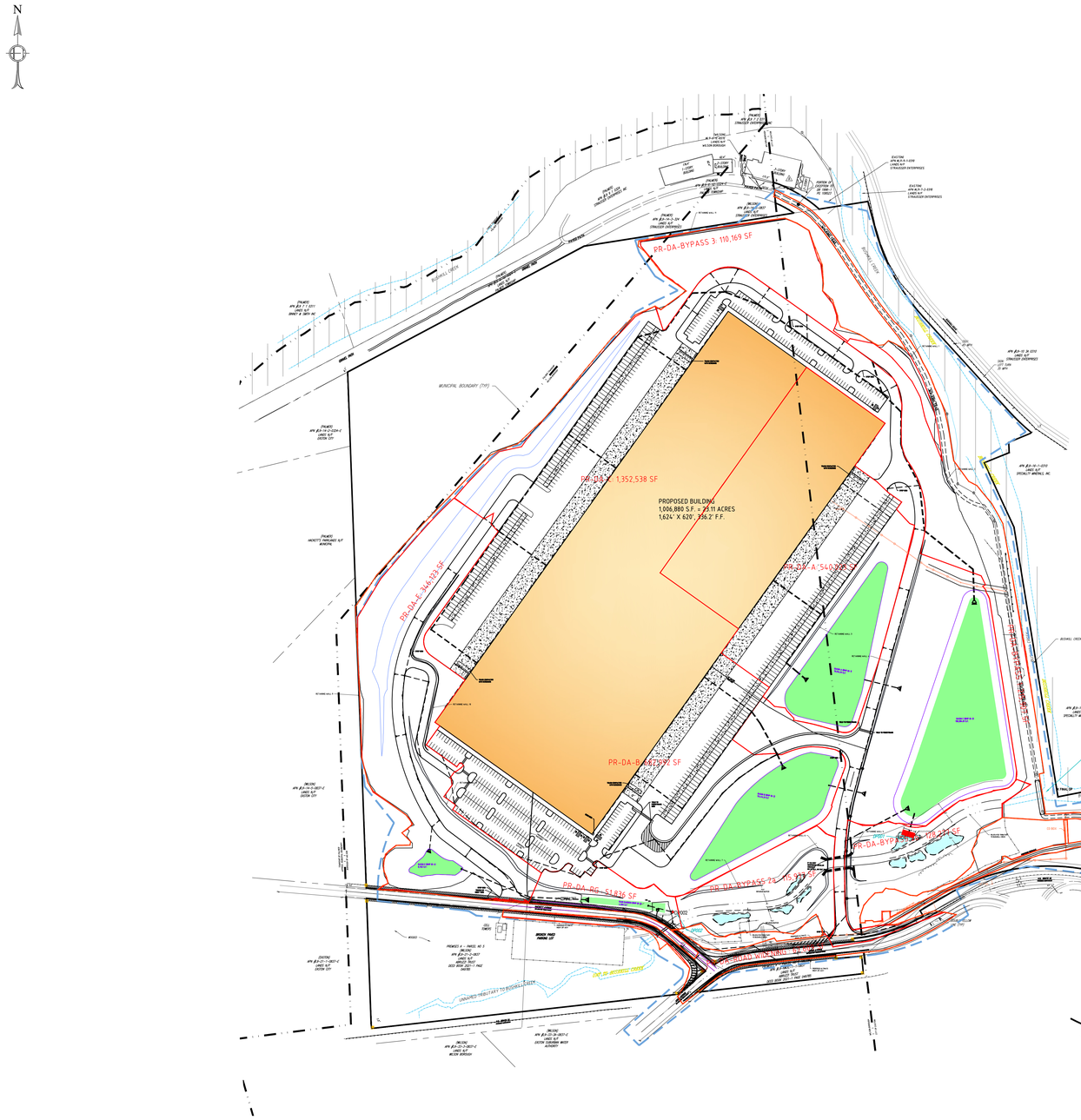
PROJECT TITLE: EASTON COMMERCE PARK


N
PR-DA-BYPASS 3: 110,169 SF
PR-DA-1: 1,352,538 SF
PROPOSED BUILDING
1,066,880 S.F. = 24.11 ACRES
1,624' X 620', 336.2' F.F.
PR-DA-E: 344,193 SF
PR-DA-A: 540,824 SF
PR-DA-BYPASS 1: 110,169 SF
PR-DA-BYPASS 2: 43,797 SF
PR-DA-BG: 51,836 SF
PR-DA-D: 1,352,538 SF
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PR-DA-AEM: 1,

PROJECT TITLE: EASTON COMMERCE PARK

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SOILS TYPE

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GlC	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%**

SOILS RESOLUTIONS

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
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				

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
- 100 EXISTING MAJOR CONTOUR
- 222 EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- EXISTING FENCE LINE
- EXISTING TREE LINE
- EXISTING STREAM LINE
- EXISTING SIDE LIMIT
- EXISTING CABLE TELEPHONE LINE
- EXISTING GAS LINE
- EXISTING TF
- EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE
- EXISTING WETLAND LIMIT
- EXISTING WETLAND TBR (0.06 AC. TOTAL)
- EDGE OF STREAM FLAGGING
- MODELED EXISTING 100- YEAR FLOOD
- ZONE AE — NO BASE FLOOD ELEVATION DETERMINED
- ZONE AE — BASE FLOOD ELEVATION DETERMINED
- 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.
- 150' STREAM BUFFER ZONE
- 100' STREAM BUFFER ZONE
- EXISTING GRAVEL

PROPOSED FEATURES LEGEND:

- PROPOSED SETBACK
- PROJECT BOUNDARY (11.6 ACRES)
- LIMIT OF DISTURBANCE (85.0 ACRES)

GRAPHIC SCALE

200' 100' 0 100' 200'

1" = 100'

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

DATE	REVISION
03/28/2024	PER DEP COMMENTS
06/24/2024	PER BOROUGH COMMENTS
08/26/2024	PER MUNICIPAL ENGINEER'S AND TOWNSHIP 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

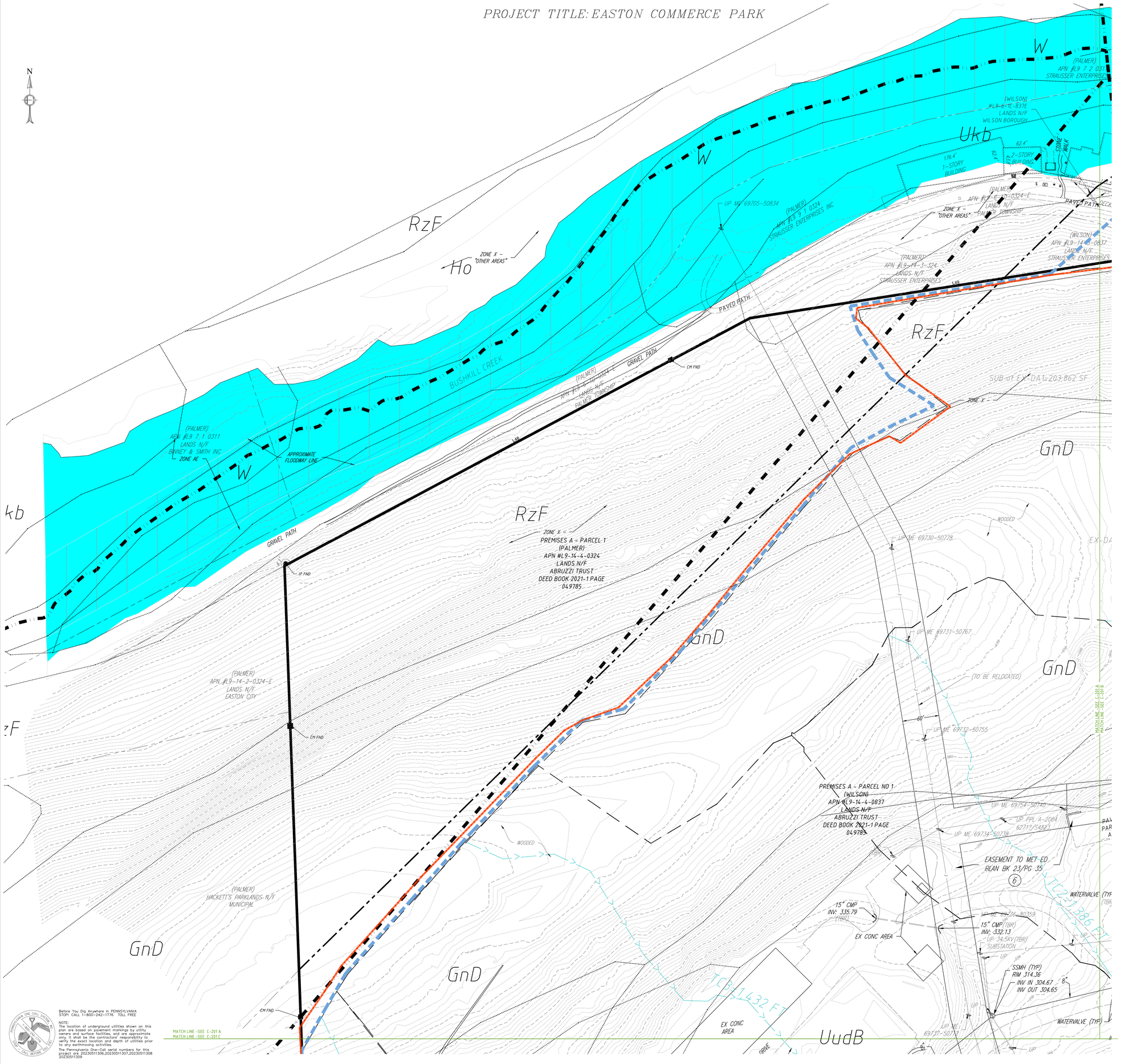
EASTON COMMERCE PARK

E&S EXISTING CONDITION PLAN

EASTON WOOD AVE PropCO, LLC.
8801 RIVER CROSSING Blvd
INDIANAPOLIS, IN 46240

JOB:EASTON COMMERCE PARK
BOROUGH OF WILSON
Palmer TWP & City of Easton
NORTHAMPTON County, PA
PIN: CHECK COVER SHEET
CHECKED BY: DH
DRAWN BY: CF
DATE: 04-01-2023
SCALE: 1": 100'
DRAWING: C-201
PROJECT: 2022-528
SHEET: 2 OF 17

PROJECT TITLE: EASTON COMMERCE PARK


N
RzF
Ho
ZONE X – "OTHER AREAS"
W
BUSHKILL CREEK
(PALMER) APN #L9 7 1 0311 LANDS N/F BINNEY & SMITH INC ZONE AE
APPROXIMATE FLOODWAY LINE
GRAVEL PATH
(PALMER) APN #L9-14-2-0324-E LANDS N/F EASTON CITY
(PALMER) APN #L9-14-4-0324 LANDS N/F PALMER TOWNSHIP
(PALMER) HACKETT'S PARKLANDS N/F MUNICIPAL
IP FND
CM FND
PREMISES A – PARCEL 1 (PALMER) APN #L9-14-4-0324 LANDS N/F ABRUZZI TRUST DEED BOOK 2021-1 PAGE 049785
PREMISES A – PARCEL NO 1 (WILSON) APN #L9-14-4-0837 LANDS N/F ABRUZZI TRUST DEED BOOK 2021-1 PAGE 049785
(WILSON) #L9-6-1E-837E LANDS N/F WILSON BOROUGH
(PALMER) APN #L9 7 2 0324 STRAUSSER ENTERPRISES
(PALMER) APN #L9 9 1 0324 STRAUSSER ENTERPRISES INC
(PALMER) APN #L9-6-1E-0324-E LANDS N/F PALMER TOWNSHIP
(PALMER) APN #L9-14-3-324 LANDS N/F STRAUSSER ENTERPRISES
(WILSON) APN #L9-14-E-0837 LANDS N/F STRAUSSER ENTERPRISES
UP ME 69705-50834
UP ME 69730-50778
UP ME 69731-50767
UP ME 69732-50755
UP ME 69734-50740
UP ME 69734-50738
UP ME 69737-50712
UP PPL A-2004 62719/54823
UP 34.5KV (TBR) SUBSTATION
176.4' 1-STORY BUILDING
62.4' 2-STORY BUILDING
STONE WALK
PAVED PATH
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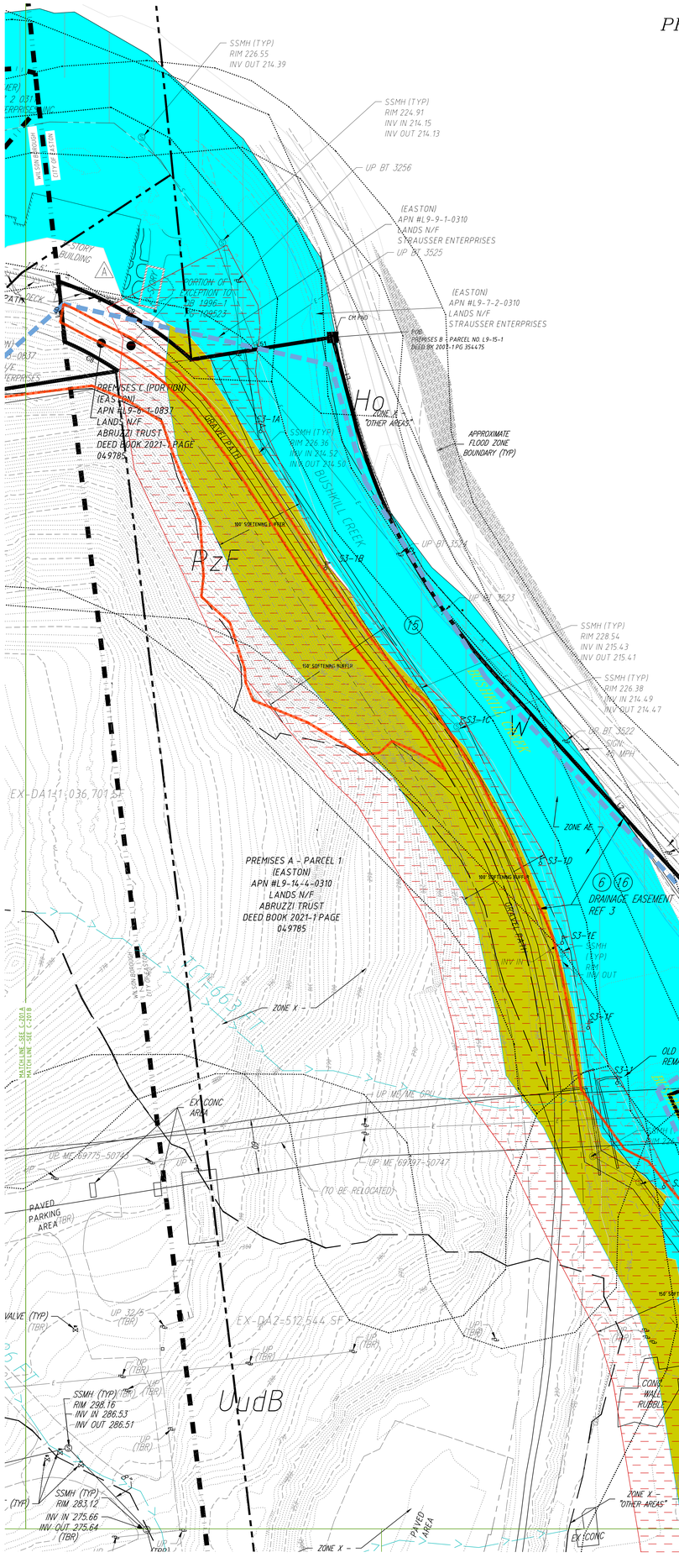
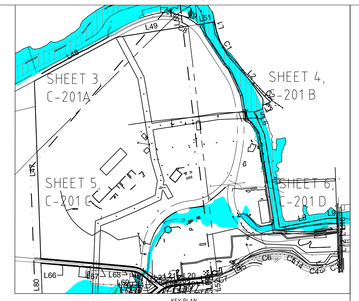
L107

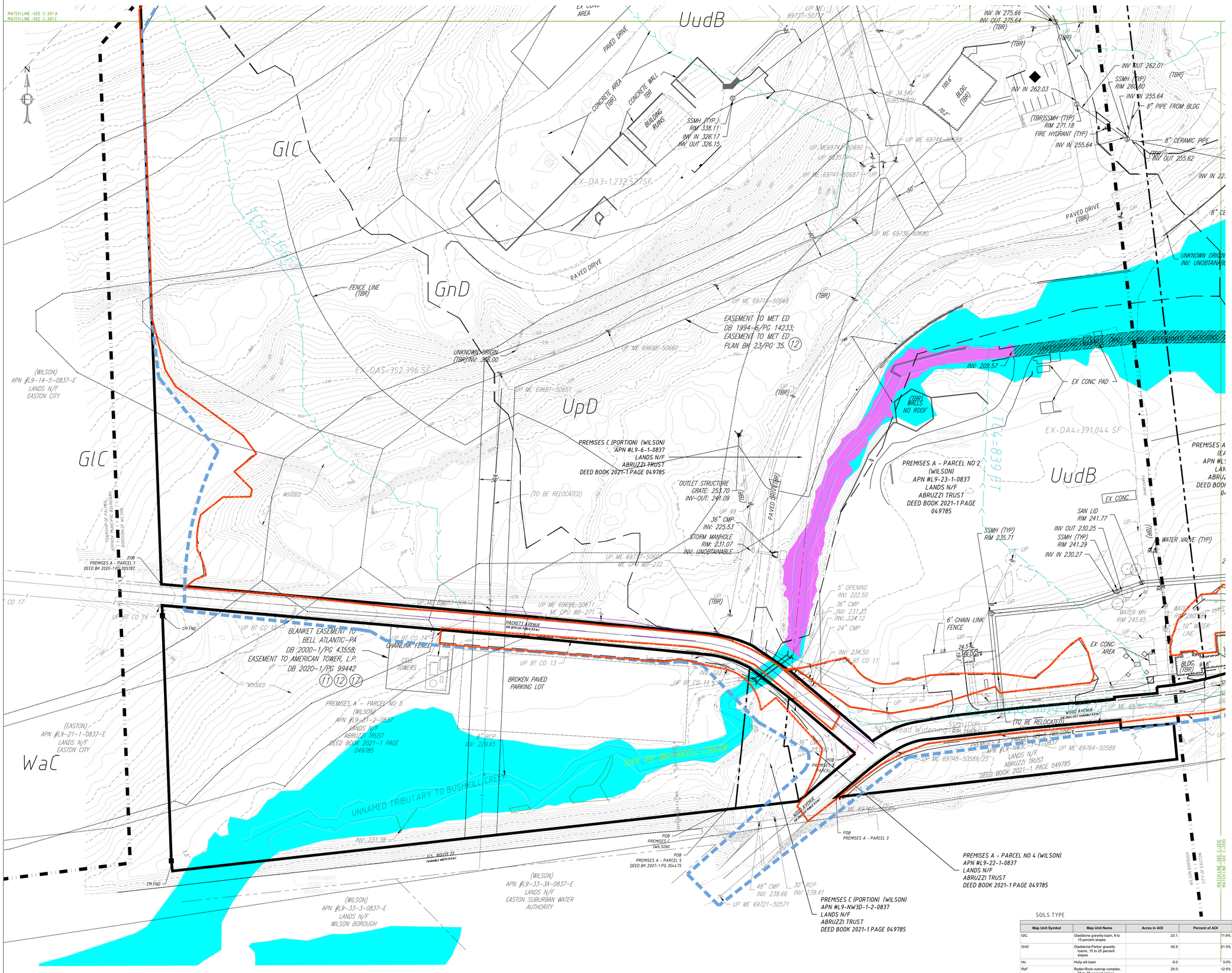
PROJECT TITLE: EASTON COMMERCE PARK

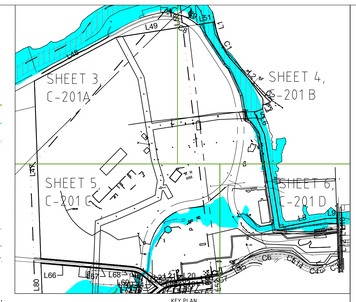




PROJECT TITLE: EASTON COMMERCE PARK

MATCH LINE -SEE C-201 A
MATCH LINE -SEE C-201 C





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

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 EXISTING MAJOR CONTOUR
- 222 EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE of ASPHALT
- EXISTING FENCE LINE
- EXISTING TREE LINE
- EXISTING STREAM LINE
- EXISTING SOILS LIMIT
- C EXISTING CABLE TELEPHONE LINE
- G EXISTING GAS LINE
- EXISTING TC
- S EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE
- WL2 EXISTING WETLAND LIMIT
- EXISTING WETLAND TBR (0.06 AC. TOTAL)
- ST=16 EDGE OF STREAM FLAGGING
- MODELED EXISTING 100-YEAR FLOOD
- ZONE A NO BASE FLOOD ELEVATION DETERMINED.
- ZONE AE BASE FLOOD ELEVATION DETERMINED.
- 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.
- 150' STREAM BUFFER ZONE
- 100' STREAM BUFFER ZONE
- EXISTING GRAVEL

PROPOSED FEATURES LEGEND:
- PROPOSED SETBACK
- PROJECT BOUNDARY (113.6 ACRES)
- LIMIT OF DISTURBANCE (85.50 ACRES)

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

12/28/2024	PER DEP COMMENTS	
09/24/2024	PER BOROUGH COMMENTS	
08/26/2024	PER NORTHAMPTON COUNTY CONSERVATION REVIEW	
DATE:	REVISION	

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

FINAL
EASTON COMMERCE PARK
E&S EXISTING CONDITIONS - PLAN C

EASTON WOOD AVE PropCO, LLC.
8801 RIVER CROSSING Blvd
INDIANAPOLIS, IN 46240

JOB:EASTON COMMERCE PARK
BOROUGH OF WILSON
Palmer TWP & City of Easton
NORTHAMPTON County, PA
PIN: CHECK COVER SHEET

CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" : 50'
DRAWING:	C-201C
PROJECT:	2022-528
SHEET:	5 OF 17

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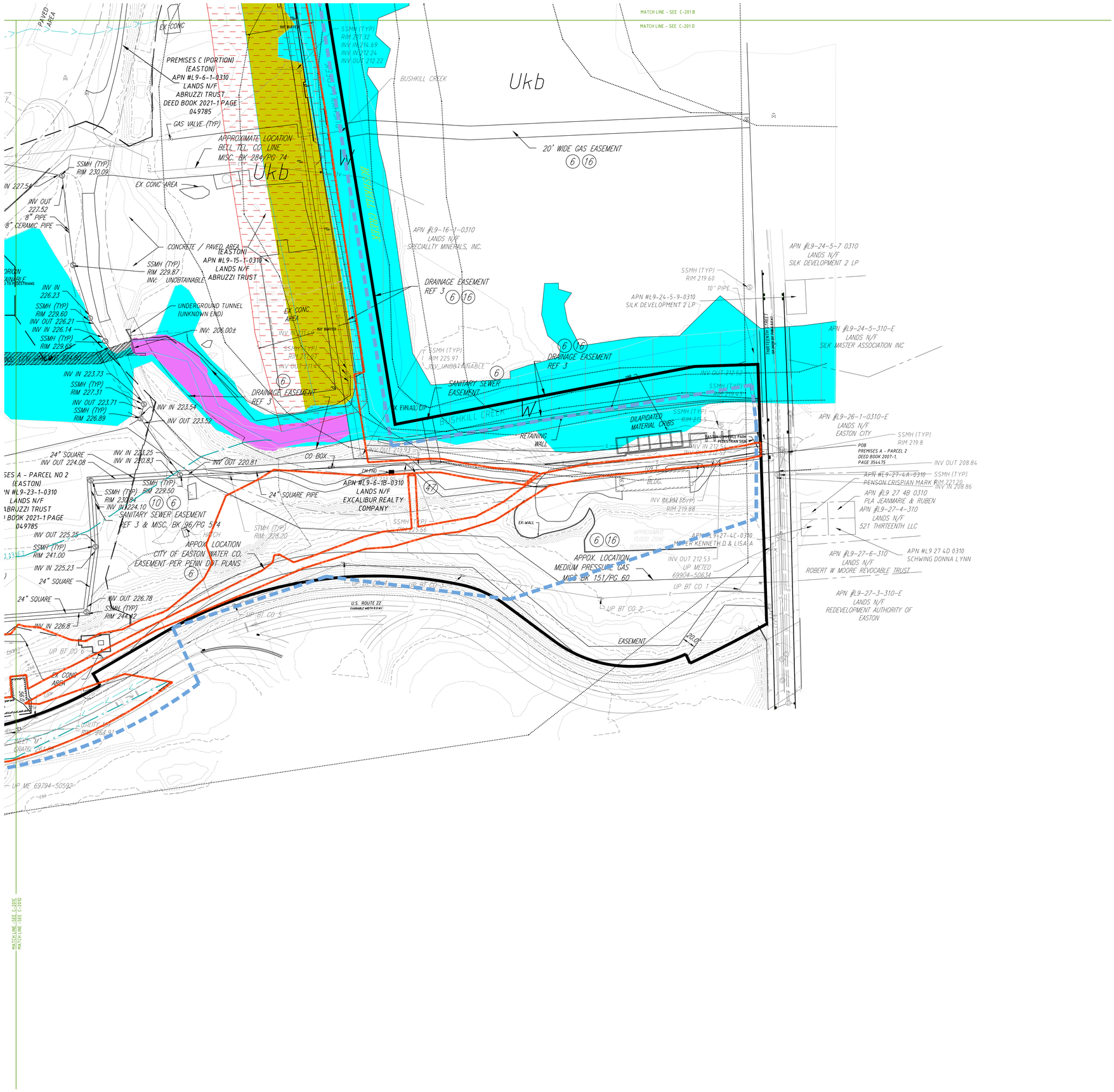
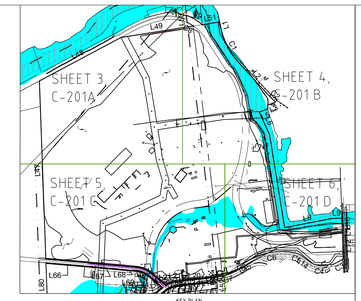
PROJECT TITLE: EASTON COMMERCE PARK





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.

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%**

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
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- G EXISTING GAS LINE
- EXISTING TC
- S EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE
- Wlc2 EXISTING WETLAND LIMIT
- EXISTING WETLAND TBR (0.06 AC. TOTAL)
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- 150' STREAM BUFFER ZONE
- 100' STREAM BUFFER ZONE
- EXISTING GRAVEL

PROPOSED FEATURES LEGEND:

- PROPOSED SETBACK
- PROJECT BOUNDARY (113.6 ACRES)
- LIMIT OF DISTURBANCE (85.00 ACRES)

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

DATE	REVISION
10/8/2024	PER BOROUGH COMMENTS
08/16/2024	PER BOROUGH COMMENTS
06/14/2024	PER NORTHAMPTON COUNTY CONSERVATION DISTRICT REVIEW

BEI

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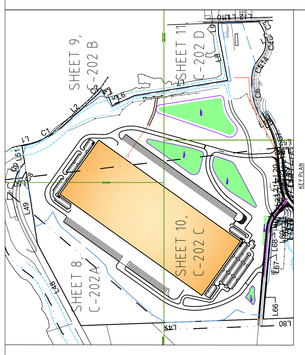
BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

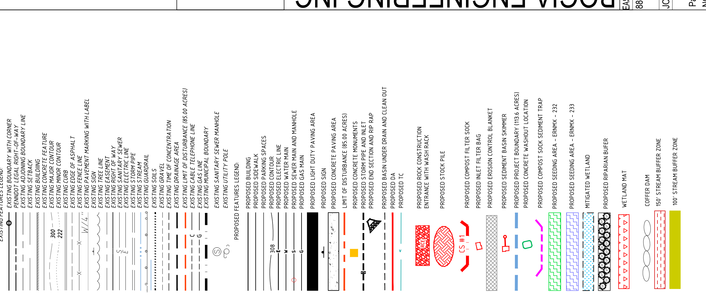
EASTON COMMERCE PARK
FINAL
E&S EXISTING CONDITIONS - PLAN D

EASTON WOOD AVE PropCO, LLC.
8801 RIVER CROSSING Blvd
INDIANAPOLIS, IN 46240

JOB:EASTON COMMERCE PARK
BOROUGH OF WILSON
Palmer TWP & City of Easton
NORTHAMPTON County, PA
PIN: CHECK COVER SHEET
CHECKED BY: DH
DRAWN BY: CF
DATE: 04-01-2023
SCALE: 1" : 50'
DRAWING: C-201D
PROJECT: 2022-528
SHEET: 6 OF 17

PROJECT TITLE: EASTON COMMERCE PARK





Before You Dig Anywhere in PENNSYLVANIA
STOP. CALL. DIG. 811 or 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/or information supplied by utility owners. It shall be the contractors' responsibility to notify all utility companies prior to excavation for any earthmoving activities.
The PA One Call System serial numbers for this project are: 20220051526,20220551307,20220551138 and 20221001994

EASTON WOOD AVE PropCO, LLC.	
8801 RIVER CROSSING Blvd	
INDIANAPOLIS, IN 46240	
JOB EASTON COMMERCE PARK	
BOROUGH OF WILSON	
Palmer TWP & City of Easton	
NORTHAMPTON County, PA.	
PRELIMINARY/FINAL COVER SHEET	
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" = 100'
DRAWING:	C-202
PROJECT:	2022-528
SHEET:	7 OF 17

BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3617
WWW.BOGIAENG.COM

FINAL
EASTON COMMERCE PARK
E&S PROPOSED PLAN

BEI

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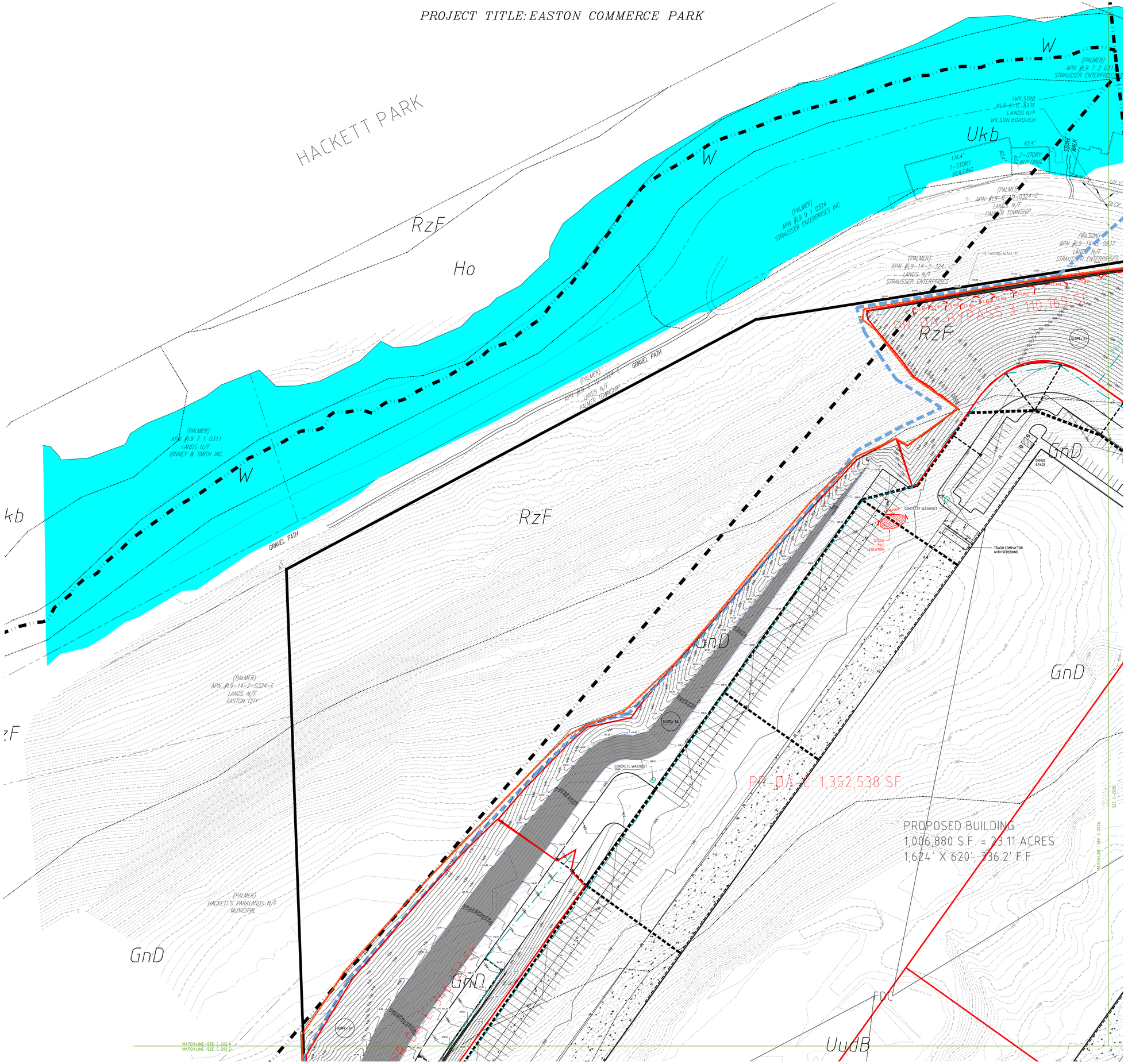
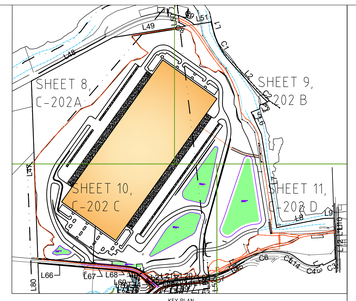
DATE	REVISION
—	—
—	—
—	—
—	—
—	—
—	—
10.28.2024	PER DEP COMMENTS
09.09.2024	PER BOROUGH COMMENTS
05.23.2024	PER NORTHAMPTON CONSERVATION DISTRICT REVIEW

PROJECT TITLE: EASTON COMMERCE PARK





EXISTING FEATURES LEGEND:
- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING ADJOINING BOUNDARY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE FEATURE
- 300 EXISTING MAJOR CONTOUR
- 222 EXISTING MINOR CONTOUR
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- W/Fx EXISTING FENCE LINE
- EXISTING PAVEMENT MARKING WITH LABEL
- EXISTING SIGN
- EXISTING TREE LINE
- EXISTING EASEMENT
- EXISTING WATER MAIN
- S EXISTING SANITARY SEWER
- E EXISTING ELECTRIC LINE
- EXISTING STORM PIPE
- EXISTING STREAM
- EXISTING GUARDRAIL
- EXISTING SOILS
- EXISTING GRAVEL
- EXISTING TIME OF CONCENTRATION
- EXISTING DRAINAGE AREA
- EXISTING LIMIT OF DISTURBANCE (85.00 ACRES)
- C EXISTING CABLE TELEPHONE LINE
- G EXISTING GAS LINE
- EXISTING MUNICIPAL BOUNDARY
- EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE

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
- PROPOSED LIGHT DUTY PAVING AREA
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- LIMIT OF DISTURBANCE (85.00 ACRES)
- PROPOSED CONCRETE MONUMENTS
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION AND RIP RAP
- PROPOSED BASIN UNDER DRAIN AND CLEAN OUT
- PROPOSED DA
- PROPOSED TC
- PROPOSED ROCK CONSTRUCTION ENTRANCE WITH WASH RACK
- PROPOSED STOCK PILE
- CS #1 PROPOSED COMPOST FILTER SOCK
- PROPOSED INLET FILTER BAG
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED SEDIMENT BASIN SKIMMER
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED CONCRETE WASHOUT LOCATION
- PROPOSED COMPOST SOCK SEDIMENT TRAP
- PROPOSED SEEDING AREA - ERMIX - 232
- PROPOSED SEEDING AREA - ERMIX - 233
- MITIGATED WETLAND
- PROPOSED RIPARIAN BUFER
- WETLAND MAT
- COFFER DAM
- 150' STREAM BUFFER ZONE
- 100' STREAM BUFFER ZONE

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

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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

DATE	REVISION
10/28/2024	PER DEP COMMENTS
09/26/2024	PER BOROUGH COMMENTS
05/13/2024	PER MUNICIPAL ENGINEER'S & CONSULTANTS 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

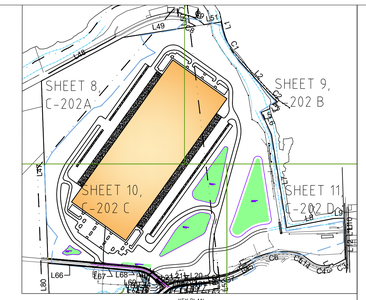
FINAL

EASTON COMMERCE PARK

E&S PROPOSED PLAN-A

EASTON WOOD AVE PropCO, LLC.	
8801 RIVER CROSSING Blvd	
INDIANAPOLIS, IN 46240	
JOB:	EASTON COMMERCE PARK
	BOROUGH OF WILSON
	Palmer TWP & City of Easton
	NORTHAMPTON County, PA
PIN:	CHECK COVER SHEET
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" : 50'
DRAWING:	C-202A
PROJECT:	2022-528
SHEET:	8 OF 17

PROJECT TITLE: EASTON COMMERCE PARK



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/COMUS 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
6	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/AMELANCHIER ARBOREA/LAEVIS/CANADENSIS	FAC-	TOLERANT	20-40	7
8	RIVER BIRCH/B. NIGRA	FACW	TOLERANT	40-70	8
9	FLOWERING DOGWOOD/COMUS 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

EXISTING FEATURES LEGEND
- EXISTING BOUNDARY WITH CORNER
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- EXISTING STORM PIPE
- EXISTING STREAM
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PROPOSED FEATURES LEGEND
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- PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN AND MANHOLE
- PROPOSED GAS MAIN
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- PROPOSED SIGN
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- PROPOSED BASIN UNDER DRAIN AND CLEAN OUT
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- PROPOSED TC
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1" = 50'

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DATE	REVISION
10/8/2024	PER DEP COMMENTS
09/24/2024	PER BOROUGH COMMENTS
08/26/2024	PER MONTGOMERY COUNTY CONSERVATION REVIEW

BEI

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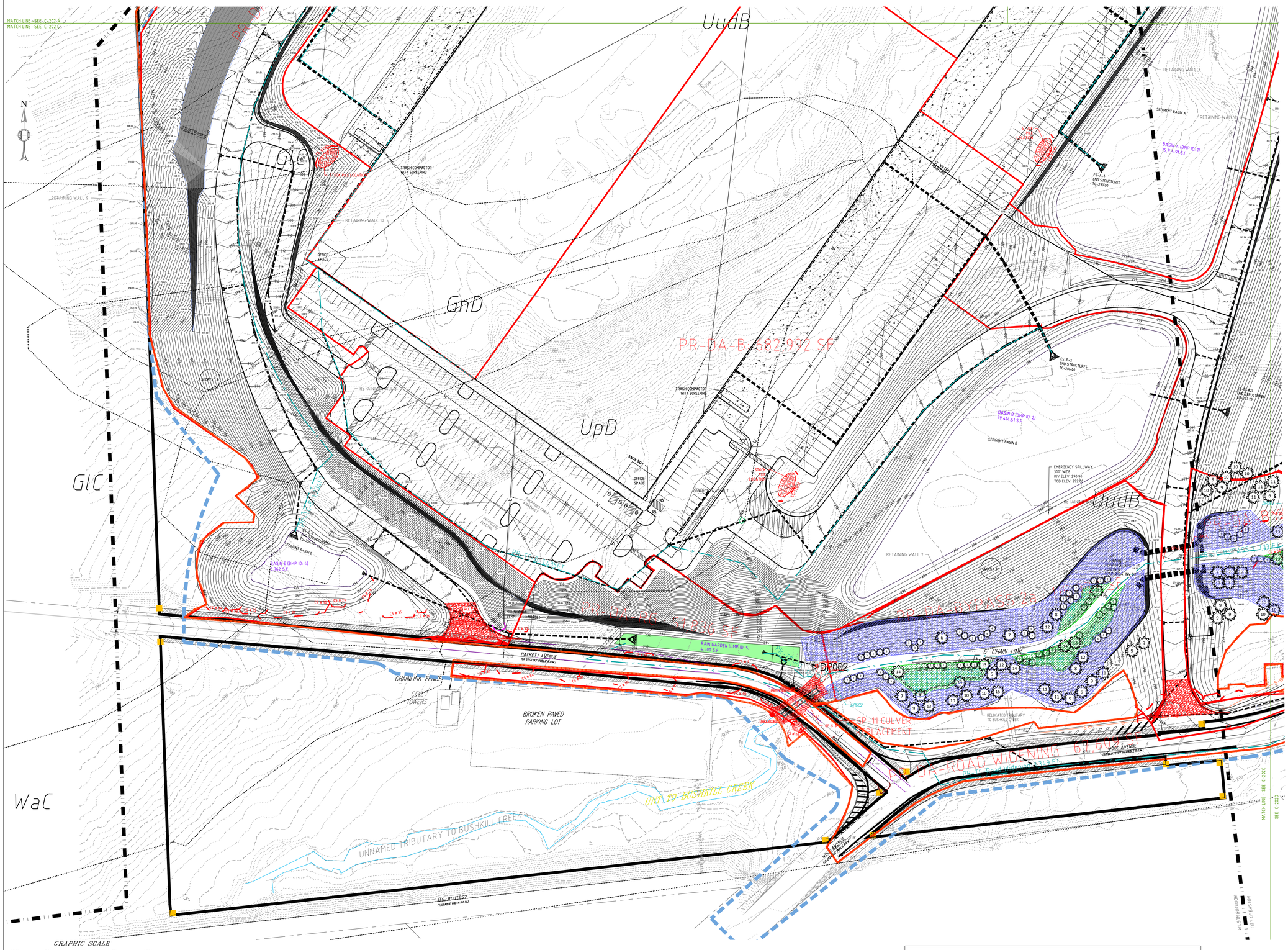
1340 PENN AVE WYOMISSING, PA 19610
PHONE 610-678-3071 - FAX 610-678-3517
WWW.BOGIAENG.COM

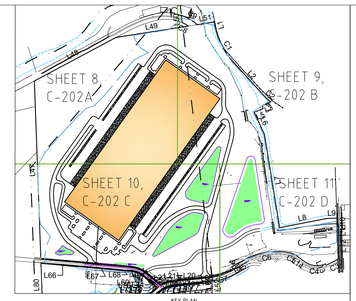
FINAL
EASTON COMMERCE PARK
E&S PROPOSED PLAN-B

EASTON WOOD AVE PropCO, LLC.
8801 RIVER CROSSING Blvd
INDIANAPOLIS, IN 46240

JOB:	EASTON COMMERCE PARK
	BOROUGH OF WILSON
	Palmer TWP & City of Easton
	NORTHAMPTON County, PA
PIN:	CHECK COVER SHEET
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" = 50'
DRAWING:	C-202B
PROJECT:	2022-528
SHEET:	9 OF 17

PROJECT TITLE: EASTON COMMERCE PARK





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).

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).

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 LIGHT DUTY PAVING AREA
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- LIMIT OF DISTURBANCE (85.00 ACRES)
- PROPOSED CONCRETE MONUMENTS
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION AND RIP RAP
- PROPOSED BASIN UNDER DRAIN AND CLEAN OUT
- PROPOSED DA
- PROPOSED TC
- PROPOSED ROCK CONSTRUCTION ENTRANCE WITH WASH RACK
- PROPOSED STOCK PILE
- PROPOSED COMPOST FILTER SOCK
- PROPOSED INLET FILTER BAG
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED SEDIMENT BASIN SKIMMER
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED CONCRETE WASHOUT LOCATION
- PROPOSED COMPOST SOCK SEDIMENT TRAP
- PROPOSED SEEDING AREA - ERNMX - 232
- PROPOSED SEEDING AREA - ERNMX - 233
- MITIGATED WETLAND
- PROPOSED RIPARIAN BUFFER
- WETLAND MAT
- COFFER DAM
- 150' STREAM BUFFER ZONE
- 100' STREAM BUFFER ZONE

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

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 EASEMENT
- EXISTING RIGHT OF WAY
- EXISTING SANITARY SEWER
- EXISTING ELECTRIC LINE
- EXISTING STORM PIPE
- EXISTING STREAM
- EXISTING GUIDERAIL
- EXISTING SOILS
- EXISTING GRAVEL
- EXISTING TIME OF CONCENTRATION
- EXISTING DRAINAGE AREA
- EXISTING LIMIT OF DISTURBANCE (85.00 ACRES)
- EXISTING CABLE TELEPHONE LINE
- EXISTING GAS LINE
- EXISTING MUNICIPAL BOUNDARY
- EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE

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.

LANDSCAPING NATIVE RIPARIAN TREE CHART

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

LANDSCAPING NATIVE RIPARIAN SHRUB CHART

#	COMMON/SCIENTIFIC NAME	WET CODE	FLOOD TOLERANCE	HEIGHT (FT)	Qty.
10	BUTTONBUSH/CEPHALANTHUS OCCIDENTALIS	OBL	VERY TOLERANT	6 to 12	28
11	WINTERBERRY/ILEX VERTICILLATA	FACW+	VERY TOLERANT	6 to 15	18
12	SILKY DOGWOOD/COMUS AMOMUM	FACW	VERY TOLERANT	6 to 12	14
13	NORTHERN ARROWWOOD/V. RECOGNITUM	FACW-	TOLERANT	6 to 12	13
14	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

10/28/2024	PER DEP COMMENTS
09/26/2024	PER BOROUGH COMMENTS
06/24/2024	PER NORTHAMPTON COUNTY CONSERVATION REVIEW
DATE	REVISION

BEI

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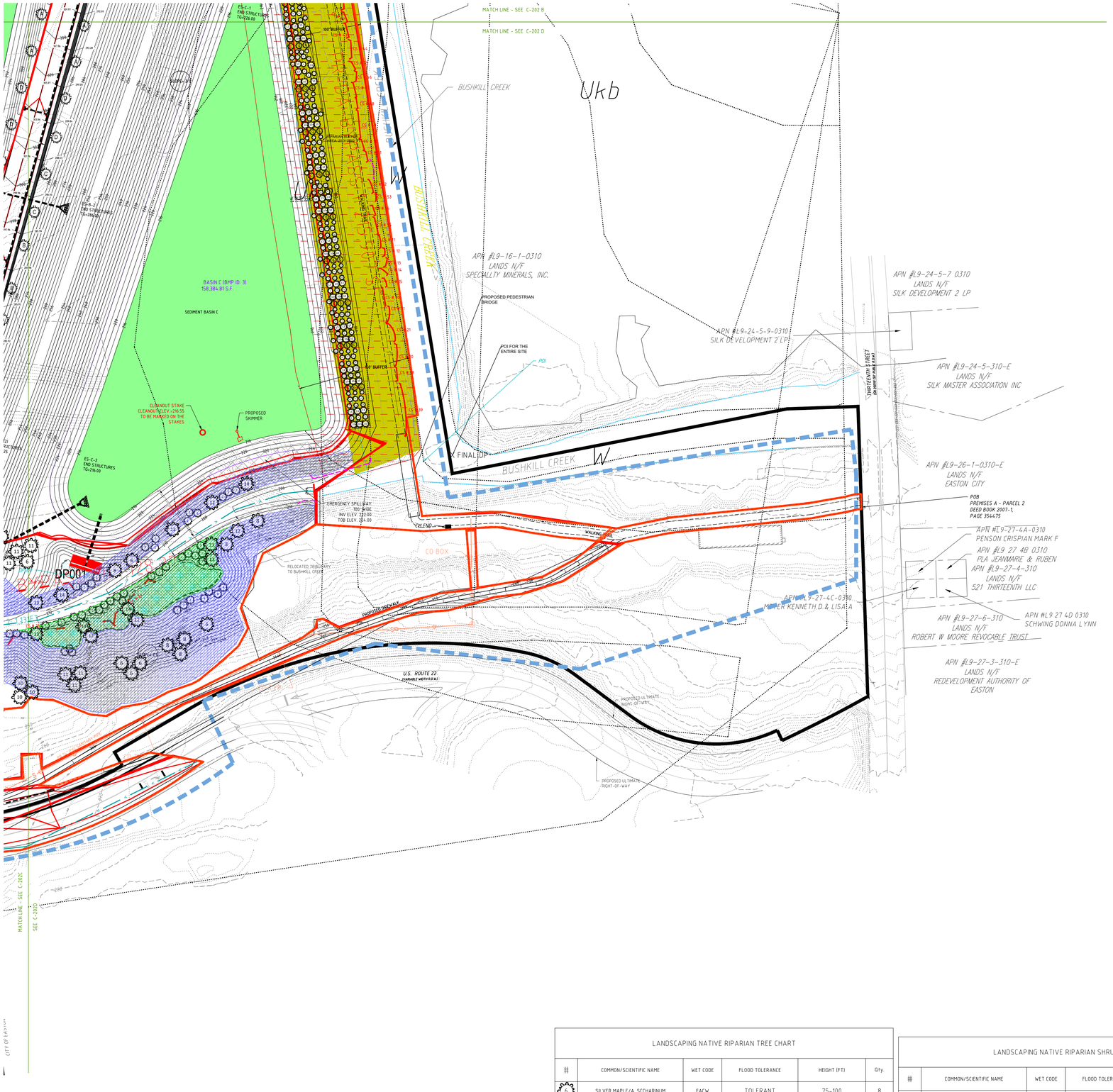
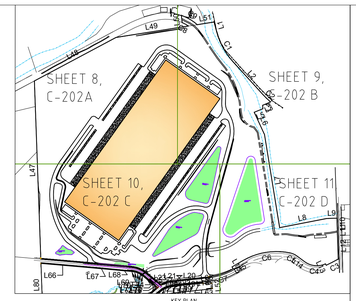
BOGIA ENGINEERING INC.
1340 PENN AVE WYOMISSING, PA 19610
PHONE: 610-678-3071 - FAX: 610-678-3517
WWW.BOGIAENG.COM

FINAL
EASTON COMMERCE PARK
E&S PROPOSED PLAN-C

EASTON WOOD AVE PropCO, LLC	
8801 RIVER CROSSING Blvd	
INDIANAPOLIS, IN 46240	
JOB:	EASTON COMMERCE PARK
	BOROUGH OF WILSON
	Palmer TWP & City of Easton
	NORTHAMPTON County, PA
PIN:	CHECK COVER SHEET
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" : 50'
DRAWING:	C-202C
PROJECT:	2022-528
SHEET:	10 OF 17

PROJECT TITLE: EASTON COMMERCE PARK





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)

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)
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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; 90 LBS/ACRE), JAPANESE MILLET (1 MAY TO 31 AUG; 10 LBS/ACRE), OR BARNYARD GRASS (1 MAY TO 31 AUG; 10 LBS/ACRE).

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/AMELANCHIER ARBOREA/LAEVIS/CANADENSIS	FAC-	TOLERANT	20-40	7
8	RIVER BIRCH/B. NIGRA	FACW	TOLERANT	40-70	8
9	FLOWERING DOGWOOD/COMUS 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

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/COMUS 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

EXISTING FEATURES LEGEND:
- EXISTING BOUNDARY WITH CORNER
- PENNDOT LEGAL RIGHT-OF-WAY
- EXISTING ADJOINING BOUNDARY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE FEATURE
- 300 EXISTING MAJOR CONTOUR
- 292 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 EASEMENT
- EXISTING RIGHT OF WAY
- S EXISTING SANITARY SEWER
- E EXISTING ELECTRIC LINE
- EXISTING STORM PIPE
- EXISTING WATER LINE
- EXISTING GUARDRAIL
- EXISTING SOILS
- EXISTING GRAVEL
- EXISTING TIME OF CONCENTRATION
- EXISTING DRAINAGE AREA
- EXISTING LIMIT OF DISTURBANCE (85.00 ACRES)
- C EXISTING CABLE TELEPHONE LINE
- G EXISTING GAS LINE
- EXISTING MUNICIPAL BOUNDARY
- S EXISTING SANITARY SEWER MANHOLE
- EXISTING UTILITY POLE

PROPOSED FEATURES LEGEND:
- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED PARKING SPACES
- 308 PROPOSED CONTOUR
- PROPOSED ELECTRIC LINE
- PROPOSED WATER MAIN
- S PROPOSED SEWER MAIN AND MANHOLE
- G PROPOSED GAS MAIN
- PROPOSED LIGHT DUTY PAVING AREA
- PROPOSED SIGN
- PROPOSED CONCRETE PAVING AREA
- LIMIT OF DISTURBANCE (85.00 ACRES)
- PROPOSED CONCRETE MONUMENTS
- PROPOSED STORM PIPE AND INLET
- PROPOSED END SECTION AND RIP RAP
- PROPOSED BASIN UNDER DRAIN AND CLEAN OUT
- PROPOSED DA
- PROPOSED TC
- PROPOSED ROCK CONSTRUCTION ENTRANCE WITH WASH RACK
- PROPOSED STOCK PILE
- CS #1 PROPOSED COMPOST FILTER SOCK
- PROPOSED INLET FILTER BAG
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED SEDIMENT BASIN SKIMMER
- PROPOSED PROJECT BOUNDARY (113.6 ACRES)
- PROPOSED CONCRETE WASHOUT LOCATION
- PROPOSED COMPOST SOCK SEDIMENT TRAP
- PROPOSED SEEDING AREA - ERNMX - 232
- PROPOSED SEEDING AREA - ERNMX - 233
- MITIGATED WETLAND
- PROPOSED RIPARIAN BUFFER
- WETLAND MAT
- COFFER DAM
- 150' STREAM BUFFER ZONE
- 100' STREAM BUFFER ZONE

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

DATE	REVISION
12/6/2024	PER DEP COMMENTS
09/9/2024	PER BOROUGH COMMENTS
06/6/2024	PER MUNICIPAL AUTHORITY REVIEW

BEI

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

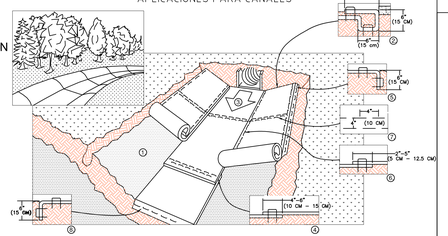
FINAL
EASTON COMMERCE PARK
E&S PROPOSED PLAN-D

EASTON WOOD AVE PropCO, LLC.	
8801 RIVER CROSSING Blvd	
INDIANAPOLIS, IN 46240	
JOB:	EASTON COMMERCE PARK
	BOROUGH OF WILSON
	Palmer TWP & City of Easton
	NORTHAMPTON County, PA
PIN:	CHECK COVER SHEET
CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" : 50'
DRAWING:	C-202D
PROJECT:	2022-528
SHEET:	11 OF 17

PROJECT TITLE: EASTON COMMERCE PARK

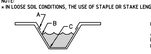
CHANNEL INSTALLATION
APLICACIONES PARA CANALES

NORTH AMERICAN GREEN



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.
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 STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE TRENCH. IN CLOSE-SEAMED SITUATIONS, APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART 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 4" (10 CM) APART.
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 3" – 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 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF 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) 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.



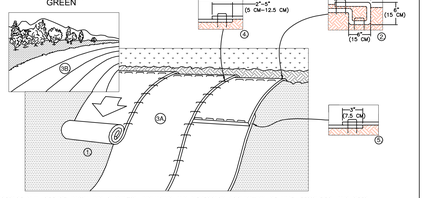
CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

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.

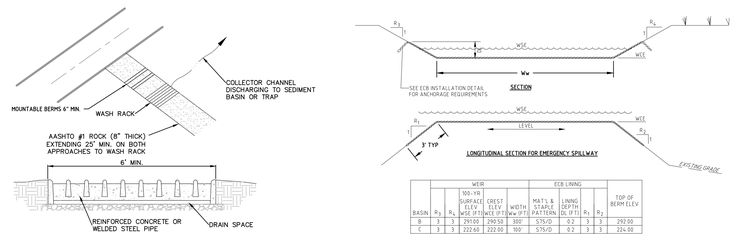
SLOPE INSTALLATION
APLICACIONES PARA TALUDES

NORTH AMERICAN GREEN



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 STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE TRENCH. IN CLOSE-SEAMED SITUATIONS, COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED 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.



NOTES:

WASH RACK SHALL BE 20 FEET (MIN.) WIDE OR TOTAL WIDTH OF ACCESS.

WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION VEHICULAR TRAFFIC.

A WATER SUPPLY SHALL BE MADE AVAILABLE TO WASH THE WHEELS OF ALL VEHICLES EXITING THE SITE.

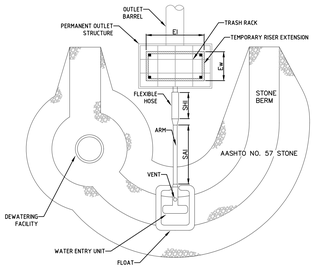
MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. DRAIN SPACE UNDER WASH RACK SHALL BE KEPT OPEN AT ALL TIMES. DAMAGE TO THE WASH RACK SHALL BE REPAIRED PRIOR TO FURTHER USE OF THE RACK. ALL SEDIMENT DEPOSITED ON ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STANDARD CONSTRUCTION DETAIL #3-2
ROCK CONSTRUCTION ACCESS WITH WASH RACK
NOT TO SCALE

	WEIR					ECB LINING				
BASIN NO.	R3	R4	100-YR SURFACE ELEV WSE (FT)	CREST ELEV WCE (FT)	WIDTH Ww (FT)	MAT'L & STAPLE PATTERN	LINING DEPTH DL (FT)	R5	R6	TOP OF BERM ELEV
B	3	3	293.00	292.50	300	S75/D	0.2	3	3	292.00
C	3	3	222.68	222.00	100	S75/D	0.2	3	3	224.00

NOTES:
- BASIN A DOES NOT HAVE BERM AROUND IT, 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(1) THAT THE OUTLET PIPE FROM THE STRUCTURE HAD THE SUFFICIENT CAPACITY TO SAFELY CONVEY THE 100-YR INFLOW TO THE BASIN.

TYPICAL EMERGENCY SPILLWAY



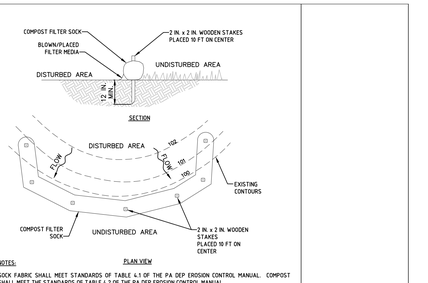
NOTES:

NO GUIDE RAILS SHALL BE REQUIRED FOR THIS INSTALLATION.

THIS DETAIL SHALL BE USED IN CONJUNCTION WITH STANDARD CONSTRUCTION DETAILS #7-2 AND #7-4.

PLAN VIEW

STANDARD CONSTRUCTION DETAIL #7-3
SKIMMER WITH STONE LANDING BERM
NOT TO SCALE



NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

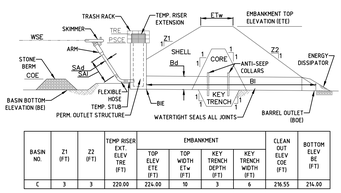
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS. PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

PLAN VIEW

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK
NOT TO SCALE



BASIN NO.	Z1 (FT)	Z2 (FT)	TEMP RISER EXT. ELEV TRE (FT)	EMBANMENT TOP ELEV ETE (FT)	TOP WIDTH ETw (FT)	KEY TRENCH DEPTH (FT)	KEY TRENCH WIDTH (FT)	CLEAN OUT ELEV COE (FT)	BOTTOM BE ELEV BE (FT)
C	3	3	220.00	224.00	10	3	6	216.55	216.00

BASIN NO.	DIA SAd (IN)	LENGTH SAd (FT)	MAT'L	DIA Bd (IN)	INLET ELEV BIE (FT)	MAT'L	LENGTH Bl (FT)	OUTLET ELEV BOE (FT)
C	6.0	8	PVC	24	216.00	RCP	61	212.95

NOTES:

SEDIMENT BASINS, INCLUDING ALL APPURTENANT WORKS, SHALL BE CONSTRUCTED TO THE DETAIL AND DIMENSIONS SHOWN ON THE E&S PLAN DRAWINGS.

AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO A DEPTH OF TWO FEET PRIOR TO ANY PLACEMENT AND COMPACTION OF EARTHEN FILL. IN ORDER TO FACILITATE MAINTENANCE AND RESTORATION, THE POOL AREA SHALL BE FREE OF ALL BRUSH, TREES, AND OBJECTIONABLE MATERIAL. FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 6 TO 9 IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS.

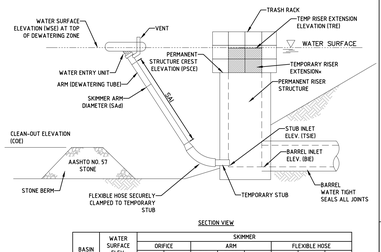
UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED, MULCHED, BLANKETED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS. TREES SHALL NOT BE PLANTED ON THE EMBANKMENT.

INSPECT ALL SEDIMENT BASINS ON AT LEAST A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. PROVIDE ACCESS FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES. A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH BASIN. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE BASIN RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE BASIN IN THE MANNER DESCRIBED IN THE E&S PLAN.

BASIN EMBANMENTS, SPILLWAYS, AND OUTLETS SHALL BE INSPECTED FOR EROSION, PIPING AND SETTLEMENT. NECESSARY REPAIRS SHALL BE IMMEDIATELY. DISPLACED RIPRAP WITHIN THE OUTLET ENERGY DISSIPATER SHALL BE REPLACED IMMEDIATELY.

ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED INSIDE THE BASIN BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. THE DEVICE SHOWN IN STANDARD CONSTRUCTION DETAIL #7-16 MAY BE USED TO DEWATER SATURATED SEDIMENT PRIOR TO ITS REMOVAL. ROCK FILTERS SHALL BE ADDED AS NECESSARY.

STANDARD CONSTRUCTION DETAIL #4-4
SEDIMENT BASIN EMBANKMENT AND SPILLWAY DETAILS - SKIMMER
NOT TO SCALE



SECTION VIEW

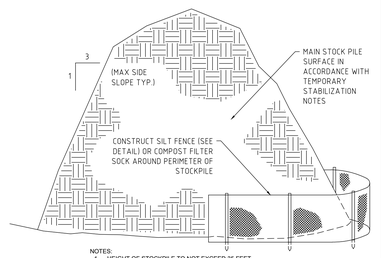
BASIN NO.	WATER SURFACE ELEV. WSE (FT)	SKIMMER						
		ORIFICE		ARM			FLEXIBLE HOSE	
		DIA. (IN)	HEAD (IN)	DIA. SAd (IN)	LENGTH SAL (FT)	MAT'L	DIA. (IN)	LENGTH (IN)	MAT'L
C	220.37	6.0	6.0	6.0	8.0	PVC	5	9	*

BASIN NO.	TEMPORARY STUB			PERMANENT RISER			RISER EXTENSION			BARREL
	INSIDE DIA (IN)	INVERT ELEV TSE (FT)	MAT'L	CREST ELEV PSCE (FT)	HORIZ OPENING LENGTH El (IN)	HORIZ OPENING WIDTH Ew (IN)	CREST ELEV TRE (FT)	HORIZ OPENING LENGTH (IN)	HORIZ OPENING WIDTH (IN)	INLET ELEV BIE (FT)
C	6	216.00	PVC	220.00	4	2	N/A	N/A	N/A	216.00

NOTES:

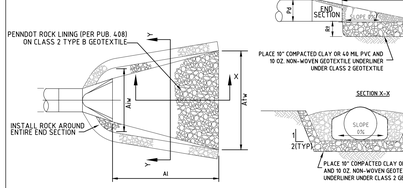
ALL ORIFICES ON PERMANENT RISER BELOW TEMPORARY RISER EXTENSION SHALL HAVE WATER-TIGHT TEMPORARY SEALS PROVIDED. TEMPORARY STUB INVERT ELEVATION SHALL BE SET AT OR BELOW SEDIMENT CLEAN-OUT ELEVATION.
A ROPE SHALL BE ATTACHED TO THE SKIMMER ARM TO FACILITATE ACCESS TO THE SKIMMER ONCE INSTALLED.
SKIMMER SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.
ANY MALFUNCTIONING SKIMMER SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION.
ICE OR SEDIMENT BUILDUP AROUND THE PRINCIPAL SPILLWAY SHALL BE REMOVED SO AS TO ALLOW THE SKIMMER TO RESPOND TO FLUCTUATING WATER ELEVATIONS.
SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE LEVEL MARKED ON THE SEDIMENT CLEAN-OUT STAKE OR THE TOP OF THE STONE BERM. SEE STANDARD CONSTRUCTION DETAIL #7-3 FOR CONFIGURATION OF STONE BERM.
*PER MANUFACTURER'S REQUIREMENT. ENSURE UV STABLE MATERIAL.

STANDARD CONSTRUCTION DETAIL #7-2
SKIMMER ATTACHED TO PERMANENT RISER
NOT TO SCALE



NOTES:
1. HEIGHT OF STOCKPILE TO NOT EXCEED 35 FEET.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1 OR FLATTER.
3. STABILIZE AFTER 4 DAY OF INACTIVITY (OR IMMEDIATELY IF RECEIVING WATER CLASSIFICATION IS EITHER HIGH QUALITY (HQ) OR EXCEPTIONAL VALUE (EV).

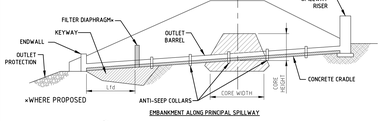
TEMPORARY STOCKPILE DETAIL
NOT TO SCALE

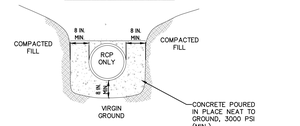


SECTION Y-Y

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)	Alw (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-4	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
ESA-1	48	Min.	0.012	0.01	61.26	11.6	R-6	36	22	12	34
ESB-2	48	Min.	0.012	0.01	71.27	12.2	R-6	36	25	12	37
ESC-1	48	Min.	0.012	0.008	112.36	12.4	R-6	36	30	12	42
ESC-2	24	Min.	0.012	0.015	10.83	8.7	R-4	18	13	6	19
ESE-1	24	Min.	0.012	0.0055	15.41	6.6	R-4	18	12	6	18

TYPICAL END SECTION RIP RAP APRON





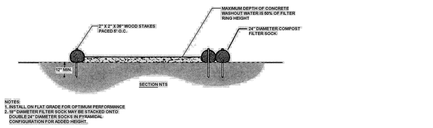
NOTES:

A CONCRETE CRADLE MAY BE USED IN CONJUNCTION WITH ANTI-SEEP COLLARS AND/OR FILTER DIAPHRAGM.
ANTI-SEEP COLLAR NUMBER, SIZE AND SPACING SHALL BE AS SHOWN ELSEWHERE IN PLAN.
FILTER DIAPHRAGM LOCATION (LFd) SHALL BE AS SHOWN IN FIGURE 7.8 OF THE PA DEP EROSION CONTROL MANUAL.

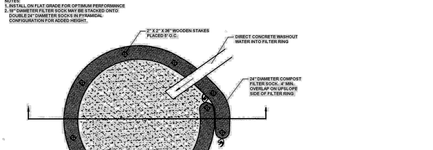
CROSS-SECTION AT OUTLET BARREL

STANDARD CONSTRUCTION DETAIL #7-17
CONCRETE CRADLE FOR BASIN OR TRAP OUTLET BARREL
NOT TO SCALE

FIGURE 3.18
Typical Compost Sock Washout Installation



NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. TWO 24" DIAMETER FILTER SOCKS MAY BE STACKED UNTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.



NOTES:
1. FOR ANY PROJECT ON WHICH CONCRETE WILL BE POURED OR OTHERWISE FORMED ON SITE, A SUITABLE WASHOUT FACILITY MUST BE PROVIDED FOR THE CLEANING OF CHUTES, MIXERS, AND HOPPERS OF THE DELIVERY VEHICLES UNLESS SUCH A FACILITY WILL BE USED AT THE SOURCE OF THE CONCRETE. UNDER NO CIRCUMSTANCES MAY WASH WATER FROM THESE VEHICLES BE ALLOWED TO ENTER ANY SURFACE WATERS. MAKE SURE THAT PROPER SIGNAGE IS PROVIDED TO DRIVERS SO THAT THEY ARE AWARE OF THE PRESENCE OF WASHOUT FACILITIES.
2. WASHOUT FACILITIES SHOULD NOT BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES OR SURFACE WATERS. THEY SHOULD BE IN A CONVENIENT LOCATION FOR THE TRUCKS, PREFERABLY NEAR THE PLACE WHERE THE CONCRETE IS BEING POURED, BUT FAR ENOUGH FROM OTHER VEHICULAR TRAFFIC TO MINIMIZE THE POTENTIAL FOR ACCIDENTAL DAMAGE OR SPILLS. WHEREVER POSSIBLE, THEY SHOULD BE LOCATED ON SLOPES NOT EXCEEDING A 2% GRADE. ADDITIONAL INFORMATION ON WASHOUTS MAY BE FOUND ON THE EPA'S STORMWATER WEBSITE

COMPOST SOCK WASHOUTS

WHEREVER COMPOST SOCK WASHOUTS ARE USED, A SUITABLE IMPERVIOUS GEOMEMBRANE SHOULD BE PLACED AT THE LOCATION OF THE WASHOUT. COMPOST SOCKS SHOULD BE STAKED IN THE MANNER RECOMMENDED BY THE MANUFACTURER AROUND PERIMETER OF THE GEOMEMBRANE SO AS TO FORM A RING WITH THE ENDS OF THE SOCK LOCATED AT THE UPSLOPE CORNER (FIGURE 3.18). CARE SHOULD BE TAKEN TO ENSURE CONTINUOUS CONTACT OF THE SOCK WITH THE GEOMEMBRANE AT ALL LOCATIONS. WHERE NECESSARY, SOCKS MAY BE STACKED AND STAKED SO AS TO FORM A TRIANGULAR CROSS-SECTION.

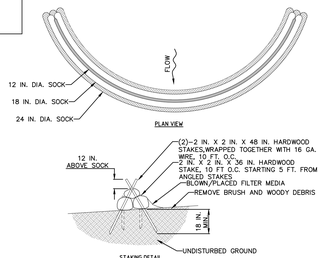
SELF-INSTALLED WASHOUTS:

1. THESE TYPES OF WASHOUTS SHOULD BE EXCAVATED BELOW GRADE TO PREVENT RUNOFF OF THE WASH WATER AND MINIMIZE THE POTENTIAL FOR BREACHING. THEY SHOULD BE SIZED TO HANDLE SOLIDS, WASH WATER, AND RAINFALL. A GOOD RULE OF THUMB IS THAT 7 GALLONS OF WASH WATER ARE REQUIRED TO WASH ONE TRUCK CHUTE AND 50 GALLONS FOR THE HOPPER OF A CONCRETE PUMP TRUCK.
2. FOR LARGER SITES, A BELOW-GRADE WASHOUT SHOULD BE A MINIMUM OF 10 FEET WIDE AND PROVIDE AT LEAST 12 INCHES OF FREEBOARD ABOVE THE LIQUID AND SOLID WASTE ANTICIPATED BETWEEN CLEANOUT INTERVALS. THE PIT SHOULD BE LINED WITH PLASTIC SHEETING OF AT LEAST 10-MIL THICKNESS (WITH NO HOLES OR TEARS) TO PREVENT LEACHING OF LIQUIDS INTO THE GROUND.

MAINTENANCE:

1. ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.
2. ACCUMULATED WASH MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY.
3. PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

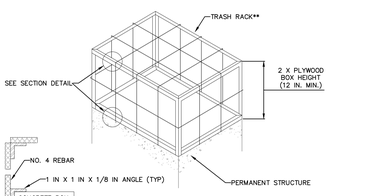
CONCRETE WASHOUT DISPOSAL FACILITY DETAIL
NOT TO SCALE



DESIGN NOTES:
1. COMPOST SOCK SEDIMENT TRAP SHALL BE SIZED TO PROVIDE 2000 CUBIC FEET OF STORAGE CAPACITY FOR EACH ACRE TRIBUTARY TO THE TRAP.
2. MINIMUM BASE WIDTH IS EQUAL TO THE HEIGHT.
3. SEDIMENT ACCUMULATION SHALL NOT EXCEED 1/3 THE TOTAL HEIGHT OF THE TRAP.
4. SOCKS SHALL BE OF LARGER DIAMETER AT THE BASE OF THE TRAP AND DECREASE IN DIAMETER FOR SUCCESSIVE LAYERS AS SHOWN ON THE PLAN VIEW.
5. ENDS OF THE TRAP SHALL BE A MINIMUM OF 1 FOOT HIGHER IN ELEVATION THAN THE MID-SECTION, WHICH SHALL BE LOCATED AT THE POINT OF DISCHARGE.

NOTES:
SOCK MATERIAL SHALL MEET THE STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
COMPOST SOCK SEDIMENT TRAPS SHALL NOT EXCEED THREE SOCKS IN HEIGHT AND SHALL BE STACKED IN PYRAMIDAL FORM AS SHOWN ABOVE. MINIMUM TRAP HEIGHT IS ONE 24" DIAMETER SOCK. ADDITIONAL STORAGE MAY BE PROVIDED BY MEANS OF AN EXCAVATED SUMP 12" DEEP EXTENDING 1 TO 3 FEET UPSLOPE OF THE SOCKS ALONG THE LOWER SIDE OF THE TRAP.
COMPOST SOCK SEDIMENT TRAPS SHALL PROVIDE 2,000 CUBIC FEET STORAGE CAPACITY WITH 12" FREEBOARD FOR EACH TRIBUTARY DRAINAGE ACRE. (SEE MANUFACTURER FOR ANTICIPATED SETTLEMENT.)
THE MAXIMUM TRIBUTARY DRAINAGE AREA IS 5.0 ACRES. SINCE COMPOST SOCKS ARE "FLOW-THROUGH," NO SPILLWAY IS REQUIRED.
COMPOST SOCK SEDIMENT TRAPS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 THE HEIGHT OF THE SOCKS.
PHOTODEGRADABLE AND BIODEGRADABLE SOCKS SHALL NOT BE USED FOR MORE THAN 1 YEAR.

STANDARD CONSTRUCTION DETAIL #3-11
COMPOST SOCK SEDIMENT TRAP
NOT TO SCALE


TRASH RACK**
2 X PLYWOOD BOX, HEIGHT (12 IN. MIN.)
SEE SECTION DETAIL
NO. 4 REBAR
1 IN X 1 IN X 1/8 IN ANGL

PROJECT TITLE: EASTON COMMERCE PARK

The Contractor shall remove from the site, recycle or dispose of all building materials and wastes 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 burry, dump or discharge any building material or wastes at the site.

Before disposing of soil or receiving borrow for the site, the Contractor must assure that each spoil or borrow area has an E &SC Plan approved by the applicable County Conservation District, and which is being implemented and maintained according to Chapter 102 regulations. The operator shall notify the County Conservation District in writing of all receiving spoil and borrow areas when they have been identified.

Any area disturbed by construction shall be stabilized if construction is delayed for whatever reason for four days or more.

No more than 15,000 sq. ft. of the disturbed area shall be at final grade without initiating seeding and mulching as outlined in the Seeding and Mulching Appendix.

1. Construct a rock construction entrance at the proposed locations shown on the plans. All construction vehicles, including suppliers and subcontractors, shall enter and leave the site only at these designated locations.
2. Install inlet filter bags in the existing inlet located at the intersection of Wood Avenue and the lot entrance.
3. Install compost filter socks and compost sock sediment traps at the designated locations. Upon the installation or stabilization of all perimeter sediment control BMPs and at least 3 days prior to proceeding with bulk earth disturbance activities, the permittee or co-permittee shall provide notification to the department or authorized conservation district.
4. Stream Mitigation and Stream Crossing Phase: **CRITICAL STAGE**
   a. Any construction activities not tributary to the stream mitigation areas may commence simultaneously with the stream mitigation activities per the appropriate sequence element.
   b. Place rock filter outlets at the locations shown on the plan in the basins outlets to filter runoff that may enter the swale from construction activities. Grade the swale alignment and immediately stabilize per the report requirements including any swale stabilization liner per manufacturer's instructions and specifications.
   c. If necessary, provide a coffer dam and bypass pumping per the detail located on the plans.
   d. Construct the storm piping end section and rip-rap discharges in preparation for connection to the road culvert. Block the pipe until the upstream piping is completed.
   e. Culvert construction installation:

   I. Install temporary cofferdam and pump bypass around the stream work area. Pump-around systems should not be used for bypasses anticipated to last more than 2 weeks. Temporary cofferdam and pump bypass after in-stream work is completed immediately stabilize areas disturbed by the removal of these measures.
   II. Wood mats should be used in wetlands as a temporary crossing to limit the impact upon the wetland, these should be removed when no longer needed, and areas stabilized.
   III. Install a temporary Bridge Span for vehicle crossing at the creek, if necessary.
   IV. Install compost filter socks as necessary to protect the stream bed area.
   V. Construct the culvert crossing and retaining wall adjacent to the culverts:
      i. Clear and grub as necessary to install the culvert.
      ii. As culverts are placed, backfill the area and install crossing pipes for utilities located above the culvert.
      iii. Continue backfill until the final grade is reached.
      iv. Immediately stabilize any vegetative areas and provide stone base course on any paved areas.
      v. Install erosion control blanket on stream banks as shown on the plans.
   VI. Maintain silt socks until all upslope areas have been permanently stabilized with a minimum 70% vegetative cover. After permanent stabilization is achieved (per Stabilization Notes, note 6), remove inlet filters, rock construction entrances and silt socks. Permanently stabilize all areas disturbed during the removal of the E&SC BMPs.
   f. After the swale is graded, divert the existing tributary flow into the new swale and block the existing flow path.
   g. Maintain the rock filter outlet until all upstream areas are stabilized per the requirements noted on the E&S notes sheet.
   h. Install new perimeter controls/compost filter socks, to maintain stream quality while remainder of site construction continues.
   i. Plant the stream restoration landscape elements per the plan design and follow the specifications and nursery instructions.
5. Wood Avenue Water Main installation
   a. Install temporary cofferdam and pump bypass around the stream work area. Pump-around systems should not be used for bypasses anticipated to last more

than 2 weeks. Temporary cofferdam and pump bypass after in-stream work is completed immediately stabilize areas disturbed by removal of these measures.
   b. Construction of the water line at any time by the following sequence:
      I. Clear and grub as necessary to install the water line.
      II. The water line construction shall be performed by the following sequence and specifications:
         i. Begin trenching for water line installation.
         ii. Daily trench excavation is limited to the length of pipe placement and trench backfill that can be completed on the same day. No water main trench is to be left open overnight. All fill from the trench is to be placed on the stockpiles located on the upslope side of the trench. Once the trench is closed, permanently stabilize.
         iii. Install trench plugs on both sides of the tributary to maintain the natural groundwater path.
         iv. Extension of the water main separate from the stream crossing is to be done utilizing E&S measures per the main site development E&S Plans.
         v. Upon completion of the trench excavation, ground will be restored to pre-construction conditions, by the E&SC plan and details.
6. At any time after Stage 1, relocate the specified utility poles along Township Road.
7. At any time after Stage 3, the clearing of trees may begin. Grubbing may not proceed until Sediment Basin C and the swale have been constructed and seeded and/or mulched.
8. At any time after perimeter controls are placed, off-site improvements may begin.
   a. Clear and grub project area, stock pile-soil and stabilize stockpile.
   b. Perform bulk grading for new road alignment.
   c. Fine-grade road alignment and install subbase material and base course. Grade stormwater channels alongside the roadway per the plans.
   d. Fine grade, spread topsoil, and stabilize landscape areas per the seeding and mulching specifications.
   e. Place the final paving course at any time after the base course. Stabilize any disturbed grass areas after the final paving is completed.
   f. Once road realignment is complete, removed existing roadway paving and dispose of at an approved facility or in a manner as allowed by local, state, and federal regulations. Spread topsoil and immediately stabilize.

9. After installation of perimeter controls, construct associated storm piping and riprap aprons. **CRITICAL STAGE**
   a. Place Rock Filter Outlets before the upstream headwall or inlet to prevent sediment from entering the pipes.
   b. Starting at the downstream end, grade the swale and immediately line with erosion control blanket and permanently stabilize.
   c. Construct any other off-site bypass storm pipes and associated riprap aprons not associated with channels as shown on the plans.
10. Construct of basin C starts in the following sequence:
   a. Clear and grub the basin area.
   b. Strip and stockpile topsoil from the basin area. Permanently stabilize the topsoil stockpile and install compost filter socks downslope of the stockpile.
   c. Excavate the basin subgrade to the dimensions shown on the plan and construct the basin embankment. Construct a clay liner on the basin bottom to establish an impermeable layer. Stockpile fill for final basins grading at the designated location. Immediately temporarily stabilize the disturbed stockpile areas.
   d. Concurrently with basin excavation, construct the permanent outlet headwall and outlet structure, outlet piping with anti-seep collars and the storm sewer including the rip-rap aprons. Install the skimmer and trash rack.

      Note: The rectangular orifice knockout in the outlet structure is to remain in place at this time.
   e. After the basin is rough graded, strip topsoil from the area immediately upslope of the basin, and spread topsoil on the top of berms, the emergency spillway, the outside embankment slope and the interior slopes down to the cleanout elevation, including the cut slopes above the basin. Line slopes and the emergency spillway with erosion control blanket and permanently stabilize all topsoil areas. Install the cleanout stake, baffle(s) and dewatering facility.
   f. After the basin embankment is constructed, the outside slope is not to be disturbed by future work, is to be permanently stabilized and any stream restoration or site landscape restoration plantings may occur. Any areas that will be disturbed in future stages shall be stabilized per the temporary stabilization requirements.
   g. Direct stormwater from the construction area into the basin.
11. After the basins are constructed, bulk cut/fill activities within the basins' drainage areas shall begin. Clear, grub and strip topsoil from the balance of the site. Temporarily stabilize the stockpile(s), and install additional filter fabric fence downslope of the stockpile(s). Immediately temporarily stabilize all disturbed stockpile areas.

12. Rough grade the site and construct the storm sewer, sanitary sewer, water systems, and rainwater conductors. The Contractor shall rough grade the site in a manner to ensure runoff is constantly directed into the existing low areas. Leave the storm system blocked until the construction of basins.
13. After the site is rough graded, installation of the stream crossing culverts and utility crossings may begin. All requirements of the stream crossing permits are to be followed.
   a. Divert streams with coffer dams and bypass pumping.
   b. Install culvert and begin to fill operations over pipes.
   c. Install utility crossings in conjunction with fill operations.
14. At any time after a building pad is rough graded, building construction may proceed.
15. Immediately after completion of the rough grading and utility construction, construct the concrete curb.
16. Fine-grade the parking area and drives.
17. Construct a subbase and binder course on the parking area and drives. The wearing course may be constructed at any time afterward.
18. Construct the sidewalks concurrently with the building construction. Immediately after sidewalk construction, spread topsoil, fine grade and permanently stabilized.
19. After the building area is permanently stabilized and the entire site has reached at least 70% stabilization, excavate the detention basins' trenches.
20. Daily trench excavation is limited to the length of pipe placement and trench backfill that can be completed on the same day (except for electric and telecommunications lines).
21. Stockpile excess soil in the locations shown on the plan. Install compost filter sock downslope of the stockpile, and temporarily stabilize the stockpile.
22. Immediately repair the compost filter socks after construction of the storm sewer, sanitary sewer and water line. No trench to be left open overnight. Trenches are to be immediately stabilized after installation following stabilization requirements.
23. Construct detention basins A, B, E and the Rain Garden in the following sequence after drainage areas contributing to basins achieve the final grade and stabilization is started:
   a. Clear and grub the basin area.
   b. Strip and stockpile topsoil from the basin area. Permanently stabilize the topsoil stockpile and install compost filter socks downslope of the stockpile.
   c. Excavate the basin subgrade to the dimensions shown on the plan and construct the basin embankment. Stockpile fill for final basins' grading at the designated location. Immediately temporarily stabilize the disturbed stockpile areas.

   d. Construct riprap aprons at storm sewer outfalls immediately after the construction of the end walls and connection to the system installed.
   e. Concurrently with basin excavation, construct the permanent outlet headwall and outlet structure, outlet piping with anti-seep collars and the storm sewer riprap aprons. Then immediately repair the compost filter sock after the construction of the outlet piping.
   f. After the basins and the rain garden are rough graded, strip topsoil from the area immediately upslope of the basin, and spread topsoil on the top of berms, the emergency spillway, the outside embankment slope and the interior slopes down to the cleanout elevation, including the cut slopes above the basins. Line slopes and the emergency spillway with erosion control blanket and permanently stabilize all topsoil areas.
   g. Direct stormwater from the construction area into the basins.
24. Any landscaping restoration planting not previously placed shall be installed per plan specifications and nursery requirements. Seed and stabilize all site elements per the Seeding and Mulching specifications.
25. Maintain all perimeter E&S control BMPs until all upslope areas have been permanently stabilized with paving or a minimum of 70% vegetative cover. After permanent stabilization is achieved, remove the inlet filter bag and filter fabric fences. Permanently stabilize all areas disturbed during the removal of the E&SC BMPs. The Northampton County Conservation District shall be contacted prior to the removal of primary E&S BMPs so they may inspect if they deem it necessary.
26. **Convert Sediment Basin to final Rain Garden/ MRC basin configuration.** Maintain Sediment Basin c until all upslope areas have been permanently stabilized. Remove accumulated sediment, repair the clay liner as necessary, and spread topsoil on the basin bottom (per the permanent grading plan and low-flow channel detail) and interior slopes below the cleanout elevation. Permanently stabilize all topsoil or disturbed areas. Remove the outlet structure trash rack and plywood box. Install the structural steel inlet grate, and remove the temporary knockout for the rectangular orifice. Remove the skimmer or CMP riser after the interior of the detention basin achieves permanent stabilization and install the permanent orifice plate on the outlet headwall.
27. Within 30 days after the completion of earth disturbance activities authorized by this permit, including the permanent stabilization of the site and proper installation of PCSM BMPs in accordance with the approved PCSM Plan, or upon submission of the NOT if sooner, the permittee shall file with the department or authorized conservation district a statement signed by a licensed professional and the permittee certifying that the work has been performed in accordance with the terms and conditions of this permit and the approved E&S and PCSM Plans. Completed certificates are needed to ensure that all

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. Morren 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:

	Annual or Perennial
*SPECIES:	Annual Ryegrass or 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 Rye	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.

GP-11 (Culvert Replacement) Construction Sequence

1- **This activity may commence any time after project limit of disturbance is delineated.**
2- **Install compost silt socks as perimeter E&SC measures**
3- **Install the pump and piping as well as associated screen at upstream end of the pipe. Install stable rock bed at the outfall of the pipe. Perform traffic protection measure over the pipe.**
4- **Redirect the stream through the pipe by pumping and installing coffer dam upstream and west of the existing culvert, as shown.**
5- **Demolish the existing pavement and excavate the subslayers to reach the existing culvert invert to expose the existing culvert, remove the existing culvert, and then disposal of excavated demolition waste**
6- **Install cofferdam on the downstream existing culver location, as shown**
7- **Install wetland matting as displayed on the plans**
8- **Stabilize and adjust bed stream elevations. Install the new culvert per design and specifications. Backfill within the culvert with a mixture of excavated material per specifications**
9- **Remove wetland matting. Place fill and roadway subslayers within the coffer dam area and then perform the pavement and markings**
10- **Remove the coffer dam and redirect flow into the newly installed culvert**
11- **Remove the piping and associated measures**
12- **Fully stabilize the GP-11 work area. Remove perimeter E&SC measures**

NOTES:

1. All earth disturbances, including clearing and grubbing as well as cuts and fills shall be done in accordance with the approved E&S plan. A copy of the approved drawings (stamped, signed and dated by the reviewing agency) must be available at the project site at all times. The reviewing agency shall be notified of any changes to the approved plan prior to implementation of those changes. The reviewing agency may require a written submittal of those changes for review and approval at its discretion.
2. At least 7 days prior to starting any earth disturbance activities, including clearing and grubbing, the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, the licensed professional responsible for oversight of critical stages of implementation of the PCSM plan, and a representative from the local conservation district to an on-site preconstruction meeting.
3. At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
4. All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. Deviation from that sequence must be approved in writing from the local conservation district or by the Department prior to implementation.
5. Areas to be filled are to be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots and other objectionable material.
6. Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing and topsoil stripping may not commence in any stage or phase of the project until the E&S BMP's specified by the BMP sequence for that stage or phase have been installed and are functioning as described in this E&S plan.
7. At no time shall construction vehicles be allowed to enter areas outside the limit of disturbance boundaries shown on the plan maps. These areas must be clearly marked and fenced off before clearing and grubbing operations begin.
8. Topsoil required for the establishment of vegetation shall be stockpiled at the location(s) shown on the plan maps(s) in the amount necessary to complete the finish grading of all exposed areas that are to be stabilized by vegetation. Each stockpile shall be protected in the manner shown on the plan drawings. Stockpile heights shall not exceed 35 feet. Stockpile slopes shall be 2H:1V or flatter.
9. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to minimize the potential for erosion and sediment pollution and notify the local conservation district and/or the regional office of the Department.
10. All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1, and 287.1 et. seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site.
11. All off-site waste and borrow areas must have an E&S plan approved by the local conservation district or the Department fully implemented prior to being activated.
12. The contractor is responsible for ensuring that any material brought on site is clean fill. Form FP-001 must be retained by the property owner for any fill material affected by a spill or release of a regulated substance but qualifying as clean fill due to analytical testing.
13. All pumping of water from any work area shall be done according to the procedure described in this plan, over undisturbed vegetated areas.
14. Vehicles and equicment mav neither enter directly nor exit directly from lots ONTO PUBLIC ROADS.
15. Until the site is stabilized, all erosion and sediment BMPs shall be maintained properly. Maintenance shall include inspections of all erosion and sediment BMPs after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching and renetting must be performed immediately. If the E&S BMPs fail to perform as expected, replacement BMPs, or modifications of those installed will be required.
16. A log showing dates that E&S BMPs were inspected as well as any deficiencies found and the date they were corrected shall be maintained on the site and be made available to regulatory agency officials at the time of inspection.
17. Sediment tracked onto any public roadway or sidewalk shall be returned to the construction site by the end of each work day and disposed in the manner described in this plan. In no case shall the sediment be washed, shoveled, or swept into any roadside ditch, storm sewer, or surface water.
18. All sediment removed from BMPs shall be disposed of in the manner described on the plan drawings.
19. Areas which are to be topsoiled shall be scarified to a minimum depth of 3 to 5 inches — 6 to 12 inches on compacted soils — prior to placement of topsoil. Areas to be vegetated shall have a minimum 4 inches of topsoil in place prior to seeding and mulching. Fill outslopes shall have a minimum of 2 inches of topsoil.
20. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc. shall be compacted in accordance with local requirements or codes.
21. All earthen fills shall be placed in compacted layers not to exceed 9 inches in thickness.
22. Fill materials shall be free of frozen particles, brush, roots, sod, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills.
23. Frozen materials or soft, mucky, or highly compressible materials shall not be incorporated into fills.
24. Fill shall not be placed on saturated or frozen surfaces.
25. Seeps or springs encountered during construction shall be handled in accordance with the standard and specification for subsurface drain or other approved method.
26. All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated. Seeded areas within 50 feet of a surface water, or as otherwise shown on the plan drawings, shall be blanketed according to the standards of this plan.
27. Immediately after earth disturbance activities cease in any area or subarea of the project, the operator shall stabilize all disturbed areas. During non-germinating months, mulch or protective blanketing shall be applied as described in the plan. Areas not at finished grade, which will be reactivated within 1 year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will not be reactivated within 1 year shall be stabilized in accordance with the permanent stabilization specifications.
28. Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
29. E&S BMPs shall remain functional as such until all areas tributary to them are permanently stabilized or until they are replaced by another BMP approved by the local conservation district or the Department.
30. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the local conservation district for an inspection prior to removal/conversion of the E&S BMPs.
31. After final site stabilization has been achieved, temporary erosion and sediment BMPs must be removed or converted to permanent post construction stormwater management BMPs. Areas disturbed during removal or conversion of the BMPs shall be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal/conversions are to be done only during the germinating season.
32. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the local conservation district to schedule a final inspection.
33. Failure to correctly install E&S BMPs, failure to prevent sediment-laden runoff from leaving the construction site, or failure to take immediate corrective action to resolve failure of E&S BMPs may result in administrative, civil, and/or criminal penalties being instituted by the Department as defined in Section 602 of the Pennsylvania Clean Streams Law. The Clean Streams Law provides for up to $10,000 per day in civil penalties, up to $10,000 in summary criminal penalties, and up to $25,000 in misdemeanor criminal penalties for each violation.

GENERAL NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE BUCKS 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 BUCKS 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 LEAST WEEKLY AND AFTER EACH MEASURABLE PRECIPITATION EVENT BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN E&SC PRACTICES TO ASSURE 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.
4. THIS PLAN IS FOR THE IMPLEMENTATION OF E&SC MEASURES ONLY. THIS PLAN SHOULD NOT BE USED FOR THE CONSTRUCTION OF NON-E&SC MEASURES.
5. THE CONTRACTOR SHALL COMPLY WITH ALL SOIL CONSTRUCTION LIMITATIONS NOTED ON THIS PLAN.
6. IN NON-STRUCTURAL FILL AREAS, COMPACT FILL IN 12" LIFTS TO 95% COMPACTION.
7. CONSTRUCT A 12' DIAMETER AREA SURROUNDED BY SILTSOCK. ALL CONCRETE TRUCK WASH WATER WILL BE DISCHARGED TO THIS AREA SO THE CONCRETE FINES CAN BE FILTERED OUT BEFORE THE WATER IS DISCHARGED FROM THE SITE. AFTER CONSTRUCTION, THE SILTSOCK AND CONTAMINATED SOILS WILL BE DISPOSED OF IN AN APPROVED MANNER.
8. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S PLAN, THE OPERATOR MUST RECEIVE DIRECT APPROVAL OF THE REVISIONS FROM THE BUCKS COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGE PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
9. ALL PUMPING OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
10. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL DEMOLITION WASTES, EXCESS BUILDING MATERIALS AND WASTES 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 BUILDING MATERIAL OR WASTES AT THE SITE. ANY CONTAMINATED MATERIALS ENCOUNTERED MUST BE STORED OUTSIDE IMMEDIATELY, NOTIFY PADEP 1-800-541-2050 IN REGARDS TO THE ENCOUNTERED MATERIALS AND RECEIVE SPECIFIC INSTRUCTION ON HANDLING THE MATERIALS ONSITE. CONTAMINATED MATERIALS ARE NOT TO LEAVE THE SITE UNTIL PROPERLY MANAGED PER CHAPTER 245 REQUIREMENTS.
11. THE PROPOSED WASTE ARE THE SOIL AND VEGETATED WASTES ORIGINATING FROM THE PROPOSED GRADING AND MACADAM DISTURBED FOR UTILITY INSTALLATION.
12. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. ADDITIONALLY, THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, AND HAS BEEN APPROVED BY THE BUCKS COUNTY CONSERVATION DISTRICT AND/OR LOCAL MUNICIPALITY IN COMPLIANCE WITH CHAPTER 102 RULES & REGULATIONS, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL OFF SITE SOIL AND/OR ROCK SPOIL AND/OR BORROW AREAS.
13. THERE ARE NO GEOLOGIC CONDITIONS PRESENT THAT WILL CONTAMINATE THE SITE OR RECEIVING WATERSHED.
14. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED, AS WELL AS ANY DEFICIENCES FOUND AND THE DATE THEY WERE CORRECTED, SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY OFFICIALS AT THE TIME OF INSPECTION. THE VISUAL SITE INSPECTION REPORT, DEP FOR 3150-FM-BWEW0083 SHOULD BE USED FOR THIS PURPOSE.

SCHEDULE OF INSPECTION FOR CRITICAL STAGES OF BMP INSTALLATION

PROFESSIONAL INSPECTION STAFF SHALL BE PRESENT DURING:

CONVERSION OF SEDIMENT BASIN TO INFIC BASIN

INSTALLATION OF AMENDED SOILS

LANDSCAPE RESTORATION

SEDIMENT INSPECTION AND REMOVAL:

1. ALL SEDIMENT REMOVAL DEVICES SHALL BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT. ALL SEDIMENT COLLECTED SHALL BE REMOVED. ANY DAMAGED EROSION AND SEDIMENTATION CONTROLS SHOULD BE REPLACED IMMEDIATELY.

2. THE SEDIMENT COLLECTED IN THE SEDIMENT CONTROL BASIN WHENIT REACHES THE CLEANOUT ELEVATION.

3. ANY DAMAGE TO STRUCTURES OCCURRING DURING SEDIMENT REMOVAL SHALL BE REPLACED TO AND WITH ORIGINAL MATERIAL TO THE ORIGINAL FACILITY CAPACITY. WHERE EROSION HAS OCCURRED IT MAY BE CORRECTED BY PLACEMENT OF RIPRAP. THE RIP RAP SHALL BE AT LEAST R-4 SIZE.

4. SEDIMENT REMOVED FROME & S CONTROLS AND FACILITIES SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, FLOOD PLAIN, OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, PLACED ON TOPSOIL STOCKPILES, OR HAULED OFF-SITE TO A PERMITTED CONSTRUCTION OR STORAGE SITE.

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.

CHAPTER 93 CLASSIFICATION.

THE ENTIRE SITE DRAINS TO BUSHKILL CREEK & UNNAMED TRIBUTARY TO BUSHKILL CREEK. THE CHAPTER 93 DESIGNATED WATER USE IS COLD WATER FISH (CWF) AND MIGRATORY FISHES (MF).

UTILITY LINE INSTALLATION NOTES:

1. LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
2. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF-CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
3. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
4. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT. PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.
5. TRENCH EXCAVATION SHALL BE AVOIDED DURING EXTENDED PRECIPITATION EVENTS.
6. WATER THAT ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS. WATER REMOVED FROM THE TRENCH SHALL BE PUMPED THROUGH A FILTRATION DEVICE.
7. EACH DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND IMMEDIATELY STABILIZED ACCORDING TO THE SURFACE STABILIZATION CRITERIA FOR PERMANENT COVER.

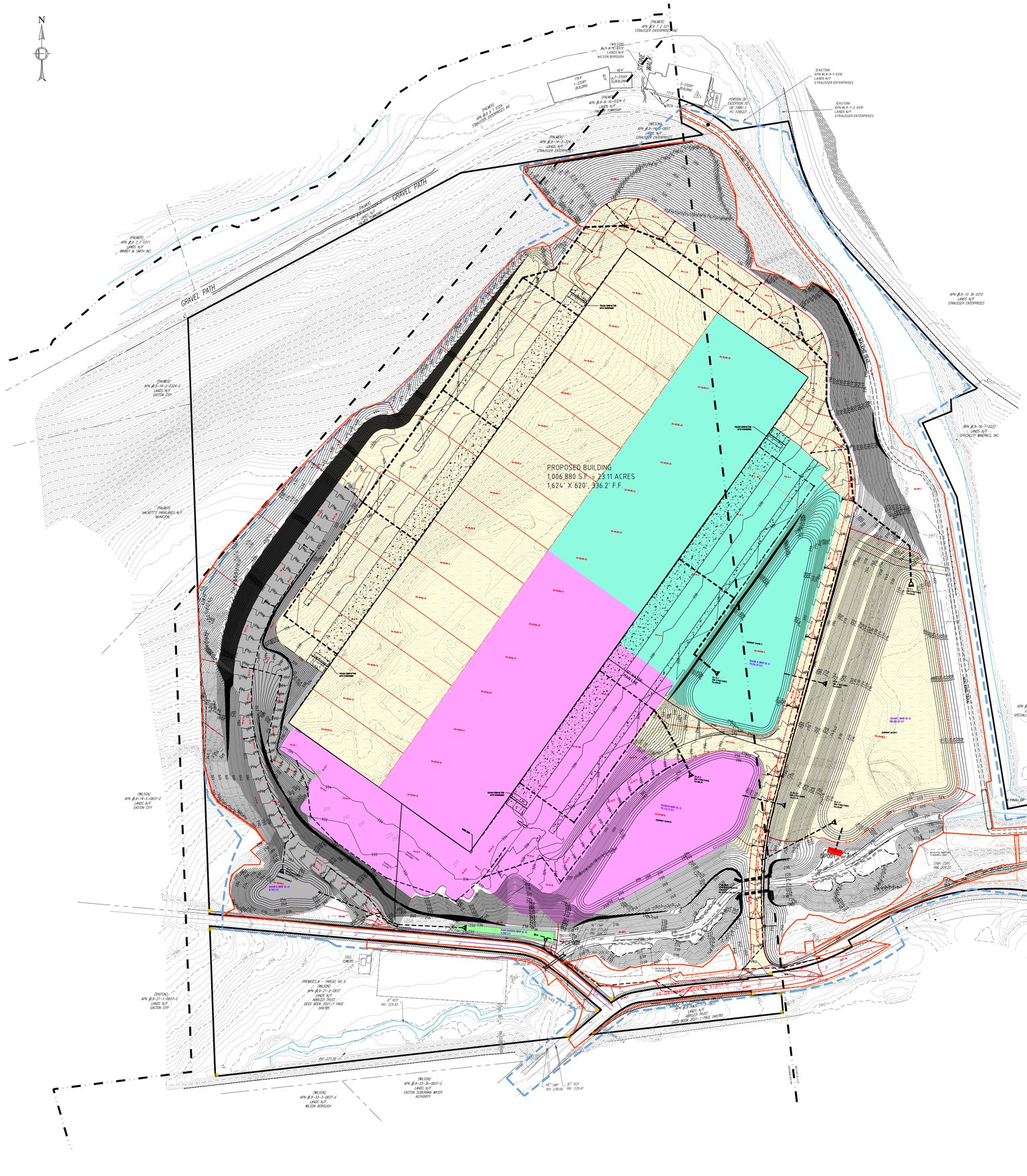
UTILITY LINE INSTALLATION NOTES (102.4(b)5)(ii):
THE E&S PLAN HAS BEEN DESIGNED TO:

1. MINIMIZE EXTENT AND DURATION OF EARTH DISTURBANCE.
2. MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION
3. MINIMUM SOIL COMPACTION
4. UTILIZE OTHER MEASURES OR CONTROLS THAT PREVENT OR MINIMIZE GENERATION OF INCREASED STORMWATER RUNOFF.

GEOLOGIC FORMATIONS/SOIL CONDITIONS 102.4(b)5)(xiii):
THERE ARE NO KNOWN GEOLOGIC/SOIL CONDITIONS ON THE SITE THAT MAY HAVE THE POTENTIAL TO CAUSE POLLUTION.

POTENTIAL THERMAL IMPACTS TO SURFACE WATER (

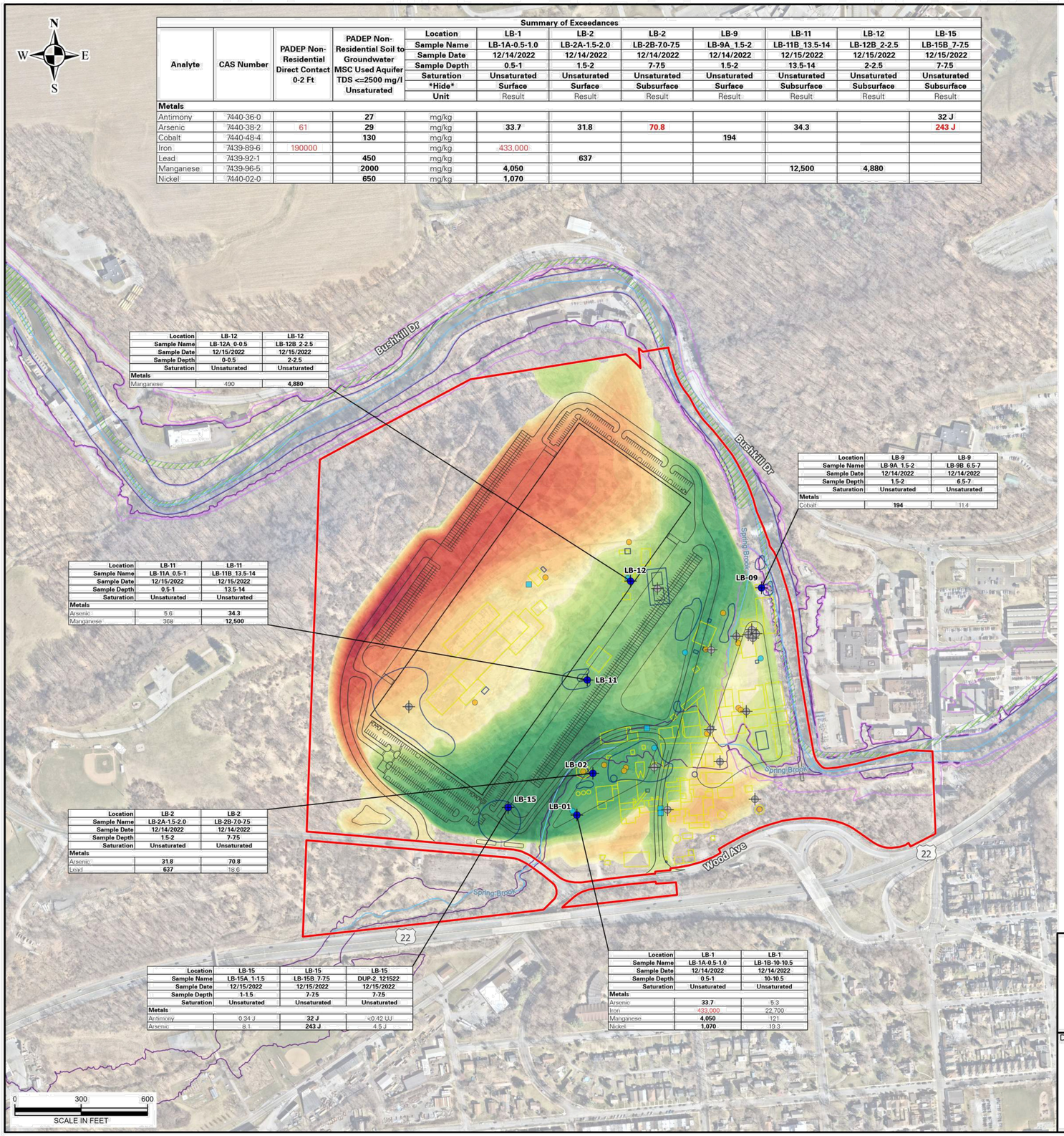
PROJECT TITLE: EASTON COMMERCE PARK


N
PROPOSED BUILDING
1,006,880 S.F. ± 23.11 ACRES
1,624' X 620'; 336.2' F.F.
GRAVEL PATH
GRAVEL PATH
(PALMER)
APN #3-7-7-331
LANDS N/F
WHEET & SMITH INC.
(PALMER)
APN #3-7-7-331-E
LANDS N/F
STRAUSSER ENTERPRISES INC
(WILSON)
#L3-4-1C-331E-L
LANDS N/F
WILSON BOROUGH
(PALMER)
APN #3-4-6-331H-L
LANDS N/F
STRAUSSER
(PALMER)
APN #3-7-6-331-L
LANDS N/F
STRAUSSER ENTERPRISES
(WILSON)
APN #L3-14-1-0637
LANDS N/F
STRAUSSER ENTERPRISES
(PALMER)
APN #3-9-14-3-331
LANDS N/F
STRAUSSER ENTERPRISES
EASTONI
APN #L3-3-1-0310
LANDS N/F
STRAUSSER ENTERPRISES
EASTONI
APN #L3-3-2-0310
LANDS N/F
STRAUSSER ENTERPRISES
PORTION OF EXCEPTION TO DB 1996-1 PG 109527
1 STORY BUILDING
1 STORY BUILDING
1 STORY BUILDING

PROJECT TITLE: EASTON COMMERCE PARK

Summary of Exceedances

Analyte	CAS Number	PADEP Non-Residential Direct Contact 0-2 Ft	PADEP Non-Residential Soil to Groundwater MSC Used Aquifer TDS <=2500 mg/l Unsaturated	Location	LB-1	LB-2	LB-2	LB-9	LB-11	LB-12	LB-15
				Sample Name	LB-1A-0.5-1.0	LB-2A-1.5-2.0	LB-2B-7.0-7.5	LB-9A_1.5-2	LB-11B_13.5-14	LB-12B_2-2.5	LB-15B_7-7.5
				Sample Date	12/14/2022	12/14/2022	12/14/2022	12/14/2022	12/15/2022	12/15/2022	12/15/2022
				Sample Depth	0.5-1	1.5-2	7-7.5	1.5-2	13.5-14	2-2.5	7-7.5
				Saturation	Unsaturated	Unsaturated	Unsaturated	Unsaturated	Unsaturated	Unsaturated	Unsaturated
				Hide	Surface	Surface	Subsurface	Surface	Subsurface	Subsurface	Subsurface
				Unit	Result	Result	Result	Result	Result	Result	Result
Metals											
Antimony	7440-36-0		27	mg/kg							32 J
Arsenic	7440-38-2	61	29	mg/kg	33.7	31.8	70.8		34.3		243 J
Cobalt	7440-48-4		130	mg/kg				194			
Iron	7439-89-6	190000		mg/kg	433,000						
Lead	7439-92-1		450	mg/kg		637					
Manganese	7439-96-5		2000	mg/kg	4,050				12,500	4,880	
Nickel	7440-02-0		650	mg/kg	1,070						



Location	LB-12	LB-12
Sample Name	LB-12A_0-0.5	LB-12B_2-2.5
Sample Date	12/15/2022	12/15/2022
Sample Depth	0-0.5	2-2.5
Saturation	Unsaturated	Unsaturated
Metals		
Manganese	490	**4,880**

Location	LB-9	LB-9
Sample Name	LB-9A_1.5-2	LB-9B_6.5-7
Sample Date	12/14/2022	12/14/2022
Sample Depth	1.5-2	6.5-7
Saturation	Unsaturated	Unsaturated
Metals		
Cobalt	**194**	11.4

Location	LB-11	LB-11
Sample Name	LB-11A_0.5-1	LB-11B_13.5-14
Sample Date	12/15/2022	12/15/2022
Sample Depth	0.5-1	13.5-14
Saturation	Unsaturated	Unsaturated
Metals		
Arsenic	5.6	**34.3**
Manganese	368	**12,500**

Location	LB-2	LB-2
Sample Name	LB-2A-1.5-2.0	LB-2B-7.0-7.5
Sample Date	12/14/2022	12/14/2022
Sample Depth	1.5-2	7-7.5
Saturation	Unsaturated	Unsaturated
Metals		
Arsenic	**31.8**	**70.8**
Lead	**637**	18.6

Location	LB-15	LB-15	LB-15
Sample Name	LB-15A_1-1.5	LB-15B_7-7.5	DUP-2_121522
Sample Date	12/15/2022	12/15/2022	12/15/2022
Sample Depth	1-1.5	7-7.5	7-7.5
Saturation	Unsaturated	Unsaturated	Unsaturated
Metals			
Antimony	0.34 J	**32 J**	<0.42 UJ
Arsenic	8.1	**243 J**	4.5 J

Location	LB-1	LB-1
Sample Name	LB-1A-0.5-1.0	LB-1B-10-10.5
Sample Date	12/14/2022	12/14/2022
Sample Depth	0.5-1	10-10.5
Saturation	Unsaturated	Unsaturated
Metals		
Arsenic	**33.7**	5.3
Iron	433,000	22,700
Manganese	**4,050**	121
Nickel	**1,070**	19.3

Legend

- Langan Soil Boring Locations with Exceedances
- Langan Soil Boring Locations without Exceedances
- Former Front Load Container
- Former Fuel Oil Tank
- Former Waste Container
- Site Boundary
- Building Outline
- Concept Plan
- Former Building or Site Feature
- Area of Concern
- Stream
- NWI Wetland
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Regulatory Floodway

Cut Fill Thickness (Feet)

-130 – -120
-120 – -110
-110 – -100
-100 – -90
-90 – -80
-80 – -70
-70 – -60
-60 – -50
-50 – -40
-40 – -30
-30 – -20
-20 – -15
-15 – -10
-10 – -5
-5 – -2
-2 – 0
0 – 2
2 – 5
5 – 10
10 – 15
15 – 20
20 – 30
30 – 40
40 – 50
50 – 60
60 – 70
70 – 80
80 – 90
90 – 100

Notes:
1. Imagery provided through Langan's subscription to Nearmap.com. Flown on 3/20/2023.
2. All locations of site reconnaissance observations are approximate.
3. Parcel data provided by Northampton County and ReportAllParcels, 2020.
4. Basemap is the "Easton Commerce Park Grading Plan" provided by Bogia Engineering Inc. Prepared 1/9/2024.
5. Streams provided by the National Hydrologic Dataset.
6. Wetlands provided by the National Wetlands Inventory.
7. Floodplains provided by the Federal Emergency Management Agency.
8. Building data based on Earth Tech Site Plan.
9. Tank locations provided by ERG Layout Map, 1999.
10. AOCs provided by Delta Area of Groundwater Attainment Map, 2008.
11. All soil results are shown in milligrams per kilogram (mg/kg).
12. Sample depths measured in feet below ground surface.
13. Soil samples were analyzed for: TCL VOCs, TCL, SVOCs, TCL PCBs, TAL Metals, PFBS, PFOS, and PFOA.
14. See text for fully defined acronyms.
15. Sample location cut/fill depths are shown in feet.

PADEP – Pennsylvania Department of Environmental Protection
MSC – Medium Specific Concentrations
RL - Reporting Limit
TDS – Total Dissolved Solids
NS – No Standard
ND – Non Detect

Qualifiers:
J – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.

Exceedance Summary:
10 - Result exceeds PADEP Non-Residential Direct Contact 0-2 Ft
10 - Result exceeds PADEP Non-Residential Soil to Groundwater MSC Used Aquifer TDS <=2500 mg/l Unsaturated

Analyte	PADEP Non-Residential Direct Contact 0-2 Ft	PADEP Non-Residential Direct Contact 2-15 Ft	PADEP Non-Residential Soil to Groundwater MSC Used Aquifer TDS <=2500 mg/l Unsaturated
Metals			
Antimony	1300	190000	27
Arsenic	61	190000	29
Cobalt	960	190000	130
Iron	190000	190000	NS
Lead	1000	190000	450
Manganese	190000	190000	2000
Nickel	64000	190000	650

LANGAN
Langan Engineering and Environmental Services, LLC
1818 Market Street, Suite 3300, Philadelphia, PA 19103-3638
T: 215.845.8946 F: 215.845.8901
www.langan.com

Project
FORMER ELEMENTIS PIGMENTS PLANT
EASTON
NORTHAMPTON COUNTY PENNSYLVANIA

Drawing Title
REDEVELOPMENT AREA SOIL SAMPLE EXCEEDANCE LOCATIONS

Project No.	Figure
220179901	1
Date: 6/21/2024	
Scale: 1"=300'	
Drawn By: SH	

Path: \\langan.com\data\PHL\data9\220179901\Project Data\ArcGIS\APRX\220179901\220179901_2024.aprx Date: 6/21/2024 User: shennessy Time: 3:08 PM

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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

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DATE	REVISION
12/6/2024	PER DEP COMMENTS
06/24/2024	PER BOROUGH COMMENTS
04/30/2024	PER NORTHAMPTON COUNTY PLANNING REVIEW

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

FINAL

EASTON COMMERCE PARK
E&A SOIL CONTAMINATION PLAN

EASTON WOOD AVE ProgCO, LLC.
8801 RIVER CROSSING Blvd
INDIANAPOLIS, IN 46240
JOB:EASTON COMMERCE PARK
BOROUGH OF WILSON
Palmer TWP & City of Easton
NORTHAMPTON County, PA
PIN: CHECK COVER SHEET

CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" - 300'
DRAWING:	C-206
PROJECT:	2022-528
SHEET:	15 OF 17

Summary of Exceedances - Groundwater

Analyte	CAS Number	PADEP Residential Groundwater MSC Used Aquifer TDS <=2500 mg/l	PADEP Non-Residential Groundwater MSC Used Aquifer TDS <=2500 mg/l	Location	MW-1	MW-1D	MW-3	MW-4D	MW-4D
				Sample Name	MW-1_012324	MW-1D_012324	MW-3_012324	MW-4_012324	DUP-1_012324
				Sample Date	1/23/2024	1/23/2024	1/23/2024	1/23/2024	1/23/2024
				Unit	Result	Result	Result	Result	Result
Semi-Volatile Organic Compounds									
2-Methylnaphthalene	91-57-6	6.3	26	ug/l					
Biphenyl (Diphenyl)	92-52-4	0.84	3.5	ug/l					
Metals - Dissolved									
Aluminum	7429-90-5	200	200	ug/l			1,930		
Beryllium	7440-41-7	4	4	ug/l				5.8	4.6
Cobalt	7440-48-4	10	29	ug/l				44.1	46.3
Iron	7439-89-6	300	300	ug/l			967	520,000	486,000
Manganese	7439-96-5	300	300	ug/l	747	1,360	320	10,300	10,700
Nickel	7440-02-0	100	100	ug/l				181	196

Summary of Exceedances - Surface Water

Analyte	CAS Number	PADEP Chapter 93 Surface Water Quality Standards - Human Health Criteria	Location	BC-SW-1	BC-SW-4	BC-SW-5
			Sample Name	BC-SW-1_112823	BC-SW-4_112823	DUP-SW_11282023
			Sample Date	11/28/2023	11/28/2023	11/28/2023
			Unit	Result	Result	Result
Semi-Volatile Organic Compounds						
Benzo(b)fluoranthene	205-99-2	**0.001**	ug/l	**0.18**		
Benzo(k)fluoranthene	207-08-9	**0.01**	ug/l			**0.1**
Indeno(1,2,3-cd)pyrene	193-39-5	**0.001**	ug/l	**0.09**		**0.079**
Metals - Dissolved						
Thallium	7440-28-0	**0.24**	ug/l		**2.7**	

Location	BC-SW-5	BC-SW-5
Sample Name	BC-SW-5_112823	DUP-SW_11282023
Sample Date	11/28/2023	11/28/2023
SVOCs		
Benzo(k)fluoranthene	<0.067 U	**0.1 J**
Indeno(1,2,3-cd)pyrene	<0.064 U	**0.079 J**

Location	MW-1
Sample Name	MW-1_012324
Sample Date	1/23/2024
Metals - Dissolved	
Manganese	747

Location	BC-SW-4
Sample Name	BC-SW-4_112823
Sample Date	11/28/2023
Metals - Dissolved	
Thallium	2.7

Location	MW-1D
Sample Name	MW-1D_012324
Sample Date	1/23/2024
Metals - Dissolved	
Manganese	1,360

Location	BC-SW-1
Sample Name	BC-SW-1_112823
Sample Date	11/28/2023
SVOCs	
Benzo(b)fluoranthene	**0.18 J**
Indeno(1,2,3-cd)pyrene	**0.09 J**

Location	MW-4D	MW-4D
Sample Name	MW-4D_012324	DUP-1_012324
Sample Date	1/23/2024	1/23/2024
Metals - Dissolved		
Beryllium	5.8	4.6
Cobalt	44.1	46.3
Iron	520,000	486,000
Manganese	10,300	10,700
Nickel	181	196

Location	MW-3
Sample Name	MW-3_012324
Sample Date	1/23/2024
Metals - Dissolved	
Aluminum	1,930
Iron	967
Manganese	320

Bushkill Dr

Wood Ave

22

BC-SW-5
BC-SW-4
BC-SW-1
MW-1
MW-1D
MW-2
MW-2D
MW-3
MW-4D
MW-5D

0 300 600
SCALE IN FEET

Legend

- Surface Water Sample Locations without Exceedances
- Surface Water Sample Locations with Exceedances
- Monitoring Well Locations without Exceedances
- Monitoring Well Locations with Exceedances
- Former Front Load Container
- Former Fuel Oil Tank
- Former Waste Container
- Site Boundary
- Building Outline
- Concept Plan
- Former Building or Site Feature
- Area of Concern
- Stream
- NWI Wetland
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Regulatory Floodway

Cut Fill Thickness (Feet)

-130 – -120
-120 – -110
-110 – -100
-100 – -90
-90 – -80
-80 – -70
-70 – -60
-60 – -50
-50 – -40
-40 – -30
-30 – -20
-20 – -15
-15 – -10
-10 – -5
-5 – -2
-2 – 0
0 – 2
2 – 5
5 – 10
10 – 15
15 – 20
20 – 30
30 – 40
40 – 50
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60 – 70
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Notes:
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9. Tank locations provided by ERG Layout Map, 1999.
10. AOCs provided by Delta Area of Groundwater Attainment Map, 2008.
11. All groundwater results are shown in micrograms per Liter (ug/l).
12. See text for fully defined acronyms.
13. Sample location cut/fill depths are shown in feet.

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Exceedance Summary:
10 - Result exceeds PADEP Residential Groundwater MSC Used Aquifer TDS <=2500 mg/l
10 - Result exceeds PADEP Non-Residential Groundwater MSC Used Aquifer TDS <=2500 mg/l
10 - Result exceeds PADEP Chapter 93 Surface Water Quality Standards - Human Health Criteria

Analyte	PADEP Chapter 93 Surface Water Quality Standards - Criteria Continuous Concentrations	PADEP Chapter 93 Surface Water Quality Standards - Criteria Maximum Concentrations	PADEP Chapter 93 Surface Water Quality Standards - Human Health Criteria
SVOCs			
Benzo(b)fluoranthene	NS	NS	0.001
Benzo(k)fluoranthene	NS	NS	0.01
Indeno(1,2,3-cd)pyrene	NS	NS	0.001
Metals - Dissolved			
Thallium	13	65	0.24

Analyte	PADEP Residential Groundwater MSC Used Aquifer TDS <=2500 mg/l	PADEP Non-Residential Groundwater MSC Used Aquifer TDS <=2500 mg/l	PADEP Residential Vapor Intrusion Screening Values	PADEP Non-Residential Vapor Intrusion Screening Values
Metals - Dissolved				
Aluminum	200	200	NS	NS
Beryllium	4	4	NS	NS
Cobalt	10	29	NS	NS
Iron	300	300	NS	NS
Manganese	300	300	NS	NS
Nickel	100	100	NS	NS

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Project
FORMER ELEMENTIS PIGMENTS PLANT
EASTON
NORTHAMPTON COUNTY PENNSYLVANIA

Drawing Title
REDEVELOPMENT AREA GROUNDWATER AND SURFACE WATER SAMPLE LOCATIONS

Project No.	220179901
Date	6/21/2024
Scale	1"=300'
Drawn By	SH
Figure	2

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Path: \\langan.com\data\PHL\data9\220179901\Project Data\ArcGIS\APRX\220179901\220179901_2024.aprx Date: 6/21/2024 User: shennessy Time: 4:22 PM

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LANGAN

DATE	REVISION
12/6/2024	PER DEP COMMENTS
09/25/2024	PER BOROUGH COMMENTS
06/21/2024	PER NORTHAMPTON COUNTY PLANNING REVIEW

BEI

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FINAL
EASTON COMMERCE PARK
EASTON GROUNDWATER CONTAMINATION PLAN
E&S

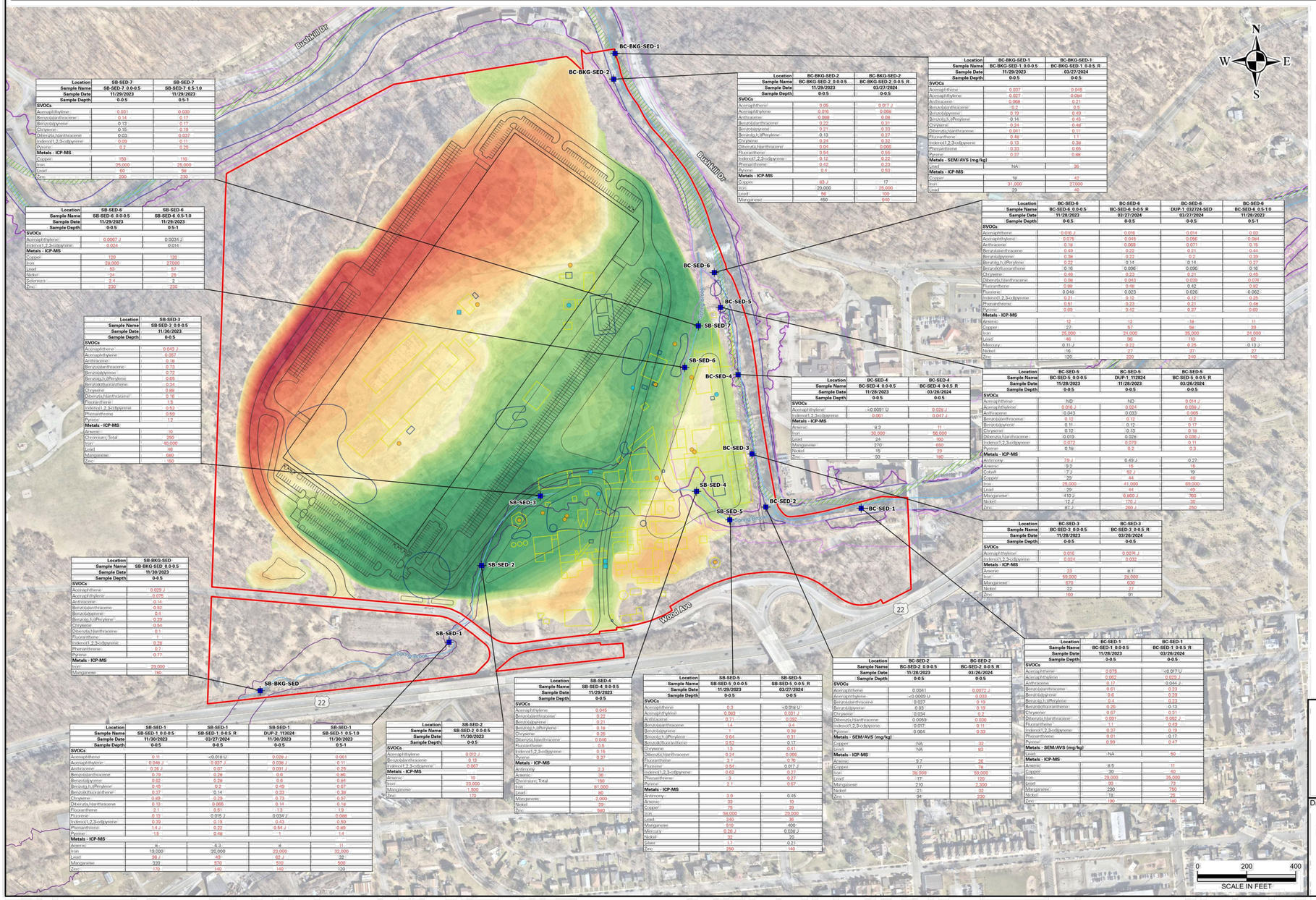
EASTON WOOD AVE ProjCO
8801 RIVER CROSSING
INDIANAPOLIS, IN 46240
JOB:EASTON COMMERCE PARK
BOROUGH OF WILSON
Palmer TWP & City of Easton
NORTHAMPTON County, PA
PIN: CHECK COVER SHEET

CHECKED BY:	DH
DRAWN BY:	CF
DATE:	04-01-2023
SCALE:	1" : 300'
DRAWING:	C-207
PROJECT:	2022-528
SHEET:	16 OF 17

PROJECT TITLE: EASTON COMMERCE PARK

Summary of Exceedances - Sediment

Analyte	CAS Number	USEPA Region III BTAG Freshwater Sediment Screening Benchmarks		Location	BC-BKG-SED-1	BC-BKG-SED-1	BC-BKG-SED-2	BC-BKG-SED-2	BC-BKG-SED-2	BC-BKG-SED-2	BC-BKG-SED-2	BC-BKG-SED-2	BC-SED-1	BC-SED-1	BC-SED-1	BC-SED-2	BC-SED-2	BC-SED-2	BC-SED-2	BC-SED-3	BC-SED-3	BC-SED-3	BC-SED-3	BC-SED-4	BC-SED-4	BC-SED-4	BC-SED-4	BC-SED-5	BC-SED-5	BC-SED-5	BC-SED-5	BC-SED-6	BC-SED-6	BC-SED-6	BC-SED-6	BC-SED-6	BC-SED-6	BC-SED-7	BC-SED-7	BC-SED-7
				Sample Name	BC-BKG-SED-1 0-0.5	BC-BKG-SED-1 0.5-0.5 R	BC-BKG-SED-2 0-0.5	BC-BKG-SED-2 0.5-0.5 R	BC-SED-1 0-0.5	BC-SED-1 0.5-0.5 R	BC-SED-2 0-0.5	BC-SED-2 0.5-0.5 R	BC-SED-2 0.5-1.0	BC-SED-3 0-0.5	BC-SED-3 0.5-0.5 R	BC-SED-4 0-0.5	BC-SED-4 0.5-0.5 R	BC-SED-5 0-0.5	DUP-1 112824	BC-SED-6 0-0.5	BC-SED-6 0.5-0.5 R	DUP-1 032724-SED	BC-SED-5 0.5-1.0	BS-SED-5 0.5-0.5 R	SB-BKG-SED 0-0.5	SB-SED-1 0-0.5	SB-SED-1 0.5-0.5 R	SB-SED-1	SB-SED-1	DUP-2 113024	SB-SED-1 0.5-1.0	SB-SED-2 0-0.5	SB-SED-3 0-0.5	SB-SED-4 0-0.5	SB-SED-5 0-0.5	SB-SED-5 0.5-0.5 R	SB-SED-6 0-0.5	SB-SED-6 0.5-0.5 R	SB-SED-6 0.5-1.0	SB-SED-7 0-0.5	SB-SED-7 0.5-1.0
				Sample Date	11/29/2023	03/27/2024	11/29/2023	03/27/2024	11/28/2023	03/26/2024	11/28/2023	03/26/2024	11/28/2023	11/28/2023	03/26/2024	11/28/2023	03/26/2024	11/28/2023	11/28/2023	11/28/2023	03/27/2024	03/27/2024	11/28/2023	03/26/2024	11/30/2023	11/30/2023	03/27/2024	11/30/2023	11/30/2023	11/30/2023	11/30/2023	11/30/2023	11/30/2023	11/30/2023	11/29/2023	11/29/2023	11/29/2023	11/29/2023	11/29/2023
				Sample Depth	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0.5-1	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0.5-1	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0.5-1	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0.5-1	0-0.5	0.5-1
				Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Semi-Volatile Organic Compounds																																							
Acenaphthene	83-32-9	0.0067	mg/kg		0.037	0.045	0.05	0.017	0.076				0.0072			0.016	0.016	0.014	0.03	0.014	0.016	0.045	0.056	0.084	0.038	0.075	0.049	0.037	0.039	0.11	0.012	0.057	0.045	0.093	0.031	0.0067		0.031	0.039
Acenaphthylene	208-96-8	0.0059	mg/kg		0.027	0.084	0.015	0.098	0.062	0.029			0.033		0.016	0.0036	0.028	0.016	0.024	0.075	0.045	0.056	0.084	0.038	0.075	0.049	0.037	0.039	0.11	0.012	0.057	0.045	0.093	0.031	0.0067		0.031	0.039
Anthracene	120-12-7	0.0572	mg/kg		0.068	0.21	0.098	0.08	0.17	0.23			0.19				0.18	0.065	0.065	0.14	0.26	0.07	0.091	0.25	0.14	0.26	0.07	0.091	0.25	0.14	0.26	0.07	0.091	0.25	0.071	0.092		0.071	0.092
Benzo(a)anthracene	56-55-3	0.108	mg/kg		0.2	0.5	0.22	0.31	0.61	0.23			0.19				0.12	0.12	0.49	0.22	0.21	0.44	0.2	0.52	0.79	0.28	0.6	0.86	0.13	0.73	0.22	1.4	0.4		0.14	0.17			
Benzo(a)pyrene	50-32-8	0.15	mg/kg		0.19	0.49	0.21	0.33	0.6	0.29			0.19						0.39	0.22	0.2	0.39	0.17	0.4	0.62	0.28	0.6	0.84		0.72	0.21	1	0.38			0.17			
Benzo(g,h,i)Perylene	191-24-2	0.17	mg/kg			0.45		0.27	0.4	0.23									0.22			0.27		0.29	0.46	0.2	0.49	0.67		0.65	0.18	0.64	0.31						
Benzo(k)fluoranthene	207-08-9	0.24	mg/kg						0.26																0.37		0.33	0.38		0.34		0.52							
Chrysene	218-01-9	0.166	mg/kg		0.24	0.48	0.24	0.32	0.67	0.31			0.2				0.46	0.23	0.23	0.21	0.45	0.18	0.54	0.89	0.29	0.73	0.97		0.88	0.25	1.3	0.41			0.19			
Dibenz(a,h)anthracene	53-70-3	0.033	mg/kg		0.041	0.11	0.04	0.066	0.091	0.052			0.036				0.08	0.043	0.039	0.074	0.036		0.1	0.13	0.065	0.14	0.18		0.16	0.046	0.24	0.066			0.037			
Fluoranthene	206-44-0	0.423	mg/kg		0.48	1.1	0.54	0.55	1.1	0.49							0.88	0.48		0.82			1.1	2.1	0.51	1.3	1.9		1.5	0.5	3.1	0.76						
Fluorene	86-73-7	0.0774	mg/kg																					0.13			0.088				0.54							
Indeno(1,2,3-cd)pyrene	193-39-5	0.017	mg/kg		0.13	0.38	0.12	0.22	0.37	0.19			0.11		0.024	0.032	0.061	0.047	0.072	0.079	0.21	0.12	0.13	0.25	0.11	0.28	0.39	0.19	0.43	0.59	0.067	0.52	0.15	0.62	0.27	0.024		0.09	0.11
Phenanthrene	85-01-8	0.204	mg/kg		0.33	0.65	0.42	0.23	0.61												0.51	0.23	0.21	0.49		0.7	1.4	0.22	0.54	0.69		0.59		3	0.27				
Pyrene	129-00-0	0.195	mg/kg		0.37	0.88	0.4	0.53	0.99	0.47			0.33				0.2	0.09	0.42	0.37	0.69	0.3	0.77	1.5	0.48	1	1.4		1.2	0.37	2.1	0.67			0.2	0.25		
Metals - SEM/AVS (mg/kg)																																							
Copper	7440-50-8	31.6	mg/kg								32																												
Lead	7439-92-1	35.8	mg/kg			36			50		83									67	70																		
Metals - ICP-MS																																							
Antimony	7440-36-0	2	mg/kg																7.9												2.3	3.9							
Arsenic	7440-38-2	9.8	mg/kg					11			26			23			11		15	12	12	18	11	15															
Chromium, Total	7440-47-3	43.4	mg/kg																67												10	36	33	10					
Cobalt	7440-48-4	50	mg/kg																92																				
Copper	7440-50-8	31.6	mg/kg			42		83		40			78						44		67	59	39	40															
Iron	7439-89-6	20000	mg/kg		31,000	27,000			25,000	29,000	35,000	38,000	59,000	21,000	59,000	28,000	30,000	56,000	25,000	41,000	25,000	24,000	35,000	24,000	69,000	29,000					23,000	32,000	23,000	40,000	81,000	58,000	29,000	28,000	27,000	25,000	25,000
Lead	7439-92-1	35.8	mg/kg			40	56		100	93	73		120						96		110	62	49			36	49	62		46	80		240	36	53	57	60	56
Manganese	7439-96-5	460	mg/kg					640		750			2,300		670	630		650		6,900				760	780		570	510	500	1,500	690	2,000	510						
Mercury	7439-97-6	0.18	mg/kg																0.22	0.25												0.26						
Nickel	7440-02-0	22.7	mg/kg						26		32					27		29		170		37	27	30							32	29		34	25				
Selenium	7782-49-2	2	mg/kg																															2.4					
Silver	7440-22-4	1	mg/kg																													1.7						
Zinc	7440-66-6	121	mg/kg						190	180			230	140	160				180		260	220	240	140	250		170	140	140		170	150	580	250	140	230	230	200	230



Location	SB-SED-7	SB-SED-7
Sample Name	SB-SED-7 0-0.5	SB-SED-7 0.5-1.0
Sample Date	11/29/2023	11/29/2023
Sample Depth	0-0.5	0.5-1
SVOCs		
Acenaphthylene	0.031	0.039
Benzo(a)anthracene	0.14	0.17
Benzo(a)pyrene	0.13	0.17
Chrysene	0.15	0.19
Dibenz(a,h)anthracene	0.03	0.037
Indeno(1,2,3-cd)pyrene	0.09	0.11
Pyrene	0.2	0.28
Metals - ICP-MS		
Copper	150	110
Iron	25,000	25,000
Lead	60	58
Zinc	200	230

Location	BC-BKG-SED-2	BC-BKG-SED-2
Sample Name	BC-BKG-SED-2 0-0.5	BC-BKG-SED-2 0.5-0.5 R
Sample Date	11/29/2023	03/27/2024
Sample Depth	0-0.5	0-0.5
SVOCs		
Acenaphthene	0.05	0.017 J
Acenaphthylene	0.016	0.069
Anthracene	0.089	0.08
Benzo(a)anthracene	0.22	0.31
Benzo(a)pyrene	0.21	0.33
Benzo(g,h,i)Perylene	0.13	0.27
Chrysene	0.24	0.32
Dibenz(a,h)anthracene	0.04	0.066
Fluoranthene	0.54	0.55
Indeno(1,2,3-cd)pyrene	0.12	0.22
Phenanthrene	0.42	0.23
Pyrene	0.4	0.53
Metals - ICP-MS		
Copper	83 J	17
Iron	20,000	25,000
Lead	50	100
Manganese	450	640

Location	BC-BKG-SED-1	BC-BKG-SED-1
Sample Name	BC-BKG-SED-1 0-0.5	BC-BKG-SED-1 0.5-0.5 R
Sample Date	11/29/2023	03/27/2024
Sample Depth	0-0.5	0-0.5
SVOCs		
Acenaphthene	0.037	0.045
Acenaphthylene	0.027	0.084
Anthracene	0.068	0.21
Benzo(a)anthracene	0.2	0.5
Benzo(a)pyrene	0.19	0.49
Benzo(g,h,i)Perylene	0.14	0.45
Chrysene	0.24	0.49
Dibenz(a,h)anthracene	0.041	0.11
Fluoranthene	0.48	1.1
Indeno(1,2,3-cd)pyrene	0.13	0.38
Phenanthrene	0.33	0.65
Pyrene	0.37	0.89
Metals - SEM/AVS (mg/kg)		
Lead	NA	36
Metals - ICP-MS		
Copper	18	42
Iron	31,000	27000
Lead	29	40

Location	SB-SED-6	SB-SED-6
Sample Name	SB-SED-6 0-0.5	SB-SED-6 0.5-1.0
Sample Date	11/29/2023	11/29/2023
Sample Depth	0-0.5	0.5-1
SVOCs		
Acenaphthylene	0.0067 J	0.0034 J
Indeno(1,2,3-cd)pyrene	0.024	0.014
Metals - ICP-MS		
Copper	120	120
Iron	29,000	27000
Lead	83	57
Nickel	24	28
Selenium	2.4	2
Zinc	230	230

Location	BC-SED-6	BC-SED-6	BC-SED-6	BC-SED-6	BC-SED-6
Sample Name	BC-SED-6 0-0.5	BC-SED-6 0-0.5 R	DUP-1 032724-SED	BC-SED-6 0.5-1.0	
Sample Date	11/28/2023	03/27/2024	03/27/2024	11/28/2023	
Sample Depth	0-0.5	0-0.5	0-0.5	0.5-1	
SVOCs					
Acenaphthene	0.016 J	0.016	0.014	0.03	
Acenaphthylene	0.075	0.045	0.056	0.084	
Anthracene	0.19	0.069	0.071	0.15	
Benzo(a)anthracene	0.49	0.22	0.21	0.44	
Benzo(a)pyrene	0.36	0.22	0.2	0.39	
Benzo(g,h,i)Perylene	0.22	0.14	0.14	0.27	
Benzo(k)fluoranthene	0.15	0.096	0.096	0.16	
Chrysene	0.46	0.23	0.21	0.45	
Dibenz(a,h)anthracene	0.09	0.043	0.039	0.078	
Fluoranthene	0.98	0.48	0.42	0.82	
Fluorene	0.049	0.023	0.026	0.062	
Indeno(1,2,3-cd)pyrene	0.21	0.12	0.12	0.25	
Phenanthrene	0.51	0.23	0.21	0.58	
Pyrene	0.69	0.42	0.37	0.69	
Metals - ICP-MS					
Arsenic	12	12	18	11	
Copper	77	57	59	39	
Iron	25,000	24,000	35,000	24,000	
Lead	46	96	110	62	
Mercury	0.11 J	0.22	0.25	0.13 J	
Nickel	16	27	37	27	
Zinc	120	220	240	140	

Location	SB-SED-3
Sample Name	SB-SED-3 0-0.5
Sample Date	11/30/2023
Sample Depth	0-0.5
SVOCs	
Acenaphthene	0.043 J
Acenaphthylene	0.057
Anthracene	0.18
Benzo(a)anthracene	0.73
Benzo(a)pyrene	0.72
Benzo(g,h,i)Perylene	0.65
Benzo(k)fluoranthene	0.34
Chrysene	0.88
Dibenz(a,h)anthracene	0.16
Fluoranthene	1.6
Indeno(1,2,3-cd)pyrene	0.52
Phenanthrene	0.52
Pyrene	1.2
Metals - ICP-MS	
Arsenic	10
Chromium, Total	250
Iron	40,000
Lead	46
Manganese	680
Zinc	150

Location	BC-SED-4	BC-SED-4
Sample Name	BC-SED-4 0-0.5	BC-SED-4 0-0.5 R
Sample Date	11/28/2023	03/26/2024
Sample Depth	0-0.5	0-0.5
SVOCs		
Acenaphthylene	<0.0091 U	0.028 J
Indeno(1,2,3-cd)pyrene	0.061	0.047 J
Metals - ICP-MS		
Arsenic	8.3	11
Iron	30,000	56,000
Lead	24	160
Manganese	270	690
Nickel	15	27
Zinc	93	180

Location	BC-SED-5	BC-SED-5	BC-SED-5
Sample Name	BC-SED-5 0-0.5	DUP-1 112824	BC-SED-5 0-0.5 R
Sample Date	11/28/2023	11/28/2023	03/26/2024
Sample Depth	0-0.5	0-0.5	0-0.5
SVOCs			
Acenaphthene	ND	ND	0.014 J
Acenaphthylene	0.016 J	0.024	0.036 J
Anthracene	0.043	0.033	0.065
Benzo(a)anthracene	0.12	0.13	0.2
Benzo(a)pyrene	0.11	0.12	0.18
Benzo(g,h,i)Perylene	0.072	0.079	0.11
Chrysene	0.12	0.13	0.18
Dibenz(a,h)anthracene	0.019	0.028	0.036 J
Indeno(1,2,3-cd)pyrene	0.073	0.079	0.11
Pyrene	0.18	0.2	0.3
Metals - ICP-MS			
Antimony	79 J	0.49 J	0.27
Arsenic	9.2	15	19
Cobalt	7.2	52 J	19
Copper	29	44	49
Iron	25,000	41,000	69,000
Lead	29	44	49
Manganese	410 J	6,800 J	760
Nickel	12 J	170 J	30
Zinc	87 J	200 J	250

Location	BC-SED-3	BC-SED-3
Sample Name	BC-SED-3 0-0.5	BC-SED-3 0-0.5 R
Sample Date	11/28/2023	03/26/2024
Sample Depth	0-0.5	0-0.5
SVOCs		
Acenaphthylene	0.016	0.0074 J
Indeno(1,2,3-cd)pyrene	0.024	0.032
Metals - ICP-MS		
Arsenic	23	8.1
Iron	59,000	29,000
Manganese	670	630
Nickel	22	27
Zinc	160	91

Location	SB-SED-4
Sample Name	SB-SED-4 0-0.5
Sample Date	11/29/2023
Sample Depth	0-0.5
SVOCs	
Acenaphthylene	0.045
Benzo(a)anthracene	0.22
Benzo(a)pyrene	0.21
Benzo(g,h,i)Perylene	0.18
Chrysene	0.26
Dibenz(a,h)anthracene	0.046
Fluoranthene	0.5
Indeno(1,2,3-cd)pyrene	0.15
Pyrene	0.37
Metals - ICP-MS	
Antimony	2.3
Arsenic	36
Chromium, Total	150
Iron	81,000
Lead	90
Manganese	2,000
Nickel	29
Zinc	560

Location	SB-SED-5	SB-SED-5
Sample Name	SB-SED-5 0-0.5	SB-SED-5 0-0.5 R
Sample Date	11/29/2023	03/27/2024
Sample Depth	0-0.5	0-0.5
SVOCs		
Acenaphthylene	0.3	<0.018 U
Acenaphthylene	0.583	0.031 J
Anthracene	0.71	0.092
Benzo(a)anthracene	1.4	0.4
Benzo(a)pyrene	1.3	0.39
Benzo(g,h,i)Perylene	0.64	0.31
Benzo(k)fluoranthene	0.52	0.17
Chrysene	1.3	0.41
Dibenz(a,h)anthracene	0.24	0.066
Fluoranthene	3.1	0.76
Fluorene	0.54	0.077 J
Indeno(1,2,3-cd)pyrene	0.62	0.27
Phenanthrene	1.3	0.27
Pyrene	2.1	0.67
Metals - ICP-MS		
Antimony	3.8	0.45
Arsenic	33	10
Copper	76	39
Iron	58,000	29,000
Lead	240	36
Manganese	510	400
Mercury	0.26 J	0.036 J
Nickel	32	20
Silver	1.7	0.21
Zinc	260	140

Location	BC-SED-2	BC-SED-2
Sample Name	BC-SED-2 0-0.5	BC-SED-2 0.5-1 R
Sample Date	11/28/2023	02/26/2024
Sample Depth	0-0.5	0-0.5
SVOCs		
Acenaphthene	0.0041	0.0072 J
Acenaphthylene	<0.0089 U	0.033
Benzo(a)anthracene	0.037	0.19
Benzo(a)pyrene	0.03	0.19
Chrysene	0.034	0.2
Dibenz(a,h)anthracene	0.0059	0.036
Indeno(1,2,3-cd)pyrene	0.017	0.11
Pyrene	0.064	0.33
Metals - SEM/AVS (mg/kg)		
Copper	NA	32
Lead	NA	63
Metals - ICP-MS		
Arsenic	9.7	26
Copper	17	76
Iron	39,000	59,000
Lead	17	120
Manganese	210	2,300
Nickel	21	33
Zinc	94	290

Location	BC-SED-1	BC-SED-1
Sample Name	BC-SED-1 0-0.5	BC-SED-1 0-0.5 R
Sample Date	11/28/2023	03/26/2024
Sample Depth	0-0.5	0-0.5
SVOCs		
Acenaphthene	0.076	<0.017 U
Acenaphthylene	0.062	0.023 J
Anthracene	0.17	0.044 J
Benzo(a)anthracene	0.61	0.23
Benzo(a)pyrene	0.6	0.29
Benzo(g,h,i)Perylene	0.4	0.23
Benzo(k)fluoranthene	0.26	0.13
Chrysene	0.67	0.31
Dibenz(a,h)anthracene	0.091	0.052 J
Fluoranthene	1.1	0.49
Indeno(1,2,3-cd)pyrene	0.37	0.19
Phenanthrene	0.61	0.17
Pyrene	0.99	0.47
Metals - SEM/AVS (mg/kg)		
Lead	NA	50
Metals - ICP-MS		
Arsenic	8.5	11
Copper	30	49
Iron	29,000	35,000
Lead	30	73
Manganese	290	790
Nickel	18	26
Zinc	190	180

Location	SB-SED-1	SB-SED-1	DUP-2 113024	SB-SED-1
Sample Name	SB-SED-1 0-0.5	SB-SED-1 0-0.5 R	DUP-2 113024	SB-SED-1 0.5-1.0
Sample Date	11/30/2023	03/27/2024	11/30/2023	11/30/2023
Sample Depth	0-0.5	0-0.5	0-0.5	0.5-1
SVOCs				
Acenaphthene	0.11	<0.018 U	0.026 J	0.061
Acenaphthylene	0.048 J	0.027 J	0.039 J	0.11
Anthracene	0.26 J	0.07	0.091 J	0.28
Benzo(a)anthracene	0.79	0.28	0.6	0.86
Benzo(a)pyrene	0.62	0.29	0.6	0.94
Benzo(g,h,i)Perylene	0.49	0.2	0.49	0.67
Benzo(k)fluoranthene	0.37	0.14	0.33	0.39
Chrysene	0.89	0.29	0.75	0.97
Dibenz(a,h)anthracene	0.13	0.065	0.14	0.18
Fluoranthene	2.1	0.81	1.3	1.9
Fluorene	0.13	0.015 J	0.034 J	0.088
Indeno(1,2,3-cd)pyrene	0.39	0.19	0.43	0.59
Phenanthrene	1.4 J	0.22	0.54 J	0.69
Pyrene	1.8	0.48	1	1.4
Metals - ICP-MS				
Arsenic	8	6.3	8	11
Iron	19,000	20,000	23,000	32,000
Lead	30 J	49	62 J	32
Manganese	320	570	510	500
Zinc	170	140	140	120

Location	SB-SED-2
Sample Name	SB-SED-2 0-0.5
Sample Date	11/30/2023
Sample Depth	0-0.5
SVOCs	
Acenaphthylene	0.012 J
Benzo(a)anthracene	0.12
Indeno(1,2,3-cd)pyrene	0.067
Metals - ICP-MS	
Arsenic	10
Iron	23,000
Manganese	1,500
Zinc	170

Location	SB-BKG-SED
Sample Name	SB-BKG-SED 0-0.5
Sample Date	11/30/2023
Sample Depth	0-0.5
SVOCs	
Acenaphthene	0.029 J
Acenaphthylene	0.076
Anthracene	0.14
Benzo(a)anthracene	0.52
Benzo(a)pyrene	0.4
Benzo(g,h,i)Perylene	0.29
Chrysene	0.54
Dibenz(a,h)anthracene	0.1
Fluoranthene	1
Indeno(1,2,3-cd)pyrene	0.28
Phenanthrene	0.7
Pyrene	0.77
Metals - ICP-MS	
Iron	29,000
Manganese	740

Legend

- Sediment Sample Locations
- Former Front Load Container
- Former Fuel Oil Tank
- Former Waste Container
- Site Boundary
- Building Outline
- Concept Plan
- Former Building or Site Feature
- Area of Concern
- Stream
- NWI Wetland
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Regulatory Floodway

Cut Fill Thickness (Feet)

-130 – -120
-120 – -110
-110 – -100
-100 – -90
-90 – -80
-80 – -70
-70 – -60
-60 – -50
-50 – -40
-40 – -30
-30 – -20
-20 – -15
-15 – -10
-10 – -5
-5 – -2
-2 – 0
0 – 2
2 – 5
5 – 10
10 – 15
15 – 20
20 – 30
30 – 40
40 – 50
50 – 60
60 – 70
70 – 80
80 – 90
90 – 100

Analyte	USEPA Region III BTAG Freshwater Sediment Screening Benchmarks
SVOCs	
Acenaphthene	0.0067
Acenaphthylene	0.0059
Anthracene	0.0572
Benzo(a)anthracene	0.108
Benzo(a)pyrene	0.15
Benzo(g,h,i)Perylene	0.17
Benzo(k)fluoranthene	0.24
Chrysene	0.166
Dibenz(a,h)anthracene	0.033
Fluoranthene	0.423
Fluorene	0.0774
Indeno(1,2,3-cd)pyrene	0.017
Phenanthrene	0.204
Pyrene	0.195
Metals - SEM/AVS (mg/kg)	
Copper	31.6
Lead	35.8
Mercury	0.18
Nickel	22.7
Zinc	121
Metals - SEM/AVS (umol/g)	
Copper	NS
Lead	NS
Mercury	NS
Nickel	NS
Zinc	NS
Metals - ICP-MS	
Antimony	2
Arsenic	9.8
Chromium, Total	43.4
Cobalt	50
Copper	31.6
Iron	20000
Lead	35.8
Manganese	460
Mercury	0.18
Nickel	22.7
Selenium	2
Silver	1
Zinc	121

Notes:
1. Imagery provided through Langan's subscription to Nearmap.com. Flown on 3/20/2023.
2. All locations of site reconnaissance observations are approximate.
3. Parcel data provided by Northampton County and ReportAllParcels, 2020.
4. Basemap is the "Easton Commerce Park Grading Plan" provided by Bogia Engineering Inc. Prepared 1/9/2024.
5. Streams provided by the National Hydrologic Dataset.
6. Wetlands provided by the National Wetlands Inventory.
7. Floodplains provided by the Federal Emergency Management Agency.
8. Building data based on Earth Tech Site Plan.
9. Tank locations provided by ERG Layout Map, 1999.
10. AOCs provided by Delta Area of Groundwater Attainment Map, 2008.
11. See text for fully defined acronyms.
12. Sample location cutfill depths are shown in feet.
13. Sediment results are shown in mg/kg.

PADEP – Pennsylvania Department of Environmental Protection
MSC – Medium Specific Concentrations
RL - Reporting Limit
TDS – Total Dissolved Solids
NS – No Standard
ND – Non Detect

Qualifiers:
J – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.

Exceedance Summary:
10 - Result exceeds USEPA Region III BTAG Freshwater Sediment Screening Benchmarks

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Project
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