

INSTALLATION
- The electrical assembly are mounted to a prewired internal service tray and accessed by releasing the service latch to allow the fixture to hinge open into a service position

ELECTRICAL
- Luminaires accept 120 thru 277 50/60Hz input voltage have integral surge protection and wire leads for controls.
- Drivers are U.L recognized, have a minimum starting temperature of -30°C and have a 0-10v dimming interface with a dimming range of 10- 100%.
- Drivers have a power factor ≥.90 and THD of ≤20% at full load with an inrush current maximum of <20.0 Amps maximum at 230VAC
- Drivers are not be compatible with current sourcing dimmers, consult factory for current list of known compatible dimming systems

- Thermal shield is provided with all configurations for added protection in the event of abnormally excessively high ambient temperature conditions.
- Surge protector are U.L. recognized and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J

CONTROLS
- SCP shall have an integral surge protection device with a current rating of 10,000 Amps using the industry standard 8/20uSec wave and sure rating of 372J
- Sensor not intended for use with additional photo-control, wireless control or dimming systems

CERTIFICATIONS
- Luminaire shall be listed with ETL for outdoor, wet location use, UL1598, UL 8750 and Canadian CSA Std. C22.2 no.250

WARRANTY
- 5 year warranty

KEY DATA	
Lumen Range	3,215–5,343
Wattage Range	73
Efficacy Range (LPW)	44–63.8
Weight	31 lbs / 14.06 kg
EPA	1.47

Current

currentlighting.com/aal

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aal_fgl_led_spec_R01

STREET LIGHT FIXTURES

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DB5

DECORATIVE POLE

DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

AAL Poles

SPECIFICATIONS

CONSTRUCTION
- Base shall be cast aluminum #356 alloy, free of any porosity, foreign materials, or cosmetic fillers. Base casting shall be heat treated to a T-6 condition, and of uniform wall thickness, with no warping or mold shifting

WARNINGS
- Caution must be exercised in the selection of a design wind speed when the pole is to be installed in a special wind region (as indicated by the wind map) or in an area where wind speed is unpredictable
- AAL recommends consulting a local engineer when the pole is to be installed in an area that may be subject to extreme weather and exposure
- Poles installed on structures such as buildings and bridges may be subjected to vibration, oscillations, and other fatigue effects which are not covered by the AAL warranty
- The use of banners or other appendages can severely affect the loading of a pole. No banner or other appendage should be attached to an AAL pole unless approved by AAL
- If the products are to be used on an existing foundation or on other structures, the customer assumes all responsibility for the structural integrity of the existing foundation, anchorage or structures and all the consequences arising there from

CAUTION
- Poles should never be erected without the luminaire installed
- Anchor bolts shall be hot dip galvanized steel. Six galvanized hex nuts and flat washers, and a bolt circle template shall be provided. Anchor bolt for poles are 3/4" x 24" x 3"

CERTIFICATION
- Certified UL 1598 in accordance with Article 410 of ANSI/NFPA 70, National Electrical Code

ORDERING GUIDE

Example: DB5-4R12-125-12'-BLS-FS1

CATALOG #

POLE

Base	Pole [1]	OAH [1]	Finish	Options
DB5 4" Round Fluted Pole	**4R10-125** 4R10-125	**10' (3.7m)** 12' (3.7m)	**BLS** Black Gloss Smooth	**FH** Flag holder. Specify location on pole
	4R12-125 4R12-125	**12' (4.3m)** 14' (4.3m)	**BLT** Black Matte Textured	**FS1** Single weatherproof fuse holder. Fuse by others.
	4R14-125 4R16-125	**14' (4.9m)** 16' (4.9m)	**DBS** Dark Bronze Gloss Smooth	**FS2** Double weatherproof fuse holder. Fuse by others.
	4R16-125 4R10-226	**16' (4.9m)** 16' (4.9m)	**DBT** Dark Bronze Matte Textured	**LR** Ladder rest. Slips over a 4" O.D. pole.
	4R10-226 4R10-226	**10' (3.7m)** 12' (3.7m)	**GTT** Graphite Matte Textured	**PCA-T** Rotatable photocell housing. The housing slips over a 4"/100mm o.d. pole.a fixture slips over the 4"/100mm O.D. tenon. Includes an internal twist lock receptacle, and an access cover with integral lens and stainless steel tether. Adds 5"/125mm to the overall height of the pole/fixtureassembly. Prewire don the load side and line side for easy installation. Photocell by others
	4R12-226 4R12-226	**12' (4.3m)** 14' (4.3m)	**LGS** Light Grey Gloss Smooth	
	4R14-226 4R14-226	**14' (4.9m)** 16' (4.9m)	**LGT** Light Grey Matte Textured	
	4R16-226 4R16-226	**16' (4.9m)** 16' (4.9m)	**PSS** Platinum Silver Gloss Smooth	
	4F10-188 4F10-188	**10' (3.7m)** 12' (3.7m)	**VGT** Verde Green Matte Textured	
	4F12-188 4F12-188	**12' (4.3m)** 14' (4.3m)	**WHS** White Gloss Smooth	**PCR** Low profile twist lock photocell receptacle with cast pole cap top. Secures to the top of the pole with three stainless steel set screws. Photocell by others.
	4F14-188 4F14-188	**14' (4.9m)** 16' (4.9m)	**WHT** White Matte Textured	
	4F16-188 4F16-188	**16' (4.9m)** 16' (4.9m)	Color Option	
			CC Custom Color [2]	**RBC** Cast aluminum receptacle housing, integrally welded to the pole. Includes a NEC approved clear weather proof cover. Does –not include a receptacle or internal wiring

Notes:
1 Consult Maximum Allowable EPA (MPH) chart on page 2
2 Consult factory for custom color, marine and corrosive finish

Current

currentlighting.com/aal

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aal_db5_spec_R02

STREET LIGHT POLE

BEACON
design . performance . technology

VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

MICROSTRIKE | OPTICS STRIKE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, wiSCAPE and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

IP65

BUY AMERICAN SOLUTIONS
See Certification Specifications

CONTROL TECHNOLOGY

NX DISTRIBUTED™ INTELLIGENCE wiSCAPE™

SPECIFICATIONS

CONSTRUCTION
- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS
- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION
- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles.
- All mounting hardware included

INSTALLATION (CONTINUED)
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL
- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised

CONTROLS
- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard

CONTROLS (CONTINUED)
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor
- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

CERTIFICATIONS
- Meets the qualifications for DLC Premium
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See Buy American Solutions.

WARRANTY
- 5 year warranty
- See HLI Commercial and Industrial Outdoor Lighting Warranty for additional information

KEY DATA	
Lumen Range	5,000–80,000
Wattage Range	36–600
Efficacy Range (LPW)	92–155
Weight lbs. (kg)	13.7-30.9 (6.2-13.9)

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BEA-VIPER-S-SPEC

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HUBBELL Lighting

AREA LIGHT FIXTURES

KIM LIGHTING®

UR20

ARCHITECTURAL AREA/SITE

DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

Ouro™

Ouro Post Top

FEATURES

- 20" size in single/dual arm post top, pole and wall mount
- High performance optics up to 16,874 delivered lumens
- Elegant form factor
- Diffusion lens option
- SiteSync™ wireless control options
- UL/cUL listed for wet locations, IP66 and 4G/1.5G vibration rated

LISTED
3000K and warmer CCTs only
IK10[1]
See Certification Specifications

RELATED PRODUCTS

Ouro Small Arm Mount | Ouro Large Post Top | Ouro Large Arm Mount

CONTROL TECHNOLOGY

SiteSync NX DISTRIBUTED™ INTELLIGENCE

SPECIFICATIONS

CONSTRUCTION
- Low copper aluminum alloy die-casting is designed as one-piece.
- Molded silicone gasket throughout insures the sealing between the two compartments and provides ingress protection.
- All external fasteners are stainless steel.
- Cover is secured to Lens frame by the latch and hinge.

OPTICS
- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.
- Optional Backlight Control on each LED module to completely control unwanted backlight.
- Optional fixture finish optical surfaces will not exceed BUG ratings of the standard white finish.

LENS
- Standard lens (CLR) IK08
- Clear Polycarbonate Lens (CP) IK10

INSTALLATION
- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

ELECTRICAL
- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480. Driver has a 0-10V dimming interface for multi-level illumination options. Driver is Underwriters Laboratories listed.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments.
- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Surge protection: 10,000k in parallel, 20,000k in series
- Wiring: No. 18AWM rated 105°C, wet rating.

CONTROLS

7PR
- Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

Standard customer operation modes:
- Traditional on/off photoelectric control.
- 5-pin wireless photoelectric control for added dimming feature.
- 7-pin wireless photoelectric control for for dimming and additional I/O connections for customer use.

7-Pin receptacle placement

(Specifications continued on page 3)

KEY DATA	
Lumen Range	2694 – 16874
Wattage Range	25 – 150
Efficacy Range (LPW)	95 – 133
Reported Life (Hours)	L70/>60,000
Weight	35 lbs – 15.8 Kg
EPA	0.608

(Specifications continued on page 3)

[1] Clear Polycarbonate Lens (CP) IK10, Standard lens (CLR) IK08, Consult factory for details

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UR20 Post Top

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HUBBELL Lighting

DECORATIVE POST-TOP LIGHT FIXTURE

RSA-B-S SERIES POLES
ROUND STRAIGHT ALUMINUM

Cat.#	
Job	Type
Approvals	

BEACON
design . performance . technology

APPLICATIONS
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION
- SHAFT: One-piece straight aluminum with round cross section; Extruded shafts of 6061-T6 aluminum in 1/8", 3/16", or 1/4" thickness. Base plate of 356 cast aluminum.
- BOLT COVERS: Four (4) individual bolt covers provided, painted to match pole and base finish.
- POLE CAP OR FINALS: Cap or decorative finials available for side mounted luminaires. Open top or tenons provided for post top mounted luminaires.
- HAND HOLE: Aluminum hand hole frame; Mounting provisions for grounding lug located behind cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

FINISH
- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint finish coat available in multiple standard colors; Custom colors available; RAL number preferable.

ORDERING EXAMPLE:

RSA-B-S - 16 - 40 - A/B/C - CAP - 2L - B3 - DBT - VM2

SERIES
RSA-B-S Round Straight Aluminum Pole Beacon Smooth

HEIGHT
Reference page 2 Ordering matrix

SHAFT
Reference page 2 Ordering matrix

THICKNESS
Reference page 2 Ordering matrix

MOUNTING
- **1** Single arm mount
- **2** Two fixtures at 180°
- **2L** Two fixtures at 90°
- **3T** Three fixtures at 90°
- **3Y** Three at 120°
- **4** Four fixtures at 90°
- **OT²** Open top (includes pole cap)
- **TN3²** Tenon 3 x 3
- **TN4²** Tenon 3 x 4
- **TN5²** Tenon 4 x 5
- **TN8²** Tenon 4 x 8
- **ARC²** Acorn Finial
- **BAL²** Ball Finial
- **CAP²** Flat Cap

FINISH
- **BLT** Black Matte Textured
- **BLS** Black Gloss Smooth
- **DBT** Dark Bronze Matte Textured
- **DBS** Dark Bronze Gloss Smooth
- **GTT** Graphite Matte Textured
- **LGS** Light Grey Gloss Smooth
- **PSS** Platinum Silver Smooth
- **WHT** White Matte Textured
- **WHS** White Gloss Smooth
- **VGT** Verde Green Textured

Color Option
- **CC** Custom Color

DRILL PATTERN
- **B1** Cruzer, "AM" arm
- **B3** 2 bolt (2-½" spacing), Viper "A" arm
- **S2** 2 bolt (3-½" spacing), Viper "AD" arm

OPTIONS
- **GFI¹** 20 Amp GFCI Receptacle and Cover
- **EHH¹** Extra Handhole
- **C05¹** .5" Coupling
- **C07¹** .75" Coupling
- **C20¹** 2" Coupling
- **VM2** 2nd mode vibration damper
- **LAB** Less Anchor Bolts

MOUNTING ORIENTATION

ACCESSORIES- Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper

1 Specify option location using logic found on page 2 **(Option Orientation)**
2 Specify pole top

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Due to our continued efforts to improve our products, product specifications are subject to change without notice.
• For more information visit our website: www.beaconproducts.com • Printed in USA RSA-B-S POLES-SPEC MARCH 1, 2021 12:16 PM

HUBBELL Lighting

LIGHT POLE

Date	Description	No.

REVISIONS

John Cote 5/3/2024
SIGNATURE JOHN COTE DATE SIGNED
PROFESSIONAL ENGINEER NJ Lic. No.
24GE03705800

LANGAN
Langan Engineering and
Environmental Services, LLC

300 Kimball Drive
Parsippany, NJ 07054

T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ Certificate of Authorization No. 24GA27996400

Project

3501 STATE ROUTE 66
REDEVELOPMENT
BLOCK No. 3903, LOT No. 12 & 13
NEPTUNE TOWNSHIP
MONMOUTH COUNTY NEW JERSEY

Drawing Title

LIGHTING
DETAILS & NOTES

Project No. 100775002
Date MAY 03, 2024
Drawn By GR
Checked By DB
Drawing No. LL501
Sheet 48 of 48