CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS

PRELIMINARY & FINAL MAJOR SITE PLANS

BLOCK No. 174, LOT No. 1.01

WEST ORANGE TOWNSHIP, ESSEX COUNTY, NEW JERSEY

PROJECT INFORMATION & CONTACTS	
PROJECT LOCATION:	750 EAGLE ROCK AVENUE BLOCK No. 174, LOT No. 1.01 TOWNSHIP OF WEST ORANGE ESSEX COUNTY, NEW JERSEY 07052
OWNER / APPLICANT:	CRESTMONT COUNTRY CLUB, INC. 750 EAGLE ROCK AVENUE WEST ORANGE, NEW JERSEY 07052 (973) 731-2060
CONTACT:	DANA CANCELLARO
SITE/CIVIL ENGINEER, LANDSCAPE ARCHITECT, TRAFFIC ENGINEER, SURVEYOR, GEOTECHNICAL ENGINEER:	LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, LLC 300 KIMBALL DRIVE PARSIPPANY, NJ 07054 (973) 560-4900
CONTACT:	JOHN COTE, P.E., ASSOCIATE PRINCIPAL

UTILITY AND REGULATORY AGENCY CONTACT LIST

TOWNSHIP OF WEST ORANGE DEPARTMENT OF PLANNING & DEVELOPMENT
66 MAIN STREET
ROOM 214
WEST ORANGE, NJ 07052

ESSEX COUNTY PLANNING BOARD
900 BLOOMFIELD AVENUE
VERONA, NJ 07044

HUDSON ESSEX PASSAIC SOIL CONSERVATION DISTRICT
80 ORCHARD STREET
BLOOMFIELD, NJ 07003

SANITARY SEWER
TOWNSHIP OF WEST ORANGE DEPARTMENT OF PUBLIC WORKS SEWER DIVISION
25 LAKESIDE AVENUE
WEST ORANGE, NJ 07052

SANITARY SEWER TREATMENT
JOINT MEETING OF ESSEX AND UNION COUNTIES
500 SOUTH FIRST STREET
ELIZABETH, NJ 07202

WATER SERVICE
NEW JERSEY AMERICAN WATER
167 JOHN F KENNEDY PARKWAY
SHORT HILLS, NJ 07078

ELECTRIC & GAS SERVICE
PUBLIC SERVICE ELECTRIC & GAS COMPANY (PSE&G)
80 PARK PLAZA
NEWARK, NJ 07102

TELEPHONE SERVICE
VERIZON
540 BROAD STREET
NEWARK, NJ 07101

CABLE SERVICE
COMCAST CABLEVISION
800 RAHWAY AVENUE
UNION, NJ 07083

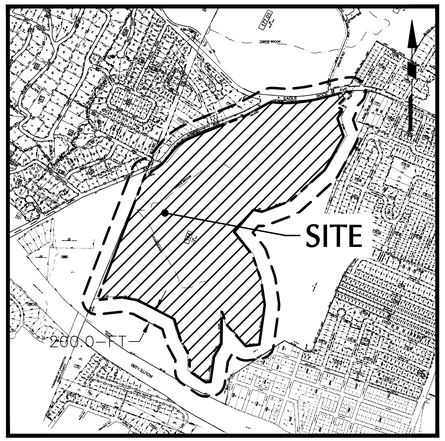
DRAWING LIST (BOUND SEPARATELY)

SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE	DRAWING SCALE	DATE	REVISION DATE
1	LP200	COVER SHEET	AS SHOWN	2/12/2026	-
2	LP201	TREE RESTORATION PLAN I	AS SHOWN	2/12/2026	-
3	LP202	TREE RESTORATION PLAN II	AS SHOWN	2/12/2026	-
4	LP501	LANDSCAPE NOTES & DETAILS	N.T.S.	2/12/2026	-

DRAWING LIST (BOUND SEPARATELY)

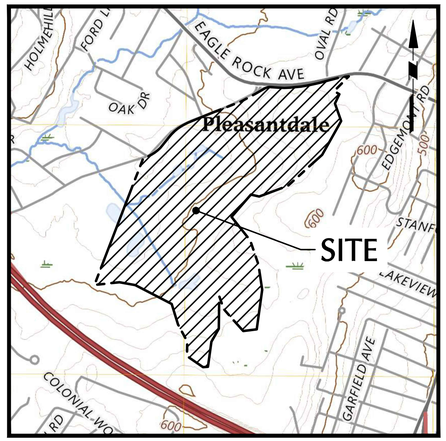
SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE	DRAWING SCALE	DATE	REVISION DATE
1	VT101	RIGHT OF WAY & PARTIAL SITE SURVEY	1" = 200'	2/11/2026	-
2	VT102	RIGHT OF WAY & PARTIAL SITE SURVEY	1" = 80'	2/11/2026	-
3	VT103	RIGHT OF WAY & PARTIAL SITE SURVEY	1" = 30'	2/11/2026	-
4	VT104	RIGHT OF WAY & PARTIAL SITE SURVEY	1" = 30'	2/11/2026	-
5	VT105	RIGHT OF WAY & PARTIAL SITE SURVEY	1" = 30'	2/11/2026	-
6	VT106	RIGHT OF WAY & PARTIAL SITE SURVEY	1" = 30'	2/11/2026	-

APPROVED BY THE ESSEX COUNTY PLANNING BOARD	APPROVED BY THE WEST ORANGE TOWNSHIP PLANNING BOARD
SIGNATURE CHAIRMAN DATE	SIGNATURE CHAIRMAN DATE
SIGNATURE SECRETARY DATE	SIGNATURE SECRETARY DATE
SIGNATURE ENGINEER DATE	SIGNATURE ENGINEER DATE



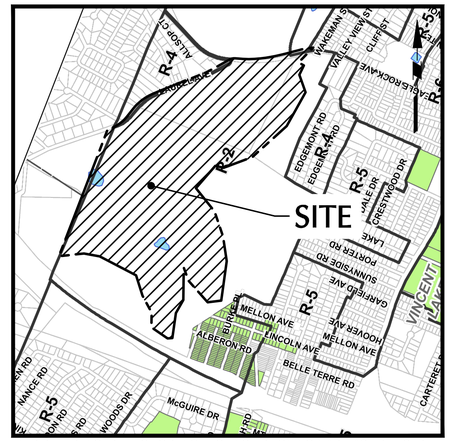
MAP REFERENCED: WEST ORANGE TOWNSHIP, NEW JERSEY TAX MAP SHEET 114, 118, 119, 120, 121, 122, 123, 124, 125, 126 LAST REVISED JUNE 2011, & BOUROUGH OF ROSELAND, NEW JERSEY TAX MAP SHEET 8 REVISED SEPTEMBER 2005 & LIVINGSTON TOWNSHIP, NEW JERSEY TAX MAP SHEET 23 REVISED APRIL 1993

TAX MAP
SCALE: 1" = 1000'



MAP REFERENCED: CALDWELL, NJ U.S.G.S. QUADRANGLE MAP, DATED 2023

LOCATION MAP
SCALE: 1" = 1,000'



MAP REFERENCED: WEST ORANGE TOWNSHIP ZONING MAP, LAST REVISED NOVEMBER 2020.

ZONING MAP
SCALE: 1" =1,000'

DRAWING LIST

SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE	DRAWING SCALE	DATE	REVISION DATE
1	GI001	COVER SHEET	AS SHOWN	2/12/2026	-
2	GI101	PROJECT INFORMATION	AS SHOWN	2/12/2026	-
3	CD101	PARTIAL DEMOLITION PLAN	1" = 30'	2/12/2026	-
4	CD102	PARTIAL DEMOLITION PLAN	1" = 30'	2/12/2026	-
5	CS100	OVERALL SITE PLAN	1" = 200'	2/12/2026	-
6	CS101	PARTIAL SITE PLAN	1" = 30'	2/12/2026	-
7	CS102	PARTIAL SITE PLAN	1" = 30'	2/12/2026	-
8	CS200	DRIVEWAY PROFILE & CROSS SECTION	AS SHOWN	2/12/2026	-
9	CS501	SITE DETAILS	N.T.S.	2/12/2026	-
10	CP101	PARTIAL FIRE TRUCK CIRCULATION PLAN	1" = 30'	2/12/2026	-
11	CP102	PARTIAL FIRE TRUCK CIRCULATION PLAN	1" = 30'	2/12/2026	-
12	CG101	PARTIAL GRADING PLAN	1" = 30'	2/12/2026	-
13	CG102	PARTIAL GRADING PLAN	1" = 30'	2/12/2026	-
14	CG103	PARTIAL DRAINAGE PLAN	1" = 30'	2/12/2026	-
15	CG104	PARTIAL DRAINAGE PLAN	1" = 30'	2/12/2026	-
16	CG201	DRAINAGE PROFILES	AS SHOWN	2/12/2026	-
17	CG202	DRAINAGE PROFILES	AS SHOWN	2/12/2026	-
18	CG203	DRAINAGE PROFILES	AS SHOWN	2/12/2026	-
19	CG204	DRAINAGE PROFILES	AS SHOWN	2/12/2026	-
20	CG205	DRAINAGE PROFILES	AS SHOWN	2/12/2026	-
21	CG501	DRAINAGE DETAILS	N.T.S.	2/12/2026	-
22	CG502	DRAINAGE DETAILS	N.T.S.	2/12/2026	-
23	CU101	PARTIAL UTILITY PLAN	1" = 30'	2/12/2026	-
24	CU102	PARTIAL UTILITY PLAN	1" = 30'	2/12/2026	-
25	CE101	PARTIAL SOIL EROSION & SEDIMENT CONTROL PLAN	1" = 30'	2/12/2026	-
26	CE102	PARTIAL SOIL EROSION & SEDIMENT CONTROL PLAN	1" = 30'	2/12/2026	-
27	CE501	SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS	N.T.S.	2/12/2026	-
28	CE502	SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS	N.T.S.	2/12/2026	-
29	LD101	PARTIAL TREE REMOVAL PLAN 1	1" = 30'	2/12/2026	-
30	LD102	PARTIAL TREE REMOVAL PLAN 2	1" = 30'	2/12/2026	-
31	LP101	PARTIAL LANDSCAPE PLAN	1" = 30'	2/12/2026	-
32	LP102	PARTIAL LANDSCAPE PLAN	1" = 30'	2/12/2026	-
33	LP501	LANDSCAPE DETAILS	N.T.S.	2/12/2026	-
34	LL101	PARTIAL LIGHTING PLAN	1" = 30'	2/12/2026	-
35	LL102	PARTIAL LIGHTING PLAN	1" = 30'	2/12/2026	-
36	LL501	LIGHTING DETAILS	N.T.S.	2/12/2026	-

GENERAL SITE NOTES:

1. THE CONTRACTOR SHALL FURNISH, INSTALL, TEST AND COMPLETE ALL WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION; AS SUCH, THESE PLANS DO NOT COMPLETELY REPRESENT, NOR ARE THEY INTENDED TO REPRESENT, ALL SPECIFIC INSTRUCTIONS REQUIRED FOR SITEWORK CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS DEPICTED ON THESE PLANS IN ACCORDANCE WITH ALL APPLICABLE RULES, REGULATIONS AND LAWS IN EFFECT AT THE TIME OF CONSTRUCTION.
2. THE CONTRACTOR SHALL ACCEPT THE SITE AS IS. THE CONTRACTOR SHALL ASSESS CONDITIONS, AND THE KIND, QUALITY AND QUANTITY OF WORK REQUIRED. THE OWNER AND ENGINEER MAKE NO GUARANTEE IN REGARD TO THE ACCURACY OF ANY INFORMATION THAT WAS OBTAINED DURING INVESTIGATIONS. THE CONTRACTOR SHALL: MAKE A THOROUGH SITE INSPECTION IN ORDER TO FIELD CHECK EXISTING SITE CONDITIONS; CORRELATE CONDITIONS WITH THE DRAWINGS; AND, RESOLVE ANY POSSIBLE CONSTRUCTION CONFLICTS WITH THE OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL PERFORM ADDITIONAL TOPOGRAPHIC SURVEYS HE/SHE DEEMS NECESSARY, PROVIDED THEY ARE COORDINATED WITH THE OWNER. ANY CONDITIONS DETERMINED BY THE CONTRACTOR THAT DIFFER FROM THE INFORMATION SHOWN ON THE DRAWINGS THAT ARE NOT BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER PRIOR TO THE START OF WORK SHALL NOT BE CONSIDERED GROUNDS FOR ADDITIONAL PAYMENT OR CHANGES TO THE CONTRACT DURATION, OR ANY OTHER CLAIMS AGAINST THE OWNER OR OWNER'S ENGINEER.
3. THE CONTRACTOR SHALL, WHEN HE/SHE DEEMS NECESSARY, PROVIDE A WRITTEN REQUEST FOR INFORMATION (RFI) TO THE OWNER AND/OR OWNER'S DESIGNATED REPRESENTATIVE, AND ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC SITEWORK ITEM. THE (RFI) SHALL BE IN A FORM ACCEPTABLE TO OWNER AND/OR OWNER'S DESIGNATED REPRESENTATIVE, AND ENGINEER AND SHALL ALLOW FOR A MINIMUM OF THREE WORK DAYS FOR A WRITTEN REPLY. RFIS SHALL BE NUMBERED CONSECUTIVELY BY DATE SUBMITTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITEWORK ITEMS CONSTRUCTED DIFFERENTLY THAN INTENDED OR AS DEPICTED ON THE PLANS.
4. INFORMATION RELATED TO ELEVATIONS AND PROPOSED UTILITIES (SUCH AS ROADWAY GRADES, INVERT ELEVATIONS, RIM ELEVATIONS, GRATE ELEVATIONS, BUILDING FINISHED FLOOR ELEVATIONS, ETC.) MAY BE FOUND IN MORE THAN ONE LOCATION IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL SUFFICIENTLY REVIEW ALL PLANS, PROFILES AND ANY OTHER INFORMATION IN THE CONTRACT DOCUMENTS FOR CONSISTENCY PRIOR TO BID. ANY INCONSISTENCIES OR DISCREPANCIES THAT ARE FOUND BY THE CONTRACTOR OR HIS ASSIGNS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IN WRITING, IN THE FORMAT OF AN RFI PRIOR TO BID.
5. THERE ARE ADDITIONAL NOTES, SPECIFICATIONS AND REQUIREMENTS CONTAINED THROUGHOUT THE PLAN SET AS WELL AS REFERENCES TO SPECIFICATIONS FROM APPLICABLE GOVERNING AUTHORITIES AND INDUSTRY STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, REVIEW AND ADHERE TO ALL THESE DOCUMENTS.
6. CONTRACTOR IS SPECIFICALLY CAUTIONED THAT ALL CONSTRUCTION STAKEOUT FOR THIS PROJECT MUST BE COMPLETED FROM THE SITE SPECIFIC SURVEY CONTROL (HORIZONTAL AND VERTICAL) UPON WHICH THE DESIGN IS BASED. THE CONTRACTOR SHOULD NOT RELY ON OR RE-ESTABLISH SURVEY CONTROL BY GPS OR OTHER METHODS FOR USE IN CONSTRUCTION STAKEOUT OR ANY OTHER PURPOSE FOR THIS PROJECT. ANY DISCREPANCIES BETWEEN THE EXISTING HORIZONTAL OR VERTICAL DATA SHOWN ON THESE DRAWINGS AND THAT ENCOUNTERED IN THE FIELD MUST BE REPORTED TO THE DESIGN TEAM PRIOR TO CONSTRUCTION FOR RESOLUTION.

OWNER/APPLICANT CERTIFICATION

THE UNDERSIGNED INDIVIDUAL IS AN AUTHORIZED AGENT WITH LEGAL AUTHORITY TO CERTIFY ON BEHALF OF THE OWNER/APPLICANT ENTITY: CRESTMONT COUNTRY CLUB, INC.

NAME PRINT NAME DATE

SWORN AND SUBSCRIBED TO BEFORE ME THIS _____ DAY OF _____, 2026.

NOTARY PUBLIC OF THE STATE OF NEW JERSEY DATE

CALL BEFORE YOU DIG TO LOCATE UNDERGROUND UTILITIES
1 (800) 272-1000
FOR FREE MARKOUTS TO LOCATE UNDERGROUND UTILITIES
CALL AT LEAST 3 DAYS PRIOR TO GROUND DISTURBANCE

CALL BEFORE YOU DIG

Date	Description	No.
–	–	–
–	–	–
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REVISIONS

SIGNATURE JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 DATE SIGNED 2/12/2026

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
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
COVER SHEET

Project No.	101049802
Date	FEBRUARY 12, 2026
Drawn By	JS
Checked By	MJV
Drawing No.	GI001
Sheet	1 of 36

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Date: 3/4/2026 Time: 17:58 User: tgreen Style Table: Langan.stb Layout: Layout1 Document Code: 101049802-0102-CS001-0101

LANGAN Project No. 101049802

WEST ORANGE 200' PROPERTY OWNERS LIST

BLOCK	LOT	PROPERTY ADDRESS	OWNER	OWNER ADDRESS	CITY / STATE / ZIP
174	1	EAGLE ROCK AVENUE	TOWNSHIP OF WEST ORANGE	66 MAIN STREET	WEST ORANGE, NJ 07052
174	1.01	750 EAGLE ROCK AVENUE	CRESTMONT COUNTRY CLUB	750 EAGLE ROCK AVENUE	WEST ORANGE, NJ 07052
175.06	1	LINCOLN AVENUE	TOWNSHIP OF WEST ORANGE	66 MAIN STREET	WEST ORANGE, NJ 07052
175.06	2	LINCOLN AVENUE	TOWNSHIP OF WEST ORANGE	66 MAIN STREET	WEST ORANGE, NJ 07052
175.06	5	BURKE PLACE	TOWNSHIP OF WEST ORANGE	66 MAIN STREET	WEST ORANGE, NJ 07052
175.06	6	BURKE PLACE	TOWNSHIP OF WEST ORANGE	66 MAIN STREET	WEST ORANGE, NJ 07052
177.01	25	EAGLE ROCK AVENUE	ESSEX FELLS COUNTRY CLUB	219 DEVON ROAD	ESSEX FELLS, NJ 07021
177.02	15.01	23 LAUREL AVENUE	SUN KING PRIVATE LIMITED	23 LAUREL AVENUE	WEST ORANGE, NJ 07052
177.02	15.02	31 LAUREL AVENUE	EMMR LIMITED PARTNERSHIP	196 DEVON ROAD	ESSEX FELLS, NJ 07021
177.02	15.03	29 LAUREL AVENUE	BUTKOV, NIKOLAS	29 LAUREL AVENUE	WEST ORANGE, NJ 07052
177.02	15.04	3 BARTON DRIVE	LI, HAIBING, & PEI LIU	3 BARTON DRIVE	WEST ORANGE, NJ 07052
177.02	18	7 LAUREL AVENUE	MARTINEZ, ANABEL	7 LAUREL AVENUE	WEST ORANGE, NJ 07052
177.02	19	1 LAUREL AVENUE	EMMR LIMITED PARTNERSHIP % ELI CORI	196 DEVON ROAD	ESSEX FELLS, NJ 07021
177.03	1	753 EAGLE ROCK AVENUE	MEJIA, TELESFORO & CARMELA	753 EAGLE ROCK AVENUE	WEST ORANGE, NJ 07052
177.03	3	21 WAKEMAN STREET	SMERALDO, PETER & KIM	21 WAKEMAN STREET	WEST ORANGE, NJ 07052
177.05	1	22 WAKEMAN STREET	PATEL, KETULKUMAR H. & TUENABEN K.	22 WAKEMAN STREET	WEST ORANGE, NJ 07052
177.11	1	4 BARTON DRIVE	KOUASSI, ALAIN J. & ALICIA T.	4 BARTON DRIVE	WEST ORANGE, NJ 07052
177.11	2	2 AHERN WAY	ALAS, DEVRIM & MELANIE	2 AHERN WAY	WEST ORANGE, NJ 07052
177.11	6	41 LAUREL AVENUE	MORANA, JOSEPH EXECUTOR	41 LAUREL AVENUE	WEST ORANGE, NJ 07052
177.11	7	49 LAUREL AVENUE	CERPA, MARIBEL & OBLITAS, AURORA	49 LAUREL AVENUE	WEST ORANGE, NJ 07052
177.11	10	59-61 LAUREL AVENUE	BHANDARI,VINIL+PREMKUMAR,VANDANA	59-61 LAUREL AVENUE	WEST ORANGE, NJ 07052
177.11	11	55 LAUREL AVENUE	KAY, JILLIAN ALYN	55 LAUREL AVENUE	WEST ORANGE, NJ 07052
177.11	11.01	57 LAUREL AVENUE	HARRIS, PAUL JR & MUNFORD, LORETTA	57 LAUREL AVENUE	WEST ORANGE, NJ 07052
177.11	12	51 LAUREL AVENUE	GRABOWSKI, PAUL L & JEANNINE	51 LAUREL AVENUE	WEST ORANGE, NJ 07052
177.11	13	45 LAUREL AVENUE	KELLY, JERRY DAVID & ALEXANDRA	45 LAUREL AVENUE	WEST ORANGE, NJ 07052
177.12	60	757 EAGLE ROCK AVENUE	PLEASANTDALE CHATEAU & CONFER. INC.	757 EAGLE ROCK AVENUE	WEST ORANGE, NJ 07052

LIVINGSTON 200' PROPERTY OWNERS LIST

BLOCK	LOT	PROPERTY ADDRESS	OWNER	OWNER ADDRESS	CITY / STATE / ZIP
2300	7	LAUREL AVENUE	CRESTMONT COUNTRY CLUB	P.O. BOX 358	WEST ORANGE, NJ 07052
2300	7	LAUREL AVENUE	SS NICHOLAS, CONSTANTINE & HELEN G.O.C	80 LAUREL AVENUE	ROSELAND, NJ 07068

ROSELAND 200' PROPERTY OWNERS LIST

BLOCK	LOT	PROPERTY ADDRESS	OWNER	OWNER ADDRESS	CITY / STATE / ZIP
49	53	4 PINE ROAD	LANCIA, NICHOLAS JR	4 PINE ROAD	ROSELAND, NJ 07068
54	7	67 LAUREL AVENUE	AMIRATA, HEIDI B.	67 LAUREL AVENUE	ROSELAND, NJ 07068
54	8	63 LAUREL AVENUE	MANUSIS, MICHAEL & FLORINA B	63 LAUREL AVENUE	ROSELAND, NJ 07068
55	1	78 LAUREL AVENUE	CRESTMONT COUNTRY CLUB	750 EAGLE ROCK AVENUE	WEST ORANGE, NJ 07052

ZONING TABLE

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ZONING DISTRICT: R-2 DISTRICT: ONE FAMILY DWELLINGS ON 40,000 SQUARE FOOT LOTS

Item	Required / Allowed	Existing	Proposed	Regulation Reference[1]	Condition
Land Use:					
Principal Uses	Golf Course and Golf Club House	Golf Course and Golf Club House	Golf Course and Golf Club House	25-7.1	C
Accessory Uses	Required Accessory Parking, Customary Accessory Building or Structure, Signs, Fences and Dividing Walls	Required Accessory Parking, Customary Accessory Building or Structure, Signs, Fences and Walls	Required Accessory Parking, Customary Accessory Building or Structure, Signs, Fences and Dividing Walls	25-7.1	C
Area, Bulk & Yard Requirements:					
Max. Height (Stories / FT)	2.5 Stories / 35 FT	< 2.5 Stories / < 35 FT	< 2.5 Stories / < 35 FT	25-7.1	C
Min. Lot Area (SF)	40,000 SF	6,400,399± SF (146.93± AC)	6,390,953± SF[2] (146.72± AC)	25-7.1	C
Min. Lot Area Per Unit (SQ FT)	40,000 SF	N/A	N/A	25-7.1	N/A
Min. Lot Width (FT)	125 FT	986± FT	986± FT	25-7.1	C
Min. Front Yard (FT)	35 FT	291.5 FT	285.6 FT	25-7.1	C
Min. Side Front Yard Corner Lot (FT)	35 FT	461.3 FT	461.3 FT	25-7.1	C
Min. Side Yards (FT)	20 FT + 20 FT	408.8 FT	408.8 FT	25-7.1	C
Min. Rear Yard (FT)	45 FT	453.9 FT	453.9 FT	25-7.1	C
Max. Building Coverage[3]	20%	1.1%	1.1%	25-7.1	C
Max. Lot Coverage	30%	6.76%[4]	6.96%	25-7.1	C
Accessory Use Requirements:					
Permitted Location of Accessory Uses	Not within Minimum Required Front Yard or Side Yard	Within Minimum Front Yard	Within Minimum Front Yard[10]	25-8.1.a	C[10]
Min. Setback of Accessory Structure, Building, Storage Area, Off-Street Parking Area, or Truck Loading Space to a Property Line (FT)	5 FT	> 5 FT	5.5 FT	25-8.1	C
Driveway, Parking & Loading Regulations[5]					
Min. Number of Parking Spaces	700 Spaces[6]	256 Spaces[6]	292 Spaces[17]	25-12.2 b.1.	**V**
Min. Parking Space Size (FT x FT)	9 FT x 18 FT	9 FT x 18 FT	9 FT x 18 FT	25-12.1 p.	C
Min. Two-Way, 90° Angle Parking Drive Aisle Width (FT)	24 FT	24 FT	24 FT	25-12.1 h.6.	C
Min. Number of Electric Vehicle (EV) Spaces[7]	1 EV Make-Ready Space	2 EV Spaces[8]	4 EV Spaces	25-12.6 d.2.	C
Min. Parking Setback to Property Lines (FT)	5 FT or Minimum Front Yard (35 FT) or Minimum Side Yard (20 FT) Setback	65 FT	35.6 FT	25-8.1 / 25-8.1.a	C
Curb Enclosing Parking Areas and Entrance/Exit Drives	Concrete or Granite Block	Granite Block	Granite Block	25-12.1 b.	C
Min. Curb Height (IN)	6 IN	6 IN	6 IN	25-12.1 b.	C
Min. Distance from Parking Area Curb to any Fencing, Screening, or Structures (FT)	5 FT	> 5 FT	3 FT[11]	25-12.1 b.	**V**
Min. Parking Lot Landscaping	1 Tree + Ground Level Planting for Every 10 Spaces	-	> 1 Tree for Every 10 Spaces (See Drawing LP101)	25-12.1 o.	C
Max. Number of Adjacent Parking Spaces Between Min. 8-FT-Wide Landscape Islands	20 Spaces	28 Spaces	16 Spaces	25-12.1 o.	C
Maximum Driveway Slope (%)	6%	10.5%	10.5% (Existing to Remain) 8.5% (Proposed)	25-28.8 f.8	**NC / V**
Lighting & Landscape Regulations[12]					
Max. Height of Light Fixtures (FT)	18 FT	18 FT	18 FT	25-14.1 c.	C
Remove Any Tree on a Slope of 10% or Greater	No	-	Yes[13]	28-4.b.4	**W**
Min. Number of 2.5" Caliper Replacement Trees	120	-	120	28-6.a	C
Min. Number of 4" Caliper Replacement Trees	466	-	466[18]	28-6.a	C
Fence & Wall Regulations					
Max. Height of Wall or Fence Not More Than 50% Solid within Front or Side Yard (FT)[9]	4 FT	4 FT	4 FT	25-8.4.a	C
Min. Setback of Max. 4-FT-High Wall or Fence Not More Than 50% Solid (FT)	0 FT	-	5.5 FT	25-8.4.a	C
Max. Retaining Wall Height	4 FT	-	21.5 FT[14]	25-28.8 f.11	**V**
Slope Regulations[15]					
Min. Setback of Proposed Improvements to Top of Steep Slope (10-30%) (FT)	50 FT	-	10 FT	25-28.7.b.16	**V**
Min. Setback of Proposed Improvements to Top of Steep Slopes (>30%) (FT)	100 FT	-	10 FT	25-28.7.b.16	**V**
Max. Proposed Slope	3 FT Horizontal : 1 FT Vertical	-	3 FT Horizontal : 1 FT Vertical	25-28.8 f.10	C
Max. Disturbed Area (%)					
0% to 10% Slope	100%	-	2.1%	25-28.8 b	C
10% to 14.99% Slope	60%	-	3.1%	25-28.8 b	C
15% to 19.99% Slope	40%	-	6.2%	25-28.8 b	C
20% to 24.99% Slope	20%	-	4.1%	25-28.8 b	C
25% or Greater Slope[16]	0%	-	10.9%	25-28.8 b	**V**

Abbreviations:

V - Variance W - Waiver C - Compliance NC - Existing Nonconformity N/A - Not Applicable

Notes:

1. Zoning Regulations and design standards referenced from Township of West Orange Code of Ordinances Chapter 25: Land Use Regulations.
2. Approximately 9,446± square feet of frontage along Eagle Rock Avenue (Essex County Route 611) is proposed to be dedicated to Essex County as part of the Eagle Rock Avenue road widening improvements.
3. The building coverage calculations utilize the effective lot area per Chapter 25-28.8.d.
4. The existing impervious coverage calculation of 6.76% for the subject property is referenced from the Township of West Orange Planning Board approved set of plans titled "Minor Site Plan Prepared for Pickleball Courts, Crestmont Country Club, Lot 1.01 Block 174 Situated in West Orange Township, Essex County, New Jersey," dated last revised May 4, 2023, prepared by Van Cleef Engineering Associates, LLC.
5. Refer to the Required Parking Calculations table for the calculation of the required number of parking spaces.
6. At the time of the site survey being performed and at the time of this site plan application, there are a total of 256 striped parking spaces provided on the subject property. It should be noted that the Township of West Orange Zoning Board approved set of plans titled "Preliminary & Final Site Plan Prepared for Modular Housing, Crestmont Country Club, Block 174 Lot 1.01 Situated in West Orange Township, Essex County, New Jersey," dated last reivsed December 9, 2024, prepared by Van Cleef Engineering Associates, LLC, indicated that a variance was being requested for a proposed total of 252 parking spaces.
7. Refer to the Electric Vehicle (EV) Parking Calculations table. The total number of required new electric vehicle parking spaces is based upon the net number of new parking spaces being provided as part of this proposed site plan application (32 new parking spaces).
8. The Township of West Orange Zoning Board approved set of plans titled "Preliminary & Final Site Plan Prepared for Modular Housing, Crestmont Country Club, Block 174 Lot 1.01 Situated in West Orange Township, Essex County, New Jersey," dated last reivsed December 9, 2024, prepared by Van Cleef Engineering Associates, LLC, included 2 proposed electric vehicle parking spaces to be constructed.
9. In accordance with Chapter 25-12.5, the provisions of Subsections 25-12.3 and 25-12.4 shall not apply to any building or use in existence on January 25, 1978 whether continued as a permitted or a nonconforming use, or thereafter converted or changed to a different lawful use.
10. Fences and walls, which are defined as permitted accessory uses, are proposed to be located within the minimum front yard; however, Chapter 25-8.4.a permits for walls and fences which are not more than 50% solid to be permitted anywhere on the property, in all districts, provided they are not higher than four feet. The proposed parking areas are to be located outside the minimum required front yard and side yard.
11. A distance of 3 feet is proposed between the proposed parking area curb and proposed fence along the west side of the existing modular building. Guide rail is proposed between the curb and fence to protect the fence in lieu of concrete wheel stops.
12. Refer to the Partial Lighting Plan LL101 and Partial Landscape Plan LP101 for comprehensive ordinance compliance charts. Refer to the Partial Tree Removal Plan LD101 for detailed tree removal and replacement calculations. All proposed lighting and landscaping improvements are compliant with Township of West Orange ordinance requirements.
13. There are 191 trees proposed to be removed on a slope of 10% or greater.
14. The total length of proposed retaining wall over 4 feet in height is approximately 1,381 FT.
15. In accordance with Chapter 25-28.5.c, areas which previously contained structures or other improvements, or were previously graded, are exempt from the steep slope ordinance requirements in Section 25-28.
16. The total existing area of steep slopes 25% or greater on the subject property is approximately 151,136 SF. Of the total amount of existing 25% or greater steep slope area, approximately 16,460 SF is proposed to be disturbed.
17. There are 288 physical parking spaces proposed on the subject property. In accordance with Chapter 25-12.6.e.2, an EV parking space shall count as at least two parking spaces for the purpose of complying with minimum parking space requirements. There are a total of 4 EV parking spaces (2 proposed and 2 existing) which shall count as 8 parking spaces for the purpose of complying with minimum parking space requirements. Therefore, the total number of parking spaces provided on the property is 292 parking spaces (284 standard parking spaces + 4 EV parking spaces + 4 EV credit parking spaces).
18. Of the 466 four-inch caliper replacement trees that are required to be planted, a total of 422 four-inch caliper trees are proposed to be planted on the subject property. Refer to the Tree Restoration Plans for the location of the proposed replacement trees to be planted in other areas of the subject property outside of the limits of the proposed project improvements. The applicant will plant the remaining 44 four-inch caliper replacement trees on another property located within the Township upon coordination with the Township Forester in accordance with Section 28-8.a.2 of the Tree Protection, Removal and Replacement Ordinance of the Township of West Orange. Therefore, the applicant will satisfy the tree replacement requirement, and no waiver or variance is being sought.

REQUIRED PARKING CALCULATIONS

Use	Area (SF)	Required Parking Rate	Required Parking Spaces
Golf Club House	31,500	1 space per 45 SF of gross floor area	700
Total Required Parking Spaces =			**700**

Notes:

1. Parking requirements referenced from Township of West Orange Zoning Code Section 25-12.2 b.1.
2. The permitted principal use of the golf club house is considered to be a private club for the purpose of calculating the required number of parking spaces. In accordance with Chapter 25-12.2.b.1 Parking Schedule II: Parking Requirements for Nonresidential uses, a private club requires 1 parking space for each 45 square feet of gross floor area.
3. The Township of West Orange Zoning Board approved set of plans titled "Preliminary & Final Site Plan Prepared for Modular Housing, Crestmont Country Club, Block 174 Lot 1.01 Situated in West Orange Township, Essex County, New Jersey," dated last reivsed December 9, 2024, prepared by Van Cleef Engineering Associates, LLC, indicated that the existing club house has a gross floor area of approximately 31,500 square feet.

ADA PARKING CALCULATIONS

Use	Total Provided Parking Spaces	Total Required ADA Parking Spaces	Required Van Accessible Parking Spaces	Total Provided ADA Parking Spaces	Provided Van Accessible Parking Spaces
Residential	288	7	2	10	4

Notes:

1. In accordance with federal ADA guidelines, for parking lots with a total of 201-300 parking spaces, a total of 7 parking spaces shall be made ADA accessible, with a minimum of 2 of the required ADA parking spaces being van accessible.
2. There are no proposed ADA parking spaces as part of this site plan application; the provided ADA parking spaces are existing to remain.

ELECTRIC VEHICLE (EV) PARKING CALCULATIONS

Use	New Parking Spaces	Total Required Make-Ready EV Parking Spaces[1,2]	Total Proposed EV Parking Spaces	Total Number of EV Parking Spaces Provided[3]	Condition
Golf Club House	32	1	2	4	C

Notes:

1. In accordance with Chapter 25-12.6.d.2.(a), each application involving a non-residential use parking lot shall install at least one make-ready EV parking space if there will be 50 or fewer off-street parking spaces.
2. The total required number of EV parking spaces is based upon the total number of new parking spaces provided on the property. There are 256 existing parking spaces and there are a total of 288 parking spaces in the proposed post-construction condition.
3. There are 2 existing EV parking spaces on the property which were constructed as part of the Township of West Orange Zoning Board approved set of plans titled "Preliminary & Final Site Plan Prepared for Modular Housing, Crestmont Country Club, Block 174 Lot 1.01 Situated in West Orange Township, Essex County, New Jersey," dated last reivsed December 9, 2024, prepared by Van Cleef Engineering Associates, LLC, and which are proposed to remain.

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Date	Description	No.

REVISIONS

STATE OF NEW JERSEY · JOHN C. COTE · NO. 24GE03705800 · PROFESSIONAL ENGINEER

SIGNATURE 2/12/2026 DATE SIGNED

JOHN C. COTE, 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

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE

ESSEX COUNTY NEW JERSEY

Drawing Title

PROJECT INFORMATION

Project No. 101049802	Drawing No. GI101
Date FEBRUARY 12, 2026	
Drawn By JS	
Checked By MJV	Sheet 2 of 36

LANGAN Project No. 101049802

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DEMOLITION NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LABOR, MATERIALS, EQUIPMENT, SUPERVISION, COORDINATION EFFORTS, PERMITTING COSTS, CERTIFICATE COSTS, SERVICES, FILING FEES, TESTING COSTS, SECURITY, INSURANCE AND ALL OTHER ASSOCIATED OR RELATED ITEMS REQUIRED TO COMPLETE THE SCOPE OF WORK DESCRIBED IN THIS SECTION.
2. INSTALL AND MAINTAIN A TEMPORARY EIGHT-FOOT HIGH CHAIN-LINK FENCE WITH ENTRANCE GATES AT LOCATIONS INDICATED IN CONJUNCTION WITH EXISTING PERIMETER SECURITY (I.E. MASONRY WALLS, CHAIN-LINK FENCE, ETC.), AS REQUIRED TO PROPERLY AND SAFELY SECURE THE DEMOLITION OPERATION AND IN ACCORDANCE WITH LOCAL AND STATE REQUIREMENTS.
3. INSTALL AND MAINTAIN ROADWAY CONSTRUCTION SIGNAGE AND ASSOCIATED TRAFFIC MEASURES.
4. INSTALL AND MAINTAIN SOIL EROSION AND SEDIMENT CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING THE ADJACENT ROADWAYS DUE TO DEMOLITION RELATED DEBRIS, DUST AND SEDIMENT AS NECESSARY OR AS DIRECTED BY THE OWNER OR OWNER'S ENGINEER.
5. IMPLEMENT ALL SAFETY MEASURES AND ANY OTHER MEASURES DEEMED NECESSARY OR REQUIRED BY GOVERNING AUTHORITIES TO PROTECT FROM HARM OR DAMAGE ADJACENT AND ON-SITE PERSONS, PROPERTY, BUILDINGS, HOMES, BUSINESSES, FACILITIES AND UTILITIES.
6. REMOVE AND LEGALLY DISPOSE OF ALL CONTENTS OF THE STRUCTURES TO BE DEMOLISHED UNDER THIS CONTRACT, INCLUDING, BUT NOT NECESSARILY LIMITED TO: FURNISHINGS, MECHANICAL EQUIPMENT, PLUMBING FIXTURES, FURNITURE, CABINETS, AND SUCH.
8. PURGE, EVACUATE AND PROPERLY DISPOSE OF ALL RESIDUAL OILS, GASES, ETC. FROM THE MECHANICAL AND PLUMBING SYSTEMS AND ALL OTHER SIMILAR SYSTEMS OF THE STRUCTURES TO BE DEMOLISHED UNDER THIS CONTRACT IN ACCORDANCE WITH NJDEP AND LOCAL REQUIREMENTS.
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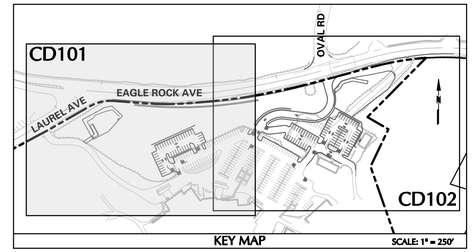
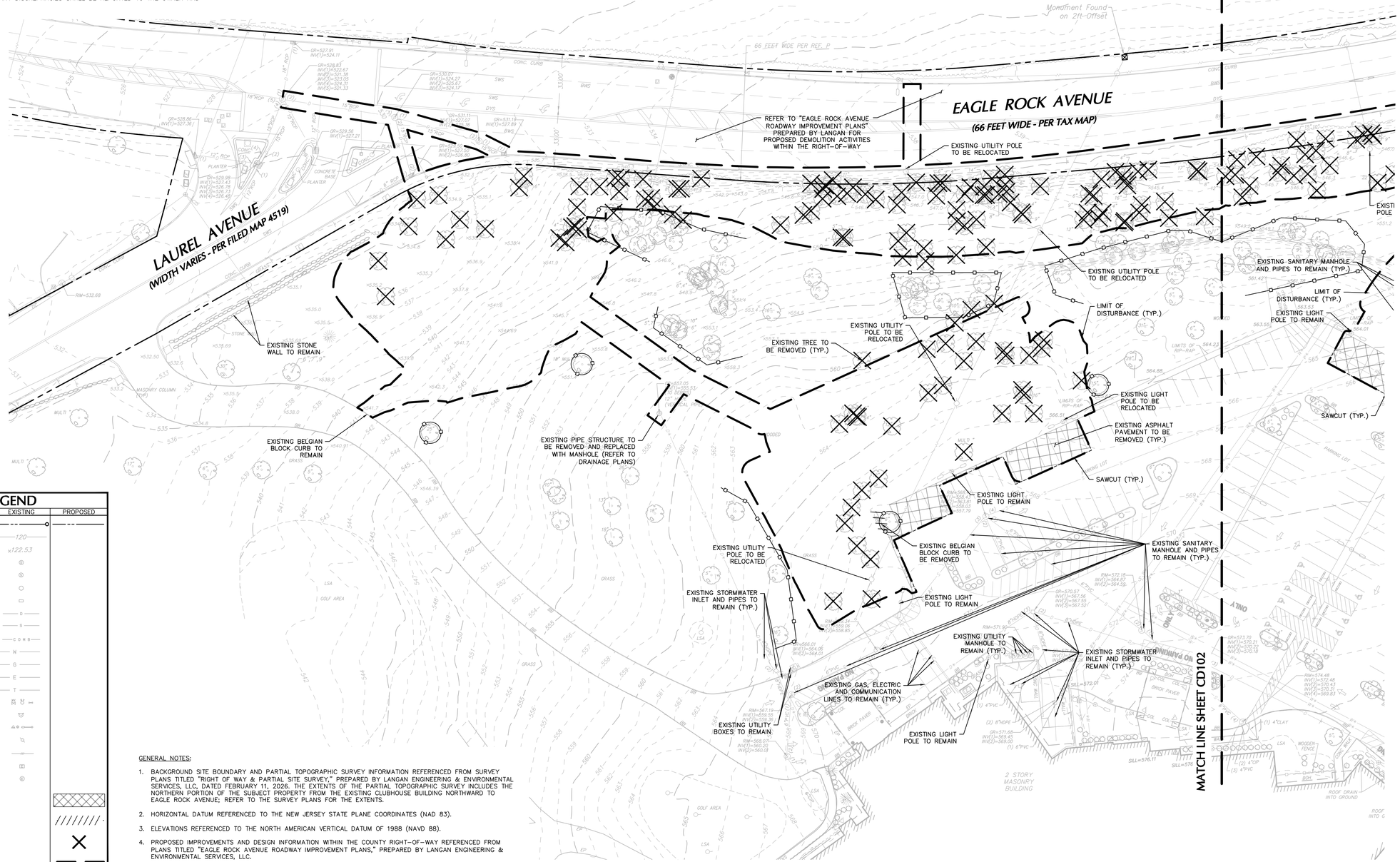
10. OBTAIN AND PAY FOR TEMPORARY UTILITY (WATER, ELECTRIC, TELEPHONE) AND OTHER SERVICES NECESSARY FOR PROPER EXECUTION OF THE DEMOLITION WORK.
11. REMOVE AND LEGALLY DISPOSE OF OFF-SITE HAZARDOUS MATERIALS (LIGHTING/TRANSFORMER BALLASTS, FLUORESCENT LIGHTS, ETC.) FROM THE STRUCTURES TO BE DEMOLISHED.
12. REMOVE AND DISPOSE OF OFF-SITE ALL EXISTING SITE FEATURES, INCLUDING BUT NOT LIMITED TO ALL FENCING, GATES, WALLS, STAIRWAYS, RAILINGS, AND FREE-STANDING ITEMS (E.G. BOLLARDS, SIGNS, SIGN POSTS, WALLS, ETC.) WITHIN SITE AREAS, EXCEPT THOSE INDICATED TO REMAIN ON THE CONTRACT DRAWINGS.
13. COMPLETELY DEMOLISH AND RECYCLE, TO THE GREATEST EXTENT POSSIBLE, ALL UNCONTAMINATED CONCRETE/MASONRY DEBRIS GENERATED FROM THE STRUCTURES TO BE DEMOLISHED.
14. CONCRETE AND MASONRY STRUCTURES MATERIALS NOT SUSPECTED TO CONTAIN CONTAMINANTS AT CONCENTRATIONS EXCEEDING NJDEP REMEDIATION STANDARDS SHALL BE DEMOLISHED, CRUSHED AND SCREENED IN ORDER TO BE USED AS BACKFILL MATERIAL, AS DETAILED IN THE SPECIFICATIONS, PROVIDED THE MATERIAL IS ENVIRONMENTALLY ACCEPTABLE
15. DEMOLISH AND COMPLETELY REMOVE ALL UTILITIES WITHIN THE PROPERTY LIMITS INCLUDING STORM SEWER LINES, TELEPHONE, ELECTRIC, GAS, DOMESTIC WATER SERVICE AND SANITARY SEWER LINES AND APPURTENANCES INCLUDING BUT NOT LIMITED TO PITS, SANITARY MANHOLES, PIPING, ETC., EXCEPT THOSE INDICATED TO REMAIN ON THE CONTRACT DRAWINGS.
16. DEMOLISH AND REMOVE ALL UNDERGROUND OBSTRUCTIONS INDICATED ON THE CONTRACT AND REFERENCE DRAWINGS.
17. SECURE THE WORK SITE FOR THE DURATION OF THE PROJECT ON AND AROUND-THE-CLOCK BASIS TO PREVENT UNAUTHORIZED ENTRY INTO THE SITE.
18. PROVIDE THE REQUIRED INSPECTION, TESTING AND PROGRESS REPORTS TO THE OWNER.





LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	120	
SPOT ELEVATION	x122.53	
STORM MANHOLE		
SANITARY MANHOLE		
COMBINED MANHOLE		
CATCH BASIN		
STORM SEWER	D	
SANITARY SEWER	S	
COMBINED SEWER	COMB	
WATER MAIN	W	
GAS MAIN	G	
ELECTRIC CONDUIT	E	
TELEPHONE CONDUIT	T	
VALVE		
FIRE HYDRANT		
LIGHT POLE		
UTILITY POLE		
OVERHEAD WIRE		
JUNCTION BOX		
ELECTRIC MANHOLE		
LIMITS OF BUILDING, PAVEMENT AND SIDEWALK REMOVAL		
REMOVAL OF LINEAR FEATURE		
REMOVAL OF TREE		
LIMIT OF DISTURBANCE		
TREE PROTECTION FENCE		

GENERAL NOTES:

1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.
2. HORIZONTAL DATUM REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATES (NAD 83).
3. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. PROPOSED IMPROVEMENTS AND DESIGN INFORMATION WITHIN THE COUNTY RIGHT-OF-WAY REFERENCED FROM PLANS TITLED "EAGLE ROCK AVENUE ROADWAY IMPROVEMENT PLANS," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC.

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REVISIONS

STATE OF NEW JERSEY JOHN P. COTE 24GE03705800

SIGNATURE 2/12/2026 DATE SIGNED
JOHN COTE
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

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Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ Certificate of Authorization No. 24GA27996400

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL DEMOLITION PLAN

Project No. 101049802	Drawing No. CD101
Date FEBRUARY 12, 2026	
Drawn By YA	
Checked By MJV	Sheet 3 of 36

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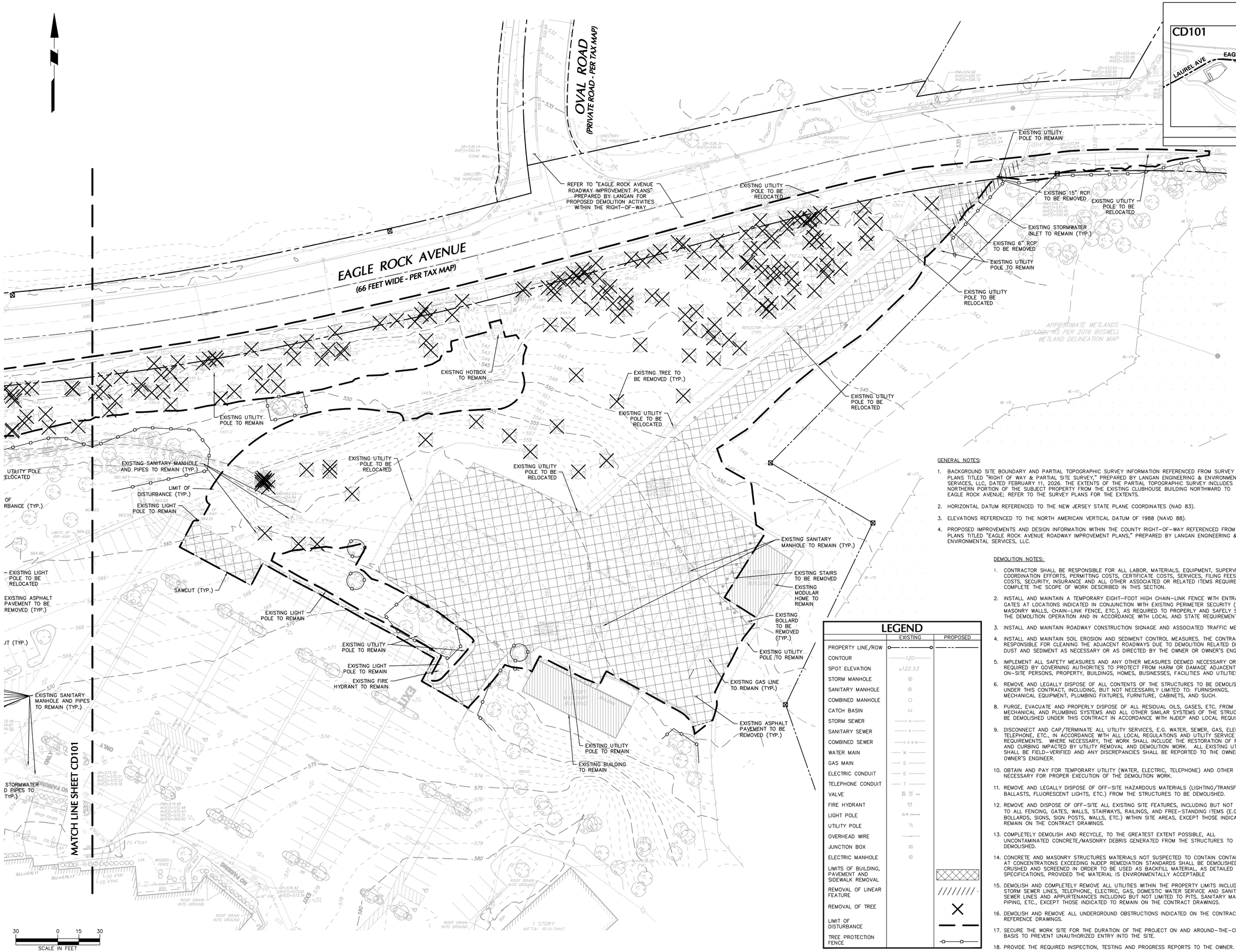
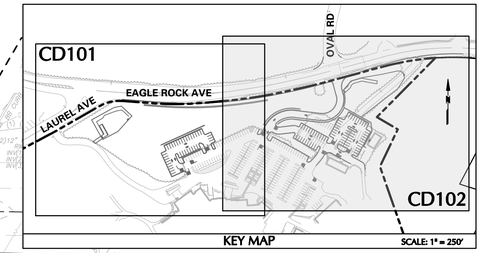
Project No. 101049802
Date: 3/4/2026 Time: 18:00 User: tgreen Style Table: Langan.stb Layout: CD101 Document Code: 101049802-0102-CD101-0101





LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	120	
SPOT ELEVATION	x122.53	
STORM MANHOLE		
SANITARY MANHOLE		
COMBINED MANHOLE		
CATCH BASIN		
STORM SEWER	S	
SANITARY SEWER	S	
COMBINED SEWER	C O M B	
WATER MAIN	W	
GAS MAIN	G	
ELECTRIC CONDUIT	E	
TELEPHONE CONDUIT	T	
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REVISIONS

STATE OF NEW JERSEY · JOHN P. COTE · 37058

SIGNATURE 2/12/2026 DATE SIGNED

JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

LANGAN
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Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ Certificate of Authorization No. 24GA27996400

Project

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS

BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY **NEW JERSEY**

Drawing Title

PARTIAL DEMOLITION PLAN

Project No. 101049802	Drawing No. CD102
Date FEBRUARY 12, 2026	
Drawn By YA	
Checked By MJV	Sheet 4 of 36

LANGAN

Project No. 101049802

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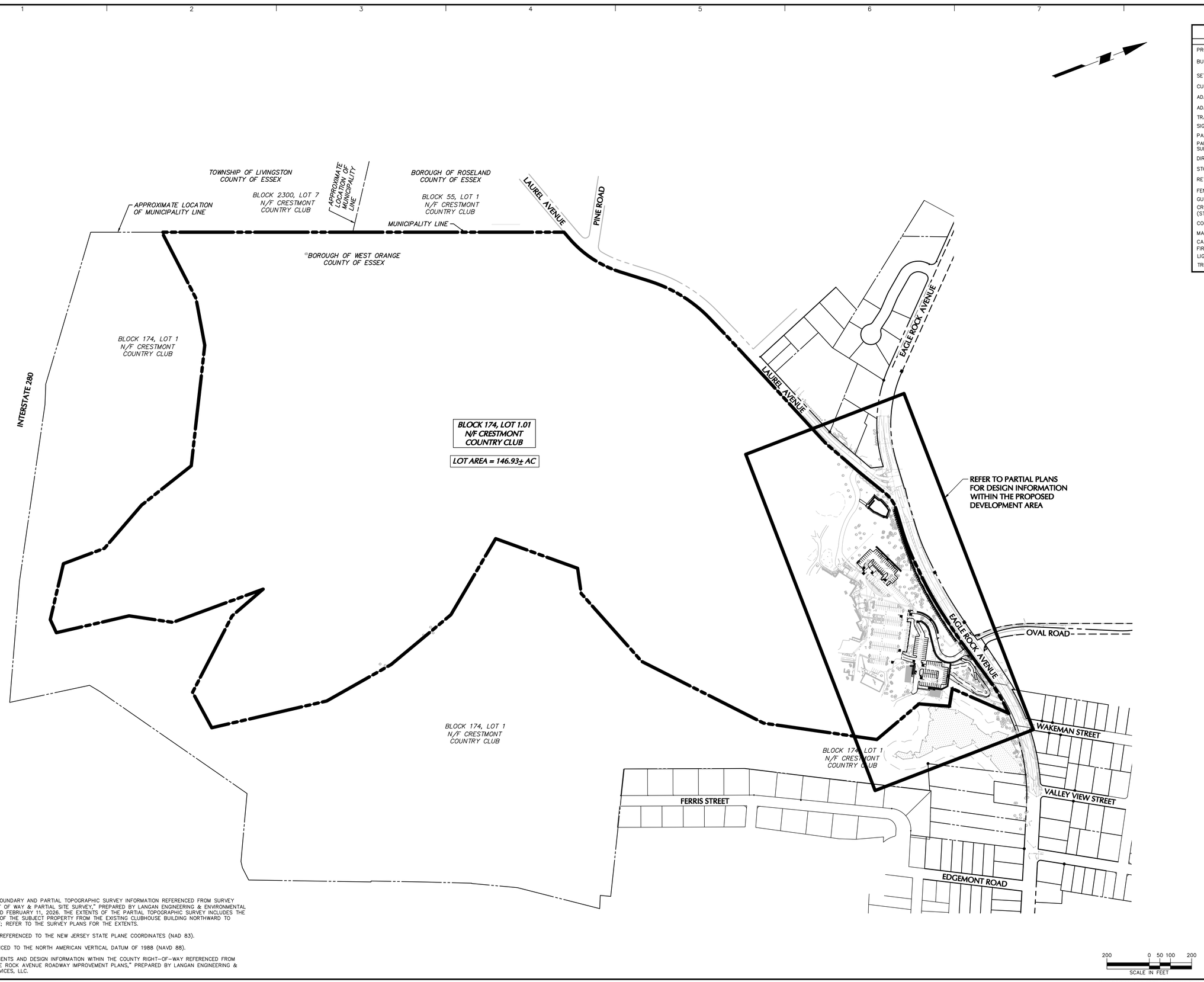

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
BUILDING LINE		
SETBACK LINE		
CURB LINE		
ADA ACCESSIBLE RAMP		
ADA SYMBOL		
TRAFFIC SIGN		
SIGN DESIGNATION		
PARKING ROW COUNT		10
PARKING COUNT SUB-TOTAL		50
DIRECTION ARROW		
STOP BAR		
RETAINING WALL		
FENCE		
GUIDE RAIL		
CROSSWALK (STRIPING)		
CONCRETE SIDEWALK		
MANHOLE		
CATCH BASIN		
FIRE HYDRANT		
LIGHT POLE		
TREE		

GENERAL NOTES:

1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.
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REVISIONS

STATE OF NEW JERSEY JOHN G. COTE 37056

SIGNATURE 2/12/2026 DATE SIGNED

JOHN COTE
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

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NJ Certificate of Authorization No. 24GA27996400

Project

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS

BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY **NEW JERSEY**

Drawing Title

OVERALL SITE PLAN

Project No.	**101049802**
Date	**FEBRUARY 12, 2026**
Drawn By	**TEG**
Checked By	**MJV**
Drawing No.	**CS100**
Sheet	**5** of **36**

LANGAN Project No. 101049802

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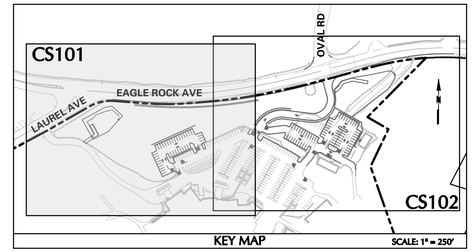

KEY MAP SCALE: 1" = 250'

EAGLE ROCK AVENUE BASELINE

LAUREL AVENUE
(WIDTH VARIES - PER FILED MAP 4519)

EAGLE ROCK AVENUE
(66 FEET WIDE - PER TAX MAP)

66 FEET WIDE PER REF. P

REFER TO "EAGLE ROCK AVENUE ROADWAY IMPROVEMENT PLANS" PREPARED BY LANGAN FOR PROPOSED IMPROVEMENTS WITHIN THE RIGHT-OF-WAY

EXISTING RIGHT-OF-WAY LINE (TYP.)

PROPOSED RIGHT-OF-WAY DEDICATION LINE (TYP.) (RIGHT-OF-WAY DEDICATION AREA = 9,446± SF)

EXISTING 35-FT FRONT YARD SETBACK

PROPOSED 35-FT FRONT YARD SETBACK

35-FT SIDE FRONT YARD SETBACK

SMALL-SCALE BIORETENTION BASIN 1

TOP OF STORMWATER BASIN (TYP.)

BOTTOM OF STORMWATER BASIN (TYP.)

10-FT-WIDE GRASS PAVER BASIN MAINTENANCE ACCESS PATH (SEE DETAIL)

4-FT HIGH SPLIT RAIL FENCE WITH BLACK NON-CLIMBABLE MESH (TYP.)

10-FT-WIDE DOUBLE-SWING ACCESS GATE (TYP.)

451.3'

REINFORCED MODULAR BLOCK RETAINING WALL (TYP.)

STANDARD DUTY ASPHALT PAVEMENT (TYP.)

6" BELGIAN BLOCK CURB (TYP.)

GUIDE RAIL (TYP.)

39 PROPOSED PARKING SPACES

9'X18' STANDARD PARKING SPACE (TYP.)

EV CHARGING PARKING SPACE (TYP.)

ELECTRIC VEHICLE CHARGING STATION CONCRETE PAD (TYP.)

EXISTING LIGHT POLE TO REMAIN

TRAFFIC MARKING (TYP.) (SEE DETAIL)

RE-STRIPE PARKING SPACES IN-KIND UPON INSTALLATION OF PAVEMENT (TYP.)

STOP BAR STRIPING (TYP.) (SEE DETAIL)

185 EXISTING PARKING SPACES TO REMAIN

EXISTING TRASH COLLECTION AREA

SAWCUT (TYP.)

MEET EXISTING BELGIAN BLOCK CURB

MATCH LINE SHEET CS102

2 STORY MASONRY BUILDING

SCALE IN FEET 30 0 15 30

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
BUILDING LINE		
SETBACK LINE		
CURB LINE		
ADA ACCESSIBLE RAMP		
ADA SYMBOL		
TRAFFIC SIGN		
SIGN DESIGNATION		
PARKING ROW COUNT		10
PARKING COUNT SUB-TOTAL		50
DIRECTION ARROW		
STOP BAR		
RETAINING WALL		
FENCE		
GUIDE RAIL		
CROSSWALK (STRIPING)		
CONCRETE SIDEWALK		
MANHOLE		
CATCH BASIN		
FIRE HYDRANT		
LIGHT POLE		
TREE		

PAVEMENT LEGEND

HEAVY-DUTY ROADWAY ASPHALT PAVEMENT	
STANDARD-DUTY ASPHALT PAVEMENT	
POROUS ASPHALT PAVEMENT	

SIGN LEGEND

QTY.	SIGN TYPE	SIGN #	SIGN CODE	LEGEND
5	STOP SIGN	1	R1-1	STOP
2	NO PARKING ANY TIME	2	R7-1	NO PARKING ANY TIME
2	NO PARKING EXCEPT WHILE CHARGING	3	R7-113	NO PARKING EXCEPT WHILE CHARGING
	ELECTRIC VEHICLE CHARGING		D9-11b	EV

GENERAL NOTES:

1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.
2. HORIZONTAL DATUM REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATES (NAD 83).
3. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. PROPOSED IMPROVEMENTS AND DESIGN INFORMATION WITHIN THE COUNTY RIGHT-OF-WAY REFERENCED FROM PLANS TITLED "EAGLE ROCK AVENUE ROADWAY IMPROVEMENT PLANS," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC.

Date	Description	No.
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REVISIONS

STATE OF NEW JERSEY JOHN G. COTE 24GE03705800

SIGNATURE 2/12/2026 DATE SIGNED

JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

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NJ Certificate of Authorization No. 24GA27996400

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL SITE PLAN

Project No.	101049802
Date	FEBRUARY 12, 2026
Drawn By	TEG
Checked By	MJV

Drawing No. CS101

Sheet 6 of 36

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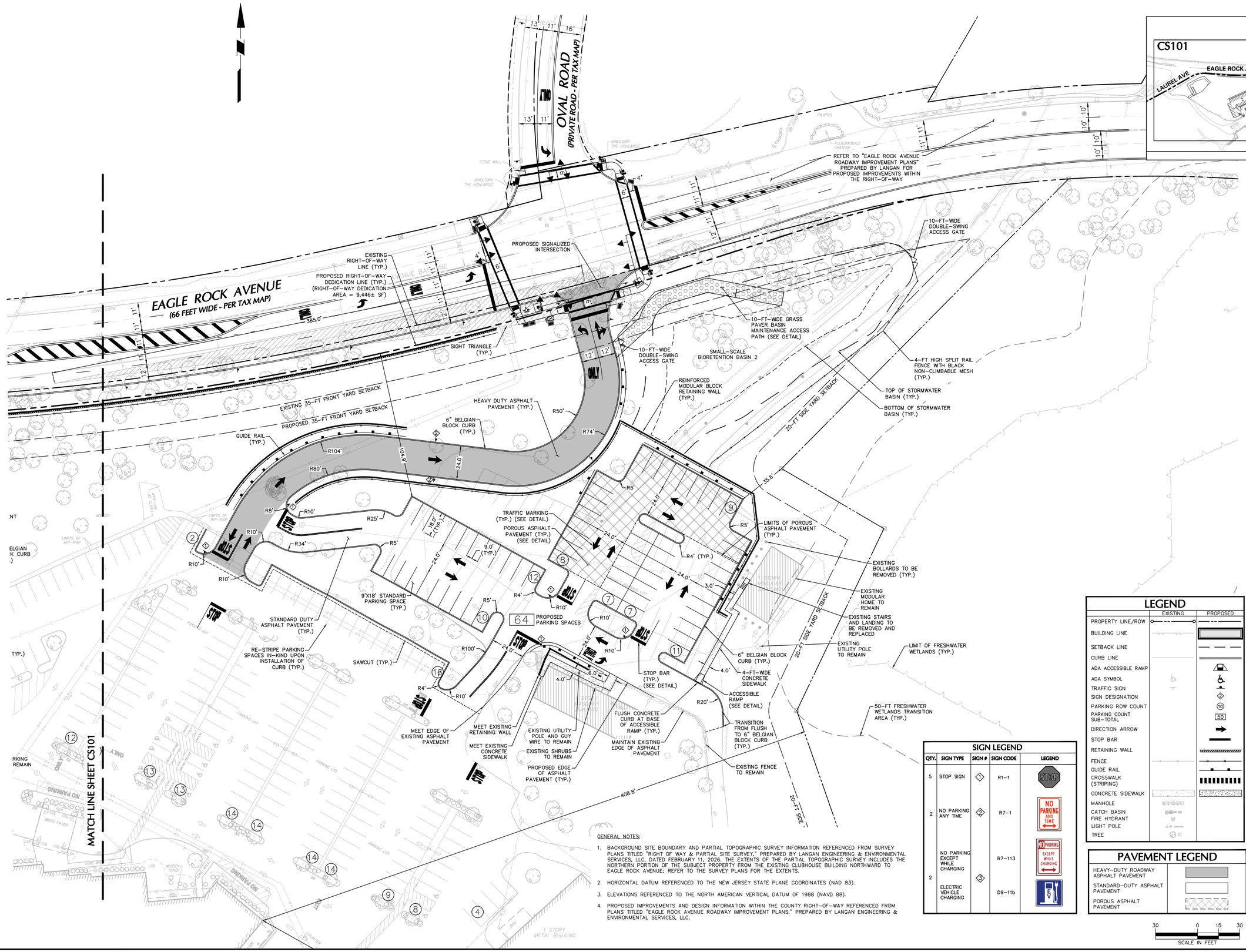
Project No. 101049802

Date: 3/4/2026 Time: 18:03 User: tgreen Style Table: Langan.stb Layout: CS101 Document Code: 101049802-0102-CS101-0102



GENERAL NOTES:

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SIGN LEGEND

QTY.	SIGN TYPE	SIGN #	SIGN CODE	LEGEND
5	STOP SIGN	1	R1-1	STOP
2	NO PARKING ANY TIME	2	R7-1	NO PARKING ANY TIME
2	NO PARKING EXCEPT WHILE CHARGING	3	R7-113	NO PARKING EXCEPT WHILE CHARGING
	ELECTRIC VEHICLE CHARGING		D9-11b	EV

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
BUILDING LINE		
SETBACK LINE		
CURB LINE		
ADA ACCESSIBLE RAMP		
ADA SYMBOL		
TRAFFIC SIGN		
SIGN DESIGNATION		2
PARKING ROW COUNT		10
PARKING COUNT SUB-TOTAL		50
DIRECTION ARROW		
STOP BAR		
RETAINING WALL		
FENCE		
GUIDE RAIL		
CROSSWALK (STRIPING)		
CONCRETE SIDEWALK		
MANHOLE		
CATCH BASIN		
FIRE HYDRANT		
LIGHT POLE		
TREE		

PAVEMENT LEGEND

HEAVY-DUTY ROADWAY ASPHALT PAVEMENT	
STANDARD-DUTY ASPHALT PAVEMENT	
POROUS ASPHALT PAVEMENT	

SCALE IN FEET: 30 0 15 30

Date	Description	No.
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REVISIONS

STATE OF NEW JERSEY · JOHN F. COTE · No. 37056

SIGNATURE 2/12/2026 DATE SIGNED

JOHN COTE
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

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Project

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS

BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY **NEW JERSEY**

Drawing Title

PARTIAL SITE PLAN

Project No.	**101049802**
Date	**FEBRUARY 12, 2026**
Drawn By	**TEG**
Checked By	**MJV**
Drawing No.	**CS102**
Sheet	**7** of **36**

LANGAN
Project No. 101049802

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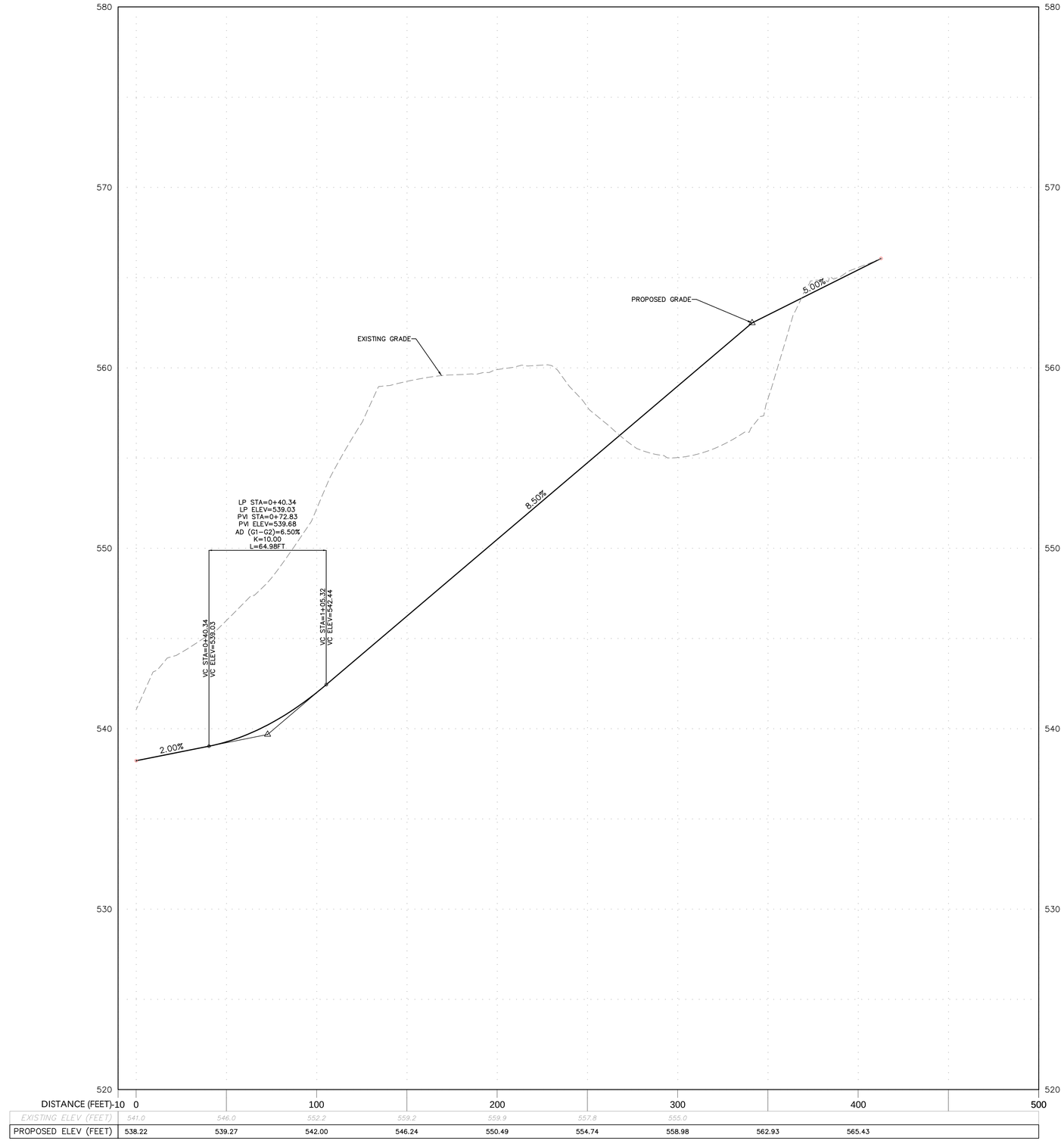
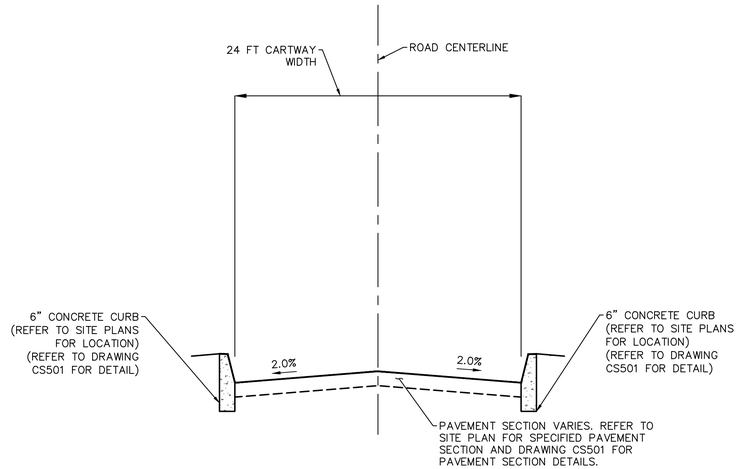


EXISTING ELEV (FEET)	*541.0*	*546.0*	*552.2*	*559.2*	*559.9*	*557.8*	*555.0*		
PROPOSED ELEV (FEET)	538.22	539.27	542.00	546.24	550.49	554.74	558.98	562.93	565.43

DRIVEWAY PROFILE



DRIVEWAY CROSS SECTION

SCALE: N.T.S.

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

5 0 1 2 5
VERTICAL SCALE: 1 INCH = 5 FEET

Date	Description	No.
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REVISIONS

STATE OF NEW JERSEY JOHN C. COTE 24GE03705800

SIGNATURE JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 DATE SIGNED 2/12/2026

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Project

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS

BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY **NEW JERSEY**

Drawing Title

DRIVEWAY PROFILE & CROSS SECTION

Project No. **101049802**	Drawing No. **CS200**
Date **FEBRUARY 12, 2026**	
Drawn By **YA**	
Checked By **MJV**	Sheet **8** of **36**

LANGAN
Project No. 101049802
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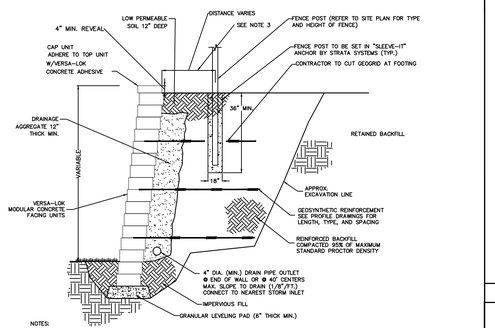


NOTES:

1. WALL HEIGHT TO VARY – REFER TO GRADING PLAN FOR ELEVATIONS BEHIND TOP OF WALL AND IN FRONT OF BOTTOM OF WALL.
2. CONTRACTOR TO PROVIDE SIGNED AND SEALED SHOP DRAWINGS BY A NJ–LICENSED STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL.
3. IT IS ACCEPTABLE TO PLACE THE FENCE LESS THAN 2 FEET AWAY FROM THE WALL IF "SLEEVE IT" PRODUCT IS USED.
4. ALL RETAINING WALL CONSTRUCTION SHALL BE INSPECTED BY A NJ–LICENSED PROFESSIONAL ENGINEER.
5. A CERTIFICATION SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY SHALL BE PROVIDED TO THE TOWNSHIP STATING THAT THE RETAINING WALL WAS CONSTRUCTED IN CONFORMANCE WITH APPROVED RETAINING WALL PLANS AND DESIGN CALCULATIONS.
6. WALL TYPE MAY VARY BASED UPON THE CONDITIONS ENCOUNTERED. TECHNICAL WALL DESIGN TO BE PROVIDED AT THE TIME OF BUILDING SUBCODE PERMIT SUBMISSION.

N.T.S.

TYPICAL REINFORCED MODULAR WALL

NOTES:

1. ALL POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION AS STATED IN THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
2. ALL POSTS SHALL BE EMBEDDED 4'–2" MINIMUM BELOW GRADE EXCEPT FOR HANDICAP POSTS.
3. SIGN PANEL SIZES SHALL DETERMINE POST TYPE AND NUMBERS AS SHOWN ON THIS DETAIL AND DIRECTIONAL SIGN SHEET.
4. ADJACENT POSTS SHALL NOT BE CLOSER THAN 8' APART. POSTS SHALL BE "U" CHANNEL GALVANIZED STEEL POSTS.
5. POSTS SHALL HAVE A WEIGHT OF 4 LB/FT. NO SIGN SHALL BE INSTALLED CLOSER THAN EIGHT (8) FEET TO CENTER OF ANY ADJACENT SIGN ALONG THE SAME CURB LINE.
6. BOLTS SHALL NOT PROTRUDE MORE THAN 3/4" BEYOND THE NUT WHEN TIGHT BUT SHALL ENGAGE ALL THREADS IN THE NUT.
7. ALL TRAFFIC AND PEDESTRIAN SIGNAGE AND LOCATION SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND ALL CURRENT AMENDMENTS.
8. ALL TRAFFIC CONTROL SIGNS TO BE 4 LB/FT GALVANIZED.

N.T.S.

TRAFFIC SIGNS

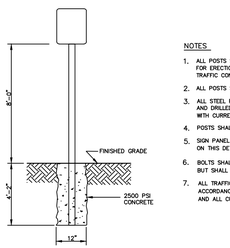
STANDARD DUTY	HEAVY DUTY	
2"	2"	BITUMINOUS SURFACE COURSE (HMA9.5M64)
2.5"	4"	BITUMINOUS STABILIZED BASE COURSE (HMA1BM64)
8"	8"	CLEAN DENSE GRADED AGGREGATE (DGA) OR SUBBASE COURSE

RESIDENTIAL ACCESS ROAD PAVEMENT SECTION NOTES:

1. MATERIALS FOR THE HOT MIX ASPHALT SURFACE COURSE SHALL BE HMA 9.5LG4 OR HMA 9.5M64, CONFORMING TO SECTION 401 OF THE NJDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. MATERIALS FOR THE HOT MIX ASPHALT BASE COURSE SHALL BE HMA 19LG4 OR HMA 19M64, CONFORMING TO SECTION 401 OF THE NJDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
3. THICKNESSES MAY HAVE TO BE CONSTRUCTED IN MULTIPLE LIFTS, BASED ON EQUIPMENT CAPABILITIES.
4. THE DENSE GRADED AGGREGATE BASE SHALL CONFORM TO SECTION 302 OF THE NJDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

N.T.S.

ASPHALT PAVEMENT SECTION

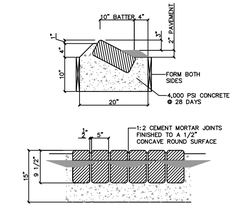


NOTES

1. ALL POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION AS STATED IN THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
2. ALL POSTS SHALL BE EMBEDDED 4'–2" MINIMUM BELOW GRADE.
3. ALL STEEL POSTS AND BRACKETS SHALL BE CUT, BENT, AND HOLES PUNCHED AND DRILLED BEFORE GALVANIZING. GALVANIZING SHALL BE IN CONFORMANCE WITH CURRENT A.S.T.M. SPECIFICATION A123–78 (OR LATEST REVISED).
4. POSTS SHALL BE 2" X 2" .188" STEEL TUBE.
5. SIGN PANEL SIZES SHALL DETERMINE POST TYPE AND NUMBERS AS SHOWN ON THIS DETAIL AND DIRECTIONAL SIGN SHEET.
6. BOLTS SHALL NOT PROTRUDE MORE THAN 3/4" BEYOND THE NUT WHEN TIGHT BUT SHALL ENGAGE ALL THREADS IN THE NUT.
7. ALL TRAFFIC AND PEDESTRIAN SIGNAGE AND LOCATION SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND ALL CURRENT AMENDMENTS.

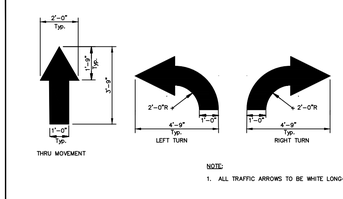
N.T.S.

SIGN POST



N.T.S.

MOUNTABLE BELGIAN BLOCK CURB DETAIL

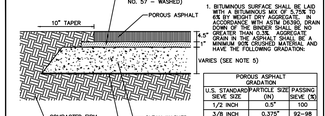


NOTE:

1. ALL TRAFFIC ARROWS TO BE WHITE LONG–LIFE THERMOPLASTIC.

N.T.S.

DIRECTIONAL PAVEMENT MARKINGS

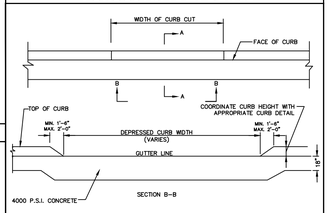


POROUS ASPHALT GRADATION		
U.S. STANDARD SIEVE SIZE	PARTICLE SIZE (IN)	PASSING SIEVE (%)
1/2 INCH	0.5"	100
3/8 INCH	0.375"	92–98
NO. 4	0.187"	34–40
NO. 8	0.0937"	14–20
NO. 16	0.0469"	7–13
NO. 30	0.0059"	0–4
NO. 200	0.0029"	0–2

1. BITUMINOUS SURFACE SHALL BE LAID WITH A BITUMINOUS MIX OF 5.75% TO 6.25% BY WEIGHT OF ASPHALT BINDER IN ACCORDANCE WITH ASTM D6930. DRAIN DOWN OF THE BINDER SHALL BE NO GREATER THAN 0.3%. AGGREGATE GRAIN IN THE ASPHALT SHALL BE 3 FRACTURED FACES OR MORE AND HAVE THE FOLLOWING GRADATION.
2. NEAT ASPHALT BINDER MODIFIED WITH AN ELASTOMERIC POLYMER TO PRODUCE A BINDER MEETING THE REQUIREMENTS OF PG 76–22 AS SPECIFIED IN AASHTO MP–1. THE ELASTOMER POLYMER SHALL BE STYRENE–BUTADIENE–STYRENE (SBS), OR APPROVED EQUAL, APPLIED AT A RATE OF 3% BY WEIGHT OF THE TOTAL BINDER.
3. HYDRATED LIME SHOULD BE ADDED AT A DOSAGE RATE OF 1% BY WEIGHT OF THE TOTAL DRY AGGREGATE TO MEET THE MOISTURE SENSITIVITY REQUIREMENTS OF AASHTO T 283 OR THE REQUIREMENTS OF ASSTM C 977. THE ADDITIVE MUST BE ABLE TO PREVENT THE SEPARATION OF THE ASPHALT BINDER FROM THE AGGREGATE AND ACHIEVE A RECOVERED TENSILE STRENGTH RATIO (TSR) OF AT LEAST 80% ON THE ASPHALT MIX WHEN TESTED IN ACCORDANCE WITH AASHTO T 283. THE ASPHALMIC MIX SHALL BE TESTED TO VERIFY ITS RESISTANCE TO STRIPPING BY WATER IN ACCORDANCE WITH ASTM D1664. IF THE ESTIMATED COATED AREA IS NOT ABOVE 95 PERCENT, ANTI–STRIPPING AGENTS SHALL BE ADDED TO THE ASPHALT.
4. THE ASPHALTIC MIX SHALL BE TESTED FOR ITS RESISTANCE TO STRIPPING BY WATER IN ACCORDANCE WITH ASTM D1664. IF THE ESTIMATED COATED AREA IS NOT ABOVE 95 PERCENT, ANTI–STRIPPING AGENTS SHALL BE ADDED TO THE ASPHALT.
5. REFER TO THE DRAINAGE PLAN FOR REQUIRED SUBBASE STONE THICKNESS. IN NO CASE SHALL THE SUBBASE STONE THICKNESS BE LESS THAN 9 INCHES.

N.T.S.

POROUS ASPHALT DETAIL

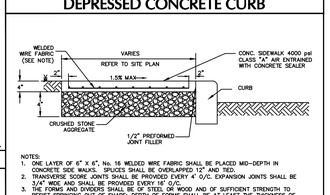


NOTES:

1. CONCRETE TO TEST 4,000 P.S.I. MINIMUM ON 28 DAY TEST. AIR ENTRAINMENT 4% TO 7%. SLUMP TO BE 3" MAXIMUM.
2. REFER TO CONCRETE DRIVEWAY APRON DETAIL FOR ADDITIONAL INFORMATION.

N.T.S.

DEPRESSED CONCRETE CURB

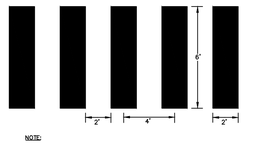


NOTES:

1. ONE LAYER OF 6" X 6", No. 16 WELDED WIRE FABRIC SHALL BE PLACED MID–DEPTH IN CONCRETE SIDE WALKS. SPLICES SHALL BE OVERLAPPED 12" AND TIED.
2. TRANSVERSE SCORE JOINTS SHALL BE PROVIDED EVERY 4' O/C. EXPANSION JOINTS SHALL BE 3/4" WIDE AND SHALL BE PROVIDED EVERY 16' O/C.
3. THE FORMS AND DIVIDERS SHALL BE OF STEEL OR WOOD AND OF SUFFICIENT STRENGTH TO RESIST SPRINGING OUT OF SHAPE. DEPTH OF FORMS SHALL BE AT LEAST THE THICKNESS OF CONCRETE AS SPECIFIED ON THIS DRAWING. WALK SHALL BE OF MONOLITHIC CONSTRUCTION FOUR (4) INCHES THICK. TRANSVERSE SURFACE GROOVES MUST BE PROVIDED FOR AT RIGHT ANGLES TO THE SIDEWALK AND AT INTERVALS EQUAL TO WIDTH OF THE SIDEWALK. AFTER THE CONCRETE IS PLACED IT SHALL BE TAMPED, SCREEDED AND FINISHED TO TRUE GRADE AND SURFACE. THE FINISH SHALL BE MADE WITH A WOOD FLOAT, FOLLOWED BY A BRUSHING WITH A WET SOFT HAIR BRUSH TO A NEAT WORKMANLIKE SURFACE. TRANSVERSE EXPANSION JOINTS 1/2 INCH WIDE SHALL BE PROVIDED AT INTERVALS OF NOT LESS THAN 20 FEET AND FILLED WITH PREFORMED BITUMINOUS CELLULAR TYPE JOINT FILLER. SCORE LINES SHALL BE EVERY FIVE (5) FEET. ALL JOINTS SHALL BE TOOLED AT THE TIME OF PLACING. EXPANSION JOINTS 1/2 INCH WIDE SHALL BE PROVIDED BETWEEN CURBS AND ABUTTING SIDEWALKS. JOINTS SHALL BE FILLED WITH PREFORMED BITUMINOUS TYPE FILLER. DRIVEWAY APRON AND SIDEWALK AT DRIVEWAY SHALL BE 4500 P.S.I. AIR ENTRAINED CONCRETE SIX (6) INCHES THICK.
4. SIDEWALKS SHALL BE CONSTRUCTED WITH CROSS–SLOPES THAT DO NOT EXCEED 1.5%.

N.T.S.

CONCRETE SIDEWALK

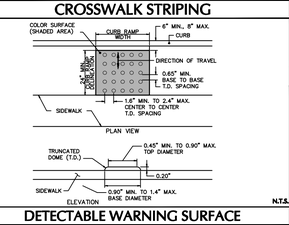


NOTE:

1. CROSSWALK STRIPING TO BE WHITE LONG–LIFE THERMOPLASTIC.

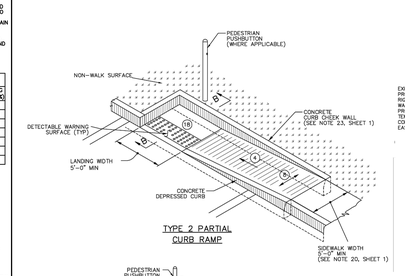
N.T.S.

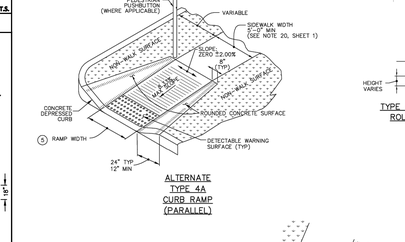
CROSSWALK STRIPING

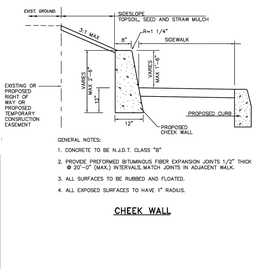


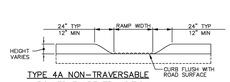
N.T.S.

DETECTABLE WARNING SURFACE

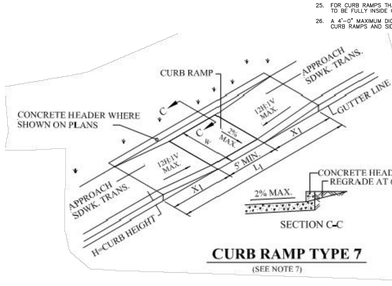








ACCESSIBLE CURB RAMPS



NOTES

1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF NJDOT STANDARD SPECIFICATIONS.
2. PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT. SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
3. CONSTRUCT CURB RAMPS WITH A MINIMUM 4'–0" X 4'–0" CLEAR SPACE BEYOND THE CURB FACE, WITHIN THE WIDTH OF THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. SEE SHEET 7 FOR CROSSWALK DETAILS.
4. SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
5. PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING FLARED SIDE RAMPS.
6. MODIFY CONSTRUCTION DETAILS TO ADAPT DIMENSIONS TO EXISTING CURB HEIGHTS WHERE THE CURB DIFFERS FROM THE STANDARD 8" HEIGHT.
7. CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK SLOPE.
8. TO AVOID CHASING GRADE INDEFINITELY WHEN TRAVERSING THE HEIGHT OF CURB, RAMP LENGTH NOT TO EXCEED 15'–0". ADJUST RAMP SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT FEASIBLE.
9. NON–WALK AREA IS AN OBSTRUCTED OR GRASS/NON–PAVED AREA ADJACENT TO THE PEDESTRIAN ACCESS ROUTE THAT IS NOT USED BY THE PEDESTRIAN FOR ACCESS.
10. THE DETAILS DEPICT PEDESTRIAN PUSHBUTTON POLES TO ILLUSTRATE THE RECOMMENDED PLACEMENT OF PEDESTRIAN PUSHBUTTONS. FOR ALTERATION PROJECTS, PROVIDE ACCESS TO EXISTING PEDESTRIAN PUSHBUTTONS TO THE MAXIMUM EXTENT FEASIBLE. INSTALL PEDESTRIAN PUSHBUTTON STUB POLES, WHERE APPLICABLE, SO AS NOT TO CREATE PEDESTRIAN OBSTRUCTIONS.
11. ALL DIMENSIONS ARE IN U.S. CUSTOMARY UNITS.
12. ALIGN DETECTABLE WARNING SURFACE TRUNCATED DOMES ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF THE RAMP AND PERPENDICULAR TO CURB.
13. PROVIDE DETECTABLE WARNING SURFACES (DWS) 24" MINIMUM ON THE DIRECTION OF PEDESTRIAN TRAVEL) ACROSS FULL WIDTH OF RAMP AT THE GRADE BREAK NEAR STREET EDGE. PROVIDE DWS THAT CONTRAST VISUALLY WITH ADJACENT WALKWAY SURFACES, EITHER LIGHT–ON–DARK OR DARK–ON–LIGHT FOR THE FULL WIDTH OF RAMP.
14. FOR NEW CONSTRUCTION, DO NOT EXCEED 2.00% CROSS SLOPE ON THE CURB RAMP OR PEDESTRIAN ACCESSIBLE ROUTE.
15. FOR NEW CONSTRUCTION AND ALTERATIONS, CONSTRUCT CURB RAMP AND FLARE SLOPES WITH THE FLATTEST SLOPE POSSIBLE. THE SLOPES INDICATED IN THE DETAILS SHOW THE MAX. ALLOWABLE SLOPE. SLOPES THAT EXCEED THE MAXIMUM SHOWN ON THE CONTRACT DOCUMENTS AS APPLICABLE, WILL NOT BE ACCEPTED AND WILL BE RECONSTRUCTED.
16. CONSTRUCT SIDEWALKS AT A LONGITUDINAL SLOPE NOT TO EXCEED 5.00%. FOR ROADWAY SURFACE SLOPES THAT EXCEED 5.00%, CONSTRUCT PARALLEL SIDEWALKS ADJACENT TO ROADWAY AT A LONGITUDINAL SLOPE NOT TO EXCEED ROADWAY PROFILE SLOPE.
17. THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP AND ADJOINING ROAD SURFACE IS NOT TO EXCEED AN ALGEBRAIC DIFFERENCE OF 11.00%. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A CURB RAMP, LANDING OR BLENDED TRANSITION IS NOT TO EXCEED 5.00%. SEE SHEET 8 FOR DETAILS.
18. THE CONSTRUCTION STANDARDS DEPICTED ARE MOST APPROPRIATE FOR NEW CONSTRUCTION. ALL CONSTRUCTION MUST MEET THE STANDARDS CONTAINED HEREIN UNLESS OTHERWISE NOTED OR DIRECTED.
19. ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE. THEREFORE, THE LENGTH OF RAMP MUST BE LONGER THAN THE DIMENSION SHOWN ON THE PLAN (FOR EXAMPLE A 7" CURB DOES NOT NECESSARILY MEAN A RAMP LENGTH OF 7'–0" FOR A 1:12 (1/12) SLOPE.
20. SIDEWALK WIDTH MAY BE REDUCED TO 4'–0", WHEN PASSING AREAS 5'–0" X 5'–0" ARE PROVIDED EVERY 200'.
21. THE TRAVEL LANE IS DEFINED BY THE OUTSIDE EDGE OF THE WHITE PAVEMENT MARKING LINE. IF A WHITE PAVEMENT MARKING LINE DOES NOT EXIST, THE TRAVEL LANE IS DEFINED BY THE CONTRACT DOCUMENTS.
22. CONSTRUCT DEPRESSED CURB FOR CURB RAMPS FLUSH TO ADJACENT ROADWAY. GRADE EDGE OF ROAD ELEVATIONS AT THE FLOW LINE TO ENSURE POSITIVE DRAINAGE AND PREVENT PONDING. FOR LEVEL LANDINGS BEHIND DEPRESSED CURB, ADJUST SLOPES TO PROVIDE POSITIVE DRAINAGE.
23. CHEEK WALLS ARE PERMITTED WHEN ADJACENT TO NON–WALK AREAS OR ELEVATION DIFFERENCES CANNOT BE ACCOMMODATED BY FLARES OR GRADING. GRASS AREAS OR OTHER NON–WALK AREAS AT 3:1 (1:3) MAXIMUM. DO NOT INSTALL CHEEK WALLS THAT INTERSECT THE PEDESTRIAN ACCESS ROUTE.
24. CONSTRUCT TOP OF CONCRETE DEPRESSED CURB TO BE FLUSH WITH ADJACENT SURFACES (RAMPS, SIDEWALKS, FLARES).
25. FOR CURB RAMPS THAT LEAD TO A SINGLE CROSSWALK, THE RAMP (EXCLUDING FLARES) TO BE FULLY INSIDE OF MARKED CROSSWALK LINES. SEE SHEET 7 FOR DETAILS.
26. A 4'–0" MAXIMUM DIGITAL DISPLAY LEVEL WILL BE USED TO VERIFY THE SLOPES OF CURB RAMPS AND SIDEWALKS.

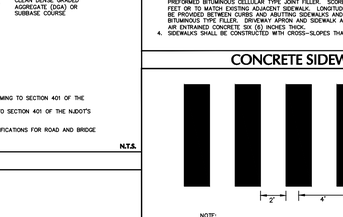
1. SIDE FLARES 10.00% MAX SLOPE
2. 8.33% MAX RAMP SLOPE
3. CURB RAMP WIDTH IS EQUAL TO SIDEWALK WIDTH WHEN THE SIDEWALK WIDTH IS GREATER THAN OR EQUAL TO 4'–0".
4. SLOPE: ZERO ±2.00%
10. CURB RAMPS REQUIRE A 4'–0" MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%, WHERE CHANGE OF DIRECTION DURING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.

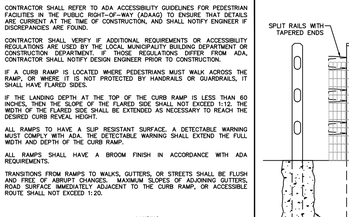
DESIGN NOTES:

1. CURB RAMP DETAILS AND NOTES REFERENCED FROM NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DETAILS DRAWING NUMBER CD–604–3, TITLED "CONCRETE SIDEWALK (PUBLIC SIDEWALK CURB RAMP)."
2. THE SIDEWALK WIDTHS DEPICTED ON THE SITE PLAN SHALL GOVERN. THE MINIMUM SIDEWALK WIDTH IS 4 FEET, OR 6 FEET WHEN SIDEWALKS ABUT THE FRONT OF PARKING SPACES.

N.T.S.

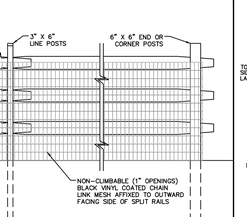
CURB RAMP TYPE 7





N.T.S.

SUPPLEMENTAL ADA CURB RAMP CROSS SECTION DETAIL & NOTES

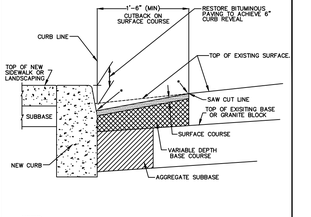


NOTES:

1. FENCE TO BE UNFINISHED, THREE RAIL,OVERLAPPING RUSTIC STYLE SPLIT RAILS WITH INTERMEDIATE POSTS.
2. ALL FENCE COMPONENTS TO BE PRESSURE TREATED FIR, SPRUCE OR PINE TREATED FOR GROUND CONTACT WITH MCA (MICRONIZED COPPER AZOLE) OR CA–C.

N.T.S.

SPLIT RAIL FENCE



NOTES:

1. RESTORATION OF DISTURBED CARTWAY PAVING (BASE & SURFACE COURSE) SHALL BE INCIDENTAL TO NEW CURB CONSTRUCTION.
2. THE SURFACE COURSE SHALL BE RESTORED WITH A VARIABLE DEPTH BINDER COURSE AND A 2" SURFACE COURSE.

* SEAL GUTTER AND JOINT BETWEEN NEW AND EXISTING WEARING COURSE WITH HOT ASPHALT CEMENT.

N.T.S.

CURB INSTALLATION & PAVEMENT RESTORATION

NOTES:

ENGINEERING PROPERTIES:

1. COMPRESSIVE STRENGTH OF TT24 PAVER:
   EMPTY PAVER: ULTIMATE LOAD = 86,963 LBS / 601 PSI
   FILLED PAVER: ULTIMATE LOAD = 400,000 LBS
2. POROSITY OF AASHTO #57 AGGREGATE = 0.4

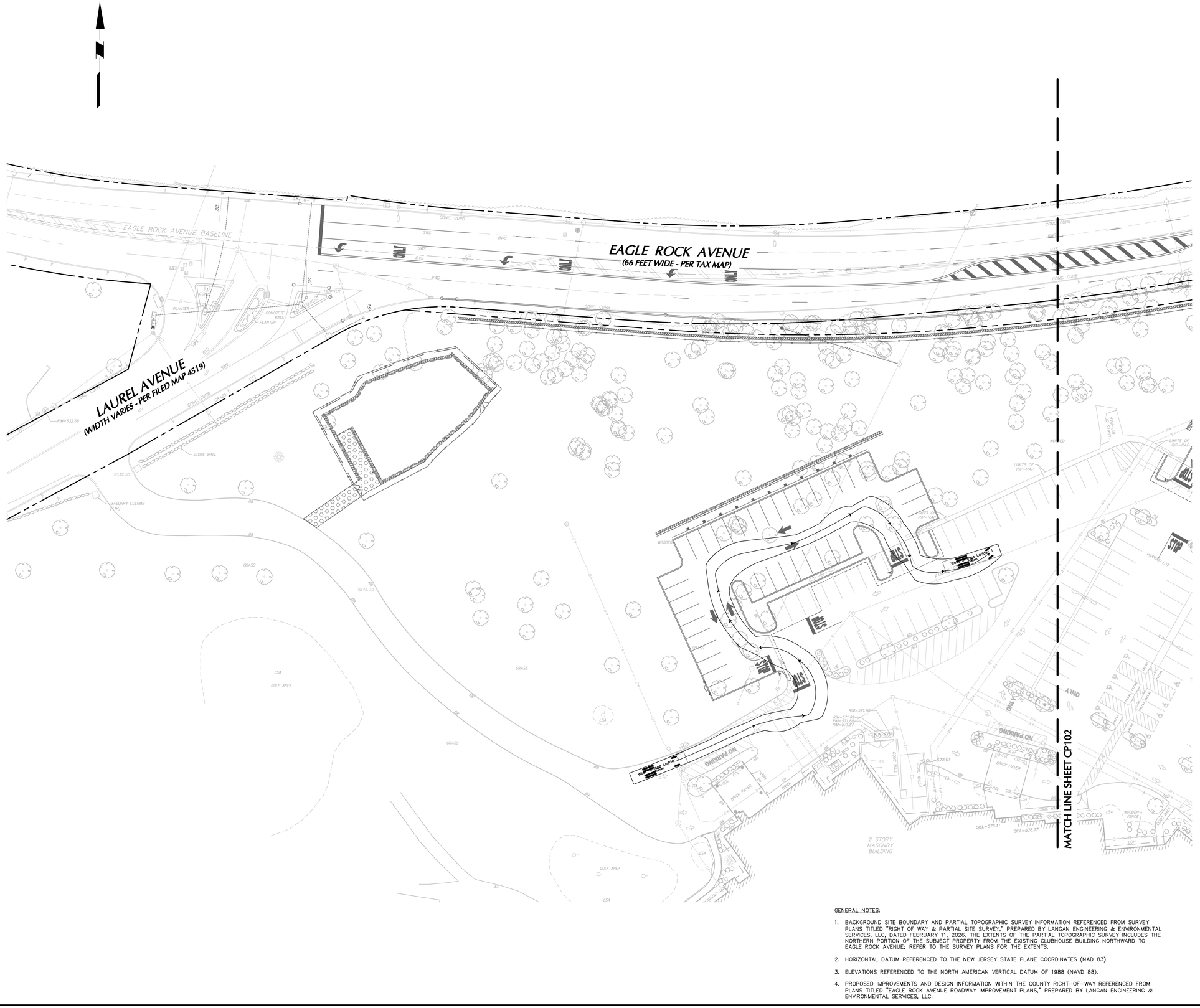
TOP SOIL FILL:

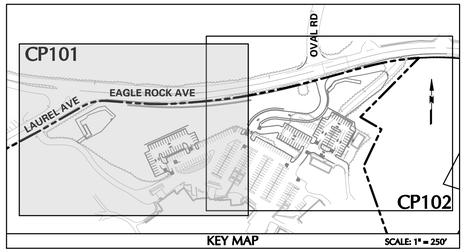
3. NDS RECOMMENDS NATIVE TOP SOIL FOR BACKFILL INSIDE THE PAVERS.
4. EXTEND TOP SOIL INSIDE PAVER AN ADDITIONAL 3 TO 5 INCH ABOVE PAVER SURFACE AND MATCH SURROUNDING GRADE. PROPOSED FINISHED GRADE SLOPE PER PROJECT GRADING PLAN. PROTECT PAVER AREA UNTIL GRASS IS SUFFICIENTLY ESTABLISHED TO HANDLE TRAFFIC. PROVIDE 1" MIN CLEARANCE BETWEEN ANY CONCRETE EDGE AND PAVER.
5. GRASS PAVERS ARE TO BE USED FOR AREAS OF PEDESTRIAN USE AND OCCASIONAL VEHICULAR TRAFFIC USE (E.G., OVERFLOW PARKING AND EMERGENCY VEHICLE/FIRE LANES).

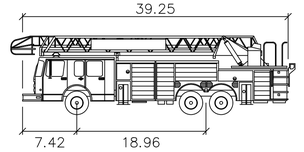
AASHTO #57 BASE ROCK:

6. GRADATION OF AASHTO #57 COARSE BASE ROCK: 100% PASSING 1 ½" SCREEN, 95–100% PASSING 1", 25–60% PASSING ¾", AND 0–10% PASSING #8 SCREEN.
   OPTIONAL: ADD POLYVERGE NATIVE TOP SOIL EQUAL TO 15% OF TOTAL VOLUME. BLEND TO OBTAIN HOMOGENEOUS MIXTURE PRIOR TO PLACEMENT.
7. THICKNESS OF AGGREGATE LAYER IS AS FOLLOWS: NO BASE REQUIRED FOR EROSION CONTROL AND PEDESTRIAN/H-1 LOADS (COMPACTION OF NATIVE SOIL RECOMMENDED FOR SLOPES UP TO 3%). 4 INCHES FOR LIGHT LOADS (GOLF CARTS). 6 INCHES FOR MEDIUM LOADS (CARS AND PICKUP TRUCKS). 8 INCHES FOR HEAVY LOADS (FIRE TRUCKS).
8. COMPACT WITH ONE TO THREE PASSES OF 5-TON STEEL WHEEL ROLLER. SINCE IT IS DIFFICULT TO MEASURE DENSITY OF COARSE AGGREGATE, APPROACH OF REQUIRING A FIXED DENSITY IS NOT APPLICABLE.

FILTER FABRIC (OPTION







West Orange Ladder 1

	feet
Width	: 8.00
Track	: 6.91
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

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Date	Description	No.

REVISIONS

GENERAL NOTES:

1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.
2. HORIZONTAL DATUM REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATES (NAD 83).
3. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. PROPOSED IMPROVEMENTS AND DESIGN INFORMATION WITHIN THE COUNTY RIGHT-OF-WAY REFERENCED FROM PLANS TITLED "EAGLE ROCK AVENUE ROADWAY IMPROVEMENT PLANS," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC.

30 0 15 30
SCALE IN FEET

STATE OF NEW JERSEY
JOHN C. COTE, PE
No. 37058
PROFESSIONAL ENGINEER

SIGNATURE 2/12/2026
JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800
DATE SIGNED

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
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL FIRE TRUCK CIRCULATION PLAN

Project No. 101049802	Drawing No. CP101
Date FEBRUARY 12, 2026	
Drawn By YA	
Checked By MJV	Sheet 10 of 36

LANGAN
Project No. 101049802

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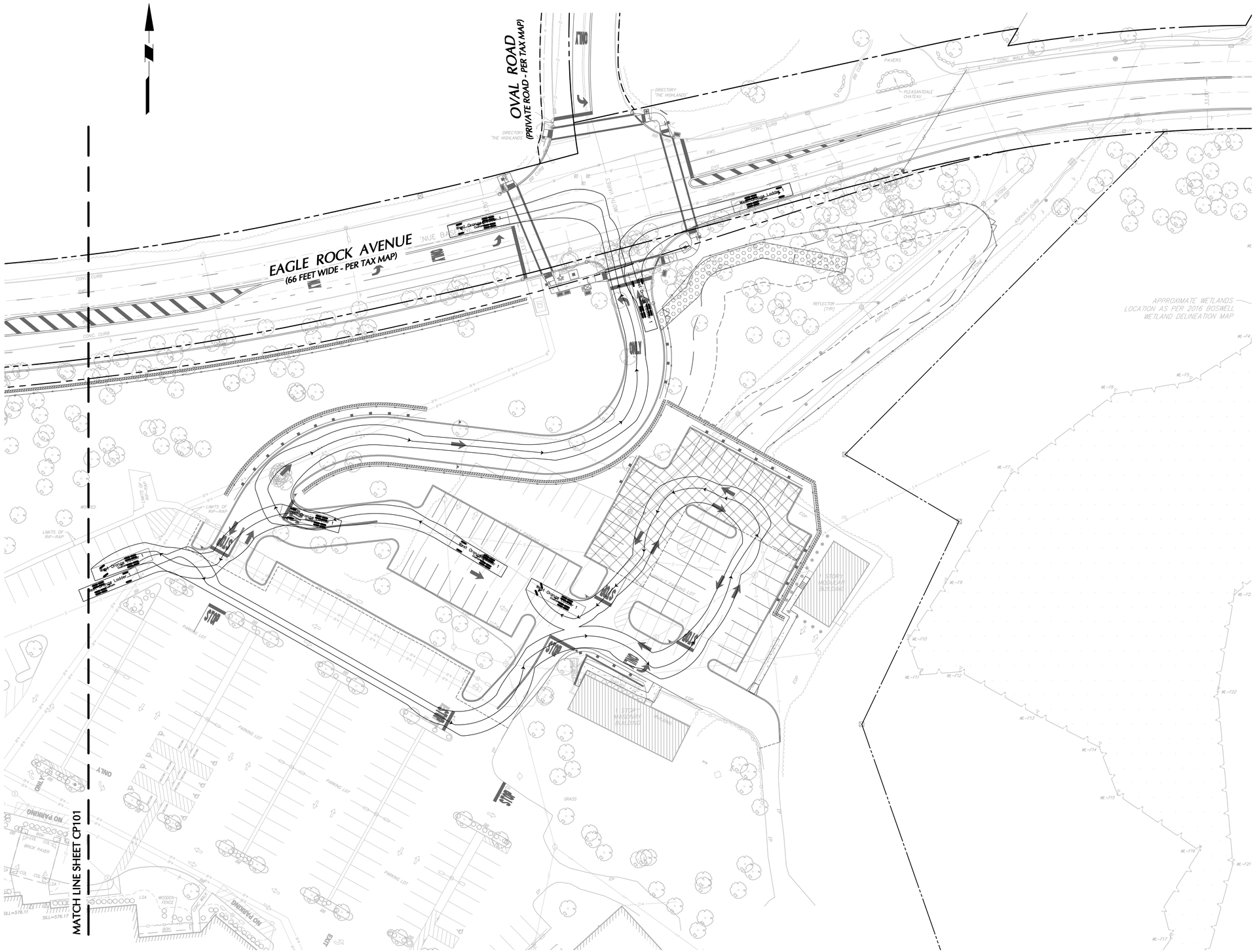
Date: 3/4/2026 Time: 18:07 User: tgreen Style Table: Langan.stb Layout: CP101 Document Code: 101049802-0102-CP101-0101


OVAL ROAD
(PRIVATE ROAD - PER TAX MAP)
EAGLE ROCK AVENUE
(66 FEET WIDE - PER TAX MAP)
ONLY
ONLY
ONLY
ONLY
NO PARKING
NO PARKING
NO PARKING
EXIT
EXIT
STOP
STOP
STOP
STOP
STOP
MATCH LINE SHEET CP101
APPROXIMATE WETLANDS LOCATION AS PER 2016 BOSWELL WETLAND DELINEATION MAP
WL-F1
WL-F2
WL-F3
WL-F4
WL-F5
WL-F6
WL-F7
WL-F8
WL-F9
WL-F10
WL-F11
WL-F12
WL-F13
WL-F14
WL-F15
WL-F16
WL-F17
WL-F21
WL-F22
STONY MASONRY BUILDING
STONY MODULAR BUILDING
PARKING LOT
GRASS
BRICK PAVER
WOODEN FENCE
LIMITS OF RIP-RAP
SILL=576.11
SILL=576.17
BSH
CONC. CURB
REFLECTOR (TYP)
ASPHALT CURB
DIRECTORY "THE HIGHLANDS"
PLEASANTDALE CHATEAU
PAVERS
GRASS
CONC. WALK
CONC. CURB
BIKE
BIKE
BIKE
BIKE
LANE
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GRADING AND DRAINAGE PLAN NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND / OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES, WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

2. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC WATER SERVICE, ELECTRICAL TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND TO ENSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE UTILITY COMPANIES AS TO LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.

3. PVC = POLYVINYL CHLORIDE PIPE
   HDPE = HIGH DENSITY POLYETHYLENE PIPE
   RCP = REINFORCED CONCRETE PIPE

4. STORM DRAINAGE PIPING TO UTILIZE WATER TIGHT JOINTS.

5. COMPACTION CRITERIA FOR FILL PLACEMENT IN THE FOLLOWING AREAS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM PERCENTAGE OF MAXIMUM MODIFIED PROCTOR DRY DENSITY AS DETERMINED BY ASTM D-1557 USED ON REPRESENTATIVE SOIL SAMPLES, UNLESS MORE STRINGENT CRITERIA GIVEN ELSEWHERE;

FILL AREA	PERCENT OF MAXIMUM MODIFIED PROCTOR DRY DENSITY
BUILDING FOOTPRINT	95%
PAVEMENT AND ROADWAYS	98%
SIDEWALKS	95%
LANDSCAPE AREAS	90%
TRENCH BACKFILL	95%

6. PROTECT SUBGRADE FROM EXCESSIVE WHEEL LOADING DURING CONSTRUCTION, INCLUDING CONCRETE TRUCKS AND DUMP TRUCKS.

7. REMOVE AREAS OF FINISHED SUBGRADE FOUND TO HAVE INSUFFICIENT COMPACTION DENSITY TO DEPTH NECESSARY AND REPLACE IN A MANNER THAT WILL COMPLY WITH COMPACTION REQUIREMENTS BY USE OF MATERIAL EQUAL TO OR BETTER THEN BEST SUBGRADE MATERIAL ONSITE. SURFACE OF SUBGRADE AFTER COMPACTION SHALL BE HARD, UNIFORM, SMOOTH, STABLE, AND TRUE TO GRADE AND CROSS SECTION.

8. ALL CONCRETE, UNLESS OTHERWISE NOTED OR SPECIFIED BY REGULATORY AUTHORITIES, SHALL BE A MINIMUM OF 4,000 PSI.

9. THE CONTRACTOR SHALL REVIEW THE STORM DRAINAGE CONNECTIONS TO THE INLETS, MANHOLES, ETC. AND PROVIDE THE APPROPRIATE BOX SIZE, MANHOLES SIZE, TOP PIECES, ETC. AS NECESSARY TO ACCOMMODATE THE PROPOSED INLET AND OUTLET PIPES.

10. CONTRACTOR TO PROVIDE A SHOP DRAWING FOR REVIEW AND APPROVAL BY THE OWNER'S ENGINEER FOR EACH CATCH BASIN, MANHOLE, AND OTHER PRECAST STORM STRUCTURES DETAILING STRUCTURE DIMENSIONS, LOCATION OF STEPS, PIPE CONNECTIONS AND OPENINGS, AND RIM/GRATE/INVERT ELEVATIONS. A SHOP DRAWING, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY, SHALL BE PROVIDED FOR EACH TYPE OF PRECAST CONCRETE STRUCTURE THAT DETAILS THE STRUCTURAL DESIGN. ALL PRECAST STRUCTURES AND FRAMES/GRATES SHALL MEET H-20 TRAFFIC LOADING REQUIREMENTS. CATCH BASINS, MANHOLES, AND DETENTION SYSTEM PIPING SHALL BE CONSTRUCTED IN A MANNER THAT WILL PREVENT FLOATATION DUE TO GROUNDWATER. CONTRACTOR SHALL SUBMIT METHODOLOGY AND SUPPORTING BUOYANCY CALCULATIONS PREPARED BY AND SIGNED/SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY FOR ANTI-FLOATATION OF THE STORM STRUCTURES IF THEY ARE TO BE LOCATED WITHIN THE GROUNDWATER TABLE.

11. THE CONTRACTOR SHALL PROVIDE A RETAINING WALL DESIGN FOR EACH PROPOSED WALL PREPARED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY FOR REVIEW BY THE OWNER'S ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR AND THE RETAINING WALL DESIGNER SHALL SPECIFICALLY NOTE ANY EXISTING OR PROPOSED STRUCTURES THAT ARE LOCATED IN OR NEAR THE WALL (INLETS, LIGHT POLES, FENCES, STORM PIPES, UTILITIES, GUIDE RAILS, AND OTHER FEATURES) AND SHALL COORDINATE DESIGN AND INSTALLATION OF RETAINING WALL SUCH THAT THE FEATURES ARE ACCOMMODATED IN THE DESIGN AS APPROPRIATE.

12. PIPE LENGTHS PROVIDED ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

13. CONTRACTOR SHALL CLEAR EXISTING STORM PIPES OF ANY DEBRIS OR SEDIMENT.

14. TRENCH DEPTH REQUIREMENTS MEASURED FROM FINISHED GRADE OR PAVED SURFACE SHALL MEET THE FOLLOWING REQUIREMENTS OR APPLICABLE CODES AND ORDINANCES:

   a. SANITARY SEWER: DEPTHS, ELEVATIONS AND GRADES AS INDICATED ON DRAWINGS.

   b. STORM SEWER: DEPTHS, ELEVATIONS, AND GRADES AS SHOWN ON DRAWINGS.

   c. ELECTRICAL CONDUITS: 24 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY NEC 300-5, NEC 710-36 CODES, OR THE LOCAL UTILITY COMPANY REQUIREMENTS, WHICHEVER IS DEEPER.

   d. TV CONDUITS: 18 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.

   e. TELEPHONE CONDUITS: 18 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.

   f. GAS MAINS AND SERVICE: 30 INCHES MINIMUM TO TOP OF PIPE, OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.

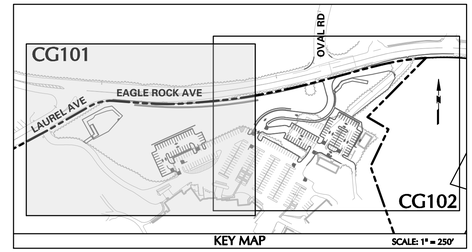
15. SITE GRADING SHALL NOT PROCEED UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

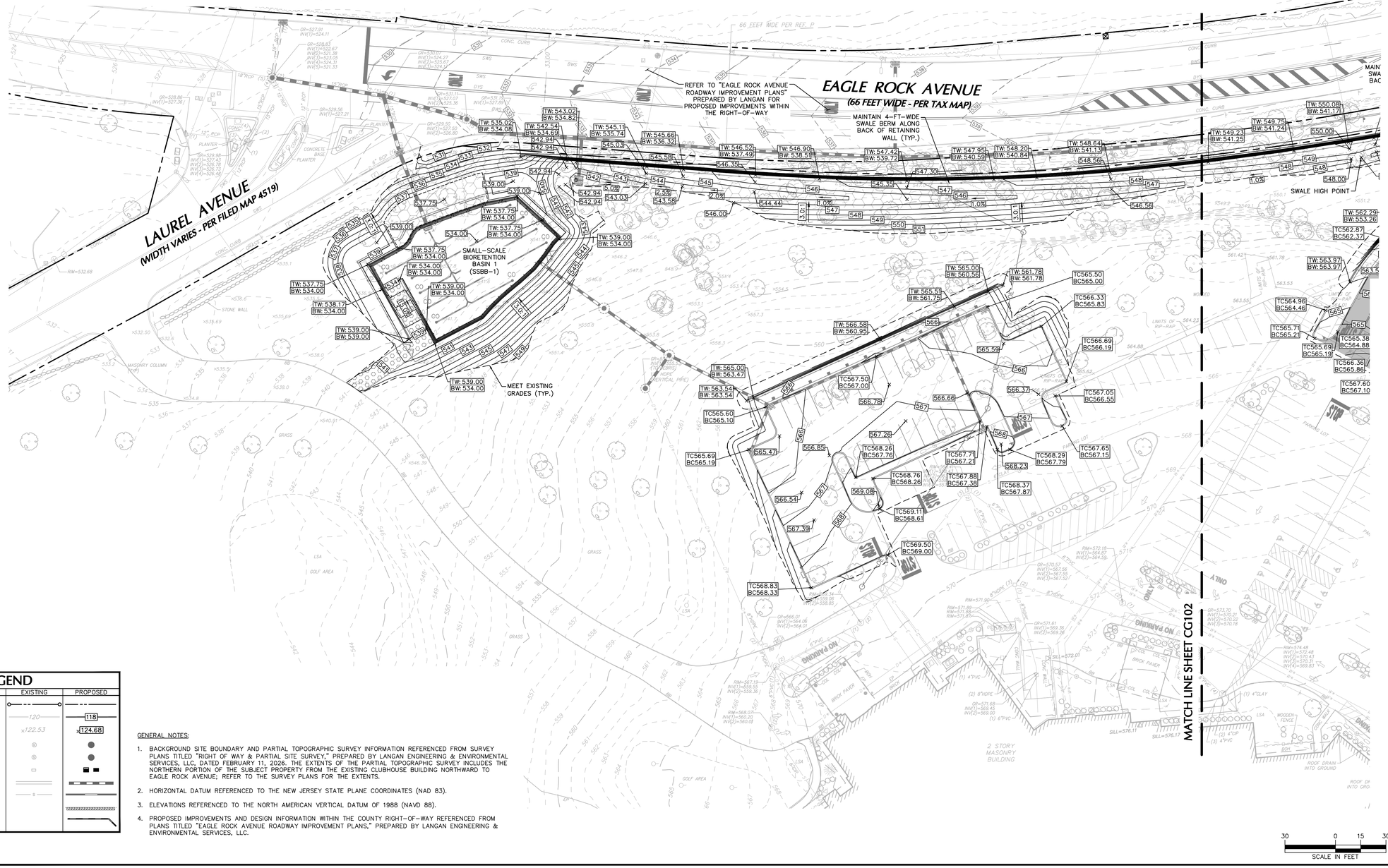
16. CONTRACTOR SHALL PROVIDE WRITTEN REQUESTS FOR INFORMATION TO THE OWNER AND OWNER'S ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC SITEWORK ITEM IF ANY SPECIFIC SITEWORK ITEM DEPICTED ON THE PLANS WARRANTS ADDITIONAL INFORMATION REQUIRED FOR CONSTRUCTION AND IS NOT RELATED TO MEANS AND METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SPECIFIC SITE WORK ITEMS INSTALLED DIFFERENTLY THAN INTENDED AS DEPICTED ON THE PLANS IN THE ABSENCE OF SUBMITTING AND ADDRESSING WRITTEN REQUESTS FOR INFORMATION.

17. PROPOSED SIDEWALKS SHALL BE CONSTRUCTED WITH CROSS-SLOPES THAT DO NOT EXCEED 1.5%.

18. PROPOSED RCP PIPE IS TO BE CLASS V PIPE.

19. ALL PIPE WITH A BURIAL DEPTH OF 20 FEET OR GREATER SHALL BE SMOOTH INTERIOR CORRUGATED METAL PIPE.





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Date	Description	No.

REVISIONS

STATE OF NEW JERSEY JOHN C. COTE NO. 24GE03705800

SIGNATURE JOHN COTE DATE SIGNED 2/12/2026

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

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS

BLOCK No. 174, LOT No. 1.01

TOWNSHIP OF WEST ORANGE

ESSEX COUNTY NEW JERSEY

Drawing Title

PARTIAL GRADING PLAN

Project No. 101049802	Drawing No. CG101
Date FEBRUARY 12, 2026	
Drawn By TEG	
Checked By MJV	Sheet 12 of 36

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	120	118
SPOT ELEVATION	x122.53	124.68
STORM MANHOLE		
SANITARY MANHOLE		
CATCH BASIN		
STORM SEWER		
SANITARY SEWER	S	
RETAINING WALL		
ROOF DRAIN/ UNDERDRAIN		

GENERAL NOTES:

1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.

2. HORIZONTAL DATUM REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATES (NAD 83).

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30 0 15 30
SCALE IN FEET

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LANGAN Project No. 101049802

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	120	118
SPOT ELEVATION	x122.53	x124.68
STORM MANHOLE		
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STORM SEWER		
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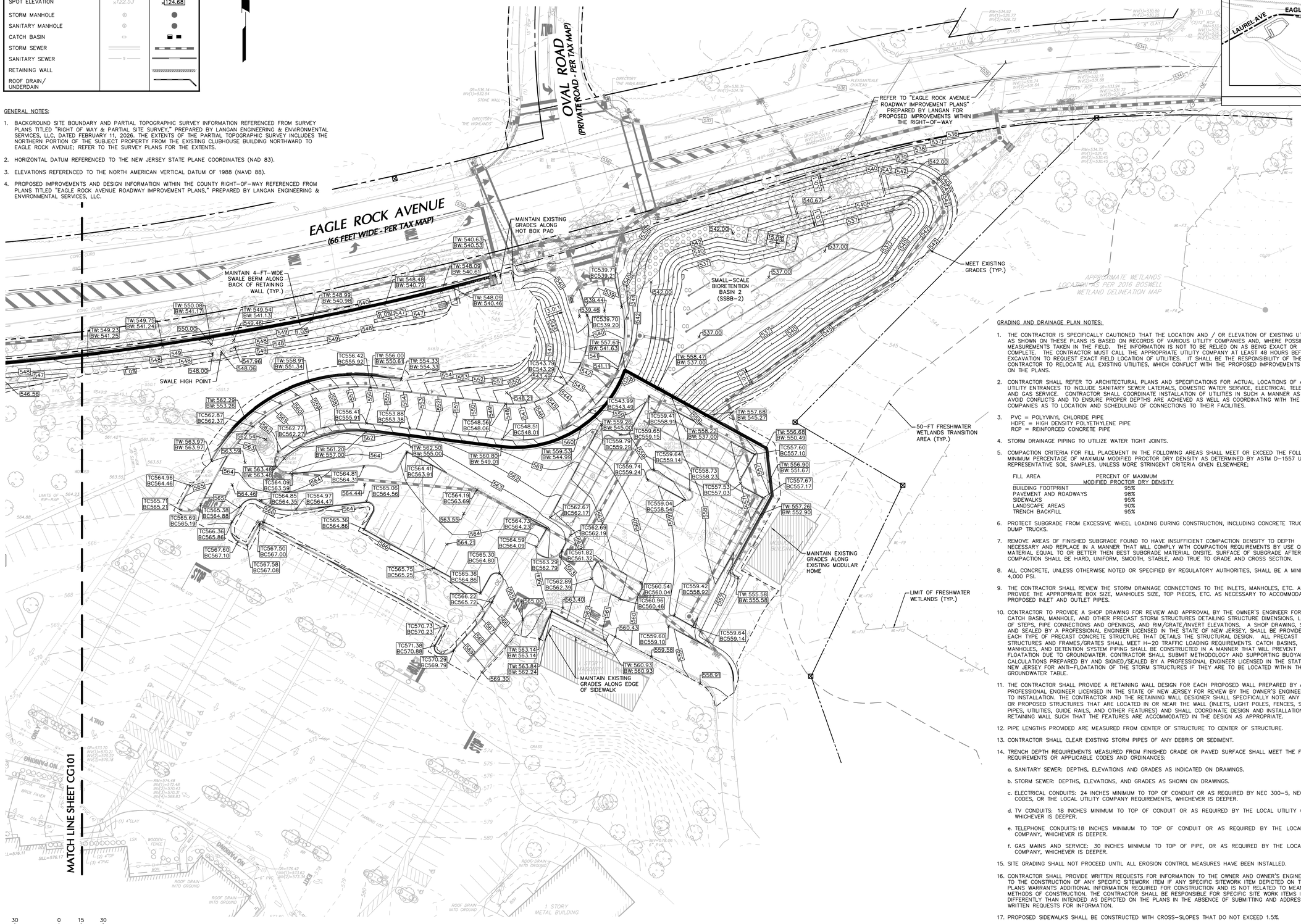

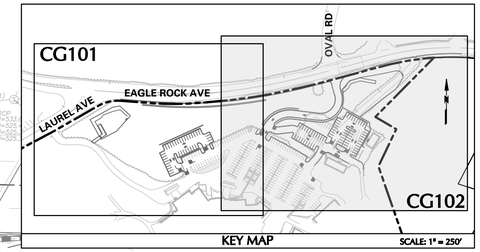

GRADING AND DRAINAGE PLAN NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND / OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES, WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
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3. PVC = POLYVINYL CHLORIDE PIPE
   HDPE = HIGH DENSITY POLYETHYLENE PIPE
   RCP = REINFORCED CONCRETE PIPE
4. STORM DRAINAGE PIPING TO UTILIZE WATER TIGHT JOINTS.
5. COMPACTION CRITERIA FOR FILL PLACEMENT IN THE FOLLOWING AREAS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM PERCENTAGE OF MAXIMUM MODIFIED PROCTOR DRY DENSITY AS DETERMINED BY ASTM D-1557 USED ON REPRESENTATIVE SOIL SAMPLES, UNLESS MORE STRINGENT CRITERIA GIVEN ELSEWHERE;

FILL AREA	PERCENT OF MAXIMUM MODIFIED PROCTOR DRY DENSITY
BUILDING FOOTPRINT	95%
PAVEMENT AND ROADWAYS	98%
SIDEWALKS	95%
LANDSCAPE AREAS	90%
TRENCH BACKFILL	95%

6. PROTECT SUBGRADE FROM EXCESSIVE WHEEL LOADING DURING CONSTRUCTION, INCLUDING CONCRETE TRUCKS AND DUMP TRUCKS.
7. REMOVE AREAS OF FINISHED SUBGRADE FOUND TO HAVE INSUFFICIENT COMPACTION DENSITY TO DEPTH NECESSARY AND REPLACE IN A MANNER THAT WILL COMPLY WITH COMPACTION REQUIREMENTS BY USE OF MATERIAL EQUAL TO OR BETTER THEN BEST SUBGRADE MATERIAL ONSITE. SURFACE OF SUBGRADE AFTER COMPACTION SHALL BE HARD, UNIFORM, SMOOTH, STABLE, AND TRUE TO GRADE AND CROSS SECTION.
8. ALL CONCRETE, UNLESS OTHERWISE NOTED OR SPECIFIED BY REGULATORY AUTHORITIES, SHALL BE A MINIMUM OF 4,000 PSI.
9. THE CONTRACTOR SHALL REVIEW THE STORM DRAINAGE CONNECTIONS TO THE INLETS, MANHOLES, ETC. AND PROVIDE THE APPROPRIATE BOX SIZE, MANHOLES SIZE, TOP PIECES, ETC. AS NECESSARY TO ACCOMMODATE THE PROPOSED INLET AND OUTLET PIPES.
10. CONTRACTOR TO PROVIDE A SHOP DRAWING FOR REVIEW AND APPROVAL BY THE OWNER'S ENGINEER FOR EACH CATCH BASIN, MANHOLE, AND OTHER PRECAST STORM STRUCTURES DETAILING STRUCTURE DIMENSIONS, LOCATION OF STEPS, PIPE CONNECTIONS AND OPENINGS, AND RIM/GRATE/INVERT ELEVATIONS. A SHOP DRAWING, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY, SHALL BE PROVIDED FOR EACH TYPE OF PRECAST CONCRETE STRUCTURE THAT DETAILS THE STRUCTURAL DESIGN. ALL PRECAST STRUCTURES AND FRAMES/GRATES SHALL MEET H-20 TRAFFIC LOADING REQUIREMENTS. CATCH BASINS, MANHOLES, AND DETENTION SYSTEM PIPING SHALL BE CONSTRUCTED IN A MANNER THAT WILL PREVENT FLOATATION DUE TO GROUNDWATER. CONTRACTOR SHALL SUBMIT METHODOLOGY AND SUPPORTING BUOYANCY CALCULATIONS PREPARED BY AND SIGNED/SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY FOR ANTI-FLOATATION OF THE STORM STRUCTURES IF THEY ARE TO BE LOCATED WITHIN THE GROUNDWATER TABLE.
11. THE CONTRACTOR SHALL PROVIDE A RETAINING WALL DESIGN FOR EACH PROPOSED WALL PREPARED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY FOR REVIEW BY THE OWNER'S ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR AND THE RETAINING WALL DESIGNER SHALL SPECIFICALLY NOTE ANY EXISTING OR PROPOSED STRUCTURES THAT ARE LOCATED IN OR NEAR THE WALL (INLETS, LIGHT POLES, FENCES, STORM PIPES, UTILITIES, GUIDE RAILS, AND OTHER FEATURES) AND SHALL COORDINATE DESIGN AND INSTALLATION OF RETAINING WALL SUCH THAT THE FEATURES ARE ACCOMMODATED IN THE DESIGN AS APPROPRIATE.
12. PIPE LENGTHS PROVIDED ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
13. CONTRACTOR SHALL CLEAR EXISTING STORM PIPES OF ANY DEBRIS OR SEDIMENT.
14. TRENCH DEPTH REQUIREMENTS MEASURED FROM FINISHED GRADE OR PAVED SURFACE SHALL MEET THE FOLLOWING REQUIREMENTS OR APPLICABLE CODES AND ORDINANCES:
    a. SANITARY SEWER: DEPTHS, ELEVATIONS AND GRADES AS INDICATED ON DRAWINGS.
    b. STORM SEWER: DEPTHS, ELEVATIONS, AND GRADES AS SHOWN ON DRAWINGS.
    c. ELECTRICAL CONDUITS: 24 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY NEC 300-5, NEC 710-36 CODES, OR THE LOCAL UTILITY COMPANY REQUIREMENTS, WHICHEVER IS DEEPER.
    d. TV CONDUITS: 18 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.
    e. TELEPHONE CONDUITS:18 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.
    f. GAS MAINS AND SERVICE: 30 INCHES MINIMUM TO TOP OF PIPE, OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.
15. SITE GRADING SHALL NOT PROCEED UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
16. CONTRACTOR SHALL PROVIDE WRITTEN REQUESTS FOR INFORMATION TO THE OWNER AND OWNER'S ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC SITEWORK ITEM IF ANY SPECIFIC SITEWORK ITEM DEPICTED ON THE PLANS WARRANTS ADDITIONAL INFORMATION REQUIRED FOR CONSTRUCTION AND IS NOT RELATED TO MEANS AND METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SPECIFIC SITE WORK ITEMS INSTALLED DIFFERENTLY THAN INTENDED AS DEPICTED ON THE PLANS IN THE ABSENCE OF SUBMITTING AND ADDRESSING WRITTEN REQUESTS FOR INFORMATION.
17. PROPOSED SIDEWALKS SHALL BE CONSTRUCTED WITH CROSS-SLOPES THAT DO NOT EXCEED 1.5%.
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Date	Description	No.

REVISIONS

STATE OF NEW JERSEY JOHN G. COTE Lic. 37058

SIGNATURE — JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 — DATE SIGNED 2/12/2026

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
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL GRADING PLAN

Project No. 101049802	Drawing No. CG102
Date FEBRUARY 12, 2026	
Drawn By TEG	
Checked By MJV	Sheet 13 of 36

LANGAN
Project No. 101049802
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GRADING AND DRAINAGE PLAN NOTES:

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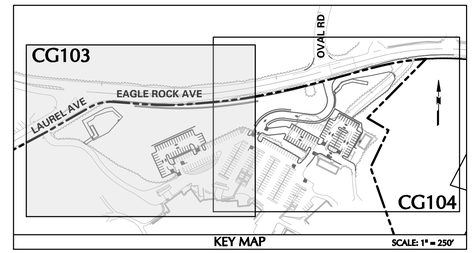

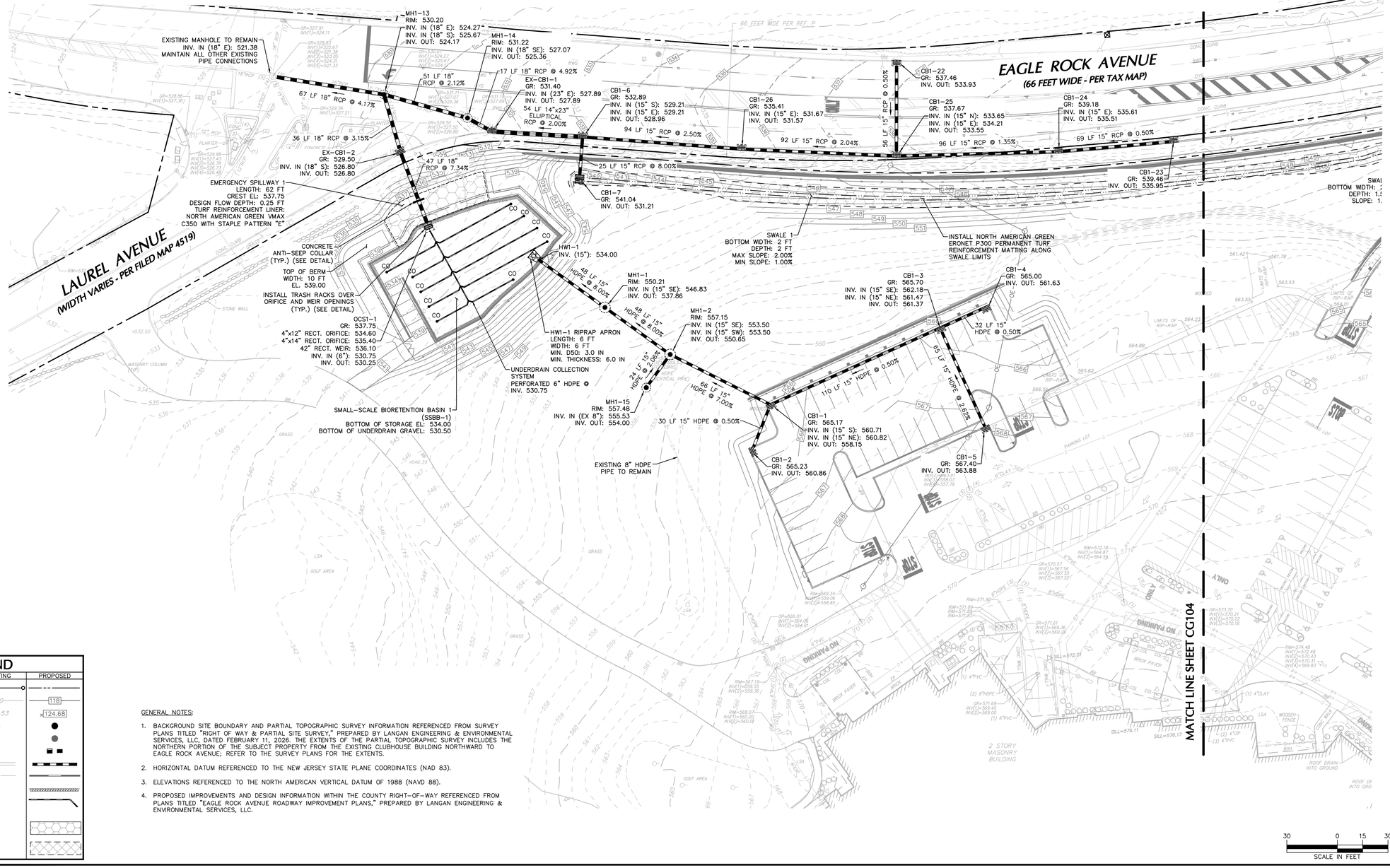

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	120	118
SPOT ELEVATION	x122.53	x124.68
STORM MANHOLE		
SANITARY MANHOLE		
CATCH BASIN		
STORM SEWER		
SANITARY SEWER		
RETAINING WALL		
ROOF DRAIN/ UNDERDRAIN		
TURF REINFORCEMENT LINER		
POROUS ASPHALT PAVEMENT		

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No.	Description	Date
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No.	Description	Date

REVISIONS

STATE OF NEW JERSEY JOHN P. COTE 37056

SIGNATURE 2/12/2026 DATE SIGNED

JOHN COTE, 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

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title

PARTIAL DRAINAGE PLAN

Project No. 101049802	Drawing No. CG103
Date FEBRUARY 12, 2026	
Drawn By TEG	
Checked By MJV	Sheet 14 of 36

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Project No. 101049802

Date: 3/4/2026 Time: 18:13 User: tgreen Style Table: Langan.stb Layout: CG103 Document Code: 101049802-0102-CG101-0104

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	120	118
SPOT ELEVATION	x122.53	x124.68
STORM MANHOLE		
SANITARY MANHOLE		
CATCH BASIN		
STORM SEWER		
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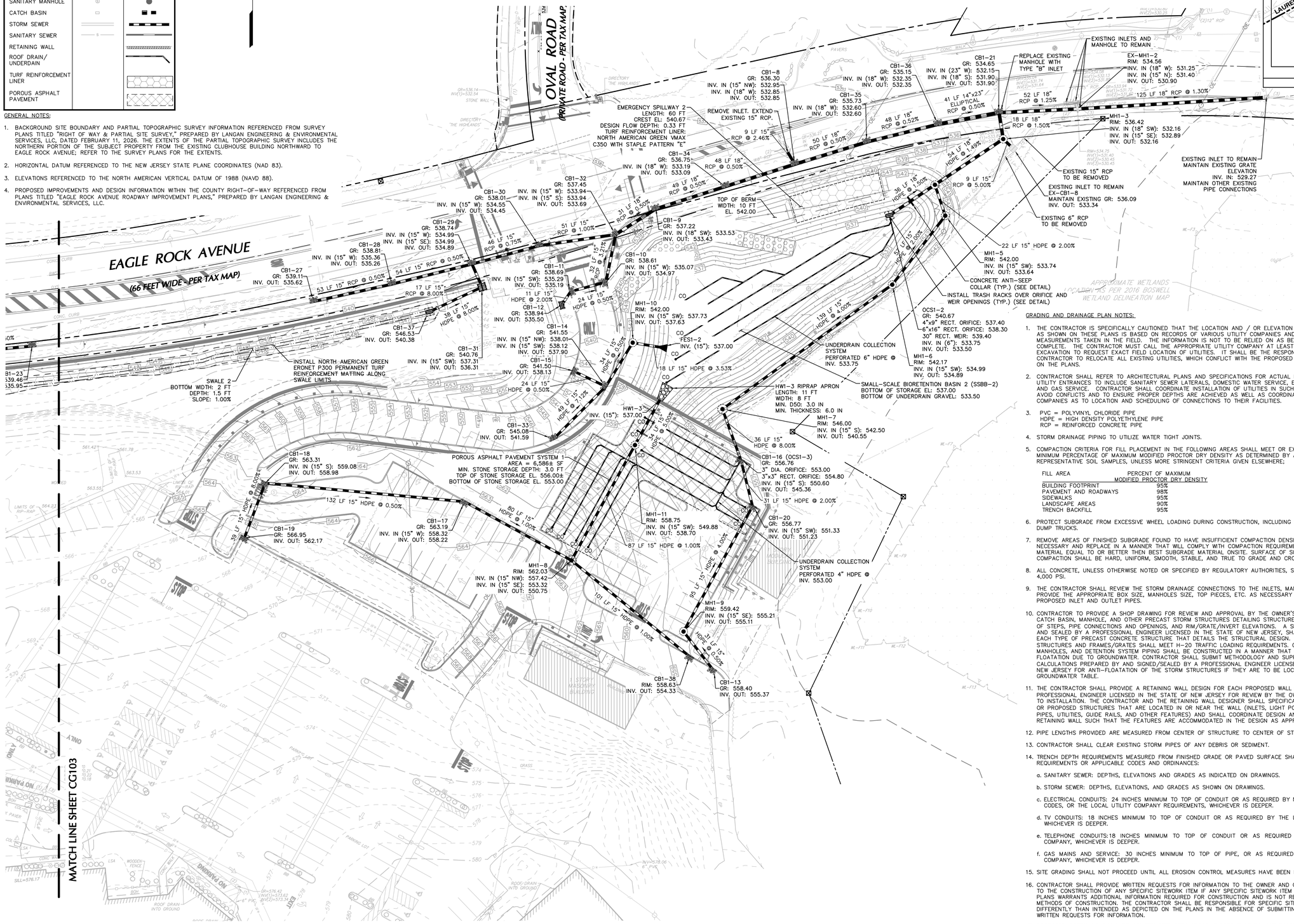

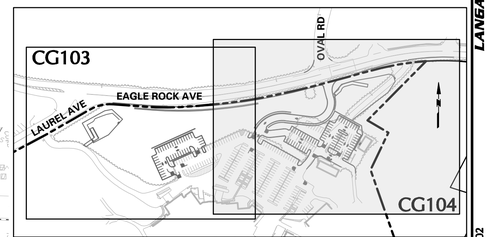

GRADING AND DRAINAGE PLAN NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND / OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES, WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC WATER SERVICE, ELECTRICAL TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND TO ENSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE UTILITY COMPANIES AS TO LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.
3. PVC = POLYVINYL CHLORIDE PIPE
   HDPE = HIGH DENSITY POLYETHYLENE PIPE
   RCP = REINFORCED CONCRETE PIPE
4. STORM DRAINAGE PIPING TO UTILIZE WATER TIGHT JOINTS.
5. COMPACTION CRITERIA FOR FILL PLACEMENT IN THE FOLLOWING AREAS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM PERCENTAGE OF MAXIMUM MODIFIED PROCTOR DRY DENSITY AS DETERMINED BY ASTM D-1557 USED ON REPRESENTATIVE SOIL SAMPLES, UNLESS MORE STRINGENT CRITERIA GIVEN ELSEWHERE;

FILL AREA	PERCENT OF MAXIMUM MODIFIED PROCTOR DRY DENSITY
BUILDING FOOTPRINT	95%
PAVEMENT AND ROADWAYS	98%
SIDEWALKS	95%
LANDSCAPE AREAS	90%
TRENCH BACKFILL	95%

6. PROTECT SUBGRADE FROM EXCESSIVE WHEEL LOADING DURING CONSTRUCTION, INCLUDING CONCRETE TRUCKS AND DUMP TRUCKS.
7. REMOVE AREAS OF FINISHED SUBGRADE FOUND TO HAVE INSUFFICIENT COMPACTION DENSITY TO DEPTH NECESSARY AND REPLACE IN A MANNER THAT WILL COMPLY WITH COMPACTION REQUIREMENTS BY USE OF MATERIAL EQUAL TO OR BETTER THEN BEST SUBGRADE MATERIAL ONSITE. SURFACE OF SUBGRADE AFTER COMPACTION SHALL BE HARD, UNIFORM, SMOOTH, STABLE, AND TRUE TO GRADE AND CROSS SECTION.
8. ALL CONCRETE, UNLESS OTHERWISE NOTED OR SPECIFIED BY REGULATORY AUTHORITIES, SHALL BE A MINIMUM OF 4,000 PSI.
9. THE CONTRACTOR SHALL REVIEW THE STORM DRAINAGE CONNECTIONS TO THE INLETS, MANHOLES, ETC. AND PROVIDE THE APPROPRIATE BOX SIZE, MANHOLES SIZE, TOP PIECES, ETC. AS NECESSARY TO ACCOMMODATE THE PROPOSED INLET AND OUTLET PIPES.
10. CONTRACTOR TO PROVIDE A SHOP DRAWING FOR REVIEW AND APPROVAL BY THE OWNER'S ENGINEER FOR EACH CATCH BASIN, MANHOLE, AND OTHER PRECAST STORM STRUCTURES DETAILING STRUCTURE DIMENSIONS, LOCATION OF STEPS, PIPE CONNECTIONS AND OPENINGS, AND RIM/GRATE/INVERT ELEVATIONS. A SHOP DRAWING, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY, SHALL BE PROVIDED FOR EACH TYPE OF PRECAST CONCRETE STRUCTURE THAT DETAILS THE STRUCTURAL DESIGN. ALL PRECAST STRUCTURES AND FRAMES/GRATES SHALL MEET H-20 TRAFFIC LOADING REQUIREMENTS. CATCH BASINS, MANHOLES, AND DETENTION SYSTEM PIPING SHALL BE CONSTRUCTED IN A MANNER THAT WILL PREVENT FLOATATION DUE TO GROUNDWATER. CONTRACTOR SHALL SUBMIT METHODOLOGY AND SUPPORTING BUOYANCY CALCULATIONS PREPARED BY AND SIGNED/SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY FOR ANTI-FLOATATION OF THE STORM STRUCTURES IF THEY ARE TO BE LOCATED WITHIN THE GROUNDWATER TABLE.
11. THE CONTRACTOR SHALL PROVIDE A RETAINING WALL DESIGN FOR EACH PROPOSED WALL PREPARED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY FOR REVIEW BY THE OWNER'S ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR AND THE RETAINING WALL DESIGNER SHALL SPECIFICALLY NOTE ANY EXISTING OR PROPOSED STRUCTURES THAT ARE LOCATED IN OR NEAR THE WALL (INLETS, LIGHT POLES, FENCES, STORM PIPES, UTILITIES, GUIDE RAILS, AND OTHER FEATURES) AND SHALL COORDINATE DESIGN AND INSTALLATION OF RETAINING WALL SUCH THAT THE FEATURES ARE ACCOMMODATED IN THE DESIGN AS APPROPRIATE.
12. PIPE LENGTHS PROVIDED ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
13. CONTRACTOR SHALL CLEAR EXISTING STORM PIPES OF ANY DEBRIS OR SEDIMENT.
14. TRENCH DEPTH REQUIREMENTS MEASURED FROM FINISHED GRADE OR PAVED SURFACE SHALL MEET THE FOLLOWING REQUIREMENTS OR APPLICABLE CODES AND ORDINANCES:
    a. SANITARY SEWER: DEPTHS, ELEVATIONS AND GRADES AS INDICATED ON DRAWINGS.
    b. STORM SEWER: DEPTHS, ELEVATIONS, AND GRADES AS SHOWN ON DRAWINGS.
    c. ELECTRICAL CONDUITS: 24 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY NEC 300-5, NEC 710-36 CODES, OR THE LOCAL UTILITY COMPANY REQUIREMENTS, WHICHEVER IS DEEPER.
    d. TV CONDUITS: 18 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.
    e. TELEPHONE CONDUITS:18 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.
    f. GAS MAINS AND SERVICE: 30 INCHES MINIMUM TO TOP OF PIPE, OR AS REQUIRED BY THE LOCAL UTILITY COMPANY, WHICHEVER IS DEEPER.
15. SITE GRADING SHALL NOT PROCEED UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
16. CONTRACTOR SHALL PROVIDE WRITTEN REQUESTS FOR INFORMATION TO THE OWNER AND OWNER'S ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC SITEWORK ITEM IF ANY SPECIFIC SITEWORK ITEM DEPICTED ON THE PLANS WARRANTS ADDITIONAL INFORMATION REQUIRED FOR CONSTRUCTION AND IS NOT RELATED TO MEANS AND METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SPECIFIC SITE WORK ITEMS INSTALLED DIFFERENTLY THAN INTENDED AS DEPICTED ON THE PLANS IN THE ABSENCE OF SUBMITTING AND ADDRESSING WRITTEN REQUESTS FOR INFORMATION.
17. PROPOSED SIDEWALKS SHALL BE CONSTRUCTED WITH CROSS-SLOPES THAT DO NOT EXCEED 1.5%
18. PROPOSED RCP PIPE IS TO BE CLASS V PIPE.
19. ALL PIPE WITH A BURIAL DEPTH OF 20 FEET OR GREATER SHALL BE SMOOTH INTERIOR CORRUGATED METAL PIPE.

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REVISIONS

STATE OF NEW JERSEY JOHN G. COTE 37058

SIGNATURE JOHN COTE DATE SIGNED 2/12/2026
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

LANGAN
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NJ Certificate of Authorization No. 24GA27996400

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL DRAINAGE PLAN

Project No. 101049802	Drawing No. CG104
Date FEBRUARY 12, 2026	
Drawn By TEG	
Checked By MJV	Sheet 15 of 36

Project No. 101049802

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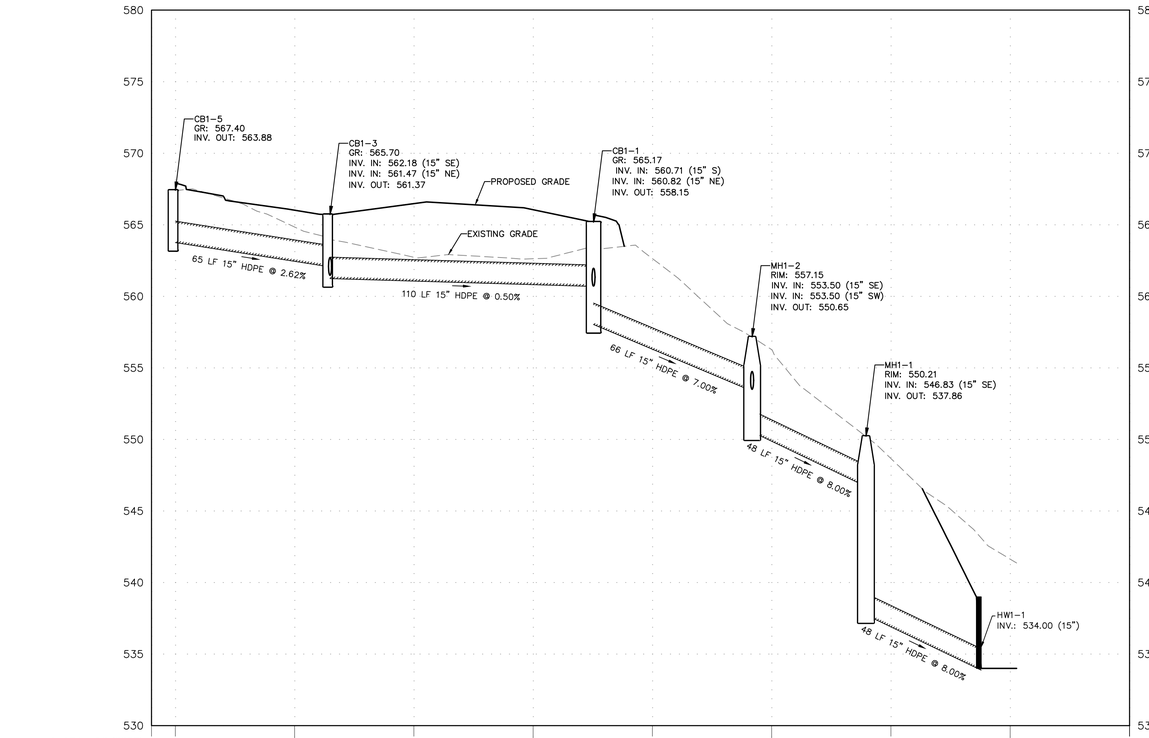
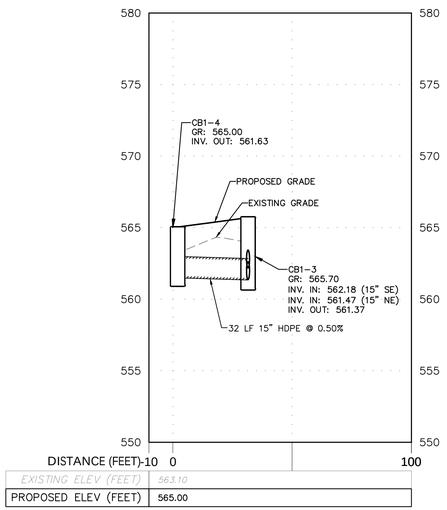


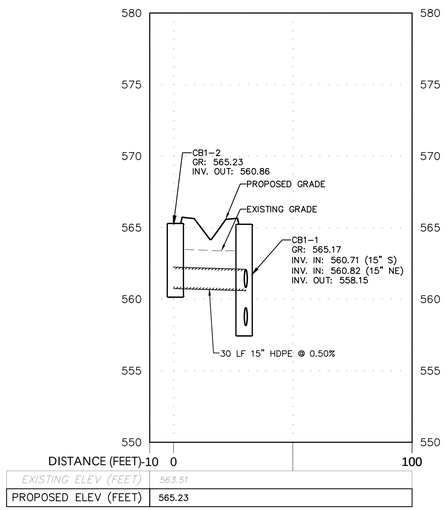
EXISTING ELEV (FEET)	567.41	564.84	562.73	562.63	562.63	556.28	548.66	541.63
PROPOSED ELEV (FEET)	567.40	566.02	566.48	566.06				534.00

CB1-5 TO HW1-1



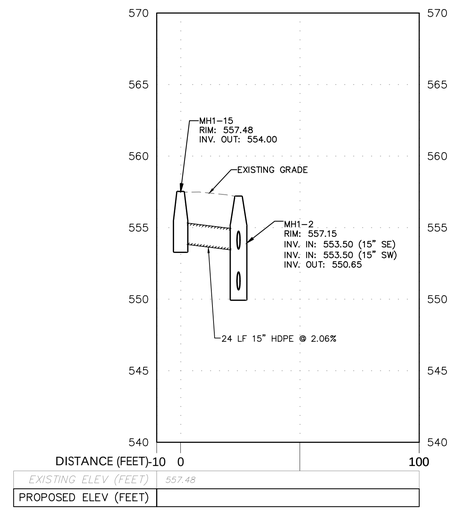
EXISTING ELEV (FEET)	563.10	
PROPOSED ELEV (FEET)	565.00	

CB1-4 TO CB1-3



EXISTING ELEV (FEET)	563.51	
PROPOSED ELEV (FEET)	565.23	

CB1-2 TO CB1-1



EXISTING ELEV (FEET)	557.48	
PROPOSED ELEV (FEET)		

MH1-15 TO MH1-2

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

5 0 1 2 5
VERTICAL SCALE: 1 INCH = 5 FEET

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REVISIONS

STATE OF NEW JERSEY
JOHN C. COTE
No. 37056

SIGNATURE — JOHN COTE — 2/12/2026 DATE SIGNED
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

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Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
STORM PROFILES

Project No. 101049802	Drawing No. CG201
Date FEBRUARY 12, 2026	
Drawn By YA	
Checked By MJV	Sheet 16 of 36

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Project No. 101049802

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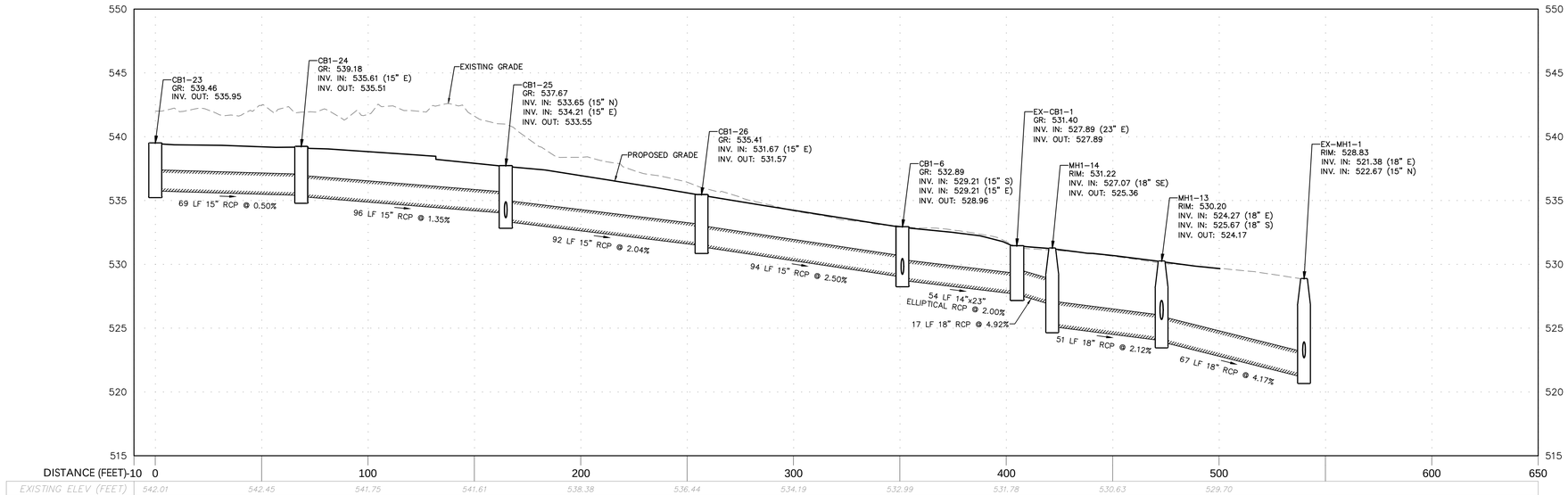
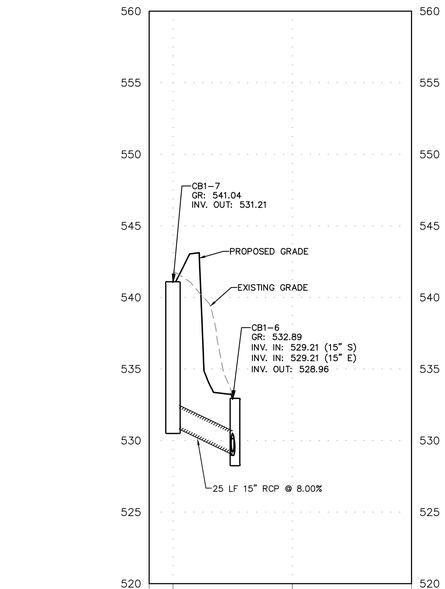


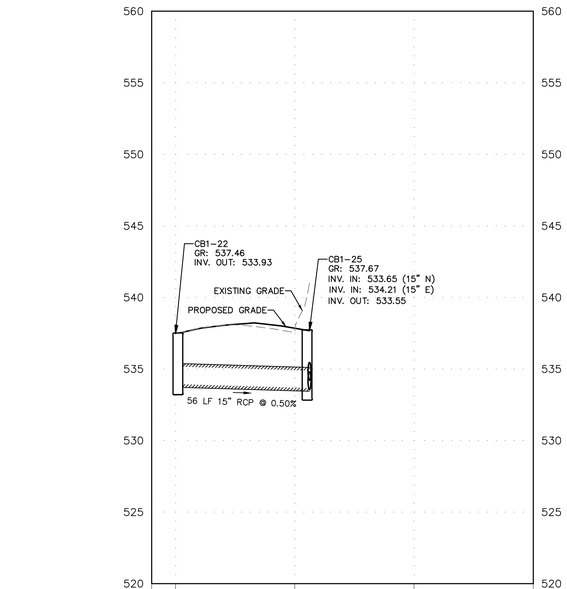
EXISTING ELEV (FEET)	542.01	542.45	541.75	541.61	538.38	536.44	534.19	532.99	531.78	530.63	529.70
PROPOSED ELEV (FEET)	539.46	539.21	538.83	537.92	536.95	535.60	534.23	532.92	531.66	530.69	529.67

CB1-23 TO EX-MH1-1



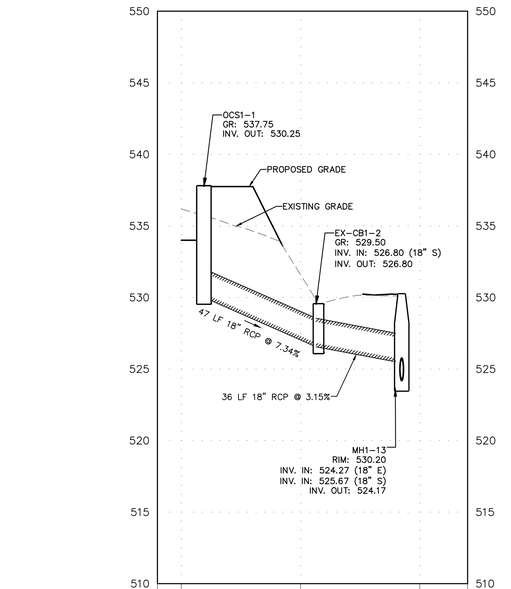
EXISTING ELEV (FEET)	541.72	
PROPOSED ELEV (FEET)	541.04	

CB1-7 TO CB1-6



EXISTING ELEV (FEET)	537.46	537.66
PROPOSED ELEV (FEET)	537.46	537.84

CB1-22 TO CB1-25



EXISTING ELEV (FEET)	536.18	531.59
PROPOSED ELEV (FEET)	534.00	

OCS1-1 TO MH1-13

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

5 0 1 2 5
VERTICAL SCALE: 1 INCH = 5 FEET

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REVISIONS

STATE OF NEW JERSEY JOHN C. COTE No. 37058 PROFESSIONAL ENGINEER

SIGNATURE JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 DATE SIGNED 2/12/2026

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Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
STORM PROFILES

Project No. 101049802
Date FEBRUARY 12, 2026
Drawn By YA
Checked By MJV

Drawing No. CG202
Sheet 17 of 36

LANGAN
Project No. 101049802

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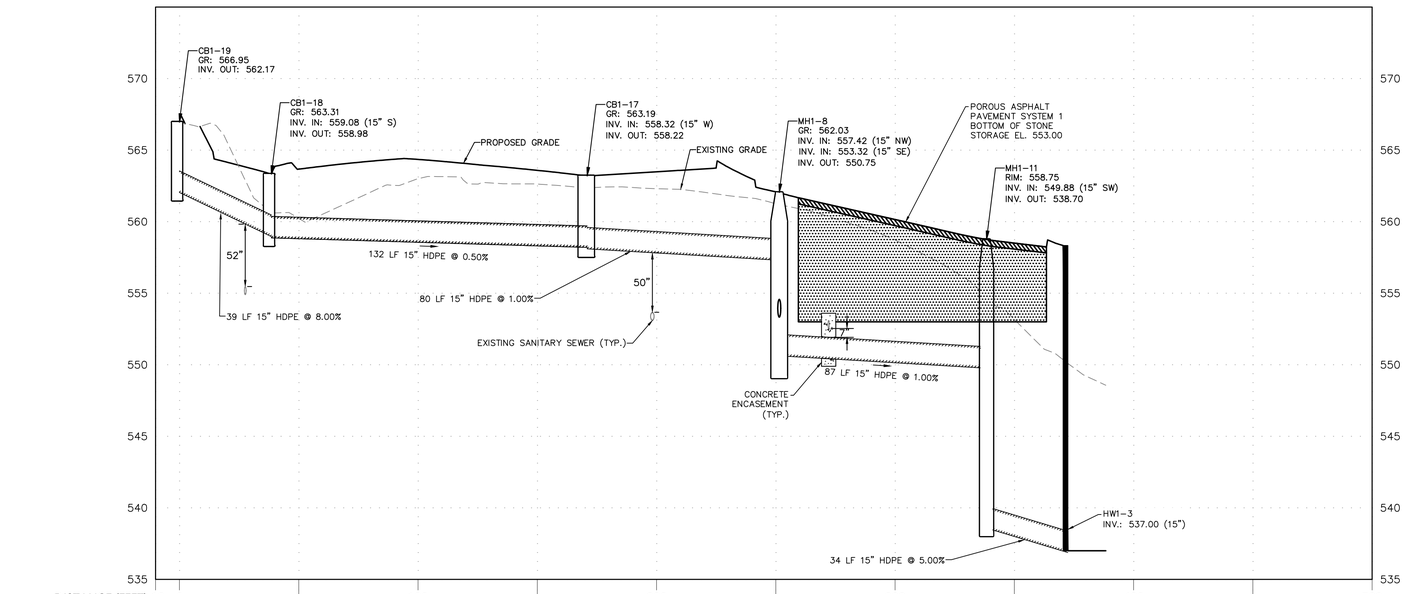
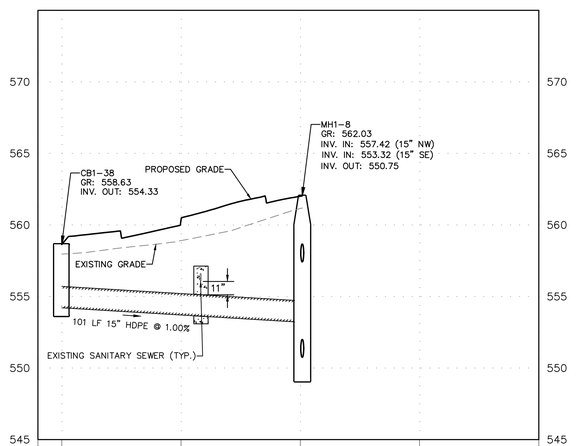


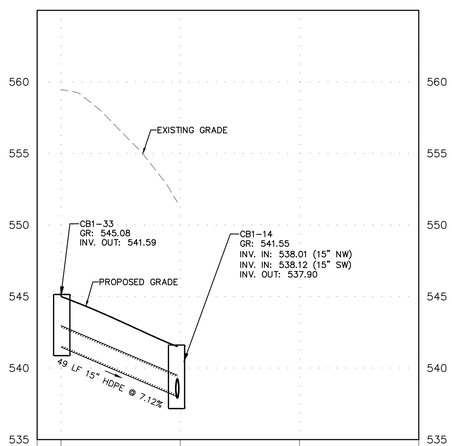
EXISTING ELEV (FEET)	566.94	560.23	563.00	562.63	562.30	561.25	558.72	553.17
PROPOSED ELEV (FEET)	566.95	563.67	564.35	563.58	563.49	562.08	560.15	558.50

CB1-19 TO HW1-3



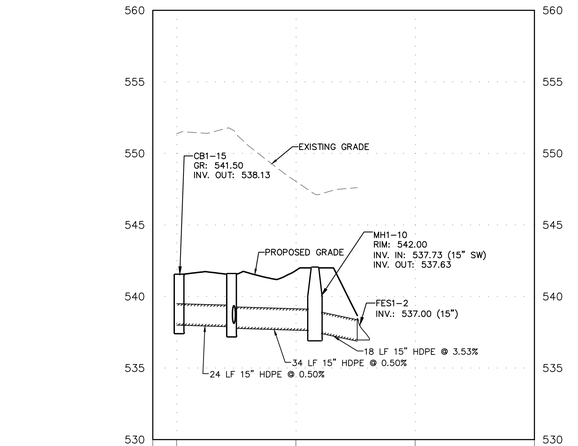
EXISTING ELEV (FEET)	557.96	558.90	561.15
PROPOSED ELEV (FEET)	558.63	560.32	562.01

CB1-38 TO MH1-8



EXISTING ELEV (FEET)	559.47	
PROPOSED ELEV (FEET)	545.08	

CB1-33 TO CB1-14



EXISTING ELEV (FEET)	551.37	548.04
PROPOSED ELEV (FEET)	541.50	541.82

CB1-15 TO FES1-2

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

5 0 1 2 5
VERTICAL SCALE: 1 INCH = 5 FEET

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REVISIONS

STATE OF NEW JERSEY
JOHN C. COTE
No. 37056
PROFESSIONAL ENGINEER

SIGNATURE JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 — DATE SIGNED 2/12/2026

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NJ Certificate of Authorization No. 24GA27996400

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
STORM PROFILES

Project No. 101049802	Drawing No. CG203
Date FEBRUARY 12, 2026	
Drawn By YA	
Checked By MJV	Sheet 18 of 36

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Project No. 101049802

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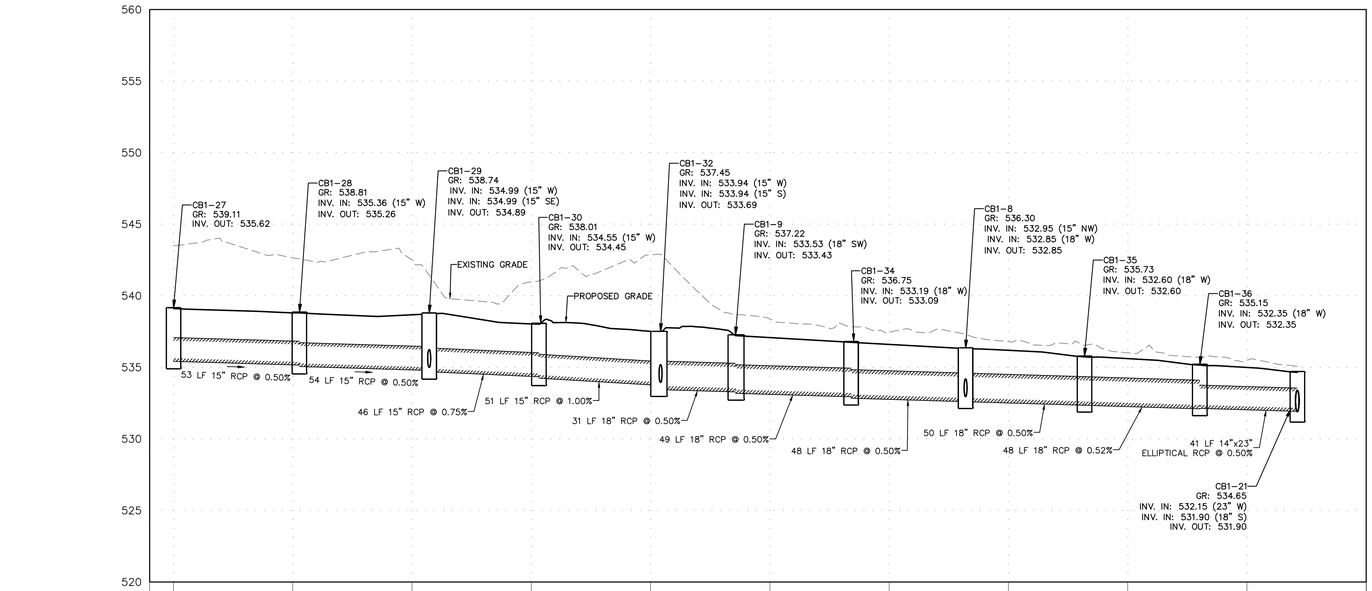
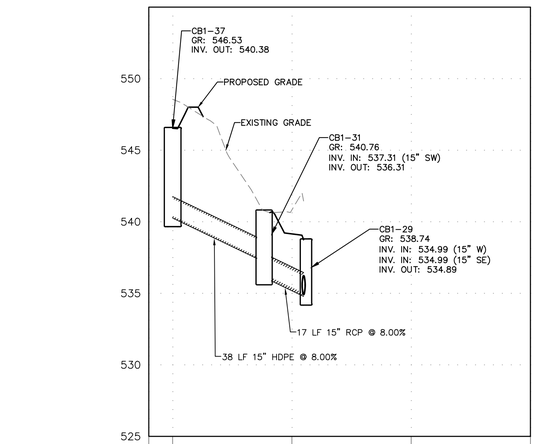


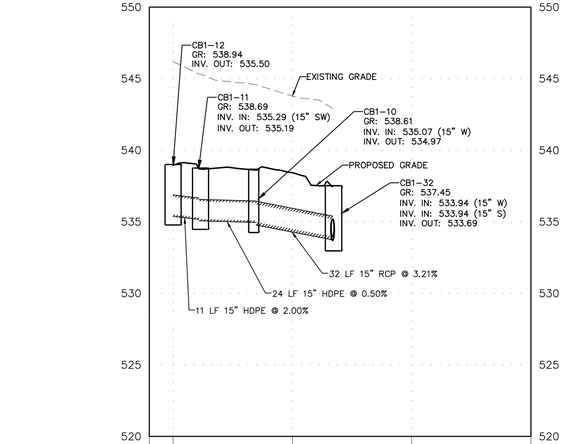
EXISTING ELEV (FEET)	*543.52*	*542.65*	*542.51*	*540.95*	*542.86*	*538.38*	*537.42*	*536.80*	*536.01*	*535.49*
PROPOSED ELEV (FEET)	539.11	538.80	538.67	538.03	537.51	537.07	536.60	536.19	535.61	534.99

CB1-27 TO CB1-21



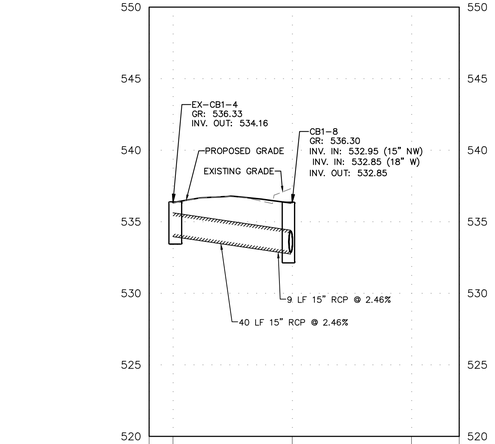
EXISTING ELEV (FEET)	*548.56*	*540.83*
PROPOSED ELEV (FEET)	546.53	539.15

CB1-37 TO CB1-29



EXISTING ELEV (FEET)	*546.17*	*543.78*
PROPOSED ELEV (FEET)	538.94	538.42

CB1-12 TO CB1-32



EXISTING ELEV (FEET)	*536.33*	
PROPOSED ELEV (FEET)	536.33	

EX-CB1-4 TO CB1-8

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

5 0 1 2 5
VERTICAL SCALE: 1 INCH = 5 FEET

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REVISIONS

STATE OF NEW JERSEY JOHN E. COTE No. 37058

SIGNATURE 2/12/2026 DATE SIGNED

JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

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NJ Certificate of Authorization No. 24GA27996400

Project

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS

BLOCK No. 174, LOT No. 1.01

TOWNSHIP OF WEST ORANGE

ESSEX COUNTY NEW JERSEY

Drawing Title

STORM PROFILES

Project No. 101049802	Drawing No. CG204
Date FEBRUARY 12, 2026	
Drawn By YA	
Checked By MJV	Sheet 19 of 36

Project No. 101049802

LANGAN

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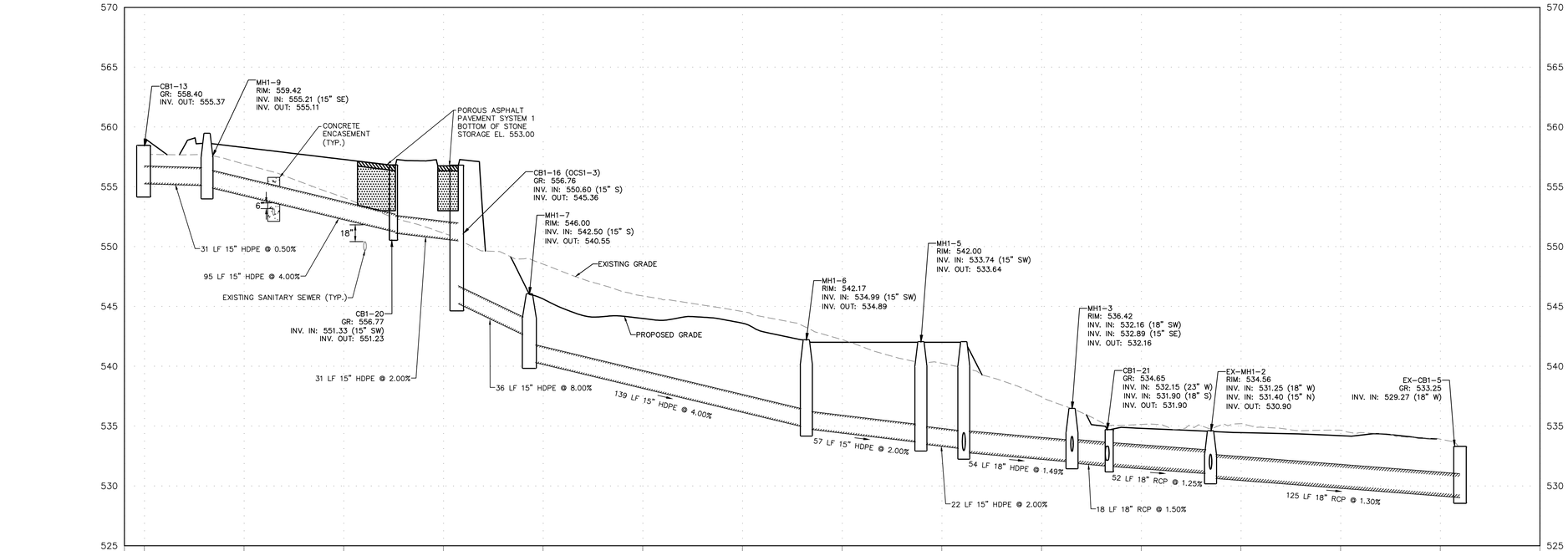
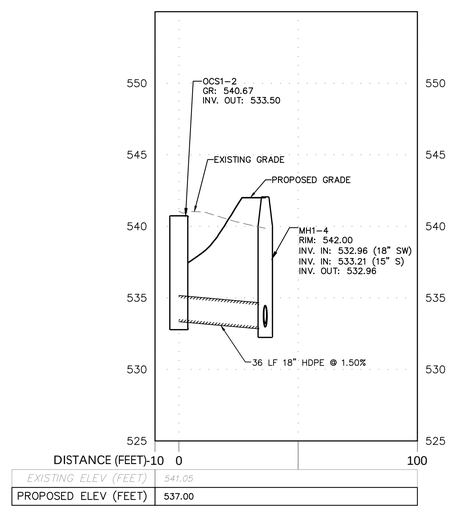


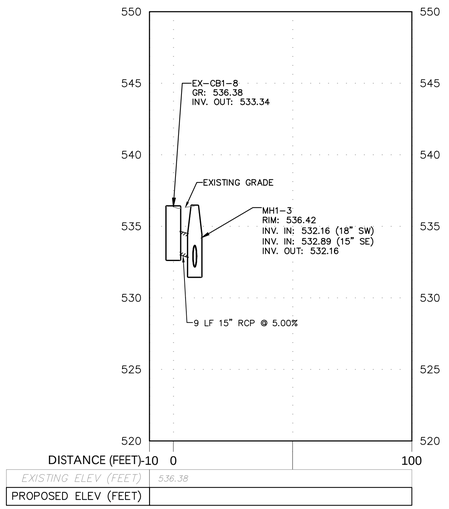
EXISTING ELEV (FEET)	557.72	556.89	554.10	551.13	548.53	545.87	544.57	542.22	540.25	537.43	535.14	535.20	534.65	533.90
PROPOSED ELEV (FEET)	558.40	558.28	557.28	556.75	545.62	544.00	543.60	542.00	542.00		534.81	534.45	534.20	

CB1-13 TO EX-CB1-5



EXISTING ELEV (FEET)	541.05
PROPOSED ELEV (FEET)	537.00

OCS1-2 TO MH1-4



EXISTING ELEV (FEET)	536.38
PROPOSED ELEV (FEET)	

EX-CB1-8 TO MH1-3

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HORIZONTAL SCALE: 1 INCH = 30 FEET

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VERTICAL SCALE: 1 INCH = 5 FEET

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REVISIONS

STATE OF NEW JERSEY
JOHN E. COTE
No. 37058
PROFESSIONAL ENGINEER

SIGNATURE JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 DATE SIGNED 2/12/2026

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NJ Certificate of Authorization No. 24GA27996400

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
STORM PROFILES

Project No.	Drawing No.
101049802	CG205
Date: FEBRUARY 12, 2026	
Drawn By: YA	
Checked By: MJV	Sheet 20 of 36

LANGAN Project No. 101049802

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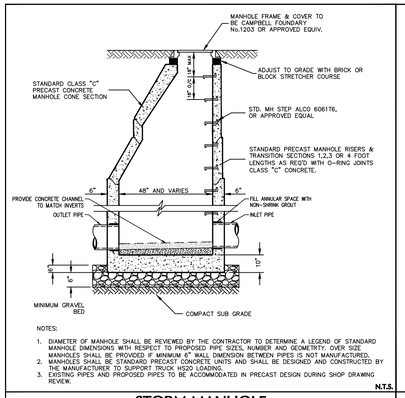
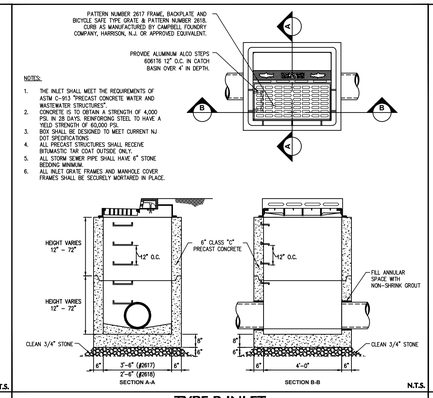
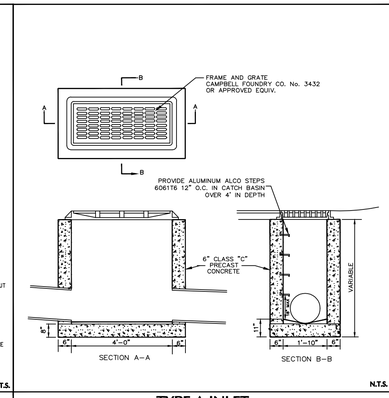


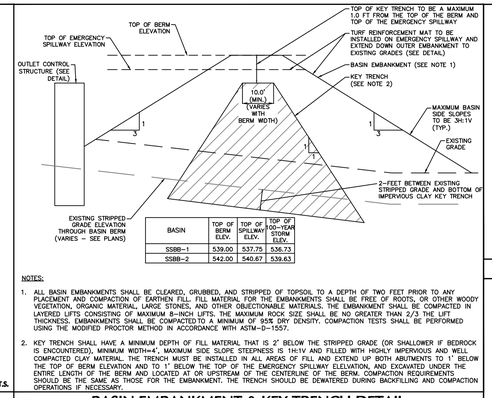
STORM MANHOLE



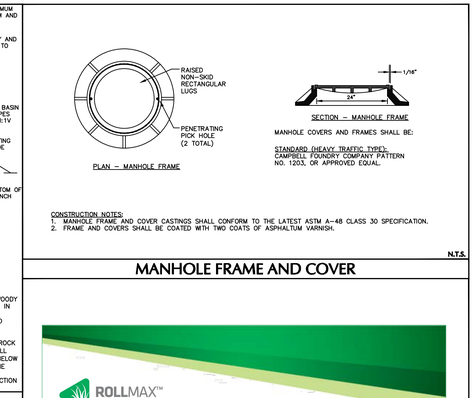
TYPE B INLET



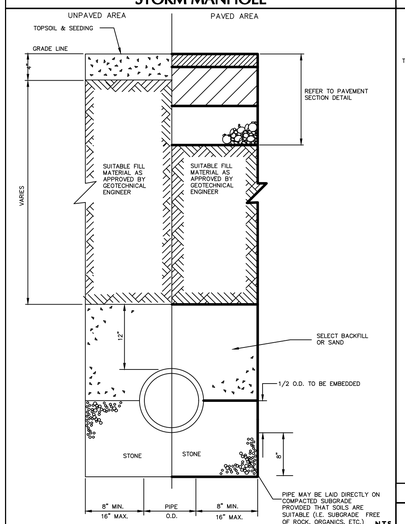
TYPE A INLET



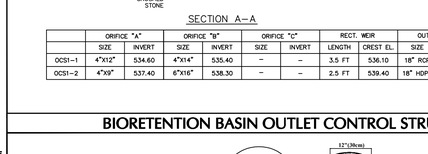
BASIN EMBANKMENT & KEY TRENCH DETAIL



MANHOLE FRAME AND COVER



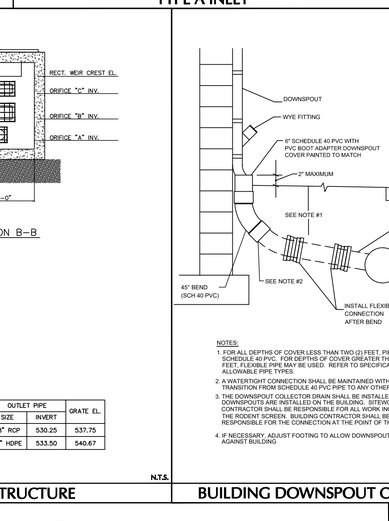
STORM SEWER TRENCH AND BEDDING



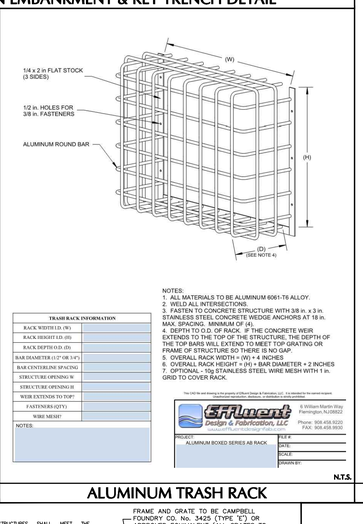
	ORIFICE "A"		ORIFICE "B"		ORIFICE "C"		RECT. WEIR		OUTLET PIPE		GRATE EL.
	SIZE	INVERT	SIZE	INVERT	SIZE	INVERT	LENGTH	CREST EL.	SIZE	INVERT	
OCS1-1	4"X12"	534.60	4"X14"	535.40	–	–	3.5 FT	536.10	18" RCP	530.25	537.75
OCS1-2	4"X9"	537.40	6"X16"	538.30	–	–	2.5 FT	539.40	18" HDPE	533.50	540.67

N.T.S.

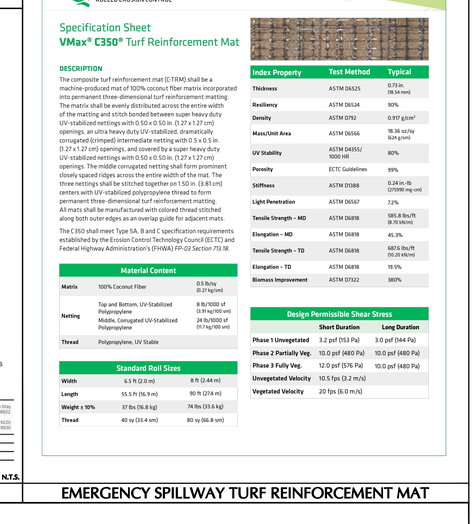
BIORETENTION BASIN OUTLET CONTROL STRUCTURE



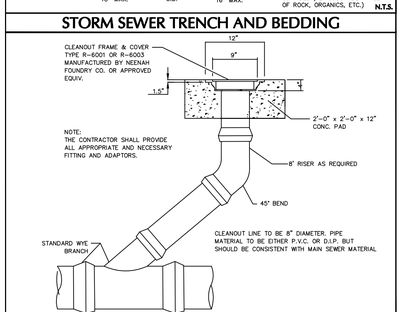
BUILDING DOWNSPOUT CONNECTION



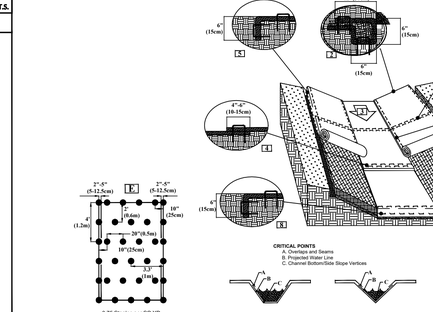
ALUMINUM TRASH RACK



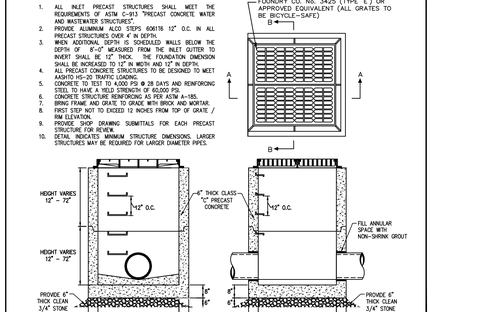
EMERGENCY SPILLWAY TURF REINFORCEMENT MAT



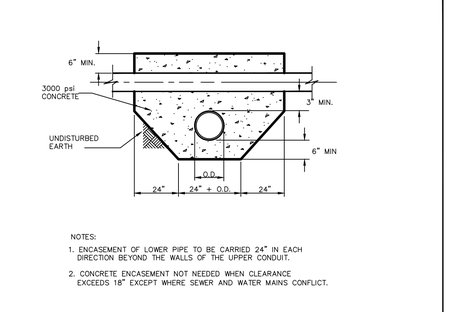
STORM CLEANOUT



TURF REINFORCEMENT MAT INSTALLATION DETAIL



TYPE E INLET



UTILITY CROSSING

No.	Description	Date
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REVISIONS

STATE OF NEW JERSEY JOHN E. COTE 24GE03705800

SIGNATURE JOHN COTE DATE SIGNED 2/12/2026

PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

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Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP of WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
DRAINAGE DETAILS

Project No.	101049802
Date	FEBRUARY 12, 2026
Drawn By	JS
Checked By	MJV

Drawing No. CG501

Sheet 21 of 36

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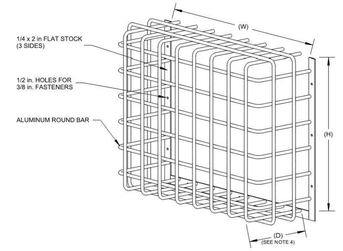
Project No. 101049802



TRASH RACK INFORMATION	
RACK WIDTH (W)	
RACK HEIGHT I.D. (H)	
RACK DEPTH O.D. (D)	
BAR DIAMETER (1/2" OR 3/4")	
BAR CENTERLINE SPACING	
STRUCTURE OPENING W	
STRUCTURE OPENING H	
WEIR EXTENDS TO TOP?	
FASTENERS (QTY)	
WIRE MESH?	
NOTES:	

NOTES:
1. ALL MATERIALS TO BE ALUMINUM 6061-T6 ALLOY.
2. WELD ALL INTERSECTIONS.
3. FASTEN TO CONCRETE STRUCTURE WITH 3/8 in. x 3 in. STAINLESS STEEL CONCRETE WEDGE ANCHORS AT 18 in. MAX. SPACING. MINIMUM OF (4).
4. DEPTH TO O.D. OF RACK. IF THE CONCRETE WEIR EXTENDS TO THE TOP OF THE STRUCTURE, THE DEPTH OF THE TOP BARS WILL EXTEND TO MEET TOP GRATING OR FRAME OF STRUCTURE SO THERE IS NO GAP.
5. OVERALL RACK WIDTH = (W) + 4 INCHES
6. OVERALL RACK HEIGHT = (H) + BAR DIAMETER + 2 INCHES
7. OPTIONAL - 10g STAINLESS STEEL WIRE MESH WITH 1 in. GRID TO COVER RACK.

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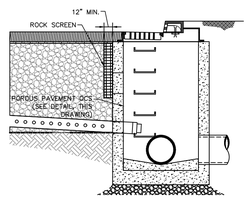
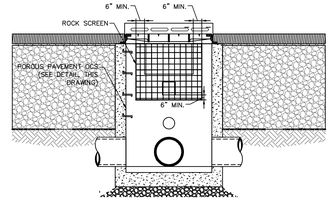
PROJECT: ALUMINUM BOXED SERIES AB RACK
FILE #:
DATE:
SCALE:
DRAWN BY:



SECTION A–A

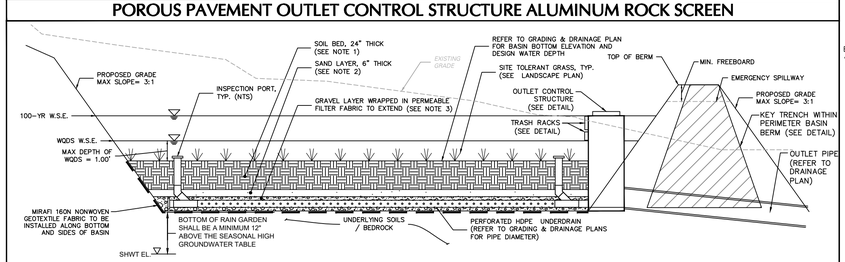


SECTION B–B

NOTES:
1. MAX OPENING BETWEEN PARALLEL BARS TO BE 2"
2. ROCK SCREEN TO EXTEND MIN. 6" IN BOTH DIRECTIONS BEYOND WIDTH OF RECTANGULAR WEIR, MIN 6" BELOW RECTANGULAR WEIR INVERT, AND MIN. 12" OUT FROM FACE OF OUTLET CONTROL STRUCTURE

N.T.S.

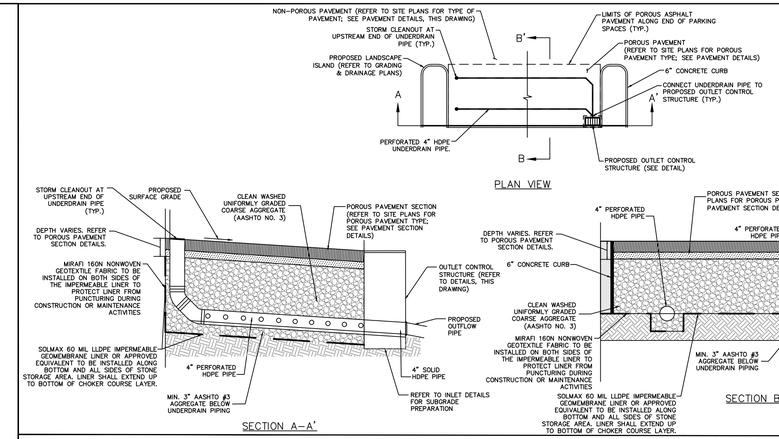
POROUS PAVEMENT OUTLET CONTROL STRUCTURE ALUMINUM ROCK SCREEN



NOTES:
1. SOIL BED SPECIFICATIONS
   1.1. THE SOIL BED MATERIAL MUST CONSIST OF THE FOLLOWING MIX, BY WEIGHT: 85 TO 95% SAND, WITH NO MORE THAN 25% OF THE SAND AS FINE OR VERY FINE SANDS; NO MORE THAN 15% SILT AND CLAY WITH 2% TO 5% CLAY CONTENT. THE ENTIRE MIX MUST THEN BE AMENDED WITH 3 TO 7% ORGANICS, BY WEIGHT.
   1.2. PRE-MIXED SOIL MUST BE CERTIFIED TO BE CONSISTENT WITH THE REQUIREMENT ABOVE BY EITHER THE VENDOR OR BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF NEW JERSEY. THE CONTENT OF ANY SOIL MIXED ON-SITE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF NEW JERSEY; IN ADDITION, THE ENGINEER MUST BE PRESENT WHILE THE SOIL IS MIXED.
   1.3. THE PH OF THE SOIL BED MATERIAL MUST RANGE FROM 5.5 TO 6.5.
   1.4. THE SOIL BED MATERIAL MUST BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES. ADDITIONAL MATERIALS MAY BE NECESSARY TO ACCOUNT FOR SETTLING OVER TIME.
   1.5. THE MIXED SOIL MEDIA SHALL HAVE A MINIMUM FIELD-MEASURED INFILTRATION RATE OF 3 IN/HR AND MAXIMUM FIELD-MEASURED INFILTRATION RATE OF 6 IN/HR
2. SAND LAYER SPECIFICATIONS
   2.1. THE SAND LAYER MUST BE AT LEAST 6 INCHES IN DEPTH AND MUST CONSIST OF CLEAN, MEDIUM-AGGREGATE CONCRETE SAND (AASHTO M-6/ASTM C-33).
3. GRAVEL LAYER SPECIFICATIONS
   3.1. THE GRAVEL LAYER MUST BE AASHTO #57 AND HAVE SUFFICIENT DEPTH TO PROVIDE AT LEAST 3 INCHES OF GRAVEL ABOVE AND BELOW THE PERFORATED UNDERDRAIN AND MUST CONSIST OF 0.5 TO 1.5 INCH CLEAN, BROKEN STONE OR PEA GRAVEL (AASHTO M-43).
4. FLEXIBLE CORRUGATED PERFORATED PLASTIC DRAIN PIPE SHOULD NOT BE USED AS UNDERDRAIN PIPE.
5. REFER TO THE GRADING & DRAINAGE PLANS FOR BIORETENTION BASIN ELEVATIONS, PIPE INVERTS, AND GRATE ELEVATIONS.
6. REFER TO THE OUTLET CONTROL STRUCTURE DETAIL FOR SPECIFICATIONS.
7. REFER TO LANDSCAPING PLANS AND DETAILS FOR PROPOSED PLANTINGS WITHIN BIORETENTION BASIN AND FOR PLANTING SOIL DETAILS AND SPECIFICATIONS.
8. ALL INLET AND OUTLET PIPE PENETRATIONS INTO THE EMBANKMENT SLOPES OF THE BASIN SHALL INCLUDE A PRECAST CONCRETE ANTI-SEEP COLLAR OR APPROVED EQUIVALENT BY THE PROJECT GEOTECHNICAL ENGINEER IN ORDER TO REDUCE POTENTIAL MIGRATION OF WATER OUTSIDE OF THE BASIN.

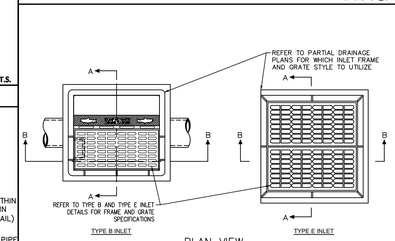
N.T.S.

UNDERDRAINED BIORETENTION BASIN TYPICAL CROSS SECTION

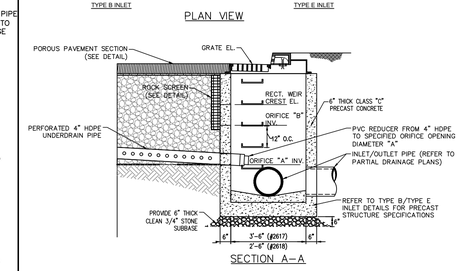


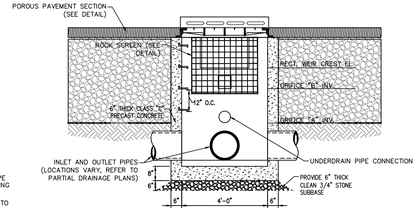
N.T.S.

TYPICAL POROUS PAVEMENT CROSS SECTION DETAIL

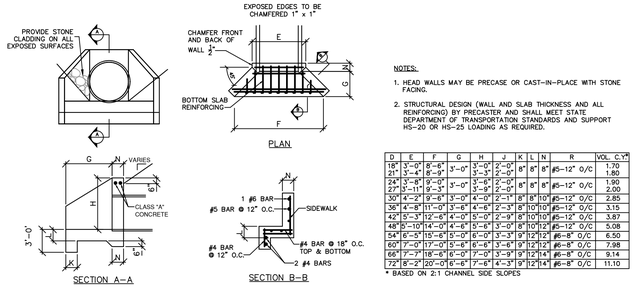


	ORIFICE "A"		ORIFICE "B"		RECT. WEIR		INLET PIPE		OUTLET PIPE		GRATE EL.
	SIZE	INVERT	SIZE	INVERT	LENGTH	CREST EL.	SIZE	INVERT	SIZE	INVERT	
OCS1-3	3.0" DIA.	553.00	3"x3"	554.80	–	–	15" HDPE	550.62	15" HDPE	545.36	556.76





POROUS PAVEMENT SYSTEM OUTLET CONTROL STRUCTURE



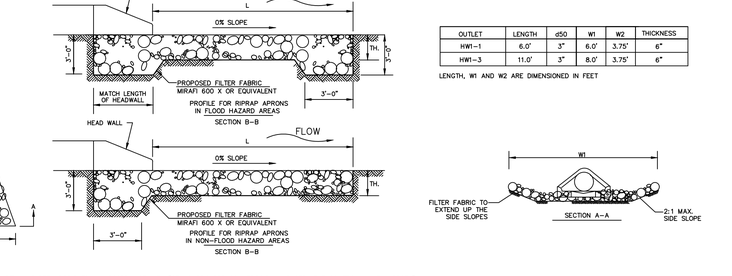
NOTES:
1. HEAD WALLS MAY BE PRECASE OR CAST-IN-PLACE WITH STONE FACING.
2. STRUCTURAL DESIGN (WALL AND SLAB THICKNESS AND ALL REINFORCING) BY PRECASTER AND SHALL MEET STATE DEPARTMENT OF TRANSPORTATION STANDARDS AND SUPPORT HS-20 OR HS-25 LOADING AS REQUIRED.

D	E	F	G	H	J	K	L	N	R	VOL. C.Y.*
18"	3'-0"	8'-6"	3'-0"	3'-0"	2'-0"	8"	8"	8"	#5-12" O/C	1.70
21"	3'-4"	8'-9"	3'-0"	3'-3"	2'-0"					1.80
24"	3'-8"	9'-0"	3'-0"	3'-6"	2'-0"	8"	8"	8"	#5-12" O/C	1.90
27"	3'-11"	9'-3"	3'-0"	3'-9"	2'-0"					2.00
30"	4'-2"	9'-6"	3'-0"	4'-0"	2'-1"	8"	8"	10"	#5-12" O/C	2.85
36"	4'-8"	11'-0"	3'-6"	4'-6"	2'-3"	8"	10"	10"	#5-12" O/C	3.15
42"	5'-3"	12'-3"	4'-0"	5'-0"	2'-9"	8"	10"	10"	#5-12" O/C	3.87
48"	5'-10"	14'-0"	4'-6"	5'-6"	3'-0"	8"	10"	12"	#5-12" O/C	5.08
54"	6'-5"	15'-6"	5'-0"	6'-0"	3'-3"	9"	12"	12"	#6-8" O/C	6.50
60"	7'-0"	17'-0"	5'-6"	6'-6"	3'-6"	9"	12"	12"	#6-8" O/C	7.98
66"	7'-7"	18'-6"	6'-0"	7'-0"	3'-9"	9"	12"	14"	#6-8" O/C	9.14
72"	8'-2"	20'-0"	6'-6"	7'-6"	4'-3"	9"	12"	14"	#6-8" O/C	11.10

* BASED ON 2:1 CHANNEL SIDE SLOPES

N.T.S.

CONCRETE HEADWALL



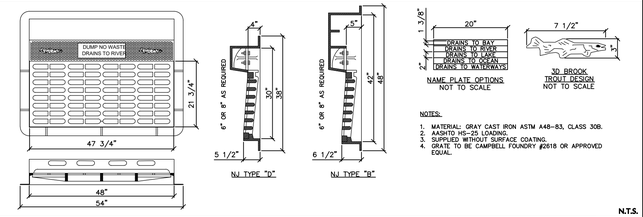
OUTLET	LENGTH	d50	W1	W2	THICKNESS
HW1-1	6.0'	3"	6.0'	3.75'	6"
HW1-3	11.0'	3"	8.0'	3.75'	6"

LENGTH, W1 AND W2 ARE DIMENSIONED IN FEET

GENERAL NOTES:
1. THE INDICATED d50, APRON LENGTH AND WIDTH HAS BEEN DESIGNED IN ACCORDANCE WITH "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY".
2. FOR ALL PIPE SIZES, SLOPES, AND INVERTS SEE GRADING PLAN.
3. RIPRAP APRON LOCATED ALONG THE EMBANKMENT EDGE CAN BE FLARED UP TO ALIGN WITH GRADES OF THE DRAINAGE DITCH, REFER TO SECTION A–A.

N.T.S.

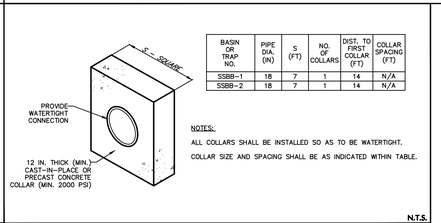
RIPRAP APRON



NOTES:
1. MATERIAL: GRAY CAST IRON ASTM A48-83, CLASS 30B.
2. AASHTO HS-25 LOADING.
3. SUPPLIED WITHOUT SURFACE COATING.
4. GRATE TO BE CAMPBELL FOUNDRY #2618 OR APPROVED EQUAL.

N.T.S.

TYPE B INLET BICYCLE SAFE GRATE WITH TYPE "N-ECO" CURB PIECE

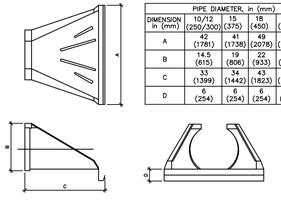


BASIN OR TRAP NO.	PIPE DIA. (IN)	S (FT)	NO. OF COLLARS	DIST. TO FIRST COLLAR (FT)	COLLAR SPACING (FT)
SSBB-1	18	7	1	14	N/A
SSBB-2	18	7	1	14	N/A

NOTES:
ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.
COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

N.T.S.

CONCRETE ANTI-SEEP COLLAR



PIPE DIAMETER, in (mm)						
DIMENSION in (mm)	10/12 (250/300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
A	42 (1781)	41 (1738)	49 (2078)	59.5 (2523)	88 (3731)	88 (3731)
B	14.5 (615)	19 (806)	22 (933)	28 (1187)	36 (1526)	43 (1823)
C	33 (1399)	34 (1442)	43 (1823)	48 (2035)	63.5 (2692)	66.5 (2820)
D	6 (254)	6 (254)	6 (254)	6 (254)	6 (254)	6 (254)

SCOPE:

THIS SPECIFICATION DESCRIBES 10-THROUGH 36-INCH (250 TO 900 mm) HI-Q FLARED END SECTIONS FOR USE IN CULVERT AND DRAINAGE OUTLET APPLICATIONS.

REQUIREMENTS:

THE INVERT OF THE PIPE AND THE END SECTION SHALL BE AT THE SAME ELEVATION. HI-Q FLARED END SECTION SHALL BE HIGH DENSITY POLYETHYLENE MEETING ASTM D3350 MINIMUM CELL CLASSIFICATION 213320C. EACH END SECTION SHALL HAVE A CARBON BLACK ADDITIVE FOR UV PROTECTION. THE METAL THREADED FASTENER SHALL BE STAINLESS STEEL.

INSTALLATION:

INSTALLATION SHALL BE IN ACCORDANCE WITH HANCOR INSTALLATION INSTRUCTIONS AND WITH THOSE ISSUED BY STATE OR LOCAL AUTHORITIES.

N.T.S.

HDPE FLARED END SECTION

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–	–	–
–	–	–
–	–	–
–	–	–
Date	Description	No.

REVISIONS

STATE OF NEW JERSEY · JOHN C. COTE · No. 37058

SIGNATURE — JOHN C. COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 — DATE SIGNED 2/12/2026

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NJ Certificate of Authorization No. 24GA27996400

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
DRAINAGE DETAILS

Project No.	Drawing No.
101049802	CG502
Date: FEBRUARY 12, 2026	
Drawn By: JS	
Checked By: MJV	Sheet 22 of 36

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LANGAN Project No. 101049802

Date: 3/4/2026 Time: 18:16 User: tgreen Style Table: Langan.stb Layout: CG502 Document Code: 101049802-0102-CG501-0102

GENERAL UTILITY NOTES:

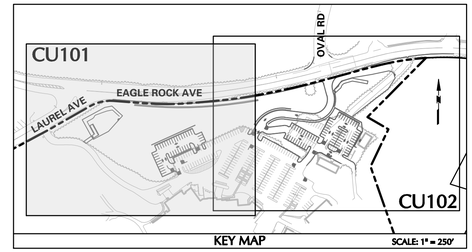
1. SITE DISTURBANCE SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND ALL GOVERNING AGENCIES HAVE BEEN NOTIFIED BY THE CONTRACTOR.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL NEW JERSEY ONE-CALL AND THE APPROPRIATE UTILITY COMPANIES TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS IN A MANNER WHICH WILL NOT NEGATIVELY AFFECT ANY EXISTING USERS OF THESE UTILITIES.
3. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, UTILITY LOCATIONS, AND INVERTS PRIOR TO CONSTRUCTION. ANY CONDITIONS FOUND TO DIFFER FROM THOSE SHOWN ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL UTILITY ENTRY POINTS, INCLUDING SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ROOF LEADERS, ELECTRICAL, TELEPHONE, AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE REGULATORY AGENCY AS TO LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.
5. ALL REQUIRED UTILITIES SERVING THE BUILDINGS SHALL BE COORDINATED AND CONSTRUCTED TO WITHIN FIVE FEET OF EACH BUILDING UTILITY ENTRANCE AND PLUGGED AND MARKED UNLESS OTHERWISE NOTED. ANY NECESSARY EXTENSIONS, RELOCATIONS, OR CORRECTIONS WITHIN FIVE FEET OF THE BUILDING NECESSARY TO COMPLETE CONNECTION OF UTILITIES TO THE BUILDINGS SHALL BE MADE BY THE BUILDING CONTRACTOR. THE BUILDING CONTRACTOR SHALL MAKE THE FINAL CONNECTION BETWEEN THE BUILDING SYSTEMS AND THE SITE LATERALS.
6. THE CONTRACTOR MUST NOTIFY LOCAL AUTHORITIES A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION, UNLESS FURTHER ADVANCE NOTICE IS REQUIRED BY THE CITY.
7. ALL ON-SITE UTILITIES SHALL BE UNDERGROUND UNLESS NOTED OTHERWISE.
8. ALL ABANDONED UTILITY LINES AND STRUCTURES SHALL BE COMPLETELY REMOVED AND CAPPED/PLUGGED AT THE MAIN IN ACCORDANCE WITH THE UTILITY COMPANY OR LOCAL AUTHORITY REQUIREMENTS.
9. TRENCH DEPTH REQUIREMENTS MEASURED FROM FINISHED GRADE OR PAVED SURFACE SHALL MEET THE FOLLOWING REQUIREMENTS WHEN NOT SPECIFIED BY GOVERNING CODES, ORDINANCES, OR AUTHORITIES.
   A. WATER MAINS: 48 INCHES TO TOP OF PIPE BARREL OR 6 INCHES BELOW THE FROST LINE (ESTABLISHED BY THE LOCAL BUILDING OFFICIAL OR WATER COMPANY).
   B. SANITARY SEWER: DEPTHS, ELEVATIONS, AND GRADES AS INDICATED ON DRAWINGS.
   C. ELECTRICAL CONDUITS: 24 INCHES MINIMUM TO TOP OF CONDUIT OR AS SPECIFIED BY THE UTILITY COMPANY REQUIREMENTS.
   D. TV CONDUITS: 18 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY THE UTILITY COMPANY.
   E. TELEPHONE CONDUITS: 18 INCHES MINIMUM TO TOP OF CONDUIT OR AS REQUIRED BY THE UTILITY COMPANY.
   F. GAS MAINS AND SERVICE: 30 INCHES MINIMUM TO TOP OF PIPE OR AS REQUIRED BY THE UTILITY COMPANY.
10. REFER TO ARCHITECTURAL DRAWINGS FOR SERVICE LATERAL CONNECTIONS TO INTERNAL BUILDING SERVICE LINES.
11. ALL UTILITY CONSTRUCTION TO BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANIES AND THE CITY OF PATERSON AND SHALL CONFORM WITH THE REQUIREMENTS THEREOF.
12. ALL CABLE, ELECTRIC, TELEPHONE AND FIBER OPTIC UTILITY LINES SHALL BE INSTALLED UNDERGROUND UNLESS SPECIFIED OTHERWISE.

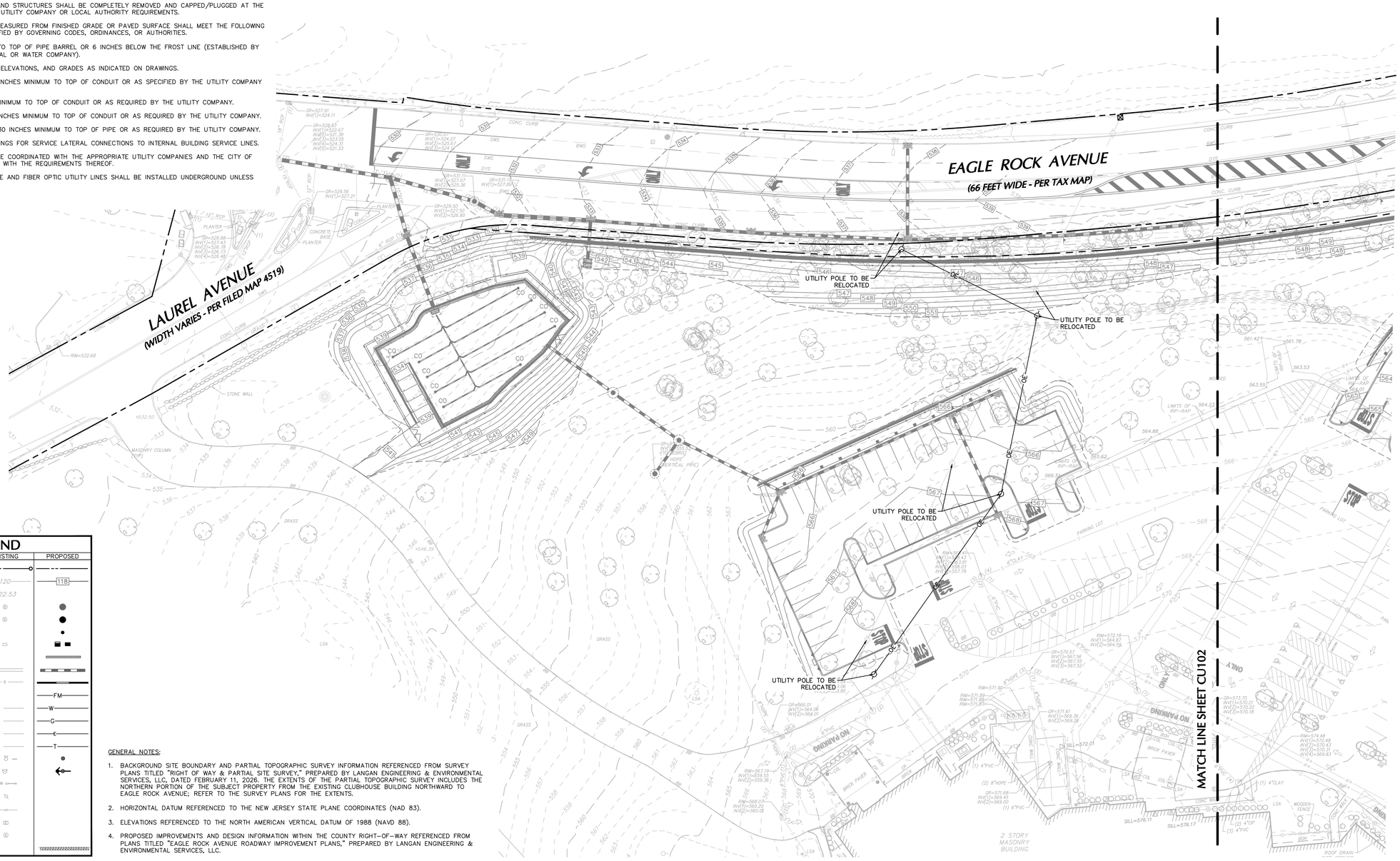
SANITARY / SEWER NOTES:

1. ALL SEWER CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE LOCAL AUTHORITY.
2. WITH THE EXCEPTION OF THE TIE-IN SEWER, EXISTING ON-SITE SANITARY SEWER LINES SERVICING THE SITE SHALL BE PHYSICALLY REMOVED UNLESS NOTED OTHERWISE. CONTRACTOR TO NOTIFY OWNER'S ENGINEER PRIOR TO REMOVAL OF ANY SEWER PIPE.
3. THE CONTRACTOR MUST VERIFY THE LOCATION, SIZE, AND SERVICEABILITY OF THE EXISTING SANITARY SEWER MAINS PRIOR TO BEGINNING ANY SITE OR BUILDING CONSTRUCTION.
4. THE SEWER CONTRACTOR SHALL CONSTRUCT THE SANITARY SEWER LINES TO WITHIN 5 FEET OF THE PROPOSED BUILDING LIMITS WHERE THE LINE SHALL BE PLUGGED AND MARKED.
5. ALL MATERIALS USED AND ALL CONSTRUCTION METHODS EMPLOYED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR THE GOVERNING LOCAL MUNICIPAL UTILITY AUTHORITY.
6. WHERE LESS THAN 18" OF VERTICAL CLEARANCE IS PROVIDED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES, THE SEWER SHALL BE ENCASED IN 6 INCHES OF CONCRETE ON ALL FOUR SIDES AND SHALL EXTEND 10 FEET BEYOND CROSSING IN BOTH DIRECTIONS. DUCTILE IRON PIPE MAY BE UTILIZED IN PLACE OF CONCRETE ENCASEMENT PER N.J.A.C. 7:14A 23.6.b.4.
7. WHEN SANITARY LATERALS TIE DIRECTLY INTO MANHOLES, AN APPROPRIATE OPENING WITH AN "A-LOK" OR APPROVED EQUAL JOINT SHALL BE PRECAST IN THE MANHOLE BASE. ALL MAINS SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LOW PRESSURE AIR TEST METHOD OR AS OTHERWISE SPECIFIED BY LOCAL AUTHORITY OR PROJECT SPECIFICATIONS.
8. ALL SANITARY SEWER MAINS AND LATERALS SHALL BE SDR-35 POLYVINYL CHLORIDE (PVC) PIPE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

WATER NOTES:

1. ALL WATER CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE LOCAL GOVERNING AUTHORITY.
2. ALL EXISTING WATER LATERALS SERVICING THE EXISTING BUILDINGS OR REMAINING WITHIN THE SITE FROM FORMER BUILDINGS (TO BE DEMOLISHED) SHALL BE TERMINATED AT THE MAIN AND CURB SHUT-OFFS SHALL BE REMOVED. EXISTING WATER SERVICE LINES SHALL BE PHYSICALLY REMOVED UNLESS NOTED OTHERWISE. CONTRACTOR SHALL NOTIFY OWNER'S ENGINEER PRIOR TO REMOVAL OF ANY WATER LINE.
3. THE CONTRACTOR MUST VERIFY THE LOCATION, SIZE, AND SERVICEABILITY OF THE EXISTING WATER MAINS PRIOR TO BEGINNING ANY SITE OR BUILDING CONSTRUCTION.
4. THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER MAIN IS TEN FEET (10'). THE MINIMUM VERTICAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER LINE IS EIGHTEEN INCHES (18"). CONCRETE PIPE ENCASEMENTS WILL BE REQUIRED WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED. LATERAL SEPARATION SHALL BE AS REQUIRED BY LOCAL CODE.
5. THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, ELBOWS, PLUGS, AND FIRE HYDRANTS.
6. ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN APPROVED GATE VALVE A MAXIMUM OF 5'-0" FROM HYDRANT, AND SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL AUTHORITY.
7. ALL GATE VALVES SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL AUTHORITY.
8. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
9. BACKFLOW PREVENTION DEVICES FOR DOMESTIC AND FIRE SERVICE CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL AUTHORITY.
10. ALL NEW WATER LINES SHALL BE PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA STANDARD C600, OR LOCAL REQUIREMENTS, WHICHEVER IS MORE RESTRICTIVE.
11. ALL NEW WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651, OR LOCAL REQUIREMENTS, WHICHEVER IS MORE RESTRICTIVE.





LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	120	118
SPOT ELEVATION	x122.53	
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		

GENERAL NOTES:

1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.
2. HORIZONTAL DATUM REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATES (NAD 83).
3. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. PROPOSED IMPROVEMENTS AND DESIGN INFORMATION WITHIN THE COUNTY RIGHT-OF-WAY REFERENCED FROM PLANS TITLED "EAGLE ROCK AVENUE ROADWAY IMPROVEMENT PLANS," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC.

Date	Description	No.
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REVISIONS

STATE OF NEW JERSEY JOHN C. COTE 37058

SIGNATURE JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 DATE SIGNED 2/12/2026

LANGAN
Langan Engineering and Environmental Services, LLC
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NJ Certificate of Authorization No. 24GA27996400

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL UTILITY PLAN

Project No. 101049802	Drawing No. CU101
Date FEBRUARY 12, 2026	
Drawn By TEG	
Checked By MJV	Sheet 23 of 36

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Project No. 101049802
Date: 3/5/2026 Time: 09:13 User: tgreen Style Table: Langan.stb Layout: CU101 Document Code: 101049802-0102-CU101-0101

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	120	118
SPOT ELEVATION	x122.53	
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
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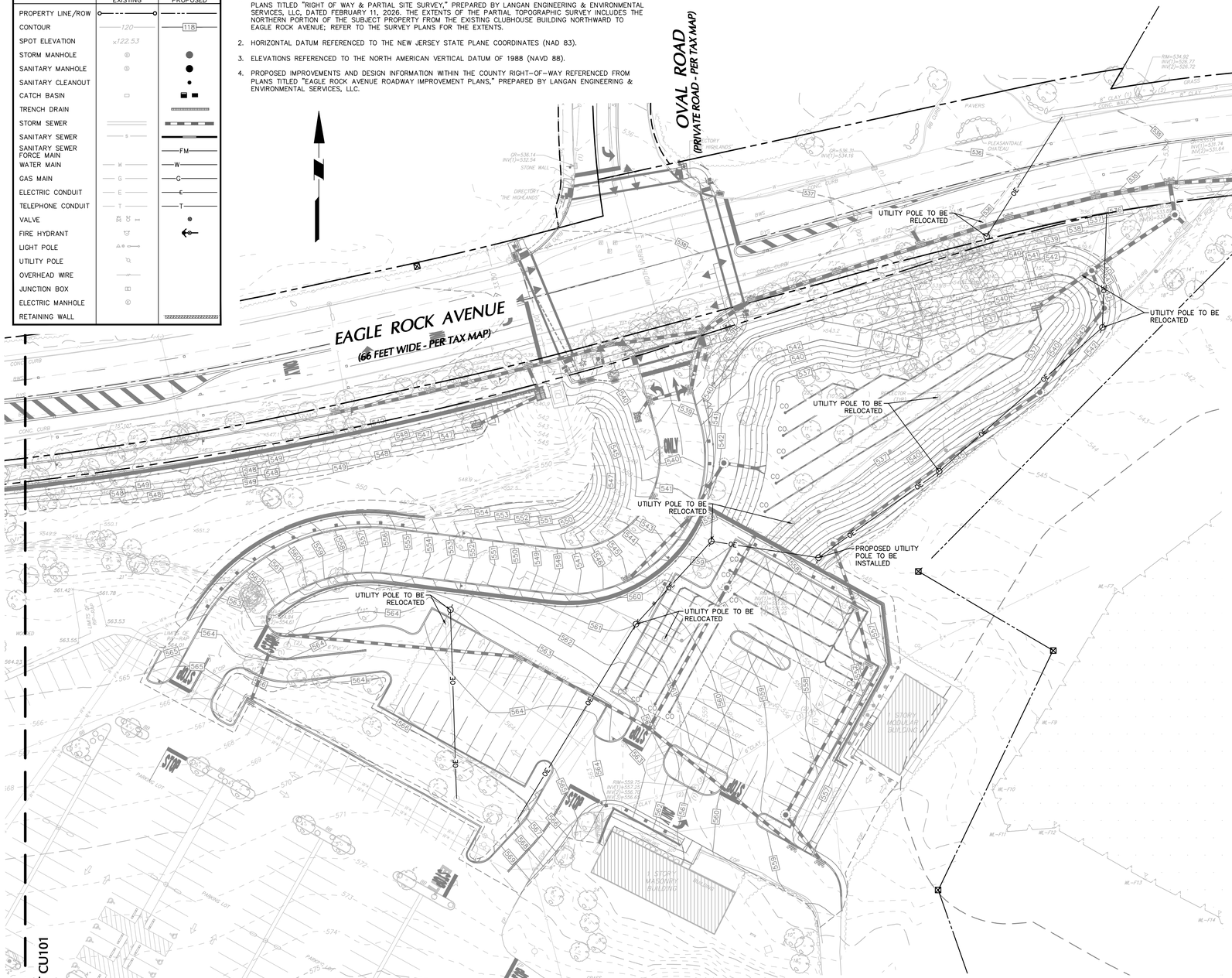

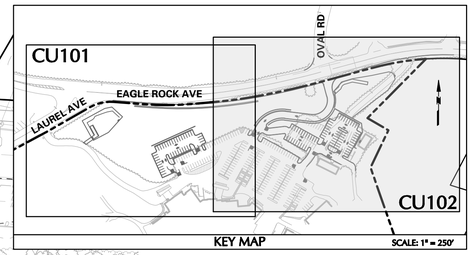

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Date	Description	No.

REVISIONS

SIGNATURE — JOHN COTE — 2/12/2026 DATE SIGNED
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

LANGAN
Langan Engineering and Environmental Services, LLC
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Parsippany, NJ 07054
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NJ Certificate of Authorization No. 24GA27996400

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL UTILITY PLAN

Project No. 101049802	Drawing No. CU102
Date FEBRUARY 12, 2026	
Drawn By TEG	
Checked By MJV	Sheet 24 of 36

LANGAN
Project No. 101049802

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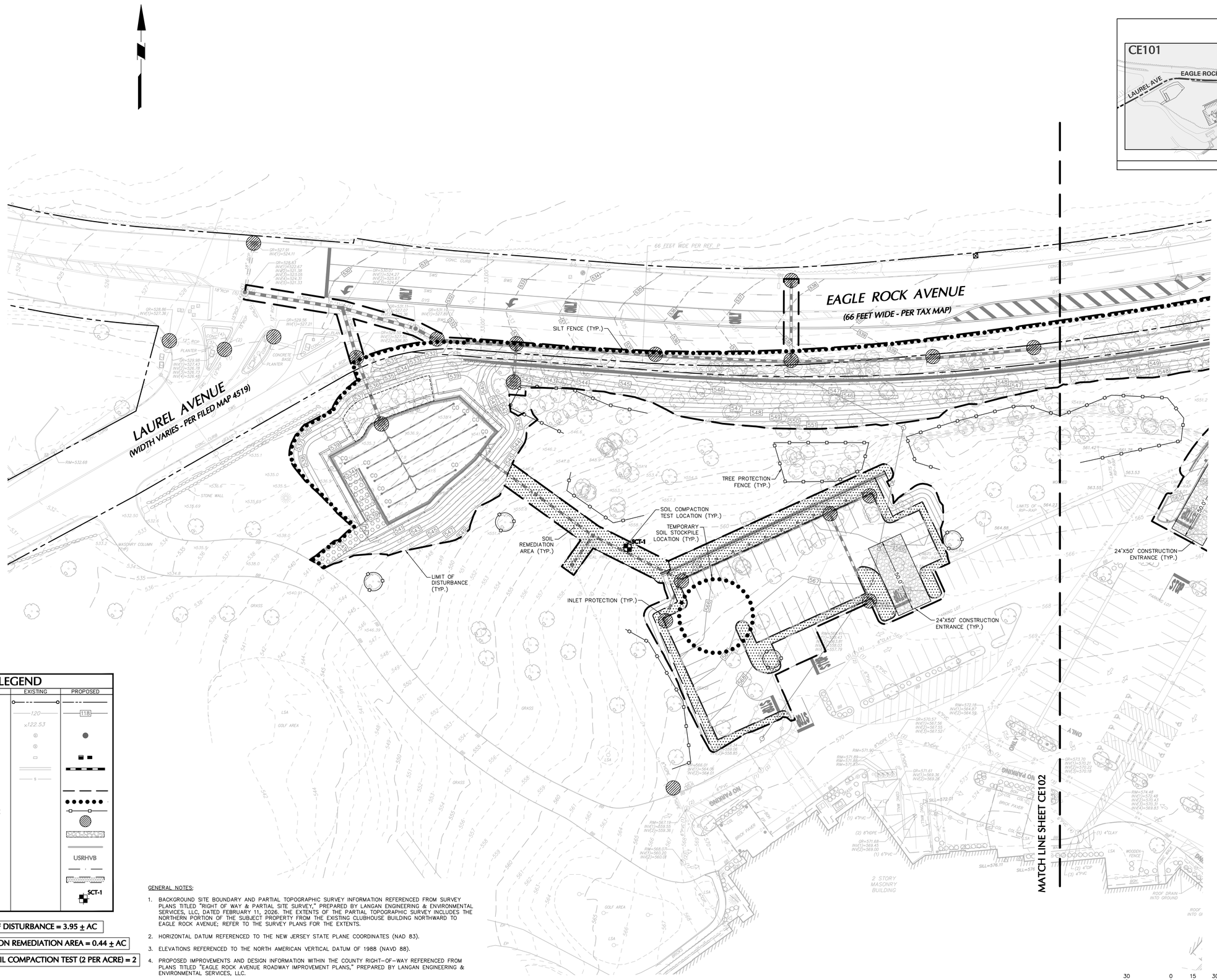

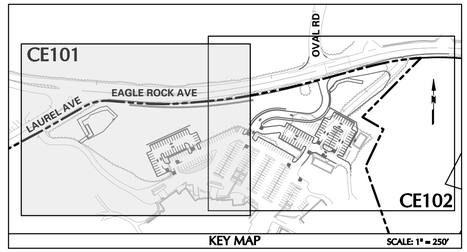

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	120	118
SPOT ELEVATION	x122.53	
STORM MANHOLE	S	
SANITARY MANHOLE	S	
CATCH BASIN		
STORM SEWER		
SANITARY SEWER	S	
LIMIT OF DISTURBANCE		
SILT FENCE		
TREE PROTECTION FENCE		
INLET PROTECTION		
CONSTRUCTION ENTRANCE		
SOIL BOUNDARY		
SOIL TYPE SYMBOL		USRHVB
COMPACTION BUFFER		
SOIL REMEDIATION AREA		
SOIL COMPACTION TEST LOCATION		SCT-1

TOTAL LIMIT OF DISTURBANCE = 3.95 ± AC

TOTAL SOIL COMPACTION REMEDIATION AREA = 0.44 ± AC

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

GENERAL NOTES:

1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.
2. HORIZONTAL DATUM REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATES (NAD 83).
3. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. PROPOSED IMPROVEMENTS AND DESIGN INFORMATION WITHIN THE COUNTY RIGHT-OF-WAY REFERENCED FROM PLANS TITLED "EAGLE ROCK AVENUE ROADWAY IMPROVEMENT PLANS," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC.

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SCALE IN FEET

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REVISIONS

STATE OF NEW JERSEY JOHN C. COTE 24GE03705800 PROFESSIONAL ENGINEER

SIGNATURE JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800 DATE SIGNED 2/12/2026

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

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS

BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY **NEW JERSEY**

Drawing Title

PARTIAL SOIL EROSION & SEDIMENT CONTROL PLAN

Project No. 101049802	Drawing No. CE101
Date FEBRUARY 12, 2026	
Drawn By TEG	
Checked By MJV	Sheet 25 of 36

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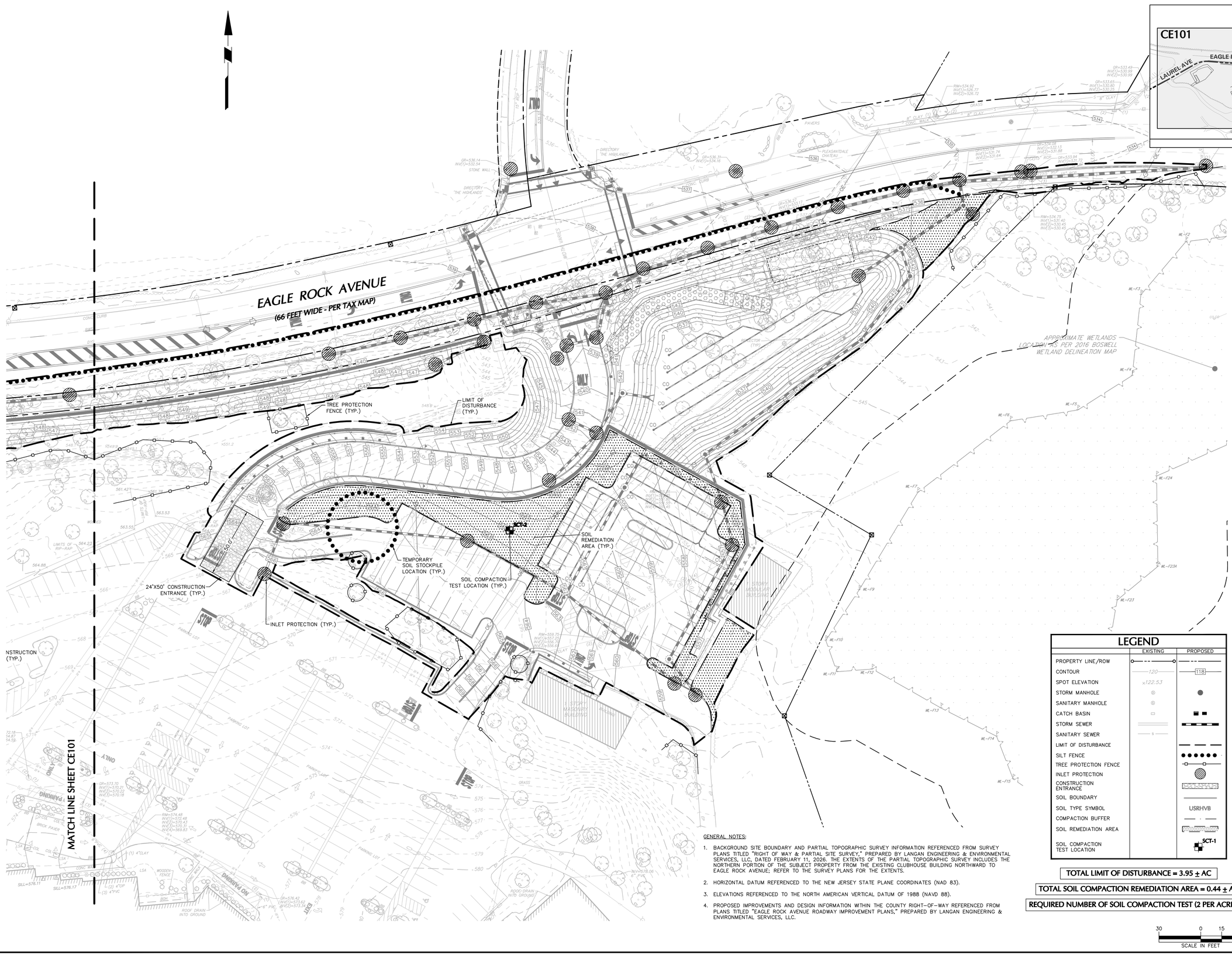
Date: 3/4/2026 Time: 18:22 User: tgreen Style Table: Langan.stb Layout: CE101 Document Code: 101049802-0102-CE101-0101

LANGAN Project No. 101049802



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Date	Description	No.

REVISIONS

STATE OF NEW JERSEY · JOHN E. COTE · No. 37058

SIGNATURE 2/12/2026 DATE SIGNED

JOHN COTE, PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE/ROW		
CONTOUR	120	118
SPOT ELEVATION	×122.53	
STORM MANHOLE		
SANITARY MANHOLE		
CATCH BASIN		
STORM SEWER		
SANITARY SEWER	S	
LIMIT OF DISTURBANCE		
SILT FENCE		
TREE PROTECTION FENCE		
INLET PROTECTION		
CONSTRUCTION ENTRANCE		
SOIL BOUNDARY		
SOIL TYPE SYMBOL		USRHVB
COMPACTION BUFFER		
SOIL REMEDIATION AREA		
SOIL COMPACTION TEST LOCATION		SCT-1

TOTAL LIMIT OF DISTURBANCE = 3.95 ± AC

TOTAL SOIL COMPACTION REMEDIATION AREA = 0.44 ± AC

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

GENERAL NOTES:

1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.
2. HORIZONTAL DATUM REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATES (NAD 83).
3. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. PROPOSED IMPROVEMENTS AND DESIGN INFORMATION WITHIN THE COUNTY RIGHT-OF-WAY REFERENCED FROM PLANS TITLED "EAGLE ROCK AVENUE ROADWAY IMPROVEMENT PLANS," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC.

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SCALE IN FEET

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Project

CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS

BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY **NEW JERSEY**

Drawing Title

PARTIAL SOIL EROSION & SEDIMENT CONTROL PLAN

Project No. 101049802	Drawing No. CE102
Date FEBRUARY 12, 2026	
Drawn By TEG	
Checked By MJV	Sheet 26 of 36

Project No. 101049802

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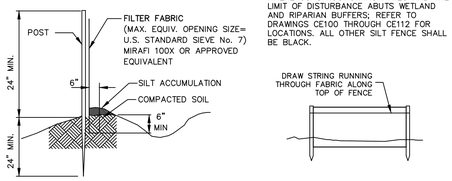


NOTES:

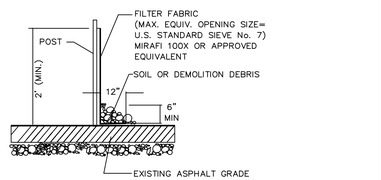
1. ORANGE SILT FENCE SHALL BE UTILIZED WHERE CONSTRUCTION ACTIVITIES AND THE LIMIT OF DISTURBANCE ABUTS WETLAND AND RIPARIAN BUFFERS; REFER TO DRAWINGS CE100 THROUGH CE112 FOR LOCATIONS. ALL OTHER SILT FENCE SHALL BE BLACK.

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.

SILT FENCE IN PERVIOUS AREAS

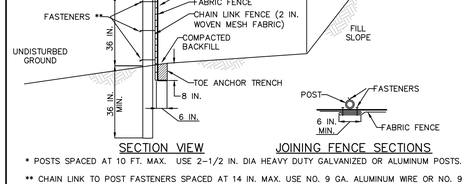


METHOD OF INSTALLATION:

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.

SILT FENCE IN PAVEMENT AREAS



SECTION VIEW — JOINING FENCE SECTIONS

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

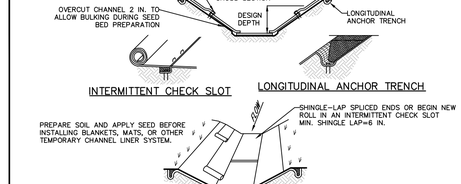
** CHAIN LINK TO POST FASTENERS SPACED AT 14 IN. MAX. USE NO. 9 GA. ALUMINUM WIRE OR NO. 9 GALVANIZED STEEL WIRE. FABRIC TO SHAIN FASTENERS SPACED AT 24 IN. MAX. ON CENTER.

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.

SUPER SILT FENCE

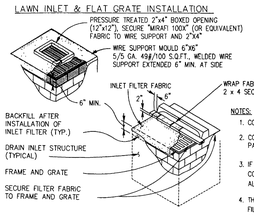


NOTES:

1. ALL PERMANENT DIVERSION SWALES SHALL BE LINED WITH NORTH AMERICAN GREEN ERONET P300 LINER WITH STAPLE PATTERN "D." REFER TO THE DRAINAGE PLANS FOR TURF REINFORCEMENT LINERS TO BE INSTALLED ON PERMANENT DIVERSION SWALES.
2. REFER TO EROSION CONTROL BLANKET / CHANNEL / EMERGENCY SPILLWAY LINER STAPLE PATTERN DETAIL FOR THE SPECIFIED STAPLE PATTERN DETAIL.
3. ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.
4. CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.
5. REFER TO PERMANENT DIVERSION SWALE DETAIL FOR CHANNEL DIMENSIONS.

N.T.S.

PERMANENT DIVERSION SWALE TRM INSTALLATION



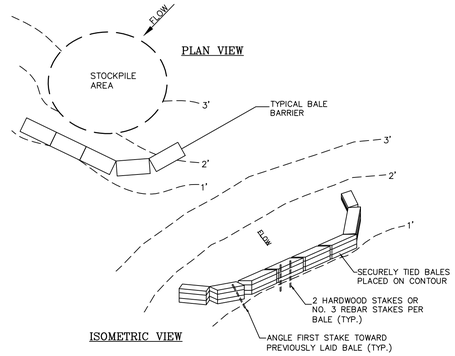
NOTES:

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.



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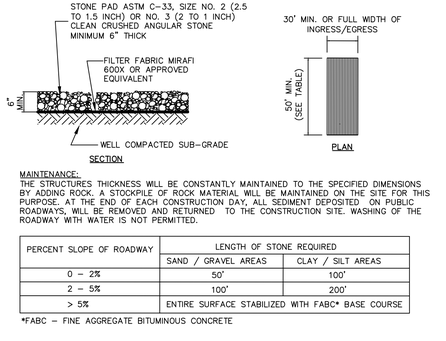

MAINTENANCE:
THE STRUCTURES THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL WILL BE MAINTAINED ON THE SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC ROADWAYS, WILL BE REMOVED AND RETURNED TO 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.

MATERIAL PROPERTY DATA SHEET

WESTERN GREEN — **P300™**

Permanent • Double Net • Poly-Fiber Matrix • Turf Reinforcement Mat

DESCRIPTION

P300 Turf Reinforcement Mat (TRM) is composed of 100% synthetic green fibers mechanically (stitch) bound between two UV stabilized, synthetic nets. Stitching is secured on two-inch centers using UV stabilized, synthetic thread. P300 is a permanent, three-dimensional TRM that provides immediate erosion protection and long-term turf reinforcement and is intended for applications requiring erosion protection for greater than thirty-six months.

Each roll of P300 is made in the USA and manufactured under Western Green's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness.

Material Content		
Matrix	Synthetic Fibers	
Netting	Top Net: Mediumweight, UV stable Bottom Net: Mediumweight, UV stable	
Thread	Synthetic, UV Stable	
Standard Roll Sizes		
Width	8 ft (2.4 m)	16 ft (4.9 m)
Length	112 ft (34.0 m)	112 ft (34.0 m)
Weight ± 10%	75 lb (34.0 kg)	150 lb (68.0 kg)
Area	100 sy (83.6 m²)	200 SY (167.0 m²)

Material available in custom roll sizes

Approvals & Classification	
Classification	FHWA Type 5.C / ECTC 5.D
TTI Approvals	Class 2 Type H
NTPEP Number	ECP-2020-01-15

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.40 in. (10 mm)
Mass/Unit Area	ASTM D6566	12.0 oz/sy (400 g/m²)
Tensile Strength – MD	ASTM D6818	325 lbs/ft (4.7 kN/m)
Tensile Strength – TD	ASTM D6818	225lbs/ft (3.3 kN/m)
Elongation - MD	ASTM D6818	25%
Elongation – TD	ASTM D6818	30%
UV Stability	ASTM D4355	80% @1000 hr
Light Penetration	ASTM D6567	20%
Biomass Improvement	ASTM D7322	400%
Specific Gravity	ASTM D792	57.4 lb/ft³ (0.92 g/cm³)
Porosity	ECTC	96%

Design Parameters		
Property	Unvegetated	Vegetated[2]
RUSLE C Factor[1]	0.03	N/A
Slope Maximum Gradient[1]	0.5H:1V	0.5H:1V
Permissible Shear Stress[2]	2.8 psf (135 Pa)	12.0 psf (575 Pa)
Permissible Velocity[2]	9.0 fps (2.7 m/s)	18.0 fps (5.5 m/s)
$T_m/T_{m_DIEC-15}$	N/A	0.55
Manning's n Roughness (HEC-15)		
T_{max}	T_{min}	T_{max}
0.041	0.033	0.028

1 Maximum Gradient a recommendation for typical installations.
2 Hydraulic thresholds compliant with ASTM D6459/D6460 but generalized for typical applications.
3 Vegetated values dependent on established stand of vegetation

Disclaimer: The information contained herein may represent product index data, performance ratings, bench scale testing or other material utility quantifications. Each representation may have unique utility for specific applications. The user is responsible for determining the suitability of any information or material. No liability shall be assumed by Western Green or its affiliates regarding the completeness, accuracy or fitness of these values for any particular application or interpretation. While testing methods are provided for reference, values shown may be derived from interpolation or adjustment to be representative of intended use. For further information, please feel free to contact Western Green.

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Rev. 4.2023
Scan for additional and updated product information, or click here.

Western Green • 4659 E. Bloomfield-New Harmony Rd. Evansville, IN 47725 • (800) 772-2040

westerngreen.com

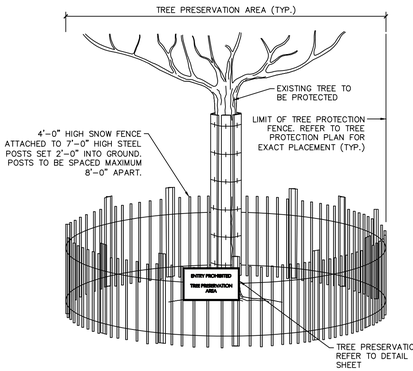
NOTES:

1. NORTH AMERICAN GREEN ERONET P300 SHALL BE INSTALLED WITHIN ALL PERMANENT DIVERSION SWALES.

N.T.S.

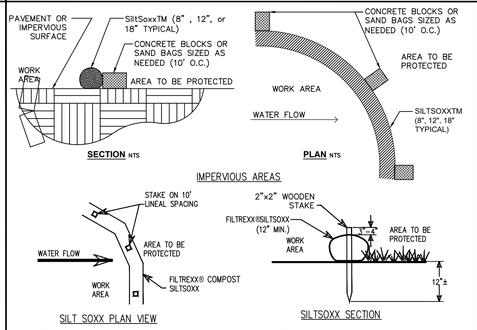
NORTH AMERICAN GREEN ERONET P300 TURF REINFORCEMENT MATTING (TRM) FOR PERMANENT DIVERSION SWALES

INLET FILTER PROTECTION



N.T.S.

STOCKPILE PROTECTION - BALE BARRIERS

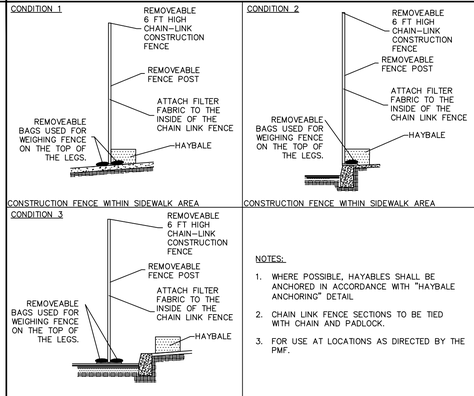


NOTE:
FLOW LENGTH SHOULD BE VERIFIED PRIOR TO CONSTRUCTION. IF FLOW LENGTH EXCEEDS SILT FENCE LIMITS, SILT SOXX OF APPROPRIATE SIZE SHALL BE USED.

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.

N.T.S.

STABILIZED CONSTRUCTION ENTRANCE



NOTES:

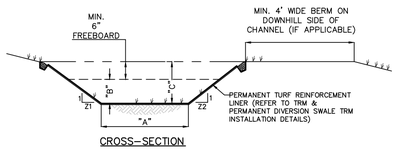
1. WHERE POSSIBLE, HAYABLES SHALL BE ANCHORED IN ACCORDANCE WITH "HAYBALE ANCHORING" DETAIL.
2. CHAIN LINK FENCE SECTIONS TO BE TIED WITH CHAIN AND PADLOCK.
3. FOR USE AT LOCATIONS AS DIRECTED BY THE PMF.

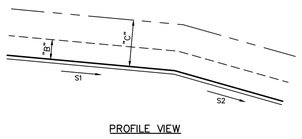
N.T.S.

TREE PROTECTION FENCING

SILT SOCK (IN PAVEMENT AREAS)

TEMPORARY CHAIN-LINK FENCE





CHANNEL DIMENSIONS LEGEND

A = BOTTOM WIDTH
B = CALCULATED WATER DEPTH (25-YEAR DESIGN STORM EVENT)
C = MINIMUM TOTAL DEPTH
S1 = MIN. LONGITUDINAL SLOPE
S2 = MAX. LONGITUDINAL SLOPE

SWALE DESIGNATION	A (FT)	B (FT)	C (FT)	FREEBOARD (FT)	S1	S2
SWALE 1	2	0.68	2	0.30	1.00%	2.00%
SWALE 2	2	0.18	1.5	0.30	1.00%	1.00%

NOTES:

1. REFER TO PARTIAL GRADING PLANS CG101 THROUGH CG102 FOR PERMANENT DIVERSION SWALE GRADING DESIGN.

N.T.S.

PERMANENT DIVERSION SWALE

No.	Description	Date
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SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN WILL BE CONSTRUCTED IN ACCORDANCE WITH THE "NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL" 7TH EDITION LAST REVISED JULY 2017, EFFECTIVE DECEMBER 2017. THESE MEASURES WILL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. SOIL TO BE EXPOSED OR STOCKPILED FOR A PERIOD OF GREATER THAN 14 DAYS, AND NOT UNDER ACTIVE CONSTRUCTION, MUST BE IMMEDIATELY AND TEMPORARILY MULCHED, AND SEEDED OR OTHERWISE PROVIDED WITH VEGETATIVE COVER AS PER APPENDIX A3. THIS TEMPORARY COVER SHALL BE MAINTAINED UNTIL SUCH TIME WHEREBY PERMANENT RESTABILIZATION IS ESTABLISHED.
3. SEEDING DATES: THE FOLLOWING SEEDING DATES ARE RECOMMENDED TO BEST ESTABLISH PERMANENT VEGETATIVE COVER WITHIN MOST LOCATIONS IN THE HEPSCD: SPRING - 3/1-5/15 and FALL - 8/15 - 10/1.
4. SEDIMENT FENCES ARE TO BE PROPERLY TRENCHED AND MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.
5. ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY ONE OF THE PRACTICES ACCEPTED IN THE STANDARDS, AND PROTECTION SHALL REMAIN UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED. STORM DRAINAGE OUTLET POINTS SHALL BE PROTECTED AS REQUIRED BEFORE THEY BECOME FUNCTIONAL.
6. MULCH MATERIALS SHALL BE UN-ROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 70 TO 90 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.
7. ALL EROSION CONTROL DEVICES SHALL BE PERIODICALLY INSPECTED, MAINTAINED AND CORRECTED BY THE CONTRACTOR. ANY DAMAGE INCURRED BY EROSION SHALL BE RECTIFIED IMMEDIATELY.
8. THE HUDSON-ESSEX-PASSAIC SOIL CONSERVATION DISTRICT WILL BE NOTIFIED IN WRITING AT LEAST 72 HOURS PRIOR TO ANY SOIL DISTURBING ACTIVITIES. FAX - (862) 333-4507 OR EMAIL - INFORMATION@HEPSCD.ORG.
9. THE APPLICANT MUST OBTAIN A DISTRICT ISSUED REPORT-OF-COMPLIANCE PRIOR TO APPLYING FOR THE CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY FROM THE RESPECTIVE MUNICIPALITY. NJ - DCA OR ANY OTHER CONTROLLING AGENCY. CONTACT THE DISTRICT AT 862-333-4505 TO REQUEST A FINAL INSPECTION. GIVING ADVANCED NOTICE UPON COMPLETION OF THE RESTABILIZATION MEASURES. A PERFORMANCE DEPOSIT MAY BE POSTED WITH THE DISTRICT WHEN WINTER WEATHER OR SNOW COVER PROHIBITS THE PROPER APPLICATION OF SEED, MULCH, FERTILIZER OR HYDRO-SEED.
10. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. DO NOT UTILIZE A FIRE OR GARDEN HOSE TO CLEAN ROADS UNLESS THE RUNOFF IS DIRECTED TO A PROPERLY DESIGNED AND FUNCTIONING SEDIMENT BASIN. WATER PUMPED OUT OF THE EXCAVATED AREAS CONTAINS SEDIMENTS THAT MUST BE REMOVED PRIOR TO DISCHARGING TO RECEIVING BODIES OF WATER USING REMOVABLE PUMPING STATIONS, SUMP PITS, PORTABLE SEDIMENTATION TANKS AND/OR SILT CONTROL BAGS.
11. ALL SURFACES HAVING LAWN OR LANDSCAPING AS FINAL COVER ARE TO BE PROVIDED TOPSOIL PRIOR TO RE-SEEDING, SODDING OR PLANTING. A DEPTH OF 5.0 INCHES, FIRMED IN PLACE, IS REQUIRED, AS PER THE STANDARDS FOR TOPSOILING AND LAND GRADING, EFFECTIVE DECEMBER 2017.
12. ALL PLAN REVISIONS MUST BE SUBMITTED TO THE DISTRICT FOR PROPER REVIEW AND APPROVAL.
13. A CRUSHED STONE WHEEL CLEANING TRACKING-PAD IS TO BE INSTALLED AT ALL SITE EXITS USING 2 ½ -1" CRUSHED ANGULAR STONE (ASTM 2 OR 3) TO A MINIMUM LENGTH OF 50 FEET AND MINIMUM DEPTH OF 6". ALL DRIVEWAYS MUST BE PROVIDED WITH CRUSHED STONE UNTIL PAVING IS COMPLETE.
14. STEEP SLOPES INCURRING DISTURBANCE MAY REQUIRE ADDITIONAL STABILIZATION MEASURES. THESE "SPECIAL" MEASURES SHALL BE DESIGNED BY THE APPLICANT'S ENGINEER AND BE APPROVED BY THE SOIL CONSERVATION DISTRICT.
15. THE HUDSON-ESSEX-PASSAIC SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED, IN WRITING, FOR THE SALE OF ANY PORTION OF THE PROJECT OR FOR THE SALE OF INDIVIDUAL LOTS. NEW OWNERS' INFORMATION SHALL BE PROVIDED. ADDITIONAL MEASURES DEEMED NECESSARY BY DISTRICT OFFICIALS SHALL BE IMPLEMENTED AS CONDITIONS WARRANT.

SOIL EROSION AND SEDIMENT CONTROL NOTES

MANAGEMENT OF HIGH ACID-PRODUCING SOIL

HIGH ACID-PRODUCING SOILS MAY BE PRESENT IN UNDISTURBED SOILS AT VARYING DEPTHS INCLUDING NEAR THE SOIL SURFACE TO EXCAVATIONS OR DEEP DISTURBANCES. ITS PRESENCE ON A SITE MAY BE SIGNIFICANT OR LIMITED IN THE SOIL PROFILE. HIGH ACID-PRODUCING SOILS ARE COMMONLY BLACK, DARK BROWN, GRAY OR GREENISH WITH SILVERY PYRITE OR MARCASITE NUGGETS OR FLAKED. ALTERNATIVELY, SANDY SOILS OR REDDISH, YELLOWISH OR LIGHT TO MEDIUM BROWN SOIL MATERIALS ARE USUALLY FREE OF HIGH ACID-PRODUCING DEPOSITS.

METHODS AND MATERIALS:

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID-PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARY STOCKPILED HIGH ACID-PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID-PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF THE SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID PRODUCING SOIL.
5. HIGH ACID-PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 LBS / 1,000 SF OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS:
   A. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A pH OF 5 OR MORE.
   B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES AND OTHERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SILT FENCE, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID PRODUCING SOILS FROM, AROUND OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE, MONITORING SHOULD CONTINUE FOR APPROXIMATELY 6 TO 12 MONTHS TO ASSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.
9. MONITORING OF AREAS WHERE HIGH ACID-PRODUCING SOIL HAS BEEN PLACED OR BURIED SHOULD BE PERFORMED FOR AT LEAST 2 YEARS OR LONGER IF PROBLEMS OCCUR, TO ASSURE THERE IS NO MIGRATION OF POTENTIAL ACID LEACHATE.

MANAGEMENT OF HIGH ACID-PRODUCING SOIL

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY." THE FOLLOWING SEEDING SCHEDULE SHOULD BE USED FOR PERMANENT STABILIZATION:

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHALL BE DONE IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
   B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
   C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. APPLY TOPSOIL IN A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5.0 INCHES, MINIMUM OF 4 INCHES, FIRMED IN PLACE IS REQUIRED. IMPORTED TOPSOIL SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75%. ORGANIC MATTER CONTENT MAY BE RAISED BY ADDITIVES.
   D. INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE "SOIL EROSION AND SEDIMENT CONTROL PLANS
2. SEEDBED PREPARATION
   A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 LBS PER ACRE OR 11 LBS/1,000 SF OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF THE RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
   B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4" WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   C. HIGH ACID-PRODUCING SOIL - SOILS HAVING A pH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A pH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOIL.
3. SEEDING
   A. 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, REFER TO STORMWATER BASIN PERMANENT SEEDING NOTES):
      1. APPLY TOPSOIL TO A MINIMUM DEPTH OF 5 INCHES.
      2. FERTILIZER - 14 LBS/1,000 SF OR 10-20-10 OR EQUIVALENT, WITH 50% WATER INSOLUBLE NITROGEN, WORKED INTO SOIL TO A DEPTH OF 4 INCHES.
      3. SEED MIX TO BE APPLIED AT 220 LBS/ACRE:
         3.1. 10% DEEPROOT KENTUCKY BLUEGRASS
         3.2. 25% DAKOTA TALL FESCUE
         3.3. 25% TAOS TALL FESCUE
         3.4. 40% FROMTIER PERENNIAL RYEGRASS
      4. SEEDING DATES FOR THIS MIXTURE SHALL BE BETWEEN MARCH 1ST AND APRIL 30TH OR BETWEEN AUGUST 15TH AND OCTOBER 15TH.
   B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE-TEXTURED SOIL.
   C. AFTER SEEDING, FIRM THE SOIL WITH A CORRUGATED ROLLER TO ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE.
   D. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4-MULCHING BELOW).
4. MULCHING
   MULCHING IS REQUIRED ON ALL SEEDING TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND PROMOTE FASTER AND EARLIER ESTABLISHMENT.
   A. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY SHALL BE APPLIED AT A RATE OF 70 TO 90 LBS/1,000 SF (1-1/2 TO 2 TONS PER ACRE). MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED DUE TO THE PRESENCE OF WEED SEEDS.
   B. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED.
   C. ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. DRIVE 8" TO 10" WOODEN PEGS TO WITHIN 2" TO 3" OF THE SOIL SURFACE EVERY 4' IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
5. IRRIGATION
   A. IF SOIL IS MOISTURE DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDLINGS WITH ADEQUATE WATER (A MINIMUM OF 1/4" TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.
6. TOPDRESSING
   A. SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) IS PRESCRIBED IN 2.A. ABOVE, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY DEVELOP, IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 7 LBS/1,000 SF (300 LBS/ACRE) EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.
7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION
   A. THE QUALITY OF THE PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER (OF THE SEEDED SPECIES) AND MOWED ONCE. NOTE THIS DESIGNATION OF MOWED ONCE DOES NOT GUARANTEE THE PERMANENCY OF THE TURF SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED

PERMANENT SEED MIX

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.

MAINTENANCE NOTES

ADDITIONAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. THE PROPERTY OWNERS SHALL ASSUME THIS RESPONSIBILITY AFTER CONSTRUCTION IS COMPLETED AND CERTIFICATES OF OCCUPANCY ARE ISSUED.
2. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.
3. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE ROADWAYS CLEAN AT ALL TIMES. ANY SEDIMENT SPILLED OR TRACKED ON THE ROADWAY WILL BE CLEANED UP IMMEDIATELY, OR AT MINIMUM, BY THE END OF EACH WORK DAY.
4. STEEP SLOPES TO RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR SUITABLE EQUAL. (SEE ANCHORING NOTES & NOTE NO. 6 OF SOIL EROSION & SEDIMENT CONTROL NOTES.)

ADDITIONAL NOTES

STABILIZATION WITH MULCH ONLY

NON-GROWING STABILIZATION MEASURES SHALL BE USED WHERE THE SEASON & OTHER CONDITIONS MAY NOT BE SUITABLE FOR GROWING AN EROSION RESISTANT COVER OR WHERE STABILIZATION IS NEEDED FOR A SHORT PERIOD UNTIL MORE SUITABLE PROTECTION CAN BE APPLIED. THE FOLLOWING SCHEDULE SHALL BE USED FOR STABILIZATION MULCH:

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHALL BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
   B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES,CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.PROTECTIVE MATERIALS
2. PROTECTIVE MATERIAL
   A. UNROTTED SMALL-GRAIN STRAW, AT 2.0 TO 2.5 TONS PER ACRE, IS SPREAD UNIFORMLY AT 90 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS THE GROUND COMPLETELY UPON VISUA INSPECTION, I.E. THE SOIL CANNOT BE SEEN BELOW THE MULCH.
   B. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS RECOMMENDED BY THE MANUFACTURER.
   C. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE MANUFACTURER'S REQUIREMENTS) MAY BE APPLIED BY A HYDROSEEDER.
   D. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.
   E. WOOD CHIPS APPLIED AT A DEPTH OF 4 TO 6 INCHES MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT.
   F. GRAVEL, CRUSHED STONE, ON AN AS AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQ. FT. APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM C-33) IS RECOMMENDED.
3. MULCH ANCHORING

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

   A. PEG AND TWINE - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4' IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
   B. MULCH NETTINGS - STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 YARDS OR MORE IN WIDTH.
   C. CRIMPER MULCH ANCHORING COULTER TOOL - A TRACTOR-DRAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE. THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT ITS USE IS LIMITED TO THOSE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. SOIL PENETRATION SHOULD BE ABOUT 3 TO 4 INCHES. ON SLOPING LAND, THE OPERATION SHOULD BE ON THE CONTOUR.
   D. LIQUID MULCH-BINDERS
      1. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT TOPS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
      2. USE ONE OF THE FOLLOWING:
         A. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL ADHERE TO ITSELF AND MULCH FIBERS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.
         B. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

STABILIZATION WITH MULCH

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

DISTURBED AREAS SHALL BE MAINTAINED IN A ROUGH GRADED CONDITION AND TEMPORARILY SEEDED AND HAY MULCHED UNTIL PROPER WEATHER EXISTS FOR THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER. THE FOLLOWING SCHEDULE SHALL BE USED FOR TEMPORARY STABILIZATION:

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
   B. INSTALL EROSION CONTROL MEASURES AS INDICATED ON THE SOIL EROSION AND SEDIMENT CONTROL PLANS.
   C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES.
2. SEEDBED PREPARATION
   A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. LIMITING RATES SHALL BE ESTABLISHED VIA SOIL TESTING. FERTILIZER SHALL BE APPLIED AT A RATE OF 11 LBS/1,000 SF (500 LBS/ACRE) OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN.
   B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4" WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   C. INSPECT SEEDBED JUST PRIOR TO SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE WITH THE ABOVE.
3. SEEDING
   A. TEMPORARY SEED MIX: PERENNIAL RYEGRASS - 100 LBS/ACRE. OPTIMAL PLANTING DATES BETWEEN MARCH 1 AND MAY 15 OR BETWEEN AUGUST 15 AND OCTOBER 1.
   B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE-TEXTURED SOIL.
   C. AFTER SEEDING, FIRM THE SOIL WITH A CORRUGATED ROLLER TO ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE.
   D. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4-MULCHING BELOW).
4. MULCHING
   MULCHING IS REQUIRED ON ALL SEEDING TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND PROMOTE FASTER AND EARLIER ESTABLISHMENT.
   A. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY SHALL BE APPLIED AT A RATE OF 70 TO 90 LBS/1,000 SF (1-1/2 TO 2 TONS PER ACRE). MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED DUE TO THE PRESENCE OF WEED SEEDS.
   B. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED.
   C. ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. DRIVE 8" TO 10" WOODEN PEGS TO WITHIN 2" TO 3" OF THE SOIL SURFACE EVERY 4' IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

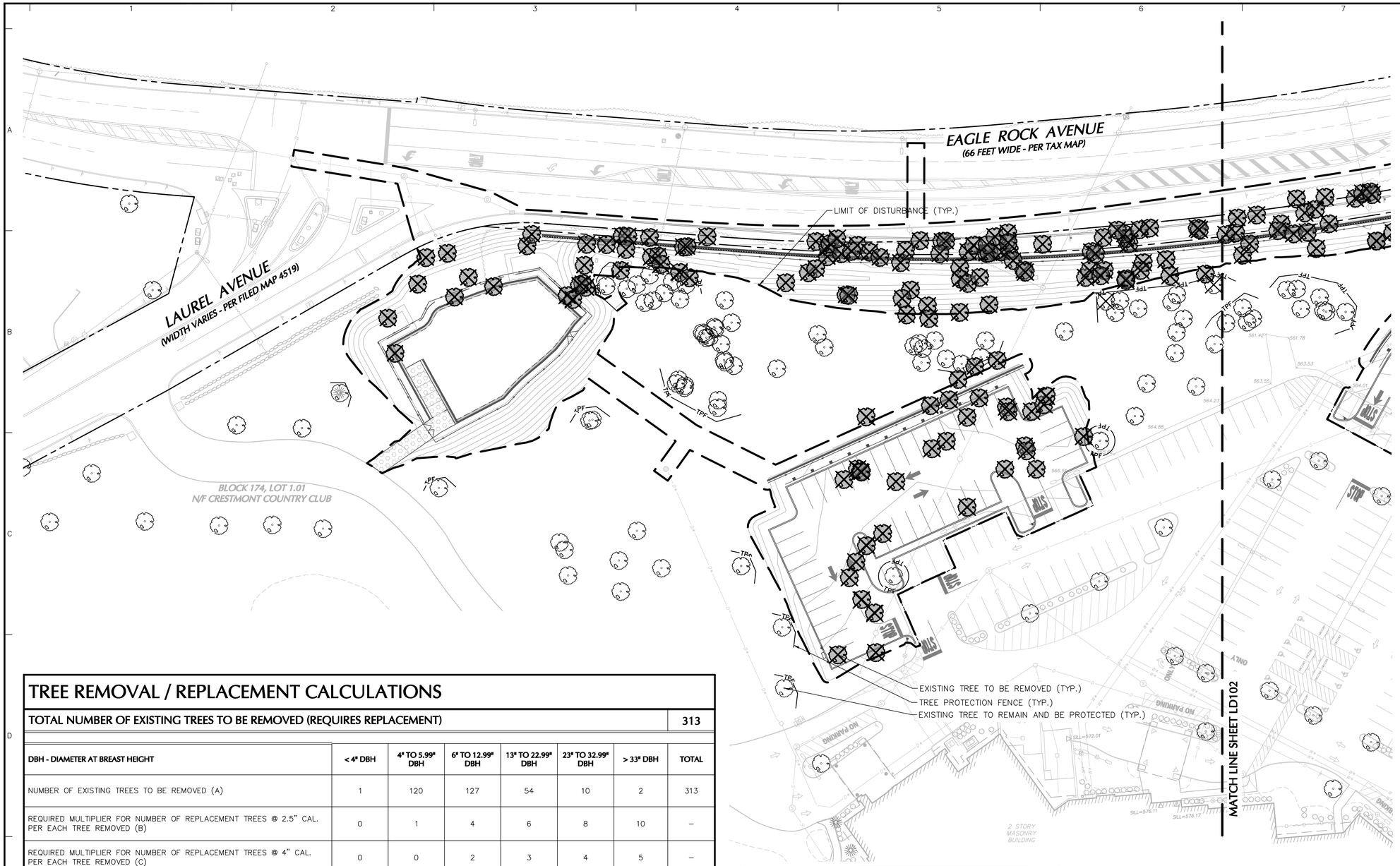
TEMPORARY SEED MIX

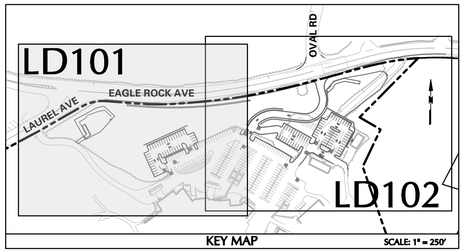
REFER TO PERMANENT SEED MIX NOTES FOR ADDITIONAL PERMANENT SEEDING SPECIFICATIONS.

1. MEADOW SEED MIX A (FOR USE AT BOTTOM OF BIORETENTION BASINS)

- 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 PUNICEU





LEGEND

- EXISTING TREE TO REMAIN AND BE PROTECTED
- EXISTING TREE TO BE REMOVED
- TPF — TREE PROTECTION FENCE
- LIMIT OF DISTURBANCE

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TREE REMOVAL / REPLACEMENT CALCULATIONS

TOTAL NUMBER OF EXISTING TREES TO BE REMOVED (REQUIRES REPLACEMENT)	313

DBH - DIAMETER AT BREAST HEIGHT	< 4" DBH	4" TO 5.99" DBH	6" TO 12.99" DBH	13" TO 22.99" DBH	23" TO 32.99" DBH	> 33" DBH	TOTAL
NUMBER OF EXISTING TREES TO BE REMOVED (A)	1	120	127	54	10	2	313
REQUIRED MULTIPLIER FOR NUMBER OF REPLACEMENT TREES @ 2.5" CAL. PER EACH TREE REMOVED (B)	0	1	4	6	8	10	–
REQUIRED MULTIPLIER FOR NUMBER OF REPLACEMENT TREES @ 4" CAL. PER EACH TREE REMOVED (C)	0	0	2	3	4	5	–
NUMBER OF REPLACEMENT TREES REQUIRED @ 2.5" CAL. (= A X B)	0	120	N/A – 4" CALIPER REPLACEMENT TREES IS SELECTED				120
NUMBER OF REPLACEMENT TREES REQUIRED @ 4" CAL. (= A X C)	0	0	254	162	40	10	466

TOTAL REPLACEMENT TREES REQUIRED AT MINIMUM 2.5" CALIPER SIZE	120
TOTAL REPLACEMENT TREES REQUIRED AT MINIMUM 4" CALIPER SIZE	466

NOTES:
1. ANY TREES WITH AN UNKNOWN DBH WERE ASSUMED AS > 33" FOR TREE REPLACEMENT CALCULATIONS.
2. REFER TO THE LANDSCAPE PLANS FOR TOTAL REPLACEMENT TREES PROPOSED ON-SITE WITHIN IMPROVEMENT AREAS.
3. REFER TO THE TREE RESTORATION PLANS (SUBMITTED IN A SEPARATE PLAN SET) FOR TOTAL REPLACEMENT TREES PROPOSED ON-SITE OUTSIDE THE IMPROVEMENT AREAS AND IN OFF-SITE LOCATIONS COORDINATED WITH THE TOWNSHIP FORESTER.
4. NO TREES MAY BE REMOVED UNTIL AFTER INSTALLATION OF STORMWATER RUNOFF CONTROLS ARE IN PLACE.

NOTE(S):

1. REFER TO SHEET LD102 FOR TREE REMOVAL & REPLACEMENT PLAN 2.
2. REFER TO THE TREE RESTORATION PLANS PROVIDED IN A SEPARATE APPLICATION FOR TOTAL REPLACEMENT TREE LOCATIONS PROPOSED ON-SITE AND OFF-SITE OUTSIDE THE LIMIT OF WORK.

TREE REPLACEMENT SUMMARY

TOTAL REPLACEMENT TREES REQUIRED	= 586 TREES (120+466)
SUBTOTAL REPLACEMENT TREES PROPOSED ON-SITE (REFER TO LANDSCAPE PLANS)	= 303 TREES
SUBTOTAL REPLACEMENT TREES PROPOSED ON-SITE (REFER TO TREE RESTORATION PLANS)	= 239 TREES
SUBTOTAL REPLACEMENT TREES PROPOSED OFF-SITE (SEE NOTE 3)	= 44 TREES
TOTAL REPLACEMENT TREES PROPOSED	= 586 TREES
TOTAL REPLACEMENT TREES UNABLE TO BE PLANTED (CONTRIBUTION TO TOWNSHIP TREE REPLACEMENT FUND)	= 0 TREES

NOTES:
1. TREE REMOVAL AND REPLACEMENT DESIGN AND CALCULATIONS SHALL BE AS REQUIRED PER THE TOWNSHIP OF WEST ORANGE, NJ ORDINANCE NO. 28 ARTICLE 1 – TREE PROTECTION, REMOVAL AND REPLACEMENT.
2. REFER TO THE LANDSCAPE PLANS AND TREE RESTORATION PLANS FOR THE PROPOSED SIZES, LOCATIONS, AND SPECIES OF REPLACEMENT TREES.
3. OF THE 586 REPLACEMENT TREES THAT ARE REQUIRED TO BE PLANTED, A TOTAL OF 542 TREES ARE PROPOSED TO BE PLANTED ON THE SUBJECT PROPERTY. REFER TO THE TREE RESTORATION PLANS FOR THE LOCATION OF THE PROPOSED REPLACEMENT TREES TO BE PLANTED IN OTHER AREAS OF THE SUBJECT PROPERTY OUTSIDE OF THE LIMITS OF THE PROPOSED PROJECT IMPROVEMENTS. THE APPLICANT WILL PLANT THE REMAINING 44 REPLACEMENT TREES ON ANOTHER PROPERTY LOCATED WITHIN THE TOWNSHIP UPON COORDINATION WITH THE TOWNSHIP FORESTER IN ACCORDANCE WITH SECTION 28-6.A.2 OF THE TREE PROTECTION, REMOVAL AND REPLACEMENT ORDINANCE OF THE TOWNSHIP OF WEST ORANGE. THEREFORE, THE APPLICANT WILL SATISFY THE TREE REPLACEMENT REQUIREMENT, AND NO WAIVER OR VARIANCE IS BEING SOUGHT.

GENERAL NOTES:
1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.
2. HORIZONTAL DATUM REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATES (NAD 83).
3. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. PROPOSED IMPROVEMENTS AND DESIGN INFORMATION WITHIN THE COUNTY RIGHT-OF-WAY REFERENCED FROM PLANS TITLED "EAGLE ROCK AVENUE ROADWAY IMPROVEMENT PLANS," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC.

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REVISIONS

STATE OF NEW JERSEY · DANIEL L. BADGLEY · 000977 · LICENSED LANDSCAPE ARCHITECT

SIGNATURE DANIEL BADGLEY DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. 21AS00097700

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

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL TREE REMOVAL PLAN

Project No.	Drawing No.
101049802	LD101
Date: FEBRUARY 12, 2026	
Drawn By: JD	
Checked By: DB	Sheet 29 of 36

LANGAN
Project No. 101049802

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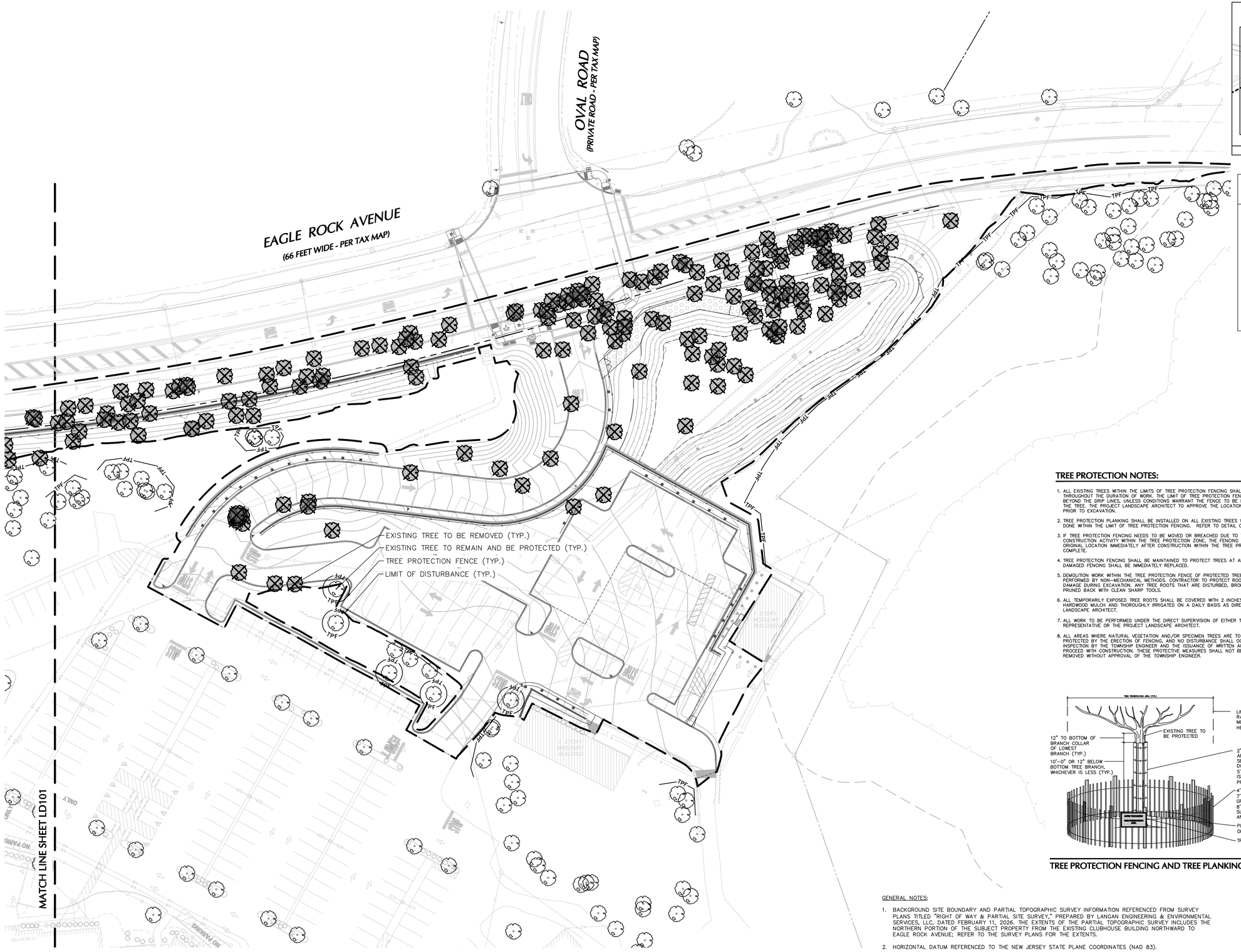
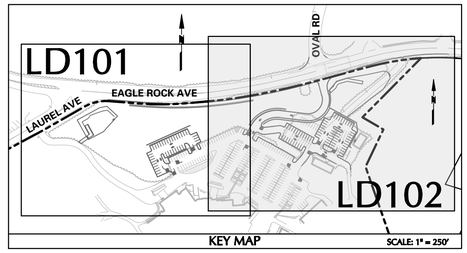




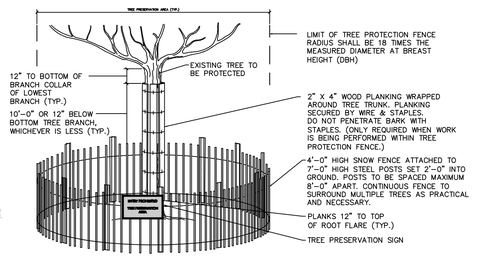
LEGEND

- EXISTING TREE TO REMAIN AND BE PROTECTED
- EXISTING TREE TO BE REMOVED
- TPF — TREE PROTECTION FENCE
- LIMIT OF DISTURBANCE

N

TREE PROTECTION NOTES:

1. ALL EXISTING TREES WITHIN THE LIMITS OF TREE PROTECTION FENCING SHALL BE PROTECTED THROUGHOUT THE DURATION OF WORK. THE LIMIT OF TREE PROTECTION FENCE SHALL BE 10 FT BEYOND THE DRIP LINES, UNLESS CONDITIONS WARRANT THE FENCE TO BE LOCATED CLOSER TO THE TREE. THE PROJECT LANDSCAPE ARCHITECT TO APPROVE THE LOCATION OF ALL FENCING PRIOR TO EXCAVATION.
2. TREE PROTECTION PLANKING SHALL BE INSTALLED ON ALL EXISTING TREES WHERE WORK IS TO BE DONE WITHIN THE LIMIT OF TREE PROTECTION FENCING. REFER TO DETAIL ON THIS SHEET.
3. IF TREE PROTECTION FENCING NEEDS TO BE MOVED OR BREACHED DUE TO TEMPORARY CONSTRUCTION ACTIVITY WITHIN THE TREE PROTECTION ZONE, THE FENCING WILL BE RESET TO ITS ORIGINAL LOCATION IMMEDIATELY AFTER CONSTRUCTION WITHIN THE TREE PROTECTION ZONE IS COMPLETE.
4. TREE PROTECTION FENCING SHALL BE MAINTAINED TO PROTECT TREES AT ALL TIMES. ANY DAMAGED FENCING SHALL BE IMMEDIATELY REPLACED.
5. DEMOLITION WORK WITHIN THE TREE PROTECTION FENCE OF PROTECTED TREES SHALL BE PERFORMED BY NON-MECHANICAL METHODS. CONTRACTOR TO PROTECT ROOT MASS AGAINST DAMAGE DURING EXCAVATION. ANY TREE ROOTS THAT ARE DISTURBED, BROKEN, OR CUT SHALL BE PRUNED BACK WITH CLEAN SHARP TOOLS.
6. ALL TEMPORARILY EXPOSED TREE ROOTS SHALL BE COVERED WITH 2 INCHES OF SHREDDED HARDWOOD MULCH AND THOROUGHLY IRRIGATED ON A DAILY BASIS AS DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT.
7. ALL WORK TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF EITHER THE OWNER'S REPRESENTATIVE OR THE PROJECT LANDSCAPE ARCHITECT.
8. ALL AREAS WHERE NATURAL VEGETATION AND/OR SPECIMEN TREES ARE TO REMAIN SHALL BE PROTECTED BY THE ERECTION OF FENCING, AND NO DISTURBANCE SHALL OCCUR PRIOR TO INSPECTION BY THE TOWNSHIP ENGINEER AND THE ISSUANCE OF WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION. THESE PROTECTIVE MEASURES SHALL NOT BE ALTERED OR REMOVED WITHOUT APPROVAL OF THE TOWNSHIP ENGINEER.



TREE PROTECTION FENCING AND TREE PLANKING NTS

GENERAL NOTES:

1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.
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NOTE(S):

1. REFER TO SHEET LD102 FOR TREE REMOVAL & REPLACEMENT PLAN 2.
2. REFER TO THE TREE RESTORATION PLANS PROVIDED IN A SEPARATE APPLICATION FOR TOTAL REPLACEMENT TREE LOCATIONS PROPOSED ON-SITE AND OFF-SITE OUTSIDE THE LIMIT OF WORK.

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REVISIONS

STATE OF NEW JERSEY — DANIEL L. BADGLEY — 000977 — LICENSED LANDSCAPE ARCHITECT

SIGNATURE DANIEL BADGLEY DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
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Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY **NEW JERSEY**

Drawing Title
PARTIAL TREE REMOVAL PLAN

Project No.	Drawing No.
101049802	LD102
Date: FEBRUARY 12, 2026	
Drawn By: JD	
Checked By: DB	Sheet 30 of 36

LANGAN
Project No. 101049802

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PLANT SCHEDULE ON-SITE IMPROVEMENT AREA

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
SHADE TREE(S)						
ARA	31	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG RED MAPLE	2 1/2–3" CAL.	B&B	
AROG	12	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	4–4 1/2" CAL.	B&B	
AS	24	ACER SACCHARUM	SUGAR MAPLE	4–4 1/2" CAL.	B&B	
BD	50	BETULA NIGRA 'BNMTF'	DURA HEAT®RIVER BIRCH	4–4 1/2" CAL.	B&B	
GB	31	GINKGO BILOBA 'PRINCETON SENTRY'	PRINCETON SENTRY MAIDENHAIR TREE	4–4 1/2" CAL.	B&B	
GTI	18	GLEDITSIA TRIACANTHOS F. INERMIS	THORNLESS HONEY LOCUST	4–4 1/2" CAL.	B&B	
QA	18	QUERCUS ACUTISSIMA	SAWTOOTH OAK	4–4 1/2" CAL.	B&B	
QB	14	QUERCUS BICOLOR	SWAMP WHITE OAK	4–4 1/2" CAL.	B&B	
QPP	41	QUERCUS PALUSTRIS 'PRINGREEN'	GREEN PILLAR®PIN OAK	2 1/2–3" CAL.	B&B	
QR	11	QUERCUS RUBRA	NORTHERN RED OAK	4–4 1/2" CAL.	B&B	
TG	27	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	2 1/2–3" CAL.	B&B	
ORNAMENTAL TREE(S)						
CA	13	CERCIS CANADENSIS 'ACE OF HEARTS'	ACE OF HEARTS EASTERN REDBUD	2 1/2–3" CAL.	B&B	SINGLE STEM
PS	13	PRUNUS SERRULATA	JAPANESE FLOWERING CHERRY	2 1/2–3" CAL.	B&B	SINGLE STEM
EVERGREEN TREE(S)						
JVT	25	JUNIPERUS VIRGINIANA 'TAYLOR'	TAYLOR EASTERN REDCEDAR	6–7' HT.	B&B	
DECIDUOUS SHRUB(S)						
CAH	50	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	HUMMINGBIRD SUMMERSWEET	24–36" HT.	CONTAINER	
EVERGREEN SHRUB(S)						
IGS	60	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	18–24" HT.	CONTAINER	
PMC	13	PINUS MUGO 'COMPACTA'	DWARF MUGO PINE	30–36" HT.	CONTAINER	
VRC	4	VIBURNUM RHYTIDOPHYLLUM 'CREE'	LEATHERLEAF VIBURNUM	24–36" HT.	CONTAINER	
ORNAMENTAL GRASS(ES)						
DG	137	DESCHAMPSIA CESPITOSA 'GOLDTAU'	GOLD DEW TUFTED HAIR GRASS	2 GAL.	CONTAINER	
PVS	90	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	2 GAL.	CONTAINER	
GROUNDCOVER SHRUB(S)						
JB	353	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR CREEPING JUNIPER	18–24" SPRD.	CONTAINER	36" o.c.
PERENNIAL(S)						
LB	180	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	1 GAL.	CONTAINER	18" o.c.
NR	85	NEPETA RACEMOSA 'WALKER'S LOW'	WALKER'S LOW CATMINT	2 GAL.	CONTAINER	24" o.c.
PVCB	38	PANICUM VIRGATUM 'CAPE BREEZE'	CAPE BREEZE SWITCH GRASS	2 GAL.	CONTAINER	24" o.c.
RC	151	RUDBECKIA FULGIDA 'CITY GARDEN'	CITY GARDEN CONEFLOWER	1 GAL.	CONTAINER	12" o.c.

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.

PLANT SCHEDULE - SMALL-SCALE BIORETENTION BASIN 1

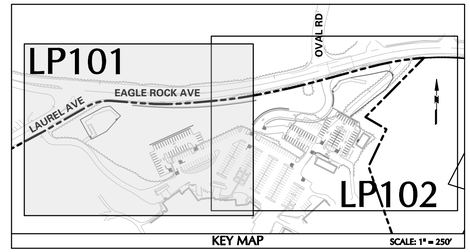
QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
DECIDUOUS TREE(S)					
14	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	WHIPS (APPROX. 1/2" CAL.)	–	APPROX. 4–5' HIGH
13	AMELANCHIER CANADENSIS	MULTI–STEM SHADBLOW SERVICEBERRY	WHIPS (APPROX. 1/2" CAL.)	–	APPROX. 4–5' HIGH
13	BETULA NIGRA 'DURA HEAT'	DURA HEAT RIVER BIRCH	WHIPS (APPROX. 1/2" CAL.)	–	APPROX. 4–5' HIGH
EVERGREEN SHRUB(S)					
12	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	24–30"	#3 CAN	–
11	ILEX GLABRA COMPACTA	DWARF INKBERRY HOLLY	24–30"	#3 CAN	–
11	LINDERA BENZOIN	NORTHERN SPICEBUSH	30–36"	#5 CAN	–
11	MORELLA PENSYLVANICA	NORTHERN BAYBERRY	30–36"	#5 CAN	–
PERENNIAL(S)					
11	ASCLEPIAS TUBEROSA	BUTTERFLY WEED	1 GAL.	CONTAINER	spaced @ 36" o.c.
11	COREOPSIS VERTICILLATA 'MOONBEAM'	MOONBEAM COREOPSIS	2 GAL.	CONTAINER	spaced @ 36" o.c.
11	ECHINACEA PURPUREA	PURPLE CONEFLOWER	2 GAL.	CONTAINER	spaced @ 36" o.c.
11	IRIS SIBERICA 'CAESAR'S BROTHER'	CAESAR'S BROTHER SIBERIAN IRIS	2 GAL.	CONTAINER	spaced @ 36" o.c.

PLANT SCHEDULE - SMALL-SCALE BIORETENTION BASIN 2

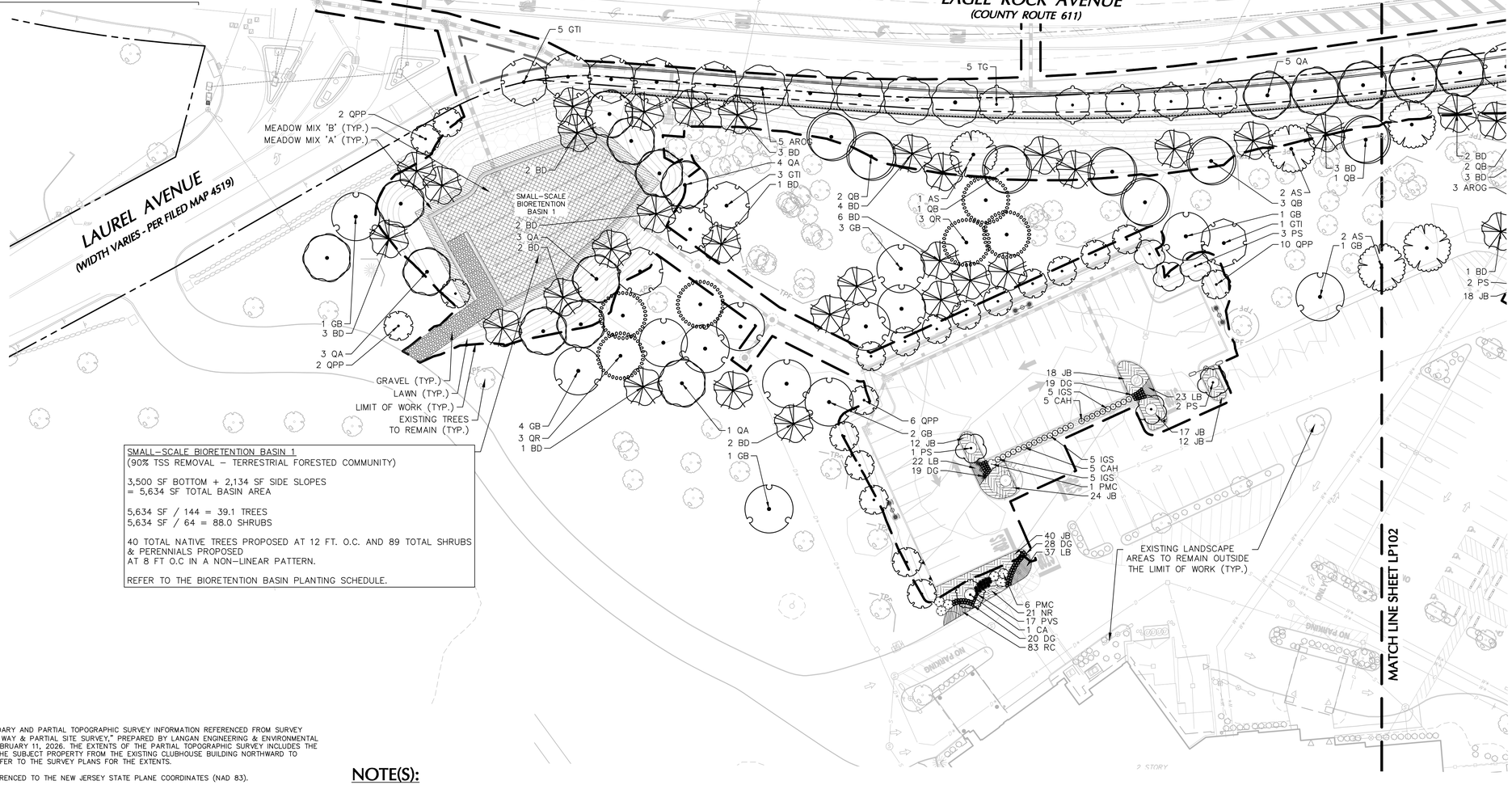
QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
ORNAMENTAL GRASS(ES)					
20	AGROSTIS GIGANTEA	RED TOP	2 GAL.	CONTAINER	spaced @ 36" o.c.
20	AGROSTIS PALUSTRIS	CREEPING BENTGRASS	2 GAL.	CONTAINER	spaced @ 36" o.c.
20	CALAMAGROSTIS CANDENSIS	CANADA BLUEJOINT	2 GAL.	CONTAINER	spaced @ 36" o.c.
20	CINNA ARUNDINACEA	WOOD REEDGRASS	2 GAL.	CONTAINER	spaced @ 36" o.c.
19	DICANTHELIUM CLANDESTINUM	DEERTONGUE	2 GAL.	CONTAINER	spaced @ 36" o.c.
19	ELYMUS VIRGINICUS VA./RIPARIUS	RIPARIAN WILDRYE	2 GAL.	CONTAINER	spaced @ 36" o.c.
19	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS	2 GAL.	CONTAINER	spaced @ 36" o.c.
19	PANICUM VIRGATUM	SWITCHGRASS	2 GAL.	CONTAINER	spaced @ 36" o.c.
19	POA TRIVIALIS	ROUGH BLUEGRASS	2 GAL.	CONTAINER	spaced @ 36" o.c.
19	POA PALUSTRIS	FOWL SALTGRASS	2 GAL.	CONTAINER	spaced @ 36" o.c.
19	PUCCINELLIA DISTANS	ALKALI SALTGRASS	2 GAL.	CONTAINER	spaced @ 36" o.c.
19	TRIPSACUM DACTYLOIDES	EASTERN GAMAGRASS	2 GAL.	CONTAINER	spaced @ 36" o.c.

WEST ORANGE, NEW JERSEY - ORDINANCE COMPLIANCE CHART

SECTION	REQUIREMENT	PROPOSED	COMPLIANCE
§ 25–12. 1. o.	LANDSCAPED PLANS SHALL BE SUBMITTED FOR DETAILED PLANTING WITHIN THE PARKING AREA, IN PARKING AREAS WITH 30 OR MORE PARKING SPACES, THERE SHALL BE A MINIMUM OF ONE TREE PLUS GROUND LEVEL PLANTING FOR EACH 10 PARKING STALLS, WHICH MAY BE PROVIDED WITHIN AND/OR ON THE PERIMETER OF THE PARKING AREA. THE MAXIMUM LENGTH OF A SINGLE ROW OF PARKING SPACES SHALL BE 20 SPACES, AT WHICH POINT A LANDSCAPED AREA WITH A MINIMUM WIDTH OF EIGHT FEET SHALL BE PROVIDED.	AT PARKING AREAS (WITHIN LIMIT OF WORK): 103 PARKING SPACES / 10 = 10.3 = 11 TREES REQUIRED 11 TREES PROPOSED	COMPLIES
§ 28–4. e. 8.	ALL PARKING LOT OWNERS SHALL MAINTAIN TREES IN COMPLIANCE WITH TOWNSHIP CODE SUBSECTION 25–12.1o AND SHALL CREATE 50% SHADE IN PARKING LOTS WITHIN TWENTY FIVE (25) YEARS.	REFER TO PLANTING SCHEDULE.	COMPLIES
§ 28–8. c. 1. 2.	REPLACEMENT TREE TO BE A MINIMUM OF 6–FEET TALL.	REFER TO PLANTING SCHEDULE.	COMPLIES



KEY MAP SCALE: 1" = 250'



SMALL–SCALE BIORETENTION BASIN 1
(90% TSS REMOVAL – TERRESTRIAL FORESTED COMMUNITY)

3,500 SF BOTTOM + 2,134 SF SIDE SLOPES
= 5,634 SF TOTAL BASIN AREA

5,634 SF / 144 = 39.1 TREES
5,634 SF / 64 = 88.0 SHRUBS

40 TOTAL NATIVE TREES PROPOSED AT 12 FT. O.C. AND 89 TOTAL SHRUBS & PERENNIALS PROPOSED AT 8 FT O.C IN A NON–LINEAR PATTERN.

REFER TO THE BIORETENTION BASIN PLANTING SCHEDULE.

GENERAL NOTES:

1. BACKGROUND SITE BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY INFORMATION REFERENCED FROM SURVEY PLANS TITLED "RIGHT OF WAY & PARTIAL SITE SURVEY," PREPARED BY LANGAN ENGINEERING & ENVIRONMENTAL SERVICES, LLC, DATED FEBRUARY 11, 2026. THE EXTENTS OF THE PARTIAL TOPOGRAPHIC SURVEY INCLUDES THE NORTHERN PORTION OF THE SUBJECT PROPERTY FROM THE EXISTING CLUBHOUSE BUILDING NORTHWARD TO EAGLE ROCK AVENUE; REFER TO THE SURVEY PLANS FOR THE EXTENTS.
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NOTE(S):

1. REFER TO SHEET LP102 FOR PARTIAL LANDSCAPE PLAN.
2. REFER TO SHEETS LP501 FOR LANDSCAPE NOTES & DETAILS.

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REVISIONS

STATE OF NEW JERSEY DANIEL L. BADGLEY LICENSED LANDSCAPE ARCHITECT 000977

SIGNATURE DANIEL BADGLEY DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. 21AS00097700

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T: 973.560.4900 F: 973.560.4901 www.langan.com
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BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL LANDSCAPE PLAN I

Project No.	Drawing No.
101049802	LP101
Date: FEBRUARY 12, 2026	
Drawn By: LCZ	
Checked By: DB	Sheet 31 of 36

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Project No. 101049802
Date: 3/4/2026 Time: 18:36 User: tgreen Style Table: Langan.stb Layout: LP101 Document Code: 101049802-0102-LP101-0101

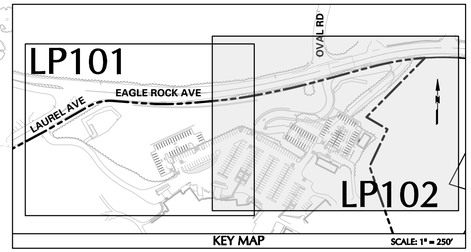
SMALL-SCALE BIORETENTION BASIN 2
(80% TSS REMOVAL - SITE-TOLERANT GRASSES)

7,751 SF BOTTOM + 7,074 SF SIDE SLOPES
= 14,826 SF TOTAL BASIN AREA

14,826 SF / 64 = 231.7 GRASSES

232 TOTAL GRASSES PROPOSED AT 8 FT O.C IN A NON-LINEAR PATTERN.

REFER TO THE BIORETENTION BASIN PLANTING SCHEDULE.



NOTE(S):
1. REFER TO SHEET LP101 FOR PARTIAL LANDSCAPE PLAN, PLANT SCHEDULE, AND LANDSCAPE COMPLIANCE CHART.
2. REFER TO SHEETS LP501 FOR LANDSCAPE NOTES & DETAILS.

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REVISIONS

STATE OF NEW JERSEY · DANIEL L. BADGLEY · 000977 · LICENSED LANDSCAPE ARCHITECT

SIGNATURE DANIEL BADGLEY DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. 21AS00097700

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Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL LANDSCAPE PLAN II

Project No.	Drawing No.
101049802	LP102
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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 SHALL 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. CONTRACTOR SHALL CONFIRM WATER SOURCE WITH OWNER PRIOR TO BID AND INCLUDE ALTERNATE MEANS OF WATERING IF NECESSARY.

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. TREES MAY BE STAKED AT THE LANDSCAPE CONTRACTOR'S DISCRETION, IF REQUIRED BY ORDINANCE, IF LOCATED ON A SLOPE 3:1 OR GREATER, OR IF THE SITE IS LOCATED IN A HIGH WIND ZONE. CURRENT HORTICULTURAL PRACTICE DOES NOT RECOMMEND STAKING TREES EXCEPT IN CONDITIONS WHERE TREES ARE SUBJECT TO BLOW DOWNS DUE TO SOIL CONDITIONS, HEAVY PREVAILING WINDS, OR A HIGH RATIO OF TOP GROWTH TO ROOT BALL. IF STAKING IS DEEMED NECESSARY BY CONTRACTOR, STAKE AND GUYS SHOULD BE LOCATED AND FLAGGED IN A MANNER TO PREVENT TRIPPING HAZARDS. WIRES OR GUYS SHALL BE LOCATED AND COVERED SO AS NOT TO PULL OR DAMAGE BRANCHES AND SHALL BE REMOVED AT THE END OF THE GUARANTEE PERIOD.

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 TREE OR 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.

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, NATURCYCLE, P-315-707-8955, 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 AND PROVIDE 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 – SANDY LOAM: 60–75% SAND, 25–40% SILT, AND 5–15% CLAY.
      b. GRAVEL CONTENT (2mm): LESS THAN 10%
      c. FERTILITY ANALYSIS: pH (6.0–6.8), SOLUBLE SALTS (0.2 to 1.0 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 (6.0–6.8), SOLUBLE SALTS (0.2 to 1.0 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
   C. SOILS FOR BASINS (BIO–RENTENTION, INFILTRATION, ETC.) AND BIOSWALES SHALL BE TESTED FOR COMPLIANCE WITH THE CIVIL ENGINEERING SPECIFICATIONS, OR OTHERWISE THE BEST MANAGEMENT PRACTICES MANUAL FOR THE RESPECTIVE STATE IN WHICH THE PROJECT IS LOCATED.

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 85% OF CALCIUM AND MAGNESIUM CARBONATES) AND APPROVED IN 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 68% 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.

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 NECESSARY 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 THEIR WAS TO REMAIN OR BE RELOCATED. THEY SHALL BE FURNISHED AND PLANTED AS SPECIFIED. THE COST SHALL BE BORNE BY THE CONTRACTOR. REPLACEMENT 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 TWO YEARS 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.

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# DEEPROOT KENTUCKY BLUEGRASS
   - 25# DAKOTA TALL FESCUE
   - 25# TAOS TALL FESCUE
   - 10# PENNFINE 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.

LAWN WATERING SCHEDULE (seed)

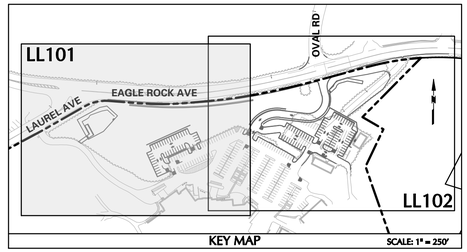
THE FOLLOWING WATERING SCHEDULE COVERS ROUGHLY 8 WEEKS TO ESTABLISH A HEALTHY STAND OF GRASS FROM SEED. THE CONTRACTOR SHALL BE OBLIGATED TO ENSURE A HEALTHY STAND OF GRASS AT THE END OF THE MAINTENANCE/BOND PERIOD. ANY BARE OR DEAD AREAS AT THE END OF THE MAINTENANCE/BOND PERIOD SHALL BE RESEEDED AT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

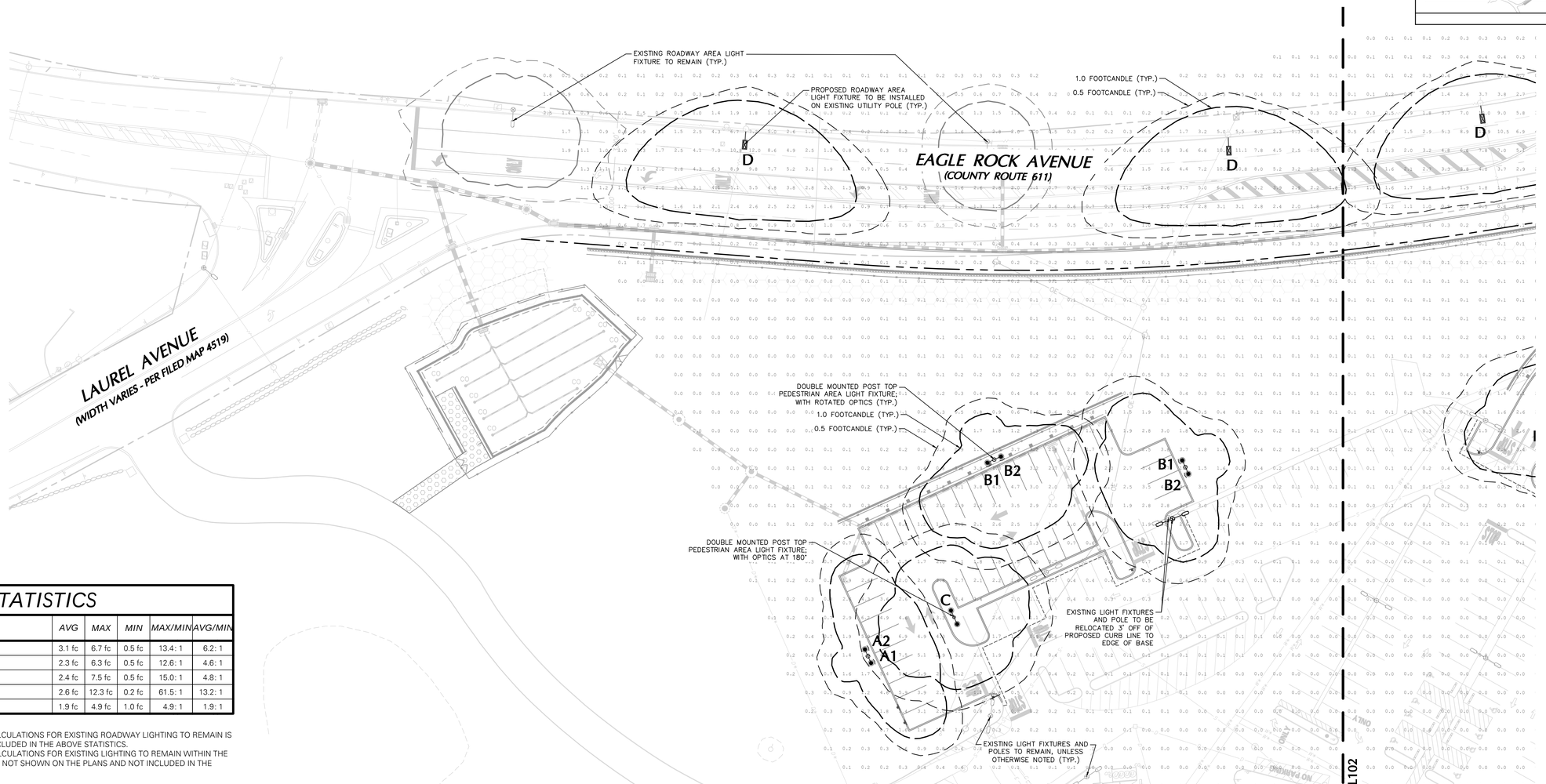
IMPORTANT ASPECTS TO ATTAINING AND SUSTAINING A HEALTHY STAND OF GRASS ARE THE INSTALLATION OF TOPSOIL, SEED BED PREPARATION, ATTAINING OPTIMAL pH FOR THE INTENDED PLANT SPECIES, FERTILIZING, MULCH COVERING, AND SUFFICIENT WATERING PER THESE NOTES AND/OR PROJECT SPECIFICATIONS.

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 INSTALL

ORDINANCE COMPLIANCE CHART - TOWNSHIP OF WEST ORANGE, NEW JERSEY

SECTION		REQUIREMENT	PROPOSED	COMPLIANCE
MUNICIPAL CODE: §25-14. LIGHTING.	§25-14.1.B	SHIELDING OF FIXTURES. ALL LIGHTING FIXTURES SHALL BE DIRECTED DOWNWARD AND SHALL BE EQUIPPED WITH THE NECESSARY SHIELDING SO AS TO PREVENT THE DIRECT SOURCE OF LIGHT FROM BEING VISIBLE FROM ANY POINT BEYOND THE PROPERTY LINES OF THE PREMISES UPON WHICH THE LIGHTING STRUCTURE IS LOCATED.	THE DESIGN INTENT FOR THE PROPOSED POST TOP PEDESTRIAN AREA LIGHT FIXTURES IS TO MATCH THE CURRENT EXISTING POST TOP PEDESTRIAN LIGHT FIXTURES UTILIZING NEWER LED MODELS. THE PROPOSED FIXTURES ARE SPECIFIED WITH ACRYLIC PANEL LENSES THAT PROVIDE SHIELDING TO OBSCURE THE DIRECT SOURCE OF LIGHT. ALL FIXTURES ARE STRATEGICALLY POSITIONED ON-SITE TO MINIMIZE LIGHT SPILLOVER BEYOND THE PROPERTY BOUNDARIES. FURTHERMORE, THE HEAVILY WOODED PERIMETER OF THE SITE OFFERS NATURAL SCREENING, FURTHER REDUCING POTENTIAL GLARE AND VISIBILITY FROM ADJACENT RESIDENTIAL PROPERTIES.	COMPLIES
	§25-14.1.C	HEIGHT OF FIXTURES. LIGHT POLES SHALL NOT EXCEED A HEIGHT OF 18 FEET ABOVE NORMAL GRADE IN THE VICINITY OF THE LIGHT FIXTURE.	ALL ON-SITE PROPOSED PEDESTRIAN POST-TOP AREA LIGHT FIXTURES ARE MOUNTED AT THE MAXIMUM HEIGHT OF 18'-0".	COMPLIES
	§25-14.1.D	THE LEVEL OF ILLUMINATION AT GROUND LEVEL SHALL NOT EXCEED 0.5 OF A FOOTCANDLE AT THE PROPERTY LINE, NOR 0.3 OF A FOOTCANDLE AT ANY PROPERTY LINE ABUTTING A PROPERTY USED BY OR ZONED FOR RESIDENTIAL USE	PROPOSED ILLUMINATION LEVELS AT THE PROPERTY LINES COMPLY WITH APPLICABLE LIGHTING STANDARDS, WITH THE EXCEPTION OF THE EAGLE ROCK AVENUE FRONTAGE, WHERE PROPOSED ROADWAY IMPROVEMENTS INCLUDE ADDITIONAL ROADWAY LIGHTING.	COMPLIES
	§25-14.2-3	MINIMUM ILLUMINATION LEVEL OF 0.5 FOOTCANDLES TO BE PROVIDED FOR PARKING AREAS.	REFER TO THE LIGHTING STATISTICS CHART ON THIS SHEET (LL101).	COMPLIES
	§25-14.2-3	MINIMUM ILLUMINATION LEVEL OF 0.5 FOOTCANDLES TO BE PROVIDED FOR PEDESTRIAN WALKWAYS	REFER TO THE LIGHTING STATISTICS CHART ON THIS SHEET (LL101).	COMPLIES





LIGHTING STATISTICS

DESCRIPTION	AVG	MAX	MIN	MAX/MIN	AVG/MIN
DRIVEWAY - WEST	3.1 fc	6.7 fc	0.5 fc	13.4: 1	6.2: 1
PARKING - EAST	2.3 fc	6.3 fc	0.5 fc	12.6: 1	4.6: 1
PARKING - WEST	2.4 fc	7.5 fc	0.5 fc	15.0: 1	4.8: 1
ROADWAY	2.6 fc	12.3 fc	0.2 fc	61.5: 1	13.2: 1
SIDEWALKS	1.9 fc	4.9 fc	1.0 fc	4.9: 1	1.9: 1

NOTE:
1. LIGHT PHOTOMETRY AND CALCULATIONS FOR EXISTING ROADWAY LIGHTING TO REMAIN IS SHOWN ON THE PLANS AND INCLUDED IN THE ABOVE STATISTICS.
2. LIGHT PHOTOMETRY AND CALCULATIONS FOR EXISTING LIGHTING TO REMAIN WITHIN THE LIMIT OF PROPOSED WORK ARE NOT SHOWN ON THE PLANS AND NOT INCLUDED IN THE ABOVE STATISTICS.

SITE LIGHTING SCHEDULE

SYMBOL	KEY	QTY.	FIXTURE MANUFACTURER	FIXTURE MODEL	FIXTURE DESCRIPTION	FIXTURE MOUNTING HEIGHT	LAMP (W)	OPTICS	LUMENS PER LAMP	LLF	COLOR TEMPERATURE	IES FILE	FIXTURE/ARM CATALOGUE NO.	POLE MANUFACTURER	POLE DESCRIPTION	POLE LENGTH	POLE CATALOGUE NO.
A1 A2	A1	6	AMERICAN ELECTRIC LIGHTING	AMERICAN REVOLUTION DELUXE LED	DOUBLE MOUNTED POST TOP PEDESTRIAN AREA LIGHT FIXTURE; WITH OPTICS ROTATED TO FACE THE CURB; COLOR TO MATCH EXISTING	18'-0"	90W LED	TYPE 3 MEDIUM; ROTATED LEFT 90°	9,147	0.9	3000K	ARDL P203 XXXXX 30K R3 AY.ies	ARDL-P203-MVOLT-ZT -30K-R3-AY-BK	HOLOPHANE	NORTH YORKSHIRE DECORATIVE CAST ALUMINUM AND CAST IRON & STEEL POLES CLEVELAND DECORATIVE CROSSARM W/ 3'-0" EXPOSED CAST-IN-PLACE CONCRETE FOOTING	14'-6" (SEE NOTE 1)	POLE: NYA-15-FSJ-17D-PLN-BK ARMS: CCA-12-2A-TN-SL5-BK
	A2	6						TYPE 3 MEDIUM; ROTATED RIGHT 90°									
B1 B2	B1	8	AMERICAN ELECTRIC LIGHTING	AMERICAN REVOLUTION DELUXE LED	DOUBLE MOUNTED POST TOP PEDESTRIAN AREA LIGHT FIXTURE; WITH OPTICS ROTATED TO FACE THE CURB; COLOR TO MATCH EXISTING	18'-0"	90W LED	TYPE 4 MEDIUM; ROTATED LEFT 90°	9,115	0.9	3000K	ARDL P203 XXXXX 30K R4 AY.ies	ARDL-P203-MVOLT-ZT -30K-R4-AY-BK				
	B2	8						TYPE 4 MEDIUM; ROTATED RIGHT 90°									
	C	1	AMERICAN ELECTRIC LIGHTING	AMERICAN REVOLUTION DELUXE LED	DOUBLE MOUNTED POST TOP PEDESTRIAN AREA LIGHT FIXTURE; WITH OPTICS AT 180°; COLOR TO MATCH EXISTING	18'-0"	90W LED	TYPE 4 MEDIUM; 2 AT 180°	9,115	0.9	3000K	ARDL P203 XXXXX 30K R4 AY.ies	ARDL-P203-MVOLT-ZT -30K-R4-AY-BK				
	D	7	LUMEC	ROADFOCUS REDUCED GLARE LED COBRA HEAD - LARGE (RFL)	ROADWAY AREA LIGHT FIXTURE; MOUNTED TO EXISTING UTILITY POLE WITH LUMEC ELW ALUMINUM BRACKET; COLOR: XX	27'-0"	182W LED	TYPE 3 MEDIUM	28,908	0.9	4000K	RFL-RG-185W160LED4K -G2-R2-3M.ies	RFL-RG-185W160LED-4K-G2-R2/3M-UNV; ELW-XX-XX	N/A			

NOTES:
1. MANUFACTURER TO FACTORY CUT POLE TO SPECIFIED LENGTH.
2. REFER TO ELECTRICAL DRAWINGS FOR SITE LIGHTING VOLTAGES AND ELECTRICAL LAYOUTS.
3. CONTRACTOR TO CONFIRM CONTROLS SYSTEM REQUIRED BY THE OWNER AND MEP PER CODE. BID PRICING SHALL INCLUDE CONTROL SYSTEM.

NOTE(S):

1. REFER TO SHEET LL102 FOR PARTIAL LIGHTING PLAN.
2. REFER TO SHEETS LL501 FOR LIGHTING NOTES & DETAILS.

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SCALE IN FEET

Date	Description	No.
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REVISIONS

STATE OF NEW JERSEY
DANIEL L. BADGLEY
000977
LICENSED LANDSCAPE ARCHITECT

SIGNATURE DANIEL BADGLEY DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. 21AS00097700

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NJ Certificate of Authorization No. 24GA27996400

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL LIGHTING PLAN I

Project No.	101049802
Date	FEBRUARY 12, 2026
Drawn By	AM/LL
Checked By	MF/DB

Drawing No. LL101
Sheet 34 of 36

LANGAN
Project No. 101049802

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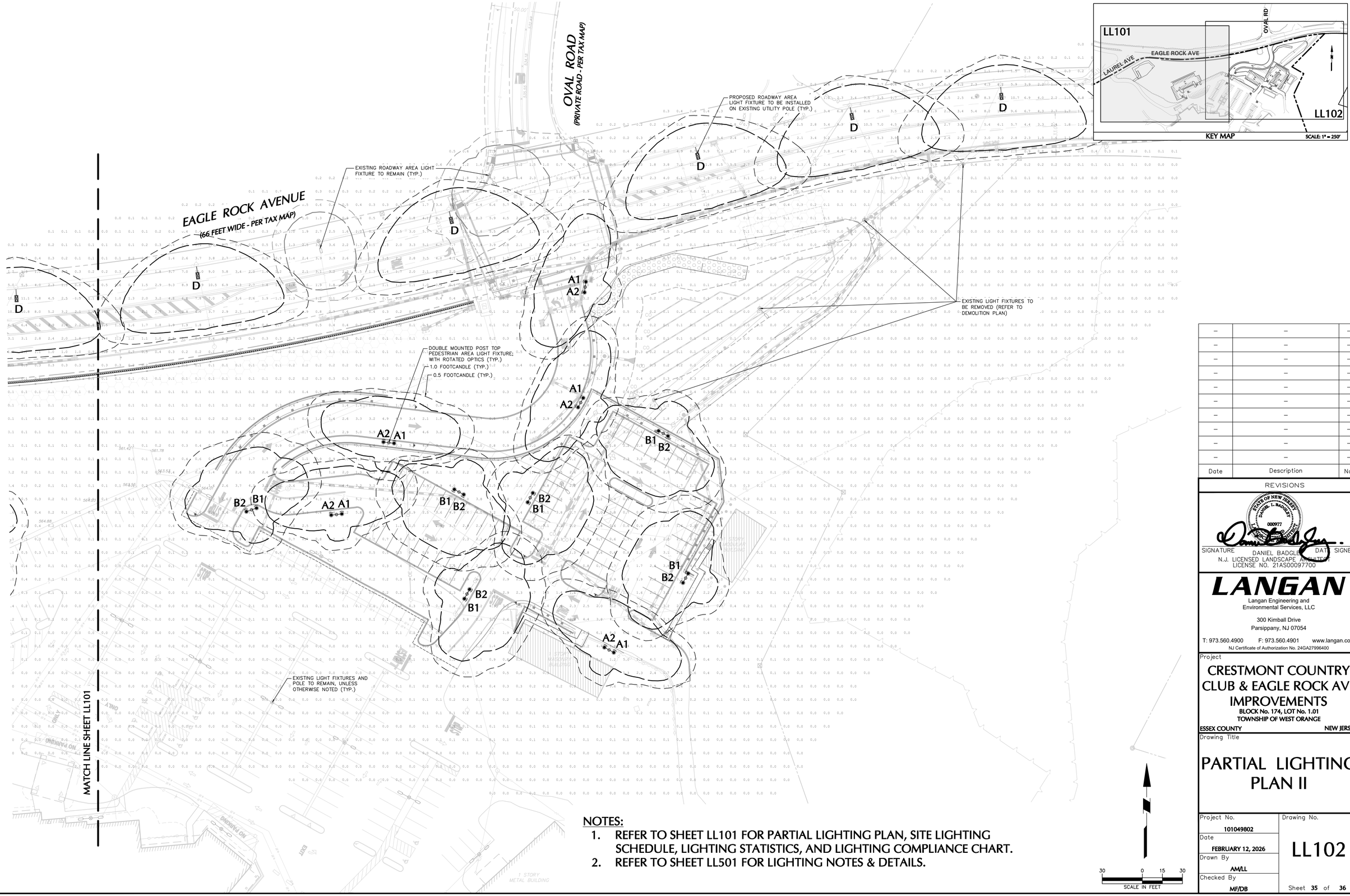

NOTES:

1. REFER TO SHEET LL101 FOR PARTIAL LIGHTING PLAN, SITE LIGHTING SCHEDULE, LIGHTING STATISTICS, AND LIGHTING COMPLIANCE CHART.
2. REFER TO SHEET LL501 FOR LIGHTING NOTES & DETAILS.

Date	Description	No.
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REVISIONS

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Project
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BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
PARTIAL LIGHTING PLAN II

Project No.	Drawing No.
101049802	LL102
Date: FEBRUARY 12, 2026	
Drawn By: AM/LL	
Checked By: MF/DB	Sheet 35 of 36

LANGAN
Project No. 101049802

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Date: 3/4/2026 Time: 18:39 User: tgreen Style Table: Langan.stb Layout: LL102 Document Code: 101049802-0102-LL101-0102

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 10 FT. LEFT TO RIGHT AND 10 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' OR GREATER SHALL BE EQUIPPED WITH FACTORY INSTALLED VIBRATION DAMPERS.

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.

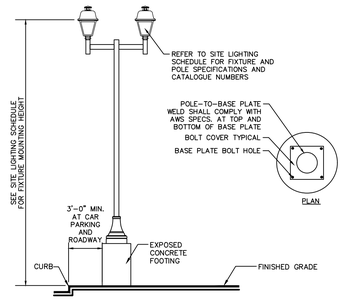
ADJUSTMENT AND INSPECTION

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.

LIGHTING ALTERNATES WILL NOT BE ACCEPTED.



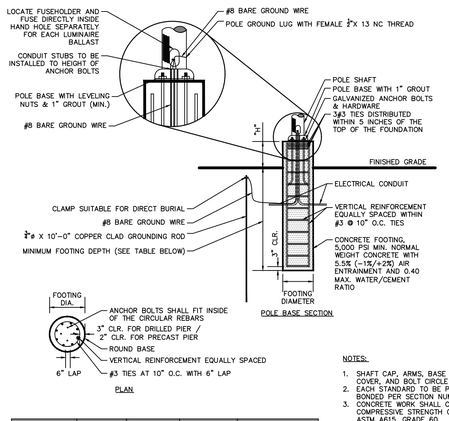
SECTION

NOTE:

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

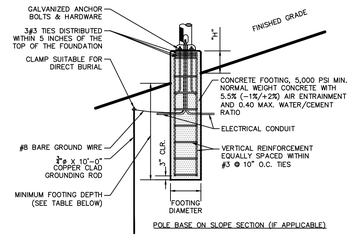
POST TOP PEDESTRIAN AREA LIGHT AND POLE

N.T.S.



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)



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.

MOUNTING HEIGHT	FOOTING DEPTH	FOOTING DIAMETER	EXPOSED HEIGHT "H"	VERTICAL REINFORCEMENT
18'–0"	4'–6" MIN.	2'–0"	3'–0" MAX.	6#5 BARS

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.

POST TOP PEDESTRIAN AREA LIGHT FIXTURE

N.T.S.

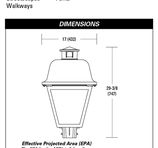
American Revolution Deluxe LED
Series ARDL

PRODUCT OVERVIEW

Applications:

Roadways
Streetscapes
Walkways
Pathways
Parks

DIMENSIONS



Effective Projected Area (EPA)
The EPA for the ARDL is 2.4 sq. ft.
Shown with 3CRI cluster.
Shown with 3CRL couple option. Reference page 3 for detail on couple options

STANDARDS

Rated from -40°C up to 40°C ambient
CSA Certified to U.S. and Canadian standards
Complies with all applicable ANSI C136 standards
Government Procurement
Buy American Act: Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/resources/buy-american for additional information.
Note: Specifications subject to change without notice.
American Revolution Deluxe LED Series - ARDL

Features:

OPTICAL

Producing between 3,200–14,400 lumens, the ARDL family replaces up to 250W HID luminaires with optimal performance and visual comfort in a variety of applications.
Silicone optics provide superior optical efficiency, thermal performance, and reduction in dirt accumulation, all of which can lead to long term lumen degradation and a shift in optical distribution.
IP66 proven workhorse LED light engine in 16 different output packages.
Available in color temperature choices of 2700K, 3000K and 4000K, all at a 70 CRI minimum
Silicon optics provide crisp, well-defined lighting distributions in four (4) distinct light distribution options; Type II, Type III, Type IV, and Type V
Acrylic or Polycarbonate panel lenses available

ELECTRICAL

LED light engines are rated >100,000 hours at 25°C, L70. Electronic driver has an expected life of 100,000 hours at a 25°C ambient.
Saves an expected of 40–60% over comparable HID luminaires.
Two different surge protection options provide a minimum of ANSI C136.2 10kV/5kA (standard) or 20kV/10kA protection.
Luminaire available with either a 0–10v dimmable driver or DALI 0xI driver. Luminaire is continuous and step dimming capable via AD option or other installed controls.
XVOLT tank driver option for protection against dropped neutrals and other power quality issues.

MECHANICAL

Die-cast aluminum housing, engineered for sturdy lifelong performance complete with die-cast aluminum hood featuring a trigger latch (TL) option and captive thumb screws for fast, easy electrical and optical chamber access.
Standard paint finish is smooth semi-gloss.
Housing is tenon pole-mounted and designed for use with a 3" tall by 2-3/8" to 3" diameter tenon, and secured by three set screws.

CONTROLS

The Acuity designed ARSO 1-pin receptacle is available, which supports traditional locking-style photocontrols such as the Extreme long-life solid-state locking-style photocontrol - PCCL (120 year rated life).
Optional onboard Adjustable Output module allows the light output and input wattage to be modified to meet site specific requirements, and also can allow a single fixture to be flexibly applied in many different applications.
The DC Connect option is a factory embedded low voltage kit to daisy chain photocontrol that increases longevity vs. line voltage controls and also eliminates the need to separately inventory controls.
The Local Connect option provides a simple means to collect luminaire attribute data, asset location information and enable point-to-point certification commands via secure Bluetooth link using smartphone platforms.
Cell Connect is an embedded network photocontrol with cellular communication. It provides digital switching, precise dimming, and revenue grade metrology. Cell Connect leverage DA drivers to communicate real-time data to UbiVu, a cloud-based asset management system.
Additionally, it can be equipped with sensor-ready technology to support Zhaga standard sensors enabling smart city solutions utilizing long range network nodes to enable remote monitoring and control.
Variety of cupola options to accommodate nearly any node on the market in an aesthetic shroud.

ORDERING INFORMATION

Example: NYA 14 5 4C 17D C03 BK

Post	Height	Shaft Style	Base	Tenon	Finish	Options	Welded Provisions
NYA North Yorkshire Aluminum Pole	12 12 Feet 14 14 Feet	**Fluted Shaft** F4C 4" diameter, 11.0 Wall **Smooth Shaft** S4C 4" diameter, 125 Wall **Sled Ink** SL4 4.5" Fluted, 156 Wall SL5 5.25" Fluted, .25 Wall	170 17" Base, Diamond Pattern Bolt Circle 175 17" Base, Square Pattern Bolt Circle 200 20" Base, Diamond Pattern Bolt Circle **NOTE** Refer to Dimensions Data for Base Options based on Sled Ink and Non Sled Ink Shaft Styles.	C03 3X3 Tenon, Cactual size 2.88 O.D. x 3" I.D.	BK Black BZ Bronze GA Graphite GN Green GR Grey WH White	FGB GFI receptacle mounted inside base GRD 1/2 Copper Grounding Lug	R1226 Receptacle Provision located on the Hand Hole side, at 7.5 feet on 12 foot shaft R1626 Receptacle Provision located on the Hand Hole side, at 7.5 feet on 16 foot shaft **NOTE** Most include, FG03.GS, replace GS with shaft finish

Accessories: Order as separate catalog number.	
Anchor Bolt Sets:	**Templates:**
AB-27-4 1" Anchor bolt set, galvanized steel	TMP-65 Template for 17" round base, 12" BC, Non-Slotdrik
AB-31-4 3/4" Anchor bolt set, galvanized steel	TMP-99 Template for 20" round base, 17" BC, Non-Slotdrik
	TMP40008 Template for 17" round base, 12" BC, Slotdrik SL4
	TMP40010 Template for 17" round base, 12" BC, Slotdrik SL5

POST TOP PEDESTRIAN AREA LIGHT POLE BASE

N.T.S.

HOLOPHANE LEADER IN LIGHTING SOLUTIONS

NYA
North Yorkshire Aluminum Pole

Catalog Number	
Notes	Type

SPECIFICATIONS

General Description
The lighting post shall be all aluminum, one-piece construction, with a classic tapered base design.

Materials
- The base and fluted tapered cast shaft shall be heavy wall, cast aluminum produced from certified ASTM 356.1 ingot per ASTM B-179 or ASTM B26.
- The straight shafts shall be extruded from aluminum, ASTM 6061 alloy
- The tapered shaft shall be extruded from aluminum, ASTM 6063 alloy, spun to a tapered shape
- All hardware shall be tamper resistant stainless steel
- Anchor bolts to be completely hot dip galvanized
- Standard polyester powder coat paint to ensure maximum durability
- Rigorous multi-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5,000 hours exposure to salt fog chamber (operated per ASTM B117) on standard and RAL finish options.
- RAL (XXLxxxxDOD) paint colors are Super Durable Corrosion Resistant, 80% gloss.

Construction
- The shaft shall be double welded to the base casting and shipped as one piece for maximum structural integrity
- The shaft shall be welded inside the base casting at the top of the access door, and externally where the shaft exits the base
- The 17" base for all shafts, except SL5 & SL6, shall have dual hand holes at 180°; all other bases have a single hand hole.
- All welding shall be per AWS D1.1

Dimensions
- The post height shall range from 8' to 30' with a 1'0" or 20' diameter base
- At the top of the post, an integral tenon with a transitional donut shall be provided for luminaire mounting

- **Installation**
- The post shall be provided with four, hot dip galvanized L-type anchor bolts
- A door shall be provided in the base for anchorage and wiring access
- A grounding screw shall be provided inside the base opposite the door

Warranty
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

IMPORTANT INSTALLATION NOTES:
- **Do not** erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Acuity Brands Lighting will not accept claim for incorrect anchorage placement due to failure to use factory template.
- If base is ever stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Acuity Brands Lighting is not responsible for the foundation design.

Note: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice

The Rapid Ship Pole and Luminaire program provides quick solutions for urgent needs.
The most popular and readily available are available for those urgent projects. Select from the following options to get up to 20 units shipped in 20 working days or less!

ORDERING INFORMATION

Example: CCA 15SN 2A TN BK

Series	Length	Number of Arms	Mount	Shaft Style (Required with 80 option)	Finish
CCA Cleveland Crossarm	12SN Nominal 12" Length per Arm 15SN* Nominal 15" Length per Arm	1A Single Arm 2A 2 arms, 180° 2T9 2 arms, 180°, 9" center 2T12 2 arms, 180°, 12" center 2T14 2 arms, 180°, 14" center 2T16 2 arms, 180°, 16" center 2T18 2 arms, 180°, 18" center 2T19 2 arms, 180°, 19" center 4A 4 arms, 90° 4T9 4 arms, 90°, 9" center 4T12 4 arms, 90°, 12" center 4T14 4 arms, 90°, 14" center 4T16 4 arms, 90°, 16" center 4T18 4 arms, 90°, 18" center 4T19 4 arms, 90°, 19" center Note Refer to Center Tenon & Luminaire Configuration for height	BKT* Bolt-on arm TN Tenon Mount WB* Wall Bracket Mount	**Fluted Shaft** F4C 4" diameter, .125 wall F4J 4" diameter, .25 wall F5J 5" diameter, .25 wall **Smooth Shaft** S4C 4" diameter, .125 wall S4J 4" diameter, .25 wall S5J 5" diameter, .25 wall **Sled Ink** SL4 4.50" Fluted, .156 wall SL5 5.25" Fluted, .25 wall SL6 5.75" Fluted, .25 wall SL8 8.50" Fluted, .188 wall ST2 3.75" extruded, .25 wall ST3 8.50" extruded, .22 wall Note *SL only, Shaft Style required 2 SA only	BK Black BZ Bronze CMC Customer matching color CTBS Standard color to be selected DR Dark Blue GN Green GR Graphite GR Grey PP Prime Painted RALxxxxDOR RAL Super Durable Corrosion Resistant, 80% Gloss Paint, replace xxxx with RAL number. SL Silver WH White

EPA & WEIGHT

ARV	EPA (sqft)	Weight (LBS)
CCA 12SN 1A BD	0.76	18
CCA 12SN 1A WB	0.76	18
CCA 12SN 1A BD	0.76	18
CCA 12SN 1A WB	0.76	18
CCA 12SN 2A TN	1.34	28
CCA 12SN 4A TN	1.34	41
CCA 15SN 2A TN	1.56	31
CCA 15SN 4A TN	1.56	44

ARV	EPA (sqft)	Weight (LBS)
CCA 15SN 2T9 TN	1.80	35
CCA 15SN 2T12 TN	1.90	35
CCA 15SN 2T14 TN	1.97	36
CCA 15SN 2T16 TN	2.03	36
CCA 15SN 2T18 TN	2.10	37
CCA 15SN 2T19 TN	2.13	37

ARV	EPA (sqft)	Weight (LBS)
CCA 15SN 4T9 TN	1.80	48
CCA 15SN 4T12 TN	1.90	48
CCA 15SN 4T14 TN	1.97	49
CCA 15SN 4T16 TN	2.03	49
CCA 15SN 4T18 TN	2.10	50
CCA 15SN 4T19 TN	2.13	50

POST TOP PEDESTRIAN AREA LIGHT POLE ASSEMBLY (POLE AND ARMS)

N.T.S.

LUMEC by Signify

Roadway
RoadFocus reduced glare
RFL–RG Cobra head (large)

Lumec RoadFocus LED reduced glare cobra head luminaires provide the benefits of LED technology, including energy savings and lower maintenance costs yet minimizes perceived glare and brightness associated with LED technology without sacrificing performance required for optimum roadway applications. Includes Service Tag, innovative way to provide assistance throughout the life of the product.

Project:
Location:
Cat.No:
Type:
Lumens: Qty:
Notes:

Ordering guide

example: RFL–RG–230W12BLED4K–GD–R2/2M–UNV–SWD–RC07–DP3

Series RFL RoadFocus large	Application RG Reduced glare	LED module 150W12BLED 180W12BLED 220W12BLED 200W12BLED 230W12BLED 290W12BLED 300W12BLED 320W12BLED 340W12BLED 185W16DLED 205W16DLED 270W16DLED 310W16DLED 180W18DLED 185W19DLED 220W19DLED 230W19DLED 260W19DLED 300W19DLED 340W19DLED	CCT 4K 4000K 5K 5000K 2.7K* 2700K	Generation GZ Generation 2	Distribution R2/2M Type II-III Medium (ASYM)	Voltage UNV 120-277V HVU 347-480V	Controls * DA7* 2hage-DA certified DALI Digitally addressable lighting interface DMD* 0-10V SRD Step dimming ready driver, standard configuration SRDZ Step dimming ready driver, alternate configuration	Options Options APL Factory installed NEMA label, ANSI C136.15-2015 compliant FAWS* Field adjustable wattage and output FBS ** Full Backlight Shield HS ** House Side Shield NRC* No receptacle NTBC 4-position terminal block OMS * Outdoor Multi Sensor PIR * Twist-lock photoelectric cell, UNV (120-277VAC) PIR347 ** Twist-lock photoelectric cell (347VAC) PIR480 ** Twist-lock photoelectric cell (480VAC) PIRL ** Twist-lock photoelectric cell, extended life, UNV (120-277VAC) PIRR * Shorting cap Tool less receptacle for twist-lock photocontrol, shorting cap, 5-pin (optional) PIRT * Tool less receptacle for twist-lock photocontrol, shorting cap, 7-pin (standard) SP3 20kV / 10kA Surge protector TLRSR * SR receptacle BAA * Meets the requirements of the Buy American Act of 1933 (BAA)	Finish BK Black BR Bronze GY3 Grey WH White

* Not available with HVU.
* Refer to Accessories section to confirm compatibility of shields with optical distribution.
* Use of photoelectric cell or shorting cap is required for specific area lighting control.
* Select one mandatory option.
* Please note this integrated feature come standard with RoadFocus.
* Only available with SRD or SRDT.
* Not available with UNV.
* Only available with DMD Driver Options.
* Not available with PH8, PH8/347, PH8/480, PYGL, PH8, DALI, SRD or SRDT Driver Options.
* Not available with SRD Driver Options.
* Either RCD or RCD7 must be selected with PIR options.
* Extended lead time may apply. Consult factory.
* Not available with UNV.
* 1 shield provided per LED light engine.
* TLRSR must be selected with DA7.
* TLRSR and DA must be selected with OMS
** Failure to properly select the "BAC" suffix could result in you receiving product that is not BAA compliant and cannot be used on your project. Selecting the "BAC" designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requirements imposed on states. Consult Signify to confirm whether your state's definition of receiving funds administered by the Department of Transportation or other federal agencies.
* Consult Signify to confirm whether specific accessories are BAA-compliant.

Accessories* (must be ordered as separate line item - quickly and easily installed in the field)
Interact City connector node (Contact the factory for additional support when connected lighting or additional services are desired.)
Shielding accessories

Description	Luminaire Option Code	Accessory Ordering Code 30 LED version*
Front side shield	FBS	ACC–LSWHSSLED–FBS
House side shield	HS	ACC–LSWHSSLED–HS

*Refer to Wattage table to confirm light engine configuration. Example, if configuration is 2x22LED, 2 of the desired shields must be ordered per luminaire.

RoadFocus–RFL–RG 10/21 page 1 of 4

ROADWAY AREA LIGHT FIXTURE

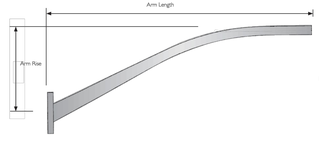
N.T.S.

LUMEC by Signify

Poles & Brackets
Roadway Brackets
ELW
Tapered Elliptical Bracket

The Lumec ELW aluminum tapered elliptical bracket is made with 6063–T6 alloy and features a standard 2–3/8" O.D. x 6" long fixed tenon for luminaire mounting with a rotary sealed or thermoset polyester powder coat. The bracket can be specified as one (1A) or two arms (2) per pole.

Project:
Location:
Cat.No:
Type:
Lumens: Qty:
Notes:



Catalog Number	Arm Length (feet)	Arm Rise (feet)	Degrees	Tube Size (inches)	Wall Thickness (inches)	Bracket Weight (pounds)	Luminaire Mounting Height (feet)
ELW–A–1A	4	2	3 – 5	3.5	0.125	8	pole height + 1
ELW–A–1A	6	3	3 – 5	3.5	0.125	11	pole height + 2
ELW–A–1A	8	4	3 – 5	3.5	0.125	20	pole height + 3
ELW–I–1–A	10	4	3 – 5	3.5	0.156	23	pole height + 3
ELW–I–1–A	12	4	3 – 5	3.5	0.156	30	pole height + 3

Signify
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ROADWAY AREA LIGHT BRACKET

N.T.S.

No.	Description	Date
	REVISIONS	

STATE OF NEW JERSEY JOHN C. COTE 37058 PROFESSIONAL ENGINEER

SIGNATURE JOHN C. COTE 2/12/2026 DATE SIGNED
PROFESSIONAL ENGINEER NJ Lic. No. 24GE03705800

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NJ Certificate of Authorization No. 24GA27996400

Project
CRESTMONT COUNTRY CLUB & EAGLE ROCK AVE IMPROVEMENTS
BLOCK No. 174, LOT No. 1.01
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
LIGHTING NOTES & DETAILS

Project No. 101049802
Date FEBRUARY 12, 2026
Drawn By AM
Checked By DB

Drawing No. LL501
Sheet 36 of 36

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