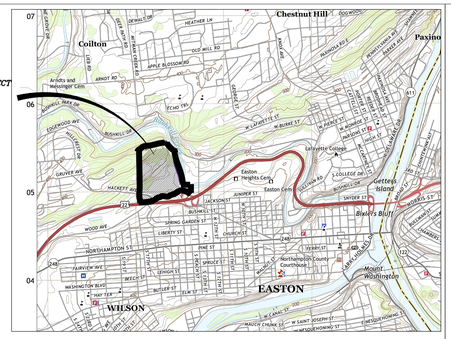
PROJECT TITLE: EASTON COMMERCE PARK

SOILS LIMITAION

SOIL LIMITATIONS	SOIL RESOLUTIONS	SOIL TYPES						
		Gladstone	Parker	Ho	Ryder	Urban land	Udorthents	Washington
CUTBANKS CAVE	LAYBACK SLOPES	X	X	X	X	X	X	X
CORROSIVE TO CONCRETE/STEEL	CORROSION RESISTANT CONCRETE	C	C	C/S	C/S	C/S	C	S
DROUGHTY	N/A		X					
EASILY ERODIBLE	MAINTAIN EROSION CONTROL BMPs	X					X	
FLOODING	AVOID WORK IN FLOOD AREAS			X				
DEPTH TO WATER TABLE/ SATURATED ZONE	PUMPED WATER FILTER, FOOTER DRAINS			X				X
HYDRIC/ HYDRIC INCLUSIONS	AVOIDANCE, PUMPED WATER FILTER BAG, TRENCH PLUGS	X		X			X	X
LOW STRENGTH/ LANDSLIDE PRONE	LAYBACK SLOPES/ DESIGN FOR CONDITIONS			X	X	X	X	X
SLOW PERCOLATION	DRAINAGE DITCH, PUMPED WATER FILTER BAG	X	X	X	X	X	X	X
PIPING	TRENCH PLUGS			X	X		X	X
POOR SOURCE OF TOPSOIL	AVOID REUSE AS TOPSOIL OR AMEND AS NECESSARY		X	X		X		
FROST ACTION	CONSTRUCT BELOW FROST DEPTHS/ POSITIVE SUBGRADE	X	X	X	X	X	X	X
SHRINK-SWELL	AVOID USE OF CLAY SOILS IN BUILDING AREAS	X						X
POTENTIAL SINKHOLE	SINKHOLE MITIGATION TECHNIQUES				X			X
PONDING	PROVIDE POSITIVE DRAINAGE			X				
WETNESS	UTILIZE GOOD WEATHER/ TEMPORARY DRAIN TILE			X				



LOCATION MAP
SCALE 1"-2000'

SITE DATA:

RECORD OWNER: ABRUZZI TRUST, NEVADA DYNASTY TRUST.
848 N RAINBOW BLVD #5516
LAS VEGAS NV 89107-1103

APPLICANT: EASTON WOOD AVE PROPCO. LLC.
8801 RIVER CROSSING BLVD.
INDIANAPOLIS, INDIANA 46240

TEL: 312-656-7491

LOCATION: WILSON BOROUGH, CITY OF EASTON, NORTHAMPTON COUNTY

FOR APN/PARCEL IDES): L9-34-4-0310, L9-34-4-0324, L9-34-4-0837, L9-23-1-0310, L9-23-1-0837, LNW3C-1-1-0837, L9-22-1-0837, L9-21-2-0837, L9-15-1-0310, L9-6-1-0310, L9-6-1-0837, L9-6-1B-310, AND LNW3D-1-2-0837

BEING THE PREMISES KNOWN AS TAX PARCEL IDENTIFIER NUMBERS LNW3D-1-2-0837, AND L9-6-1-0310, AND MORE PARTICULARLY DESCRIBED ON EXHIBIT A ATTACHED WITHIN THE DEED IN RECORD BOOK 202-1, PAGE 5787. BEING THE SAME PREMISES THAT ELEMENTS PIGMENTS, INC., F/K/A HARCROS PIGMENTS, INC., BY SPECIAL WARRANTY DEED DATED AUGUST 31, 2007 AND RECORDED SEPTEMBER 26, 2007, IN NORTHAMPTON COUNTY, PENNSYLVANIA, IN RECORD BOOK 2007-1 PAGE 354475, GRANTED AND CONVEYED UNTO EXCALIBUR REALTY COMPANY, IN FEE.
BEING THE SAME PREMISES WHICH EXCALIBUR REALITY COMPANY, A DELAWARE CORPORATION, BY DEED DATED 12/30/2019 AND RECORDED 1/8/2020 IN NORTHAMPTON COUNTY IN RECORD BOOK 2020-1 PAGE 5787, CONVEYED UNTO ABACUS INDUSTRIAL HOLDINGS LLC. A DELAWARE LIMITED LIABILITY COMPANY, IN FEE.

TEM PROPERTY KNOWN AS PREMISES A – PARCEL NO 1(APN #'S L9-34-4-0310, L9-34-4-0837, L9-34-4-0324), PREMISES A – PARCEL NO 2(APN#'S L9-23-1-0837, L9-23-1-0310), PREMISES A – PARCEL NO 3 (APN #LNW3C-1-1-0837), PREMISES A – PARCEL NO 4 (APN #L9-22-1-0837), PREMISES A – PARCEL NO 5 (APN #L9-21-2-0837), PREMISES B – PARCEL NO 1(L9-15-1-0310 (APN#L9-15-1-0310), PREMISES C (APN #'S LNW3D-1-2-0837,L9-6-1-0310, L9-6-1B-310), RECORD BOOK 2020-1, PAGE 5787 NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA.

THE PROPOSED USE IS FOR A G-13 WAREHOUSE USE PER WILSON BOROUGH ZONING ORDINANCE

- SOILS TYPE

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GIC	Gladstone gravelly loam, 8 to 15 percent slopes	23.1	11.6%
GnD	Gladstone-Parker gravelly loams, 15 to 25 percent slopes	42.9	21.5%
Ho	Holly silt loam	6.0	3.0%
RzF	Ryder-Rock outcrop complex, 25 to 75 percent slopes	25.0	12.5%
UkaB	Urban land, 0 to 8 percent slopes	1.6	0.8%
Ukb	Urban land, occasionally flooded	20.1	10.1%
UpD	Urban land-Gladstone complex, 8 to 25 percent slopes	6.8	3.4%
UudB	Urban land-Udorthents, limestone complex, 0 to 8 percent slopes	60.1	30.1%
W	Water	8.0	4.0%
WaC	Washington silt loam, 8 to 15 percent slopes	4.8	2.4%
WaD	Washington silt loam, 15 to 25 percent slopes	1.0	0.5%
Totals for Area of Interest		**199.4**	**100.0%**

THE FOLLOWING IS THE CRITERIA USED FOR DETERMINING THE SITE DESIGN AND CALCULATIONS PERFORMED:

- DESIGN PER CITY OF EATON, PALMER TOWNSHIP, AND WILSON BOROUGH SUBDIVISION & LAND DEVELOPMENT ORDINANCE AND STORMWATER ORDINANCES.
- DESIGN PER PADEP MRC DESIGN MANUAL AND GUIDELINES.
- THE PROJECT IS LOCATED IN THE BUSHKILL CREEK WATERSHED, SUBAREA 130, WHICH IS A 30/PND RELEASE RATE DISTRICT. THE TOTAL PRODJECT WILL MEET THE DESIGN CRITERIA TO REDUCE THE POST-DEVELOPMENT 2YR STORM RATE TO THE PRE-DEVELOPMENT 1YR STORM RATE FOR THE ENTIRE PROJECT AREA AS WELL AS LIMITING IT TO VALUES LESS THAN 30% OF THE PRE-DEVELOPMENT RELEASE RATE. GREATER STORMS WERE ALSO CONTROLLED TO RATES LESS THAN THE EXISTING RELEASE RATES. THIS MEETS THE TOWNSHIP AND DEP REQUIREMENTS FOR ALL STORMS.
- CALCULATION METHODOLOGY: SCS TR-55 METHOD FOR PADEP MRC DESIGN AND RATIONAL METHOD FOR MODELING THE DESIGNED MRC BMPS TO CHECK COMPLIANCE WITH LOCAL REQUIREMENTS.
  - THE HYDROGRAPHS EXTENSION FOR AUTODESK CIVIL 3D.
- SITE RUNOFF EVALUATED FOR THE 1-, 2-, 5-, 10-, 25-, 50- AND 100-YEAR STORMS. MRC BASIN DESIGN WITH THE 1.2" STORM WAS EMPLOYED WITH A DISTRIBUTION SIMILAR TO THE NJ WATER QUALITY STORM.
- THE MRC BMPS WERE EVALUATED USING THE STORAGE INDICATION METHOD IN HYDRAFLOW HYDROGRAPHS EXTENSION IN AUTOCAD.
- THE EMERGENCY SPILLWAYS WERE SIZED TO SAFELY PASS THE PEAK 100-YR FLOW FROM THE BMPS WITH AT LEAST 1.0' FREEBOARD BETWEEN THE 100-YR WATER POOL AND TOP OF THE EMBANKMENT. THE ADEQUATE SIZE OF OUTLET PIPES WAS ALSO CHECKED TO SAFELY DRAIN THE EMERGENCY FLOW. A TRAPEZOIDAL CHANNEL WAS DESIGNED TO CONVEY THE FLOW THROUGH THE BERMS.
- BASED ON SITE TOPOGRAPHY, 1 POINT OF INTEREST (POI) WAS ANALYZED FOR THE TOTAL PROJECT COMPLIANCE WITH TOWNSHIP AND DEP REQUIREMENTS, THOUGH SUB-BASINS TO THAT SINGLE POI WERE ALSO ANALYZED TO ENSURE THE EXISTING HYDROLOGIC REGIMES WERE MAINTAINED. THE EXISTING DRAINAGE AREAS ASSOCIATED WITH PROPOSED POIS, WHICH ARE OUTFLOWS FROM PROPOSED BMPS, WERE ESTIMATED AS PROPORTIONAL TO THE POST-CONSTRUCTION DRAINAGE AREAS ASSOCIATED WITH EACH BMP. SUCH ESTIMATION MADE IT FEASIBLE TO COMPARE PRE- AND POST-CONSTRUCTION RELEASE RATES, WHILE THE SUM OF EXISTING RELEASE RATES EQUALS THE MODELED EXISTING RELEASE RATE FOR THE POI IDENTIFIED BASED ON THE TOPOGRAPHY.
- AS-BUILT PLANS FOR ALL STORMWATER MANAGEMENT AND STORMWATER CONVEYANCE FACILITIES, INCLUDING SWALES SHALL BE SUBMITTED.

TABLE OF CONTENTS

PLAN TITLE	PLAN NO.	SHEET
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PCSM EXISTING CONDITIONS	C-301	2 OF 19
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PCSM EXISTING CONDITIONS B	C-301B	4 OF 19
PCSM EXISTING CONDITIONS C	C-301C	5 OF 19
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PCSM DRAINAGE AREA	C-306	19 OF 19

EXISTING FEATURES LEGEND

- EXISTING ADJOINING BOUNDARY LINE
- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING DRAINAGE
- EXISTING TIME OF CONCENTRATION
- EXISTING MUNICIPAL BOUNDARY
- EXISTING CONCRETE FEATURE
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- EXISTING STREAM LINE
- EXISTING SOILS LIMIT
- EXISTING CABLE TELEPHONE LINE
- EXISTING GAS LINE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE
- EXISTING FLOOD ZONE AREA

PROPOSED FEATURES LEGEND

- PROPOSED SETBACK
- LIMIT OF DISTURBANCE (85.00 ACRES)
- 350 PROPOSED CONTOUR
- PROPOSED BUILDING
- PROJECT AREA (110.6 ACRES)
- PROPOSED DA
- PROPOSED TC
- PROPOSED WETLAND MITIGATION AREAS
- 100' 050' STREAM BUFFER ZONES

GRAPHIC SCALE
200' 100' 0 100' 200'
1" = 100'

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1	1	1	1	1	09-26-2024	08-09-2024	07-15-2024	DATE
					PER COUNTY COMMENTS	PER BOROUGH COMMENTS	PER BOROUGH, CITY, LVPC COMMENTS	REVISION

PER NORTHAMPTON COUNTY SUBDIVISION & LAND DEVELOPMENT REVIEW

BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 FAX: 610-678-3517
WWW.BOGIAENG.COM

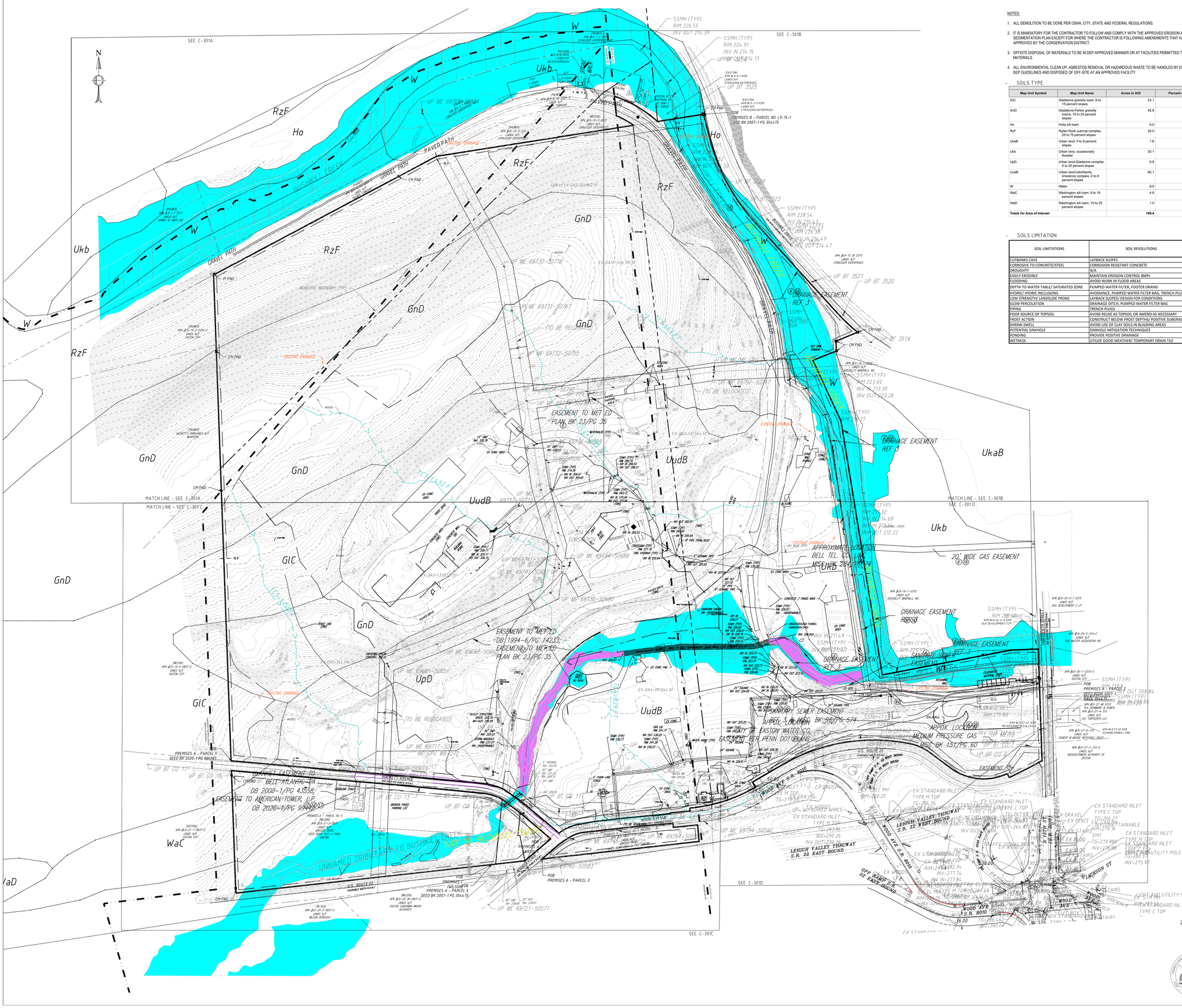
FINAL PLAN
EASTON COMMERCE PARK
PCSM COVER

EASTON WOOD AVE ProgCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1":100'
DRAWING:	C-300
PROJECT:	2022-528
SHEET:	1 OF 19

PROJECT TITLE: EASTON COMMERCE PARK



NOTES:

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4. ALL ENVIRONMENTAL CLEAN UP, ASBESTOS REMOVAL OR HAZARDOUS WASTE TO BE HANDLED BY EPA AND DEP GUIDELINES AND DISPOSED OF OFF-SITE AT AN APPROVED FACILITY.

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CUTBANKS CAVE	LAYBACK SLOPES	X	X	X	X	X	X	X
CORROSIVE TO CONCRETE/STEEL	CORROSION RESISTANT CONCRETE	C	C	C/S	C/S	C/S	C	S
DROUGHTY	N/A		X					
EASILY ERODIBLE	MAINTAIN EROSION CONTROL BMPs	X					X	
FLOODING	AVOID WORK IN FLOOD AREAS			X				
DEPTH TO WATER TABLE/ SATURATED ZONE	PUMPED WATER FILTER, FOOTER DRAINS			X				X
HYDRIC/ HYDRIC INCLUSIONS	AVOIDANCE, PUMPED WATER FILTER BAG, TRENCH PLUGS	X		X			X	X
LOW STRENGTH/ LANDSLIDE PRONE	LAYBACK SLOPES/ DESIGN FOR CONDITIONS			X	X	X	X	X
SLOW PERCOLATION	DRAINAGE DITCH, PUMPED WATER FILTER BAG	X	X	X	X	X	X	X
PIPING	TRENCH PLUGS			X	X	X	X	X
POOR SOURCE OF TOPSOIL	AVOID REUSE AS TOPSOIL OR AMEND AS NECESSARY		X	X		X		
FROST ACTION	CONSTRUCT BELOW FROST DEPTHS/ POSITIVE SUBGRADE	X	X	X	X	X	X	X
SHRINK-SWELL	AVOID USE OF CLAY SOILS IN BUILDING AREAS	X						X
POTENTIAL SINKHOLE	SINKHOLE MITIGATION TECHNIQUES				X			X
PONDING	PROVIDE POSITIVE DRAINAGE			X				
WETNESS	UTILIZE GOOD WEATHER/ TEMPORARY DRAIN TILE			X				

EXISTING FEATURES LEGEND:

- EXISTING ADJOINING BOUNDARY LINE
- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING DRAINAGE
- EXISTING TIME OF CONCENTRATION
- EXISTING MUNICIPAL BOUNDARY
- 300 — EXISTING CONCRETE FEATURE
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- EXISTING SOILS LIMIT
- EXISTING CABLE TELEPHONE LINE
- EXISTING GAS LINE
- EXISTING DA
- EXISTING TC
- EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE
- WTLn2 — EXISTING WETLAND LIMIT
- EXISTING WETLAND TBR (0.66 AC. TOTAL)
- 51 16 — EXISTING EDGE OF STREAM
- MODELED EXISTING 100-YEAR FLOOD
- ZONE A — NO BASE FLOOD ELEVATION DETERMINED
- ZONE AE — BASE FLOOD ELEVATION DETERMINED. (FEMA)
- FLOODWAY AREAS IN ZONE AE. THE FLOODWAY IS THE CHANNEL OF A STREAM PLUS ANY ADJACENT FLOODPLAIN AREAS THAT MUST BE KEPT FREE OF ENCROACHMENT SO THAT THE 1% ANNUAL CHANCE FLOOD CAN BE CARRIED WITHOUT SUBSTANTIAL INCREASES IN FLOOD HEIGHTS.
- ZONE X - "OTHER AREAS" — AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1' OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.

PROPOSED FEATURES LEGEND:

- PROPOSED SETBACK
- PROJECT BOUNDARY (113.6 ACRES)
- LIMIT OF DISTURBANCE (85.00 ACRES)
- 100' — STREAM BUFFER ZONES

GRAPHIC SCALE

200' 100' 0 100' 200'

1" = 100'

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STOP! CALL 1-800-242-1776 TOLL FREE

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DATE	REVISION
09-26-2024	PER COUNTY COMMENTS
08-06-2024	PER BOROUGH COMMENTS
07-12-2024	PER BOROUGH, CITY, LVRC COMMENTS
05-13-2024	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW

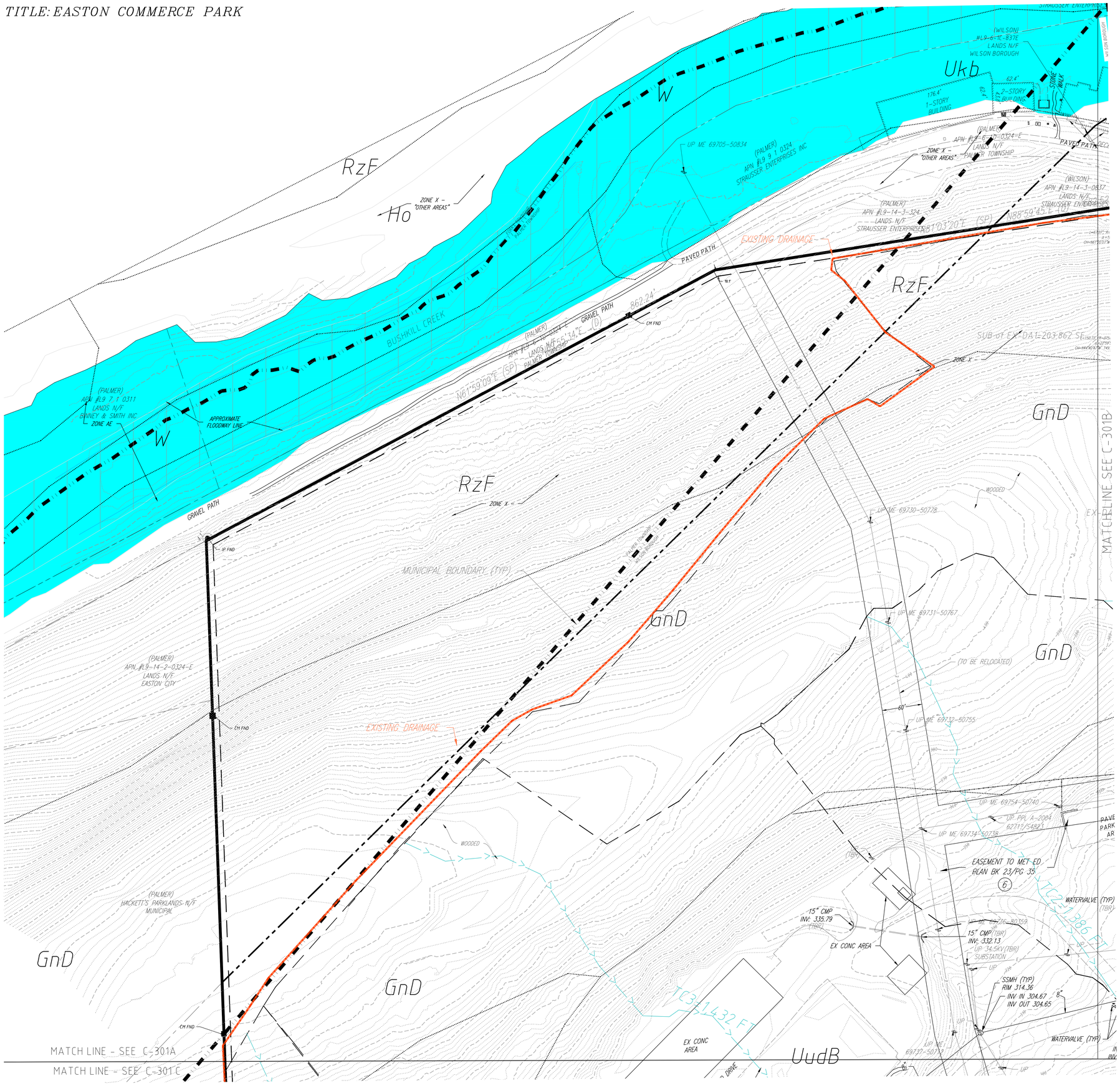
BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

FINAL PLAN
EASTON COMMERCE PARK
PCSM EXISTING CONDITIONS

EASTON WOOD AVE PropCO, LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS, IN 46540

JOB: EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA
PIN: CHECK SHEET C-300
CHECKED BY: DH
DRAWN BY: CF
DATE: 04-01-2023
SCALE: 1" : 100'
DRAWING: C-301
PROJECT: 2022-528
SHEET: 2 OF 19

PROJECT TITLE: EASTON COMMERCE PARK



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PROPOSED FEATURES LEGEND:

- PROPOSED SETBACK
- PROJECT BOUNDARY (113± ACRES)
- LIMIT OF DISTURBANCE (65.93 ACRES)
- 100' 25' STREAM BUFFER ZONES

GRAPHIC SCALE

100' 50' 0 50' 100'

1" = 50'

1	09-26-2024	PER COUNTY COMMENTS
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1	07-12-2024	PER BOROUGH, CITY, LVPC COMMENTS
1	05-13-2024	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW
	DATE	REVISION

BEI

BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

FINAL PLAN
EASTON COMMERCE PARK
PCSM EXISTING CONDITIONS A

EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" = 50'
DRAWING:	C-301A
PROJECT:	2022-528
SHEET:	3 OF 19

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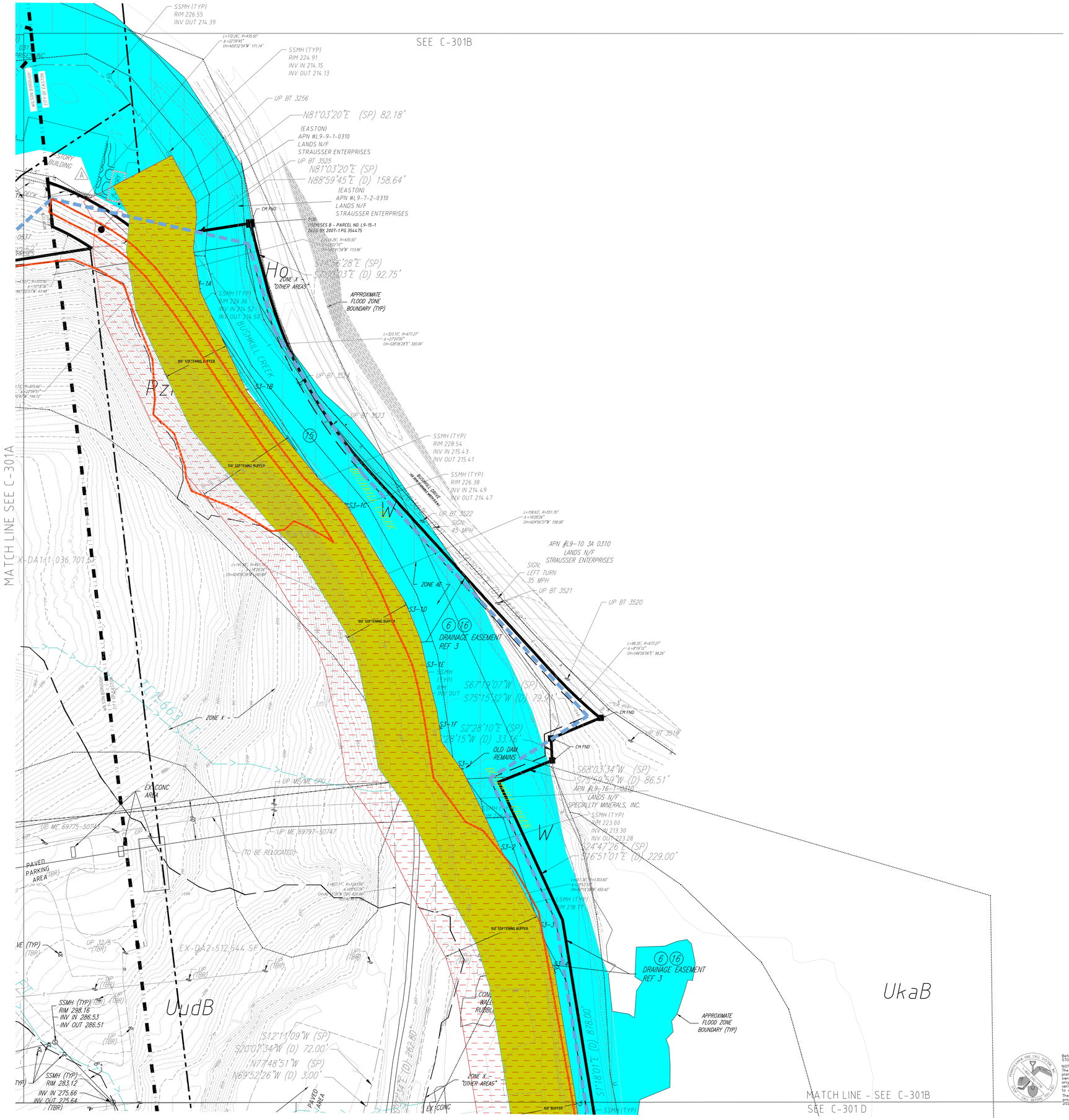

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- EXISTING TREE LINE
- EXISTING STREAM LINE
- EXISTING SOILS LIMIT
- EXISTING CABLE TELEPHONE LINE
- EXISTING GAS LINE
- EXISTING DA
- EXISTING TC
- EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE
- WL-2 EXISTING WETLAND LIMIT
- EXISTING WETLAND TBR (0.06 AC. TOTAL)
- 516 EXISTING EDGE OF STREAM
- MODELED EXISTING 100-YEAR FLOOD
- ZONE A NO BASE FLOOD ELEVATION DETERMINED.
- ZONE AE BASE FLOOD ELEVATION DETERMINED. (FEMA)
- FLOODWAY AREAS IN ZONE AE
  THE FLOODWAY IS THE CHANNEL OF A STREAM PLUS ANY ADJACENT FLOODPLAIN AREAS THAT MUST BE KEPT FREE OF ENCROACHMENT SO THAT THE 1% ANNUAL CHANCE FLOOD CAN BE CARRIED WITHOUT SUBSTANTIAL INCREASES IN FLOOD HEIGHTS.

ZONE X - "OTHER AREAS"
AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1' OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.

- EXISTING DRAINAGE AREA

PROPOSED FEATURES LEGEND:

- PROPOSED SETBACK
- PROJECT BOUNDARY (113.6 ACRES)
- LIMIT OF DISTURBANCE (85.90 ACRES)
- 100' 150' STREAM BUFFER ZONES

Before You Dig Anywhere in PENNSYLVANIA
STOP! CALL 1-800-242-1776 TOLL FREE

NOTE:
The location of underground utilities shown on this plan are based on pavement markings by utility companies and surface facilities, and are approximate only. It shall be the contractors' responsibility to verify the exact location and depth of utilities prior to any earthmoving activities.
The Pennsylvania One-Call serial numbers for this project are 20230511306,20230511307,20230511308 20230511309

GRAPHIC SCALE
100' 50' 0 50' 100'
1" = 50'

1	PER COUNTY COMMENTS
1	PER BOROUGH COMMENTS
1	PER BOROUGH, CITY, LRTA COMMENTS
1	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW
REVISION	DATE
1	09-26-2024
1	08-09-2024
1	07-12-2024
1	05-10-2024

BEI

BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

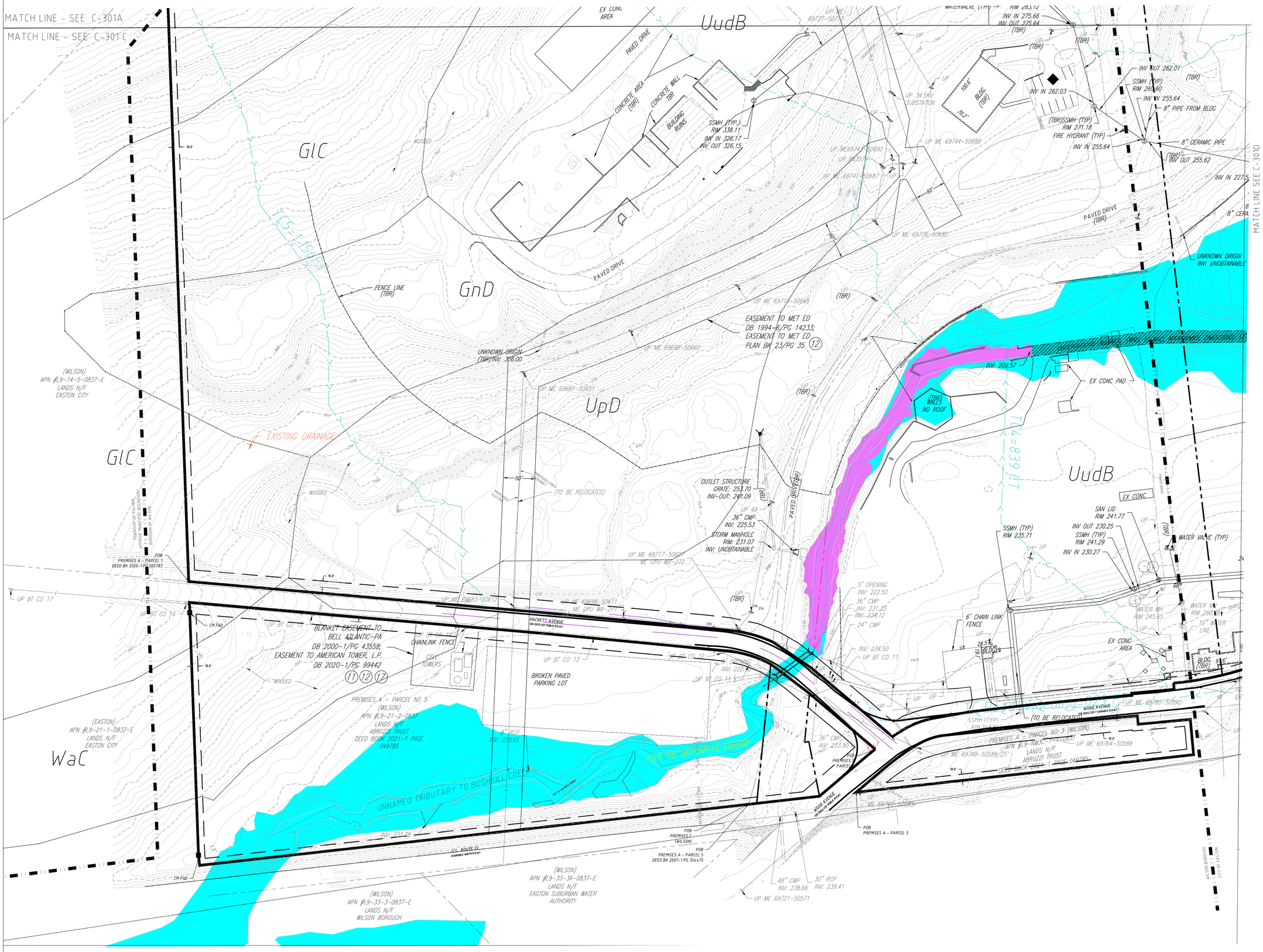
FINAL PLAN
EASTON COMMERCE PARK
PCSM EXISTING CONDITIONS B

EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" : 50'
DRAWING:	C-301B
PROJECT:	2022-528
SHEET:	4 OF 19

PROJECT TITLE: EASTON COMMERCE PARK



NOTES:

1. ALL DEMOLITION TO BE DONE PER OSHA, CITY, STATE AND FEDERAL REGULATIONS.
2. IT IS MANDATORY FOR THE CONTRACTOR TO FOLLOW AND COMPLY WITH THE APPROVED EROSION AND SEDIMENTATION PLAN EXCEPT FOR WHERE THE CONTRACTOR IS FOLLOWING AMENDMENTS THAT HAVE BEEN APPROVED BY THE CONSERVATION DISTRICT.
3. OFFSITE DISPOSAL OF MATERIALS TO BE IN DEP APPROVED MANNER OR AT FACILITIES PERMITTED TO HANDLE MATERIALS.
4. ALL ENVIRONMENTAL CLEAN UP, ASBESTOS REMOVAL OR HAZARDOUS WASTE TO BE HANDLED BY EPA AND DEP GUIDELINES AND DISPOSED OF OFF-SITE AT AN APPROVED FACILITY.

EXISTING FEATURES LEGEND:

- EXISTING ADJOINING BOUNDARY LINE
- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING DRAINAGE
- EXISTING WATER CONCENTRATION
- EXISTING MUNICIPAL BOUNDARY
- EXISTING CONCRETE FEATURE
- 300 EXISTING MAJOR CONTOUR
- 222 EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- EXISTING FENCE LINE
- EXISTING TREE LINE
- EXISTING WOODLINE
- EXISTING SOILS LIMIT
- EXISTING CABLE TELEPHONE LINE
- EXISTING GAS LINE
- EXISTING DA
- EXISTING TC
- EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE
- W1-2 EXISTING WETLAND LIMIT
- EXISTING WETLAND TBR (0.06 AC. TOTAL)
- ST-16 EXISTING EDGE OF STREAM
- MODELED EXISTING 100-YEAR FLOOD
- ZONE A — NO BASE FLOOD ELEVATION DETERMINED.
- ZONE AE — BASE FLOOD ELEVATION DETERMINED. (FEMA)
- FLOODWAY AREAS IN ZONE AE — THE FLOODWAY IS THE CHANNEL OF A STREAM PLUS ANY ADJACENT FLOODPLAIN AREAS THAT MUST BE KEPT FREE OF ENCROACHMENT SO THAT THE 1% ANNUAL CHANCE FLOOD CAN BE CARRIED WITHOUT SUBSTANTIAL INCREASES IN FLOOD HEIGHTS.
- ZONE X - "OTHER AREAS" — AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1' OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.
- EXISTING DRAINAGE AREA

PROPOSED FEATURES LEGEND:

- PROPOSED SETBACK
- PROJECT BOUNDARY (113.6 ACRES)
- LIMIT OF DISTURBANCE (85.00 ACRES)
- 100' / 150' STREAM BUFFER ZONES

GRAPHIC SCALE

100' 50' 0 50' 100'

1" = 50'

Before You Dig Anywhere in PENNSYLVANIA
STOP! CALL 1-800-242-1776 TOLL FREE

NOTE:
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PA One Call Ticket serial numbers for this project are 20230511306,20230511307,20230511308 20230511309

DATE	REVISION
09-26-2024	PER COUNTY COMMENTS
08-06-2024	PER BOROUGH COMMENTS
07-12-2024	PER BOROUGH, CITY, LVPC COMMENTS
05-13-2024	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW

BEI

BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

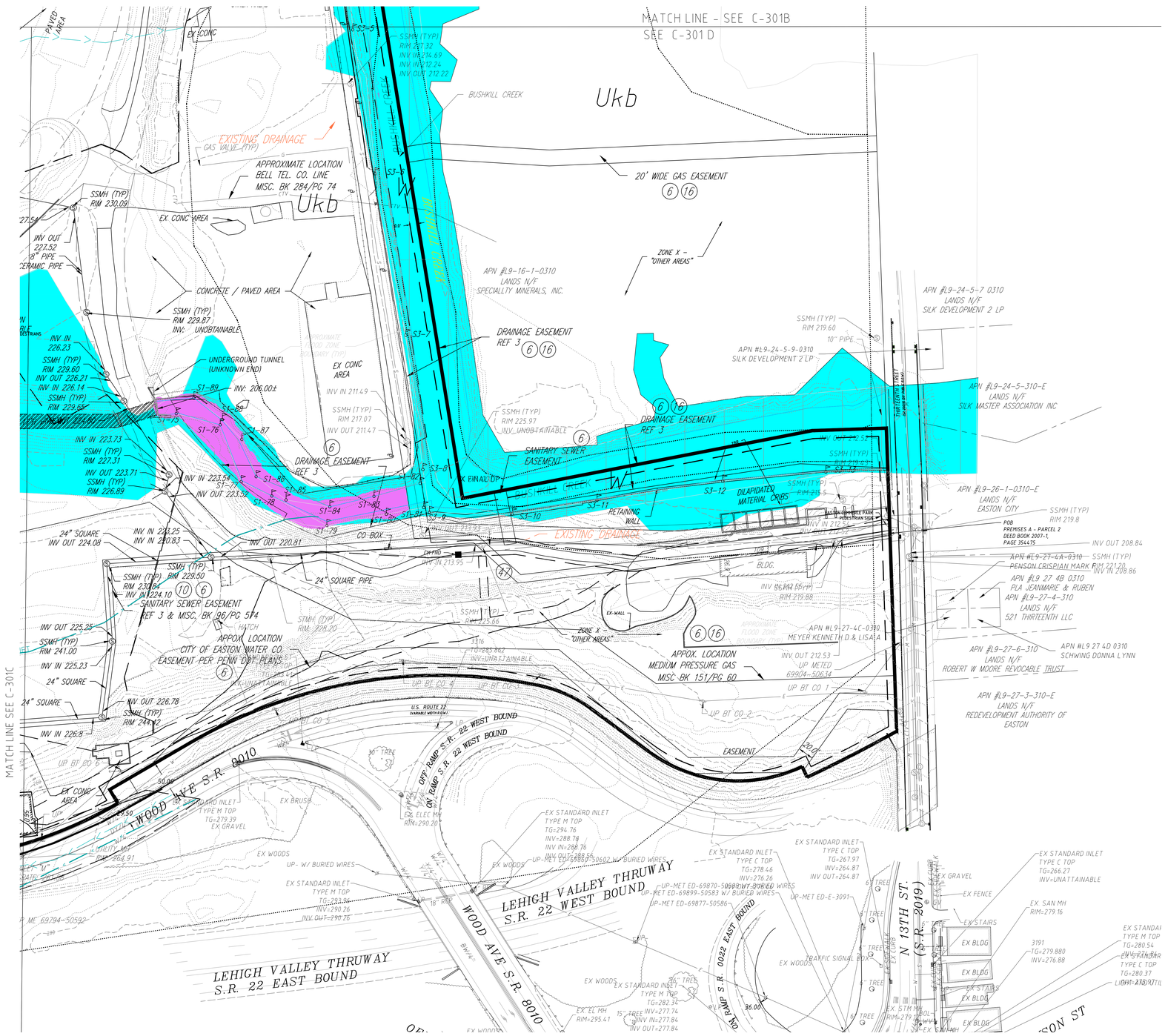
FINAL PLAN
EASTON COMMERCE PARK
PCSM EXISTING CONDITIONS C

EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" : 50'
DRAWING:	C-301C
PROJECT:	2022-528
SHEET:	5 OF 19

PROJECT TITLE: EASTON COMMERCE PARK



NOTES:

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EXISTING FEATURES LEGEND:

- EXISTING ADJOINING BOUNDARY LINE
- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING DRAINAGE
- EXISTING TIME OF CONCENTRATION
- EXISTING MUNICIPAL BOUNDARY
- EXISTING CONCRETE FEATURE
- 300 / 222 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- EXISTING FENCE LINE
- EXISTING TREE LINE
- EXISTING STREAM LINE
- EXISTING SOILS LIMIT
- EXISTING CABLE TELEPHONE LINE
- EXISTING GAS LINE
- EXISTING DA
- EXISTING TC
- EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE
- W1c2 — EXISTING WETLAND LIMIT
- EXISTING WETLAND TBR (0.06 AC. TOTAL)
- S1c16 — EXISTING EDGE OF STREAM
- MODELED EXISTING 100-YEAR FLOOD
- MODELED EXISTING 100-YEAR FLOOD
- ZONE A — NO BASE FLOOD ELEVATION DETERMINED
- ZONE AE — BASE FLOOD ELEVATION DETERMINED. (FEMA)
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- EXISTING DRAINAGE AREA

PROPOSED FEATURES LEGEND:

- PROPOSED SETBACK
- PROJECT BOUNDARY (113.6 ACRES)
- LIMIT OF DISTURBANCE (85.00 ACRES)
- 100' / 250' — STREAM BUFFER ZONES

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The Pennsylvania One-Call serial numbers for this project are 20230511306,20230511307,20230511308 20230511309

GRAPHIC SCALE

100' 50' 0 50' 100'

1" = 50'

DATE	REVISION
09-24-2024	PER COUNTY COMMENTS
08-09-2024	PER BOROUGH COMMENTS
07-12-2024	PER BOROUGH, CITY, LVRC COMMENTS
05-13-2024	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW

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BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 FAX: 610-678-3517
WWW.BOGIAENG.COM

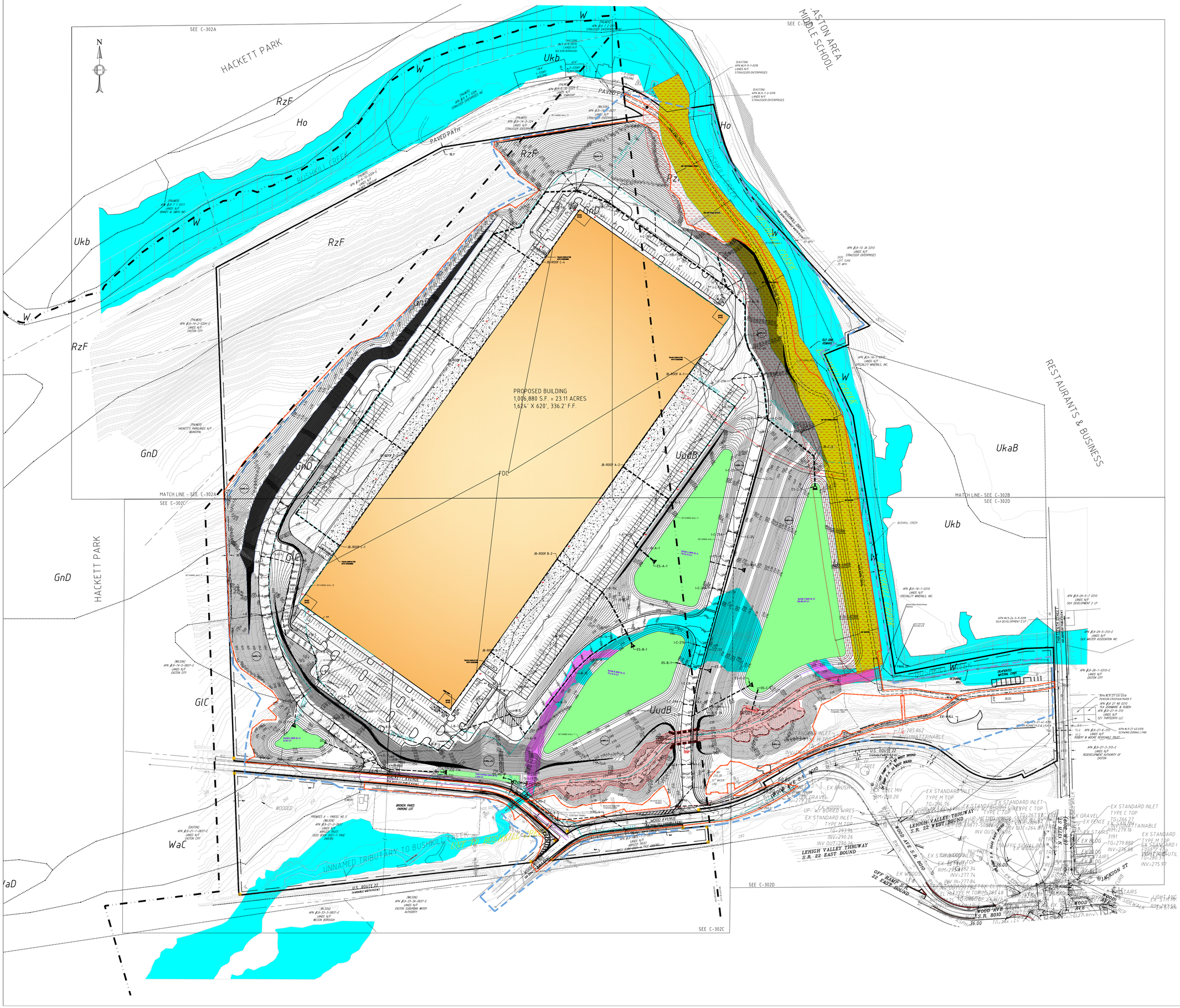
FINAL PLAN
EASTON COMMERCE PARK
PCSM EXISTING CONDITIONS D

EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1:50
DRAWING:	C-301D
PROJECT:	2022-528
SHEET:	6 OF 19

PROJECT TITLE: EASTON COMMERCE PARK



PROPOSED FEATURES LEGEND:

- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- 308 PROPOSED CONTOUR
- E PROPOSED ELECTRIC LINE
- W PROPOSED WATER MAIN
- S PROPOSED SEWER MAIN AND MANHOLE
- G PROPOSED GAS MAIN
- MITIGATED WETLAND
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- PROPOSED CURB
- PROPOSED FENCE LINE
- PROPOSED PAVEMENT MARKING
- PROPOSED SETBACK
- LIMIT OF DISTURBANCE (85.00 ACRES)
- PROPOSED DRAINAGE EASEMENT (0.5' ABOVE MODELED 100-YEAR FLOOD)
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED WETLANDS HATCH
- BASIN HATCH
- 100' 150' STREAM BUFFER ZONES

EXISTING FEATURES LEGEND:

- *EXISTING BOUNDARY WITH CORNER*
- *PENNDOT LEGAL RIGHT-OF-WAY*
- *EXISTING ADJOINING BOUNDARY LINE*
- *EXISTING SETBACK*
- *EXISTING BUILDIING*
- *EXISTING SOILS LIMIT*
- *EXISTING CONCRETE FEATURE*
- *EXISTING MAJOR CONTOUR*
- *EXISTING MINOR CONTOUR*
- *EXISTING CURB*
- *EXISTING EDGE OF ASPHALT*
- *EXISTING FENCE LINE*
- *W/4" EXISTING PAVEMENT MARKING WITH LABEL*
- *EXISTING SIGN*
- *EXISTING TREE LINE*
- *EXISTING STREAM*
- *EXISTING GUARDRAIL*
- *EXISTING SOILS*
- *EXISTING WETLAND TBR (0.06 AC. TOTAL)*
- *MODELED EXISTING 100-YEAR FLOOD*

GRAPHIC SCALE

200' 100' 0 100' 200'

1" = 100'

PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776
STOP - CALL BEFORE YOU DIG!

Before You Dig Anywhere in PENNSYLVANIA
STOP! CALL 1-800-242-1776 TOLL FREE

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The Pennsylvania One-Call serial numbers for this project are 20230511306,20230511307,20230511308 20230511309

DATE	REVISION
05-23-2024	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW
07-15-2024	PER BOROUGH, CITY, LVPC COMMENTS
08-09-2024	PER BOROUGH COMMENTS
09-25-2024	PER COUNTY COMMENTS
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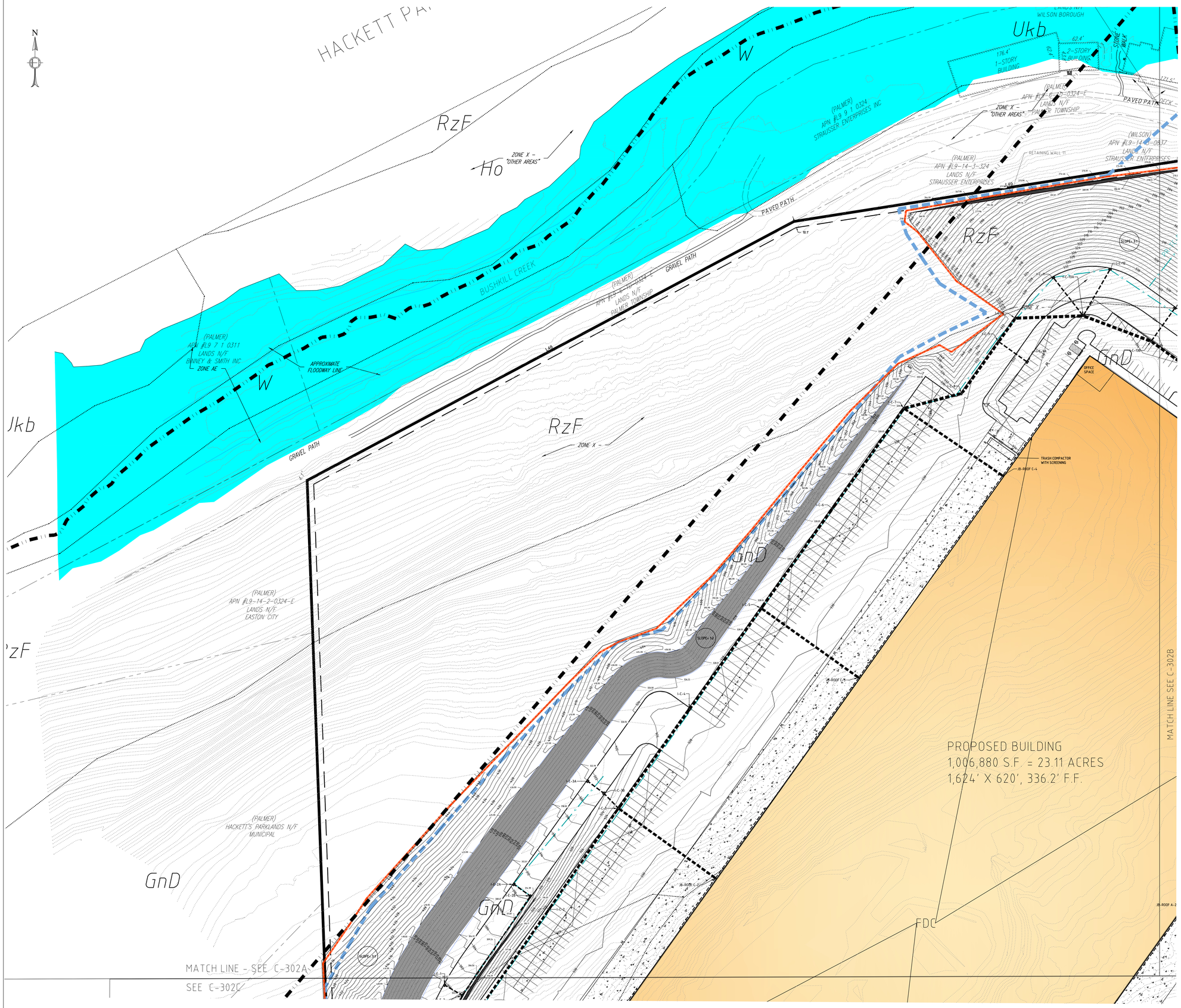
BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

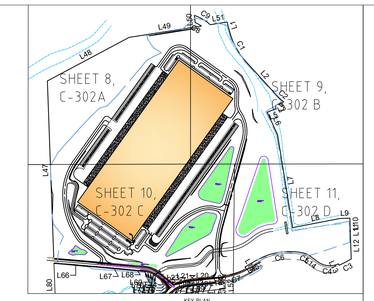
FINAL PLAN
EASTON COMMERCE PARK
PCSM PROPOSED PLAN

EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS.IN 46540
JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1:100
DRAWING:	C-302
PROJECT:	2022-528
SHEET:	7 OF 19

PROJECT TITLE: EASTON COMMERCE PARK





PROPOSED FEATURES LEGEND:

- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN AND MANHOLE
- PROPOSED GAS MAIN
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- PROPOSED CURB
- PROPOSED FENCE LINE
- PROPOSED PAVEMENT MARKING
- PROPOSED SETBACK
- LIMIT OF DISTURBANCE (85.00 ACRES)
- PROPOSED BUILDING
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED WETLANDS MATCH
- BASIN MATCH
- STREAM BUFFER ZONES

EXISTING FEATURES LEGEND

- *EXISTING BOUNDARY WITH CORNER*
- *PENNDOT LEGAL RIGHT-OF-WAY*
- *EXISTING ADJOINING BOUNDARY LINE*
- *EXISTING SETBACK*
- *EXISTING BUILDING*
- *EXISTING CONCRETE FEATURE*
- *EXISTING MAJOR CONTOUR*
- *EXISTING MINOR CONTOUR*
- *EXISTING CURB*
- *EXISTING EDGE OF ASPHALT*
- *EXISTING FENCE LINE*
- *EXISTING PAVEMENT MARKING WITH LABEL*
- *EXISTING SIGN*
- *EXISTING TREE LINE*
- *EXISTING STREAM*
- *EXISTING GUARDRAIL*
- *EXISTING SOILS*
- *EXISTING WETLAND TBR (0.06 AC. TOTAL)*
- *MODELED EXISTING 100-YEAR FLOOD*

GRAPHIC SCALE

100' 50' 0 50' 100'

1" = 50'

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The Pennsylvania One-Call serial numbers for this project are 20230511306,20230511307,20230511308 20230511309

1	PER COUNTY COMMENTS	09-26-2024
1	PER BOROUGH COMMENTS	08-06-2024
1	PER BOROUGH, CITY, LVPC COMMENTS	07-12-2024
1	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW	05-10-2024
	REVISION	DATE

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1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

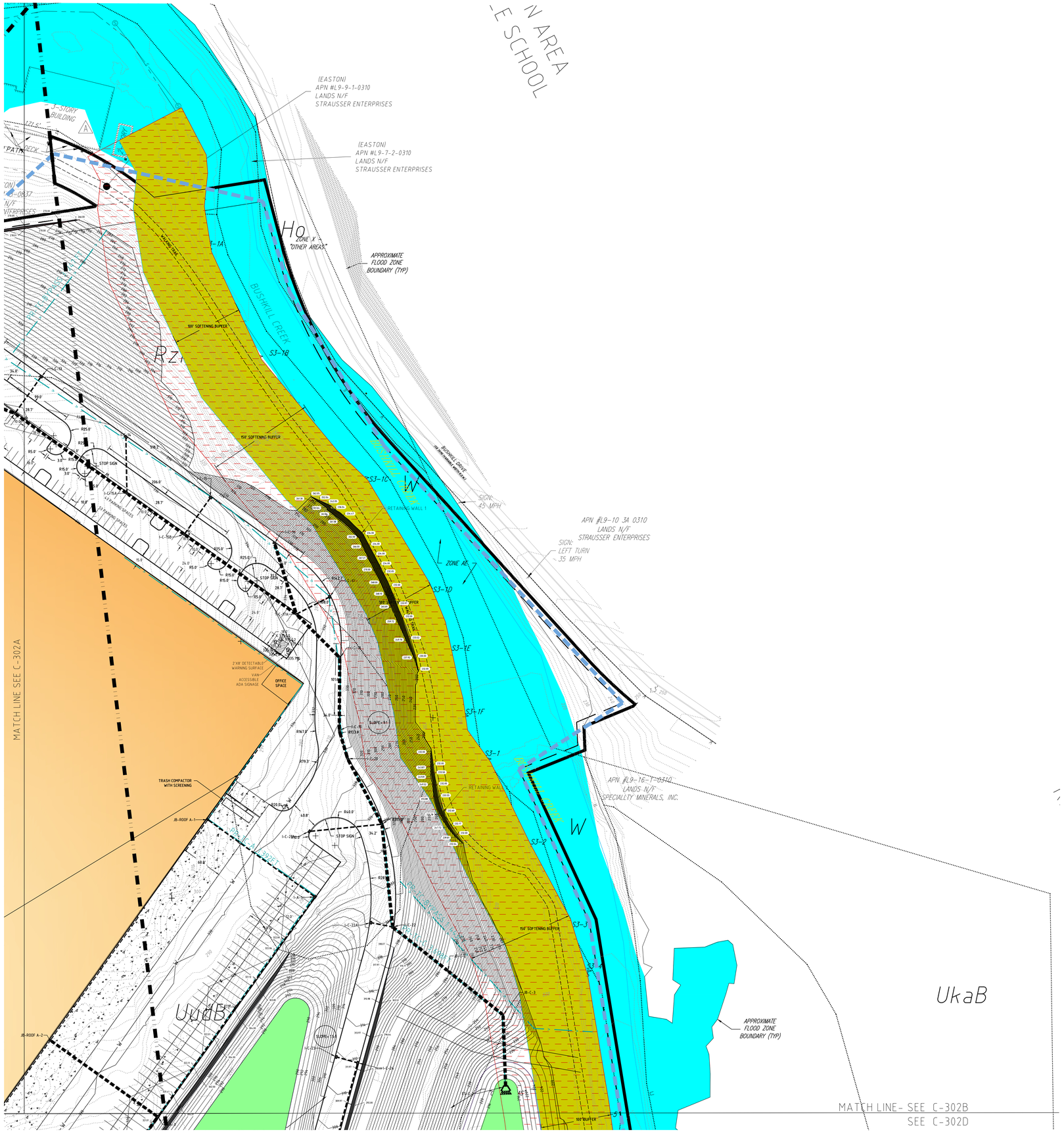
FINAL PLAN
EASTON COMMERCE PARK
PCSM PROPOSED PLAN-A

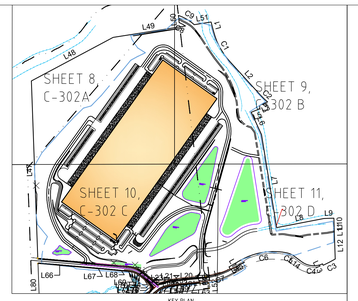
EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1:50
DRAWING:	C-302A
PROJECT:	2022-528
SHEET:	8 OF 19

PROJECT TITLE: EASTON COMMERCE PARK





PROPOSED FEATURES LEGEND:

- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- 108 PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN AND MANHOLE
- PROPOSED GAS MAIN
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- PROPOSED CURB
- PROPOSED FENCE LINE
- PROPOSED PAVEMENT MARKING
- PROPOSED SETBACK
- LIMIT OF DISTURBANCE (85.00 ACRES)
- PROPOSED DRAINAGE EASEMENT (0.5' ABOVE MODELED 100-YEAR FLOOD)
- PROPOSED BUILDING
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED WETLANDS HATCH
- BASIN HATCH
- 100' STREAM BUFFER ZONES

EXISTING FEATURES LEGEND:

- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING ADJOINING BOUNDARY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE FEATURE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- EXISTING FENCE LINE
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NO.	DATE	REVISION
1	09-26-2024	PER COUNTY COMMENTS
2	08-06-2024	PER BOROUGH COMMENTS
3	07-12-2024	PER BOROUGH, CITY, LVPC COMMENTS
4	03-13-2024	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW

BEI

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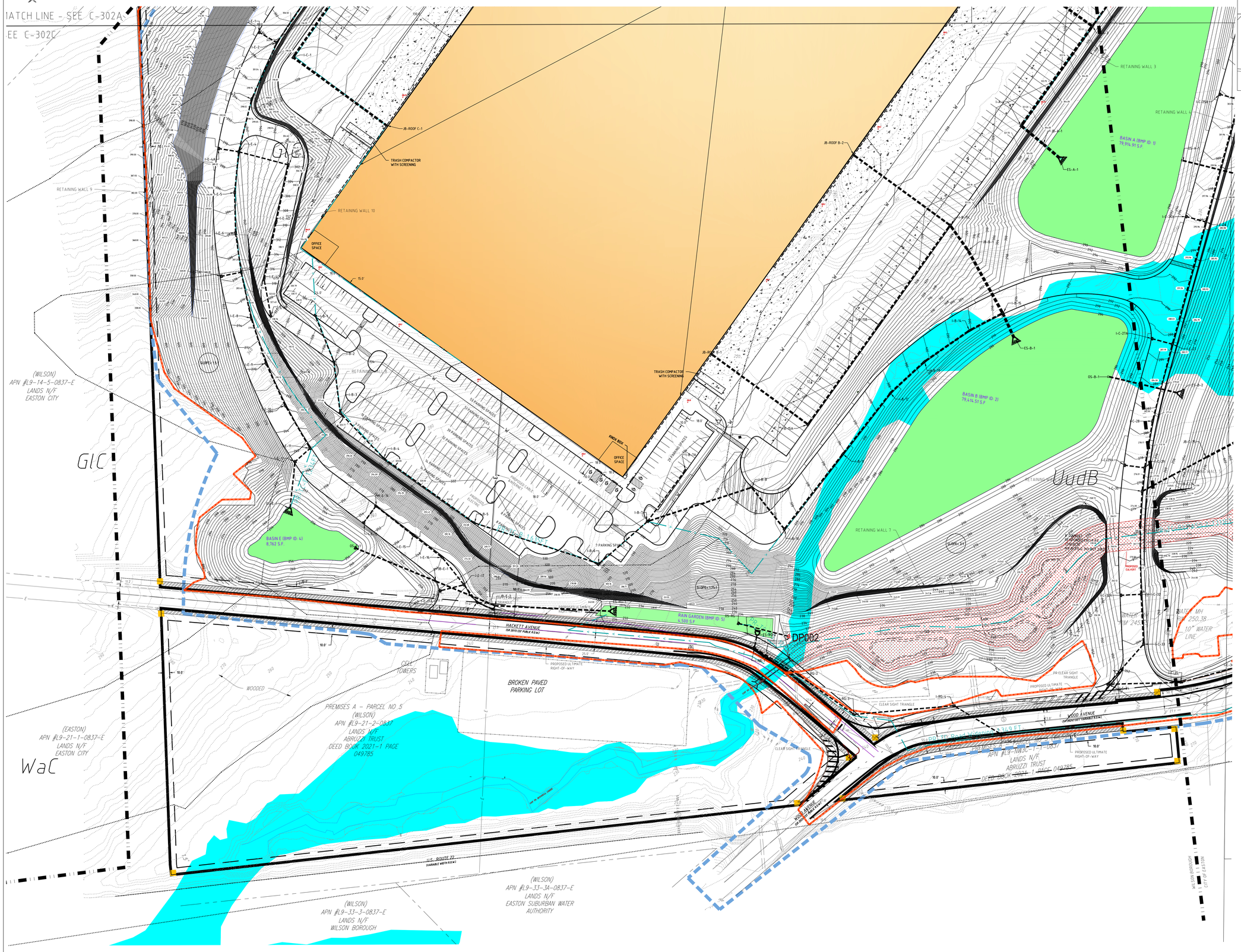
FINAL PLAN
EASTON COMMERCE PARK
PCSM PROPOSED PLAN-B

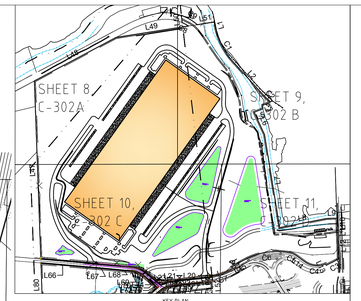
EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1:50
DRAWING:	C-302B
PROJECT:	2022-528
SHEET:	9 OF 19

PROJECT TITLE: EASTON COMMERCE PARK





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- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN AND MANHOLE
- PROPOSED GAS MAIN
- MITIGATED WETLAND
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- PROPOSED CURB
- PROPOSED FENCE LINE
- PROPOSED PAVEMENT MARKING
- PROPOSED SETBACK
- LIMIT OF DISTURBANCE (85.00 ACRES)
- PROPOSED DRAINAGE EASEMENT (0.5' ABOVE MODELED 100-YEAR FLOOD)
- PROPOSED BUILDING
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED WETLANDS HATCH
- BASIN HATCH
- 100' 25' STREAM BUFFER ZONES

EXISTING FEATURES LEGEND:

- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING ADJOINING BOUNDARY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE FEATURE
- 310 EXISTING MAJOR CONTOUR
- 308 EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- EXISTING FENCE LINE
- W/4" EXISTING PAVEMENT MARKING WITH LABEL
- EXISTING SIGN
- EXISTING TREE LINE
- EXISTING STREAM
- EXISTING GUARDRAIL
- EXISTING SOILS
- EXISTING WETLAND TBR (0.06 AC. TOTAL)
- MODELED EXISTING 100-YEAR FLOOD

GRAPHIC SCALE

100' 50' 0 50' 100'

1" = 50'

Before You Dig Anywhere in PENNSYLVANIA
STOP! CALL 1-800-242-1776 TOLL FREE

NOTE:
The location of underground utilities shown on this plan are based on pavement markings by utility owners and private facilities, and are approximate only. It is the contractor responsibility to verify the exact location and depth of utilities prior to any earthmoving activities.

The Pennsylvania One-Call serial numbers for this project are 20230511306,20230511307,20230511308 20230511309

1	PER COUNTY COMMENTS
1	PER BOROUGH COMMENTS
1	PER BOROUGH, CITY, LRTA COMMENTS
1	PER NORTHAMPTON COUNTY PLANNING & ZONING DIVISION REVIEW
REVISION	DATE
1	09-26-2024
1	08-09-2024
1	07-12-2024
1	05-31-2024

BEI

BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

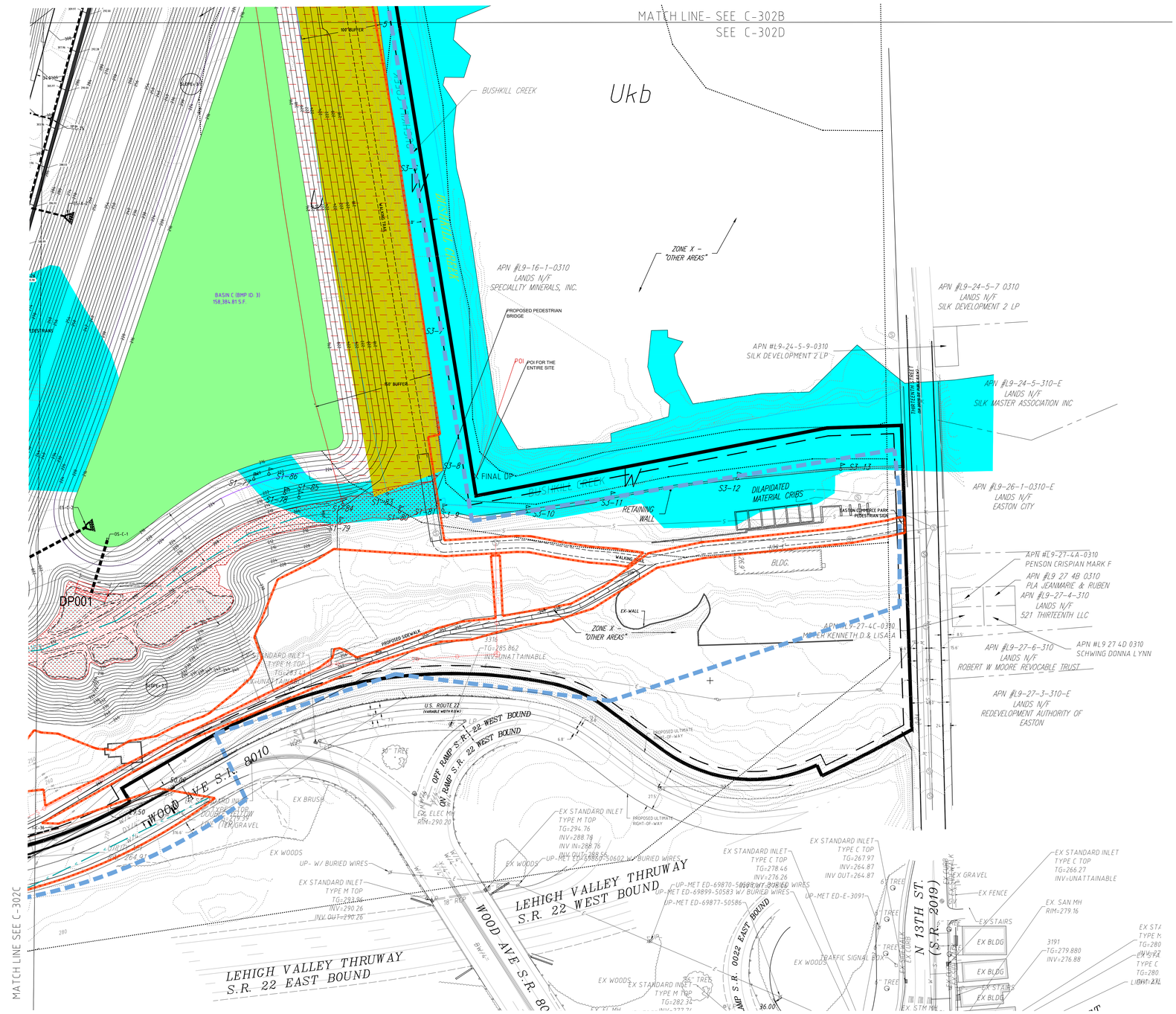
FINAL PLAN
EASTON COMMERCE PARK
PCSM PROPOSED PLAN-C

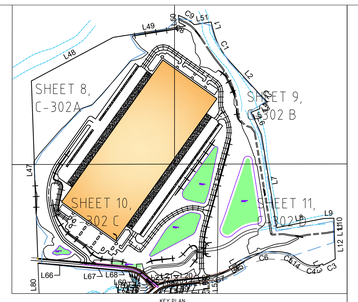
EASTON WOOD AVE PropCO.LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS.IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" - 50'
DRAWING:	C-302C
PROJECT:	2022-528
SHEET:	10 OF 19

PROJECT TITLE: EASTON COMMERCE PARK





PROPOSED FEATURES LEGEND:

- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN AND MANHOLE
- PROPOSED GAS MAIN
- MITIGATED WETLAND
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- PROPOSED CURB
- PROPOSED FENCE LINE
- PROPOSED PAVEMENT MARKING
- PROPOSED SETBACK
- LIMIT OF DISTURBANCE (85.80 ACRES)
- PROPOSED DRAINAGE EASEMENT (8.5' ABOVE MODELED 100-YEAR FLOOD)
- PROPOSED BUILDING
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED WETLANDS HATCH
- BASIN HATCH
- STREAM BUFFER ZONES

EXISTING FEATURES LEGEND:

- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING ADJOINING BOUNDARY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE FEATURE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- EXISTING FENCE LINE
- EXISTING PAVEMENT MARKING WITH LABEL
- EXISTING SIGN
- EXISTING TREE LINE
- EXISTING UTILITY
- EXISTING GUARDRAIL
- EXISTING SOILS
- EXISTING WETLAND TBR (0.86 AC. TOTAL)
- MODELED EXISTING 100-YEAR FLOOD

GRAPHIC SCALE

100' 50' 0 50' 100'

1" = 50'

Before You Dig Anywhere in PENNSYLVANIA
STOP! CALL 1-800-242-1776 TOLL FREE

NOTE:
The location of underground utilities shown on this plan are based on pavement markings by utility owners and surface facilities, and are approximate only. It shall be the contractors responsibility to verify the location and depth of utilities prior to any earthmoving activities.

The Pennsylvania One-Call serial numbers for this project are 20230511306,20230511307,20230511308 20230511309

1	09-26-2024	PER COUNTY COMMENTS
1	08-06-2024	PER BOROUGH COMMENTS
1	07-12-2024	PER BOROUGH, CITY, LVTC COMMENTS
1	05-13-2024	PER NORTHAMPTON COUNTY PLANNING & ZONING DISTRICT REVIEW
	DATE	REVISION

BEI

BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 FAX: 610-678-3517
WWW.BOGIAENG.COM

FINAL PLAN

EASTON COMMERCE PARK
PCSM PROPOSED PLAN-D

EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" : 50'
DRAWING:	C-302D
PROJECT:	2022-528
SHEET:	11 OF 19

PROJECT TITLE: EASTON COMMERCE PARK

LANDSCAPING NOTES:
1. ALL VARIETIES ARE TO BE USED AS SPECIFIED, OR AN APPROVED EQUAL BY THE MUNICIPALITY.
2. ALL PLANTING MOUNDS AND BEDS SHALL BE MULCHED TO A DEPTH OF 4".
3. THE PLANTING SCHEDULE REPRESENTS ALL TREES FOR THIS SUBDIVISION.
4. ADDITIONAL PLANTING MAY BE PROVIDED AT THE TIME OF CONSTRUCTION.
5. PLANT SHRUBS IN ACCORDANCE WITH NURSERY INSTRUCTIONS.
6. SHADE TREES TO BE PLANTED IN ACCORDANCE WITH NURSERY INSTRUCTIONS.
7. OWNER WILL REPLACE DEAD OR DISEASED TREES OR SHRUBS WITHIN 6 MONTHS.

PLANTING SPECIFICATIONS
1. NAME OF PLANTS – SHALL AGREE WITH THE NOMENCLATURE OF "STANDARD PLANT NAMES" AS ADOPTED BY AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE; SIZE AND GRADING STANDARDS SHALL CONFORM TO THOSE SPECIFIED BY THE AMERICAN ASSOCIATION OF NURSERYMEN IN THE LATEST EDITION OF THE "U.S.D.A. STANDARDS FOR NURSERY STOCK".
2. QUALITY – ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY; THEY SHALL HAVE NORMAL, WELL-DEVELOPED RANCHES AND VIGOROUS FIBROUS ROOT SYSTEMS. ALL PLANTS SHALL BE NURSERY-GROWN UNLESS OTHERWISE STATED, THEY SHALL HAVE BEEN GROWN UNDER THE SAME CLIMATE CONDITIONS AS THE SUBJECT SITE FOR AT LEAST TWO (2) YEARS PRIOR TO DATE OF PLANTING. ALL PLANTS WHICH ARE FOUND UNSUITABLE IN GROWTH OR CONDITION OR WHICH ARE NOT TRUE TO NAME SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE PLANTS.
3. MEASUREMENTS – PLANTS SHALL BE MEASURED AS THEY STAND IN THEIR NATURAL POSITION. STOCK FURNISHED SHALL BE A FAIR AVERAGE OF THE MINIMUM SIZES SPECIFIED OR OF THE RANGE GIVEN IN THE "U.S.D.A. STANDARDS FOR NURSERY STOCK".
4. PREPARATION OF PLANTS – ALL PRECAUTIONS CUSTOMARY IN GOOD TRADE PRACTICE SHALL BE TAKEN IN PREPARING PLANTS FOR MOVING. ALL BALLED AND BURLAPPED PLANTS SHALL BE DUG TO MEET OR EXCEED THE "U.S.D.A. STANDARDS FOR NURSERY STOCK".
5. SOIL EXCAVATIONS – THE EXCAVATION MUST BE NOT LESS THAN 12 INCHES WIDER OR ANY DEEPER THAN NECESSARY TO ACCOMMODATE THE BALL OF THE TREE.
6. PLANTING – TREES SHALL BE PLANTED AT THE SAME DEPTH AS THEY WERE IN THE NURSERY. PLANTING SOIL SHALL BE COMPOSED OF ONE PART PEAT MOSS AND THREE PARTS TOPSOIL THOROUGHLY MIXED. EACH TREE SHALL BE WATERED THOROUGHLY AT TIME OF PLANTING.
7. PRUNING – TREES SHALL BE PRUNED AFTER PLANTING, OR BY THE NURSERYMAN AT THE TIME OF DIGGING, TO BALANCE TOP GROWTH WITH ROOTS AND TO PRESERVE THEIR NATURAL CHARACTER AND SHAPE. PRUNING SHALL BE RESTRICTED IN GENERAL TO THE SECONDARY BRANCHES AND SOFT AND SUCKER GROWTH.
8. WRAPPING – ALL TREES SHALL BE WRAPPED WITH SIX TO TEN INCH WIDE 8-OUNCE BURLAP OR KRAFT TREE PAPER AT THE TIME OF PLANTING FROM THE GROUND TO THE FIRST BRANCHES.
10. STAKING AND GUYING –
    A. TREES SHALL BE STAKED WITH AT LEAST ONE RED OR WHITE CEDAR STAKE THE SAME DAY OF PLANTING. STAKES SHALL BE A MINIMUM OF 8 FEET IN HEIGHT AND NOT LESS THAN TWO INCHES IN SMALLEST DIAMETER. STAKES ARE TO BE DRIVEN INTO THE GROUND TO A DEPTH OF 12 INCHES BELOW THE BOTTOM OF THE EXCAVATION. THIS SHOULD BE DONE BEFORE SETTING THE TREE OR, IF AFTER SETTING, IN SUCH A MANNER AS NOT TO INJURE THE ROOTS.
    B. TREES SHALL BE GUYED TO THE STAKES AT A HEIGHT OF ABOUT FIVE FEET USING NO. 10 GAGE GALVANIZED STEEL WIRE IN A PIECE OF RUBBER HOSE. THE WIRE SHALL BE FASTENED TO THE STAKE IN SUCH A MANNER THAT THE WIRE WILL NOT SLIP NOR COME IN CONTACT WITH THE TREE TRUNK. GUYS BROKEN (BUT NOT DELIBERATELY BROKEN THROUGH VANDALISM) WITHIN A YEAR OF PLANTING SHALL BE REPLACED.
11. REMOVAL OF ALL PLANTING DEBRIS – REMOVAL OF DEBRIS IS REQUIRED. THE PROPERTY MUST BE LEFT IN A NEAT AND ORDERLY CONDITION IN ACCORDANCE WITH GOOD AND ACCEPTED PLANTING PRACTICES.
12. GUARANTEE
    A. TREES SHALL BE GUARANTEED FOR ONE YEAR FOR FALL PLANTED AND 13 MONTHS FOR SPRING PLANTED TREES FROM DATE OF ACCEPTANCE BY THE OWNER OR HIS REPRESENTATIVE. THE TREES ARE TO BE ALIVE AND IN A SATISFACTORY GROWING CONDITION AS DETERMINED BY OWNER OR HIS REPRESENTATIVE AT THE END OF THE GUARANTEE PERIOD.
    B. REPLACEMENT WILL BE MADE ACCORDING TO THESE SAME SPECIFICATIONS AND DURING THE NORMAL PLANTING PERIOD. REPLACEMENTS SHALL BE SUBJECT TO THE SAME AUARANTEE AND REPLACEMENT AS THE ORIGNAL MATERIAL. THE REPLACEMENTS SHALL BE MADE WITHIN 60 DAYS FOLLOWING WRITTEN DEMAND FROM THE OWNER OR HIS REPRESENTATIVE.

ERNMX-233 PA VALLEY & RIDGE PROVINCE RIPARIAN MIX

MIX COMPOSITION
25.0% PANICUM CLANDESTINUM, TIOGA (DEERTONGUE, TIOGA)
12.6% SORGHASTRUM NUTANS, 'NEBRASKA 54' (INDIANGRASS, 'NEBRASKA 54')
11.0% SCHIZACHYRIUM SCOPARIUM, FORT INDIANTOWN GAP-PA ECOTYPE (LITTLE BLUESTEM, FORT INDIANTOWN GAP-PA ECOTYPE)
10.8% ANDROPOGON GERARDII, 'NIAGARA' (BIG BLUESTEM, 'NIAGARA')
10.0% ELYMUS RIPARIUS, PA ECOTYPE (RIVERBANK WILDRYE, PA ECOTYPE)
10.0% ELYMUS VIRGINEUS, 'MADISON' (VIRGINIA WILDRYE, 'MADISON')
5.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.0% AGROSTIS PERERNANS, ALBANY PINE BUSH-NY ECOTYPE (AUTUMN BENTGRASS, ALBANY PINE BUSH-NY ECOTYPE)
2.0% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
2.0% HELIOPSIS HELIANTHOIDES, PA ECOTYPE (OXEYE SUNFLOWER, PA ECOTYPE)
2.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
0.7% VERNONIA NOVEBORACENSIS, PA ECOTYPE (NEW YORK IRONWEED, PA ECOTYPE)
0.6% ASTER NOVAE-ANGLIAE, PA ECOTYPE (NEW ENGLAND ASTER, PA ECOTYPE)
0.5% ASTER PRENANTHOIDES, PA ECOTYPE (ZIGZAG ASTER, PA ECOTYPE)
0.5% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
0.5% ASTER UMBELLATUS, PA ECOTYPE (FLAT TOPPED WHITE ASTER, PA ECOTYPE)
0.5% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
0.5% HELENIUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
0.5% MONARDA FISTULOSA, FORT INDIANTOWN GAP-PA ECOTYPE (WILD BERGAMOT, FORT INDIANTOWN GAP-PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)

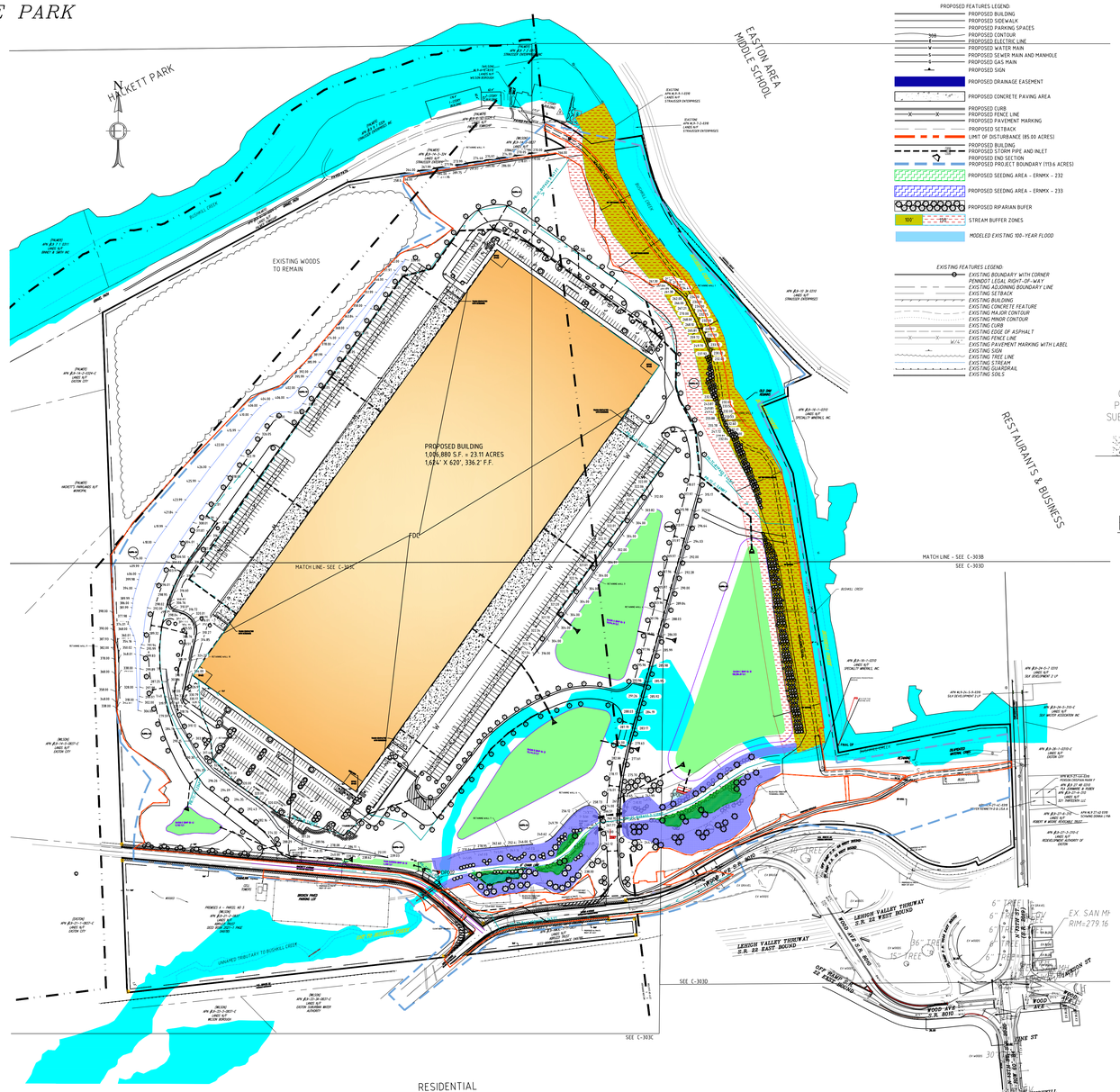
SEEDING RATE: 20 LBS/ACRE WITH 30 LBS/ACRE OF A COVER CROP. FOR A COVER CROP USE EITHER GRAIN OATS (1 JAN TO 31 JUL) OR GRAIN RYE (1 AUG TO 31 DEC).

ERNMX-232 PA VALLEY & RIDGE PROVINCE OBL MIX

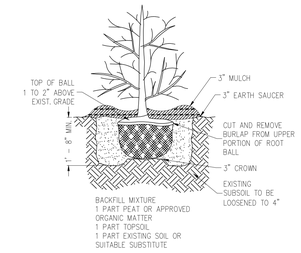
MIX COMPOSITION
32.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
18.8% CAREX LURIDA, PA ECOTYPE (LURID SEDGE, PA ECOTYPE)
16.0% CAREX SCOPARIA, PA ECOTYPE (BLUNT BROOM SEDGE, PA ECOTYPE)
12.2% CAREX CRINITA, PA ECOTYPE (FRINGED SEDGE, PA ECOTYPE)
5.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
4.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.0% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
1.0% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
1.0% BIDENS CERNUA, PA ECOTYPE (NODDING BUR MARIGOLD, PA ECOTYPE)
1.0% CAREX LUPULINA, PA ECOTYPE (HOP SEDGE, PA ECOTYPE)
1.0% HELENIUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
0.7% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
0.7% VERNONIA NOVEBORACENSIS, PA ECOTYPE (NEW YORK IRONWEED, PA ECOTYPE)
0.5% ALISMA SUBCORDATUM, PA ECOTYPE (MUD PLANTAIN, PA ECOTYPE)
0.5% SCIRPUS CYPERINUS, PA ECOTYPE (WOOLGRASS, PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)
0.3% PENTHORUM SEDOIDES, PA ECOTYPE (DITCH STONECROP, PA ECOTYPE)

SEEDING RATE: 20 LB PER ACRE WITH A COVER CROP. FOR A COVER CROP USE ONE OF THE FOLLOWING: GRAIN RYE (1 SEP TO 30 APR; 30 LBS/ACRE), JAPANESE MILLET (1 MAY TO 31 AUG; 10 LBS/ACRE), OR BARNYARD GRASS (1 MAY TO 31 AUG; 10 LBS/ACRE).

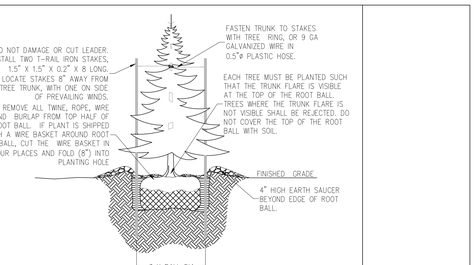
RAIN GARDEN PLANTING NOTES:
1. ERNST MIX 180 SHALL BE PLANTED AT THE BOTTOM OF THE MRC BASIN.
2. SEEDING AND PLANTING SHOULD BEGIN IMMEDIATELY UPON COMPLETION OF THE STRUCTURE WHILE THE SOIL IS STILL FRIABLE AND BEFORE WEEDS EMERGE. PLAN SEEDING AND PLANTING BEFORE THE BASIN IS FLOODED OR ALLOW THE BASIN TO DRAIN BEFORE SEEDING. BROADCAST SEED EVENLY OVER EACH UNIT BY HAND SEEDING OR HYDROSEEDING. SEEDING RATE IS 20 LB PER ACRE WITH A COVER CROP. FOR SITES THAT DRAIN WITHIN 24 HOURS OF A RAIN EVENT USE ONE OF THE FOLLOWING COVER CROPS:OATS (1 JAN TO 31 JUL; 30 LBS/ACRE), JAPANESE MILLET (1 MAY TO 31 AUG; 10 LBS/ACRE), OR GRAIN RYE (1 AUG TO 31 DEC; 30 LBS/ACRE).
3. GRASSES & GRASS-LIKE SPECIES - HERBACEOUS PERENNIAL; HERBACEOUS FLOWERING SPECIES - HERBACEOUS PERENNIAL; STORMWATER MANAGEMENT; UPLANDS & MEADOWS
4. THE PLANT GROWTH AREAS SHOULD BE LOOSE AND FRIABLE (EASY TO CRUMBLE), HIGH IN ORGANIC MATTER, AND COMPLETED WITHOUT COMPACTION BY HEAVY EQUIPMENT.
5. STRAW MULCH OR STRAW COCONUT MATS ARE FREQUENTLY USED TO CONTROL EROSION AND PROTECT EMERGING SEEDLINGS FROM EXTREME TEMPERATURES AND DRYING OUT. MULCH SHOULD BE SPARSE TO ALLOW SUNLIGHT TO REACH THE GROUND.
6. DURING FIRST GROWING SEASON WHENEVER CANOPY HEIGHT (OVERALL VEGETATION) REACHES 18"-24", USE A BRUSH HOG MOWER OR STRING TRIMMER TO TRIM THE MEADOW TO 8". TRIMMING REDUCES COMPETITION BY FAST-GROWING WEEDS FOR SUNLIGHT, WATER, AND NUTRIENTS NEEDED BY SLOWER GROWING PERENNIAL NATIVES. A LAWN MOWER IS NOT RECOMMENDED AS THE MOWER HEIGHT WILL BE TOO LOW AND NATIVE SEEDLINGS WILL BE KILLED. PROBLEM WEEDS SHOULD BE HAND PULLED OR SPOT SPRAYED WITH AN APPROVED HERBICIDE, SUCH AS RODEO®, GARLON® 3A, OR MILESTONE® (DO NOT USE MILESTONE® WHERE STANDING WATER IS PRESENT).
7. PRIOR TO NEW SPRING GROWTH REACHING 2" (E.G., SHORTLY AFTER FORSYTHIA OR REDBUD BLOOMS), TRIM ANY MATERIAL STANDING FROM THE PREVIOUS YEAR CLOSE TO THE GROUND (APPROXIMATELY 2"). IF THE SEED MIX INCLUDED SEDGES, TRIMMING SHOULD BE NO LOWER THAN 2" ABOVE THE CROWNS THAT PRODUCED THE PRIOR YEAR'S GROWTH. THIS WILL ALLOW THE SOIL TO WARM MORE QUICKLY, STIMULATING EMERGENCE AND GROWTH OF NATIVE PLANTS AND REDUCING THE LIKELIHOOD OF SHRUB INVASION.
8. IN ADDITION TO STRUCTURAL MAINTENANCE, SILTATION SHOULD BE REMOVED AS NEEDED. CLOSE MOWING THROUGHOUT THE GROWING SEASON OR EXTENSIVE CHEMICAL USE IS NOT CONDUCIVE TO WATER QUALITY IMPROVEMENT AND WILDLIFE HABITAT.



RESIDENTIAL

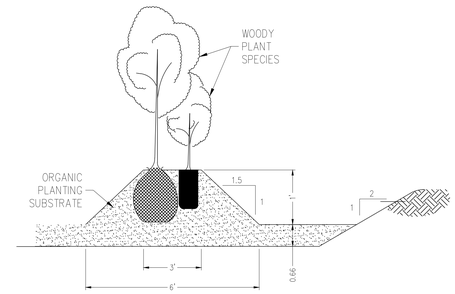


SHRUB PLANTING
NTS

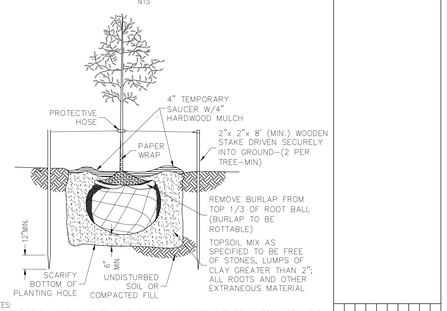


NOTE: PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.

CONIFEROUS TREE PLANTING
NTS

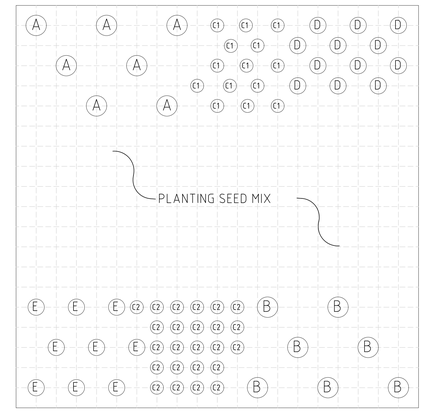


HUMMOCK PLANTINGS
NOT TO SCALE



NOTES:
1. REMOVE DEAD AND DAMAGED BRANCHES BY PRUNING ACCORDING TO RECOGNIZED HORTICULTURAL PRACTICES. DO NOT CUT LEADER.
2. ENCASE NON-CORRODIBLE CABLE IN REINFORCED RUBBER GARDEN HOSE AT POINTS OF CONTACT WITH TRUNK OF TREE. FLAG EACH GUY CABLE WITH FLUOURESCENT MATERIAL FOR SAFETY.

DECIDUOUS TREE PLANTING
NTS



NOTE
AREAS BETWEEN PLANTINGS TO BE SEEDED WITH ERNST MIX 180 OR APPROVED EQUAL, AT RATE ESTABLISHED BY SUPPLIER.

TYPICAL 20' X 20' RAINGARDEN PLANTING AREA
NTS

Planting Plan

See DEP's *Riparian Forest Buffer Guidance* for additional information on site assessment, native tree/shrub selection, planting, planting density, maintenance and protection (pages 28-101).

Contact: Mark Pfleging **Phone Number:** 312-656-7491

Site Plan & Location: See attached Landscaping Plan

Species	Latin Name	Size	Quantity	Pattern/Spacing
ACER RUBRUM	Red Maple	75-100 FT	69	Plant per Landscaping Plan; 9' by 9' Spacing
ACER SACCHARINUM	Silver Maple	75-100 FT	50	Plant per Landscaping Plan; 9' by 9' Spacing
POPLARLIRIODENDRON TULIPIFERA	Tulieptree	75-100 FT	50	Plant per Landscaping Plan; 9' by 9' Spacing
QUERCUS BICOLOR	Swamp White Oak	75-100 FT	50	Plant per Landscaping Plan; 9' by 9' Spacing
VIBURNUMDENTATUM	Southern Arrowwood	6-12 FT	40	Plant per Landscaping Plan; 9' by 9' Spacing
SAMBUCUSCANADENSIS	Elderberry	8-12 FT	67	Plant per Landscaping Plan; 9' by 9' Spacing
ILEX GLABRA	Inkberry	3-5 FT	40	Plant per Landscaping Plan; 9' by 9' Spacing

Equipment/Tools: brush ax, bush hog, weed whacker, herbicide, mower, tractor

Maintenance Responsibilities: mowing, mulching, replacement if needed

Site Preparation: remove undesirable species, apply herbicide, mark the designated spots.

Directions to site: 2 miles drive toward west of Rt 22 and then take the exit for Wood Av, drive 0.2 mile to get to site located von north of Wood Av

TREES

DESIGNATION	COMMON NAME / SCIENTIFIC NAME	WET CODE	FLOOD TOLERANCE	HEIGH (FT)	SHADE TOLERANCE	WILDLIFE VALUE	ROOT	QTY
A	SUGAR MAPLE / ACER SACCHARUM	FACU	INTERMEDIATE	60' - 75'	TOLERANT	FOOD SOURCE-BREEDING HABITAT	B&B	56
B	WILLOW OAK / QUERCUS PHELLOS	FACW	TOLERANT	40 - 60	INTOLERANT	FOOD SOURCE, SHELTER, COVER, AND NESTING SITES	B&B	51
C	RED MAPLE / ACER RUBRUM	FAC	TOLERANT	75-100	TOLERANT	FOOD SOURCE-FRUITS AND YOUNG SHOOTS	B&B	110
D	WHITE OAK / QUERCUS ALBA	FACU	INTOLERANT	50-80	INTERMEDIATE	FOOD SOURCE & SHELTER	B&B	41
E	AMERICAN LINDEN / TILIA AMERICANA	FACU	INTOLERANT	50-80	TOLERANT	NECTAR SOURCE FOR INSECTS, FOOD SOURCE	B&B	3
F	AMERICAN HOLLY / ILEX OPACA	FACU	INTOLERANT	15-30	TOLERANT	MODERATE SONGBIRDS	B&B	2
G	DOUGLASFIR / PSEUDOTSUGA MENZIESII	FACU	INTOLERANT	150	INTOLERANT	HIGH FOOD SOURCE, SEEDS AND SMALL MAMMALS	B&B	2
H	NORTHERN RED OAK / Q. RUBRA	FACU-	INTERMEDIATE	75-100	INTERMEDIATE	MEDIUM VALUE FOR NESTING AND FOOD SOURCE-ACORNS	B&B	21
I	BLACK OAK / QUERCUS VELUTINA	FACU	INTOLERANT	50-60	INTERMEDIATE	FOOD SOURCE	B&B	21
J	WILLOW OAK / QUERCUS PHELLOS	FACW	TOLERANT	40-60	INTOLERANT	FOOD SOURCE	B&B	19

SHRUBS

DESIGNATION	COMMON NAME / SCIENTIFIC NAME	WET CODE	FLOOD TOLERANCE	HEIGH (FT)	SHADE TOLERANCE	WILDLIFE VALUE	ROOT	QTY
K	RED CHOKEBERRY / ARONIA ARBUTIFOLIA	FACW	VERY TOLERANT	6-12	INTERMEDIATE	FOOD SOURCE	B&B	40
L	WINTERBERRY / ILEX VERTICILLATA	FACW+	VERY TOLERANT	6-15	INTERMEDIATE	NECTAR SOURCE, FOOD SOURCE	B&B	46
M	INKBERRY / ILEX GLABRA	FACW-	TOLERANT	3-5	TOLERANT	FOOD SOURCE-FRUIT	B&B	29

LANDSCAPING NATIVE RIPARIAN SHRUB CHART

#	COMMON/SCIENTIFIC NAME	WET CODE	FLOOD TOLERANCE	HEIGHT (FT)	Qty.
1	BUTTONBUSH/CEPHALANTHUS OCCIDENTALIS	OBL	VERY TOLERANT	6 to 12	28
2	WINTERBERRY/ILEX VERTICILLATA	FACW+	VERY TOLERANT	6 to 15	18
3	SILKY DOGWOOD/CORNUS AMOMUM	FACW	VERY TOLERANT	6 to 12	14
4	NORTHERN ARROWWOOD/V. RECOGNITUM	FACW-	TOLERANT	6 to 12	13
5	SILKY WILLOW/SALIX SERICEA	OBL	VERY TOLERANT	up to 12	26
15	SOUTHERN ARROWWOOD/VIBURNUM DENTATUM	FAC	TOLERANT	6-12	51
16	ELDERBERRY/ SAMBUCUS CANADENSIS	FACW-	TOLERANT	8-12	77
17	INKBERRY/ ILEX GLABRA	FACW-	TOLERANT	3-5	51

LANDSCAPING NATIVE RIPARIAN TREE CHART

#	COMMON/SCIENTIFIC NAME	WET CODE	FLOOD TOLERANCE	HEIGHT (FT)	Qty.
6	SILVER MAPLE/A. SCCHARINUM	FACW	TOLERANT	75-100	8
7	SERVICEBERRY/AMELANCHER ARBOREA/LAEVIS/CANADENSIS	FAC-	TOLERANT	20-40	7
8	RIVER BIRCH/B. NIGRA	FACW	TOLERANT	40-70	8
9	FLOWERING DOGWOOD/CORNUS FLORIDA	FACU-	VERY INTOLERANT	35-50	11
10	TULIPTREE POPLAR/LIRIODENDRON TULIPIFERA	FACU	INTERMEDIATE	75-100	9
11	EASTERN WHITE PINE/PINUS STROBUS	FACU	INTOLERANT	75-100	9
12	SYCAMORE/PLATANUS OCCIDENTALIS	FACW-	INTERMEDIATE	75-100	7
13	SWAMP WHITE OAK/Q. BICOLOR	FACW+	TOLERANT	75-100	7
14	BLACK WILLOW/SALIX NIGRA	FACW+	VERY TOLERANT	35-50	8

Maintenance Plan

The following is a sample maintenance schedule to optimize survival of a newly planted riparian forest buffer. Keep in mind tasks are the same for each riparian forest buffer but there may be site variations, therefore, add to the schedule additional tasks that are site specific. See DEP's *Riparian Forest Buffer Guidance* for additional information (pages 28-101).

Maintenance Tasks for Riparian Forest Buffers	1	2	3	4	5
Year					
Check tree shelters (March-April) Suggested activities: straighten and re-drive any loose stakes, replace damaged/rotten stakes; check ties and tighten or replace if needed; remove large wasp nest (before they come active); remove bird nets if tree has reached the top of the shelter.	X	X	X	X	X
Remove shelters (Spring) It is recommended to remove when trees that are at least 2 inches in diameter at top of tube; leave stake in place to deter buck rub; if tree is droopy, secure to stake with biodegradable material.			X	X	X
Herbicide application (April-May) Apply broad-spectrum herbicide to protect trees from rodents and reduce competition by other plants (add a pre-emergent herbicide advisable); ideally spray 3' strips along shelters or 4' circle spots (if not mowing the site).	X	X	X	X	
Mowing (Summer and Fall) Mow between rows at least twice between June and late September to prevent weeds going to seed, and reduce existing vegetation competition. If rodent population is high, reduce habitat by mowing additional three years in the fall only (see herbicide application above). If not mowing, spot spraying for invasive plants if needed.	X	X			
Herbicide application (mid-August-early October) Apply broad-spectrum herbicide only to control perennial noxious or invasive weeds, reduce existing vegetation competition, and protect trees from rodents (ideally spray 3' strips along shelters, but could be 4' circles)	X	X	X	X	
Survival (Late Fall) Check and note any survival problems – disease, insects and invasive weed issues. Check for natural regeneration and where abundant limit further mowing unless site is prone to rodents and invasive plants.	X	X	X	X	X
Replacement plantings: (Fall to Spring) First identify and address the cause of losses (most commonly voles and other rodents), replant any areas with significant losses to reinforce tree stocking to desired levels; check natural regeneration for potential free recruitment of trees.		X	X		
Flooding If riparian forest buffer site floods check within one week of my flood, straighten and reposition or replace shelters and stakes if need be - downed tubes will pin and kill trees and invite rodent damage.	X	X	X	X	X
Other Task(s):					

	Latin	Name Common	Ht.	Spacing	Design Value
A	Viburnum dentatum	Arrowwood Viburnum	4-6' HT.	42" o.c.	Medium height deciduous shrub which produces white flowers in late spring
B	Panicum virgatum 'Shenandoah'	Red Swichgrass	3-4' HT.	42" o.c.	Medium height grass with color interest spring through fall
C1	Aster novae-angliae 'Purple Dome'	New England Aster	1.5-3' HT.	24" o.c.	Dwarf perennial that blooms through September with vibrant purple flowers.
C2	Iris versicolor	Blue Flag Iris	24-30" HT	12" o.c.	Swordlike leaves with large, violet-blue flowers in late spring.
D	Rudbeckia fulgida	Black Eyed Susan	2' HT.	24" o.c.	Native, yellow flowering perennial that blooms from June to October.
E	Asclepias tuberosa	Butterfly Milkweed	1-2' HT.	18" o.c.	Medium height perennial with orange flowers in early summer.

PRIMARY RAIN GARDEN PLANTING SCHEDULE

	Latin	Name Common	Ht.	Spacing	Design Value
A	Ilex glabra 'Shamrock'	Inkberry	3-4'	42" o.c.	Medium height shrub providing evergreen foliage.
A	Ilex verticillata 'Cacapon'	Winterberry	6-8'	42" o.c.	Medium height shrub providing year round interest with red berries
B	Eupatorium dubium 'Little Joe'	Joe Pye Weed	3-4'	42" o.c.	Perennial with late summer blooms that will attract butterflies. Dwarf form of tall.
B	Baptisia australis	Blue False Indigo	3-4'	42" o.c.	Upright perennial with many purple flowers atop flower spikes in spring.
C	Schizachyrium scoparium 'The Blues' or 'Standing Ovation	Little Bluestem	2-3'	24" o.c.	Narrow, upright grass with light-blue foliage and year-round color interest.
D	Monarda didyma 'Petite Delight'	Bee Balm	1.5 - 2.5'	24" o.c.	Perennial with pink blooms June through September attracting hummingbirds.
D	Eupatorium coelestinum	Mist Flower	1.5 - 2.5'	24" o.c.	Perennial with light blue blooms July though October.
E	Penstemon digitalis 'Huskers Red'	Beard Tongue	2-3'	18" o.c.	Clump forming perennial with tubular flowers in mid spring early summer.
E	Liatris spicata 'Kobold'	Purple Gayfeather	2.5'	18" o.c.	Medium height perennial with protruding purple spikes in late summer.

TO BE USED IF PLANTING SUPPLIES ARE LIMITED OR IF ANY OF THE PLANTS SHOWN ON THE PRIMARY SCHEDULE ARE NOTED BY NURSERIES AS SUBJECT TO DISEASE OR PEST.

ALTERNATE PLANTING SCHEDULE

GRAPHIC SCALE
300' 150' 0 150' 300'
1" = 150'

Before You Dig Anywhere in PENNSYLVANIA STOP! CALL 1-800-242-1776 TOLL FREE

NOTE:
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The Pennsylvania One-Call serial numbers for this project are 20230511306,20230511307,20230511308 20230511309

1	
1	
1	
1	PER COUNTY COMMENTS
1	PER BOROUGH COMMENTS
1	PER BOROUGH - CITY - LAND COMMENTS
1	PER NORTHAMPTON COUNTY DISTRICT REVIEW
REVISION	
09-26-2024	
09-04-2024	
07-12-2024	
05-13-2024	
DATE	

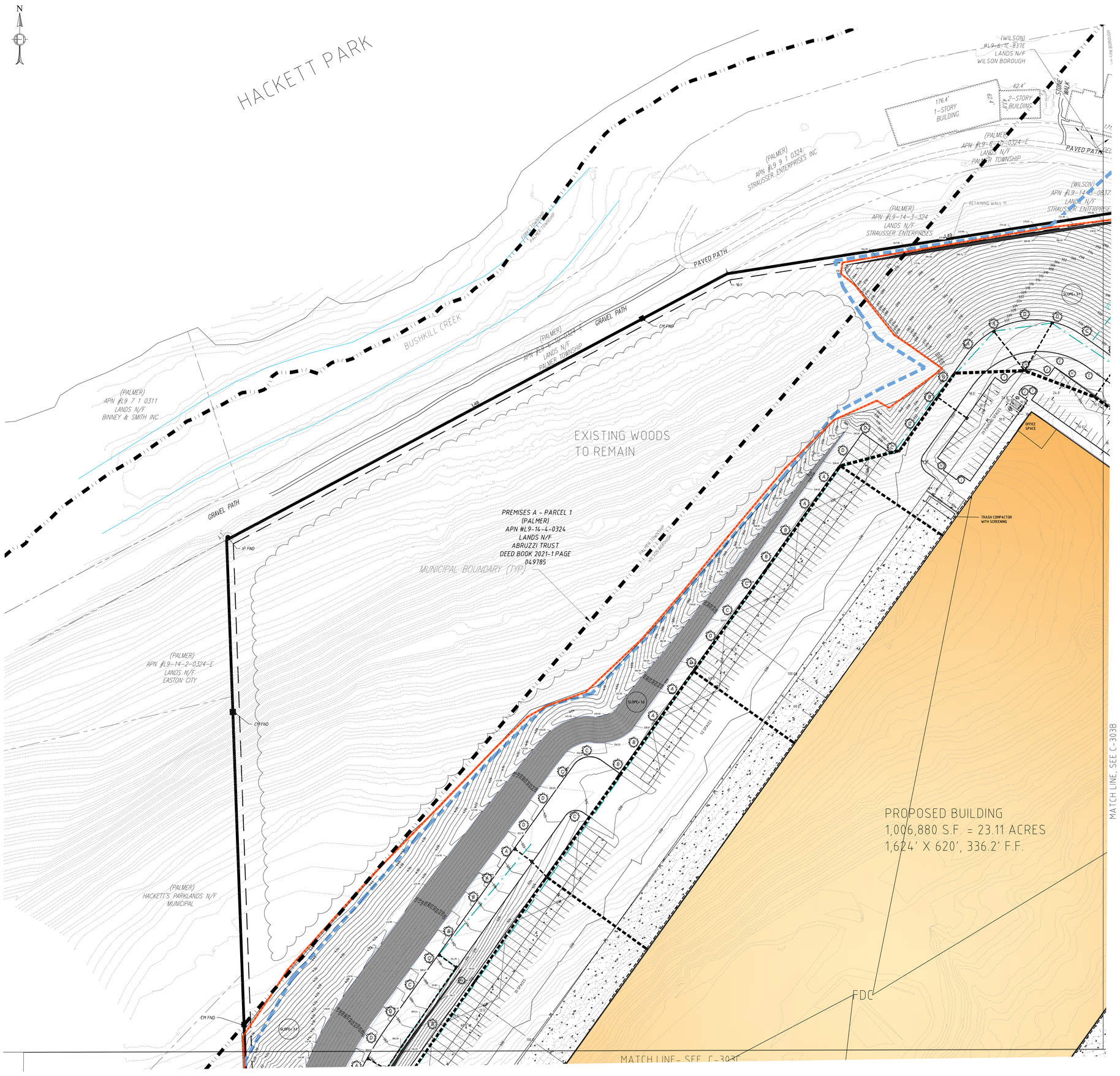
BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 FAX: 610-678-3517
WWW.BOGIAENG.COM

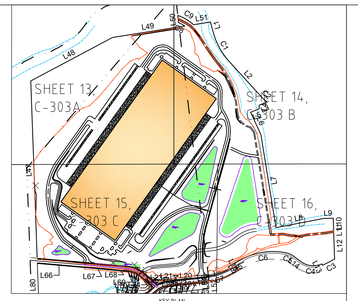
FINAL PLAN
EASTON COMMERCE PARK
LANDSCAPING PLAN

EASTON WOOD AVE ProgCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540
JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" : 100'
DRAWING:	C-303
PROJECT:	2022-528
SHEET:	12 OF 19

PROJECT TITLE: EASTON COMMERCE PARK





PROPOSED FEATURES LEGEND:

- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN AND MANHOLE
- PROPOSED GAS MAIN
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- PROPOSED CURB
- PROPOSED FENCE LINE
- PROPOSED PAVEMENT MARKING
- PROPOSED SETBACK
- LIMIT OF DISTURBANCE (85.00 ACRES)
- PROPOSED BUILDING
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- STREAM BUFFER ZONES

EXISTING FEATURES LEGEND

- *EXISTING BOUNDARY WITH CORNER*
- *PENNDOT LEGAL RIGHT-OF-WAY*
- *EXISTING ADJOINING BOUNDARY LINE*
- *EXISTING SETBACK*
- *EXISTING BUILDING*
- *EXISTING CONCRETE FEATURE*
- *EXISTING MAJOR CONTOUR*
- *EXISTING MINOR CONTOUR*
- *EXISTING CURB*
- *EXISTING EDGE OF ASPHALT*
- *EXISTING FENCE LINE*
- *EXISTING PAVEMENT MARKING WITH LABEL*
- *EXISTING SIGN*
- *EXISTING TREE LINE*
- *EXISTING STREAM*
- *EXISTING GUARDRAIL*
- *EXISTING SOILS*

GRAPHIC SCALE

100' 50' 0 50' 100'

1" = 50'

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1	09-26-2024 PER COUNTY COMMENTS
1	09-06-2024 PER BOROUGH COMMENTS
1	07-12-2024 PER BOROUGH, CITY, LVPC COMMENTS
1	05-13-2024 PER NORTHAMPTON COUNTY PLANNING DISTRICT REVIEW
#	DATE REVISION

BEI

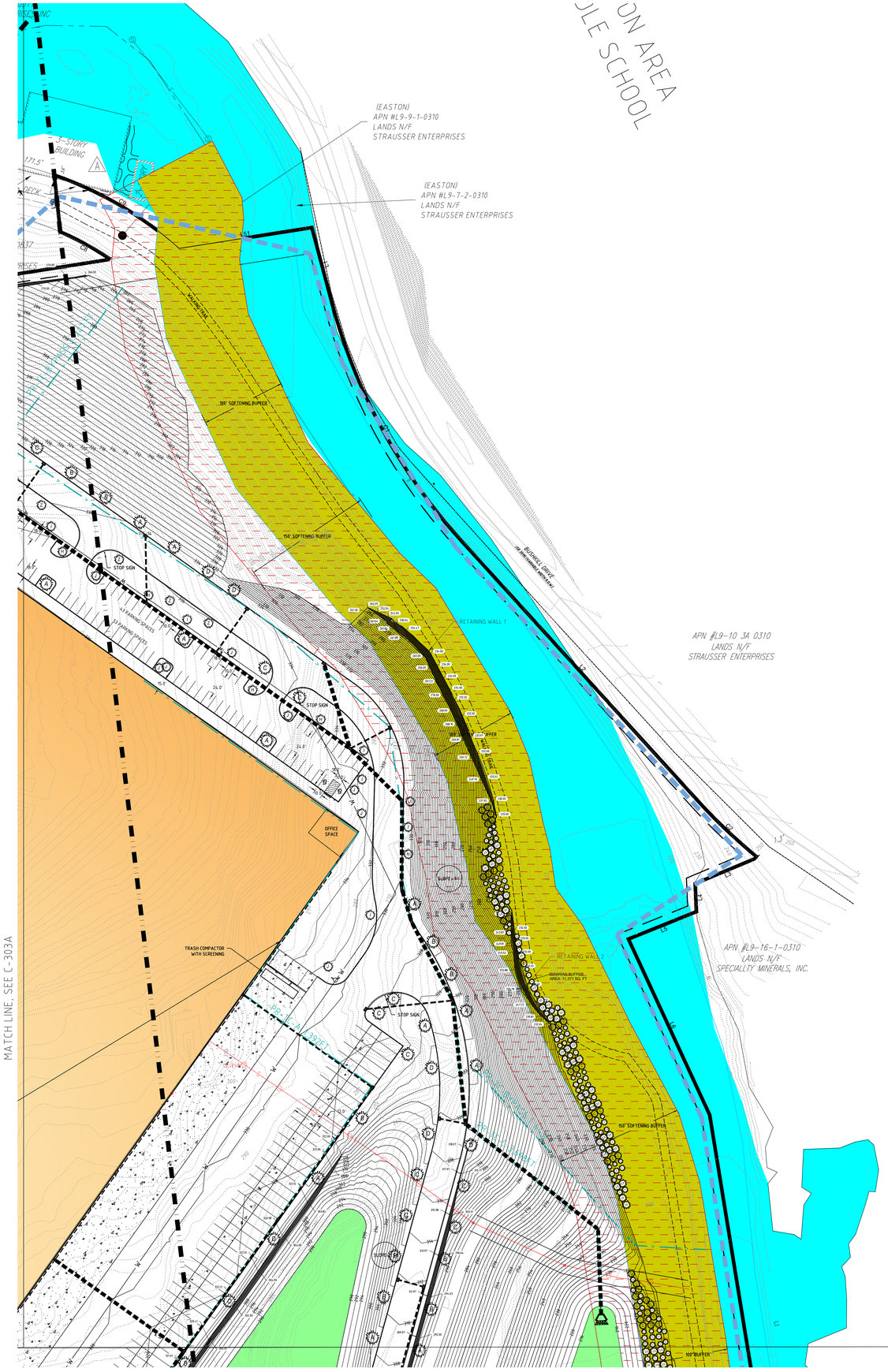
BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

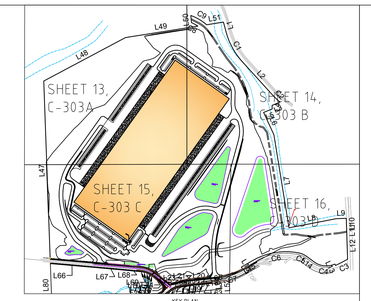
FINAL PLAN
EASTON COMMERCE PARK
LANDSCAPING PLAN-A

EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540
JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" - 50'
DRAWING:	C-303A
PROJECT:	2022-526
SHEET:	13 OF 19

PROJECT TITLE: EASTON COMMERCE PARK





PROPOSED FEATURES LEGEND:

- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
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- PROPOSED END SECTION
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED RIPARIAN BUFER
- STREAM BUFFER ZONES
- MODELED EXISTING 100-YEAR FLOOD

EXISTING FEATURES LEGEND:

- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING ADJOINING BOUNDARY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE FEATURE
- EXISTING MAJOR CONTOUR
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- EXISTING SIGN
- EXISTING TREE LINE
- EXISTING STREAM
- EXISTING GUARDRAIL
- EXISTING SOILS

GRAPHIC SCALE

100' 50' 0 50' 100'

1" = 50'

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1	
1	PER COUNTY COMMENTS
1	PER BOROUGH COMMENTS
09-26-2024	PER BOROUGH - CITY - LVPC COMMENTS
09-06-2024	PER NORTHAMPTON COUNTY PLANNING DISTRICT REVIEW
01-13-2024	REVISION
01-05-2024	REVISION
DATE	

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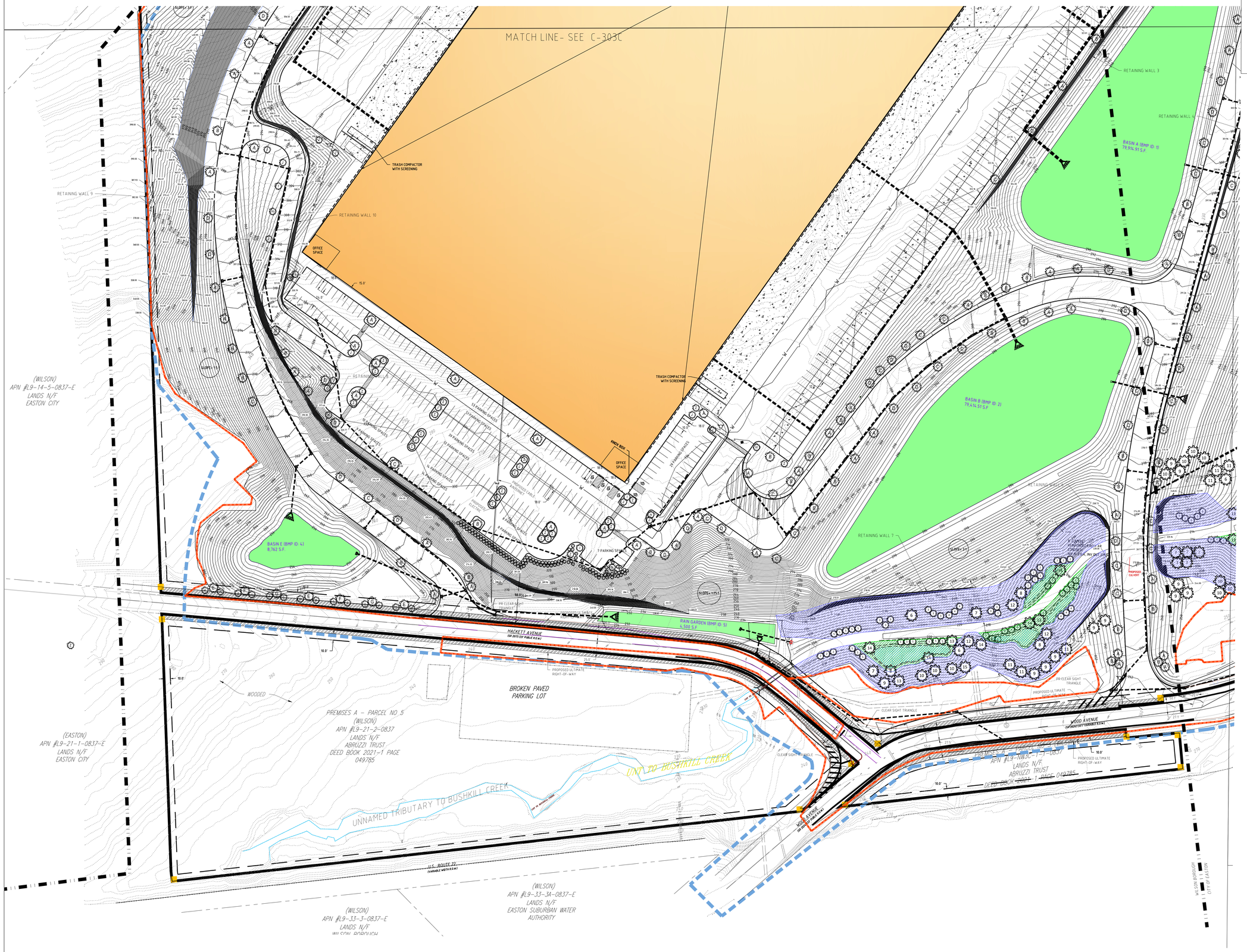
FINAL PLAN
EASTON COMMERCE PARK
LANDSCAPING PLAN-B

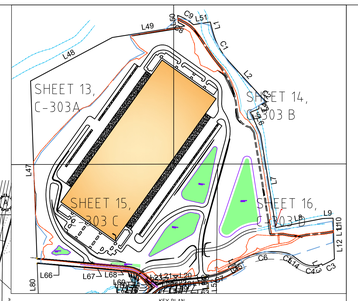
EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" : 50'
DRAWING:	C-303B
PROJECT:	2022-528
SHEET:	14 OF 19

PROJECT TITLE: EASTON COMMERCE PARK





KEY PLAN
1" = 500'

ERNMX-232 PA VALLEY & RIDGE PROVINCE DBL MIX

MIX COMPOSITION
32.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
18.8% CAREX LURIDA, PA ECOTYPE (LURID SEDGE, PA ECOTYPE)
16.0% CAREX SCOPARIA, PA ECOTYPE (BLUNT BROOM SEDGE, PA ECOTYPE)
12.2% CAREX CRINITA, PA ECOTYPE (FRINGED SEDGE, PA ECOTYPE)
5.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
4.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.0% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
1.0% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
1.0% BIDENS CERNUA, PA ECOTYPE (NODDING BUR MARIGOLD, PA ECOTYPE)
1.0% CAREX LUPULINA, PA ECOTYPE (HOP SEDGE, PA ECOTYPE)
1.0% HELENUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
0.7% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
0.7% VERNONIA NOVEBORACENSIS, PA ECOTYPE (NEW YORK IRONWEED, PA ECOTYPE)
0.5% ALISMA SUBCORDATUM, PA ECOTYPE (MUD PLANTAIN, PA ECOTYPE)
0.5% SCIRPUS CYPERINUS, PA ECOTYPE (WOOLGRASS, PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)
0.3% PENTHORUM SEDOIDES, PA ECOTYPE (DITCH STONECROP, PA ECOTYPE)

SEEDING RATE: 20 LB PER ACRE WITH A COVER CROP. FOR A COVER CROP USE ONE OF THE FOLLOWING: GRAIN RYE (1 SEP TO 30 APR; 30 LBS/ACRE), JAPANESE MILLET (1 MAY TO 31 AUG; 10 LBS/ACRE), OR BARNYARD GRASS (1 MAY TO 31 AUG; 10 LBS/ACRE)

ERNMX-233 PA VALLEY & RIDGE PROVINCE RIPARIAN MIX

MIX COMPOSITION
25.0% PANICUM CLANDESTINUM, TIOGA (DEERTONGUE, TIOGA)
12.6% SORGHASTRUM NUTANS, 'NEBRASKA 54' (INDIANGRASS, 'NEBRASKA 54')
11.0% SCHIZACHYRIUM SCOPARIUM, FORT INDIANTOWN GAP-PA ECOTYPE (LITTLE BLUESTEM, FORT INDIANTOWN GAP-PA ECOTYPE)
10.8% ANDROPOGON GERARDII, 'NIAGARA' (BIG BLUESTEM, 'NIAGARA')
10.0% ELYMUS RIPARIUS, PA ECOTYPE (RIVERBANK WILDRYE, PA ECOTYPE)
10.0% ELYMUS VIRGINICUS, 'MADISON' (VIRGINIA WILDRYE, 'MADISON')
5.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.0% AGROSTIS PERENNANS, ALBANY PINE BUSH-NY ECOTYPE (AUTUMN BENTGRASS, ALBANY PINE BUSH-NY ECOTYPE)
2.0% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
2.0% HELIOPSIS HELIANTHOIDES, PA ECOTYPE (OXEYE SUNFLOWER, PA ECOTYPE)
2.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
0.7% VERNONIA NOVEBORACENSIS, PA ECOTYPE (NEW YORK IRONWEED, PA ECOTYPE)
0.6% ASTER NOVAE-ANGLIAE, PA ECOTYPE (NEW ENGLAND ASTER, PA ECOTYPE)
0.5% ASTER PRENANTHOIDES, PA ECOTYPE (ZIGZAG ASTER, PA ECOTYPE)
0.5% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
0.5% ASTER UMBELLATUS, PA ECOTYPE (FLAT TOPPED WHITE ASTER, PA ECOTYPE)
0.5% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
0.5% HELENUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
0.5% MONARDA FISTULOSA, FORT INDIANTOWN GAP-PA ECOTYPE (WILD BERGAMOT, FORT INDIANTOWN GAP-PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)

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

PROPOSED FEATURES LEGEND
- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN AND MANHOLE
- PROPOSED GAS MAIN
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- PROPOSED CURB
- PROPOSED FENCE LINE
- PROPOSED PAVEMENT MARKING
- PROPOSED SETBACK
- LIMIT OF DISTURBANCE (85.00 ACRES)
- PROPOSED DRAINAGE EASEMENT (0.5' ABOVE MODELED 100-YEAR FLOOD)
- PROPOSED BUILDING
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- MITIGATED WETLAND
- PROPOSED SEEDING AREA - ERNMX - 232
- PROPOSED SEEDING AREA - ERNMX - 233
- PROPOSED RIPARIAN BUFER
- STREAM BUFFER ZONES

EXISTING FEATURES LEGEND:
- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING ADJOINING BOUNDARY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE FEATURE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- EXISTING FENCE LINE
- EXISTING PAVEMENT MARKING WITH LABEL
- EXISTING SIGN
- EXISTING TREE LINE
- EXISTING STREAM
- EXISTING GUARDRAIL
- EXISTING SOILS
- MODELED EXISTING 100-YEAR FLOOD

GRAPHIC SCALE
100' 50' 0 50' 100'
1" = 50'

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NOTE:
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DATE	REVISION
09-26-2024	PER COUNTY COMMENTS
08-09-2024	PER BOROUGH COMMENTS
05-13-2024	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW

BOGIA ENGINEERING INC.
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PHONE: 610-678-3071 - FAX: 610-678-3517
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FINAL PLAN
EASTON COMMERCE PARK
LANDSCAPING PLAN-C

EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
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NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
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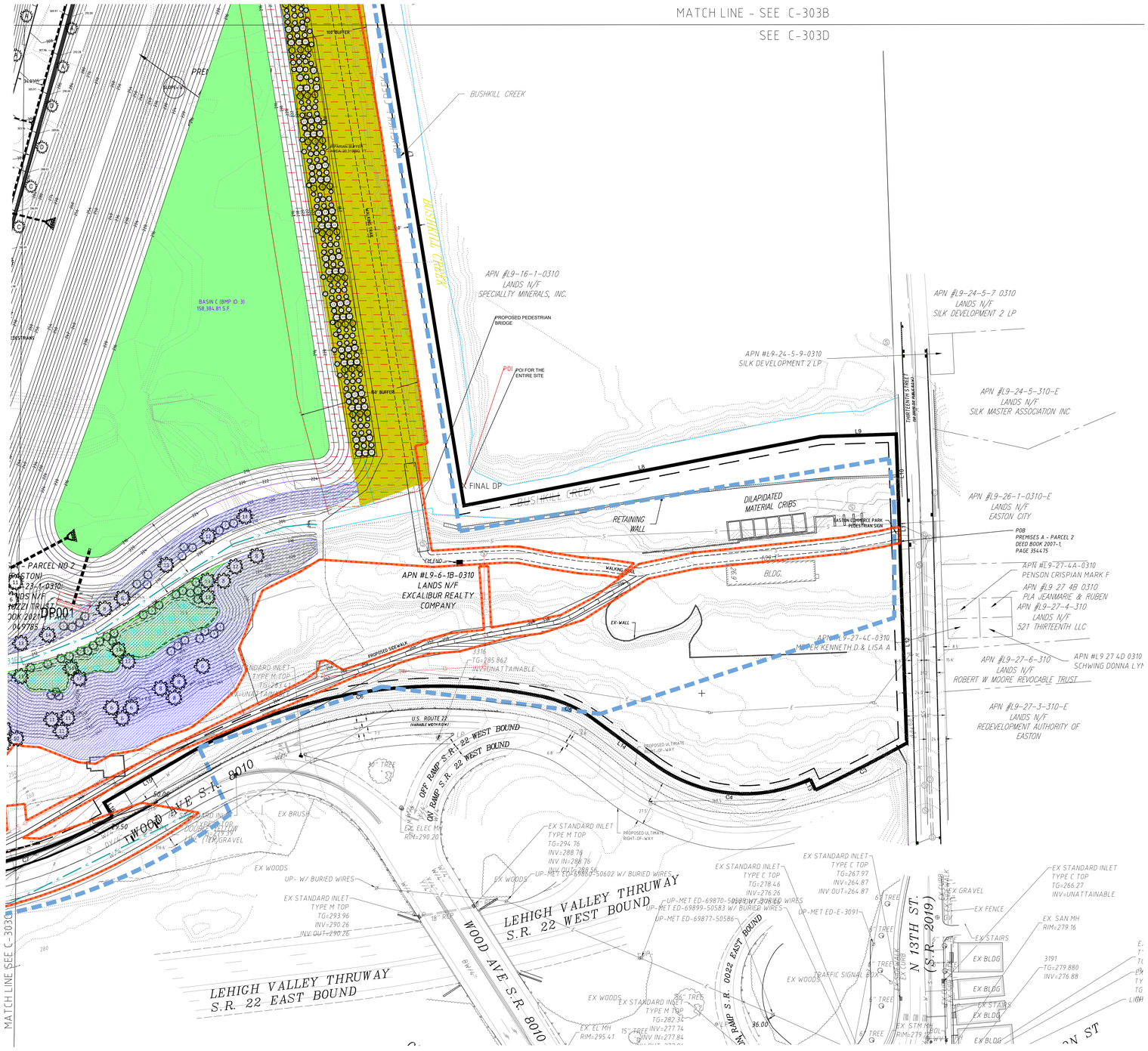
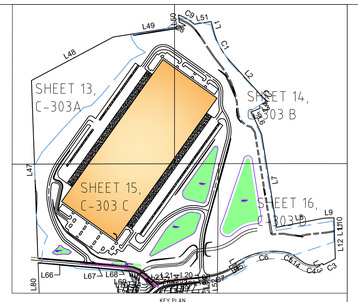
SHEET:	15 OF 19

PROJECT TITLE: EASTON COMMERCE PARK





ERNMX-232 PA VALLEY & RIDGE PROVINCE OBL MIX

MIX COMPOSITION
32.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
18.8% CAREX LURIDA, PA ECOTYPE (LURID SEDGE, PA ECOTYPE)
16.0% CAREX SCOPARIA, PA ECOTYPE (BLUNT BROOM SEDGE, PA ECOTYPE)
12.2% CAREX CRINITA, PA ECOTYPE (FRINGED SEDGE, PA ECOTYPE)
5.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
4.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.0% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
1.0% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
1.0% BIDENS CERNUA, PA ECOTYPE (NODDING BUR MARIGOLD, PA ECOTYPE)
1.0% CAREX LUPULINA, PA ECOTYPE (HOP SEDGE, PA ECOTYPE)
1.0% HELENIUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
0.7% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
0.7% VERNONIA NOVEBORACENSIS, PA ECOTYPE (NEW YORK IRONWEED, PA ECOTYPE)
0.5% ALISMA SUBCORDATUM, PA ECOTYPE (MUD PLANTAIN, PA ECOTYPE)
0.5% SCIRPUS CYPERINUS, PA ECOTYPE (WOOLGRASS, PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)
0.3% PENTHORUM SEDOIDES, PA ECOTYPE (DITCH STONECROP, PA ECOTYPE)

SEEDING RATE: 20 LB PER ACRE WITH A COVER CROP. FOR A COVER CROP USE ONE OF THE FOLLOWING: GRAIN RYE (1 SEP TO 30 APR), 30 LBS/ACRE); JAPANESE MILLET (1 MAY TO 31 AUG, 10 LBS/ACRE), OR BARNYARD GRASS (1 MAY TO 31 AUG, 10 LBS/ACRE).

ERNMX-233 PA VALLEY & RIDGE PROVINCE RIPARIAN MIX

MIX COMPOSITION
25.0% PANICUM CLANDESTINUM, TIOGA (DEERTONGUE, TIOGA)
12.6% SORGHASTRUM NUTANS, 'NEBRASKA 54' (INDIANGRASS, 'NEBRASKA 54')
11.0% SCHIZACHYRIUM SCOPARIUM, FORT INDIANTOWN GAP-PA ECOTYPE (LITTLE BLUESTEM, FORT INDIANTOWN GAP-PA ECOTYPE)
10.8% ANDROPOGON GERARDII, 'NIAGARA' (BIG BLUESTEM, 'NIAGARA')
10.0% ELYMUS RIPARIUS, PA ECOTYPE (RIVERBANK WILDRYE, PA ECOTYPE)
10.0% ELYMUS VIRGINICUS, 'MADISON' (VIRGINIA WILDRYE, 'MADISON')
5.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
3.0% JUNCUS EFFUSUS (SOFT RUSH)
2.0% AGROSTIS PERENNANS, ALBANY PINE BUSH-NY ECOTYPE (AUTUMN BENTGRASS, ALBANY PINE BUSH-NY ECOTYPE)
2.0% ASCLEPIAS INCARNATA, PA ECOTYPE (SWAMP MILKWEED, PA ECOTYPE)
2.0% HELIOPSIS HELIANTHOIDES, PA ECOTYPE (OXEYE SUNFLOWER, PA ECOTYPE)
2.0% VERBENA HASTATA, PA ECOTYPE (BLUE VERVAIN, PA ECOTYPE)
0.7% VERNONIA NOVEBORACENSIS, PA ECOTYPE (NEW YORK IRONWEED, PA ECOTYPE)
0.6% ASTER NOVAE-ANGLIAE, PA ECOTYPE (NEW ENGLAND ASTER, PA ECOTYPE)
0.5% ASTER PRENANTHOIDES, PA ECOTYPE (ZIGZAG ASTER, PA ECOTYPE)
0.5% ASTER PUNICEUS, PA ECOTYPE (PURPLESTEM ASTER, PA ECOTYPE)
0.5% ASTER UMBELLATUS, PA ECOTYPE (FLAT TOPPED WHITE ASTER, PA ECOTYPE)
0.5% EUPATORIUM PERFOLIATUM, PA ECOTYPE (BONESET, PA ECOTYPE)
0.5% HELENIUM AUTUMNALE, PA ECOTYPE (COMMON SNEEZEWEED, PA ECOTYPE)
0.5% MONARDA FISTULOSA, FORT INDIANTOWN GAP-PA ECOTYPE (WILD BERGAMOT, FORT INDIANTOWN GAP-PA ECOTYPE)
0.3% EUPATORIUM FISTULOSUM, PA ECOTYPE (JOE PYE WEED, PA ECOTYPE)

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

PROPOSED FEATURES LEGEND:
- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- 100 PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN AND MANHOLE
- PROPOSED GAS MAIN
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- PROPOSED CURB
- PROPOSED FENCE LINE
- PROPOSED PAVEMENT MARKING
- PROPOSED SETBACK
- LIMIT OF DISTURBANCE (85.60 ACRES)
- PROPOSED BUILDING
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED SEEDING AREA - ERNMX - 232
- PROPOSED DRAINAGE EASEMENT (0.5' ABOVE MODELED 100-YEAR FLOOD)
- PROPOSED SEEDING AREA - ERNMX - 233
- MITIGATED WETLAND
- PROPOSED RIPARIAN BUFER
- 100' 50' STREAM BUFFER ZONES

EXISTING FEATURES LEGEND:
- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING ADJOINING BOUNDARY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE FEATURE
- 310 EXISTING MAJOR CONTOUR
- 308 EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- EXISTING FENCE LINE
- W/S EXISTING PAVEMENT MARKING WITH LABEL
- EXISTING SIGN
- EXISTING TREE LINE
- EXISTING STREAM
- EXISTING GUARDRAIL
- EXISTING SOILS
- MODELED EXISTING 100-YEAR FLOOD

GRAPHIC SCALE
100' 50' 0 50' 100'
1" = 50'

Before You Dig Anywhere in PENNSYLVANIA
STOP! CALL 1-800-242-1776 TOLL FREE

NOTE:
The location of underground utilities shown on this plan are based on pavement markings by utility owners and surface facilities, and are approximate only. It shall be the contractors' responsibility to verify the exact location and depth of utilities prior to any earthmoving activities.
The Pennsylvania One-Call serial numbers for this project are 20230511306,20230511307,20230511308 20230511309

REVISION	DATE
PER COUNTY COMMENTS	09-26-2024
PER BOROUGH COMMENTS	08-06-2024
PER BOROUGH, CITY, LVPC COMMENTS	07-15-2024
PER NORTHAMPTON COUNTY PLANNING & ZONING DIRECTOR REVIEW	05-29-2024

BEI

BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

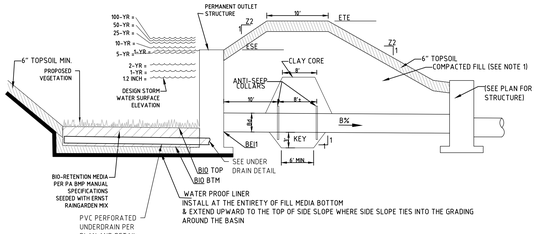
FINAL PLAN
EASTON COMMERCE PARK
LANDSCAPING PLAN-D

EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSSING blvd
INDIANAPOLIS,IN 46540

JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" - 50'
DRAWING:	C-303D
PROJECT:	2022-528
SHEET:	16 OF 19

PROJECT TITLE: EASTON COMMERCE PARK



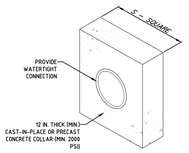
BASIN	Z1	Z2	BERM ETE TOP (FT)	BERM ESE SPILL (FT)	PERM STRUCTURE (FEET)	PERM STRUCTURE HORIZONTAL (FEET)	PERM STRUCTURE LENGTH (FEET)	BARREL MATL	BARREL SLOPE (FT/FT)	BIO RETENTION OUTLET ELEV (FT)	BIO RETENTION BIO TOP ELEV (FT)	BIO RETENTION BIO BTM ELEV (FT)	STORM WATER SURFACE ELEV 1YR	2YR	5YR	10 YR	25 YR	50 YR	100 YR	1.2 INCH
A	3	3	296.00	294.00	292.5	6	L	CPP	1.00%	-	294.00	288.00	292.30	292.90	293.71	293.71	293.71	293.71	293.71	289.90
B	3	3	292.00	290.50	290.00	2	L	CPP	2.90%	-	286.00	281.00	286.10	286.10	286.19	287.13	287.61	287.61	287.61	286.35
MRC C	3	3	222.00	222.00	220.00	2	L	CPP	2.26%	-	216.00	212.00	216.48	216.48	216.92	217.18	217.18	217.18	217.18	215.95
E	3	3	262.00		259.50	2	L	CPP	3.40%	-	256.00	252.00	256.13	256.34	257.14	257.43	257.59	257.59	257.59	256.15

LINED RAIN GARDEN/BIORETENTION BASIN

The basin bottom will be comprised of 70-80% quality topsoil combined with 20-30% compost. Quality topsoil shall consist of friable surface soil reasonably free of grass, roots, weeds, sticks, stones, or other foreign materials. The topsoil shall consist of sandy loam, with soil particles within the following percentages: clay, 0-25; silt, 25-50; sand, 50-70; decomposed organic matter, 5-10."

NOTES FOR RAIN GARDEN/BIORETENTION BASIN CONSTRUCTION:

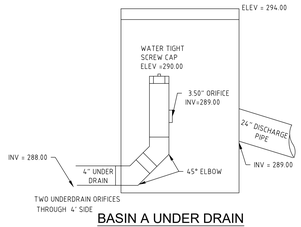
1. EMBANKMENT MATERIAL SHALL CONSIST OF SUITABLE MATERIAL FREE OF ALL ROOTS, SOD, FROZEN SOIL, ROCKS LARGER THAN 4" IN DIAMETER AND ANY OTHER MATERIAL NOT APPROVED BY THE ENGINEER. FILL SHALL BE COMPACTED IN 8" LOOSE LIFTS TO 90% OF MAXIMUM DRY DENSITY AS PER ASTM D-1557 (MODIFIED PROCTOR). PRIOR TO PLACEMENT OF LIFT, THE SURFACE OF EXISTING MATERIAL SHALL BE SCARIFIED TO PROVIDE BONDING OF LIFTS.
2. COMPACTED FILL SHALL BE PLACED BEYOND THE FINAL LIMITS OF THE EMBANKMENT AND THEN TRIMMED TO THE FINAL DESIGN SHAPE (ALLOWING FOR TOPSOIL PLACEMENT).
3. AFTER SITE IS PERMANENTLY STABILIZED, REMOVE SEDIMENT, REPAIR LINER IF NECESSARY, INSTALL UNDERDRAINS AND FILL WITH BIO RETENTION MEDIA AND PERMANENTLY STABILIZE PER SEEDING AND MULCHING SPECIFICATIONS.
4. OUTLET PIPE SHALL MEET SPECIFICATIONS IN THE STORM SEWER NOTES ON THE GRADING & UTILITY PLAN. DO NOT PROVIDE STONE BEDDING FOR OUTLET PIPING.
5. CONSTRUCT THE EMBANKMENT 6" HIGHER THAN SHOWN ON THE DRAWINGS TO ALLOW FOR SETTLEMENT.
6. THE KEY TRENCH MATERIAL SHALL BE COMPACTED, RELATIVELY IMPERVIOUS MATERIAL (UNIFIED SOIL CLASSIFICATION CL OR ML)
7. THE CORE AND KEY TRENCH ARE TO BE COMPACTED TO 95% MODIFIED PROCTOR COMPACTION REQUIREMENTS.
8. THE ONSITE GEOTECHNICAL ENGINEER SHALL IDENTIFY SUITABLE MATERIAL FOR USE IN BERM, CORE, AND KEY TRENCH.
9. SUBGRADE MATERIALS SHOULD NOT CONTAIN SHARP, ANGULAR STONES OR ANY OBJECTS THAT COULD DAMAGE THE LINER OR ADVERSELY IMPACT ITS FUNCTION.
10. LINER MATERIAL IS GEOSYNTHETIC CLAY WITH A MINIMUM OF 0.75 LBS./SQUARE FOOT STRENGTH.
11. GEOSYNTHETIC CLAY LINER (GCL) SHALL MEET THE CRITERIA IN NRCS, PART 642, CHAPTER 3, "MATERIAL SPECIFICATION 595-GEOSYNTHETIC CLAY LINER."



Basin	Embankment Invert	Riser Crest	y (Ft)	z	Pipe Slope	L_c (Ft)	# of collars	Collar Projection* (Ft)	Barrel O.D. (Ft.)	Collar Size (Square)
A	290.00	294.00	4.00	3	0.0240	31.0	2	1.2	2.00	4' - 2"
B	284.00	290.00	6.00	3	0.0400	50.0	2	1.9	2.00	5' - 11"
C	214.00	220.00	6.00	3	0.0500	52.5	2	2	2.00	6' - 0"
E	255.00	259.50	4.50	3	0.0540	40.2	2	1.5	2.00	5' - 6"

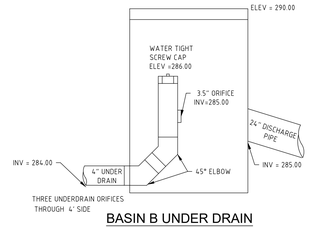
NOTES:
- ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.
- COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

STANDARD CONSTRUCTION DETAIL #7-16
CONCRETE ANTI-SEEP COLLAR FOR PERMANENT BASINS OR TRAPS
N.T.S.



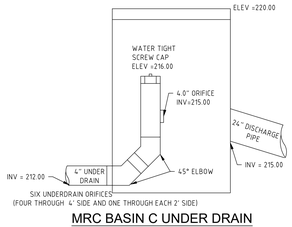
BASIN A UNDER DRAIN

NOTES:
1. ALL BENDS TO BE WITH 45° ELBOWS MAX.
2. UNDER DRAIN TO BE AT BOTTOM OF SOIL MEDIA.
3. ORIFICE TO BE CUT WITH EDGES CLEAN SMOOTH AND SANDED WITH NO BURS OR IRREGULARITIES PRESENT AND GROUND SO THAT FLOW THROUGH IS SMOOTH.



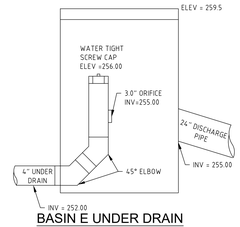
BASIN B UNDER DRAIN

NOTES:
1. ALL BENDS TO BE WITH 45° ELBOWS MAX.
2. UNDER DRAIN TO BE AT BOTTOM OF SOIL MEDIA.
3. ORIFICE TO BE CUT WITH EDGES CLEAN SMOOTH AND SANDED WITH NO BURS OR IRREGULARITIES PRESENT AND GROUND SO THAT FLOW THROUGH IS SMOOTH.



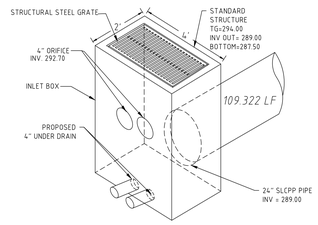
MRC BASIN C UNDER DRAIN

NOTES:
1. ALL BENDS TO BE WITH 45° ELBOWS MAX.
2. UNDER DRAIN TO BE AT BOTTOM OF SOIL MEDIA.
3. ORIFICE TO BE CUT WITH EDGES CLEAN SMOOTH AND SANDED WITH NO BURS OR IRREGULARITIES PRESENT AND GROUND SO THAT FLOW THROUGH IS SMOOTH.

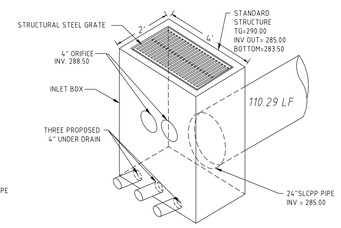


BASIN E UNDER DRAIN

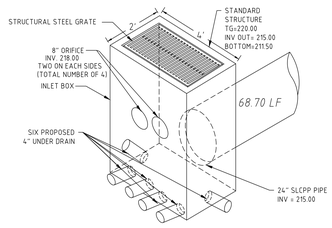
NOTES:
1. ALL BENDS TO BE WITH 45° ELBOWS MAX.
2. UNDER DRAIN TO BE AT BOTTOM OF SOIL MEDIA.
3. ORIFICE TO BE CUT WITH EDGES CLEAN SMOOTH AND SANDED WITH NO BURS OR IRREGULARITIES PRESENT AND GROUND SO THAT FLOW THROUGH IS SMOOTH.



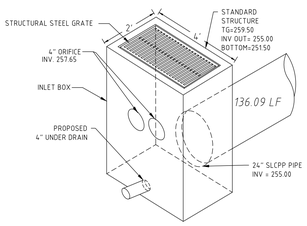
BASIN A OUTLET STRUCTURE



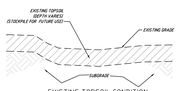
BASIN B OUTLET STRUCTURE



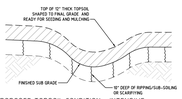
MRC BASIN C OUTLET STRUCTURE



BASIN E OUTLET STRUCTURE



EXISTING TOPSOIL CONDITION



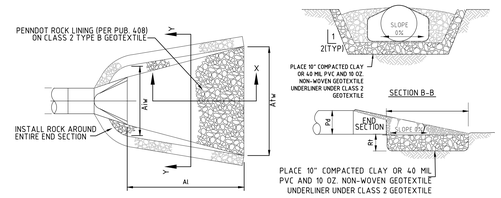
PROPOSED TOPSOIL CONDITION - INTENSIVE

SOIL AMENDMENT DETAILS

FOR AREAS CLASSIFIED AS SOIL AMENDMENT AREAS:

1. PRIOR TO TOPSOILING, SCARIFY OR RIP SOIL TO A DEPTH OF 10". RIPPING OR SCARIFICATION METHOD SHALL BE A SOLID SHANK RIPPER USING MULTIPLE PASSES TO ACHIEVE THE SPECIFIED DEPTH FOR RELIEF OF SOIL COMPACTION.
2. SOIL AMENDMENT MIXTURE AS FOLLOWS:
   50% SITE TOPSOIL
   40% COMPOST *
   10% SAND PASSING #8 SIEVE
3. PLACE SOIL AMENDMENT MIXTURE TO A DEPTH OF 8" FOR STANDARD SOIL AMENDMENT AREAS, PLACE 13" SOIL AMENDMENT MIXTURE IN INTENSIVE SOIL AMENDMENT AREAS.
4. USE OF HEAVY MACHINERY IS PROHIBITED DURING SOIL AMENDMENT PHASE OF CONSTRUCTION.
5. SOIL AMENDMENTS TO BE PERFORMED AFTER CONSTRUCTION IS COMPLETED AND HEAVY MACHINERY WILL NOT TRAVERSE THE SOIL AMENDMENT AREAS.

* COMPOST REQUIREMENTS:
A. COMPOST PRODUCTS SPECIFIED FOR USE IN THIS APPLICATION ARE DESCRIBED IN TABLE 1 BELOW. THE PRODUCT'S PARAMETERS WILL VARY BASED ON WHETHER VEGETATION WILL BE ESTABLISHED ON THE TREATED SLOPE.
B. ONLY COMPOST PRODUCTS THAT MEET ALL APPLICABLE STATE AND FEDERAL REGULATIONS PERTAINING TO ITS PRODUCTION AND DISTRIBUTION MAY BE USED IN THIS APPLICATION. APPROVED COMPOST PRODUCTS MUST MEET RELATED STATE AND FEDERAL CHEMICAL CONTAMINANT (E.G., HEAVY METALS, PESTICIDES, ETC.) AND PATHOGEN LIMIT STANDARDS PERTAINING TO THE FEEDSTOCKS (SOURCE MATERIALS) IN WHICH IT IS DERIVED (.
C. VERY COARSE COMPOST SHOULD BE AVOIDED FOR SOIL AMENDMENT AS IT WILL MAKE PLANTING AND CROP ESTABLISHMENT MORE DIFFICULT.
D. THE USE OF COMPOST PRODUCTS THAT ARE CERTIFIED BY THE U.S. COMPOSTING COUNCIL'S SEAL OF TESTING (STA) PROGRAM (WWW.COMPOSTINGCOUNCIL.ORG) ARE REQUIRED.



PLAN VIEW

SECTION A-A

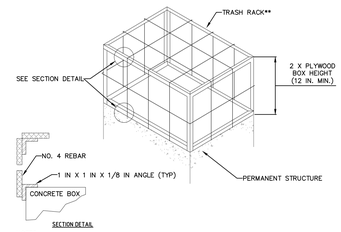
NO.	PIPE DIA. Do (in.)	TAIL WATER COND. (Max or Min)	MAN. "n" FOR PIPE	PIPE SLOPE (FT/FT)	Q (CFS)	V* (FPS)	RIPRAP SIZE	Rt (in)	Al (ft)	Aiw (ft)	Atw (ft)
BMP A Outfall	24	Min.	0.012	0.0237	18.75	12.0	R-6	36	16	6	22
BMP B Outfall	24	Min.	0.012	0.01	23.03	8.9	R-6	18	15	6	21
BMP C Outfall	SEE LEVEL SPREADER DESIGN AND DETAILS										
BMP E Outfall	24	Min.	0.012	0.0055	13.76	6.3	R-4	18	11	6	17
ES-A-1	48	Min.	0.012	0.01	61.26	11.6	R-6	36	22	12	34
ES-B-2	48	Min.	0.012	0.01	71.27	12.2	R-6	36	25	12	37
ES-C1	48	Min.	0.012	0.008	112.36	12.4	R-6	36	30	12	42
ES-C-2	24	Min.	0.012	0.015	10.83	8.7	R-4	18	13	6	19
ES-E-1	24	Min.	0.012	0.0055	15.41	6.6	R-4	18	12	6	18

TYPICAL END SECTION RIP RAP APRON

TABLE 1

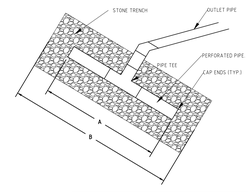
Soil Texture	Ideal Bulk densities	Bulk densities that may affect root growth	Bulk densities that restrict root growth
	g/cm3	g/cm3	g/cm3
Sands, loamy sands	<1.60	1.65	1.8
Sandy loams, loams	<1.40	1.63	1.8
Sandy clay loams, loams, clay loams	<1.40	1.6	1.75
Silt, silt loams	<1.30	1.6	1.75
Silt loams, silty clay loams	<1.10	1.55	1.65
Sandy clays, silty clays, some clay loams (35-45% clay)	<1.10	1.49	1.58
Clays (>45% clay)	<1.10	1.39	1.47

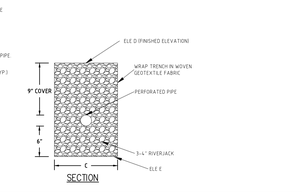
Source: Protecting Urban Soil Quality, USDA-NRCS



NOTES:
BOX SHALL BE BOLTED, STRAPPED, OR OTHERWISE SECURED TO THE PERMANENT RISER.
ALL JOINTS SHALL BE WATER TIGHT.
CLOGGED OR DAMAGED SPILLWAYS SHALL BE REPAIRED IMMEDIATELY. TRASH AND OTHER DEBRIS SHALL BE REMOVED FROM THE BASIN AND RISER.

STANDARD CONSTRUCTION DETAIL #7-10
TEMPORARY RISER EXTENSION AND TRASH RACK FOR PERMANENT STRUCTURE
NOT TO SCALE

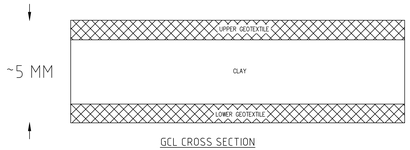




SECTION

LEVEL SPREADER SPECIFICATIONS							
LEVEL SPREADER	PIPE SIZE (INCH)	PERFORATION SIZE (INCH)	# OF PERFORATION PER FOOT	A (FEET)	B (FEET)	C (INCH)	ELE D	ELE E
C	24	0.375	72	43	45	48	214	210.75
E	18	0.375	50	6.5	7.5	42	228	225.25

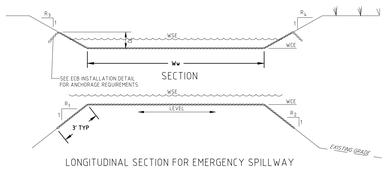
PERMANENT LEVEL SPREADER
N.T.S.



GCL CROSS SECTION

NOTES:
1. GCL MAY BE CLAY BOUND WITH ADHESIVE TO UPPER AND LOWER GEOTEXTILES, CLAY STITCHBONDED BETWEEN UPPER AND LOWER GEOTEXTILES, OR CLAY NEEDLEPUNCHED THROUGH UPPER AND LOWER GEOTEXTILES.
2. INSTALL PER MANUFACTURER'S INSTRUCTIONS. AT THE ENTIRETY OF THE FILL MEDIA BOTTOM AND THEN EXTEND TO THE TOP OF THE SIDE SLOPE, WHERE SIDE SLOPE TIES INTO THE GRADING AROUND THE BASIN.

GEOSYNTHETIC CLAY LINER (GCL)
N.T.S.

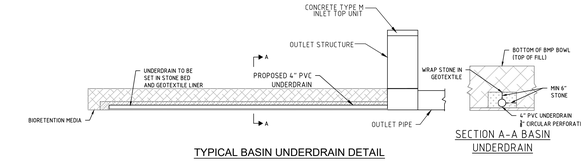


LONGITUDINAL SECTION FOR EMERGENCY SPILLWAY

BASIN	WEIR R_1	WEIR R_2	WEIR 100-YR SURFACE ELEV (FT)	WEIR CREST ELEV (FT)	WEIR WSE (FT)	WEIR WCE (FT)	WEIR WIDTH Ww (FT)	ECB LINING MATL & STAPLE PATTERN	ECB LINING ANNG DEPTH (D) (FT)	ECB LINING R_1	ECB LINING R_2	TOP OF BERM ELEV
B	3	3	291.00	290.50	300		575/CD	0.2	3	3	3	292.00
C	3	3	222.60	222.00	100		575/CD	0.2	3	3	3	224.00

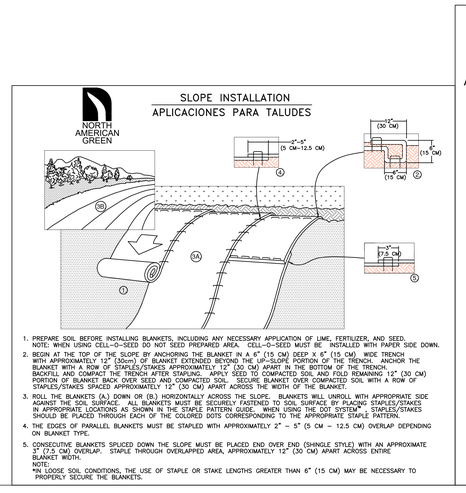
TYPICAL EMERGENCY SPILLWAY

NOTES:
- BASIN A DOES NOT HAVE BERM AROUND I , THEREFORE, NO EMERGENCY SPILLWAY WAS REQUIRED.
- BASIN E EMERGENCY SPILLWAY IS TAKEN AS THE OUTLET STRUCTURE TOP OF THE GRATE. IT WAS SHOWN (IN THE PCSM REPORT) THAT THE OUTLET PIPE FROM THE STRUCTURE HAD THE SUFFICIENT CAPACITY TO SAFELY CONVEY THE 100-YR INFLOW TO THE BASIN.



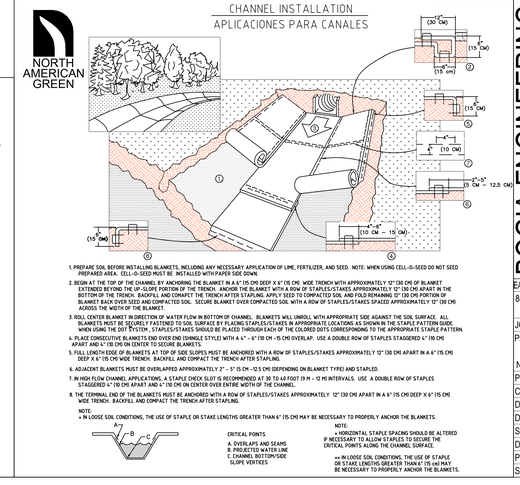
TYPICAL BASIN UNDERDRAIN DETAIL
N.T.S.

SECTION A-A BASIN UNDERDRAIN



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) STAPLES/STAKES SHOULD BE OVER-LAPPED AGAINST THE PREPARED AREA. UNROLL THE BLANKETS DOWN AND ACROSS THE SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON BLANKET TYPE.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) OF BLANKET OVER SEED. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE BLANKET.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4" - 6" (10 CM -15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 6" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) DEPENDING ON BLANKET TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M - 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 6" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE:
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

DATE	REVISION
09-26-2024	PER COUNTY COMMENTS
08-08-2024	PER BOROUGH COMMENTS
07-30-2024	PER BOROUGH, CITY, LVPC COMMENTS
05-13-2024	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW

BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

FINAL PLAN
EASTON COMMERCE PARK
PCSM DETAILS

EASTON WOOD AVE PropCO, LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS, IN 46540

JOB: EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA

PIN:	CHECK SHEET C-300
CHECKED BY:	
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	----
DRAWING:	C-304
PROJECT:	2022-528
SHEET:	17 OF 19

PROJECT TITLE: EASTON COMMERCE PARK

NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE NORTHAMPTON COUNTY CONSERVATION DISTRICT AT LEAST 7 DAYS PRIOR TO THE START OF EARTHMOVING ACTIVITIES.
2. THE CONTRACTOR SHALL COMPLY WITH ALL SOIL USE RESOLUTIONS NOTED ON THIS PLAN.
3. IN NON-STRUCTURAL FILL AREAS, COMPACT FILL IN 12" LIFTS TO 90% COMPACTION.
4. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL CONSTRUCTION WASTES, EXCESS BUILDING MATERIALS, AND MATERIALS CREATED AS THE RESULT OF OPERATION, MAINTENANCE, REPAIR AND /OR REPLACEMENT OF ANY PCSM BMP IDENTIFIED ON THIS PLAN IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY OF THESE SUCH WASTES AT THE SITE.
5. THE ENTIRE SITE DRAINS TO BUSHKILL CREEK AND ITS TRIBUTARIES, WHICH THEN ENTER THE DELAWARE RIVER.

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN RECORDING REQUIREMENTS:

THIS POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN INCLUDES SHEETS THAT ARE TO BE RECORDED AT THE NORTHAMPTON COUNTY RECORDER OF DEEDS OFFICE AT THE TIME OF CITY OF EASTON, WILSON BOROUGH, AND PALMER TOWNSHIP'S FINAL PLAN APPROVAL OF THE LAND DEVELOPMENT PLAN. THE RECORDING OF THIS POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN PROVIDES FOR THE FOLLOWING:

1. THE POST-CONSTRUCTION STORMWATER MANAGEMENT BMP'S ARE IDENTIFIED AS FOLLOWS:
   a. MRC RAIN GARDEN BASINS A,. B, C&D, AND E
   b. CATCH BASIN AND FILTERS
   c. VEGETATED AND LANDSCAPE AREAS
   d. AMENDED SOILS
   e. PIPE NETWORK
   f. RIPRAP APRONS
2. ACCESS TO THE ABOVE LISTED POST-CONSTRUCTION STORMWATER MANAGEMENT BMP'S BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE NORTHAMPTON COUNTY CONSERVATION DISTRICT AND THE CITY OF EASTON, WILSON BOROUGH, AND PALMER TOWNSHIP OR THEIR DESIGNEE AS NEEDED TO INSPECT THE POST-CONSTRUCTION STORMWATER BMPs SHALL BE PROVIDED BY THE PROPERTY OWNER.
3. THE RESPONSIBILITY FOR OPERATIONS AND MAINTENANCE OF THE POST-CONSTRUCTION STORMWATER BMPs AS DESCRIBED ON THIS PLAN RUNS IN PERPETUITY WITH LOT OWNERSHIP.
4. THE POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN, INSPECTION REPORTS, AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE MUNICIPALITIES, PADEP AND THE CONSERVATION DISTRICT.

RESPONSIBLE PARTIES:

THE OWNER OF THE PROPERTY IS THE RESPONSIBLE PARTY FOR MAINTENANCE OF BMP FACILITIES AND RESPONSIBILITY RUNS WITH THE PROPERTY.

GENERAL NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE NORTHAMPTON COUNTY CONSERVATION DISTRICT AT LEAST 7 DAYS PRIOR TO THE START OF EARTHMOVING ACTIVITIES.
2. ALL EARTHMOVING CONTRACTORS MUST BE ADDED AS CO-PERMITTEES TO THE NPDES PERMIT. AFTER ALL EARTHMOVING ACTIVITY HAS CEASED AND THE ENTIRE PERMITTED AREA IS PERMANENTLY STABILIZED, THE PERMITTEE(S) MUST SUBMIT A NOTICE OF TERMINATION FORM TO THE NORTHAMPTON COUNTY CONSERVATION DISTRICT TO CLOSE OUT THE NPDES PERMIT.
3. THE PERMITTEE AND CO-PERMITTEE(S) SHALL COMPLY WITH ALL OF THE MONITORING AND REPORTING REQUIREMENTS, AS OUTLINED IN PART A.2 OF THE NPDES PERMIT. THE PERMITTEE AND CO-PERMITTEE(S) SHALL ENSURE THAT SITE INSPECTIONS ARE CONDUCTED AT THE SCHEDULED FREQUENCY AND AFTER EACH MEASURABLE PRECIPITATION EVENT BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN PCSM PRACTICES TO ASCERTAIN THAT THE PCSM BMPs ARE OPERATIONAL AND EFFECTIVE. A WRITTEN REPORT SHALL BE KEPT FOR EACH INSPECTION, IN ACCORDANCE WITH THE REQUIREMENTS OF PART A.2.A.
4. THIS PLAN IS FOR THE IMPLEMENTATION OF PCSM MEASURES ONLY. THIS PLAN SHALL NOT BE USED FOR THE CONSTRUCTION OF NON-PCSM MEASURES.
5. THE CONTRACTOR SHALL COMPLY WITH ALL SOIL CONSTRUCTION LIMITATIONS NOTED ON THIS PLAN.
6. IN ALL NON-STRUCTURAL FILL AREAS, COMPACT FILL IN 12" LIFTS TO 90% COMPACTION.
7. BEFORE INITIATING ANY REVISION TO THE APPROVED PCSM PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED PCSM PLAN, THE OPERATOR MUST RECEIVE DIRECT APPROVAL OF THE REVISIONS FROM THE NORTHAMPTON COUNTY CONSERVATION DISTRICT AND CITY OF EASTON, WILSON BOROUGH, AND PALMER TOWNSHIP. THE OPERATOR SHALL ASSURE THAT THE APPROVED PCSM PLAN IS PROPERLY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR PCSM BMP FAILURE, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGE PRACTICES TO ELIMINATE POTENTIAL FOR PCSM BMP FAILURE.
8. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL CONSTRUCTION WASTES, EXCESS BUILDING MATERIALS, AND MATERIALS CREATED AS THE RESULT OF OPERATION, MAINTENANCE, REPAIR AND /OR REPLACEMENT OF ANY PCSM BMP IDENTIFIED ON THIS PLAN IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY OF THESE SUCH WASTES AT THE SITE.
9. INDIVIDUALS RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITIES MUST ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTES INCLUDE, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY. MEASURES SHOULD BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL.
10. KEEP ALL TRASH CONTAINER LIDS CLOSED AT ALL TIMES UNLESS ADDING OR REMOVING MATERIAL. ALL WASTE RECEPTACLES SHOULD BE LEAK-TIGHT WITH TIGHT-FITTING LIDS. NEVER PLACE LIQUIDS OR LIQUID-CONTAINING WASTES IN A DUMPSTER OR TRASH RECEPTACLE. ARRANGE FOR WASTES TO BE PICKED UP REGULARLY AND DISPOSED AT APPROVED DISPOSAL FACILITIES. DO NOT WASH OUT WASTE CONTAINERS OR DUMPSTERS OUTDOORS. RETURN DUMPSTERS TO THE OWNERS FOR CLEANING AT THE OWNER'S FACILITY.
11. DISPOSAL OF REMOVED MATERIAL SHALL DEPEND ON THE NATURE OF THE DRAINAGE AREA AND INTENT AND FUNCTION OF THE UNIT. FOR EXAMPLE, SEDIMENT COLLECTED FROM A SYSTEM OF STORMWATER INLETS MAY POSSIBLY BE DISPOSED OF AT A LANDFILL. MATERIAL REMOVED FROM THE INLET SHOULD BE HANDLED ACCORDING TO LOCAL, STATE, AND FEDERAL REGULATIONS. REMOVED MATERIAL FROM "HOT SPOTS" SUCH AS FUELING STATIONS OR THAT RECEIVE A LARGE AMOUNT OF DEBRIS SHOULD BE HANDLED ACCORDING TO DEP REGULATIONS FOR SOLID WASTE, SUCH AS A LANDFILL THAT IS APPROVED BY DEP TO ACCEPT SOLID WASTE. SOME MATERIALS, SUCH AS SEDIMENT AND DETRITUS FROM LAWN AREAS MAY BE ABLE TO BE REUSED ON SITE, WHICH IS RECOMMENDED BY DEP. AFTER THE CLEAN-OUT PROCEDURE IS COMPLETE, REPLACE THE GRATES SECURELY TO THE FRAMES FOR SAFETY PURPOSES.
12. THE USE OF MASTIC OR EQUIVALENT IS RECOMMENDED IN ALL INLETS AND MANHOLES LOCATED WITHIN GRASSED AREAS AND PCSM BMP AREAS TO PREVENT SOIL FROM WASHING INTO THE STORM SEWER OR INFILTRATION AREA THROUGH UNSEALED JOINTS IN THE INLET BOX AND TOP.

SOILS CONSTRUCTION LIMITATIONS:

SEASONAL HIGH WATER TABLE - IF GROUNDWATER IS ENCOUNTERED, THE WATER WILL BE PUMPED TO A SEDIMENT REMOVAL DEVICE (I.E. DIRTBAG FILTER BAG).

HIGH MOISTURE LEVELS ABOVE THE FRAGIPAN - IF GROUNDWATER IS ENCOUNTERED, THE WATER WILL BE PUMPED TO A SEDIMENT REMOVAL DEVICE (I.E. DIRTBAG FILTER BAG).

UNSUITABILITY FOR WINTER GRADING - IF GRADING ACTIVITIES TAKE PLACE DURING THE WINTER MONTHS, EARTHWORK SHALL BE RESTRICTED TO PERIODS WHEN THE AIR TEMPERATURE IS ABOVE FREEZING, AND WET OR FROZEN SOIL SHALL NOT BE USED FOR BULK FILL OR TRENCH BACKFILL.

INSTABILITY FOR BASIN EMBANKMENT CONSTRUCTION - A COMPACTED CLAY CORE AND KEY TRENCH WILL BE CONSTRUCTED INSIDE THE BASIN EMBANKMENT USING CLAYEY SOIL OF THE AREA TO PREVENT SEEPAGE THROUGH THE EMBANKMENT FILL.

HIGH CONTAMINATION - ACCORDING TO THE GEOTECHNICAL STUDY THE NATIVE SOIL HAS HIGH LEVEL OF CONTAMINATION; CONSEQUENTLY, INFILTRATION WAS INHIBITED BY APPLYING LINER IN THE STORMWATER BMPs.

SHALLOW BEDROCK OR ROCK LEDGES FOR GRADING - IF ROCK IS ENCOUNTERED DURING GRADING, THE ROCK WILL BE UNDERCUT AT LEAST 6" BELOW FINISHED GRADE. A 6" THICK LAYER OF TOPSOIL SHALL BE PLACED OVER THE ROCK.

POOR SOURCE OF TOPSOIL - USE BEST TOPSOIL STRIPPED FROM THE SITE. IF LITTLE OR NO TOPSOIL IS ENCOUNTERED DURING EARTHMOVING OPERATIONS IN THESE SOILS, TOPSOIL WILL BE IMPORTED FROM OFF-SITE.

SCHEDULE OF INSPECTION FOR CRITICAL STAGES OF BMP INSTALLATION:

LICENSED PROFESSIONAL OR THEIR DESIGNATED INSPECTION STAFF SHALL BE PRESENT DURING:.

- CONSTRUCTION OF BASIN STRUCTURES, LINING AND COMPOST/AMENDED SOIL.
- CONSTRUCTION OF CATCH BASINS AND PIPE NETWORK COMPONENTS.
- CONSTRUCTION OF WINGED WALLS AND RIPRAP APRONS.
- CONVERSION OF SEDIMENT BASIN TO PCSM CONDITIONS.
- INSTALLATION OF ALL PERMANENT SOIL STABILIZATION BLANKETS AND TURF REINFORCEMENT MATTING IN THE BASIN BERMS.

CHAPTER 93 CLASSIFICATION:

THE RECEIVING WATERCOURSE BUSHKILL CREEK, CLASSIFIED BY DEP CHAPTER 93 AS HIGH QUALITY (HF) AND COLD WATER FISH (CWF), AND ITS TRIBUTARIES.

LIMIT OF AREA OF DISTURBANCE:

THE AREA SHOWN AS THE LIMIT OF CONSTRUCTION ON THIS PLAN SHALL BE DELINEATED IN THE FIELD BY ORANGE CONSTRUCTION FENCING OR STAKES AND ROPE TO PREVENT ANY DISTURBANCE OUTSIDE THIS AREA. ANY DELINEATING DEVICES USED THAT ARE KNOCKED DOWN BY CONSTRUCTION EQUIPMENT SHALL BE IMMEDIATELY RESTORED AND REPLACED AS NECESSARY. DISTURBANCE OUTSIDE THIS AREA IS PROHIBITED. THE PROJECT WAS DESIGNED UTILIZING THE LOW IMPACT DEVELOPMENT APPROACH TO MAXIMIZE THE USE OF MEASURES AND TECHNIQUES TO PROTECT AND MAINTAIN EXISTING QUALITY OF THE RECEIVING SURFACE WATERS AND PRESERVE EXISTING BASEFLOW. THE IMPERVIOUS AREA WAS LIMITED BY DESIGN, ONLY UTILIZING THE AREA NEEDED TO ACHIEVE THE PROJECT GOALS. THE DISTURBANCE TO EXISTING DRAINAGE FEATURES AND VEGETATION WERE MINIMIZED IN DESIGN TO PROVIDE MAXIMUM PROTECTION TO THESE AREAS AS WELL AS THE SEQUENCE CONSTRUCTED TO PROVIDE THE MAXIMUM PROTECTION TO THE WATERSHEDS. SOIL COMPACTION HAS ALSO BEEN LIMITED TO THE BUILDING, PARKING LOT AND THE ROADWAY. HEAVY EQUIPMENT SHALL NOT BE PERMITTED WITHIN ANY ISTORMWATER MANAGEMENT AREA.

THE MRC BASINS SHALL ACT AS SEDIMENT BASINS DURING CONSTRUCTION, AND CONVERTED TO MRC BASINS TO PROVIDE FOR WATER QUALITY AND TO MEET THE DEP AND LOCAL REQUIREMENTS. ACCELERATED EROSION AND SEDIMENTATION SHALL BE CONTROLLED THROUGH THE USE OF PERMANENT AND TEMPORARY (AS NECESSARY) SEEDING AND MULCHING OF ALL DISTURBED AREAS IN CONJUNCTION WITH COMPOST FILTER SOCKS BELOW DISTURBED AREAS, INLET PROTECTION, RIP-RAP APRONS ETC. IN THE POST DEVELOPMENT CONDITION, STORMWATER CONTROLS SHALL BE CONSTRUCTED TO PROTECT WATER QUALITY.

PCSM BMP IMPLEMENTATION IN RELATION TO EARTH DISTURBANCE:

PCSM BMP IMPLEMENTATION IS TO COINCIDE WITH THE CONSTRUCTION SEQUENCE AS SHOWN IN THE EROSION AND SEDIMENT CONTROL NARRATIVE AND ON THE EROSION AND SEDIMENT CONTROL NOTES.

ALL LIMITATIONS NOTED IN THE E&SC NARRATIVE AND ON THE PLANS REGARDING STABILIZATION OF TIMING OF INSTALLATION OF BMP FACILITIES ARE TO BE FOLLOWED.

SEQUENCE OF CONSTRUCTION OF BMPS

1. EARTHWORK
   A. CUT&FILL, GRADE SOIL, LINE WITH APPROPRIATE EROSION CONTROL BLANKET, AND IMMEDIATELY AND PERMANENTLY STABILIZE.
2. INSTALLATION OF LINER AND SOIL AMENDMENTS
   A. INSTALL PER THE DESIGN DETAILS IN ALL DESIGNATED AREAS AND IMMEDIATELY AND PERMANENTLY STABILIZE PER THE SEEDING AND MULCHING SPECIFICATIONS.
3. LANDSCAPE RESTORATION AREAS.
   A. PLANT PER THE DESIGN PLANS.
4. CONVERT SEDIMENT BASINS TO PERMANENT MRC RAIN GARDEN BASIN
   a. REMOVE SEDIMENT FROM THE BASIN AND FLUSH ACCUMULATED SEDIMENT FROM THE CONTRIBUTING STORM SEWER.
   b. DEWATER THE BASIN BY USING A PUMP AND A PUMPED WATER FILTER BAG.
   c. SPREAD RAIN GARDEN MEDIA ON THE BASIN BOTTOM (PER THE PERMANENT GRADING PLAN) AND INTERIOR SLOPES BELOW THE CLEANOUT ELEVATION.
   d. PERMANENTLY STABILIZE ALL TOPSOILED OR DISTURBED AREAS.
   e. REMOVE THE SKIMMER AFTER THE INTERIOR OF THE BASIN ACHIEVES PERMANENT STABILIZATION, ANY BAFFLES, CLEANOUT STAKES AND INSTALL THE PERMANENT ORIFICE PLATE ON THE OUTLET HEADWALL. INSTALL CAP ON SKIMMER STUB.
   f. PROTECT THE PERMANENT ORIFICE BY PLACING A SILT SOCK AROUND THE OUTLET STRUCTURE UNTIL INTERIOR OF PERMANENT FACILITY IS STABILIZED.
   g. INSTALL WINGED WALLS AND RIPRAP APRON AT THE DESIGNATED OUTFALLS PER PLANS.

POST-CONSTRUCTION STORMWATER MANAGEMENT BMP INSPECTION AND MAINTENANCE NOTES

1. NO STRUCTURES THAT ARE NOT COMPONENTS OF AN APPROVED BMP SHALL BE PERMITTED WITHIN OR ON TOP OF AN AREA DESIGNATED AS STORMWATER BMP.
2. BMP'S SHALL BE INSPECTED BY A PROFESSIONAL LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ON THE FOLLOWING BASIS:
   2.1. ANNUALLY FOR THE FIRST FIVE (5) YEARS.
   2.2. ONCE EVERY THREE (3) YEARS THEREAFTER.

BMP MAINTENANCE NOTES AND REQUIREMENTS:

OPERATION AND MAINTENANCE - GENERAL REQUIREMENTS

PA DEP REQUIRES THAT THE OPERATION AND MAINTENANCE ACTIVITIES FOR THE PERMANENT POST-CONSTRUCTION STORMWATER BEST MANAGEMENT PRACTICES (BMPs) BE CONDUCTED AS REQUIRED AND THAT DOCUMENTATION OF THESE INSPECTIONS BE AVAILABLE ONSITE FOR THE NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW. THESE MAINTENANCE ACTIVITIES ARE PART OF THE PERMIT OBLIGATION AND CONTINUE FOR THE LIFE OF THE PROPERTY USE. FORMS THAT CAN BE USED FOR THIS PURPOSE ARE INCLUDED AT THE END OF THE POST CONSTRUCTION STORMWATER MANAGEMENT REPORT.

AFTER ANY STORM RAINFALL EVENT OF 0.8" OR GREATER (MAJOR RUNOFF EVENT), THE BASIN AND ASSOCIATED OUTLET WORKS SHOULD BE INSPECTED. ANY DAMAGE OR BLOCKAGE TO THE OUTLET STRUCTURES SHOULD BE REPAIRED OR REMOVED IMMEDIATELY. ANY ERODED AREAS SHOULD BE TOPSOILED AND PERMANENTLY SEEDED AND MULCHED.

SUMPED STORMWATER STRUCTURES MAINTENANCE/INSPECTION GUIDELINES

ALL SUMPED STORMWATER INLETS AND JUNCTION BOXES SHALL BE INSPECTED TWICE A YEAR AND AFTER MAJOR RAINSTORMS. SEDIMENT AND DEBRIS IN THE SUMPS SHALL BE REMOVED BETWEEN MARCH 1ST AND APRIL 1ST AND BETWEEN SEPTEMBER 1ST AND OCTOBER 1ST OF EACH YEAR AND ALSO AT SUCH TIMES WHEN SEDIMENT REACHES HALF THE SUMP HEIGHT OR THE DRAINAGE PLAN SHOWS THE LOCATION OF THE INLETS AND JUNCTION BOXES.

MRC / RAIN GARDEN BASIN & RAIN GARDENS

- UPGRADIENT CATCH BASINS AND INLETS SHALL BE INSPECTED AND CLEANED ANNUALLY OR MORE OFTEN IF HISTORICAL MAINTENANCE RECORDS SUGGESTS A MORE FREQUENT CLEANING.
- THE VEGETATION (FOR THE MRC BMP AND CONTRIBUTING DRAINAGE AREA) SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS SHALL BE REVEGETATED.
- CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS. MOW ONLY AS APPROPRIATE FOR VEGETATIVE SPECIES.
- INSPECT AT LEAST TWO TIMES PER YEAR AFTER RUNOFF EVENTS GREATER THAN 0.8 INCH AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN THE DESIGN PARAMETERS (A LICENSED PROFESSIONAL ENGINEER SHOULD CLEARLY IDENTIFY WHAT THESE PARAMETERS ARE).
- AT LEAST TWO TIMES PER YEAR, OR MORE IF HISTORICAL MAINTENANCE INDICATE IT IS NECESSARY, INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION, SIGNS OF WATER CONTAMINATION/SPILLS, AND INSTABILITY. LEAF LITTER NEEDS TO BE REMOVED ANNUALLY.
- AS NEEDED, REMOVE ACCUMULATED SEDIMENT AS REQUIRED TO MAINTAIN INFILTRATION THROUGH THE MRC FILL MATERIAL AND TO MAINTAIN WATER QUALITY FUNCTIONALLY. RESTORE ORIGINAL CROSS SECTION. PROPERLY DISPOSE OF SEDIMENT.
- IF POROUS PAVEMENT IS INCLUDED IN THE DESIGN, VACUUM AT LEAST TWICE PER YEAR. VACUUM SHOULD HAVE SUFFICIENT SUCTION POWER AND BE DESIGNED FOR USE WITH POROUS PAVEMENTS.
- ALL MRC BMP COMPONENTS SHOULD BE MAINTAINED AS INDICATED IN THE STORMWATER BMP MANUAL.

AS NOTED ABOVE, IF THE MRC BMP WILL MANAGE PEAK FLOWS IN EXCESS OF THE 2-YEAR/24-HOUR STORM EVENT, AN INCREASED INSPECTION AND MAINTENANCE FREQUENCY WILL TYPICALLY BE NECESSARY.

INLET WATER QUALITY INSERT / FILTERS

- INSPECT AND REMOVE TRASH AND DEBRIS FROM FILTER AND AREA AROUND STRUCTURE.
- PERFORM MAINTENANCE AS REQUIRED BY MANUFACTURER FOR CLEANING AND REPLACEMENT OF FILTER MEDIA.
- ENSURE UPSTREAM DRAINAGE IS NOT IMPEDED BY CLOGGED FILTERS AND INSPECT QUARTERLY.

SOIL AMENDMENTS

- ALL AREAS ARE FREE AND CLEAR OF DEBRIS AND ACCUMULATED SEDIMENT.
- INSPECT FOR THE FORMATION OF RILLS OR OTHER EROSIVE CONDITIONS AND IMMEDIATELY REPLACE.
- MOW ONLY AS APPROPRIATE FOR VEGETATIVE COVER SPECIES.
- VEHICLES SHOULD NOT BE PARKED OR DRIVEN ON AMENDED SOIL AREAS TO MAINTAIN AN UNCOMPACTED STATE.
- TILL AND REPLANT IF SOILS BECOME COMPACTED.

VEGETATED COVER / LANDSCAPE RESTORATION

IN GENERAL, MAINTENANCE STRATEGIES FOR VEGETATED AREAS SHOULD FOCUS ON SUSTAINING BOTH THE HYDRAULIC AND POLLUTANT REMOVAL EFFICIENCY OF THE AREA AS WELL AS MAINTAINING A DENSE VEGETATIVE COVER.

MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY OR 48 HOURS AFTER EVERY STORM EVENT (SEMIANNUALLY FOR THE FIRST YEAR):

- INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION, AND SEDIMENT AND DEBRIS ACCUMULATION (WHEN > 3 IN AT ANY SPOT OR COVERS VEGETATION)
- INSPECT VEGETATION ON SLOPES FOR EROSION AND FORMATION OF RILLS OR GULLIES, CORRECT AS NEEDED
- INSPECT FOR POOLS OF STANDING WATER; DEWATER AND DISCHARGE TO A STORM SEWER AT AN APPROVED LOCATION
- MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, PROPER SWALE OPERATION, OR TO SUPPRESS WEEDS AND INVASIVE VEGETATION; DISPOSE OF CUTTINGS IN A LOCAL COMPOSTING FACILITY; MOW ONLY WHEN GROUND IS DRY TO AVOID RUTTING
- INSPECT FOR LITTER; REMOVE PRIOR TO MOWING

MAINTENANCE ACTIVITIES TO BE DONE AS NEEDED:

- PLANT ALTERNATIVE GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT
- RESEED BARE AREAS; INSTALL APPROPRIATE EROSION CONTROL MEASURES WHEN NATIVE SOIL EXPOSED OR EROSION CHANNELS ARE FORMING
- WATER DURING DRY PERIODS, FERTILIZE, AND APPLY PESTICIDE ONLY WHEN ABSOLUTELY NECESSARY
- TREES ARE TO BE INSPECTED ANNUALLY. DEAD OR DISEASED TREES ARE TO BE REPLACED IN-KIND OR WITH SPECIES APPROVED BY THE CONSERVATION DISTRICT.

ADDITIONAL WINTER MAINTENANCE CONCERNS:

- INSPECT AREA IMMEDIATELY AFTER THE SPRING MELT, REMOVE RESIDUALS (E.G. SAND), AND REPLACE DAMAGED VEGETATION WITHOUT DISTURBING REMAINING VEGETATION
- IF ROADSIDE OR PARKING LOT RUNOFF IS DIRECTED TO THE SWALE, MULCHING AND/OR SOIL AERATION/MANIPULATION MAY BE REQUIRED IN THE SPRING TO RESTORE SOIL STRUCTURE AND MOISTURE CAPACITY AND TO REDUCE THE IMPACTS OF DEICING AGENTS
- USE NONTOXIC, ORGANIC DEICING AGENTS, APPLIED EITHER AS BLENDED, MAGNESIUM CHLORIDE-BASED LIQUID PRODUCTS OR AS PRETREATED SALT
- USE SALT-TOLERANT VEGETATION ALONG PARKING AND SIDEWALK AREAS OR WHERE DRAINAGE FROM PAVED AREAS FLOWS.

LIMITED COMPACTION

ALL BASIN AND BERM AREAS SHALL BE PROTECTED FROM EXCESSIVE VEHICLE MOVEMENT, AND SHALL NOT BE USED FOR STORAGE, OR EQUIPMENT OR MATERIAL LAYDOWN.

- MAINTAIN HEALTHY VEGETATED COVER. INSPECT 2X/YEAR.
- REPLACE VEGETATION WHICH HAS BEEN DAMAGED.

MAINTENANCE CLEANING

THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL CONSTRUCTION WASTES, EXCESS BUILDING MATERIALS, AND MATERIALS CREATED AS THE RESULT OF OPERATION, MAINTENANCE, REPAIR AND /OR REPLACEMENT OF ANY PCSM BMP IDENTIFIED ON THIS PLAN IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY OF THESE WASTES AT THE SITE.

INDIVIDUALS RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITIES MUST ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTES INCLUDE, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY. MEASURES SHOULD BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL.

KEEP ALL TRASH CONTAINER LIDS CLOSED AT ALL TIMES UNLESS ADDING OR REMOVING MATERIAL. ALL WASTE RECEPTACLES SHOULD BE LEAK-TIGHT WITH TIGHT-FITTING LIDS. NEVER PLACE LIQUIDS OR LIQUID-CONTAINING WASTES IN A DUMPSTER OR TRASH RECEPTACLE. ARRANGE FOR WASTES TO BE PICKED UP REGULARLY AND DISPOSED AT APPROVED DISPOSAL FACILITIES. DO NOT WASH OUT WASTE CONTAINERS OR DUMPSTERS OUTDOORS. RETURN DUMPSTERS TO THE OWNERS FOR CLEANING AT THE OWNER'S FACILITY. DISPOSAL OF REMOVED MATERIAL WILL DEPEND ON THE NATURE OF THE DRAINAGE AREA AND INTENT AND FUNCTION OF THE UNIT. FOR EXAMPLE, SEDIMENT COLLECTED FROM A SYSTEM OF STORMWATER INLETS MAY POSSIBLY BE DISPOSED OF AT A LANDFILL. MATERIAL REMOVED FROM THE INLET SHOULD BE HANDLED ACCORDING TO LOCAL, STATE, AND FEDERAL.

REMOVED MATERIAL FROM "HOT SPOTS" SUCH AS FUELING STATIONS OR THAT RECEIVE A LARGE AMOUNT OF DEBRIS SHOULD BE HANDLED ACCORDING TO DEP REGULATIONS FOR SOLID WASTE, SUCH AS A LANDFILL THAT IS APPROVED BY DEP TO ACCEPT SOLID WASTE. SOME MATERIALS, SUCH AS SEDIMENT AND DETRITUS FROM LAWN AREAS MAY BE ABLE TO BE REUSED ON SITE, WHICH IS RECOMMENDED BY DEP. AFTER THE CLEAN-OUT PROCEDURE IS COMPLETE, REPLACE THE GRATES SECURELY TO THE FRAMES FOR SAFETY PURPOSES.

SEDIMENT REMOVED FROM E&SC AND PCSM BMP'S DURING MAINTENANCE OF SAID BMP'S AND DURING CONVERSION OF E&SC BMP'S TO PERMANENT PCSM BMP'S SHALL BE DISPOSED FOLLOWING THE ABOVE DESCRIBED PROCESS.

INSPECTIONS SHOULD BE LOGGED ONTO DEP FORM 3800-FM-BCW027D REV. 12/2019 AND KEPT ON SITE AT ALL TIMES.

NPDES PERMIT NOTES

1. UPON REDUCTION, LOSS OR FAILURE OF THE BMP'S, THE PERMITTEE AND CO-PERMITTEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMP'S OR PROVIDE AN ALTERNATIVE METHOD OF TREATMENT.
2. WHERE E&S BMP'S ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITTEE AND CO-PERMITTEE SHALL IMMEDIATELY CONTACT THE COUNTY CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY THE SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF THE INITIAL CONTACT.
3. PERMITTEES REQUESTING A RENEWAL OF COVERAGE UNDER A PERMIT MUST SUBMIT TO THE COUNTY CONSERVATION DISTRICT AN ADMINISTRATIVELY COMPLETE AND ACCEPTABLE NOI AT LEAST 90 DAYS PRIOR TO THE EXPIRATION DATE OF COVERAGE.
4. NOTICE OF TERMINATION. WHERE ALL STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT ARE AUTHORIZED BY THE PERMIT ARE ELIMINATED, AND BMP'S IDENTIFIED IN THE POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) PLAN HAVE BEEN INSTALLED, THE PERMITTEE OR CO-PERMITTEE OF THE FACILITY MUST SUBMIT A NOTICE OF TERMINATION (NOT) FORM THAT IS SIGNED IN ACCORDANCE WITH PART B.1.C (SIGNATORY REQUIREMENTS) OF THE PERMIT TO THE COUNTY CONSERVATION DISTRICT.
5. SITE INSPECTIONS AND MONITORING REPORTS. THE PERMITTEE AND CO-PERMITTEE(S) SHALL COMPLY WITH ALL OF THE MONITORING AND REPORTING REQUIREMENTS, AS OUTLINED IN PART A.2 OF THE NPDES PERMIT. THE PERMITTEE AND CO-PERMITTEE(S) SHALL ENSURE THAT SITE INSPECTIONS ARE CONDUCTED AT LEAST WEEKLY AND AFTER EACH MEASURABLE PRECIPITATION EVENT BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN E&SC PRACTICES TO ASCERTAIN THAT THE E&SC BMPs ARE OPERATIONAL AND EFFECTIVE. A WRITTEN REPORT SHALL BE KEPT FOR EACH INSPECTION, IN ACCORDANCE WITH THE REQUIREMENTS OF PART A.2.A

POST-CONSTRUCTION STORMWATER MANAGEMENT BMP INSPECTION AND MAINTENANCE NOTES

1. NO STRUCTURES THAT ARE NOT COMPONENTS OF AN APPROVED BMP SHALL BE PERMITTED WITHIN OR ON TOP OF AN AREA DESIGNATED AS STORMWATER BMP.
2. BMP'S SHALL BE INSPECTED BY A REGISTERED DESIGN PROFESSIONAL LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ON THE FOLLOWING BASIS:

- ANNUALLY FOR THE FIRST FIVE (5) YEARS.
- ONCE EVERY THREE (3) YEARS THEREAFTER.

THE DESIGN PROFESSIONAL CONDUCTING THE INSPECTION SHALL BE REQUIRED TO SUBMIT A WRITTEN REPORT TO THE MUNICIPALITIES WITHIN ONE MONTH FOLLOWING COMPLETION OF THE INSPECTION. THE REPORT SHALL PRESENT DOCUMENTATION AND INCLUDE PICTURES REGARDING THE CONDITION OF THE FACILITY AND RECOMMEND NECESSARY REPAIRS, IF NEEDED. ANY NEEDED REPAIRS SHALL BE IMPLEMENTED BY THE OWNER WITHIN ONE MONTH OF THE REPORT ISSUANCE DATE.

STORM WATER MANAGEMENT NOTES:

1. ALL RAIN WATER CONDUCTORS ARE TO BE MADE OF SCHEDULE 40 PVC WITH SOLVENT CONNECTIONS AND CONNECTED TO THE STORMWATER MANAGEMENT SYSTEM AS SHOWN ON THE PLAN. THE MINIMUM SLOPE ON A RAIN WATER CONNECTOR IS TO BE 0.01 FT/FT, UNLESS OTHERWISE NOTED OR REQUIRED TO MEET LOCAL ORDINANCES.
2. PROVIDE CAST-IN-PLACE STEPS, IN ACCORDANCE WITH PENNDOT RC-39, FOR ALL INLETS, JUNCTION BOXES AND STRUCTURES OVER 4' DEPTH.
3. END SECTIONS ARE NOT INCLUDED IN PIPE LENGTHS.
4. PIPE LENGTHS ARE MEASURED FROM CENTERLINE OF INLET TO CENTERLINE OF INLET, ROUNDED TO NEAREST WHOLE FOOT.
5. INSTALLATION OF RAIN WATER CONDUCTORS SHALL BE RESPONSIBILITY OF SITE CONTRACTOR.
6. ALL PROPOSED INLETS AT THE LAST RUN TO AN OUTFALL AREA TO HAVE 18" SUMPS, UNLESS EQUIPPED WITH A SNOUT, IN WHICH CASE INLET SUMPS SHALL FOLLOW MANUFACTURERS RECOMMENDATIONS..

THERMAL IMPACTS:

THE POTENTIAL THERMAL IMPACTS TO SURFACE WATERS FROM EARTH DISTURBANCE ACTIVITY ARE BECAUSE OF INCREASED SUN EXPOSURE DUE TO LACK OF VEGETATION ESTABLISHED DURING EARTH MOVING ACTIVITIES.

THE THERMAL IMPACTS WILL BE MITIGATED BY ANY DISCHARGE OF STORMWATER FROM THE SITE, DURING OR AFTER CONSTRUCTION, WILL TRAVEL THROUGH A SERIES OF EXISTING AND/OR PROPOSED SWALES AND VEGETATED SURFACES PRIOR TO REACHING THE STREAM. THIS SERIES OF SWALES AND SURFACES, AND THE SHEET FLOW OVER VEGETATED AREAS, WILL REDUCE THE POTENTIAL OF THERMAL IMPACTS TO BUSHKILL CREEK AND THE TRIBUTARIES BY ALLOWING THE STORMWATER DISCHARGE TO DISSIPATE HEAT INCREASES FROM THE SITE. THE PROPOSED BMPs ONSITE, INCLUDING MRC RAIN GARDEN BMP'S, VEGETATED SURFACES, LANDSCAPE RESTORATION, AND SOIL AMENDMENTS WILL ACT TO SLOW DOWN, FILTER AND INFILTRATE STORMWATER RUNOFF BEFORE IT LEAVES THE SITE. THE MRC BASINS INCLUDE AN UNDERDRAIN SYSTEM THAT COOLS THE WATER BELOW GRADE AND KEEPS IT FROM DISCHARGING DIRECTLY WHILE EXPOSED TO THE SUN. IN ADDITION, THE MRC BASINS ARE ALSO DESIGNED AS RAIN GARDENS TO PROVIDE VEGETATION THAT WILL SHADE THE BASIN BOTTOMS. FURTHER, EXTENSIVE LANDSCAPING IS BEING PROVIDED ALONG THE BASINS AND SWALES TO PROVIDE ADDITIONAL SHADING AND COOLING EFFECTS.

STANDARD E&S WORKSHEET # 21
Temporary and Permanent Vegetative Stabilization Specifications

PROJECT NAME: Easton Commerce Park
LOCATION: 1525 Wood Ave. Easton PA
PREPARED BY: M. Momen DATE: 05/05/2023
CHECKED BY: D. Haas DATE:

SPECIFICATIONS: The Department recommends the use of the Penn State publication, "Erosion Control and Conservation Plantings on Noncropland," as the standard to use for the selection of species, seed specifications, mixtures, liming and fertilizing, time of seeding, and seeding methods. Specifications for these items may also be obtained from PennDOT's Publication # 408, Section 804 or by contacting the applicable county conservation district. Upon selection of a reference, that reference should be used to provide all specifications for seeding, mulching, and soil amendments. The following specification will be used for this project:

(TEMPORARY)

- From April 1st to August 15th:

*SPECIES: Annual Ryegrass or Annual or Perennial Ryegrass/Spring Oats Mix
% PURE LIVE SEED: 100 %*
APPLICATION RATE: 40 or 20 / 64 LB./ACRE

- From August 16th to October 15th:

*SPECIES: Annual Ryegrass or Winter Rye
% PURE LIVE SEED: 100 % *
APPLICATION RATE: 40 or 168 LB./ACRE

- After October 15th:

SPECIES: Winter Rye
% PURE LIVE SEED: 100 % *
APPLICATION RATE: 168 LB./ACRE

FERTILIZER TYPE: 10-10-10 (X-X-X)
FERTILIZER APPL. RATE: 500 LB./ACRE
LIMING RATE: 1 T./ACRE
MULCH TYPE: Cereal straw or grass hay, or both
MULCHING RATE: 3 T./ACRE

(PERMANENT)

TOPSOIL PLACEMENT DEPTH: MINIMUM 6 IN.

a. LAWN AREA:

*SPECIES:	Kentucky Bluegrass	Perennial Ryegrass	Red Fescue	
% PURE LIVE SEED:			100 %*	
APPLICATION RATE:	100,	40,	60	LB./ACRE

b. DETENTION BASINS (INTERIOR SLOPES) AND SWALES:

*SPECIES:	Annual Ryegrass	Perennial Ryegrass	Kentucky 31Tall Ry Fescue	
% PURE LIVE SEED:			100 %*	
APPLICATION RATE:	40,	30,	100	LB./ACRE

FERTILIZER TYPE: 10-20-20 (X-X-X)
FERTILIZER APPL. RATE: 1000 LB./ACRE
LIMING RATE: 4 T./ACRE
MULCH TYPE: Cereal straw or grass hay, or both
MULCHING RATE: 3 T./ACRE
ANCHOR MATERIAL: N/A

ANCHORING METHOD: Crimp by a tractor-drawn device

RATE OF ANCHOR MATERIAL APPL.: N/A LB./ACRE
SEEDING SEASON DATES: April 1st to October 15th

(PERMANENT - STEEP SLOPE)

TOPSOIL PLACEMENT DEPTH: MINIMUM 6 IN.

a. SWALES AND DETENTION BASIN:

*SPECIES:	Annual Ryegrass	Little Blue Stem	Kentucky 31Tall Fescue or Perennial Ryegrass	
% PURE LIVE SEED:			100 % *	
APPLICATION RATE:	40	15	30	LB./ACRE

b. ROADWAY SLOPES:

*SPECIES:	Winter Rye or Spring Oats	Annual/Perennial Ryegrass or Kentucky31Tall Fescue	Little Blue Stem	
% PURE LIVE SEED:			100 %*	
APPLICATION RATE:	120	30	15	LB./ACRE

c. WET AREAS:

i. SHADY SITES:

*SPECIES:	Red Top	Kentucky 31 Tall Fescue	Annual Ryegrass	Bent Grass	
% PURE LIVE SEED:			100% *		
APPLICATION RATE:	15	45	45	45	LB./ACRE

ii. SUNNY SITES:

*SPECIES:	Kentucky 31 Tall Fescue	Kentucky Bluegrass	Perennial Ryegrass	White Clover	Switchgrass	
% PURE LIVE SEED:				100 % *		
APPLICATION RATE:	90	20	20	10	10	LB./ACRE

FERTILIZER TYPE: 10-20-20 (X-X-X)
FERTILIZER APPL. RATE: 1000 LB./ACRE
LIMING RATE: 4 T./ACRE
MULCH TYPE: Hay Mulch
MULCHING RATE: 3 T./ACRE
ANCHOR MATERIAL: N/A
ANCHORING METHOD: Mechanical crimp by a tractor-drawn device
RATE OF ANCHOR MATERIAL APPL.: N/A LB./ACRE
SEEDING SEASON DATES: April 1st to October 15th

d. DETENTION BASIN BOTTOMS
Use the "NEW ENGLAND WETMIX", NEW ENGLAND WETLANDS PLANTS, INC., ERNST CONSERVATION SEEDS "OBL WETLAND MIX"(ERNMX-131), OR APPROVED EQUAL. SEED AT A RATE SPECIFIED BY THE MANUFACTURER.

*ADJUST APPLICATION RATE TO PROVIDE EQUIVALENT 100% PURE LIVE SEED BASED ON % OF PLS IN THE SEED MIX.

BMP OPERATION MAINTENANCE RECOMMENDATIONS

BMP AND REQUIREMENT	Inspection Frequency	Inspection Completed	In Compliance
1. Minimized Disturbance / Soil Compaction Areas			
A. Debris and Sediment			
1. Contributing area clean of debris and sediment	2 times per year	Yes/No	Yes/No
B. Drainage Area Stabilization			
1. Contributing area stabilized, no erosion evident	2 times per year	Yes/No	Yes/No
C. Vegetative Cover			
1. Vegetation covers entire area to required density	2 times per year	Yes/No	Yes/No
2. Vegetation is in good condition, no evidence of weeds or invasive plants	2 times per year	Yes/No	Yes/No
D. Revegetate as necessary to maintain pervious cover.			
2. MRC/ Rain Garden Basin & RAIN GARDENS			
A. Debris and Sediment			
1. Contributing area clean of debris and sediment	2 times per year	Yes/No	Yes/No
B. Drainage Area Stabilization			
1. Contributing area stabilized, no erosion evident	2 times per year	Yes/No	Yes/No
C. Oil and Grease			
1. Activities in drainage areas minimize oil and grease contamination potential.	Ongoing	Yes/No	Yes/No
D. Vegetative Cover			
1. Vegetation covers entire area to required density	2 times per year	Yes/No	Yes/No
2. Vegetation is in good condition, no evidence of weeds or invasive plants	2 times per year	Yes/No	Yes/No
E. Structural Components (Berm, Riser, Spillway)	2 times per year	Yes/No	Yes/No
1. No evidence of structural deterioration.	Ongoing		
See details on PCSM-3 for replacement specifications.			
F. Repair, aerate, regrade or replace to maintain infiltration. Consult with landscaper as needed. See PCSM-3 for details if replacement required.	Ongoing		
3. Sumped Stormwater Structures			
A. Grate and inlet screens unobstructed (inlets)	2 times per year	Yes/No	Yes/No
B. Inlets and outlets clear of debris	2 times per year	Yes/No	Yes/No
C. Sediment at least 6" below outfall pipe invert	2 times per year	Yes/No	Yes/No
D. Inspect for evidence of structural deterioration	2 times per year	Yes/No	Yes/No
Repair or replace to maintain designed operation.			
4 Trees and plantings			
A. Live and hardy/Replace if dead	1 time per year	Yes/No	Yes/No
B. Properly Trimmed	1 time per year	Yes/No	Yes/No
C. Mulch and "saucer" sufficient	1 time per year	Yes/No	Yes/No
5. Soil Amendment Areas			
A. Debris and Sediment			
1. Contributing area clean of debris and sediment	2 times per year	Yes/No	Yes/No
B. Drainage Area Stabilization			
1. Contributing area stabilized, no erosion evident	2 times per year	Yes/No	Yes/No
C. Vegetative Cover			
1. Vegetation covers entire area to required density	2 times per year	Yes/No	Yes/No
2. Vegetation is in good condition, no evidence of weeds or invasive plants	2 times per year	Yes/No	Yes/No
D. Revegetate as necessary to maintain pervious cover. Soil restoration process may need to be repeated over time due to compaction by use or settling.			
6. Roof Gutter Guards/Filters			
A. Debris and Sediment			
1. Contributing rooftop clean of debris and sediment	2 times per year	Yes/No	Yes/No
B. Inspect for evidence of clogging	2 times per year	Yes/No	Yes/No
7. Inlet Water Quality Inserts/ Filters			
A. Removal of oil, floatable trash and debris.	2 times per year	Yes/No	Yes/No
B. Removal of collected sediments from manhole sump	2 times per year	Yes/No	Yes/No
C. Rinsing and re-installing the filter cartridges	2 times per year	Yes/No	Yes/No
D. Manufacturer recommended maintenance, as needed	2 times per year	Yes/No	Yes/No
8. Minimize Total Disturbed Area - Grading(BMP 5.6.1)			
A. Area is not be be graded. Existing soil not be be moved.	Ongoing	Yes/No	Yes/No
B. Existing healthy native vegetation may not be removed.	Ongoing	Yes/No	Yes/No
Future grading or disturbance in this area will require stormwater management to address disturbance.			
9. Vegetated Swale			
A. Debris and Sediment			
1. Contributing area clean of debris and sediment	2 times per year	Yes/No	Yes/No
B. Drainage Area Stabilization			
1. Contributing area stabilized, no erosion evident	2 times per year	Yes/No	Yes/No
C. Oil and Grease			
1. Activities in drainage areas minimize oil and grease contamination potential.	Ongoing	Yes/No	Yes/No
D. Vegetative Cover			
1. Vegetation covers entire area to required density	2 times per year	Yes/No	Yes/No
2. Vegetation is in good condition, no evidence of weeds or invasive plants	2 times per year	Yes/No	Yes/No
Repair or replace to maintain designed operation.	Ongoing	Yes/No	Yes/No
See details on PCSM-3 for replacement specifications.			
10. Turf Reinforcement Mat			
A. Repair or replace to maintain designed operation.	1 time per year	Yes/No	Yes/No
12. Rip-Rap Apron			
A. Length, Width, shape and composition of the rip-rap aprons matches design criteria after construction and before/after flow events.	2 times per year	Yes/No	Yes/No
B. Inspect apron for displacement of rip-rap and damage to the underlying fabric	2 times per year	Yes/No	Yes/No
C. Observe and document any scour or other erosion in the vicinity of the rip-rap apron	2 times per year	Yes/No	Yes/No
D. Note any accumulation of woody or other debis at the outlet or within the apron structure	2 times per year	Yes/No	Yes/No
E. Inspect culvert or ditch inlet on flow areas for accumulations of woody or other debris	2 times per year	Yes/No	Yes/No

A written report is to be kept for all inspection and repair activities, and is to be available for review by the municipality, the Conservation District or PA DEP.

ANY BMP IS CONSIDERED IN A STATE OF FAILURE IF THE BMP FAILS TO DEWATER WITHIN 72 HOURS. IF FAILURE OCCURS, THE SITE OPERATOR IS TO CONTACT THE DESIGN ENGINEER FOR INSPECTION AND REMEDIATION INSTRUCTIONS, WHICH WILL INCLUDE REMOVAL OF ALL ACCUMULATED SILT, SEDIMENT, TRASH, OR DEBRIS THAT HAS ACCUMULATED WITHIN THE BMP, A MINIMUM OF 9" OF SOIL FROM THE BOTTOM OF THE BMP, AND REPLACEMENT OF SOIL AND BMP FEATURES TO DESIGN STANDARDS. NORTHAMPTON COUNTY CONSERVATION DISTRICT IS ALSO TO BE CONTACTED IN THE EVENT OF BMP FAILURE.

DATE	REVISION
05-23-2024	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW
07-15-2024	PER BOROUGH, CITY, LVPC COMMENTS
08-09-2024	PER BOROUGH COMMENTS
09-25-2024	PER COUNTY COMMENTS
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BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

FINAL PLAN
EASTON COMMERCE PARK
PCSM NOTES

EASTON WOOD AVE PropCO,LLC
8801 RIVER CROSSING blvd
INDIANAPOLIS.IN 46540
JOB:EASTON COMMERCE PARK
Palmer Township, Easton City
Borough of Wilson
NORTHAMPTON County, PA
PIN: CHECK SHEET C-300
CHECKED BY: DH
DRAWN BY: CF
DATE: 04-01-2023
SCALE: ----
DRAWING: C-305
PROJECT: 2022-528
SHEET: 18 OF 19

PROJECT TITLE: EASTON COMMERCE PARK

POST CONSTRUCTION STORMWATER MANAGEMENT DRAINAGE AREA PLAN

PROPOSED FEATURES LEGEND

- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN AND MANHOLE
- PROPOSED GAS MAIN
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- PROPOSED CURB
- PROPOSED FENCE LINE
- PROPOSED PAVEMENT MARKING
- PROPOSED SETBACK
- LIMIT OF DISTURBANCE (82.8 ACRES)
- PROPOSED DRAINAGE EASEMENT (0.5' ABOVE MODELED 100-YEAR FLOOD)
- MITIGATED WETLAND
- PROPOSED BUILDING
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED SEEDING AREA
- STREAM BUFFER ZONES

EXISTING FEATURES LEGEND

- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING ADJOINING BOUNDARY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE FEATURE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- EXISTING FENCE LINE
- EXISTING PAVEMENT MARKING WITH LABEL
- EXISTING SIGN
- EXISTING TREE LINE
- EXISTING STREAM
- EXISTING GUARDRAIL
- EXISTING SOILS

GRAPHIC SCALE

200' 100' 0 100' 200'

1" = 100'

Before You Dig Anywhere in PENNSYLVANIA
STOP! CALL 1-800-242-1776 TOLL FREE

NOTE:
The location of underground utilities shown on this plan are based on pavement markings by utility owners and surface facilities, and are approximate only. It shall be the contractors' responsibility to verify the exact location and depth of utilities prior to any earthmoving activities.

The Pennsylvania One-Call serial numbers for this project are 20230511306,20230511307,20230511308 20230511309

1	1	1	1	1	1	1
PER COUNTY COMMENTS	PER BOROUGH COMMENTS	PER BOROUGH, CITY, LVTC COMMENTS	PER WATERSHED & BOROUGH ARCHITECT REVIEW			
06-25-2024	09-06-2024	01-13-2025	03-06-2025			
DATE						

REVISION

BEI

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PCSM DRAINAGE AREA

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JOB: EASTON COMMERCE PARK
Palmer Township, Easton City
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PIN:	CHECK SHEET C-300
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DATE:	04-01-2023
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PROJECT:	2022-528
SHEET:	19 OF 19