GAMBONE: HOLLY ROAD

SITUATE IN: DOUGLASS TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

GENERAL NOTES

1. OWNER:
   DBJ ASSOCIATES INC. &
   JACKSON SUPPLY INC.
   1030 W GERMANTOWN PIKE
   DBK 5645 PG 1372
   TAX #32034 015
   PARCID #32-00-05748-00-7
   SITE ADDRESS: 155 HOLLY ROAD
2. SITE AREA: 51.58 ACRES
3. REFERENCE DATA:
   * MONTGOMERY COUNTY TAX MAPS
   * DEEDS AS SHOWN
4. SOIL DATA:
   ReB3 - REAVILLE SHALY SILT LOAM, 3-8% SLOPES, SEVERELY ERODED
   ReC3 - REAVILLE SHALY SILT LOAM, 8-15% SLOPES, SEVERELY ERODED
   PER FIELD DELINEATION BY: NOVA CONSULTANTS LTD.
5. DATUM: NAVD 88
6. SITE FEATURES PER LUDGATE ENGINEERING FIELD SURVEY OF 5-8-2015.
7. SITE TO USE PUBLIC WATER AND PUBLIC SEWER.
8. LOT AREA CALCULATIONS:
   GROSS TRACT AREA = 51.58 ACRES
   ULTIMATE R/W = 0.16 ACRES
   FLOODPLAIN = 7.19 ACRES
   PROPOSED ROAD R/W = 10.12 ACRES (PRIVATE)
   SAN. SEWER EASE. = 0.13 ACRES (NOT IN OTHER CATAGORY)
   STORMWATER EASE. = 7.30 ACRES (NOT IN OTHER CATAGORY)
   STEEP SLOPES 15-25% = 1.75 ACRES (EXISTING)
   STEEP SLOPES 15-25% = 1.49 ACRES (PROPOSED)

   DEVELOPABLE AREA = 24.93 ACRES
   AREA TO BE DEVELOPED:
   51.58
   - 17.35 OPEN SPACE
   = 34.23 ACRE DEVELOPED
9. DENSITY CALCULATION

   DEVELOPABLE AREA: 24.93 ACRES
   TOTAL TOWNHOUSE UNITS: 159 UNITS
   TOTAL SINGLE FAMILY UNITS 22
   TOTAL UNITS: 181 UNITS (181 / 30.3 = 5.97)
   DENSITY: TOTAL UNITS/DEVELOPABLE AREA
   = 7.54 UNITS/AC (8 ALLOWED)
10. PARKING REQUIREMENT (RESIDENTIAL):
    REQUIRED = 2 SPACES/UNIT
    PROVIDED = 2 SPACES/UNIT (1 IN DRIVEWAY, 1 IN GARAGE)
11. RETAIL USES:
    RETAIL #1 = 3,900 SQ.FT. BANK, 12,000 SQ.FT. RETAIL, & 2,000 SQ.FT. RESTAURANT
    BANK TO COMPLY WITH ZONING ORDINANCE 2703.2.C
    RETAIL #2 = 10,230 SQ.FT. RETAIL
12. PARKING REQUIREMENT (RETAIL AREAS):
    RETAIL STORES/PERSONAL SERVICE SHOPS: 1 SPACE/250 SQ.FT. OF GROSS FLOOR AREA
    RETAIL 1 = 48 SPACES REQUIRED 76 SPACES PROVIDED
    RETAIL 2 = 41 SPACES REQUIRED 41 SPACES PROVIDED
    BANK OR OTHER FINANCIAL INSTITUTION: 3 SPACES/TELLER PLUS 3 SPACES/SELF-SERVICE FACILITY
    8 U TELLERS & 1 SELF SERVE = 21 SPACES REQUIRED 21 SPACES PROVIDED
    RESTAURANT: 1 SPACES/60 SQ.FT. OF GROSS FLOOR AREA
    2,000/60 = SPACES REQUIRED 25, SPACES PROVIDED 25
    PARKING PROVIDED:
    RETAIL #1: 72 STANDARD
    4 ADA
    TOTAL 76 PROVIDED
    RETAIL #2: 37 STANDARD
    4 ADA
    TOTAL 41 PROVIDED
    BANK: 19 STANDARD
    2 ADA
    TOTAL 21 PROVIDED
    RESTAURANT: 23 STANDARD
    2 ADA
    TOTAL 25 PROVIDED
13. SAID DESCRIBED PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION X (AREAS OUTSIDE THE 100 YEAR FLOOD) & AE (AREAS INSIDE THE 100 YEAR FLOOD) FLOOD INSURANCE RATE MAP NO.42091C0076G WITH A DATE OF IDENTIFICATION OF MARCH 2, 2016 IN DOUGLASS TOWNSHIP, MONTGOMERY COUNTY, STATE OF PENNSYLVANIA, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.
14. EASEMENTS FOR SNOW REMOVAL, STORM, AND SANITARY SEWERS SHALL BE PROVIDED ON THE PLANS PER THE REQUIREMENTS OF THIS SECTION OF THE ORDINANCE.

ZONING DATA

ZONING: OFFICE & LIGHT INDUSTRIAL DISTRICT
SENIOR LIVING DISTRICT, (X-1)

	REQUIRED	PROPOSED
MAX. IMPERVIOUS COVERAGE	45%	32%
MAX. BUILDING COVERAGE	25% (NONRESIDENTIAL BLDG. 20,000 SQ.FT.)	13%
MAX. BLDG. HEIGHT	35 FT. (3 STORIES)	
RESIDENTIAL		
MAX DENSITY	8 DWELLING UNITS/DEVELOPABLE ACRE	7.54 UNITS/DEV. ACRE
MIN SETBACK FROM ULT. R/W OF EXTERNAL PUBLIC STREET OR WAY.	50 FT.	
MIN FROM ANY OTHER TRACT BOUNDARY	30 FT.	30 FT.
MIN FROM INTERIOR STREETS & PRIVATE DRIVES	25 FT.	25 FT.
MIN FROM A NONRESIDENTIAL BUILDING	75 FT.	75 FT.
MIN FROM NONRESIDENTIAL PARKING AREAS	50 FT.	50 FT.
MIN FROM RESIDENTIAL OR RECREATIONAL PARKING AREAS	25 FT.	25 FT.
MIN FROM RECREATIONAL USES	75 FT.	75 FT.
SINGLE-FAMILY DETACHED		
MIN LOT SIZE	8000 SQ.FT.	8000 SQ.FT.
MIN LOT WIDTH	70 FT. @ BLDG SETBACK LINE	70 FT. @ BLDG SETBACK LINE
MIN FRONT YARD	25 FT.	25 FT.
MIN SIDE YARD	10 FT.	10 FT.
MIN REAR YARD	25 FT. (30' FOR LOTS 7-11)	25 FT. (30' FOR LOTS 7-11)
TWO-FAMILY & SINGLE-FAMILY ATTACHED (TOWNHOUSES)		
MIN. LOT SIZE:		
TWINS	2200 SQFT.	2200 SQFT.
TOWNHOUSES	1800 SQ.FT.	1800 SQ.FT.
MIN. LOT WIDTH	20 FT.	20 FT.
MIN. FROM INTERIOR STREETS OR DRIVES	25 FT.	25 FT.
MIN. BLDG SEPERATIONS		
FRONT TO FRONT	75 FT.	75 FT.
FRONT/BACK TO SIDE	35 FT.	35 FT.
SIDE TO SIDE	25 FT.	25 FT.
BACK TO BACK	50 FT.	50 FT.
MIN PARKING	2 SPACES/DWELLING UNIT	2 SPACES/DWELLING UNIT
MAX. OF 6 TOWNHOUSE UNITS MAY BE ATTACHED IN ANY BLDG.		
NONRESIDENTIAL:		
MIN SETBACK FROM ULT. R/W OF EXTERNAL PUBLIC STREET OR WAY.	50 FT.	50 FT.
MIN. FROM ANY OTHER TRACT BOUNDARY	30 FT.	30 FT.
MIN. FROM ANOTHER NONRESIDENTIAL BLDG.	25 FT.	25 FT.
MIN. FROM A RESIDENTIAL BLDG.	75 FT.	75 FT.
MIN. FROM NONRESIDENTIAL PARKING AREAS	5 FT.	5 FT.
MIN. FROM RESIDENTIAL OR RECREATIONAL PARKING AREAS	50 FT.	50 FT.
MIN. FROM RECREATIONAL USES	75 FT.	75 FT.
NONRESIDENTIAL MIN PARKING:		
USE TYPE:		
RESIDENTIAL - TOWNH., SFDWHK.		83.6%
NONRESIDENTIAL - BANK, 2SDWHK.	20% REQUIRED OPEN	16.4%
WITH A 20% GROSS AREA OF TRACT TO BE COMMON OPEN SPACESPACE = 10.35 ACRES		33%

15. OPEN SPACE DATA
    TOTAL OPEN SPACE (A+B+C) = 17.35 ACRES
    (33.6% OF GROSS TRACT AREA)
16. USE DATA:
    NON RESIDENTIAL AREA/RETAIL AREA = 5.63 ACRES
    (16.4% OF 34.23 ACRES DEVELOPED)

    RESIDENTIAL AREAS:
    * TOTAL RESIDENTIAL AREAS: 28.30 ACRES
    (MINUS OF 34.23 ACRES DEVELOPED)
    * TOWNHOUSE AREA: 20.9 ACRES (73.8% OF 28.30 ACRES RESIDENTIAL)
    * SINGLE FAMILY AREA = 7.4 ACRES (26.2% OF 28.30 ACRES RESIDENTIAL)
17. TOTAL ERROR OF CLOSURE = 1/295,816
18. ALL STREETS TO BE PRIVATE.

TOWNSHIP ENGINEER'S CERTIFICATION

Reviewed this _____ day of 20_____ by the Township Engineer for Douglass Township, Montgomery County, PA

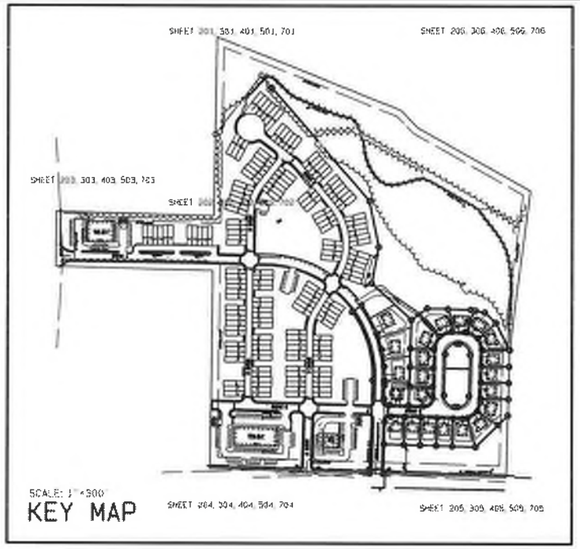
_____
Engineer's Signature

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

CONSTRUCTION NOTES

THE FOLLOWING NOTES LIST THE GENERAL GUIDELINES TO BE UTILIZED BY THE CONTRACTORS ACTUALLY PERFORMING THE CONSTRUCTION OF THE IMPROVEMENTS AND REQUIREMENTS AS INDICATED ON THE PLANS.

1. ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES REGULATIONS AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
2. ALL GRADING TO PROMOTE POSITIVE DRAINAGE AWAY FROM THE BUILDING. CONTRACTOR SHALL ENSURE THAT THE LOT GRADING THAT IS DEPICTED ON THIS PLAN IS ACHIEVED TO THE SATISFACTION OF THE TOWNSHIP ENGINEER.
3. BEFORE ANY CONSTRUCTION COMMENCES, CONTRACTORS SHALL LOCATE AND VERIFY ALL EXISTING UTILITIES AND EXISTING UTILITY TIE-IN INVERT ELEVATIONS. IF TIE-IN INVERTS DIFFER FROM THOSE SHOWN ON THE PLAN, NOTIFY THE ENGINEER. DO NOT PROCEED WITH CONSTRUCTION UNLESS APPROVAL HAS BEEN GRANTED BY THE ENGINEER. CONTRACTOR WILL BE REQUIRED TO REPAIR ALL DAMAGED UTILITY LINES.
4. ALL SITE CONSTRUCTION METHODS AND MATERIALS SHALL BE IN GENERAL CONFORMANCE WITH THE DOUGLASS TOWNSHIP MONTGOMERY COUNTY, PENNSYLVANIA ENGINEERING AND CONSTRUCTION STANDARDS AND IMPROVEMENT PROCEDURES AND WITH PENNDOTS PUBLICATION 408, LATEST EDITION.
5. LUDGATE ENGINEERING CORPORATION HAS NOT PROVIDED ON THIS PLAN THE DESIGN OF SHORING, TRENCHING, EXCAVATION, SUPPORT, SHIELDING, OR BRACING ASSOCIATED WITH THE INSTALLATION OF UTILITIES, GRADING, ETC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATION OF UTILITIES AND TO COMPLY WITH OSHA TRENCHING REQUIREMENTS 29 CFR PART 1926.
6. CONTRACTOR SHALL HAVE ALL PROPERTY LINES LOCATED BEFORE CONSTRUCTION COMMENCES. THE CONTRACTOR SHALL MAKE SURE NO CONSTRUCTION ACTIVITY OCCURS OUTSIDE PROPERTY LIMITS.
7. ALL FILL SLOPES ARE TO BE KEYED INTO EXISTING GROUND.
8. ALL STORM SEWER PIPES SHALL CONFORM TO INTERIOR CATOMBASIN WALLS. FIELD MODIFY PIPES AS REQUIRED.
9. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN DETAILED "AS-BUILT" INFORMATION OF LATERALS, BENDS, VALVES, ETC. OF ALL UTILITY LINE CONSTRUCTION. THIS IS TO INCLUDE DIMENSIONED "TIE-DOWNS" OF ALL FITTINGS AND VALVES.
10. CONTRACTOR SHALL PROVIDE EXPANDED INLET BOXES WHERE STORM SEWER PIPES CANNOT FIT INTO STANDARD INLET BOXES.
11. MAINTAIN AT LEAST 12 INCHES OF COVER OVER ALL STORMSEWER PIPES
12. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. LUDGATE ENGINEERING CORPORATION MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. LUDGATE ENGINEERING CORPORATION FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH WE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. LUDGATE ENGINEERING CORPORATION HAS NOT PHYSICALLY LOCATED UNDERGROUND LINES.
13. ALL PARKING DIMENSIONS SHOWN ARE THE COMPUTED DIMENSIONS
14. PURSUANT TO PA ACT 38 (AMENDING ACT 287 AND 121) NOTIFICATION TO THE "ONE CALL SYSTEM" IS REQUIRED AT LEAST THREE WORKING DAYS PRIOR TO DISTURBING EARTH WITH ANY TYPE OF POWERED EQUIPMENT. CALL TOLL FREE 1-800-242-1776.
15. AS IT RELATES TO CONSTRUCTION ACTIVITY, AS NEEDED TO CONSTRUCT IMPROVEMENTS AS INDICATED ON THE PLAN(S), THE CONTRACTOR SHALL REMOVE AND/OR DISPOSE OF ANY BY-PRODUCTS, UNUSED STOCK, DEMOLITION DEBRIS, ETC. IN ACCORDANCE WITH ALL LOCAL, STATE, AND/OR FEDERAL REGULATIONS GOVERNING SUCH DISPOSAL.
16. CONTRACTOR TO CONFIRM BUILDING DIMENSIONS PRIOR TO ANY SUCH CONSTRUCTION.
17. FINAL SEWER, WATER, GAS, AND ELECTRIC SERVICE LOCATIONS AT THE BUILDING SHALL BE VERIFIED BY THE BUILDING DESIGNER PRIOR TO ANY SUCH CONSTRUCTION.
18. AT LEAST 10 HORIZONTAL FEET OR 18" VERTICAL INCHES SHALL BE MAINTAINED BETWEEN THE PROPOSED SANITARY SEWER LINE AND ANY WATERLINE OR WATER SERVICE. IN CASES WHERE THIS CAN NOT BE MAINTAINED, THE WATERLINE OR WATER SERVICE SHALL BE ENCASED IN CONCRETE FOR THE AREA IN QUESTION AND 10 FEET BEYOND. THE AREA IN EACH DIRECTION. ANY SANITARY SEWER THAT DOES NOT HAVE TWO FEET OF ALL CONCRETE ENCASEMENTS MUST EXTEND TO THE NEXT JOINT BEYOND THE REQUIRED LENGTH. ALL ENCASEMENTS MUST BE SHOWN ON THE PLANS AND NO MODIFICATIONS WILL BE APPROVED IN THE FIELD WITHOUT A WRITTEN LETTER FROM THE DEVELOPER'S ENGINEER THAT IS REVIEWED AND APPROVAL OF THE AUTHORITY'S ENGINEER.
19. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY SEWER FACILITIES.
20. THE EXISTING SANITARY LINE NEEDS TO BE VIDEO INSPECTED PRIOR TO CONNECTING INTO IT.
21. UNLESS NOTED / SHOWN OTHERWISE ON THE PLANS, THE ROOF LEADERS FROM ANY PROPOSED BUILDING WILL NEED TO TIE DIRECTLY TO THE ROOF LEADER MANIFOLD AND/OR CONVEYANCE SYSTEM. THE CONTRACTOR WILL NEED TO INSTALL ANY TEE, WYE, FITTING, PIPING, ETC. AS NEEDED TO MAKE THE CONNECTIONS.
22. ALL SANITARY SEWER CLEANOUTS PROPOSED IN PAVING AREA SHALL BE INSTALLED IN A 3'-0"x3'-0"x6" CONCRETE PAD.
23. ALL PVC SANITARY SEWER PIPE AND FITTINGS SHALL BE SDR-26 UNLESS OTHERWISE NOTED.
24. PERMITS ARE REQUIRED FOR ALL GRADING OPERATIONS, TO BE ISSUED BY ZONING OFFICER FOR EACH LOT. TRACT OR SITE WHICH COMPRISES A SEPARATE OPERATION. PERMITS ARE THEREFORE REQUIRED FOR THE SITE WORK AS WELL AS FOR EACH LOT.
25. THE PROPOSED SANITARY SEWER CONNECTION CROSSING THE 100-YEAR FLOODPLAIN REQUIRES PROPER FLOODPROOFING.
26. THE PROPOSED SEWAGE FLOWS FOR THIS FACILITY WILL CONTAIN DOMESTIC SEWAGE ONLY.
27. NO FLOOR DRAINS (FOR STORMWATER OR DRAINAGE SYSTEMS) SHALL BE CONNECTED TO THE SANITARY SEWER SYSTEM.
28. WHEREVER SANITARY SEWER LINES ARE PROPOSED OUTSIDE OF STREET/MACADAM AREAS, THE MANHOLE TOPS SHALL EXTEND A MINIMUM OF 18-INCHES ABOVE FINISHED GRADE OR WATERTIGHT BOLT DOWN MANHOLES FRAMES AND COVERS SHALL BE INSTALLED. ALL MANHOLES WITHOUT WATERTIGHT BOLT DOWN MANHOLE FRAMES AND COVERS SHALL HAVE DOUBLE VALVE INSERTS INSTALLED.



WAIVERS REQUESTED

§ 406.3.C. (1)&(2)	Cul-de-sac streets not less than 250 feet in length
§ 407.1.A.(2)&(3)	Min. Radius Curve of 150 feet
§ 407.3.(C)	Street Grade 15 max
§ 408.3.B & C	Intersection Spacing 400 feet and 200 feet distances
§ 411 .3.K(1) & 410.5.3	Basin slopes of 4:1 and 5:1
§ 413.A.K(3)	Underground BMPs not closer than 50 feet to a structure
§ 426.1.2 & 4	Easement impact
§ 403.1	Streets to be dedicated
§ 414.2.B	Driveways to be located 50 feet for residential lots 100 feet for commercial) from street intersections

CONSTRUCTION NOTES CONT'D.

29. A 20-FOOT WIDE EASEMENT SHALL BE PROVIDED TO DWMA OVER ALL PORTIONS OF THE PROPOSED SEWER MAINS WHICH ARE LOCATED OUTSIDE OF THE CURB LINES OF THE ROADS. NO OTHER UTILITY SHALL BE INSTALLED CLOSER THAN (5) FEET TO THE PROPOSED SEWER MAIN WITHOUT PRIOR APPROVAL BY DWMA.
30. ALL WATER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES AND SPECIFICATIONS OF THE BOROUGH OF BOYERTOWN STANDARD CONSTRUCTION DOCUMENTS

SHEET INDEX

1 -	TITLE SHEET	SHEET 100
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9 -	STREET INTERSECTION LAYOUT PLANS	SHEET 207
10 -	OPEN SPACE PLAN	SHEET 208
11 -	PCSM 100 SCALE PLAN	SHEET 300
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41, 42, 43, 44, 45, 46 -	UTILITY 40 SCALE PLANS	SHEET 501, 502, 503, 504, 505, 506
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48 -	LANDSCAPING 100 SCALE PLAN	SHEET 700
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63 -	RETAINING WALL DETAILS	SHEET 808
64, 65 -	RETAIL LOP PLAN	SHEET 900, 901
66, 67 -	TRUCK TRAKKING PLAN	SHEET 902, 903
68, 69, 70, 71 -	DRAINAGE PLANS	SHEET 1000, 1001, 1002, 1003
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WETLANDS CERTIFICATION

I (WE) HEREBY CERTIFY THAT THE DELINEATION OF THE WETLANDS SHOWN ON THIS PLAN IS IN ACCORDANCE WITH THE FINDINGS OF AN FIELD INVESTIGATION AND THAT I HAVE DETERMINED THESE LIMITS BASED UPON THE U.S. CORPS OF ENGINEERS GUIDELINES

SIGNATURE DATE

RECORDER OF DEEDS

MONTGOMERY COUNTY PLANNING COMMISSION

MCPC NO. _____

PROCESSED and REVIEWED. A report has been prepared by the by the Montgomery County Planning Commission in accordance with the Municipalities Planning Code.

Certified this date _____

_____
For the Director

MONTGOMERY COUNTY PLANNING COMMISSION

TOWNSHIP PLANNING AGENCY CERTIFICATION

This plan has been approved by the Douglass Township Planning Agency this ____ day of _____

CHAIRMAN ATTESTED SECRETARY

TOWNSHIP SUPERVISOR'S CERTIFICATION

This plan has been approved by the Douglass Township Board of Supervisors this ____ day of _____

CHAIRMAN ATTESTED SECRETARY

SURVEYOR'S CERTIFICATION

I hereby certify that the plan shown and described hereon, as well as all other drawings which are a part of this plan set, are true and correct to the accuracy required by the Douglass Township Subdivision and Land Development Ordinance and were prepared by me or under my direction, for which I accept full responsibility, and represent a State Survey performed by me or under my direction. The existing perimeter monuments shown hereon have been located as part of the survey and all other proposed perimeter monuments shall be set.

DATE

SIGNATURE

PROFESSIONAL LAND SURVEYOR
THOMAS BRYAN LUDGATE
No. SU-048124-E

COUNTY RECORDING NOTE

Recorded in the office of the Recorder of Deeds in Norristown, Pennsylvania, in Plan Book _____ Page _____ on the _____ day of _____

_____

CERTIFICATION OF CORPORATION

I (We) do hereby Certify that I am (we are) the sole registered owner (s) of the land herein subdivided and that there are no suits pending affecting the title of the same and that I (we) do hereby adopt this plan and desire the same to be recorded.

_____ _____
(print) Name and Title OWNER

State of _____
County of _____
On this, the _____ day of _____ 20
Before me, _____ the undersigned officer,
Personally appeared _____ who
Acknowledged himself to be the _____ of
_____ a corporation, and that he as such
_____ being authorized to do so, executed the foregoing instrument for the purpose therein contained by signing the name of the corporation by himself as
_____ Executed the same for the purposes
therein contained. In witness whereof, I hereunto
set my hand and official seals

_____
Notary Public

TITLE SHEET

GAMBONE: HOLLY ROAD

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

Ludgate Engineering Corporation
ENGINEERS SURVEYORS PLANNERS
ENVIRONMENTAL SCIENTISTS
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LUDGATE ENGINEERING CORPORATION
ALL RIGHTS RESERVED. NEITHER ALL NOR ANY PART OF THIS DOCUMENT MAY BE REPRODUCED, REPRODUCED, OR USED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE PRIOR WRITTEN PERMISSION OF LUDGATE ENGINEERING CORPORATION

DRAWN	COMPLIENCE	COMPLETED	PA ONE CALL DATE	COMPUTER FILE
PBR 8-20-16			20171202 1-23-17	\\server\projects\2016\D-7802015\dwg\D-7802015.dwg
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100'	SEE ABOVE		D-7802015 SHEET 1 OF 82	

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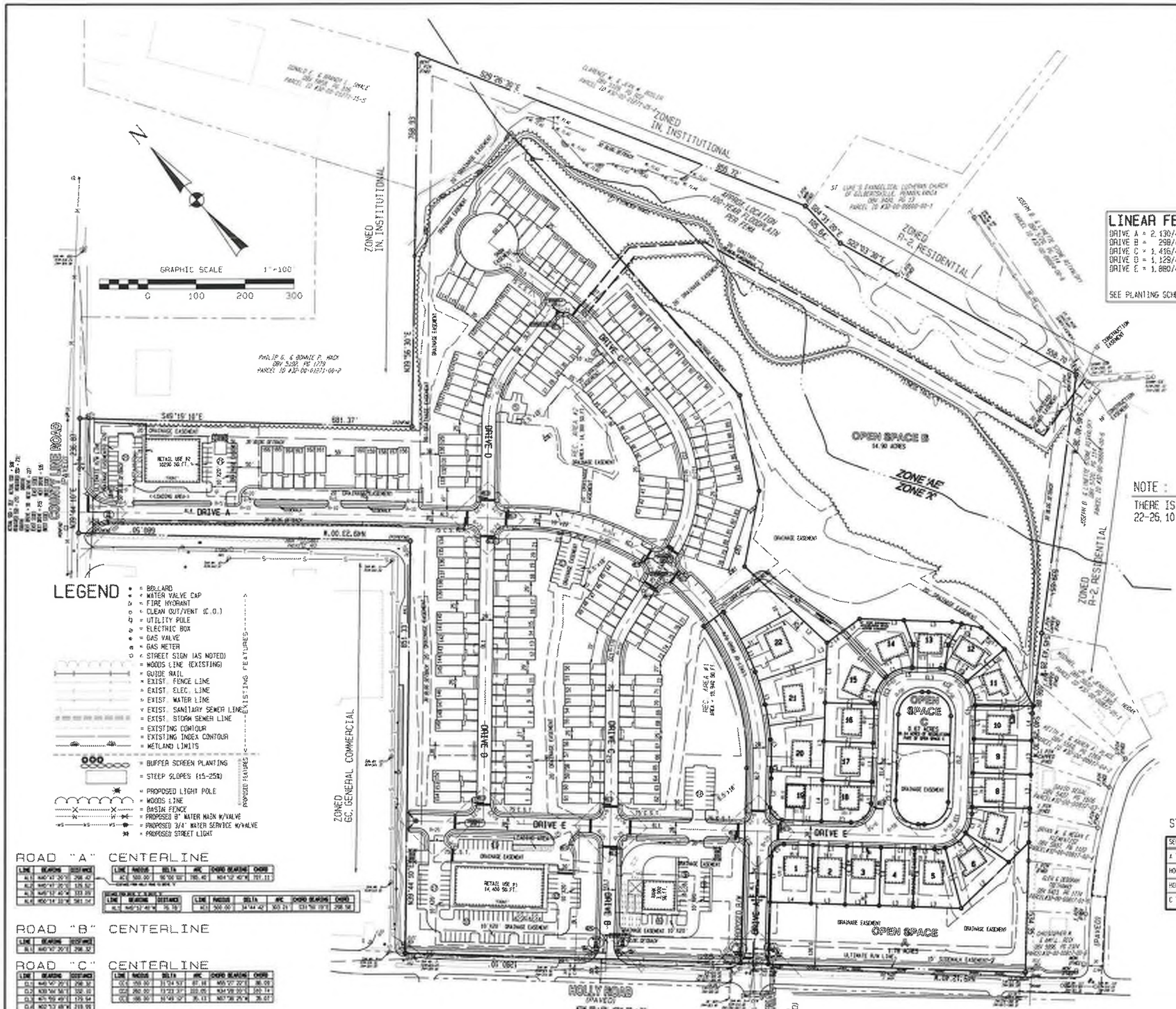

LINEAR FEET FOR NEW STREETS

DRIVE A = 2,130/40 = 54 STREET TREES REQ'D.
DRIVE B = 298/40 = 8 STREET TREES REQ'D.
DRIVE C = 1,416/40 = 36 STREET TREES REQ'D.
DRIVE D = 1,129/40 = 29 STREET TREES REQ'D.
DRIVE E = 1,880/40 = 47 STREET TREES REQ'D.
174 TOTAL REQ'D.
(185 TOTAL PROVIDED)
SEE PLANTING SCHEDULE FOR SPECIES

NOTE :
THERE IS NO TOWNHOUSE UNIT NO. : 22-26, 101, 102, 150, 151 & 155

LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
- = PROPOSED STREET LIGHT

PROPOSED FEATURES

ROAD "A" CENTERLINE

LINE	BEARING	DISTANCE
A1	N40°47'20"E	298.42'
A2	N40°47'20"E	125.52'
A3	N40°47'20"E	333.00'
A4	N00°14'20"W	561.24'

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
AC1	500.00'	90°00'00"	785.40'	N04°32'40"W	707.11'

LINE	BEARING	DISTANCE
A5	N49°12'40"W	75.00'

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
AC2	500.00'	34°44'42"	303.21'	S31°54'19"E	298.58'

ROAD "B" CENTERLINE

LINE	BEARING	DISTANCE
B1	N40°47'20"E	298.42'

ROAD "C" CENTERLINE

LINE	BEARING	DISTANCE
C1	N40°47'20"E	298.42'
C2	N39°54'30"E	332.10'
C3	N51°59'49"E	179.94'
C4	N02°13'48"W	213.95'
C5	N13°53'24"W	206.15'

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
CC1	250.00'	11°24'57"	57.18'	N05°27'20"E	36.05'
CC2	250.00'	13°23'37"	58.45'	N34°08'20"E	58.34'
CC3	250.00'	10°49'32"	35.13'	N07°38'29"W	35.07'

ROAD "D" CENTERLINE

LINE	BEARING	DISTANCE
D1	N00°14'20"W	621.63'
D2	N13°53'24"W	152.37'

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
CC4	275.00'	27°46'07"	133.25'	N00°07'59"E	131.40'

ROAD "E" CENTERLINE

LINE	BEARING	DISTANCE
E1	S49°12'40"E	1188.80'
E2	N40°47'20"E	223.82'
E3	N49°12'40"W	56.76'
E4	S40°47'20"W	213.82'

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
CC5	50.00'	90°00'00"	78.54'	N45°47'20"E	70.71'
CC6	50.00'	90°00'00"	78.54'	N44°12'40"W	70.71'
CC7	50.00'	90°00'00"	78.54'	S45°47'20"W	70.71'

LOT 1 (AREA=10066 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	25.00'	90°00'00"	39.27'	N45°47'20"E	35.36'

LINE	BEARING	DISTANCE
L1	N49°12'40"W	90.00'
L2	S40°47'20"W	60.00'
L3	S49°12'40"E	120.00'
L4	N40°47'20"E	85.00'

LOT 2 (AREA=8400 SQ.FT.)

LINE	BEARING	DISTANCE
L1	S49°12'40"E	70.00'
L2	S40°47'20"W	120.00'
L3	N49°12'40"W	70.00'
L4	N40°47'20"E	120.00'

LOT 3 (AREA=8400 SQ.FT.)

LINE	BEARING	DISTANCE
L1	S49°12'40"E	70.00'
L2	S40°47'20"W	120.00'
L3	N49°12'40"W	70.00'
L4	N40°47'20"E	120.00'

LOT 4 (AREA=8400 SQ.FT.)

LINE	BEARING	DISTANCE
L1	S49°12'40"E	70.00'
L2	S40°47'20"W	120.00'
L3	N49°12'40"W	70.00'
L4	N40°47'20"E	120.00'

LOT 5 (AREA=9845 SQ.FT.)

LINE	BEARING	DISTANCE
L1	S49°12'40"E	49.35'
L2	S21°51'15"W	120.83'
L3	N49°12'40"W	100.65'
L4	N40°47'20"E	120.00'

LOT 6 (AREA=10185 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	75.00'	40°58'25"	53.64'	S68°16'17"E	52.50'

LINE	BEARING	DISTANCE
L1	S20°58'38"W	102.51'
L2	S64°58'20"W	136.58'
L3	N23°51'55"W	128.83'

LOT 7 (AREA=10857 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	25.00'	90°00'00"	42.00'	N66°52'20"E	41.47'

LINE	BEARING	DISTANCE
L1	N49°12'40"W	15.13'
L2	S40°47'20"W	120.00'
L3	S49°12'40"E	89.88'
L4	S64°58'20"W	58.58'
L5	N23°51'55"W	107.51'

LOT 8 (AREA=8411 SQ.FT.)

LINE	BEARING	DISTANCE
L1	N49°12'40"W	70.00'
L2	S40°47'20"W	119.97'
L3	S49°29'21"E	70.00'
L4	N40°47'20"E	120.31'

LOT 9 (AREA=8385 SQ.FT.)

LINE	BEARING	DISTANCE
L1	N40°47'20"E	70.00'
L2	S49°12'40"E	119.97'
L3	S40°29'21"W	70.00'
L4	N49°12'40"W	119.97'

LOT 10 (AREA=8434 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	75.00'	0°53'19"	1.16'	N40°20'41"E	1.16'

LINE	BEARING	DISTANCE
L1	N40°47'20"E	98.45'
L2	S50°05'58"E	120.66'
L3	S40°47'20"W	15.35'
L4	S40°29'21"W	56.08'
L5	N49°12'40"W	119.97'

LOT 11 (AREA=9356 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	75.00'	40°58'25"	53.64'	N23°26'41"E	52.50'

LINE	BEARING	DISTANCE
L1	N68°16'33"W	102.21'
L2	S11°34'00"W	131.64'
L3	N68°26'55"W	104.66'

LOT 12 (AREA=8633 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	75.00'	40°58'25"	53.64'	N61°30'40"W	52.50'

LINE	BEARING	DISTANCE
L1	N49°12'40"W	49.35'
L2	N20°58'38"E	51.26'
L3	S28°41'30"E	41.23'
L4	S68°54'30"E	65.68'
L5	S68°58'20"W	102.21'

LOT 13 (AREA=8046 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	75.00'	7°09'44"	9.38'	N45°12'40"W	9.37'

LINE	BEARING	DISTANCE
L1	N49°12'40"W	57.50'
L2	N40°47'20"E	46.13'
L3	N38°11'15"E	54.03'
L4	S49°12'40"E	99.17'
L5	S38°03'20"E	31.95'
L6	S38°03'20"E	51.20'
L7	S41°51'04"W	49.38'

LOT 14 (AREA=11306 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	75.00'	40°58'25"	53.64'	N41°42'40"W	52.50'

LINE	BEARING	DISTANCE
L1	N68°16'33"W	126.90'
L2	S20°13'27"E	43.50'
L3	S49°12'40"E	91.14'
L4	S38°12'15"W	54.03'
L5	S40°47'20"E	46.12'
L6	N49°12'40"W	1.54'

LOT 15 (AREA=12777 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	25.00'	45°00'00"	19.63'	S61°17'20"W	19.13'

LINE	BEARING	DISTANCE
L1	S40°47'20"W	3.62'
L2	N49°12'40"W	101.00'
L3	N40°47'20"E	124.44'
L4	S81°17'21"E	39.61'
L5	S04°32'40"E	129.00'

LOT 16 (AREA=8080 SQ.FT.)

LINE	BEARING	DISTANCE
L1	S40°47'20"W	80.00'
L2	N49°12'40"W	101.00'
L3	N40°47'20"E	80.00'
L4	S49°12'40"E	101.00'

LOT 17 (AREA=8080 SQ.FT.)

LINE	BEARING	DISTANCE
L1	S40°47'20"W	80.00'
L2	N49°12'40"W	101.00'
L3	N40°47'20"E	80.00'
L4	S49°12'40"E	101.00'

LOT 18 (AREA=8451 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	25.00'	90°00'00"	39.27'	S85°47'20"W	35.36'

LINE	BEARING	DISTANCE
L1	S40°47'20"W	90.00'
L2	N49°12'40"W	76.00'
L3	N40°47'20"E	85.00'
L4	S49°12'40"E	101.00'

LOT 19 (AREA=10567 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	25.00'	90°00'00"	39.27'	N44°12'40"W	35.36'

ARC @ B.S. = 101.39'

LINE	BEARING	DISTANCE
L1	N49°12'40"W	92.01'
L2	N40°47'20"E	15.00'
L3	S49°12'40"E	100.01'
L4	S40°47'20"W	100.00'

LOT 20 (AREA=11455 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	524.00'	9°54'41"	90.65'	N05°51'50"E	89.54'

ARC @ B.S. = 100.00'

LINE	BEARING	DISTANCE
L1	N49°12'40"W	4.62'
L2	S55°51'21"E	116.44'
L3	S40°47'20"W	104.14'
L4	N49°12'40"W	107.81'

LOT 21 (AREA=13840 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	524.00'	10°19'25"	94.41'	N05°46'50"E	94.29'

ARC @ B.S. = 100.00'

LINE	BEARING	DISTANCE
L1	S49°12'40"E	148.23'
L2	S40°47'20"W	102.00'
L3	N49°12'40"W	116.66'

LOT 22 (AREA=15418 SQ.FT.)

LINE	RADIUS	DELTA	ARC	CHORD BEARING	CHORD
C1	524.00'	10°19'25"	94.41'	N05°37'25"E	94.28'

ARC @ B.S. = 100.00'

LINE	BEARING	DISTANCE
L1	S49°12'40"E	120.83'
L2	S08°22'38"E	87.52'
L3	S49°12'40"E	30.35'
L4	N69°22'52"W	148.23'

STREET OFFSET DISTANCES :

(CENTERLINE TO CENTERLINE)

SEGMENT	DISTANCE
A TO B ALONG F	307.64'
HOLLY TO E ALONG A	298.42'
HOLLY TO E ALONG B	298.32'
C TO D ALONG A	375.38'

TRAFFIC SIGN CHART (ON SITE)

	DESCRIPTION	QTY.	SIZE	MM	DATE
ST	STOP ON/24" WIDE STOP BARS	19	18"x18"	R1-1	11-19-13
DN	DO NOT ENTER SIGN	3	36"x30"	R5-1	11-19-13
OW-L	ONE WAY SIGN (HORIZ. LEFT)	2	12"x36"	R6-1L	11-19-13
OW-R	ONE WAY SIGN (HORIZ. RIGHT)	1	12"x36"	R6-1R	11-19-13
LT	LEFT TURN	2	36"x48"	W1-1L	11-19-13
HC	HANDICAPPED AREA	2	12"x18"	R7-8	11-19-13
VA	VAN ACCESSIBLE	1	12"x18"	R7-8P	11-19-13
ES	ENTRANCE SIGN	6	12"x18"	---	---
PRS	PRIVATE ROAD SIGN	6	12"x18"	---	---
NO	NO OUTLET	2	12"x18"	W14-2	02-26-12

SUBDIVISION PLAN

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	06-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
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PENNSYLVANIA

GAMBONE: HOLLY ROAD

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DRAWN	COMP BNCHMK	COMPLETED	PA ONE CALL DATE	COMPUTER FILE
PSR 6-30-16			REVISED 1-03-22	C:\workingdir\gambone\2016-0007.dwg
SCALE 1"=100'	TAX MAP PARCEL SEE ABOVE		DRAWING NUMBER 2016-0007	SHEET 2 OF 10

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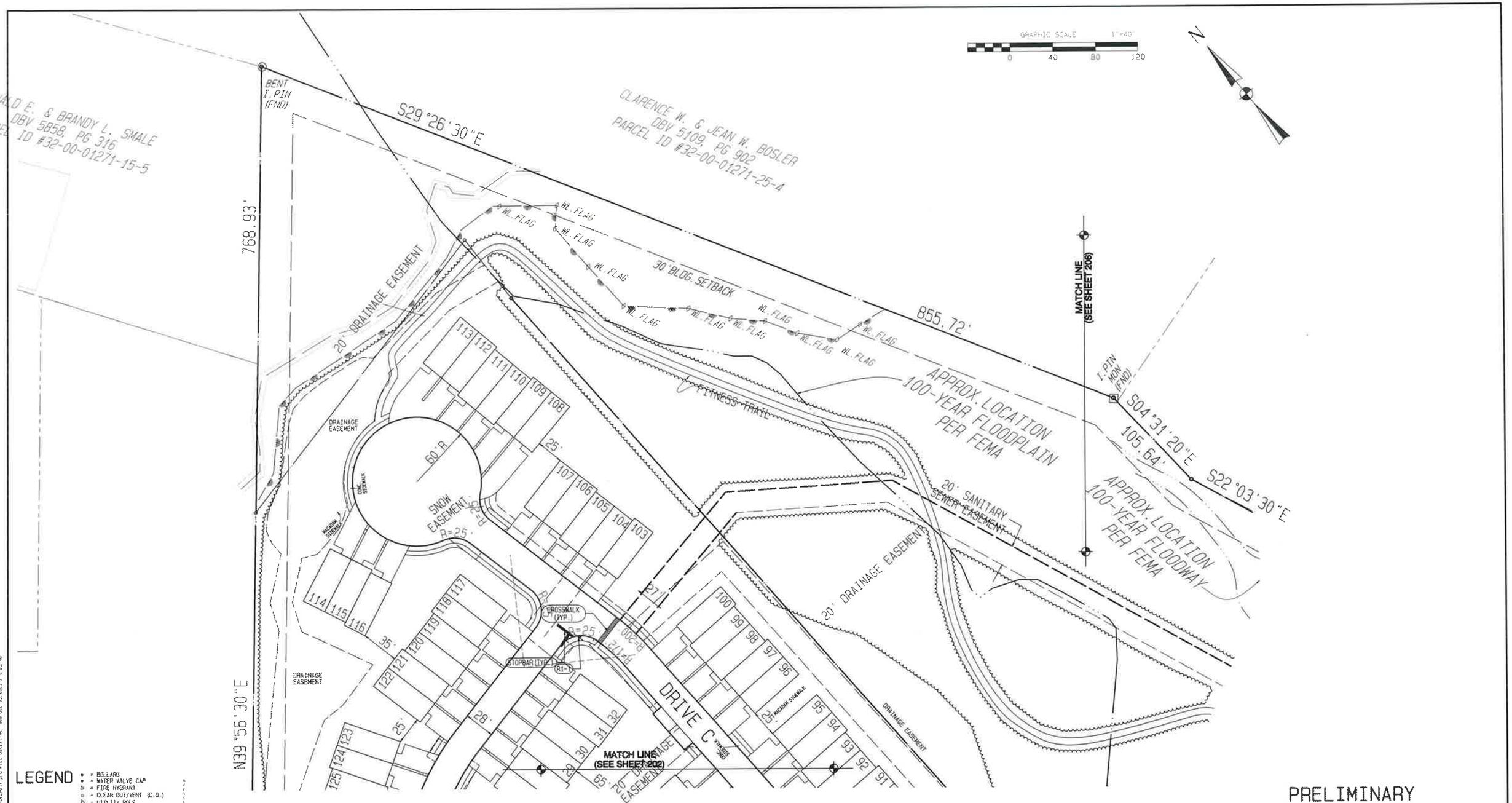

LEGEND :

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
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- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
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PROPOSED FEATURES

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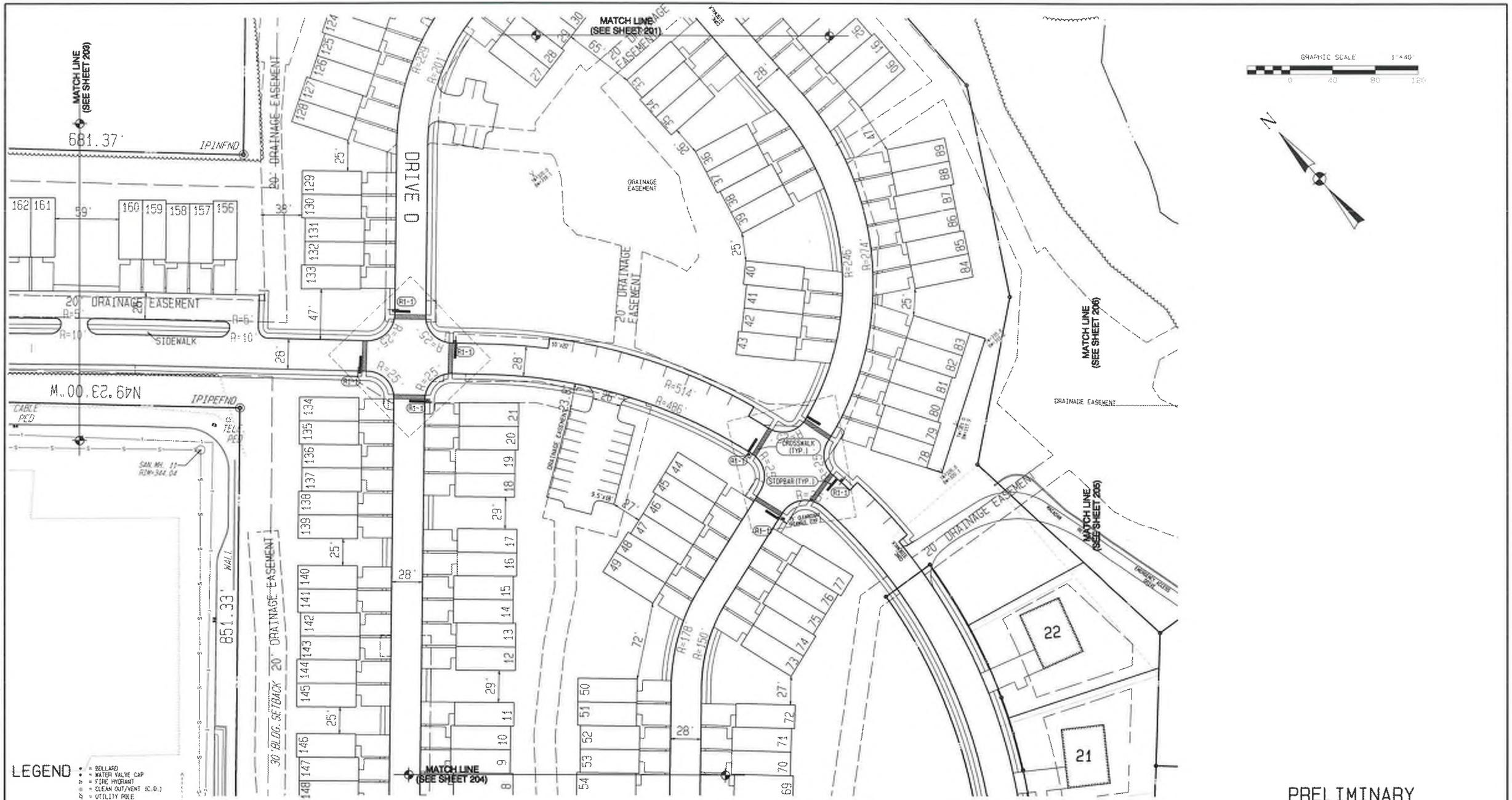
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=40'	SEE ABOVE		D-7602015	SHEET 3 OF 82

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-25-21	
#4 WAH	04-28-21	
#3 WAH	12-05-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19



LEGEND :

- BOLLARD
- WATER VALVE CAP
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- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
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- EXIST. SANITARY SEWER LINE
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- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

PROPOSED FEATURES

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- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
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PSR 6-30-16			#20231820 5-23-23	C:\work\Gambone\GAMBONE-HOLLY-PRELIMINARY.DWG

SCALE	TAX MAP PARCEL	DRAWING NUMBER
1"=40'	SEE ABOVE	D-7602015 SHEET 4 OF 10

REVISION	DATE	DESCRIPTION
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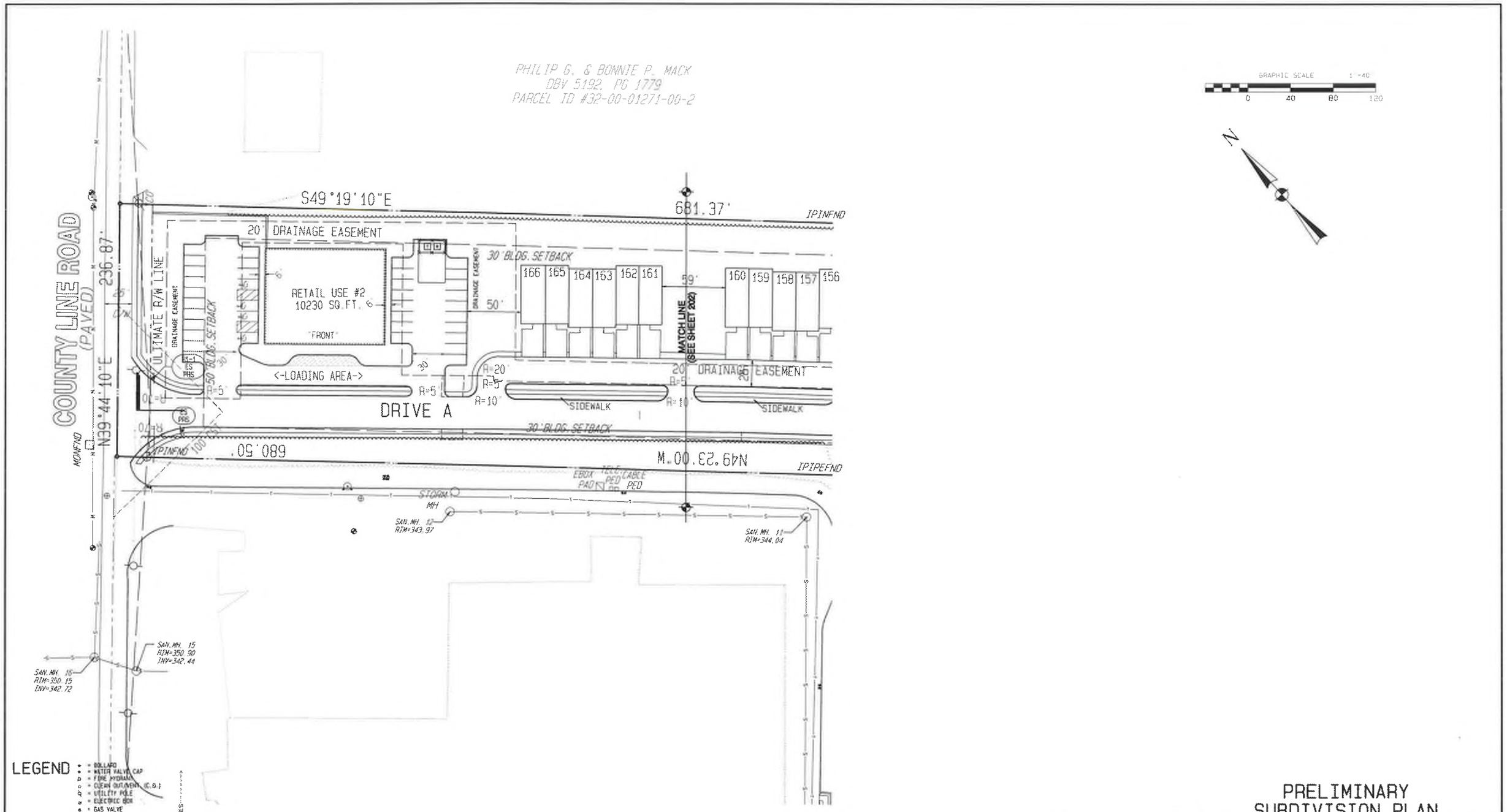
#5 WAM	08-23-21	
#4 WAM	04-28-21	
#3 WAM	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAM	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAM	09-17-19	GILMORE REVIEW OF 04-19-19



REVISION	DATE	DESCRIPTION
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#4 WAH	04-28-21	
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PSA 6-30-16			PO21885 5-23-17	[illegible]
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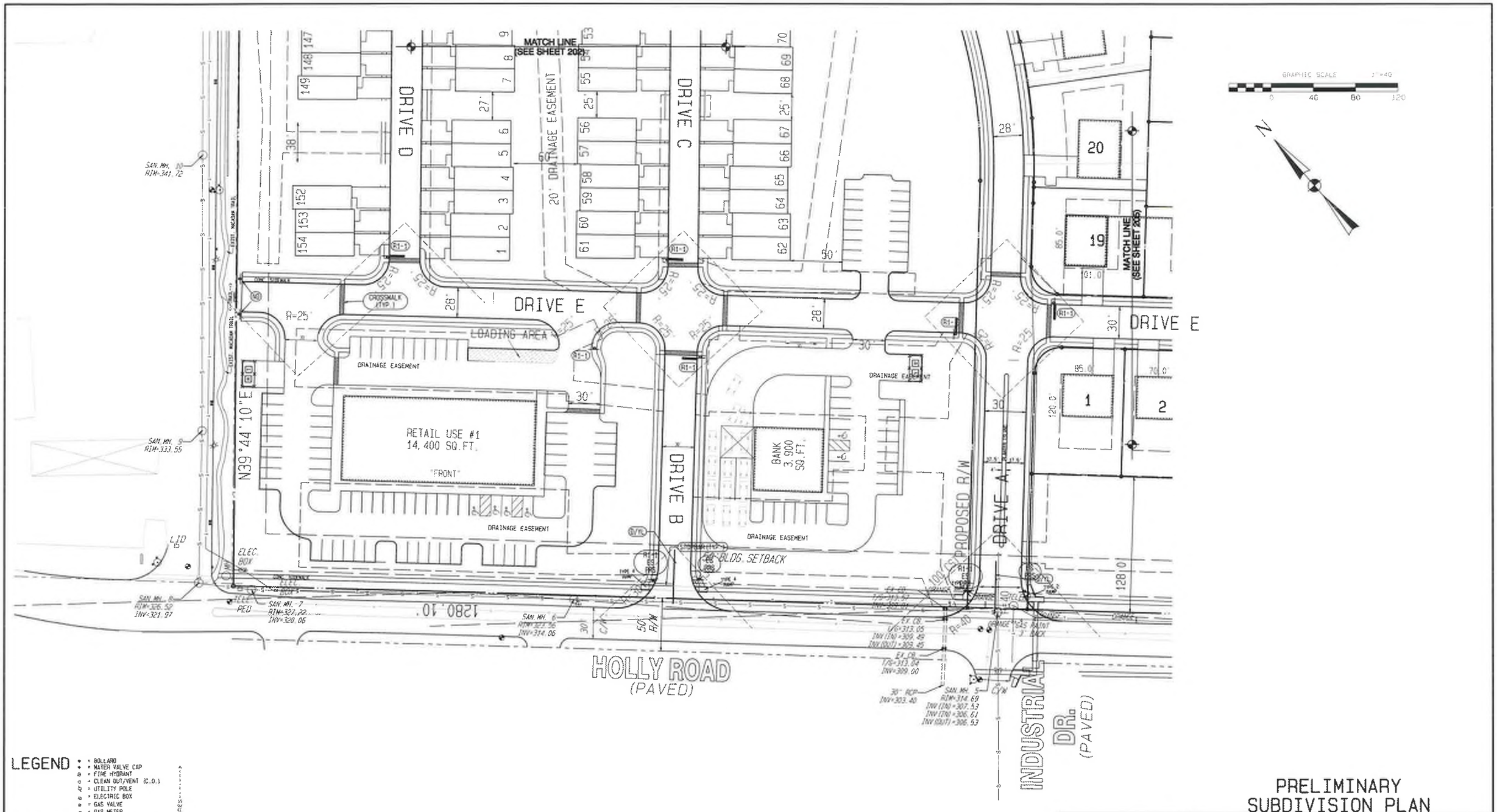
1"=40	SEE ABOVE		D-7802015 SHEET 5 OF 82	



LEGEND

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#4 WAH	04-28-21	
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#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
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SITUATE IN:
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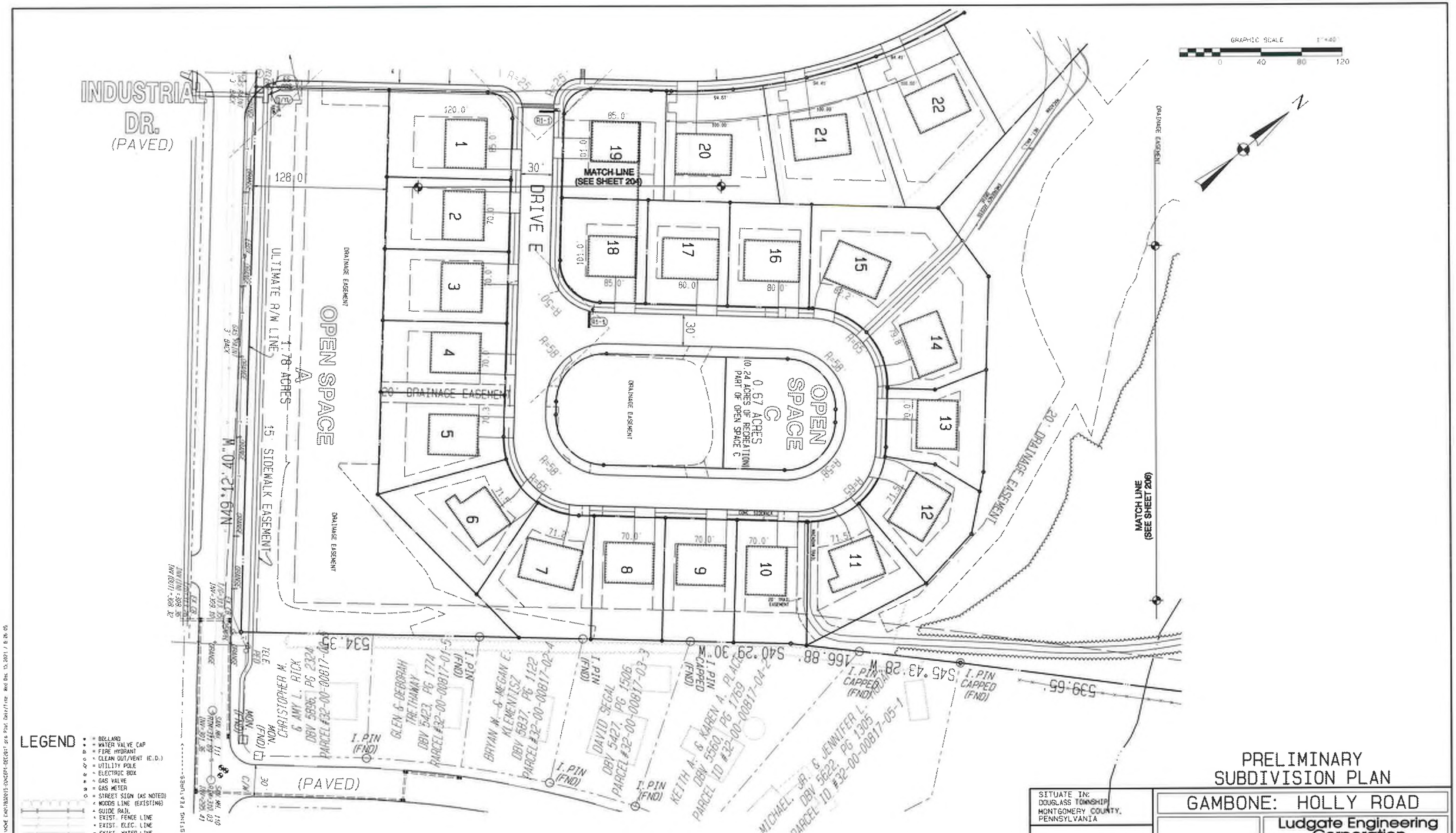
SCALE 1"=40'	TAX MAP PARCEL SEE ABOVE			DRAWING NUMBER D-7802015 SHEET 6 OF 10



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PER 8-30-16			10/13/20 1-27-21	C:\Work\Gambone\D-78020
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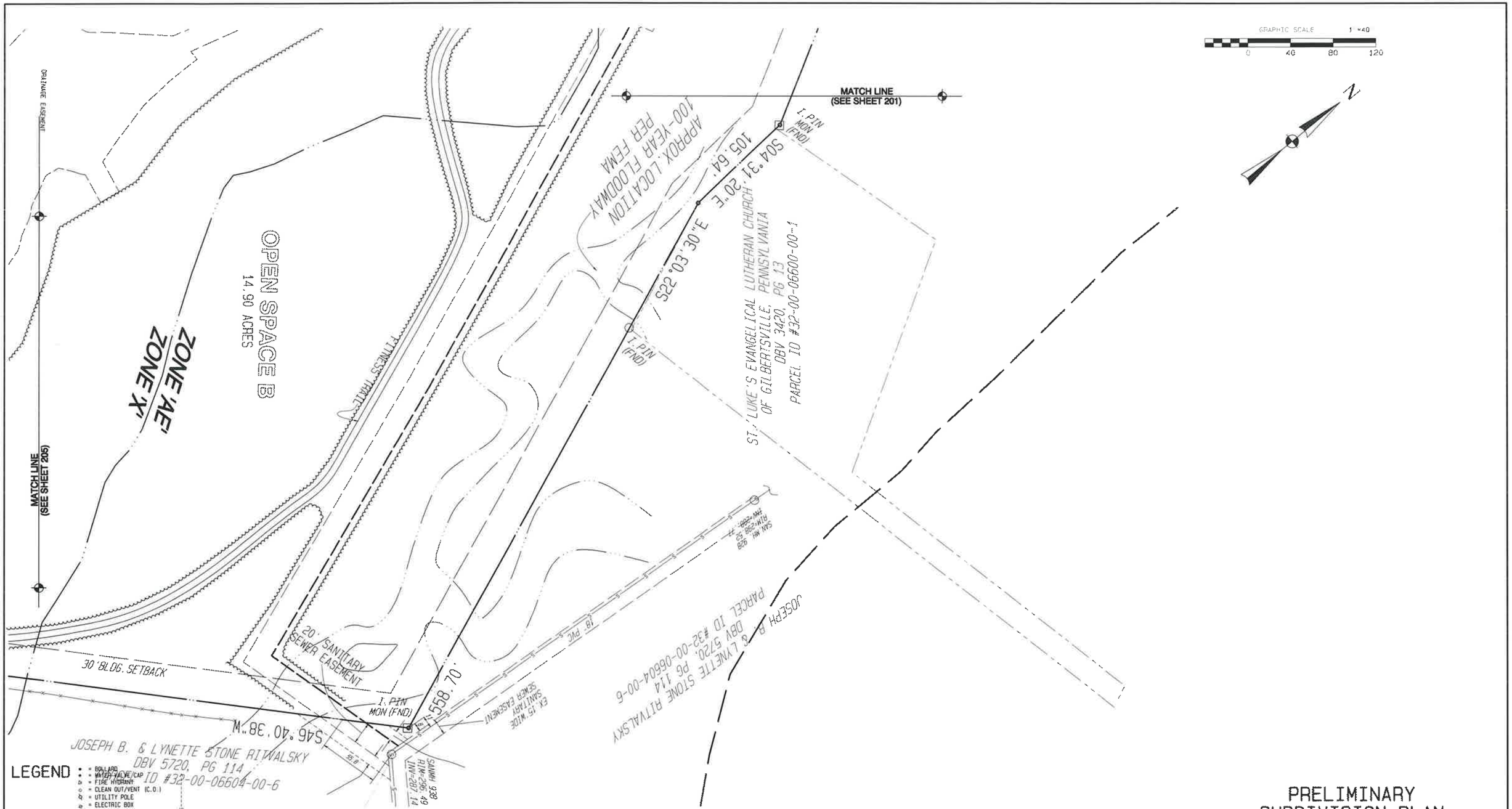
1"=40'	SEE ABOVE		D-78020-15 SHEET 1 OF 82	

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19



PRELIMINARY SUBDIVISION PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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ENVIRONMENTAL SCIENTISTS
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1"=40'	SEE ABOVE		D-7802015	SHEET 8 OF 82

REVISION	DATE	DESCRIPTION
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#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-18-19

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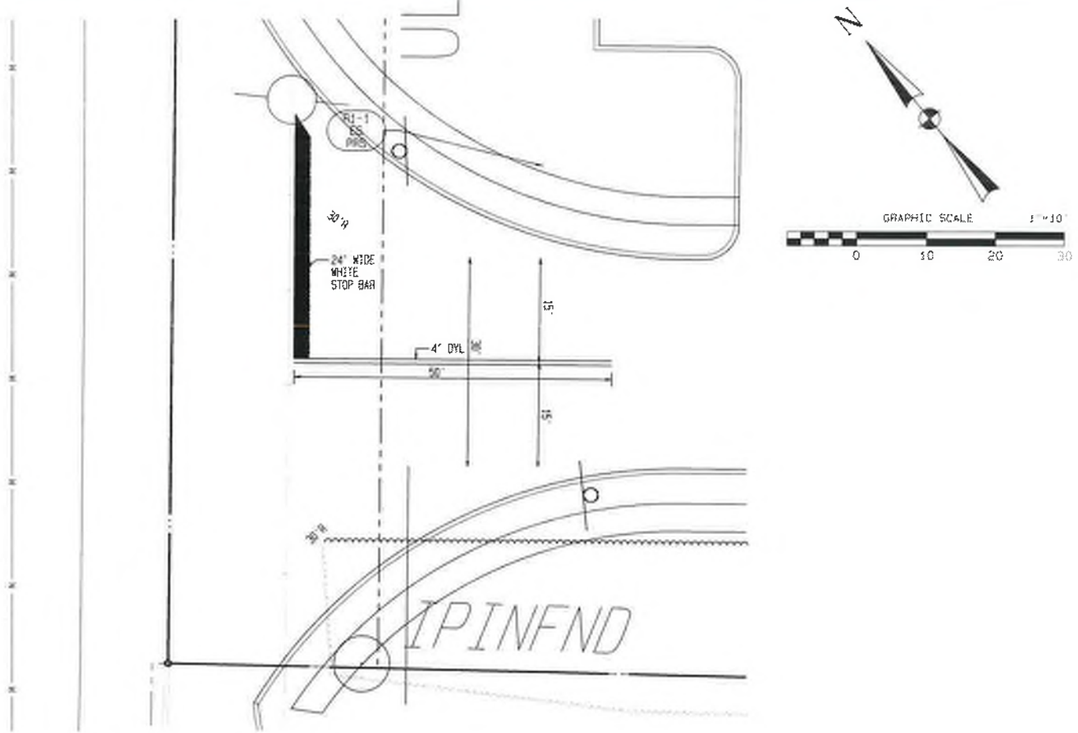

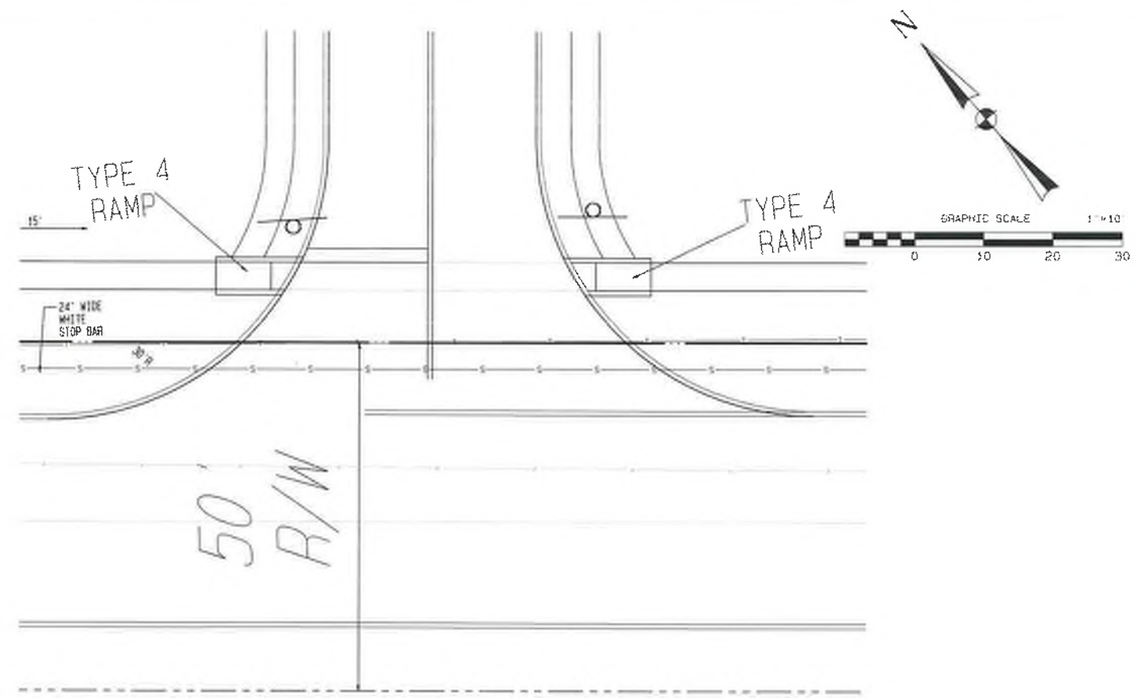

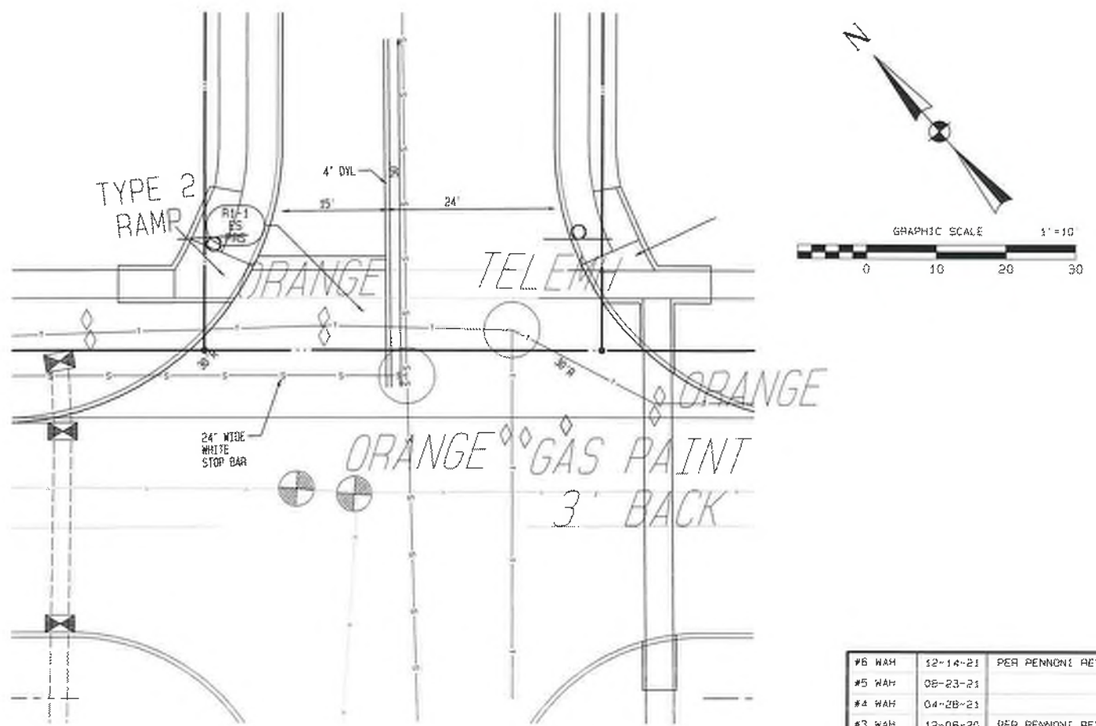

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

PRELIMINARY STREET INTERSECTIONS SUBDIVISION PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1" = 10'	SEE ABOVE		D-7802015	SHEET 5 OF 82

REVISION	DATE	DESCRIPTION
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#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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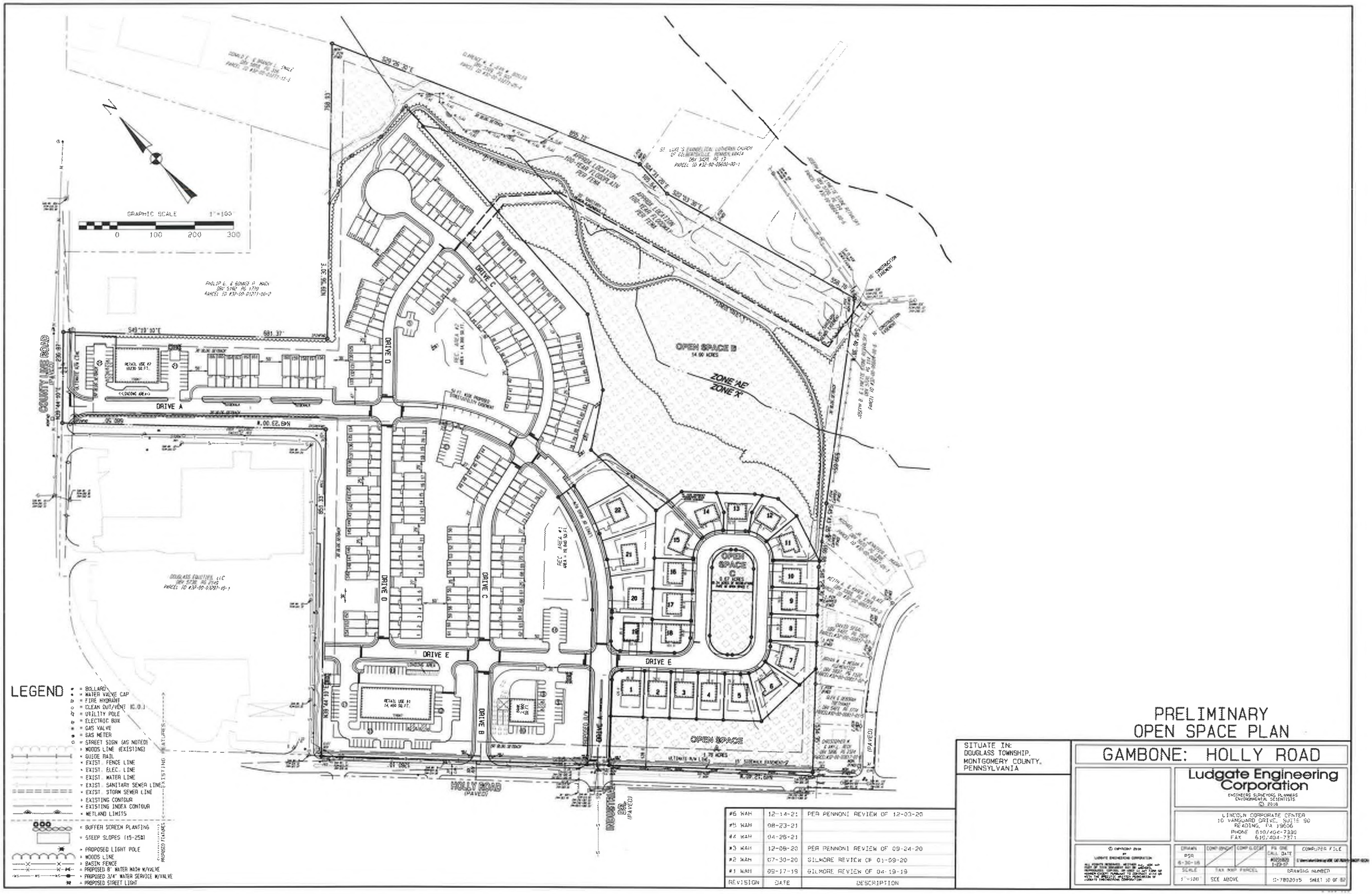

REVISION	DATE	DESCRIPTION
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#4 WAH	04-26-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

PRELIMINARY OPEN SPACE PLAN

GAMBONE: HOLLY ROAD

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DRAWN	COMP ENGINEER	COMP CLERK	PL SHEET CALL DATE	COMPUTER FILE
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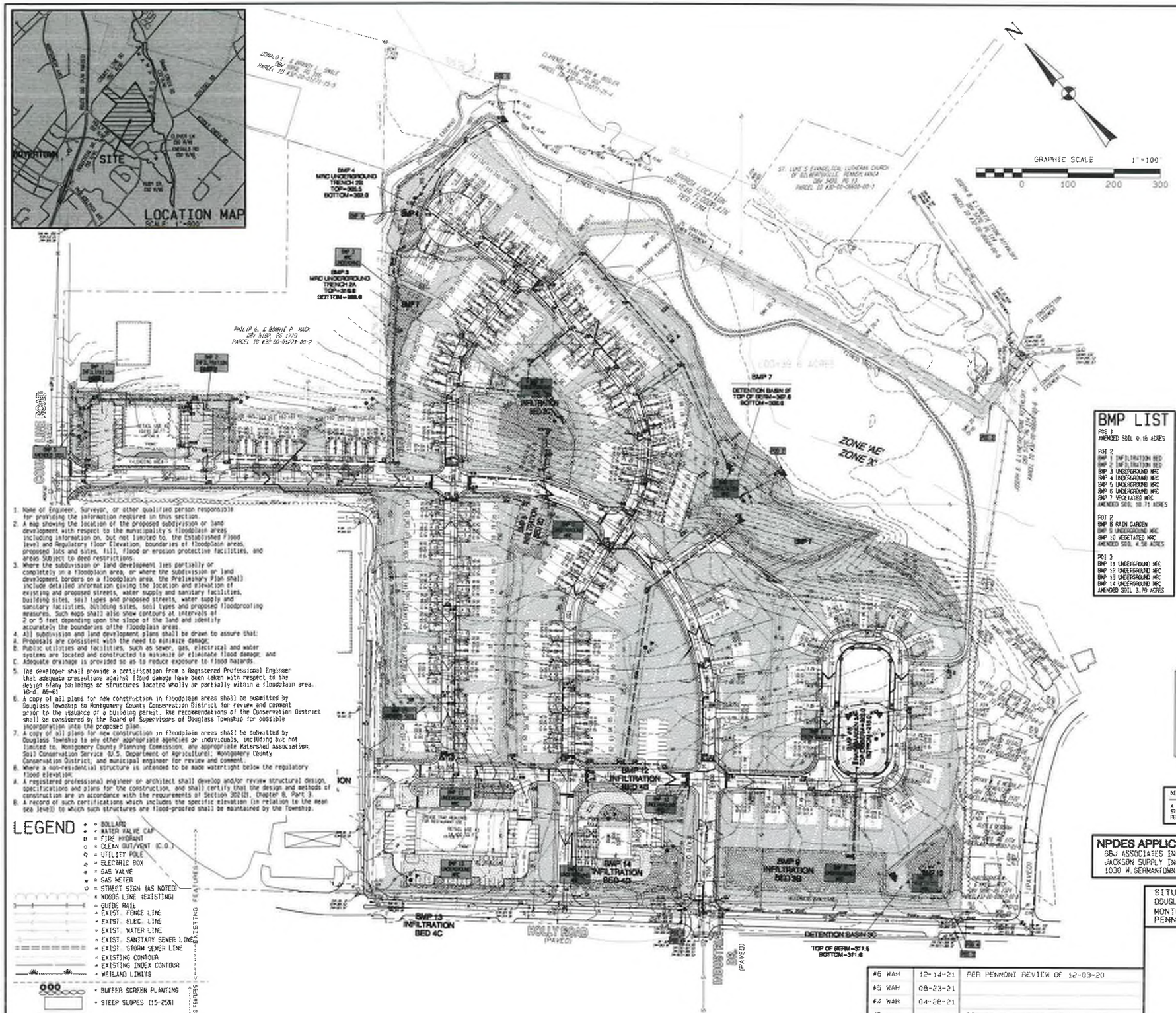
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100'	SEE ABOVE		0-7802015	SHEET 10 OF 12



1. Name of Engineer, Surveyor, or other qualified person responsible for providing the information required in this section.
2. A map showing the location of the proposed subdivision or land development with respect to the municipality's floodplain areas including information on, but not limited to, the Established Flood level and Regulatory floor Elevation, boundaries of floodplain areas, proposed lots and sites, fill, flood or erosion protective facilities, and areas Subject to deed restrictions.
3. Where the subdivision or land development lies partially or completely in a floodplain area, or where the subdivision or land development borders on a floodplain area, the Preliminary Plan shall include detailed information giving the location and elevation of existing and proposed streets, water supply and sanitary facilities, building sites, soil types and proposed streets, water supply and sanitary facilities, building sites, soil types and proposed floodproofing measures. Such maps shall also show contours at intervals of 2 or 5 feet depending upon the slope of the land and identify accurately the boundaries of the floodplain areas.
4. All subdivision and land development plans shall be drawn to assure that:
   A. Proposals are consistent with the need to minimize damage;
   B. Public utilities and facilities, such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood damage; and
   C. Adequate drainage is provided so as to reduce exposure to flood hazards.
5. The Developer shall provide a certification from a Registered Professional Engineer that adequate precautions against flood damage have been taken with respect to the design of any buildings or structures located wholly or partially within a floodplain area. (Ord. 86-6)
6. A copy of all plans for new construction in floodplain areas shall be submitted by Douglass Township to Montgomery County Conservation District for review and comment prior to the issuance of a building permit. The recommendations of the Conservation District shall be considered by the Board of Supervisors of Douglass Township for possible incorporation into the proposed plan.
7. A copy of all plans for new construction in floodplain areas shall be submitted by Douglass Township to any other appropriate agencies or individuals, including but not limited to, Montgomery County Planning Commission; any appropriate Watershed Association; Soil Conservation Service U.S. Department of Agriculture; Montgomery County Conservation District; and municipal engineer for review and comment.
8. Where a non-residential structure is intended to be made watertight below the regulatory flood elevation:
   A. A registered professional engineer or architect shall develop and/or review structural design, specifications and plans for the construction, and shall certify that the design and methods of construction are in accordance with the requirements of Section 302(2), Chapter 8, Part 3.
   B. A record of such certifications which includes the specific elevation (in relation to the mean sea level) to which such structures are flood-proofed shall be maintained by the Township.

LEGEND :

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS
- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)
- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

EXISTING FEATURES

EXISTING SIGNAGE

BMP LIST

POI 1
AMENDED SOIL 0.16 ACRES

POI 2
BMP 1 INFILTRATION BED
BMP 2 INFILTRATION BED
BMP 3 UNDERGROUND MRC
BMP 4 UNDERGROUND MRC
BMP 5 UNDERGROUND MRC
BMP 6 UNDERGROUND MRC
BMP 7 VEGETATED MRC
AMENDED SOIL 10.71 ACRES

POI 2
BMP 8 RAIN GARDEN
BMP 9 UNDERGROUND MRC
BMP 10 VEGETATED MRC
AMENDED SOIL 4.58 ACRES

POI 3
BMP 11 UNDERGROUND MRC
BMP 12 UNDERGROUND MRC
BMP 13 UNDERGROUND MRC
BMP 14 UNDERGROUND MRC
AMENDED SOIL 3.79 ACRES

Soils on site are:

AbB - Abbottstown silt loam, 3-8% slopes
Bo - Bowmansville-Hatboro silt loams
CrA - Croton silt loam, occasionally ponded, 0-3% slopes
FeB - Penn silt loam, 3-8% slopes
PaD - Penn-Klinesville channery silt loams, 15-25% slopes
RaA - Ramtan silt loam, 0-3% slopes
RaB - Ramtan silt loam, 3-8% slopes
RnB - Readsville silt loam, 3-8% slopes
UuAB - Urban land-Abbottstown, shale and sandstone complex, 0-8% slopes

SOIL LIMITATIONS	SOIL RESOLUTIONS	AbB	Bo	CrA	FeB	PaD	RaA	RaB	RnB	UuAB
Hydric/Hydric inclusions	Avoidance, pumped water filter bags, trench plugs		X	X			X			
Depth to Saturated Zone/Seasonal High Water Table	Pumped water filter, footer drains	38cm	0cm	46cm	>200cm	>200cm	53cm	53cm	53cm	>200cm
Depth to Restrictive Layer	Test to determine depth, design for conditions	51cm	25-76cm	48cm	56cm	86cm	68cm	38cm	81cm	169cm
Cutbanks Cave	Laybacks slopes follow OSHA rules for safety	X	X	X	X	X	X	X	X	X
Corrosion to Concrete/Steel	Corrosive resistant concrete - protective barrier between water and the steel - galvanized steel	C/S	C/S	C/S	C	C	C/S	C/S	C/S	C/S
Droughty	Compost mix to hold in moisture				X	X			X	X
Easily Erodible	Maintain erosion control BMPs	X		X					X	X
Flooding	Layback slopes/design for conditions		X							
Low Strength/Landslide Prone	Drainage ditch pumped water filter bag	X	X	X	X	X				X
Slow Percolation	Maintain erosion control BMPs	X	X	X			X	X	X	X
Piping	Trench plugs	X	X	X	X	X	X	X	X	
Poor Source of Topsoil	Avoid reuse as topsoil or amend as necessary	X	X	X	X	X	X	X	X	X
Frost Action	Construct below frost depths/positive subgrade	X	X	X	X	X	X	X	X	X
Ponding	Design for conditions drainage trenches, pumped water filter bag, sump pumps, footer drains			X						
Wetness	Trench plugs	X	X	X		X	X	X	X	

FOR SAFETY: Keep the following items in mind

In the event groundwater is encountered, the contractor shall employ measures of the pumped water details as shown on the plan

If bedrock is encountered, notify Design Engineer immediately. Changes may need to occur to the plan. The conservation district must be informed of any changes

Excavation walls may be unstable. Contractor shall always ensure that proper shoring methods and OSHA safety procedures are utilized to keep workers safe

Contractor must ensure that areas that have been disturbed will be immediately stabilized with erosion control blanket, stone or whatever is called out in the construction sequence. Keep hay bales on readiness for emergencies

LANDOWNER STORMWATER ACKNOWLEDGEMENT :

I, THE UNDERSIGNED ACKNOWLEDGE THAT THE STORMWATER CONTROLS AND BMPS ARE FIXTURES THAT CAN BE ALTERED OR REMOVED ONLY AFTER APPROVAL BY DOUGLASS TOWNSHIP.

SIGNATURE DATE

POST CONSTRUCTION STORMWATER MANAGEMENT STATEMENT :

I, THE UNDERSIGNED ACKNOWLEDGE THAT ANY REVISION TO THE APPROVED POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN MUST BE APPROVED BY THE DOUGLASS TOWNSHIP AND THE CONSERVATION DISTRICT AND ON BEP (IF GREATER THAN 1 ACRE OF LAND DISTURBANCE) AND THAT A REVISED EROSION AND SEDIMENT CONTROL PLAN MUST BE SUBMITTED TO THE CONSERVATION DISTRICT FOR A DETERMINATION OF ADEQUACY

SIGNATURE DATE

DESIGN ENGINEER CERTIFICATION

I, _____, on this date _____, 20____, hereby certify that the drainage plan meets all design standards and criteria of the Douglass Township Stormwater Management Ordinance.

SIGNATURE DATE

CONTRIBUTING PER UNIT RUNOFF VOLUME CALCULATION :

AVERAGE PER TOWNHOUSE UNIT = 1,900 SQ.FT.
AVERAGE PER SINGLE FAMILY UNIT = 3,290 SQ.FT.

NOTE :

A "RECORD DRAWING" (I.E., AS-BUILT PLANS) OF ALL STORMWATER MANAGEMENT FACILITIES SHALL BE REQUIRED

NPDES APPLICANT :
BBJ ASSOCIATES INC. &
JACKSON SUPPLY INC.
1030 W. GERMANTOWN PIKE

PRELIMINARY POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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REVISION	DATE	DESCRIPTION
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#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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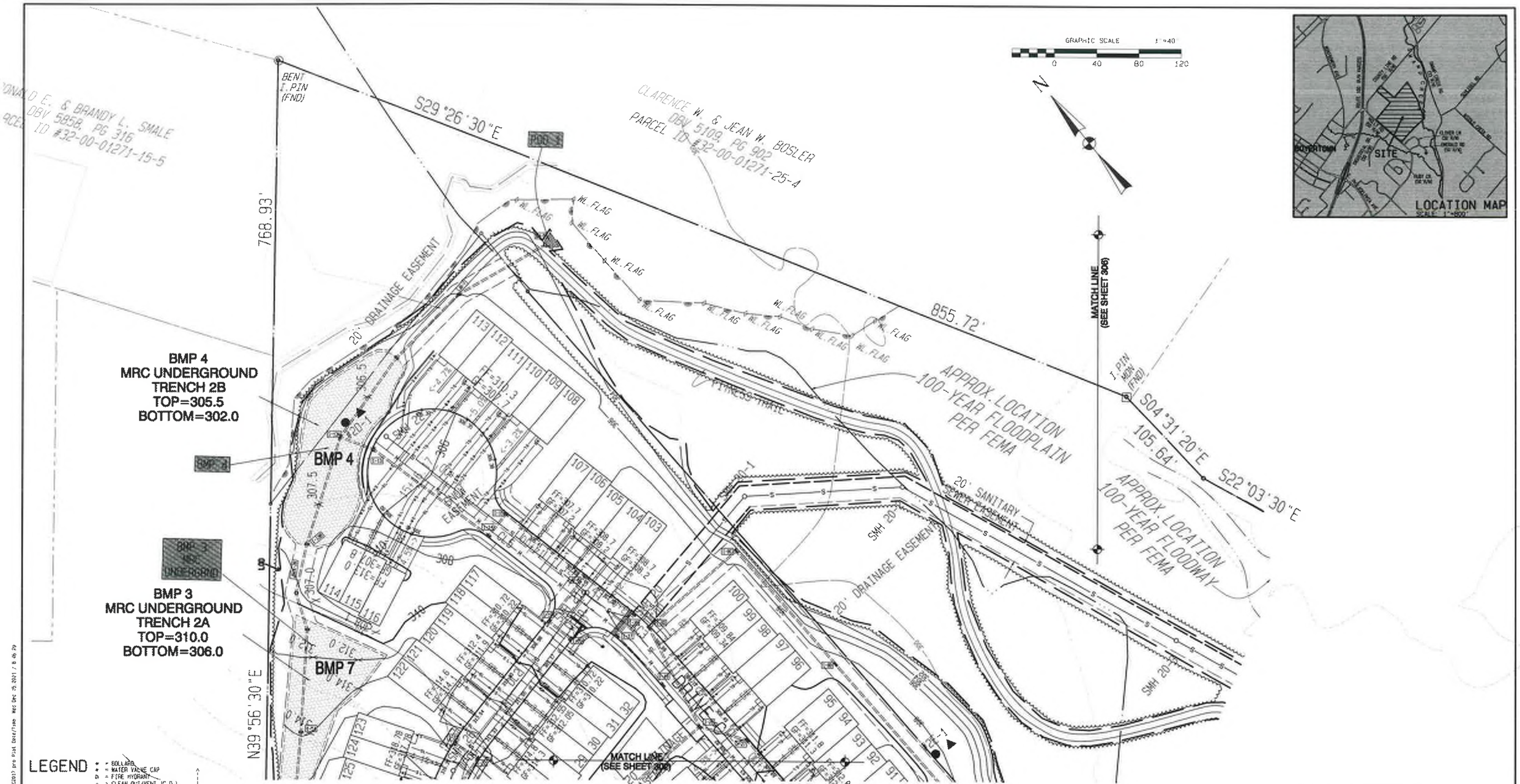

PRELIMINARY PCSM/UTILITY & GRADING PLAN

GAMBONE: HOLLY ROAD

NPDES APPLICANT:
GBJ ASSOCIATES INC. &
JACKSON SUPPLY INC.
1030 W.GERMANTOWN PIKE

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
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DRAWN	COMP ENGINEER	COMP S.STAF	PA ONE CALL DATE	COMPUTER FILE
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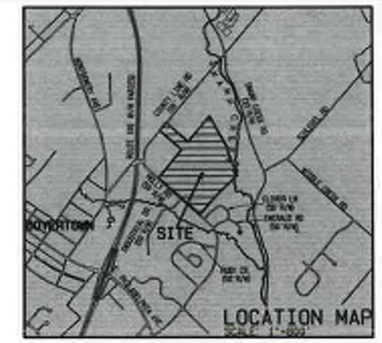
1"=40'	SEE ABOVE		D-7802015	SHEET 12 OF 60



GRAPHIC SCALE 1"=40'
0 40 80 120

N

LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
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- = STREET SIGN (AS NOTED)
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- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE

PROPOSED FEATURES

PRELIMINARY PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

NPDES APPLICANT :
GBZ ASSOCIATES INC. &
DAVISON STREET INC. 12-03-20
2030 W. GERMANTOWN PIKE

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

GAMBONE: HOLLY ROAD

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PSH 6-30-16			#20200 1-20-21	L:\Gambone\Holly Rd\0-7802015-SHEET 12 OF 60.dwg
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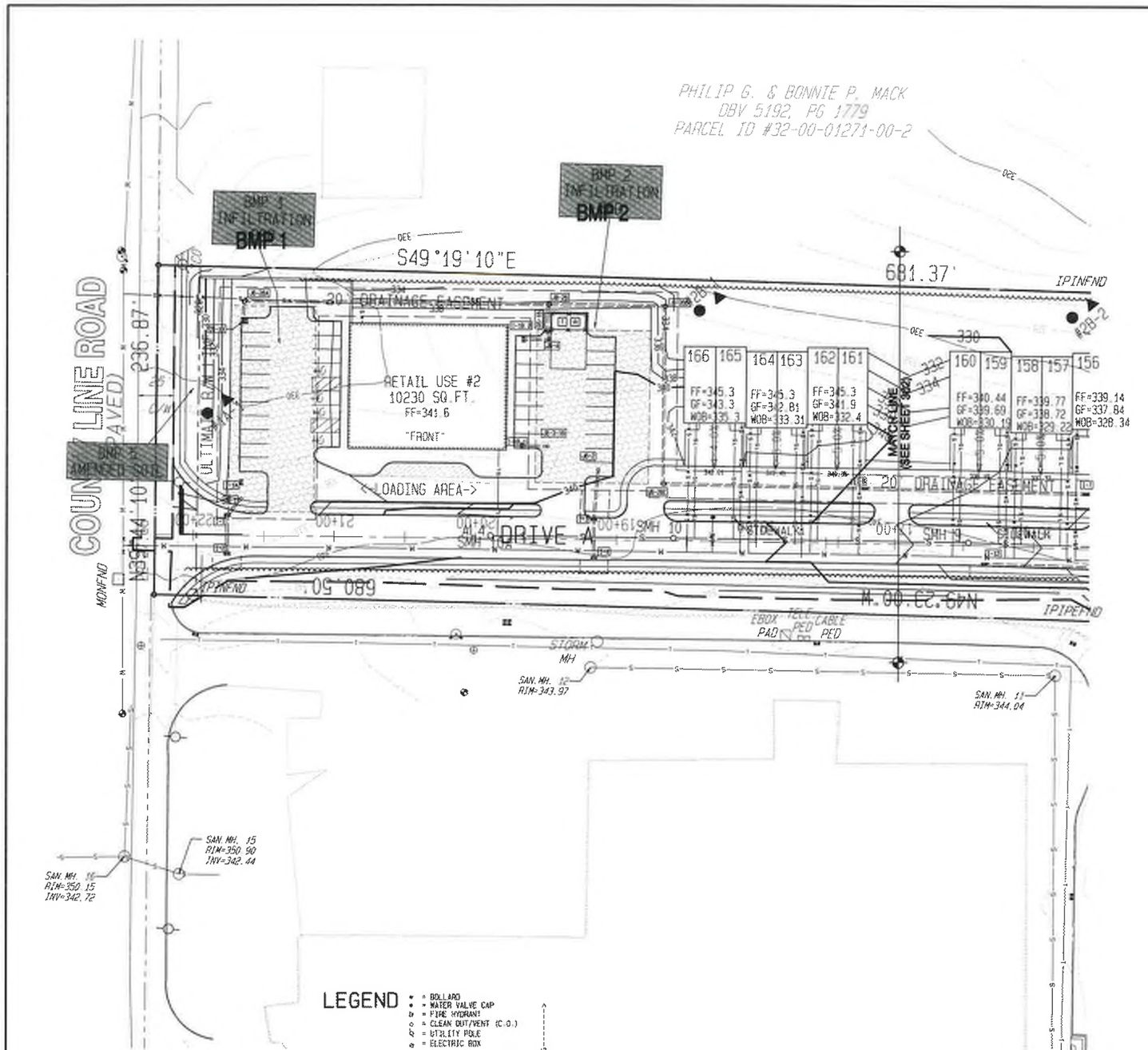

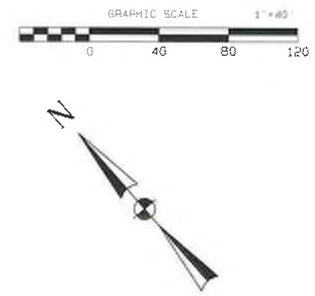

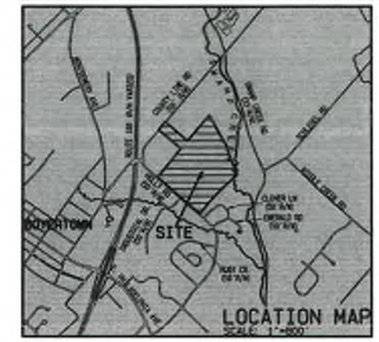

PRELIMINARY
PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

NPDES APPLICANT :
[illegible] 12-03-20
JOHNSON SUPPLY INC
1030 W. GERMANTOWN PIKE

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER [illegible]
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

GAMBONE: HOLLY ROAD

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PSH 6-30-16			#6213820 1-13-17	C:\Users\wahrens\AppData\Local\Temp\AcPublish_12[illegible]\
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1"=40'	SEE ABOVE		0-7002015	SHEET 14 OF 82

Project Disc. Path: C:\Users\wahrens\Desktop\WORK (KEY)\7002015-CONCEPT-DECEMBER\ Pre Plat Data\Line Wed Dec 15, 2021 / 8:20 AM

BMP 11
INFILTRATION
BED 4A

BMP 12
INFILTRATION
BED 4B

BMP 13
INFILTRATION
BED 4C

BMP 14
INFILTRATION
BED 4D

MATCH LINE (SEE SHEET 302)

DRIVE E

DRIVE D

DRIVE C

DRIVE A

PROPOSED R/W

DRAINAGE EASEMENT

PARKING AREA

GREASE TRAP REQUIRED FOR RESTAURANT USE

RETAIL USE #1
14,400 SQ.FT.

BANK
3,900
SQ.FT.

BMP 11 UNDERGROUND MPC

BMP 12 UNDERGROUND MPC

BMP 13 UNDERGROUND MPC

BMP 14 UNDERGROUND MPC

BMP 23 UNDERGROUND SOIL

HOLLY ROAD
(PAVED)

INDUSTRIAL DR.
(PAVED)

LOCATION MAP

SITE

GRAPHIC SCALE 1"=40
0 40 80 120

N

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

PRELIMINARY
PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

NPDES APPLICANT:
GAMBONE DEVELOPMENT, LLC
1030 W. GERMANTOWN PIKE

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER [illegible] 12-03-20
#5 WAH	09-23-21	[illegible]
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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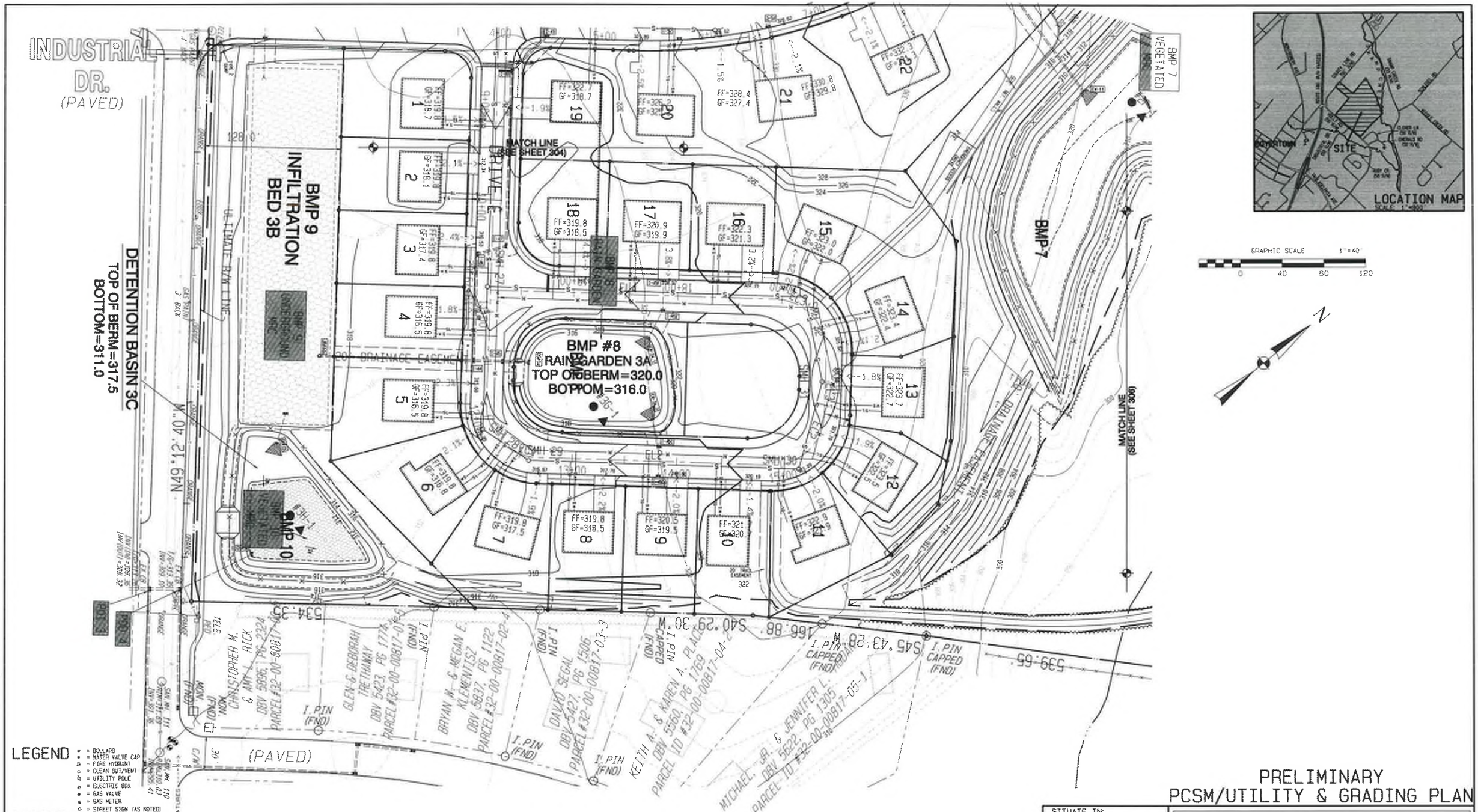
PSR 6-30-16				4031820 1-31-17	[illegible]

SCALE	TAX MAP PARCEL	DRAWING NUMBER
1"=40	SEE ABOVE	D-7802015 SHEET 16 OF 82



LEGEND :

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS
- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)
- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

EXISTING FEATURES

PROPOSED FEATURES

PRELIMINARY PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

NPDES APPLICANT :
DBV ASSOCIATES INC. &
GAMBONE STORE INC.
1030 W.GERMANTOWN PIKE

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	08-17-19	GILMORE REVIEW OF 04-19-19

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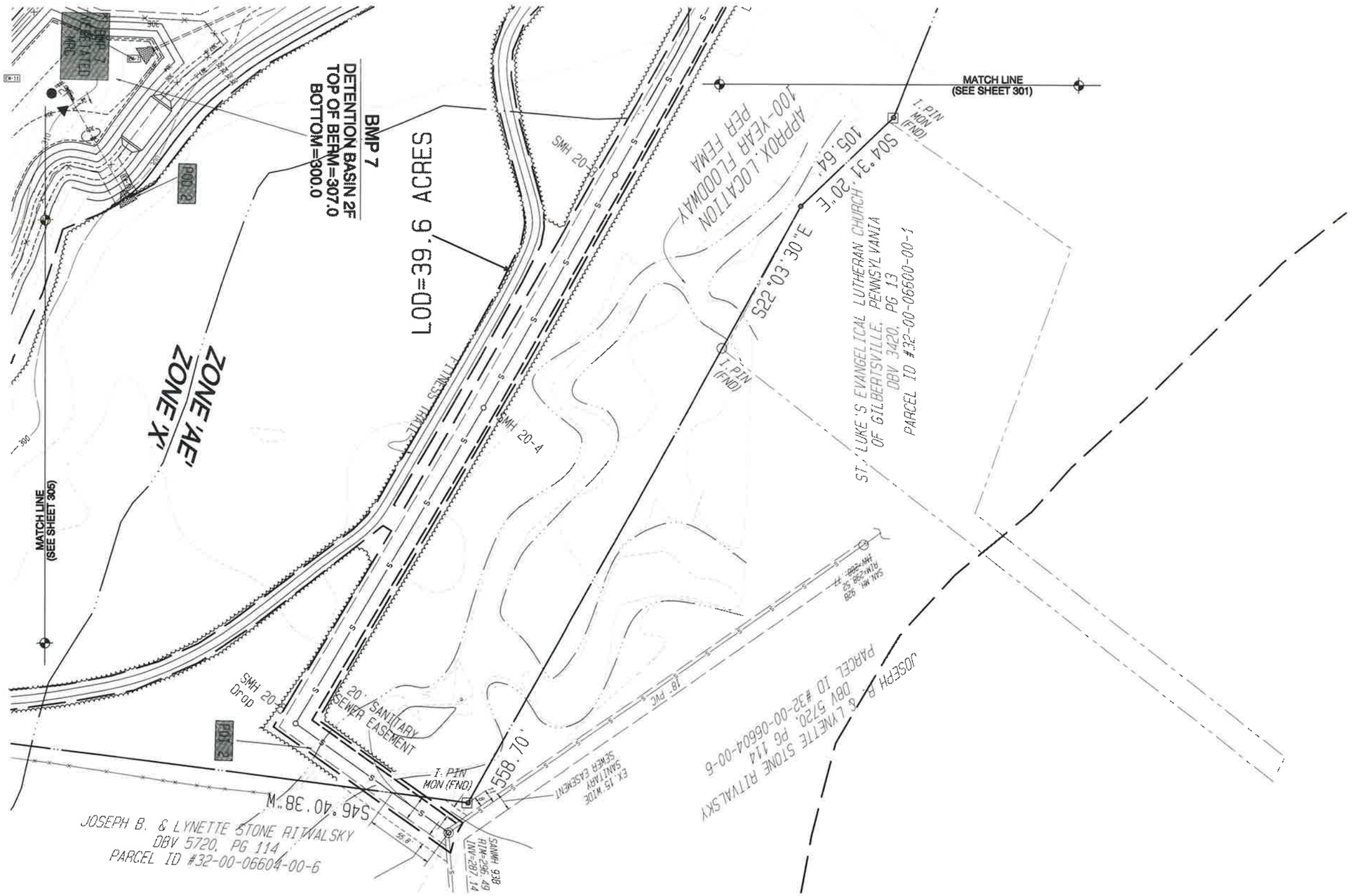
SCALE	FAX MAP PARCEL		DRAWING NUMBER	
1"=40'	SEE ABOVE		D-7802035	SHEET 16 OF 82



LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)
- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

PROPOSED FEATURES

PRELIMINARY
PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=40'	SEE ABOVE		D-7802015	SHEET 17 OF 82

NPDES APPLICANT :
DBV ASSOCIATES INC. &
JACKSON SURVEYING INC.
1030 W.GERMANTOWN PIKE

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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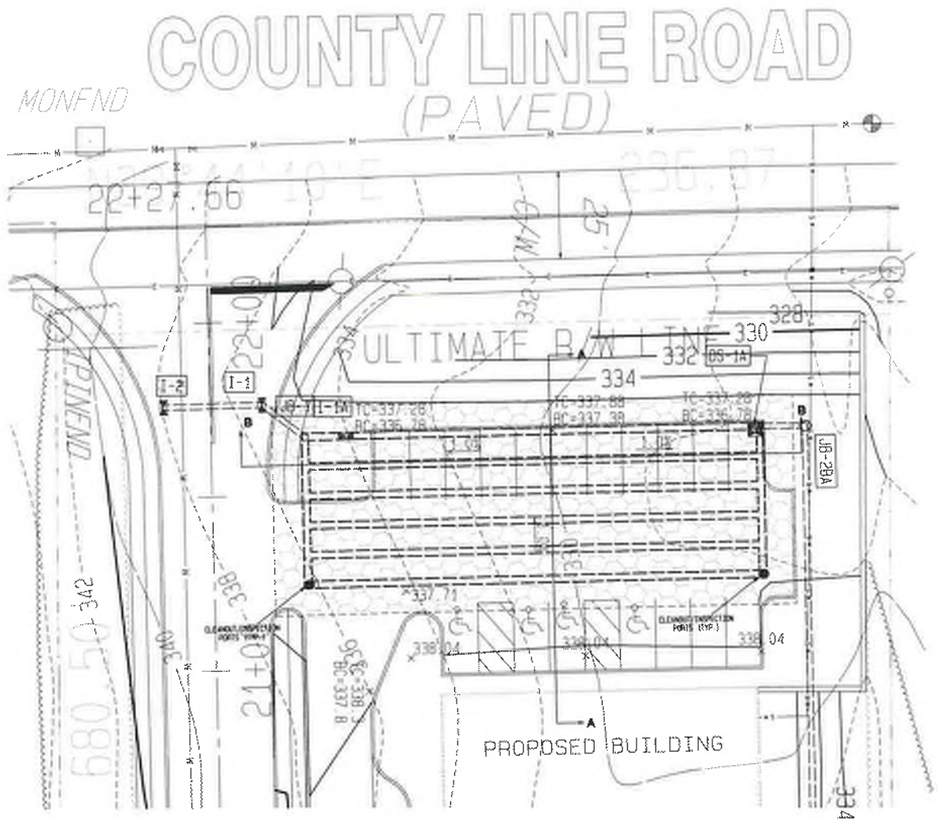
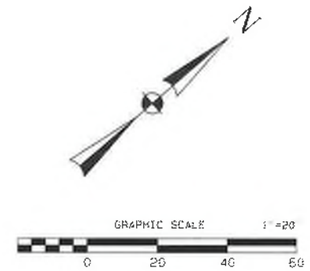




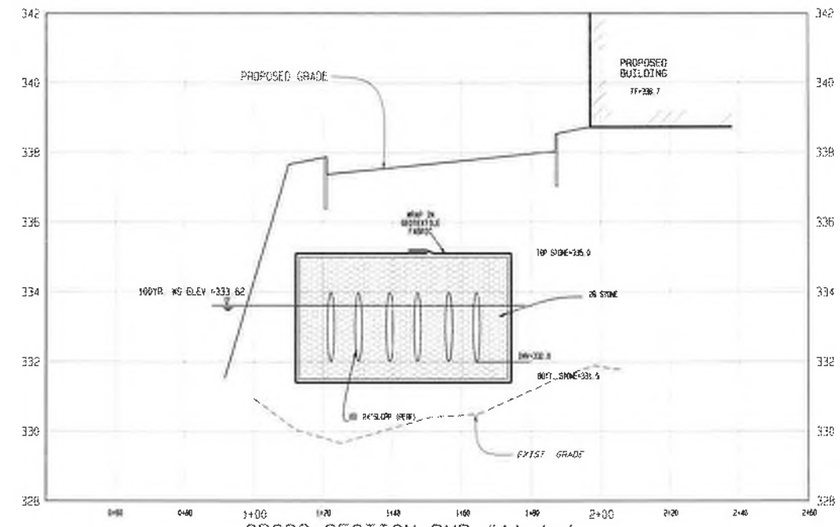
LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

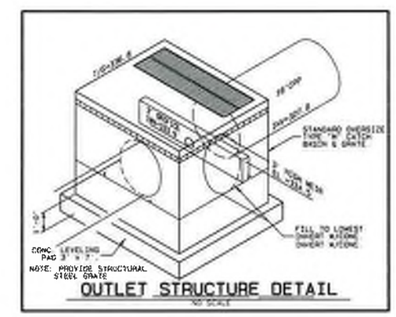
- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
- = PROPOSED STREET LIGHT

PROPOSED FEATURES



CROSS SECTION BMP #1A A-A

SCALE : VERT. 1"=2
HORIZ. 1"=20

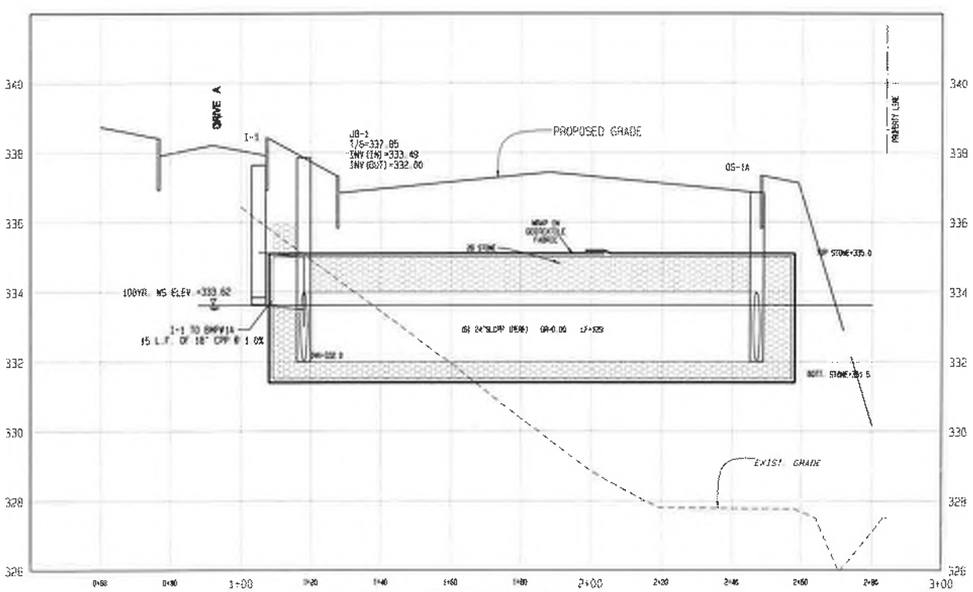


OUTLET STRUCTURE DETAIL

NO SCALE

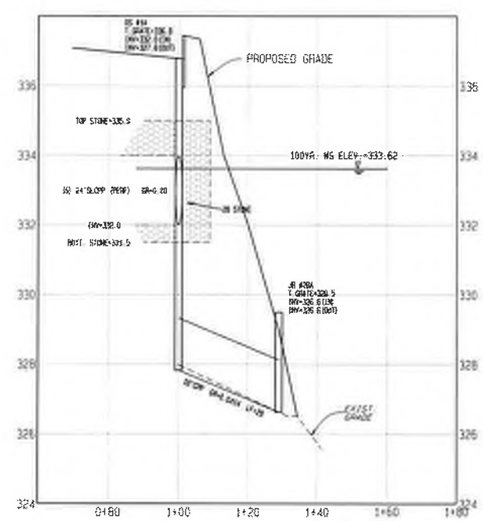
NOTE :

1. A "RECORD DRAWING" (I.E., AS-BUILT PLANS) OF ALL STORMWATER MANAGEMENT FACILITIES SHALL BE REQUIRED



CROSS SECTION BMP #1A B-B

SCALE : VERT. 1"=2
HORIZ. 1"=20



PROFILE BMP #1A OUTLET

SCALE : VERT. 1"=2
HORIZ. 1"=20

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

PRELIMINARY
BED #1A (BMP 1)
PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=20	SEE ABOVE		D-7802015	SHEET 18 OF 52

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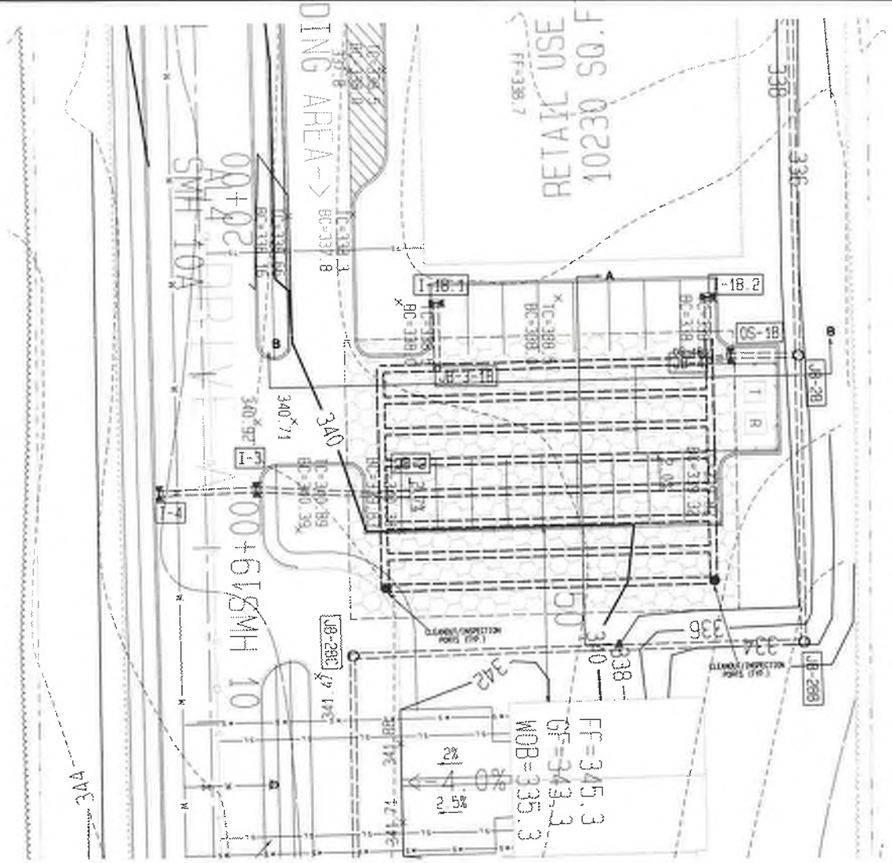
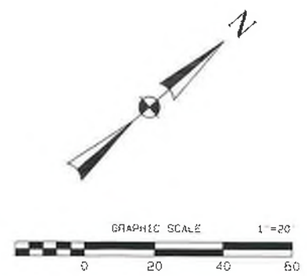
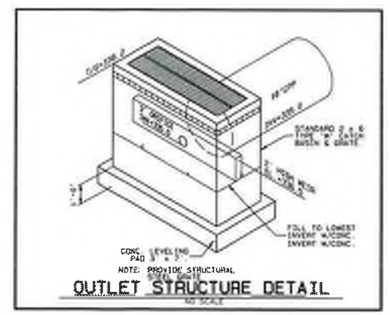


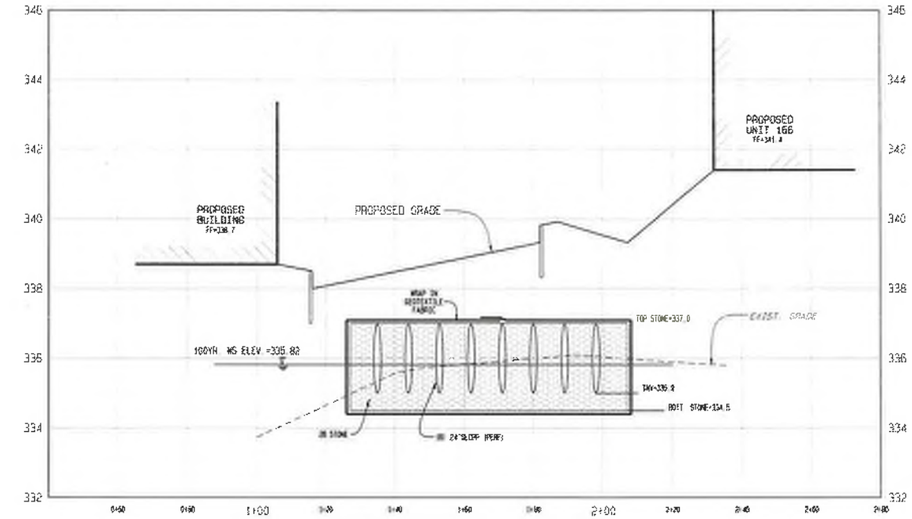


NOTE :

1. A "RECORD DRAWING" (I.E., AS-BUILT PLANS) OF ALL STORMWATER MANAGEMENT FACILITIES SHALL BE REQUIRED.

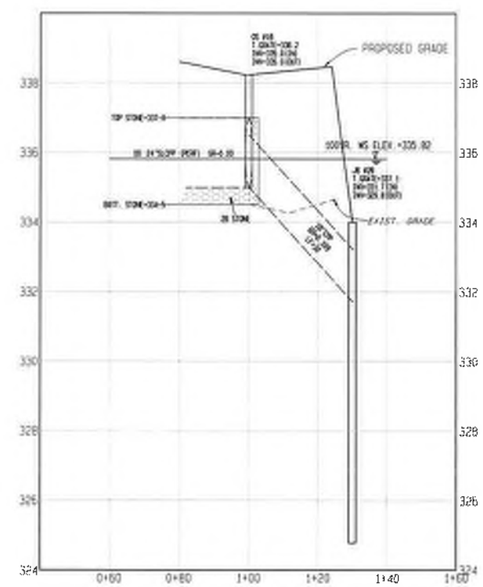


OUTLET STRUCTURE DETAIL



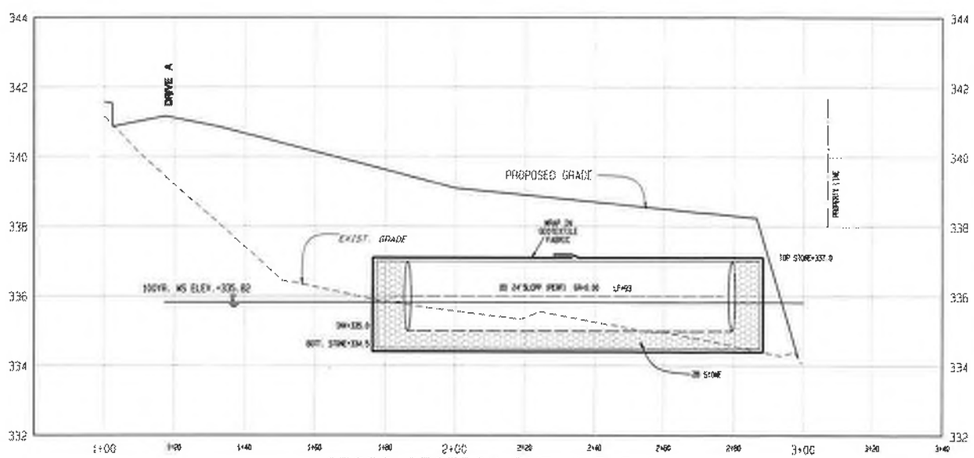
CROSS SECTION BMP #1B A-A

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



PROFILE BMP #1B OUTLET

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



CROSS SECTION BMP #1B B-B

SCALE : VERT. 1"=2'
HORIZ. 1"=20'

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

PRELIMINARY
BED #1B (BMP 2)
PCSM/UTILITY & GRADING PLAN

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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DRAWN	COMPUTED	COMPLETED	PA ONE CALL DATE	COMPUTER FILE
PGA 6-30-16			20210826 1-2-21	C:\Users\...
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
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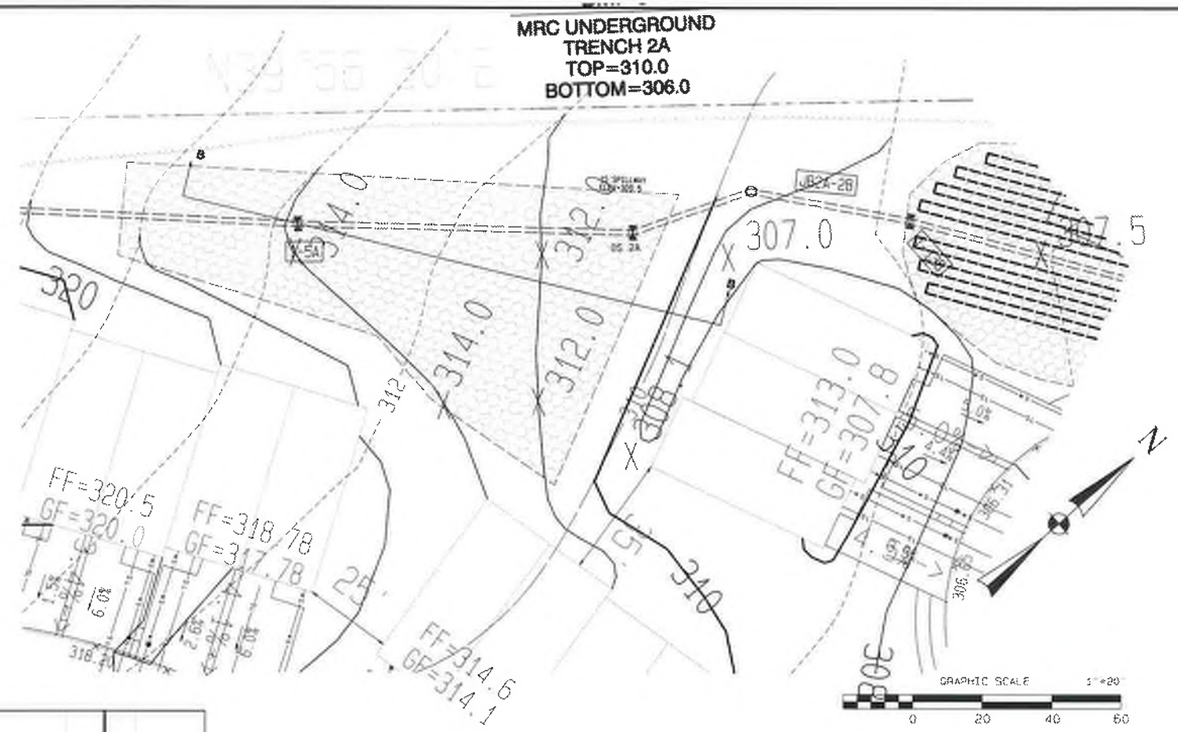
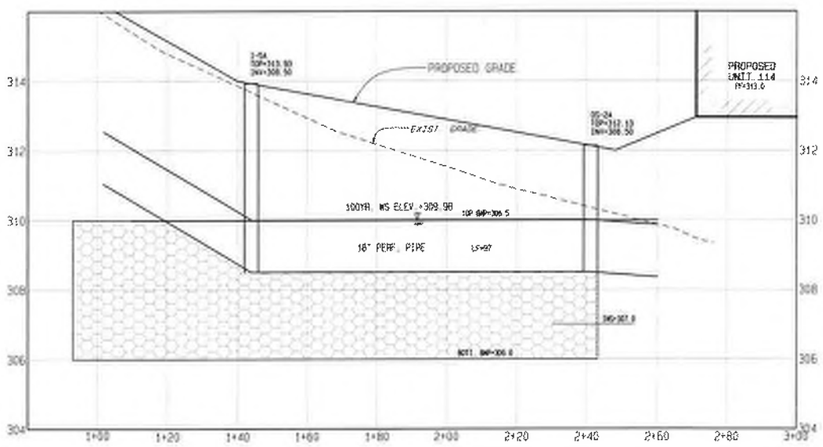
Project Name : Rain C:\Users\wahurd\Desktop\HOME CAD\7802015-GNC001-DEC2017.pro Plot Date/Time: Wed Dec 15,2021 / 9:19:36



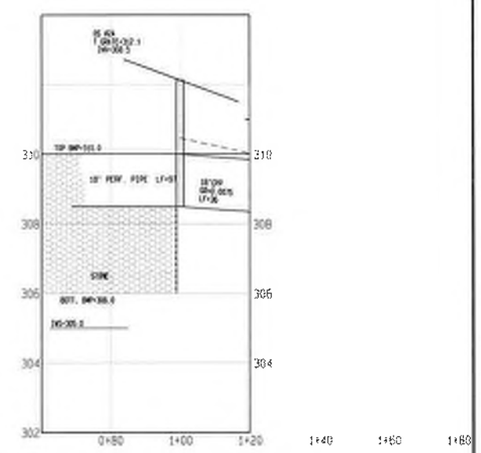
NOTE :

1. A "RECORD DRAWING" (I.E., AS-BUILT PLANS) OF ALL STORMWATER MANAGEMENT FACILITIES SHALL BE REQUIRED.



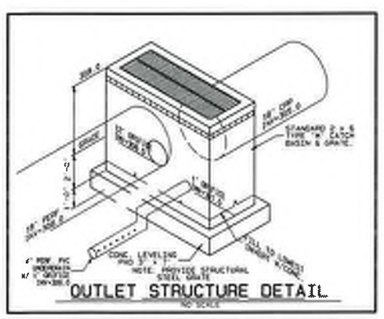
CROSS SECTION BMP #2A B-B

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



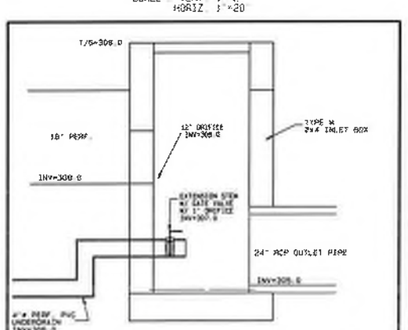
PROFILE BMP #2A OUTLET

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



OUTLET STRUCTURE DETAIL

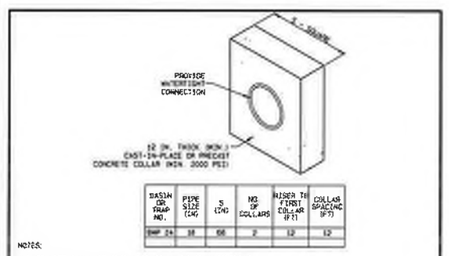
NO SCALE



UNDERDRAIN W/ VALVE DETAIL

NO SCALE

NOTE:
GATE VALVE TO REMAIN CLOSED AT ALL TIMES EXCEPT DURING MAINTENANCE AND/OR EMERGENCIES



BASIN OR TRAP NO.	PIPE SIZE (IN)	S (IN)	NO. OF COLLARS	RISER TO FIRST COLLAR (FT)	COLLAR SPACING (FT)
BMP 2A	16	66	2	12	12

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

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

NOT TO SCALE

LEGEND :

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED WATER MAIN W/FLUSH
- = PROPOSED STREET LIGHT

PROPOSED FEATURES

REVISION	DATE	DESCRIPTION
#6 WAH	10-14-21	PER PROPOSED STREET LIGHT W/ADDED
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

PRELIMINARY UNDERGROUND MRC #2A (BMP 3) PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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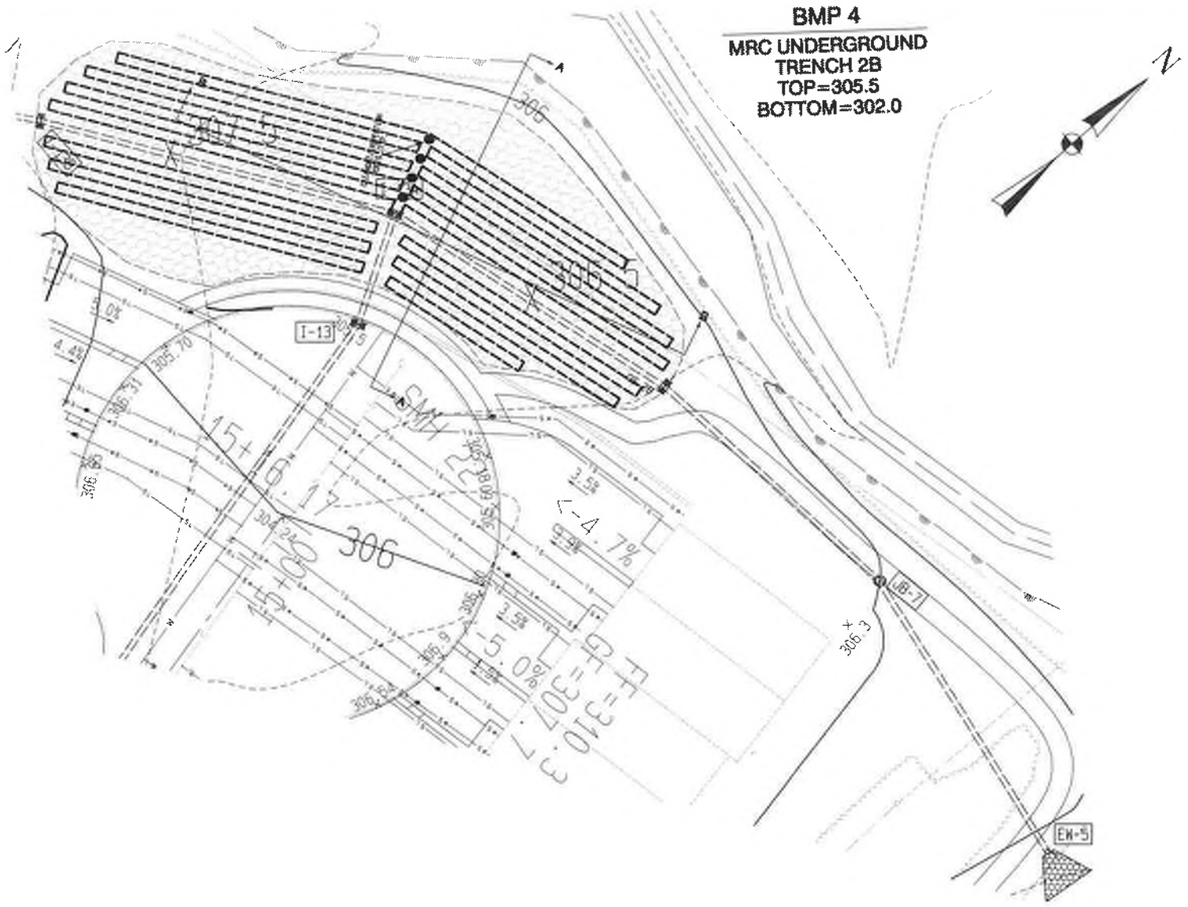
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=20'	SEE ABOVE		0-7802015	SHEET 20 OF 62

Project Desc: Path: C:\Users\wah\OneDrive\OneDrive - Ludgate Engineering Corporation\2015\0-7802015\CONCEPT\0-7802015 pcs Plot Date/Time: Wed Dec 15, 2021 / 8:14:38


BMP 4
MRC UNDERGROUND
TRENCH 2B
TOP=305.5
BOTTOM=302.0
N
I-13
JB-7
EW-5
306
305
304
306.3
15+80.17
50+
15+
L=47.7
3.5%
3.0%
4.4%
305.70
305.60
305.50
305.40
305.31
305.29
305.27
305.25
305.23
305.21
305.19
305.17
305.15
305.13
305.11
305.09
305.07
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305.01
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304.97
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304.91
304.89
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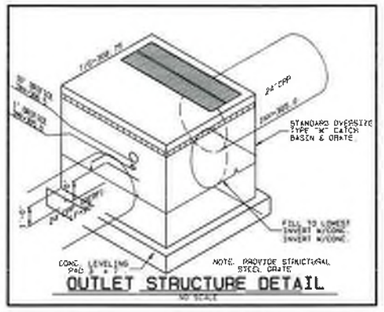
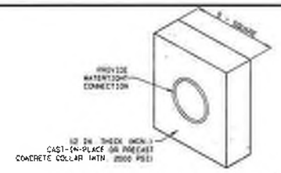
304.53



OUTLET STRUCTURE DETAIL

NO SCALE



BASIN OR TRAP NO.	PIPE SIZE (IN)	S (IN)	NO. OF COLLARS	MIN. DIST. TO FIRST COLLAR (FT)	COLLAR SPACING (FT)
BMP #1	24	72	2	12	12

NOTES:

ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.

COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

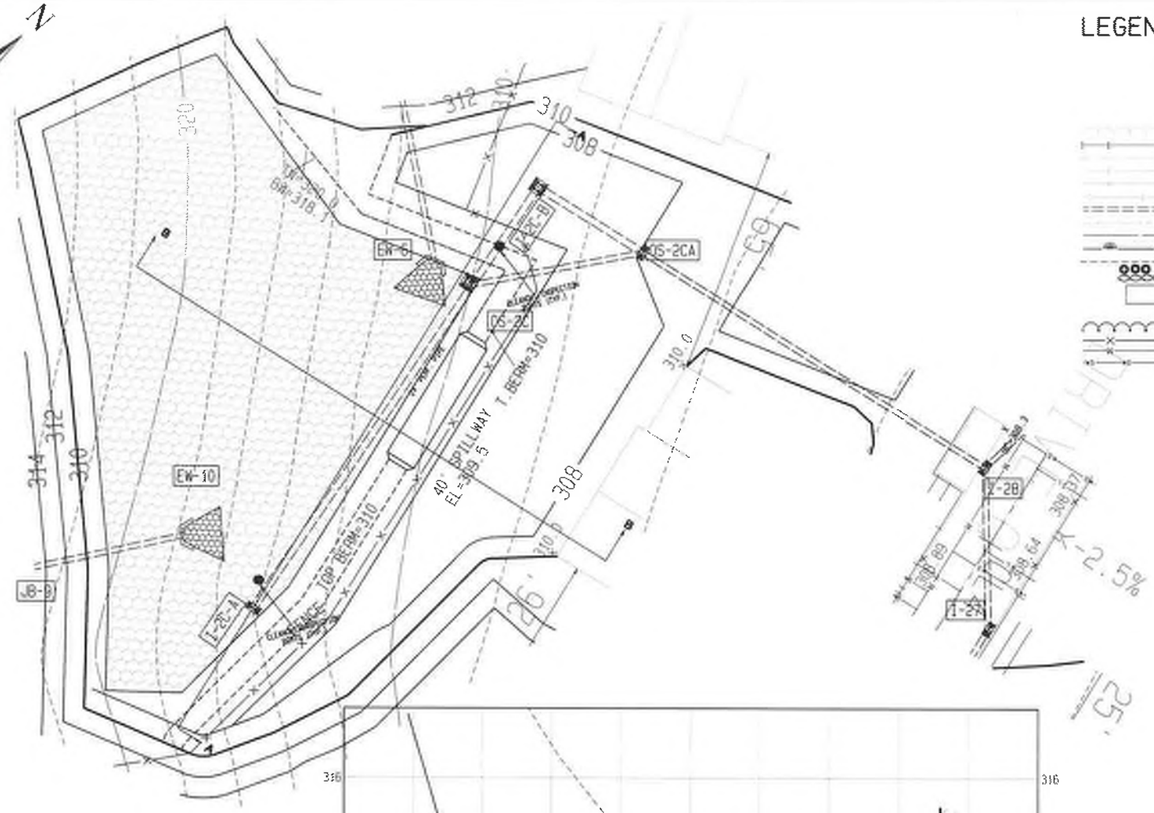
STANDARD CONSTRUCTION DETAIL #7-16
CONCRETE ANTI-SEEP COLLAR FOR
PERMANENT BASINS OR TRAPS

NOT TO SCALE

GRAPHIC SCALE 1"=20

0 20 40 60

N



LEGEND

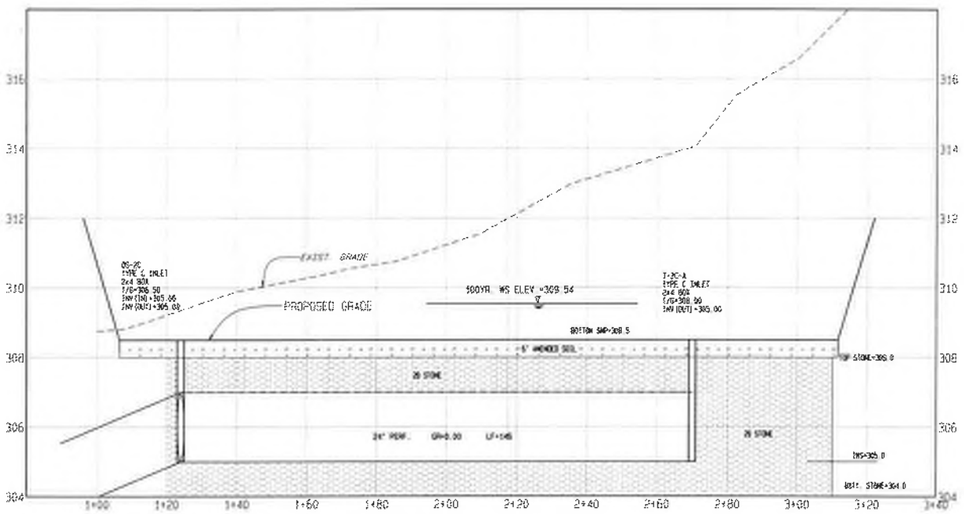
- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

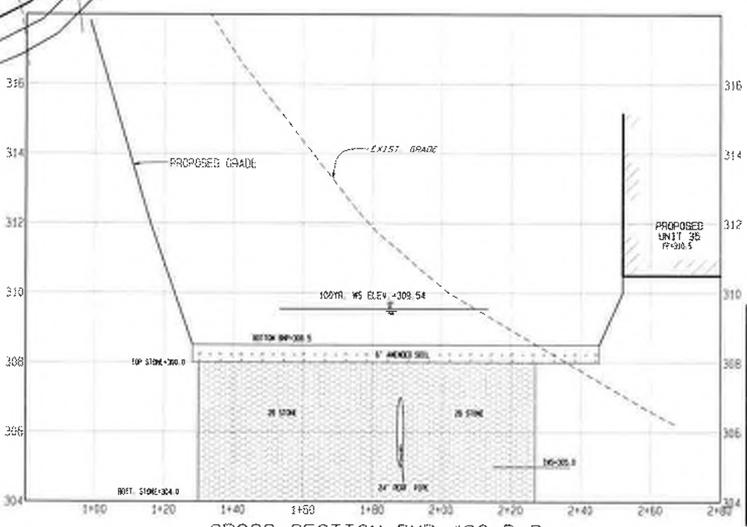
PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT



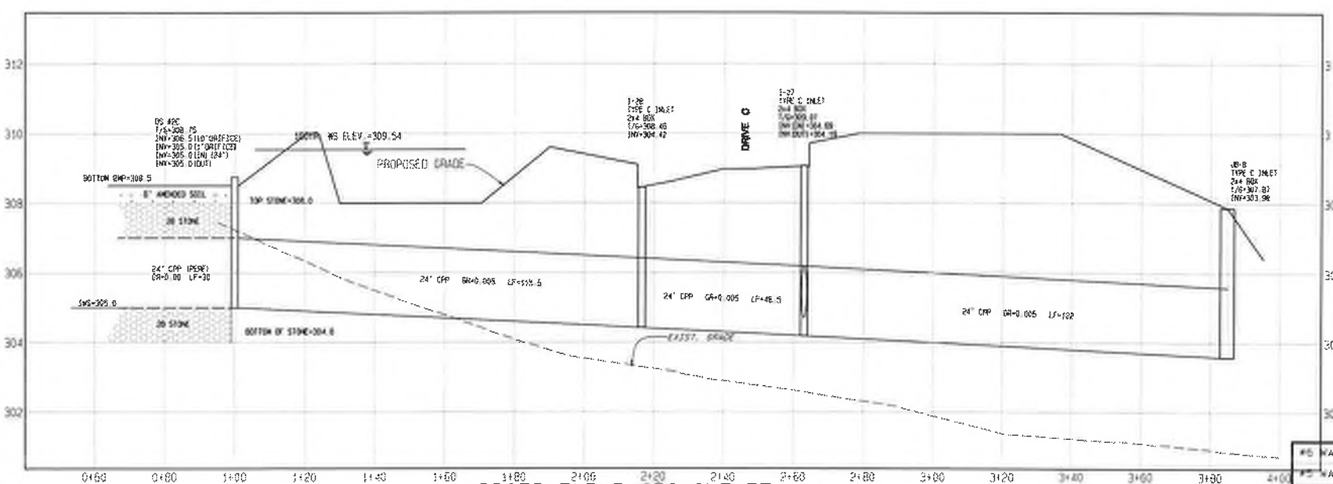
CROSS SECTION BMP #2C A-A

SCALE : VERT. 1"=2
HORIZ. 1"=20



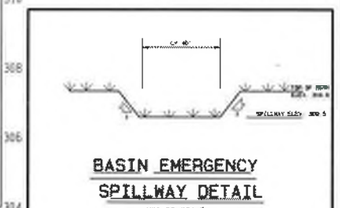
CROSS SECTION BMP #2C B-B

SCALE : VERT. 1"=2
HORIZ. 1"=20



PROFILE BMP #2C OUTLET

SCALE : VERT. 1"=2
HORIZ. 1"=20



BASIN EMERGENCY
SPILLWAY DETAIL

NOT TO SCALE

NOTE :

1. A "RECORD DRAWING" (I.E., AS-BUILT PLANS) OF ALL STORMWATER MANAGEMENT FACILITIES SHALL BE REQUIRED.

PRELIMINARY
UNDERGROUND MRC #2C (BMP 6)
PCSM/UTILITY & GRADING PLAN

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-26-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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DRAWN	CONFIRMED	COMPLETED	PA ONE CALL DATE	COMPUTER FILE
PSR 8-30-16			8/23/2021 1-23-17	S:\Work\Projects\GAMBONE HOLLY ROAD\BMP 2C\2015
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
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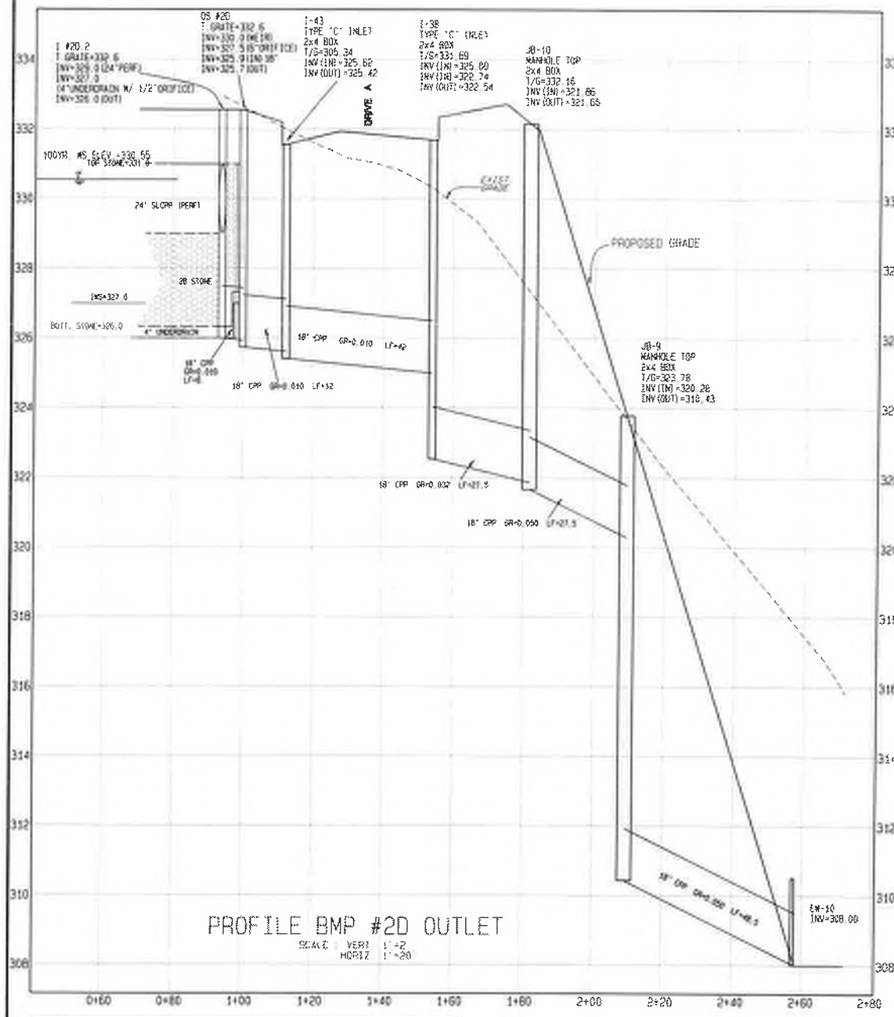
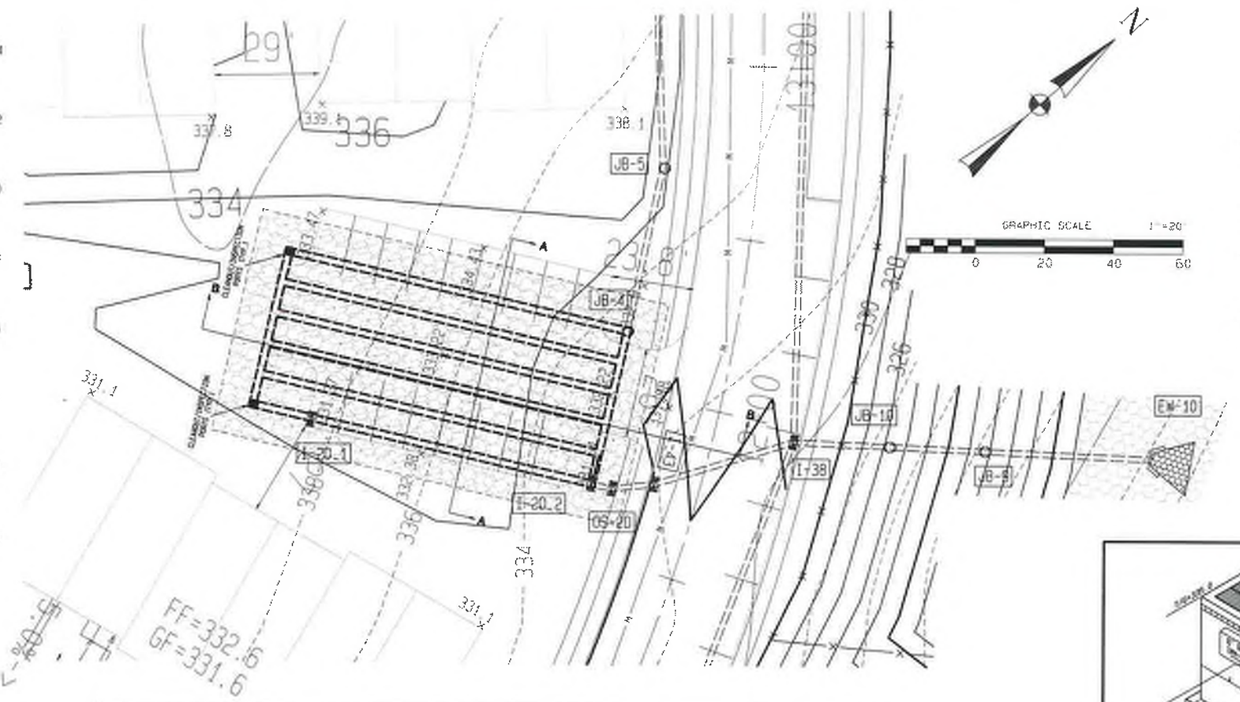
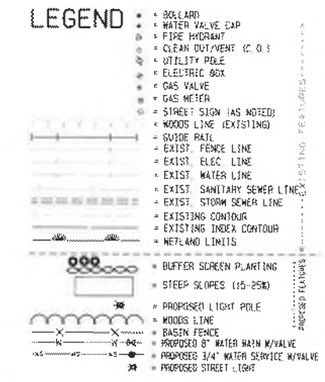
Project Date : Path : U:\projects\Gambone\Gambone\HOLLY ROAD\2015\0-7602015-CONCEPT-DEC2017 and Plot Date/Time: Wed Dec 15, 2021 / 9:15:58

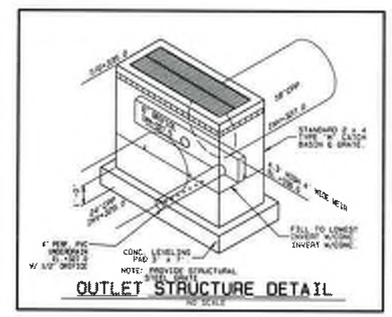


PROFILE BMP #2D OUTLET

SCALE: VERT. 1"=2' HORIZ. 1"=20'

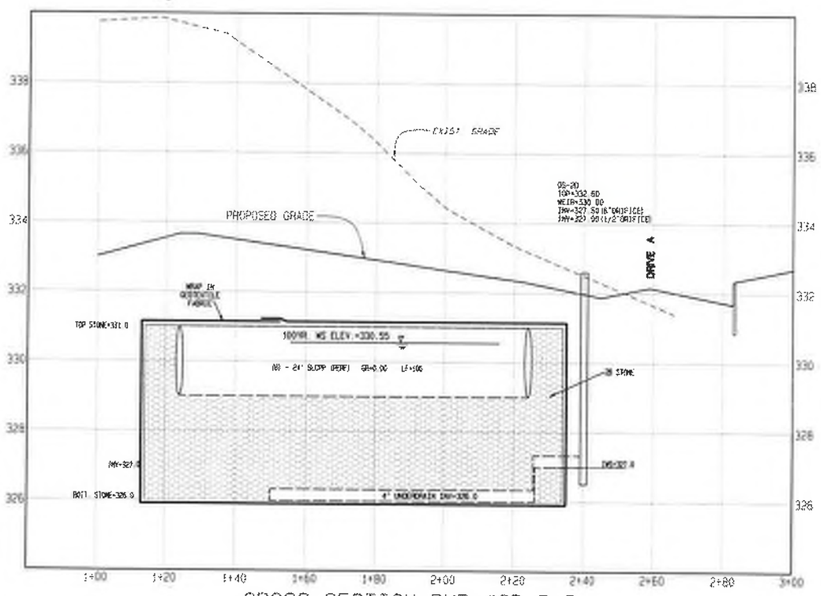






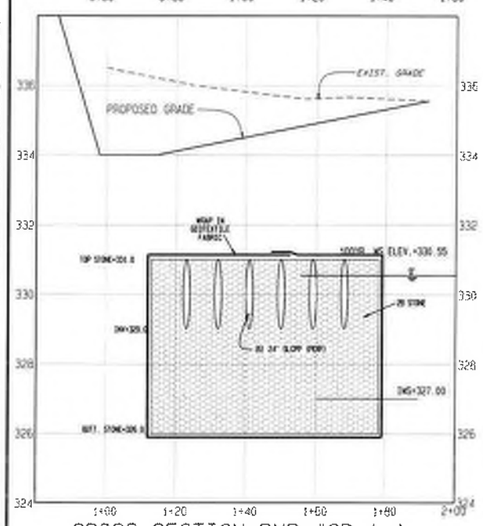
OUTLET STRUCTURE DETAIL

NO SCALE



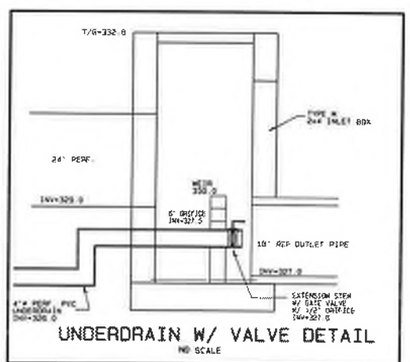
CROSS SECTION BMP #2D B-B

SCALE: VERT. 1"=2' HORIZ. 1"=20'



CROSS SECTION BMP #2D A-A

SCALE: VERT. 1"=2' HORIZ. 1"=20'



UNDERDRAIN W/ VALVE DETAIL

NO SCALE

NOTE:
GATE VALVE TO REMAIN CLOSED AT ALL TIMES EXCEPT DURING MAINTENANCE AND/OR EMERGENCIES"

NOTE:

1. A "RECORD DRAWING" (I.E., AS-BUILT PLANS) OF ALL STORMWATER MANAGEMENT FACILITIES SHALL BE REQUIRED.

PRELIMINARY UNDERGROUND MRC #2D (BMP 5) PCSM/UTILITY & GRADING PLAN

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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DRAWN	COMPUTER	COMPUTER CHECK	PA ONE CALL DATE	COMPUTER FILE
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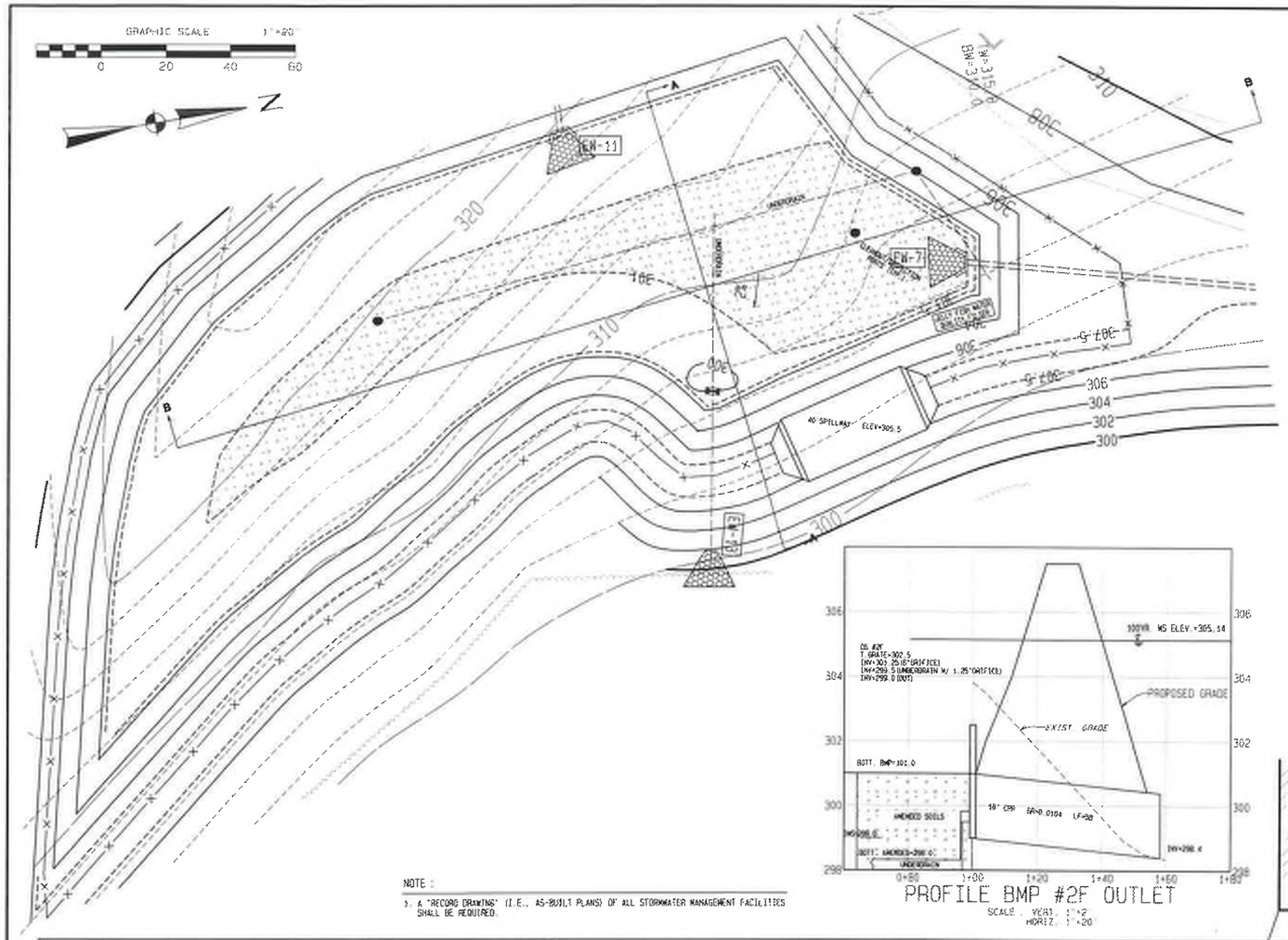
1"=20'	SEE ABOVE		0-7802015	SHEET 23 OF 82

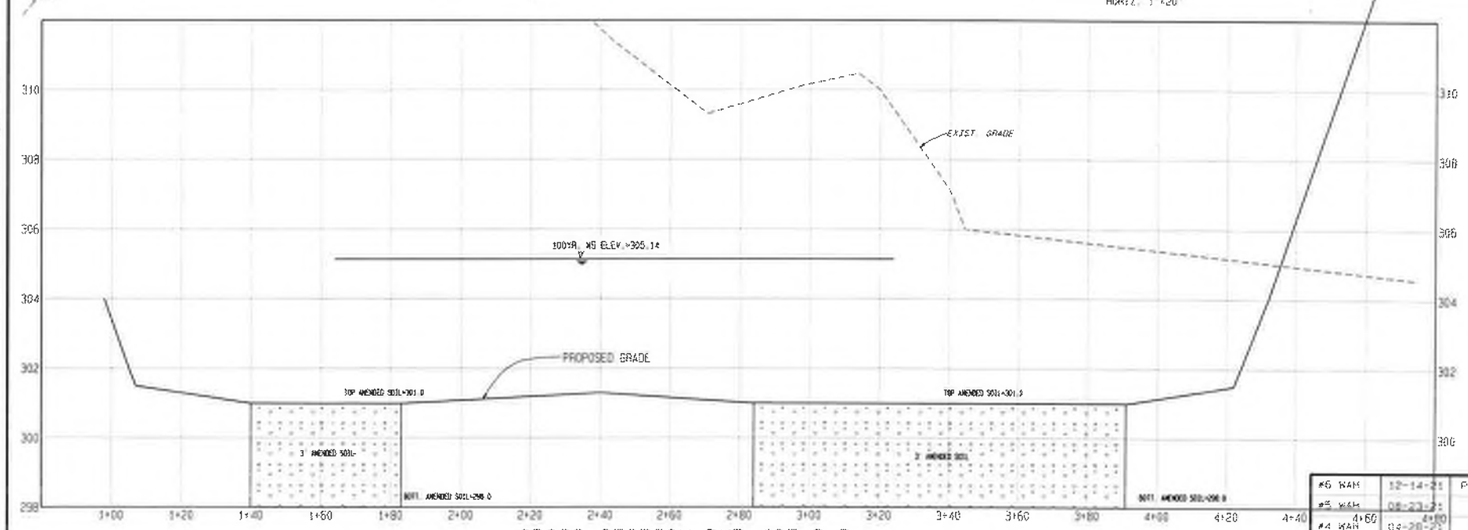


NOTE :

1). A "RECORD DRAWING" (I.E., AS-BUILT PLANS) OF ALL STORMWATER MANAGEMENT FACILITIES SHALL BE REQUIRED.

PROFILE BMP #2F OUTLET

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



CROSS SECTION BMP #2F B-B

SCALE : VERT. 1"=2'
HORIZ. 1"=20'

PROPOSED UNIT B4/B5 TP=301.0

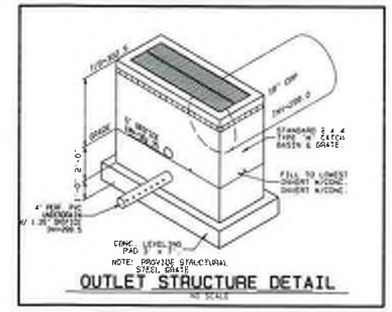
LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
- = PROPOSED STREET LIGHT

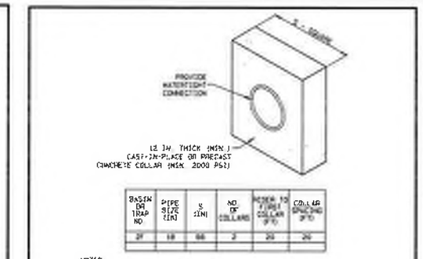
PROPOSED FEATURES



NOTE: PROVIDE STRUCTURAL STEEL GRATE

OUTLET STRUCTURE DETAIL

NO SCALE

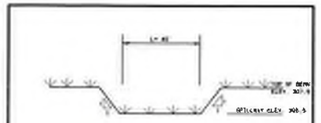


BASIN OR TRAP NO	PIPE SIZE (IN)	S (IN)	NO OF COLLARS	DISTANCE TO FIRST COLLAR (FT)	COLLAR SPACING (FT)
27	18	66	2	25	25

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

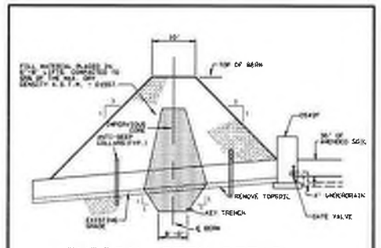
STANDARD CONSTRUCTION DETAIL #7-16
CONCRETE ANTI-SEEP COLLAR FOR
PERMANENT BASINS OR TRAPS

NOT TO SCALE



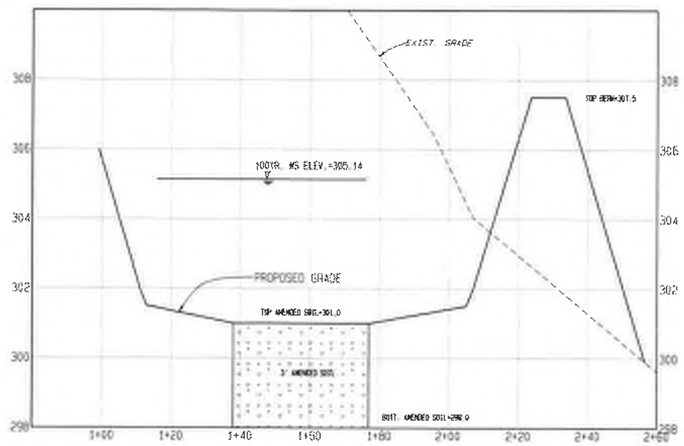
BASIN EMERGENCY
SPILLWAY DETAIL

NOT TO SCALE



TYPICAL BERM DETAIL

NO SCALE



CROSS SECTION BMP #2F A-A

SCALE : VERT. 1"=2'
HORIZ. 1"=20'

PRELIMINARY
VEGETATED MRC #2F (BMP 7)
PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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DRAWN	COMP CHECKED	COMP SUBMITTED	PA ONE CALL DATE	COMPUTER FILE
PSR 6-30-16			#20181206 1-30-17	C:\Users\Public\Documents\Civil 3D Projects\GAMBONE DETENTION POND BOM
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=20'	SEE ABOVE		G-7802015	SHEET 24 OF 88

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	05-17-19	GILMORE REVIEW OF 04-19-19

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLANDS LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

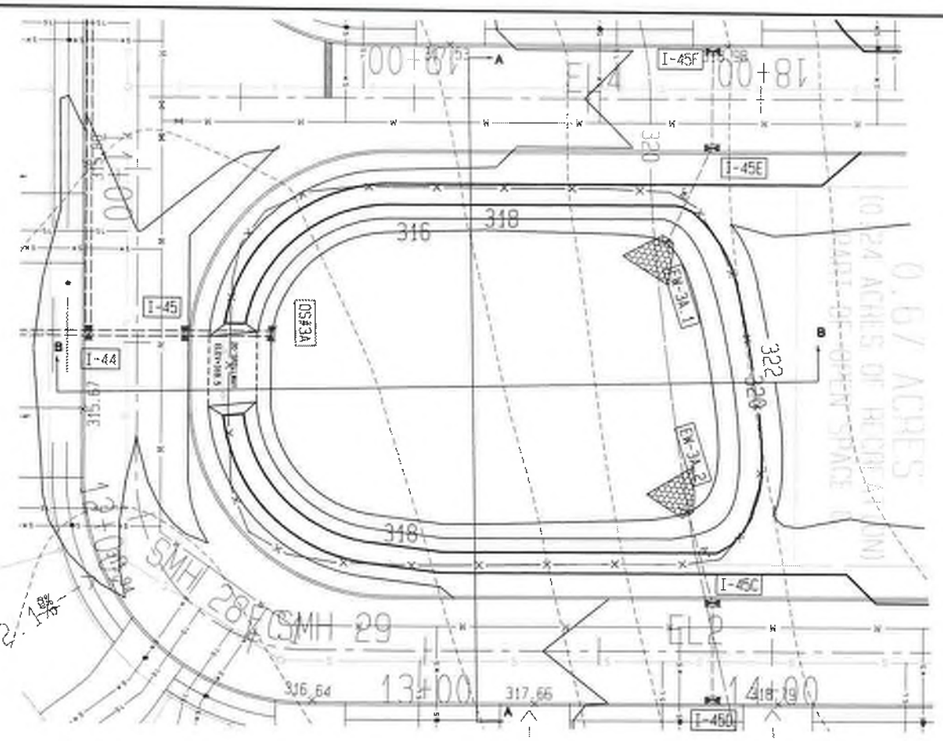
PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 6" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

N

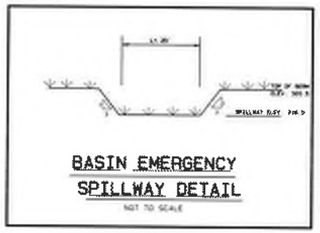
GRAPHIC SCALE 1"=20'

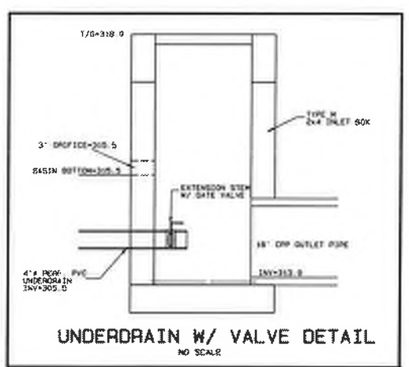
0 20 40 60



NOTE:

1. A 'RECORD DRAWING' (I.E., AS-BUILT PLANS) OF ALL STORMWATER MANAGEMENT FACILITIES SHALL BE REQUIRED.

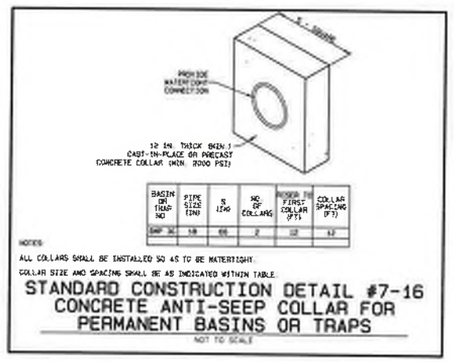




UNDERDRAIN W/ VALVE DETAIL

NO SCALE

NOTE:
GATE VALVE TO REMAIN CLOSED AT ALL TIMES EXCEPT DURING MAINTENANCE AND/OR EMERGENCIES



BASIN OR TRAP NO	PIPE SIZE (IN)	S (FT)	NO. OF COLLARS	DISTANCE TO FIRST COLLAR (FT)	COLLAR SPACING (FT)
BMP 3C	18	66	2	12	12

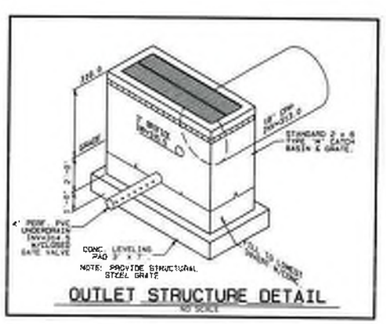
NOTES:

ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.

COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

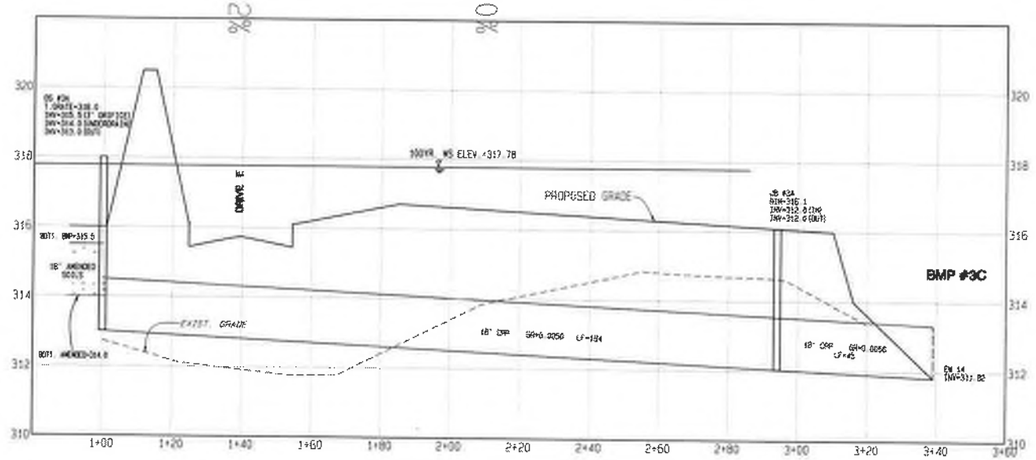
STANDARD CONSTRUCTION DETAIL #7-16
CONCRETE ANTI-SEEP COLLAR FOR
PERMANENT BASINS OR TRAPS

NOT TO SCALE



OUTLET STRUCTURE DETAIL

NO SCALE



PROFILE BMP #3A OUTLET

SCALE: VERT. 1"=2'
HORIZ. 1"=20'

PRELIMINARY
RAIN GARDEN #3A (BMP 8)
PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-03-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

GAMBONE: HOLLY ROAD

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ENGINEERS SURVEYORS PLANNERS
ENVIRONMENTAL SCIENTISTS
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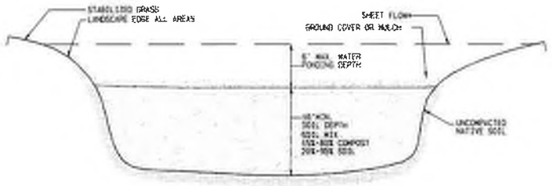
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=20'	SEE ABOVE		8-7802015	SHEET 25 OF 82

Project Dwg: Path C:\Users\wharm\Ludgate\WORK CAD\7802015-CONCEPT-DEC2017.dwg Plot Date/Time: Wed Dec 13,2021 / 8:20:24



* - IF FLOW IS CONCENTRATED, UTILIZE SOME SMALL STONE TO DISIPATE THE FLOW SO NOT TO ERODE RAIN GARDEN BOTTOM.

THE FOLLOWING PLANT MATERIAL SHALL BE SELECTED FOR LOTS 1, 4, 5, 13, 29 AND 30 WHICH HAS RAIN GARDENS. THE CONTRACTOR OR HOME OWNER SHALL SELECT FROM THE FOLLOWING LIST.

COMMON NAME	SCIENTIFIC NAME	PLANT TYPE	HARDINESS ZONE	WILDLIFE VALUE	NOTES
MILKWEED, SWAMP	ASCLEPIAS INCARNATA	FORB	3-8	MODERATE. BUTTERFLIES, SMALL MAMMALS AND BENEFICIAL INSECTS.	FULL TO PARTIAL SUN. DROUGHT TOLERANT. NOT EATEN BY WILDLIFE ATTRACTIVE FLOWERS.
IRIS, BLUE FLAG	IRIS VERSICOLOR	FORB	2-7	MODERATE. FOOD MUSKRAT AND MILKFOWL. COVER. HABITATS PERSISTS UNDER HEAVY GRAZING	SLOW GROWTH. FULL SUN TO PARTIAL SHADE. TOLERATES CLAY. FRESH TO MODERATELY BRACKISH WATER ATTRACTIVE BLUE FLOWER
CUTGRASS, RICE	LEERSIA ORYZOIDES	GRASS	*	HIGH. FOOD AND COVER	FULL SUN ALTHOUGH TOLERANT OF SHADE. SHORELINE STABILIZATION
SEDGE, BROOM	CAREX SCOPARIA	GRASS-LIKE	*	MODERATE. GOOD FOOD AND WILDLIFE COVER	TOLERATES MOIST TO DRY CONDITIONS
SEDGE, TUSSOCK	CAREX STRICTA	GRASS-LIKE	5-8	MODERATE SONGBIRDS	FULL SUN. PERSISTS DURING WINTER
SEDGE, FOX	CAREX VULPINOIDEA	GRASS-LIKE	*	HIGH. SONGBIRDS AND WATERFOWL	FULL TO PARTIAL SUN. PREFERS FLUCTUATING WATER LEVELS.
RUSH, CANADA	JUNCUS CANADENSIS	GRASS-LIKE	*	MODERATE. SONGBIRDS. WATERFOWL AND SMALL MAMMALS	FULL TO PARTIAL SUN. SHOWN TO HAVE GOOD NUTRIENT UPTAKE
BULRUSH, THREE-SQUARE	SCIRPUS PUNGENS	GRASS-LIKE	*	HIGH. SEEDS. COVER. WATERFOWL AND FISH	SHOWN TO HAVE GOOD NUTRIENT UPTAKE. HIGH METAL REMOVAL DROUGHT TOLERANT

SOIL SPECIFICATION NOTES:

1. SOIL SHOULD BE TESTED AND HAVE A PH BETWEEN 5.5 AND 6.5
2. A CLAY CONTENT LESS THAN 10%
3. BE FREE OF TOXIC SUBSTANCES AND UNWANTED PLANT MATERIAL
4. HAVE A 55-10% ORGANIC CONTENT
5. ADDITIONAL ORGANIC MATTER CAN BE ADDED TO THE SOIL TO INCREASE THE WATER HOLDING CAPACITY.
6. AFTER PLANT MATERIAL IS PLACED, A MINIMUM OF 2" AND A MAXIMUM OF 3" OF SHREDDED MULCH OR LEAF COMPOST SHOULD BE UNIFORMALLY APPLIED. (DO NOT USE WOOD CHIPS.)

RAIN GARDEN CONSTRUCTION SEQUENCE:

1. EXCAVATE RAIN GARDEN TO PROPOSED INVERT DEPTH AND SCARIFY THE EXISTING SOIL SURFACES. DO NOT COMPACT IN-SITU SOILS.
2. BACKFILL RAIN GARDEN WITH AMENDED SOIL AS SHOWN ON PLANS AND SPECIFICATIONS. OVERFILLING IS RECOMMENDED TO ACCOUNT FOR SETTLEMENT. LIGHT HAND TAMPING IS ACCEPTABLE IF NECESSARY.
3. PERSONAL THE PLANTING SOIL PRIOR TO PLANTING VEGETATION TO AID IN SETTLEMENT.
4. COMPLETE FINAL GRADING TO ACHIEVE PROPOSED DESIGN ELEVATIONS. LEAVING SPACE FOR UPPER LAYER OF COMPOST, MULCH OR TOPSOIL AS SPECIFIED ON PLANS.
5. PLANT VEGETATION ACCORDING TO PLANTING PLAN.
6. MULCH AND INSTALL EROSION PROTECTION AT SURFACE FLOW ENTRANCES WHERE NECESSARY.

SUBGRADE PREPARATION:

1. EXISTING SUB-GRADE IN BIORETENTION AREAS SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC.
2. INITIAL EXCAVATION CAN BE PERFORMED DURING ROUGH SITE GRADING BUT SHALL NOT BE CARRIED TO WITHIN ONE FOOT OF THE FINAL BOTTOM ELEVATION. FINAL EXCAVATION SHOULD NOT TAKE PLACE UNTIL ALL DISTURBED AREAS IN THE DRAINAGE AREA HAVE BEEN STABILIZED.
3. WHERE EROSION OF SUB-GRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING ON THE GRADED BOTTOM, THIS MATERIAL SHALL BE REMOVED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE OR EQUIVALENT BY LIGHT TRACTOR.
4. BRING SUB-GRADE OF BIORETENTION AREA TO LINE, GRADE, AND ELEVATIONS INDICATED. FILL AND LIGHTLY REGRADE ANY AREAS DAMAGED BY EROSION, PONDING, OR TRAFFIC.
5. HALT EXCAVATION AND NOTIFY ENGINEER IMMEDIATELY IF EVIDENCE OF SINKHOLE ACTIVITY OR PINNACLES OF CARBONATE BEDROCK ARE ENCOUNTERED IN THE BIORETENTION AREA.

RAIN GARDEN INSTALLATION:

1. UPON COMPLETION OF SUB-GRADE WORK, THE ENGINEER SHALL BE NOTIFIED AND SHALL INSPECT AT HIS/HER DISCRETION BEFORE PROCEEDING WITH BIORETENTION INSTALLATION.
2. FOR THE SUBSURFACE STORAGE/INFILTRATION BED INSTALLATION, AMENDED SOILS SHOULD BE PLACED ON THE BOTTOM TO THE SPECIFIED DEPTH.
3. PLANTING SOIL SHALL BE PLACED IMMEDIATELY AFTER APPROVAL OF SUB-GRADE PREPARATION/BED INSTALLATION. ANY ACCUMULATION OF DEBRIS OR SEDIMENT THAT TAKES PLACE AFTER APPROVAL OF SUB-GRADE SHALL BE REMOVED PRIOR TO INSTALLATION OF PLANTING SOIL AT NO EXTRA COST TO THE OWNER.
4. INSTALL PLANTING SOIL BEGINNING ALL CRITERIA: ON 18-INCH MAXIMUM LIFTS AND LIGHTLY COMPACT (TAMP WITH BACKHOE BUCKET OR BY HAND). KEEP EQUIPMENT MOVEMENT OVER PLANTING SOIL TO A MINIMUM - DO NOT OVER COMPACT. INSTALL PLANTING SOIL TO GRADES INDICATED ON THE DRAWINGS.
5. PLANT TREES AND SHRUBS ACCORDING TO SUPPLIER'S RECOMMENDATIONS AND ONLY FROM MID-MARCH THROUGH THE END OF JUNE OR FROM MID-SEPTEMBER THROUGH MID-NOVEMBER.
6. INSTALL 2-3" SHREDDED HARDWOOD MULCH (MINIMUM AGE 6 MONTHS) OR COMPOST MULCH EVENLY AS SHOWN ON PLANS. DO NOT APPLY MULCH IN AREAS WHERE GROUND COVER IS TO BE GRASS OR WHERE COVER WILL BE ESTABLISHED BY SEEDING.
7. PROTECT RAIN GARDENS FROM SEDIMENT AT ALL TIMES DURING CONSTRUCTION. HAY BALES, DIVERSION BERMS AND/OR OTHER APPROPRIATE MEASURES SHALL BE USED AT THE TOE OF THE SLOPES THAT ARE ADJACENT TO RAIN GARDENS TO PREVENT SEDIMENT FROM WASHING INTO THESE AREAS DURING SITE DEVELOPMENT.
8. WHEN THE SITE IS FULLY VEGETATED AND THE SOIL MANTLE STABILIZED THE PLAN DESIGNER SHALL BE NOTIFIED AND SHALL INSPECT THE RAIN GARDEN DRAINAGE AREA AT HIS/HER DISCRETION BEFORE THE AREA IS BROUGHT ONLINE AND SEDIMENT CONTROL DEVICES REMOVED.
9. WATER VEGETATION AT THE END OF EACH DAY FOR TWO WEEKS AFTER PLANTING IS COMPLETED.

NOTE:
CONTRACTOR SHOULD PROVIDE A ONE-YEAR BOX CARE AND REPLACEMENT WARRANTY FOR ALL PLANTING BEGINNING AFTER INSTALLATION INSPECTION OF ALL PLANTS.

MAINTENANCE:

PROPERLY DESIGNED AND INSTALLED BIORETENTION AREAS REQUIRE SOME REGULAR MAINTENANCE.

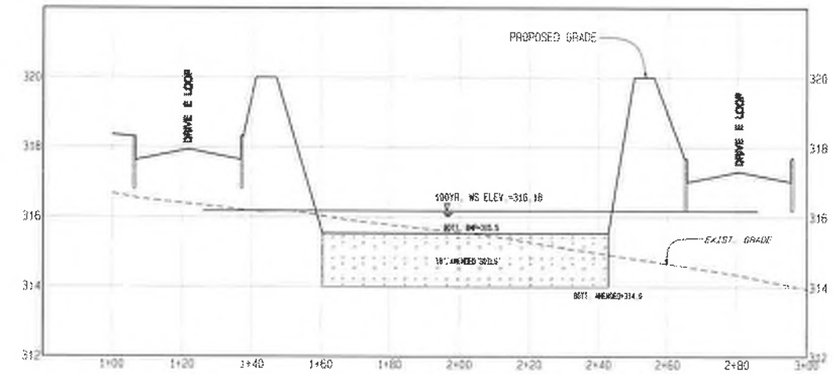
1. WHILE VEGETATION IS BEING ESTABLISHED, PRUNING AND WEEDING MAY BE REQUIRED.
2. DEBRIS MAY ALSO NEED TO BE REMOVED EVERY YEAR. PERENNIAL PLANTINGS MAY BE CUT DOWN AT THE END OF THE GROWING SEASON.
3. MULCH SHOULD BE RE-SPREAD WHEN EROSION IS EVIDENT AND BE REPLENISHED AS NEEDED. ONCE EVERY 2 TO 3 YEARS THE ENTIRE AREA MAY REQUIRE MULCH REPLACEMENT.
4. BIORETENTION AREAS SHOULD BE INSPECTED AT LEAST TWO TIMES PER YEAR FOR SEDIMENT BUILDUP, EROSION, VEGETATIVE CONDITIONS, ETC.
5. DURING PERIODS OF EXTENDED DROUGHT, BIORETENTION AREAS MAY REQUIRE WATERING.
6. TREES AND SHRUBS SHOULD BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH.

RAIN GARDEN DETAIL

NOT TO SCALE

GRAPHIC SCALE 1"=20'

0 20 40 60



CROSS SECTION BMP #3A A-A

SCALE: VERT. 1"=2'
HORIZ. 1"=20'

CROSS SECTION BMP #3A B-B

SCALE: VERT. 1"=2'
HORIZ. 1"=20'

PRELIMINARY
RAIN GARDEN #3A (BMP 8)
PCSM/UTILITY & GRADING PLAN

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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ENGINEERS SURVEYORS PLANNERS
ENVIRONMENTAL SCIENTISTS
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1"=20'	SEE ABOVE		D-7802015 SHEET 26 OF 60	

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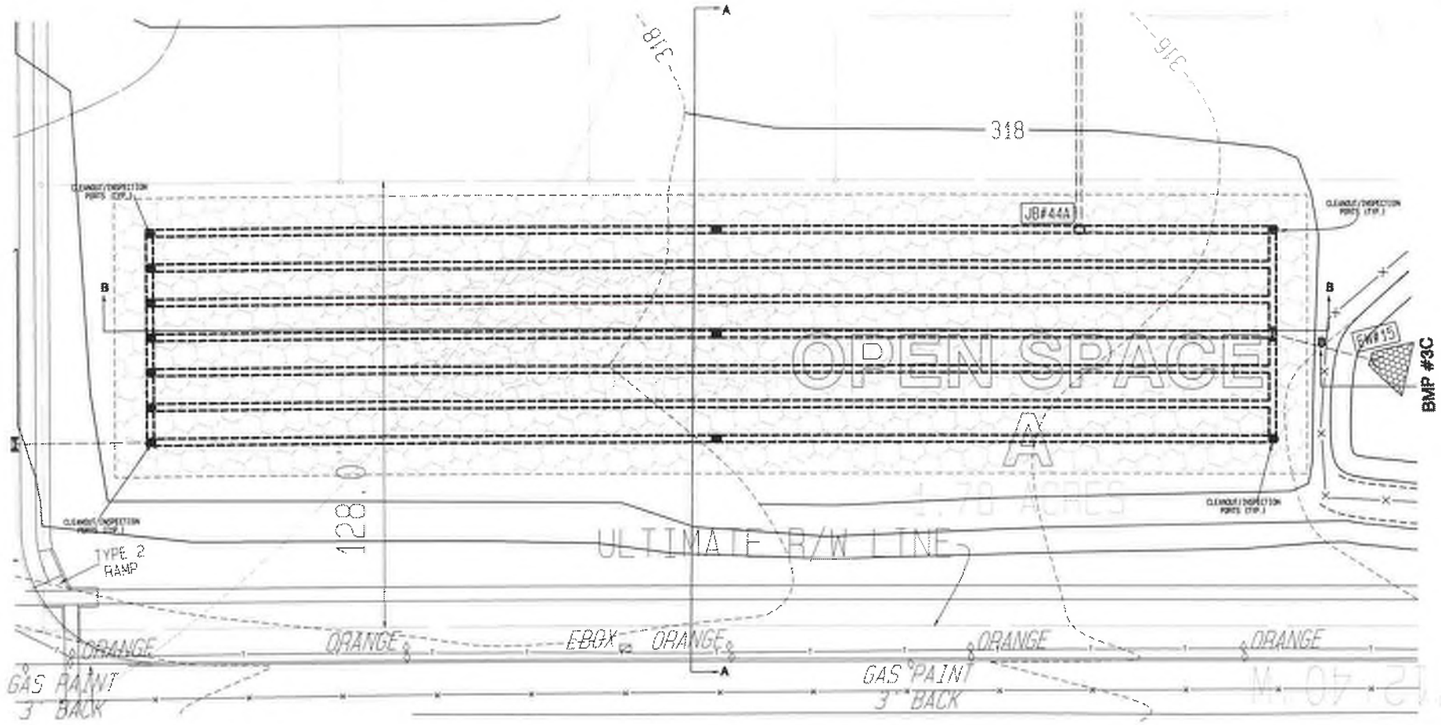
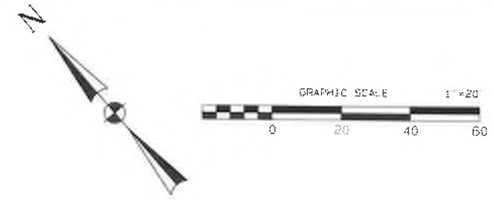
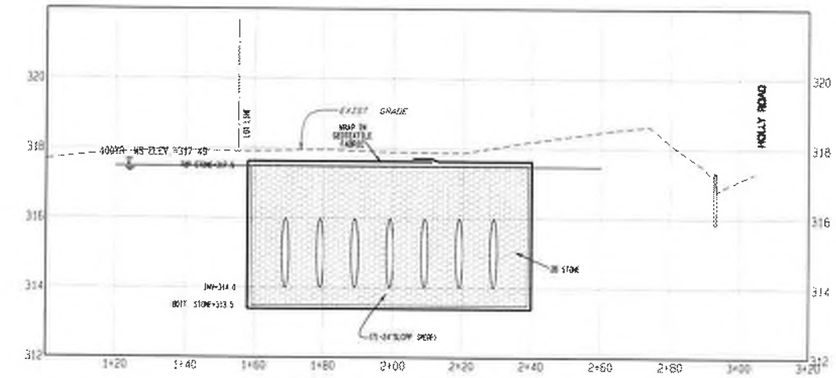
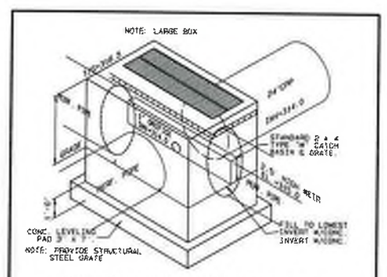






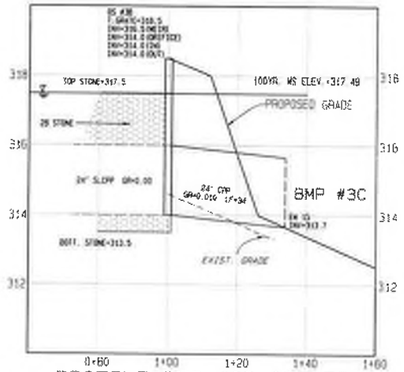
CROSS SECTION BMP #3B A-A

SCALE: VERT. 1"=2' HORIZ. 1"=20'



OUTLET STRUCTURE DETAIL

NO SCALE



PROFILE BMP #3B OUTLET

SCALE: VERT. 1"=2' HORIZ. 1"=20'

LEGEND:

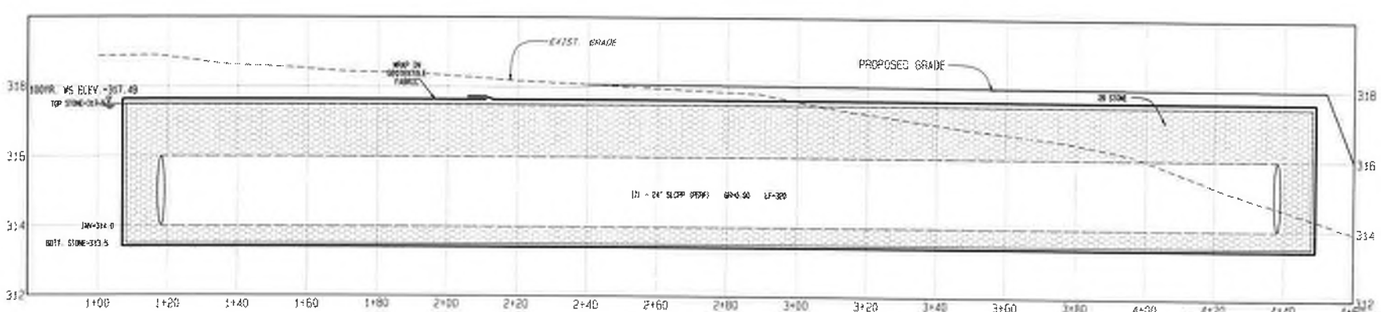
- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT



CROSS SECTION BMP #3B B-B

SCALE: VERT. 1"=2' HORIZ. 1"=20'

PRELIMINARY
UNDERGROUND MRC #3B (BMP 9)
PCSM/UTILITY & GRADING PLAN

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
COUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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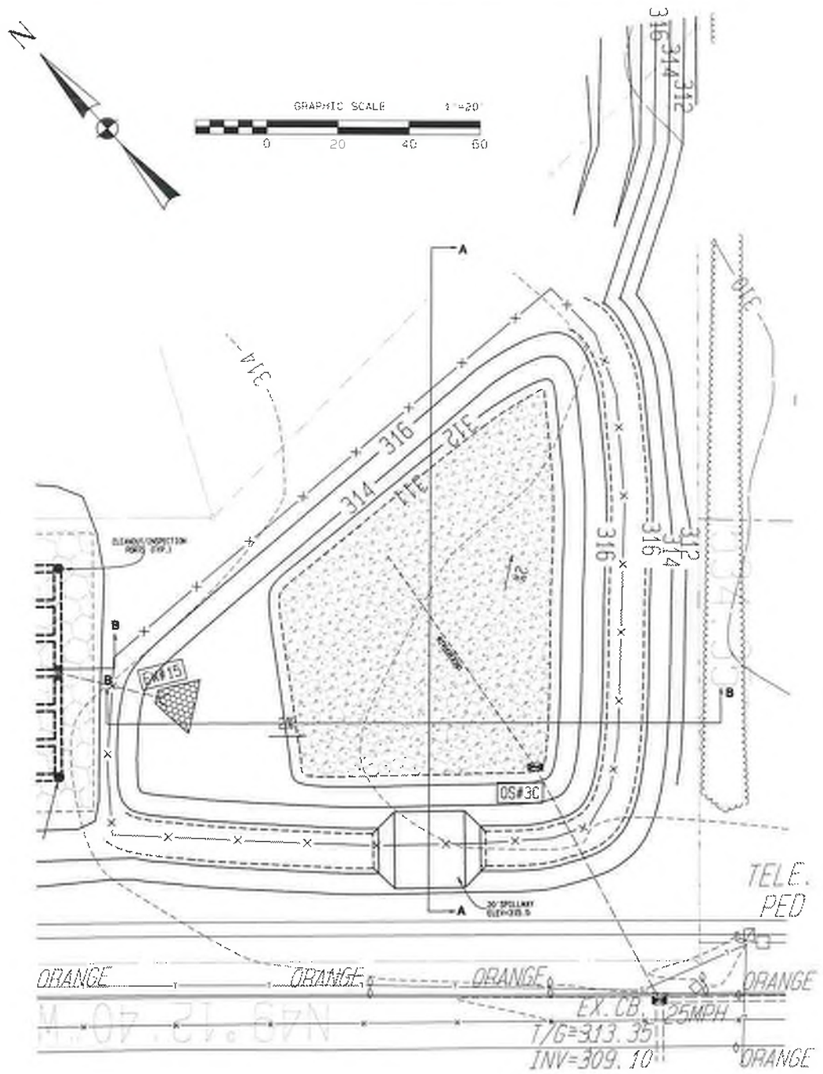

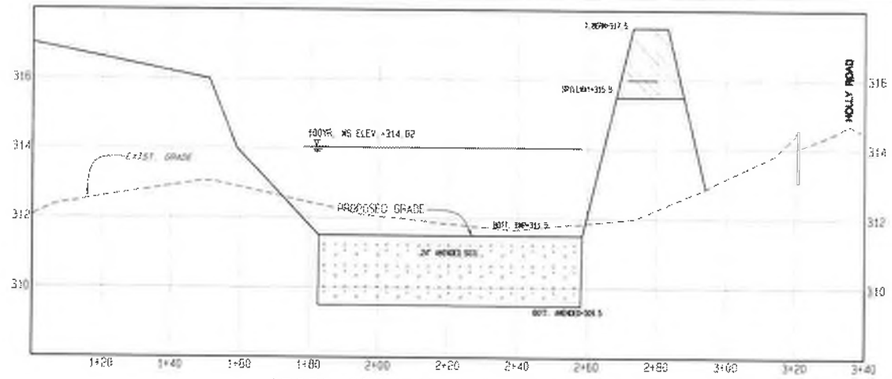

CROSS SECTION BMP #3C A-A

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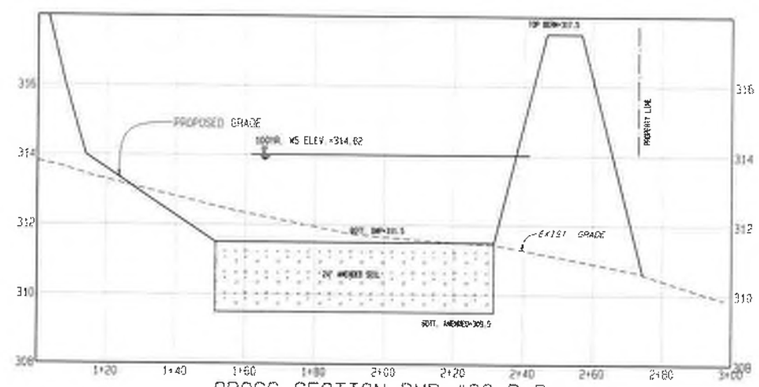

CROSS SECTION BMP #3C B-B

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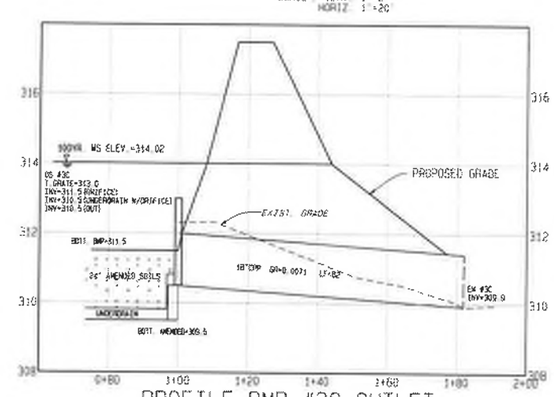
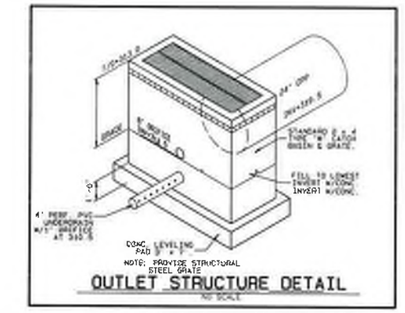


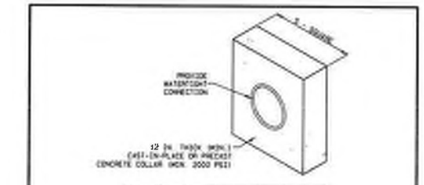
PROFILE BMP #3C OUTLET

SCALE: VERT. 1"=2' HORIZ. 1"=20'



OUTLET STRUCTURE DETAIL

NO SCALE

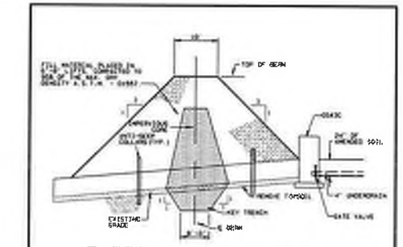


BASIN OR TRAP NO.	PIPE SIZE (IN)	S (IN)	NO. OF COLLARS	REBER TO FIRST COLLAR (FT)	COLLAR SPACING (FT)
BMP 3C	18	66	2	12	12

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

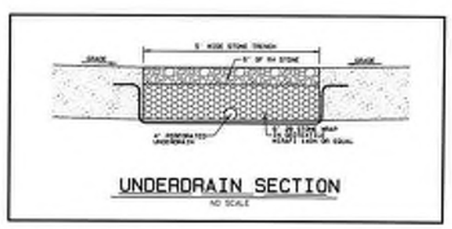
STANDARD CONSTRUCTION DETAIL #7-16
CONCRETE ANTI-SEEP COLLAR FOR
PERMANENT BASINS OR TRAPS

NOT TO SCALE



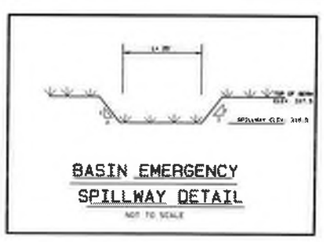
TYPICAL BERM DETAIL

NO SCALE



UNDERDRAIN SECTION

NO SCALE



BASIN EMERGENCY SPILLWAY DETAIL

NOT TO SCALE

LEGEND :

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

PRELIMINARY
VEGETATED MRC #3C (BMP 10)
PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	06-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

GAMBONE: HOLLY ROAD

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PSR 8-30-16			#20181800 1-23-17	[illegible]
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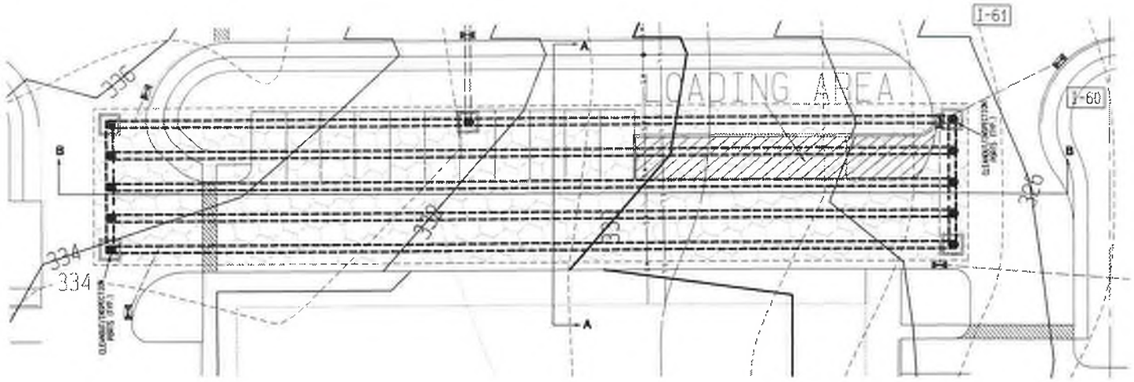
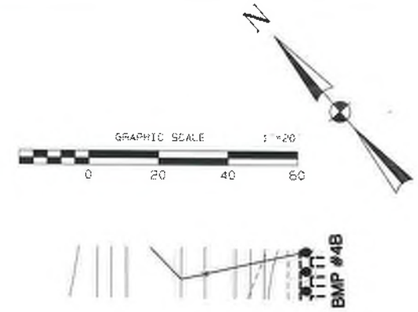
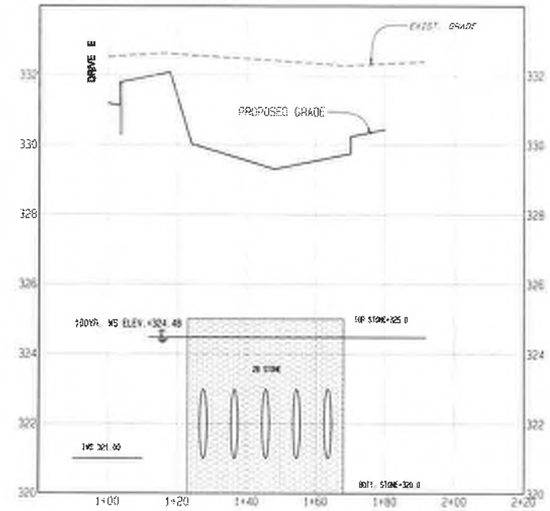
1"=20'	SEE ABOVE		0-7802G15	SHEET 26 OF 52

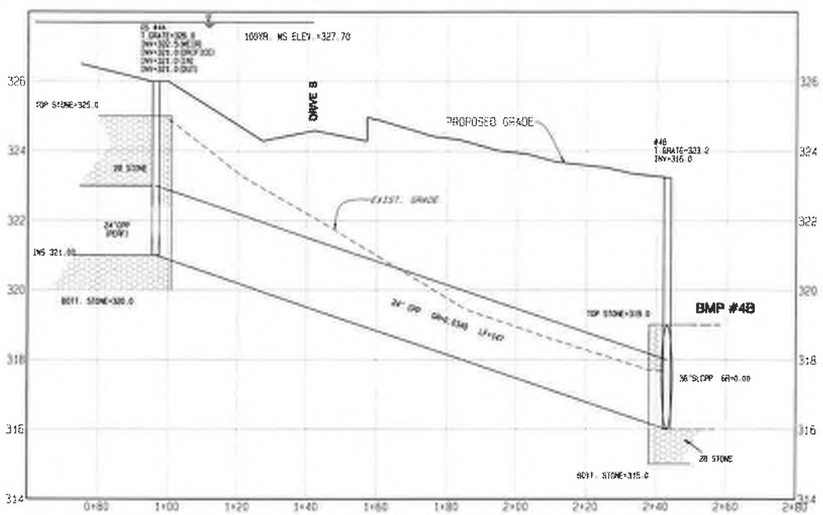






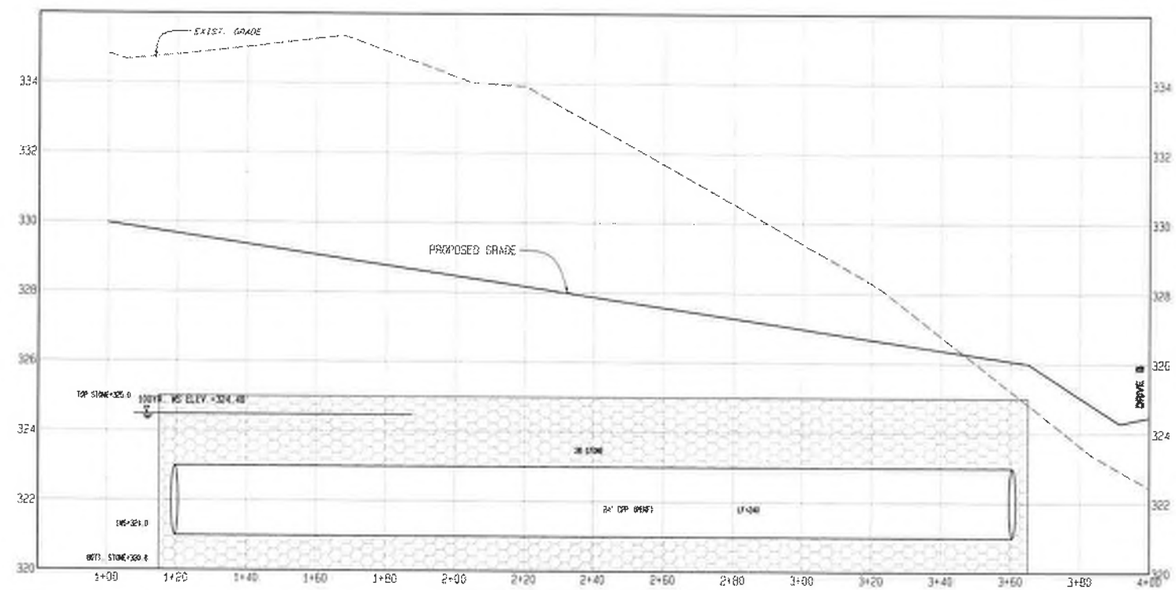
CROSS SECTION BMP #4A A-A

SCALE VERT. 1"=2'
HORIZ 1"=20'



PROFILE BMP #4A OUTLET

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



CROSS SECTION BMP #4A B-B

SCALE : VERT. 1"=2'
HORIZ 1"=20'

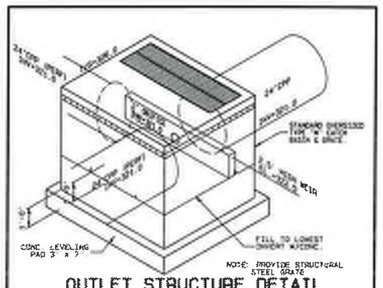
LEGEND :

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)
- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

PROPOSED FEATURES



OUTLET STRUCTURE DETAIL

NO SCALE

PRELIMINARY
UNDERGROUND MRC #4A (BMP 11)
PCSM/UTILITY & GRADING PLAN

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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DRAWN	COMP ENGR	COMP LDGR	PA ONE CALL DATE	COMPUTER FILE
PSR 6-30-16			20220820 1-25-22	[illegible]
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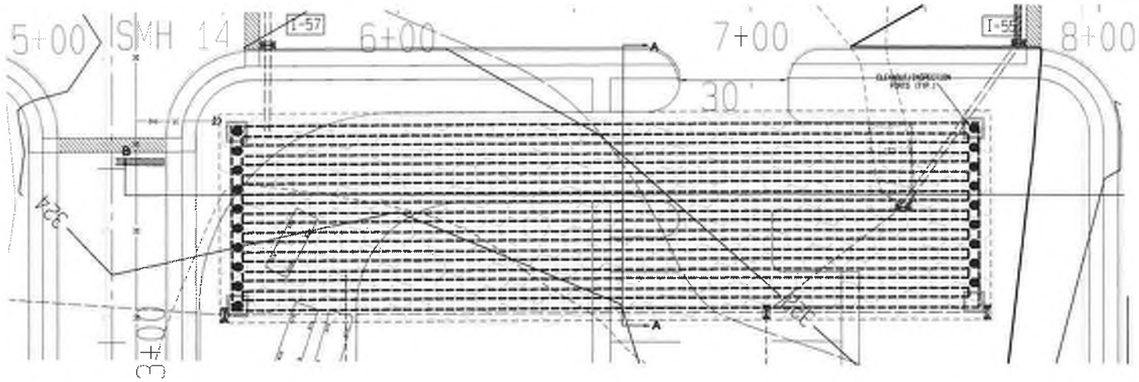
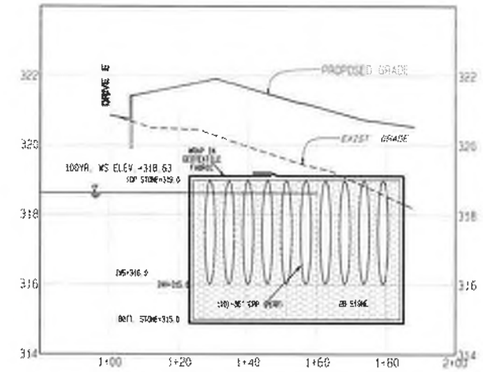
1"=20'	SEE ABOVE		13-2802015	SHEET 29 OF 40

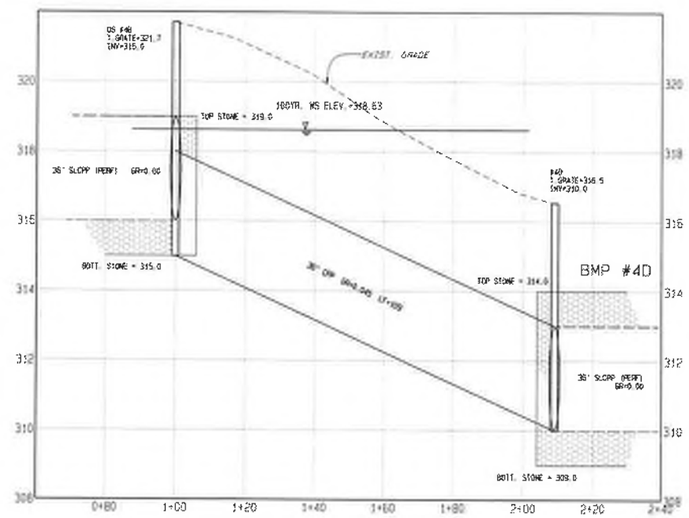




CROSS SECTION BMP #4B A-A

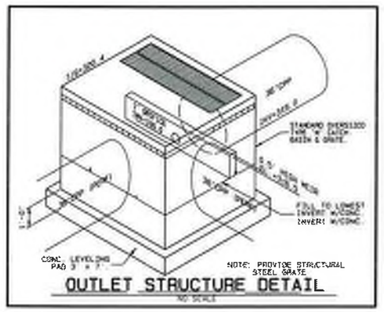
SCALE : VERT. 1"=2'
HORIZ. 1"=20'

BMP #4D



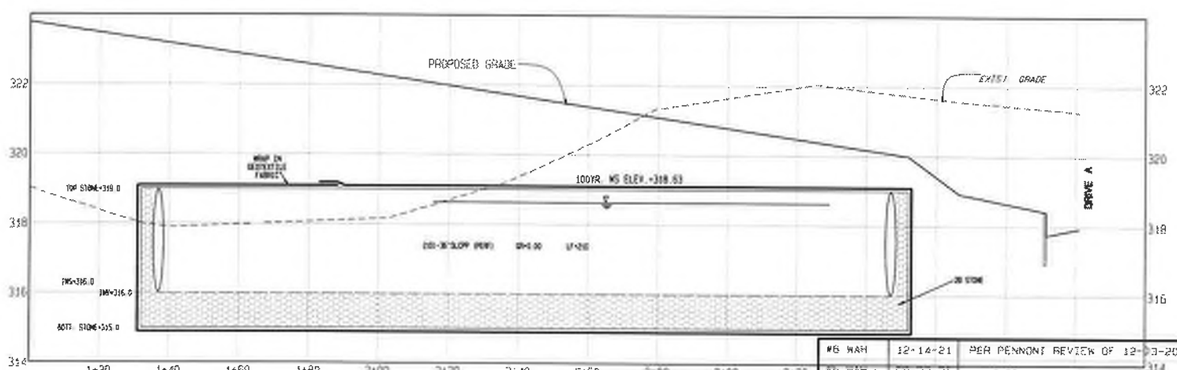
PROFILE BMP #4B OUTLET

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



OUTLET STRUCTURE DETAIL

NO SCALE



CROSS SECTION BMP #4B B-B

SCALE : VERT. 1"=2'
HORIZ. 1"=20'

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

(EXISTING FEATURES)

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

(PROPOSED FEATURES)

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-03-20	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

PRELIMINARY
UNDERGOUND MRC #4B (BMP 12)
PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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DRAWN	COMP CHECKED	COMP PLOTTED	PA ONE CALL DATE	COMPUTER FILE
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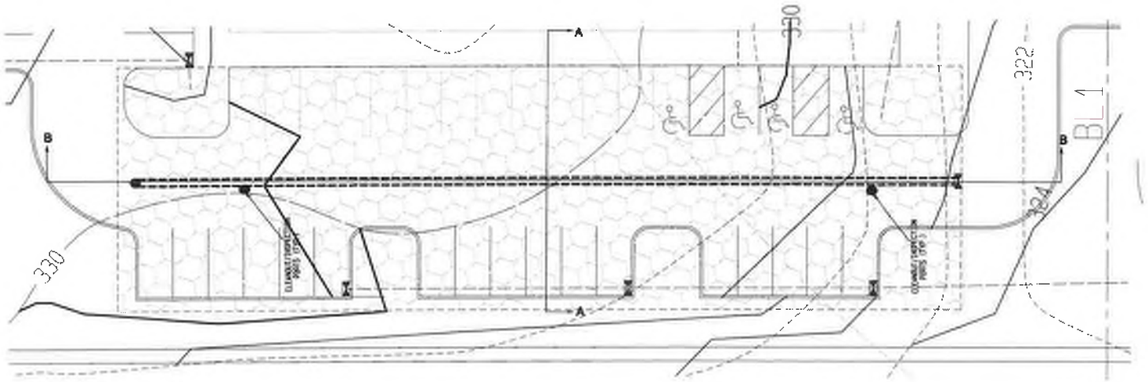
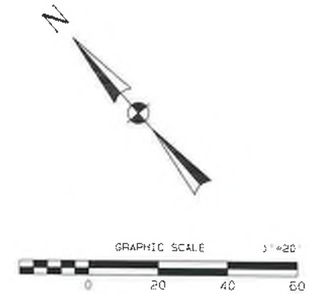
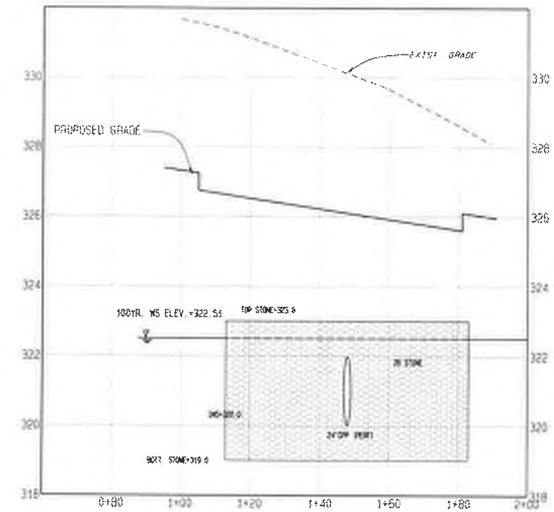


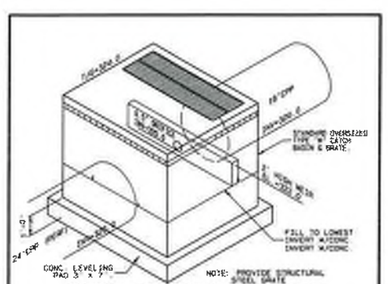


BMP #4D



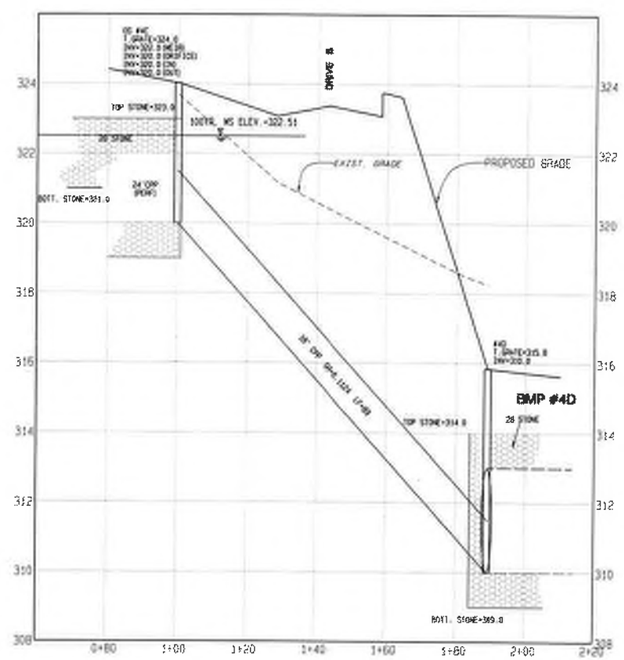
CROSS SECTION BMP #4C A-A

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



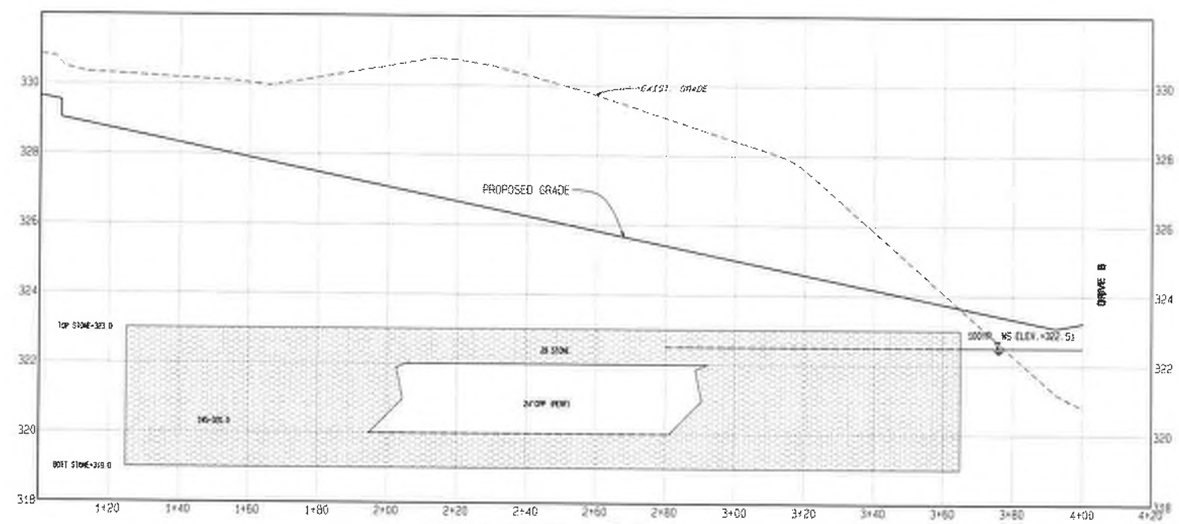
OUTLET STRUCTURE DETAIL

NO SCALE



PROFILE BMP #4C OUTLET

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



CROSS SECTION BMP #4C B-B

SCALE : VERT. 1"=2'
HORIZ. 1"=20'

LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
- = PROPOSED STREET LIGHT

PROPOSED FEATURES

PRELIMINARY
UNDERGROUND MRC #4C (BMP 13)
PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

GAMBONE: HOLLY ROAD

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DRAWN	COMP BNCHMK	COMP SLOPE	PA ONE CALL DATE	COMPUTER FILE
PSA 6-30-16			#20181800 11-07-17	
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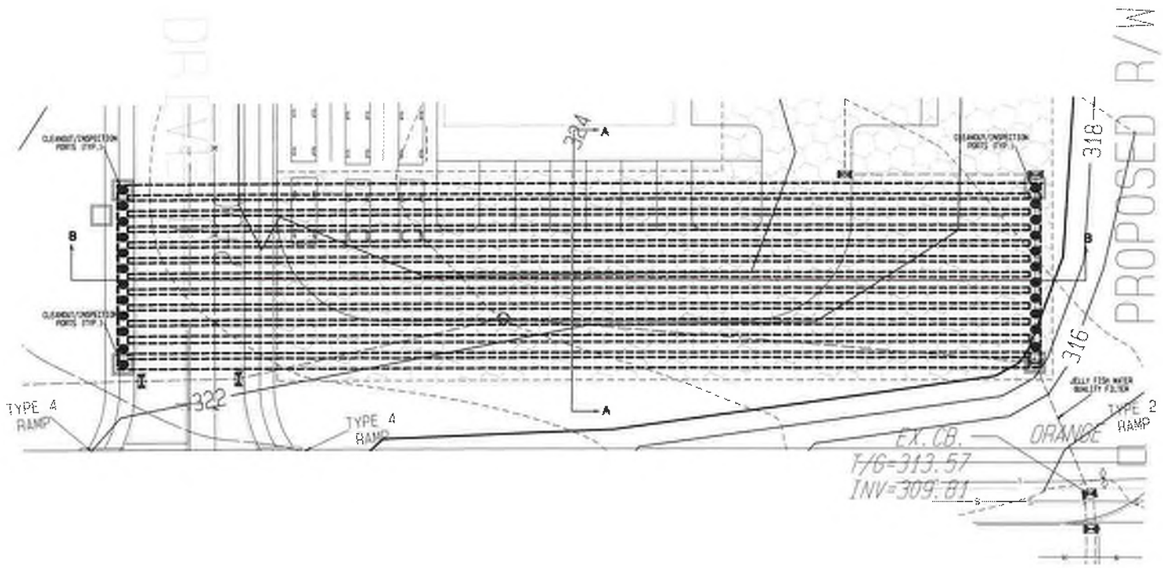
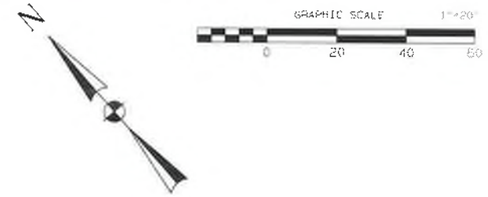
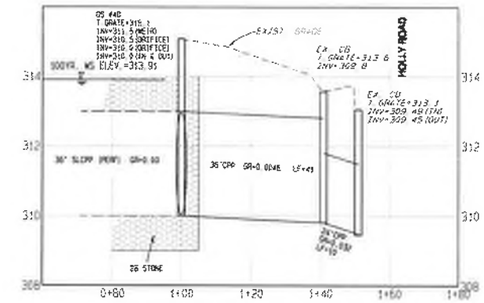
1"=20'	SEE ABOVE		D-7802035	SHEET 31 OF 82

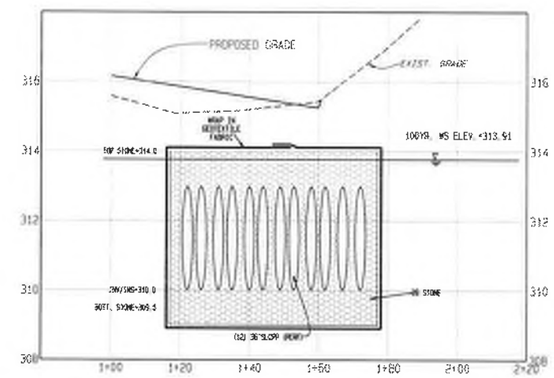






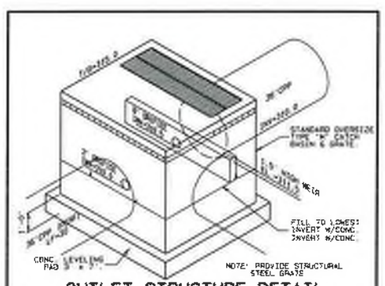
PROFILE BMP #4D OUTLET

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



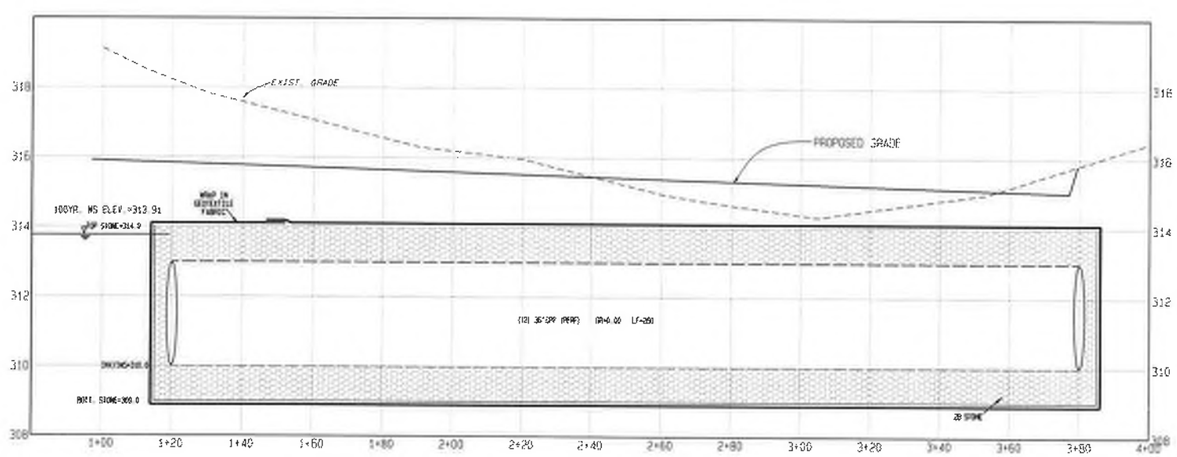
CROSS SECTION BMP #4D A-A

SCALE : VERT. 1"=2'
HORIZ. 1"=20'



OUTLET STRUCTURE DETAIL

NO SCALE



CROSS SECTION BMP #4D B-B

SCALE : VERT. 1"=2'
HORIZ. 1"=20'

LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
- = PROPOSED STREET LIGHT

PROPOSED FEATURES

PRELIMINARY
UNDERGROUND MRC #4D (BMP 14)
PCSM/UTILITY & GRADING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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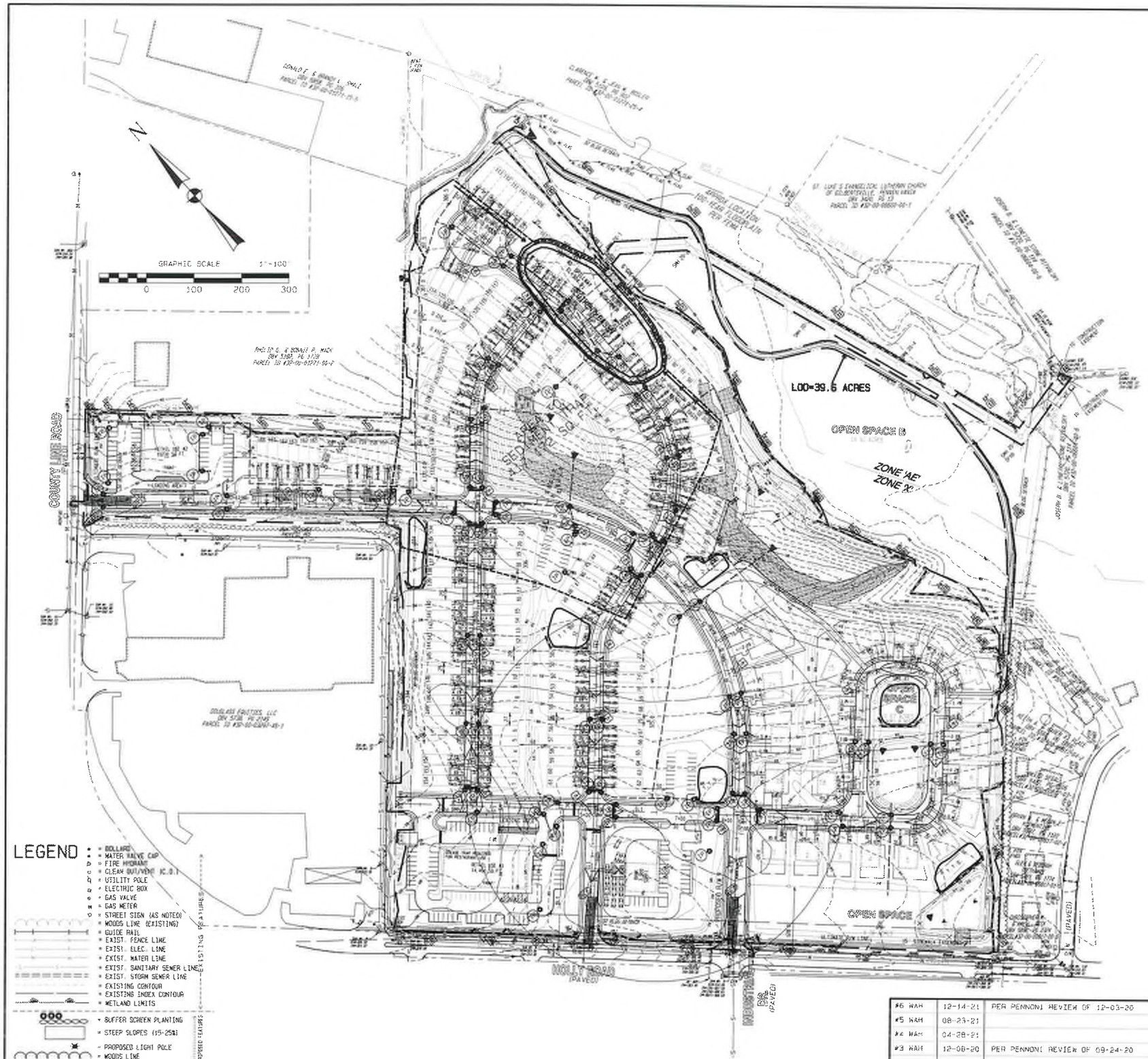
DRAWN	COMP DRAFT	COMP CLEAN	FB ONE	COMPUTER FILE
PSR 6-30-16			CALL DATE #025800 1-12-17	[illegible]
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=20'	SEE ABOVE		0-78080:5	SHEET 32 OF 60

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-20-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19



Soils on site are

WaB - Wassaic silt loam, 3-8% slopes
Bh - Bowmansville-Hatboro silt loams
CrA - Croton silt loam, occasionally flooded 0-3% slopes
PeB - Penn silt loam, 3-8% slopes
PeC - Penn-Klinesville channery silt loams, 15-25% slopes
RaA - Raritan silt loam, 0-3% slopes
RaB - Raritan silt loam, 3-8% slopes
RaC - Raritan silt loam, 8-15% slopes
SuB - Susan fine-loamy sand and sandstone complex, 0-8% slopes

Soil Limitations	Soil Properties	WaB	Bh	CrA	PeB	PeC	RaA	RaB	RaC	SuB
Prehistric/Historic Locations	Accidental, buried water filter bags trench plugs		X	X			X			
Depth to Saturated Zone/Seasonal High Water Table	Pumped water filter, footer drain	36cm	0cm	8cm	>200cm	>200cm	92cm	53cm	53cm	>200cm
Depth to Restrictive Layer	Test to determine depth, design for conditions	51cm	217cm	45cm	56cm	88cm	84cm	38cm	81cm	138cm
Cutbanks Cave	Layback slopes follow OSHA rules for safety	X	X	X	X	X	X	X	X	X
Corrosion to Concrete/Steel	Corrosive resistant concrete - protective barrier between water and the steel - galvanized steel	C/S	C/S	C/S	C	C	C/S	C/S	C/S	C/S
Droughty	Compost mix to hold in moisture				X	X			X	X
Easily Erodible	Maintain erosion control BMPs	X		X					X	X
Flooding	Layback slopes/design for conditions		X							
Low Strength/Landslide Prone	Drainage ditch, pumped water filter bag	X	X	X	X	X				X
Slow Percolation	Maintain erosion control BMPs	X	X	X			X	X	X	X
Piping	Trench plugs	X	X	X	X	X	X	X	X	
Poor Source of Topsoil	Avoid reuse as topsoil or amend as necessary	X	X	X	X	X	X	X	X	X
Frost Action	Construct below frost depth/positive subgrade	X	X	X	X	X	X	X	X	X
Ponding	Design for conditions drainage trenches, pumped water filter bag, sump pumps, footer drains			X						
Wetness	Trench plugs	X	X	X		X	X	X	X	

FOR SAFETY: PPCO the following items is done

In the event groundwater is encountered, the contractor shall employ measures of the pumped water details as shown on the plan

If contrac is encountered, notify Design Engineer immediately. Changes may need to occur to the plan. The construction district must be informed of any changes

Excavation walls may be unstable. Contractor shall always ensure that proper shoring methods and OSHA safety procedures are utilized to keep workers safe

Contractor must ensure that areas that have been disturbed will be immediately stabilized with erosion control blankets, stone or whatever is called out in the construction sequence. PPCO has duties in readiness for emergencies

E&S LEGEND

- COMPOST SOCK
- ORANGE CONSTRUCTION FENCE
- LIMIT OF DISTURBANCE
- CONSTRUCTION SITE ENTRANCE
- INLET PROTECTION
- TEMPORARY TOPSOIL STOCKPILE
- CONCRETE WASHOUT
- NAG SC150 EROSION CONTROL BLANKET
- NAG S75 EROSION CONTROL BLANKET
- NAG P300 EROSION CONTROL BLANKET
- SOIL AMENEMENT/RESTORATION AREA
- PROTECTED WOODLANDS
- PROTECTED WETLANDS
- MINIMUM DISTURBANCE/ REDUCED GRADING

PRELIMINARY EROSION & SEDIMENTATION POLLUTION CONTROL PLAN

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
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GAMBONE: HOLLY ROAD

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DRAWN BY	COMP CHECKED	COMP PLOTTED	PB CHK CALL DATE	COMPUTER FILE
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SCALE	TAX MAP/PARCEL		DRAWING NUMBER	
1"=100'	SEE ABOVE		D-7802015 SHEET 38 OF 80	

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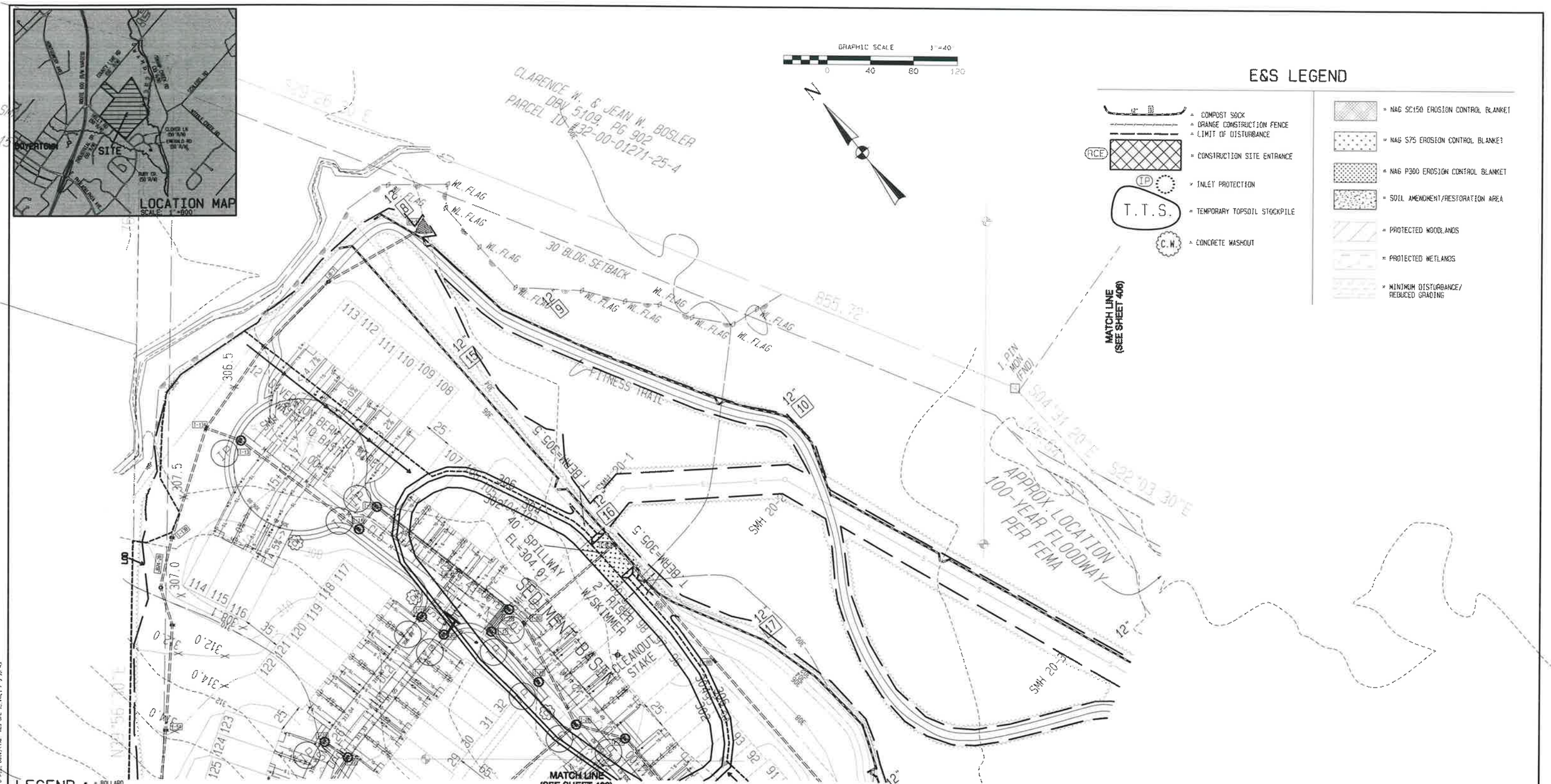

PRELIMINARY EROSION & SEDIMENTATION POLLUTION CONTROL PLAN

NPDES APPLICANT:
GBJ ASSOCIATES INC. &
JACKSON SUPPLY INC.
1030 W. GERMANTOWN PIKE

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
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#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
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#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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1"=40'	SEE ABOVE		G-7002015	SHEET 34 OF 82

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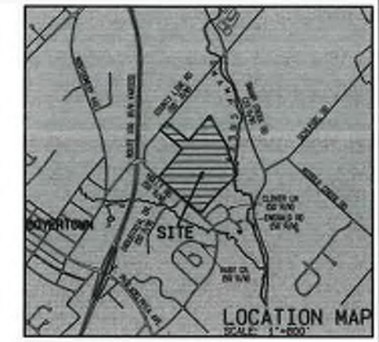

LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
- = PROPOSED STREET LIGHT

PROPOSED FEATURES

E&S LEGEND

- = COMPOST SOCK
- = ORANGE CONSTRUCTION FENCE
- = LIMIT OF DISTURBANCE
- = CONSTRUCTION SITE ENTRANCE
- = INLET PROTECTION
- = TEMPORARY TOPSOIL STOCKPILE
- = CONCRETE WASHOUT
- = NAG SC150 EROSION CONTROL BLANKET
- = NAG S75 EROSION CONTROL BLANKET
- = NAG P300 EROSION CONTROL BLANKET
- = SOIL AMENDMENT/RESTORATION AREA
- = PROTECTED WOODLANDS
- = PROTECTED WETLANDS
- = MINIMUM DISTURBANCE/ REDUCED GRADING

PRELIMINARY EROSION & SEDIMENTATION POLLUTION CONTROL PLAN

NPDES APPLICANT:
GGJ ASSOCIATES INC. &
JACKSON SUPPLY INC.
1030 W.GERMANTOWN PIKE

REVISION	DATE	DESCRIPTION
#5 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-26-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	03-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
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1"=40'	SEE ABOVE		D-7802019	SHEET 35 OF 62

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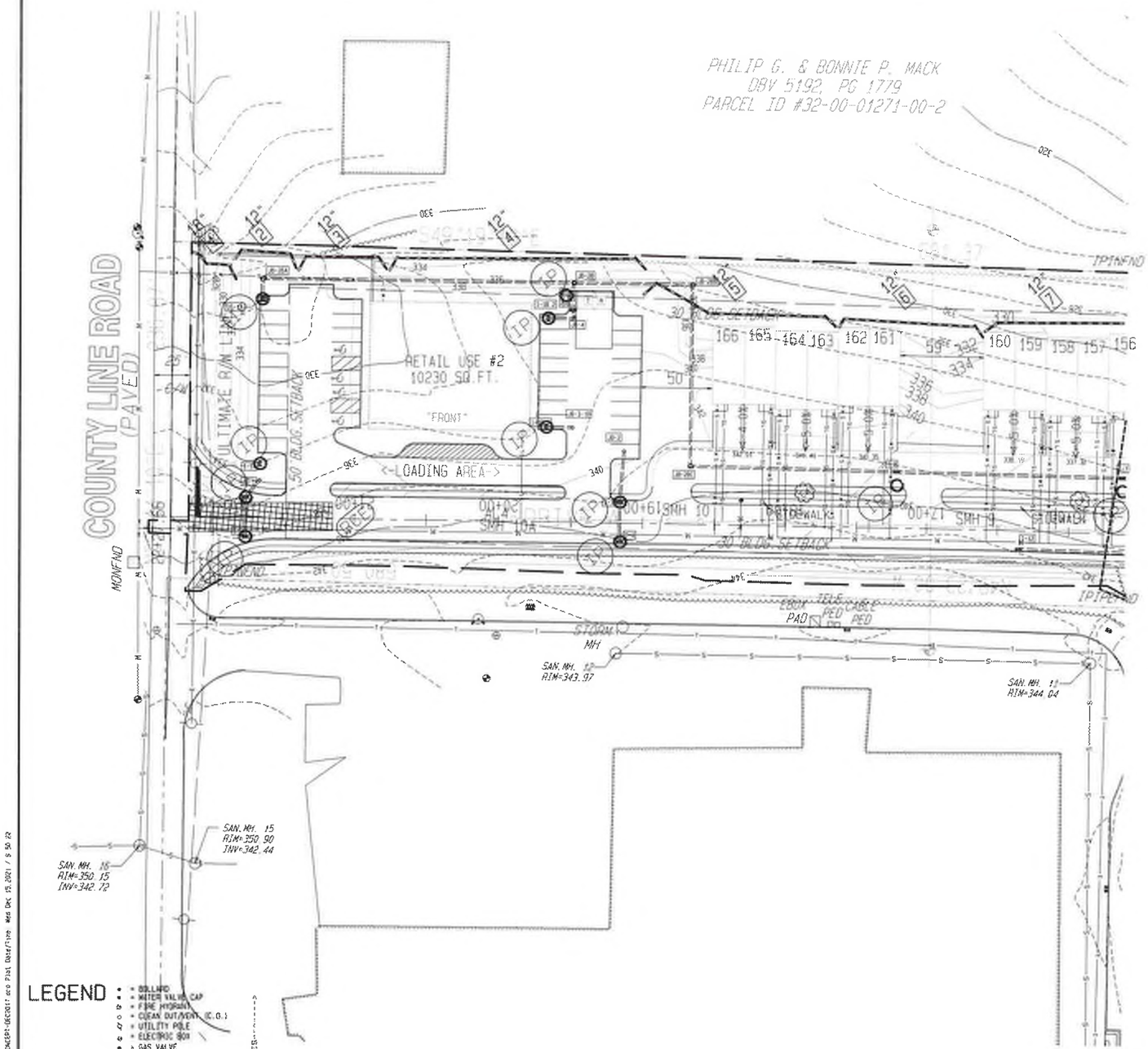
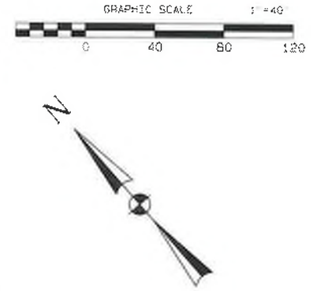
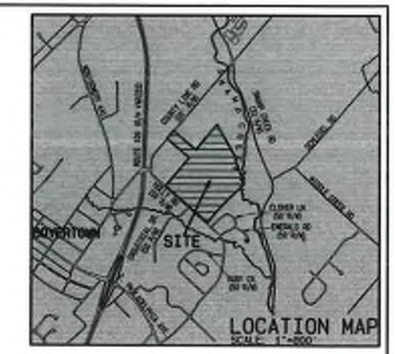




MATCH LINE
(SEE SHEET 402)



E&S LEGEND

- = COMPOST SOCK
- = ORANGE CONSTRUCTION FENCE
- = LIMIT OF DISTURBANCE
- RCE = CONSTRUCTION SITE ENTRANCE
- IP = INLET PROTECTION
- T.T.S. = TEMPORARY TOPSOIL STOCKPILE
- C.W. = CONCRETE WASHOUT
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- = WETLAND LIMITS

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- = BUFFER SCREEN PLANTING
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- = PROPOSED STREET LIGHT

PROPOSED FEATURES

PRELIMINARY EROSION & SEDIMENTATION POLLUTION CONTROL PLAN

NPDES APPLICANT :
GBJ ASSOCIATES INC. &
JACKSON SUPPLY INC.
1030 W.GERMANTOWN PIKE

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
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#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
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MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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1"=40'	SEE ABOVE	D-7802015	SHEET 36 OF 82

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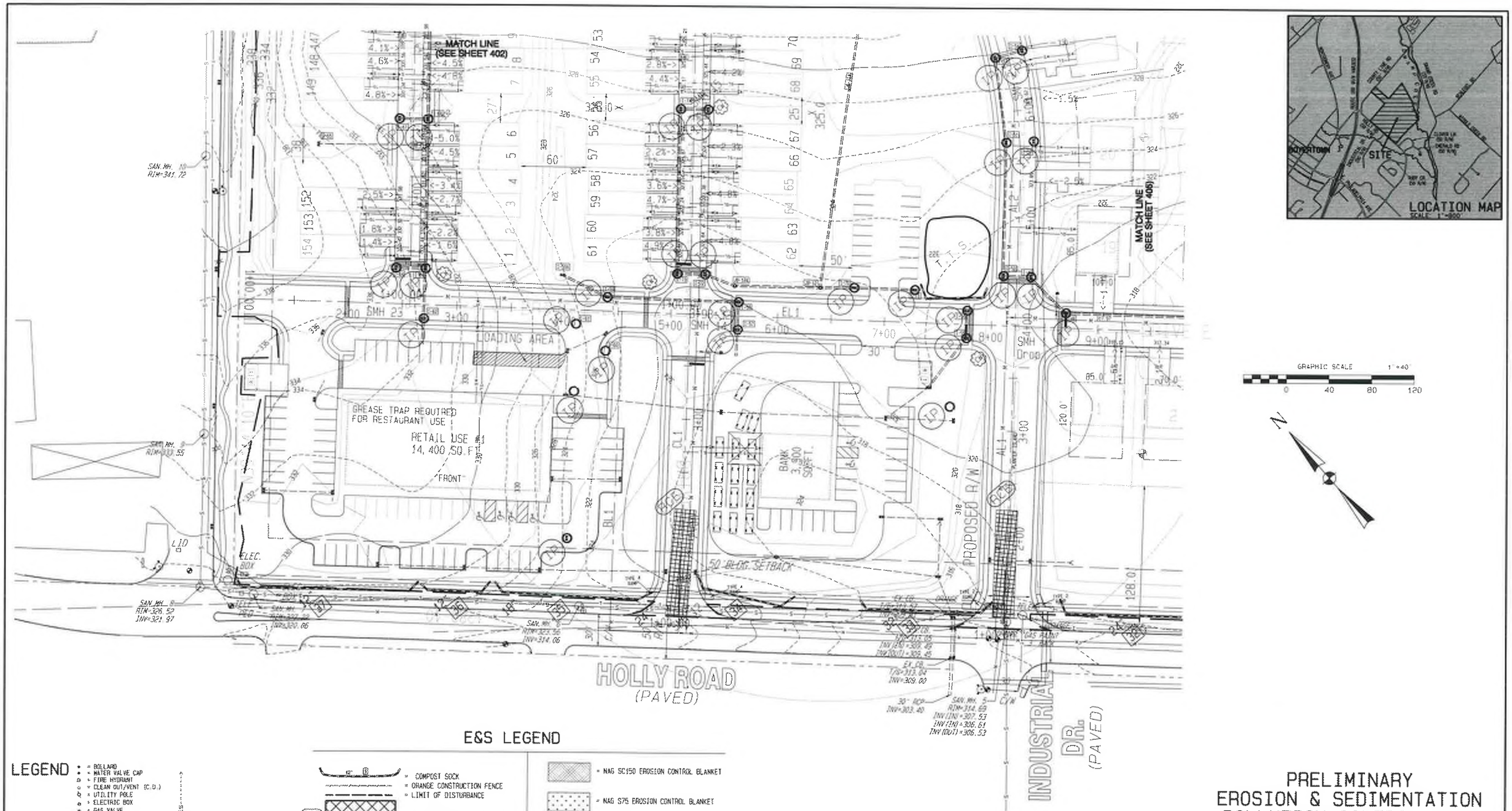

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
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- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
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- WETLAND LIMITS
- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)
- PROPOSED LIGHT POLE
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- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

EXISTING FEATURES

PROPOSED FEATURES

E&S LEGEND

- COMPOST SOCK
- ORANGE CONSTRUCTION FENCE
- LIMIT OF DISTURBANCE
- CONSTRUCTION SITE ENTRANCE
- INLET PROTECTION
- TEMPORARY TOPSOIL STOCKPILE
- CONCRETE WASHOUT
- NAG SC150 EROSION CONTROL BLANKET
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- NAG P300 EROSION CONTROL BLANKET
- SOIL AMENDMENT/RESTORATION AREA
- PROTECTED WOODLANDS
- PROTECTED WETLANDS
- MINIMUM DISTURBANCE/ REDUCED GRADING

NPDES APPLICANT :

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-20	[illegible] OF 12-03-20
#5 WAH	08-23-20	JACKSON SUPPLY INC. 1030 W. GERMANTOWN PIKE
#4 WAH	04-28-21	
#3 WAH	12-08-20	PCR PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
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PRELIMINARY EROSION & SEDIMENTATION POLLUTION CONTROL PLAN

GAMBONE: HOLLY ROAD

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PGR 8-30-16			REVISIONS 5-23-17	G:\Workfiles\Gambone\Holly Road\[illegible]
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=40	SEE ABOVE		D-7602015	SHEET 37 OF 82

Project Desc.: Path: C:\Users\wmcd\Desktop\HOLLY CAD\D2015-GAMBEPT-DLCD017.pro Plot Date/Time: Wed Dec 15, 2021 / 8:51:30

INDUSTRIAL DR. (PAVED)

MATCH LINE (SEE SHEET 404)

MATCH LINE (SEE SHEET 406)

OPEN SPACE A

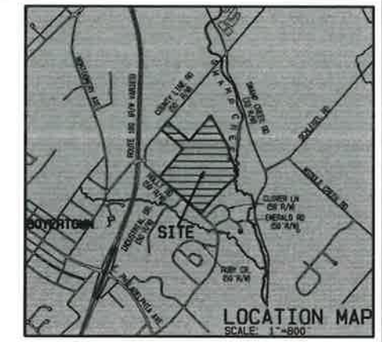
OPEN SPACE C

ULTIMATE R/W LINE

15' SIDEWALK EASEMENT

T.T.S.

(PAVED)



GRAPHIC SCALE 1"=40
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N

LEGEND :

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
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- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
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- PROPOSED LIGHT POLE
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- BASIN FENCE
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- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

PROPOSED FEATURES

E&S LEGEND

- COMPOST SOCK
- ORANGE CONSTRUCTION FENCE
- LIMIT OF DISTURBANCE
- ACE — CONSTRUCTION SITE ENTRANCE
- IP — INLET PROTECTION
- T.T.S. — TEMPORARY TOPSOIL STOCKPILE
- C.W. — CONCRETE WASHOUT
- NAG SC150 EROSION CONTROL BLANKET
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- MINIMUM DISTURBANCE/ REDUCED GRADING

NPDES APPLICANT :
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1030 W.GERMANTOWN PIKE

REVISION	DATE	DESCRIPTION
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#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
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SITUATE IN:
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PRELIMINARY EROSION & SEDIMENTATION POLLUTION CONTROL PLAN

GAMBONE: HOLLY ROAD

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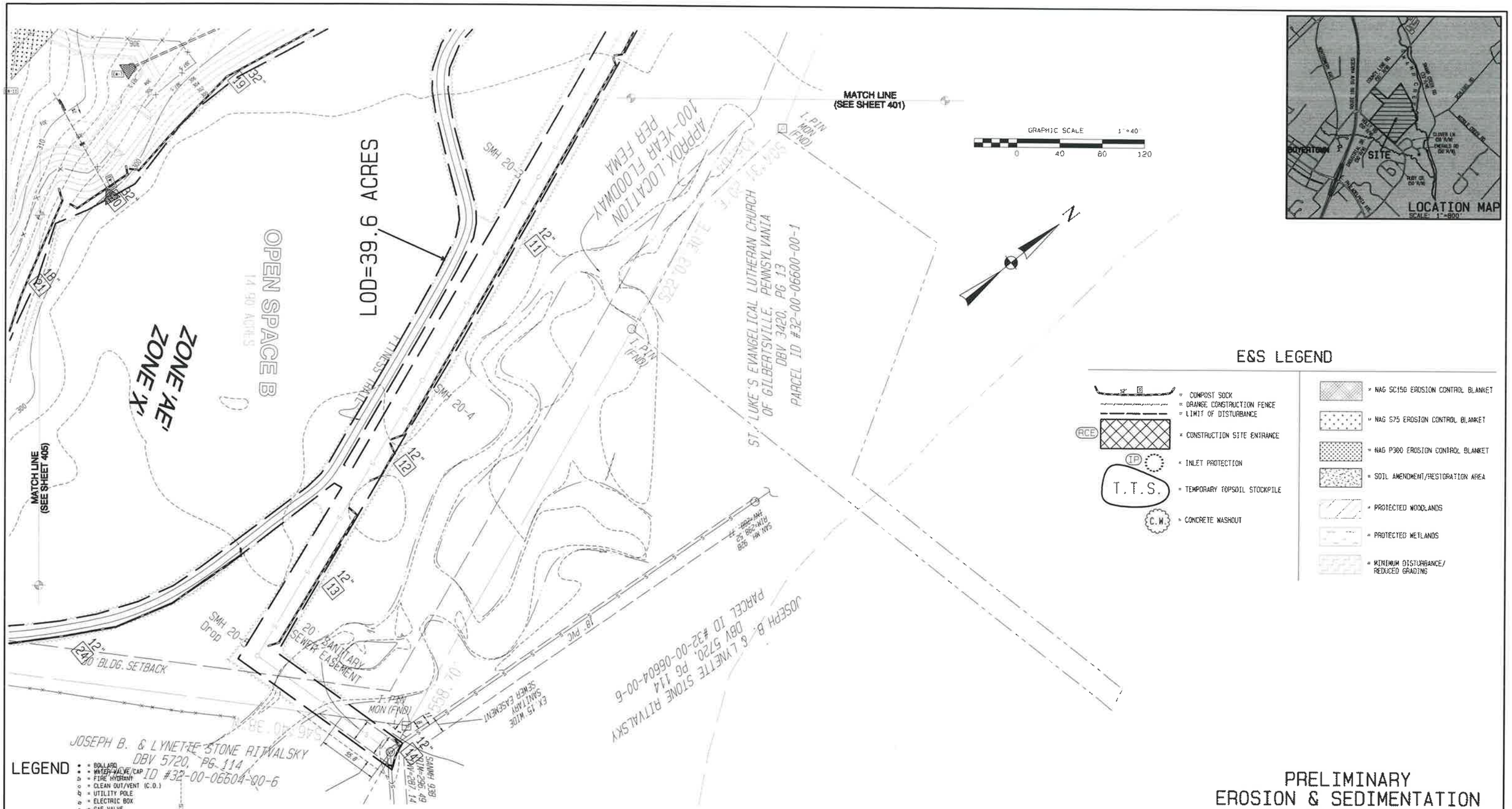
MATCH LINE (SEE SHEET 401)
MATCH LINE (SEE SHEET 405)
GRAPHIC SCALE 1"=40
0 40 80 120
N
LOD=39.6 ACRES
OPEN SPACE B
14.90 ACRES
ZONE 'AE'
ZONE 'X'
APPROX. LOCATION 100-YEAR FLOODWAY PER FEMA
ST. LUKE'S EVANGELICAL LUTHERAN CHURCH OF GILBERTSVILLE, PENNSYLVANIA DBV 3420, PG 13 PARCEL ID #32-00-06600-00-1
JOSEPH B. & LYNETTE STONE RITVALSKY DBV 5720, PG 114 PARCEL ID #32-00-06604-00-6
JOSEPH B. & LYNETTE STONE RITVALSKY DBV 5720, PG 114 PARCEL ID #32-00-06604-00-6
FINCOS TRAIL
SMH 20-3
SMH 20-4
SMH 20-5
SMH 20-6
SMH 20-7
SMH 20-8
SMH 20-9
SMH 20-10
SMH 20-11
SMH 20-12
SMH 20-13
SMH 20-14
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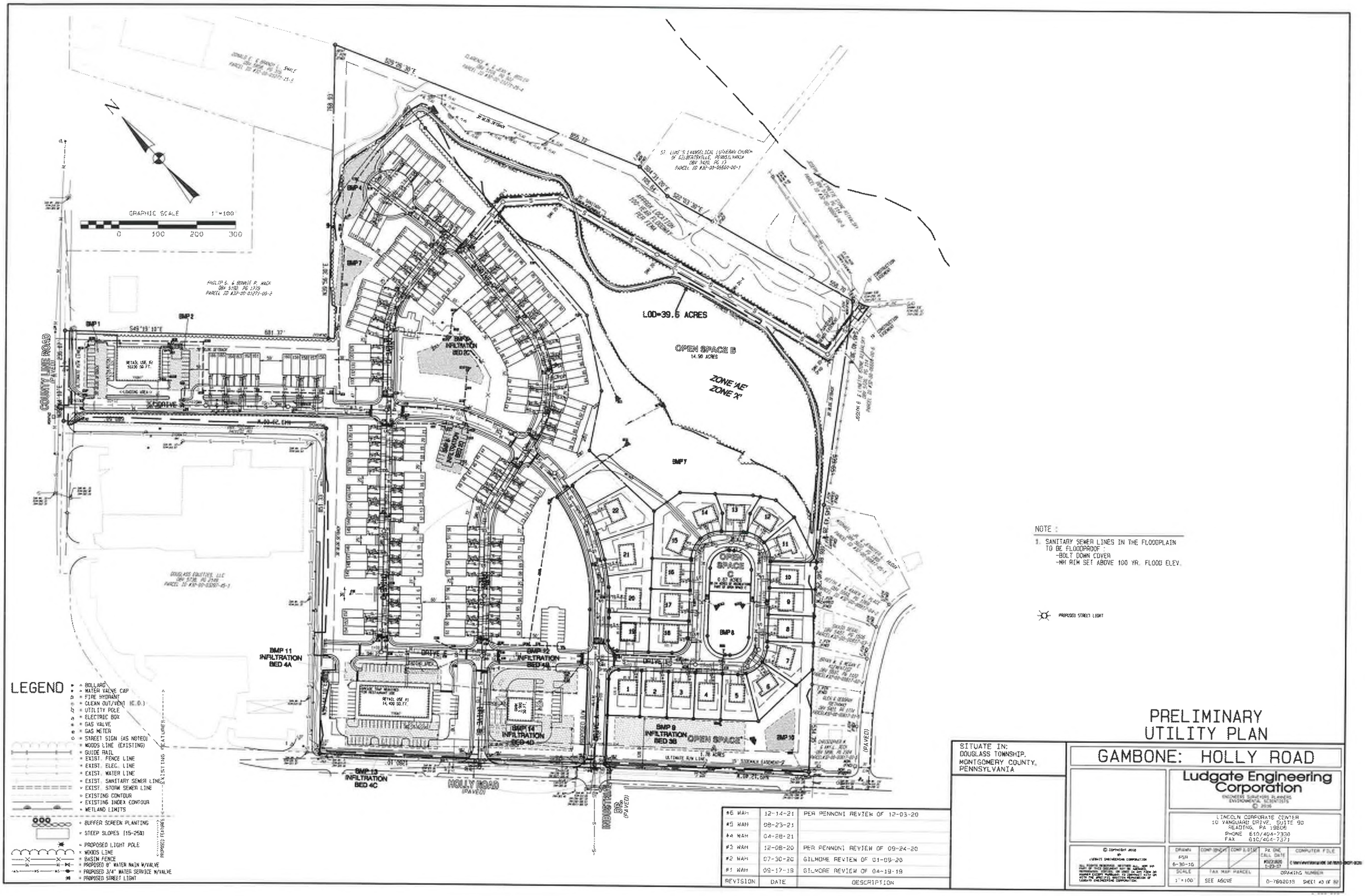
SMH 20-20
SMH 20-21
SMH 20-22
SMH



NOTE :

1. SANITARY SEWER LINES IN THE FLOODPLAIN TO BE FLOODPROOF :
   - BOLT DOWN COVER
   - MH RIM SET ABOVE 100 YR. FLOOD ELEV.

PROPOSED STREET LIGHT

PRELIMINARY UTILITY PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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ENVIRONMENTAL SCIENTISTS
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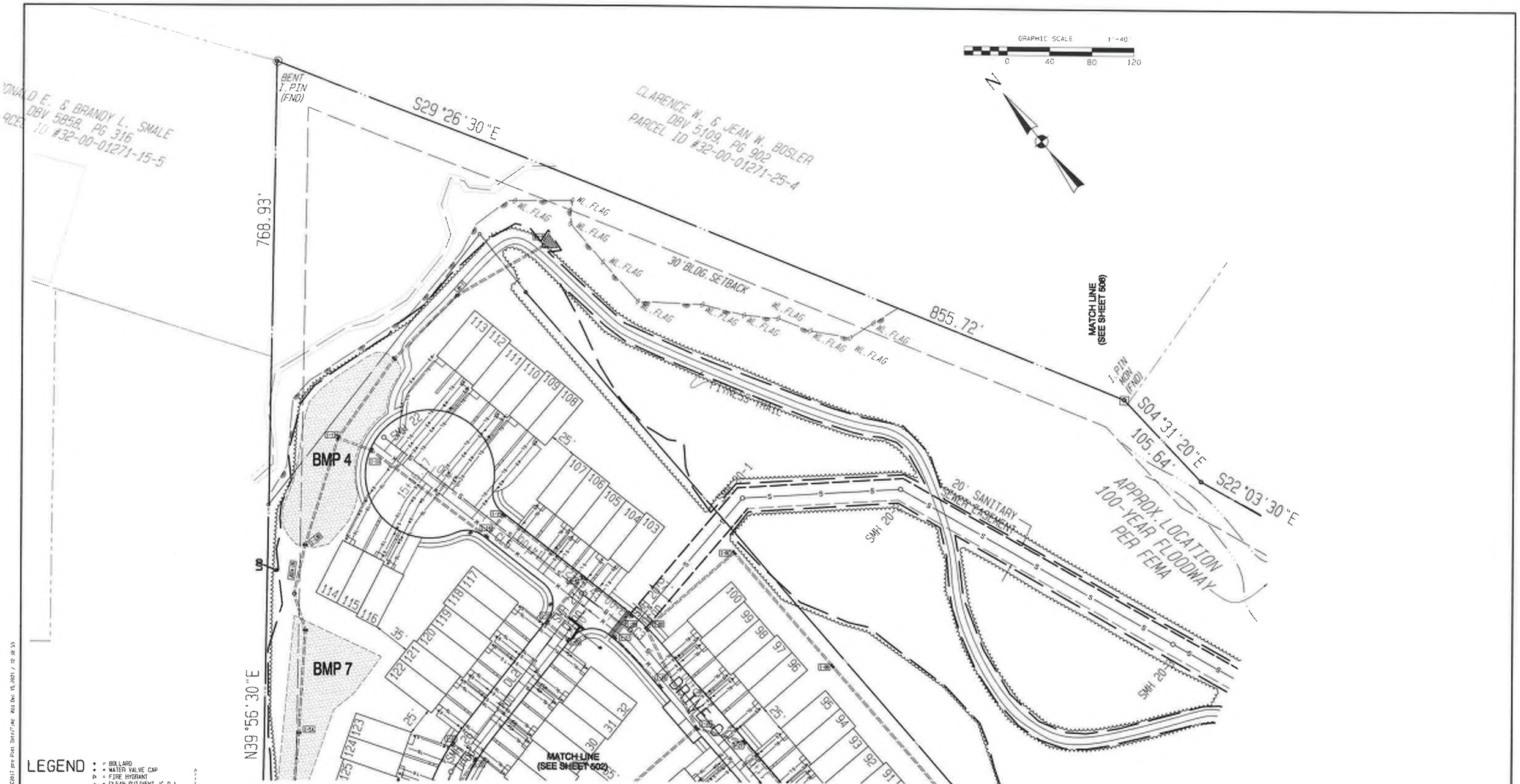
PSR 6-30-10			PO20180205 1-22-21	C:\Users\Public\Documents\Civil 3D Projects\2018-0205-PO20
SCALE	FAX MAP PARCEL		DRAWING NUMBER	
1" = 100'	SEE ABOVE		0-7602035	SHEET 40 OF 80

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-05-20
#1 WAH	08-17-19	GILMORE REVIEW OF 04-19-19

Project Dwg: Path C:\Users\Public\Documents\Civil 3D Projects\2018-0205\Dwgs\PDF\0-7602035 CONCEPT-UE.dwg Plot Date/Time: Wed Dec 15, 2021 / 10:17:20



LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
- = PROPOSED STREET LIGHT

PROPOSED FEATURES

PRELIMINARY UTILITY PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
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#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

GAMBONE: HOLLY ROAD

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DRAWN	COMPUTED	CHECKED	PM ONE / CKD. DATE	COMPUTER FILE
PSR 6-30-16			10/21/2020 1-27-17	C:\Users\Gambone\DESIGN\D-780201B.dwg
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=40'	SEE ABOVE		D-780201B	SHEET 43 OF 82

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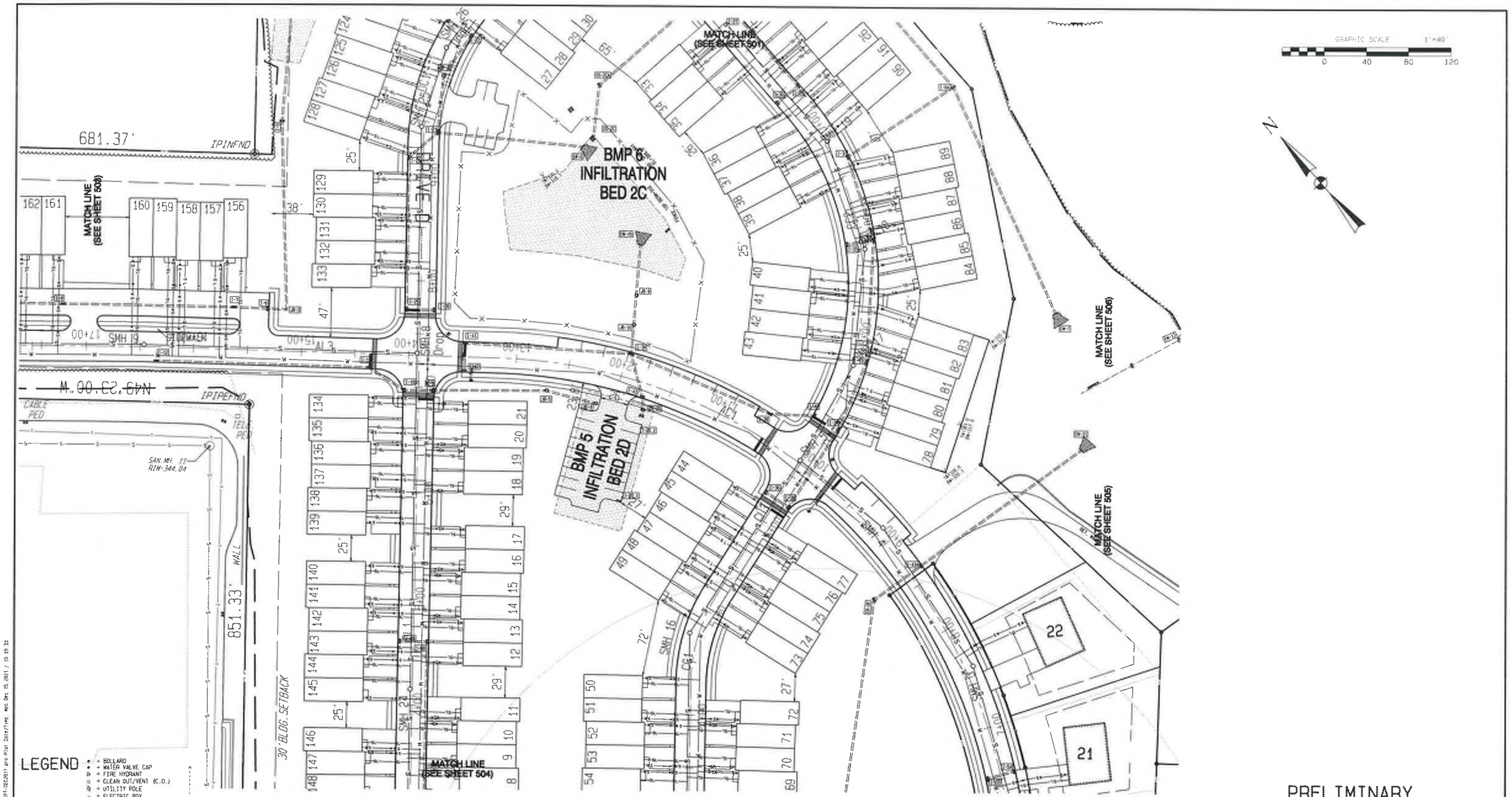

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- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
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- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

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PRELIMINARY UTILITY PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
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#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
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GAMBONE: HOLLY ROAD

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DRAWN	COMP CHKD	COMP CLEAR	PA ONE CALL DATE	COMPUTER FILE
PSR 6-30-16			#20141820 1-22-17	C:\WORKGROUP\DEVELOPMENT\GAMBONE
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=40'	SEE ABOVE		D-7802015	SHEET 42 OF 80

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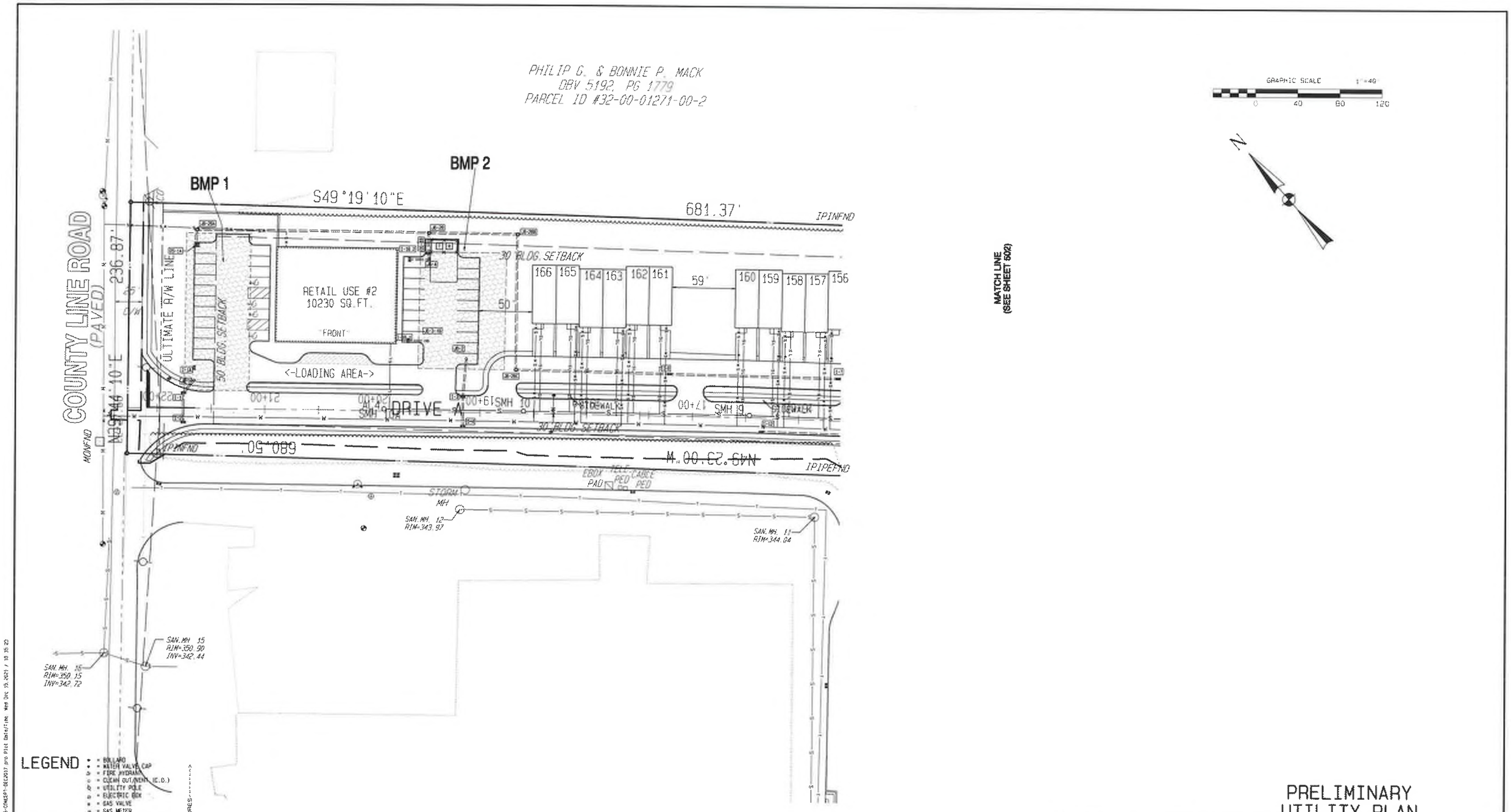

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

PRELIMINARY UTILITY PLAN

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6-30-16	CALL DATE #0019800 1-03-17
SCALE 1"=40'	TAX MAP PARCEL SEE ABOVE
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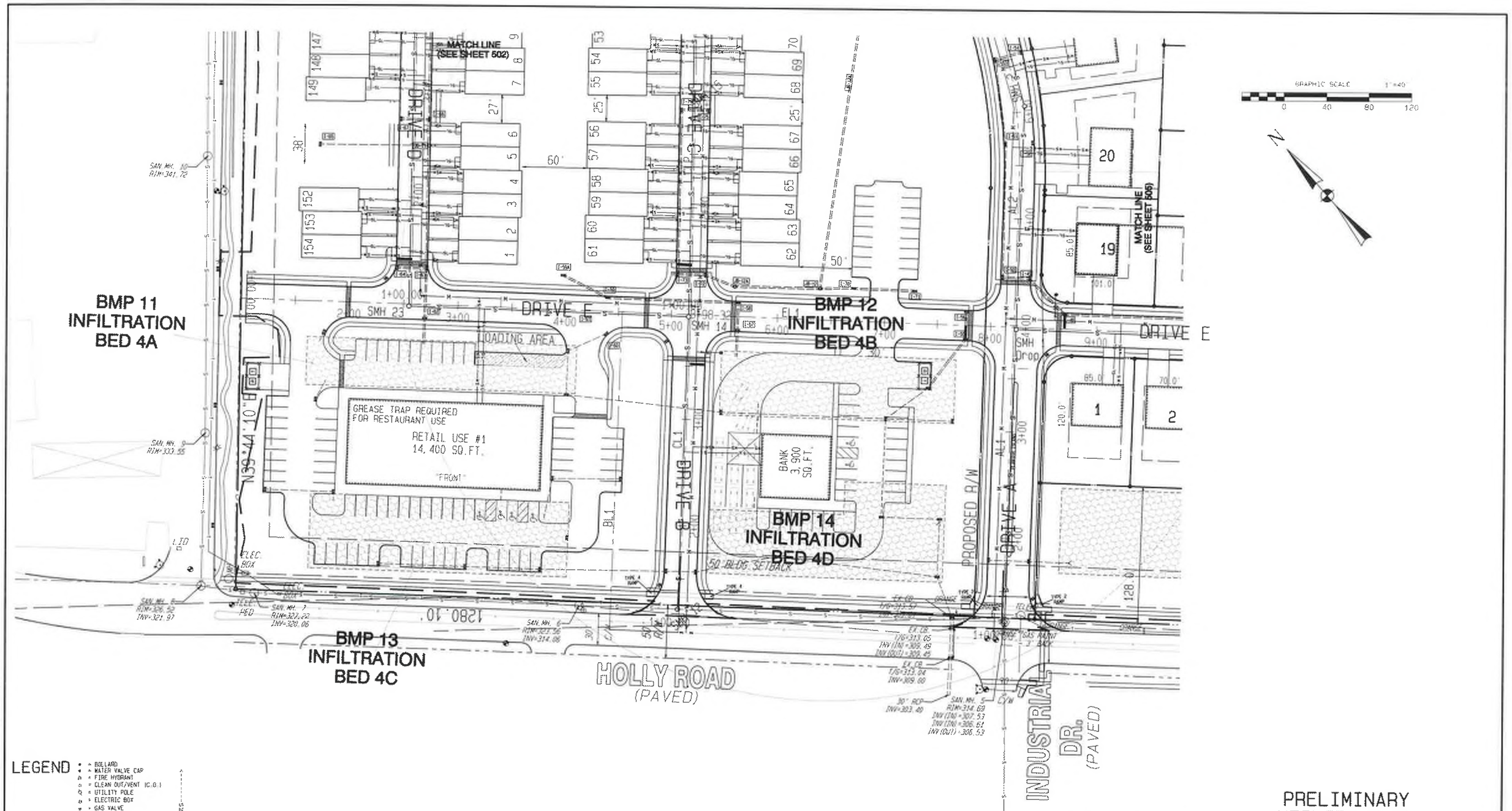

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
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- EXIST. STORM SEWER LINE
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- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
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- PROPOSED 8" WATER MAIN W/VALVE
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#2 WAH	07-20-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-18-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

PRELIMINARY UTILITY PLAN

GAMBONE: HOLLY ROAD

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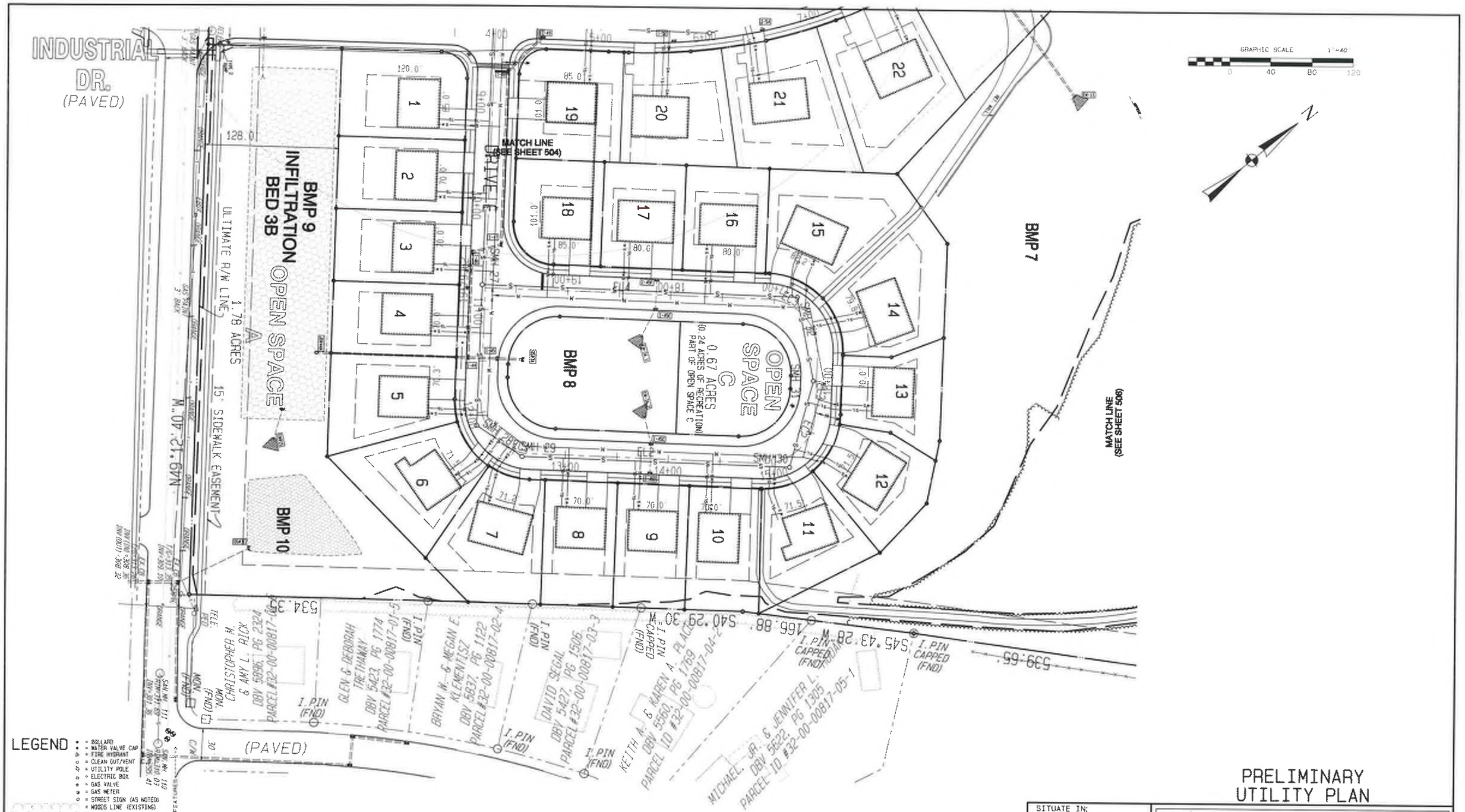
DRAWN	COMPUTER FILE
HSR 6-30-16	PA ONE CALL DATE #20210820
SCALE 1"=40'	TAX MAP PARCEL SEE ABOVE
DRAWING NUMBER D-7802015	SHEET 46 OF 60



PRELIMINARY UTILITY PLAN

SITUATE IN:
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MONTGOMERY COUNTY,
PENNSYLVANIA

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SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=40'	SEE ABOVE		B-7802015	SHEET 45 OF 82

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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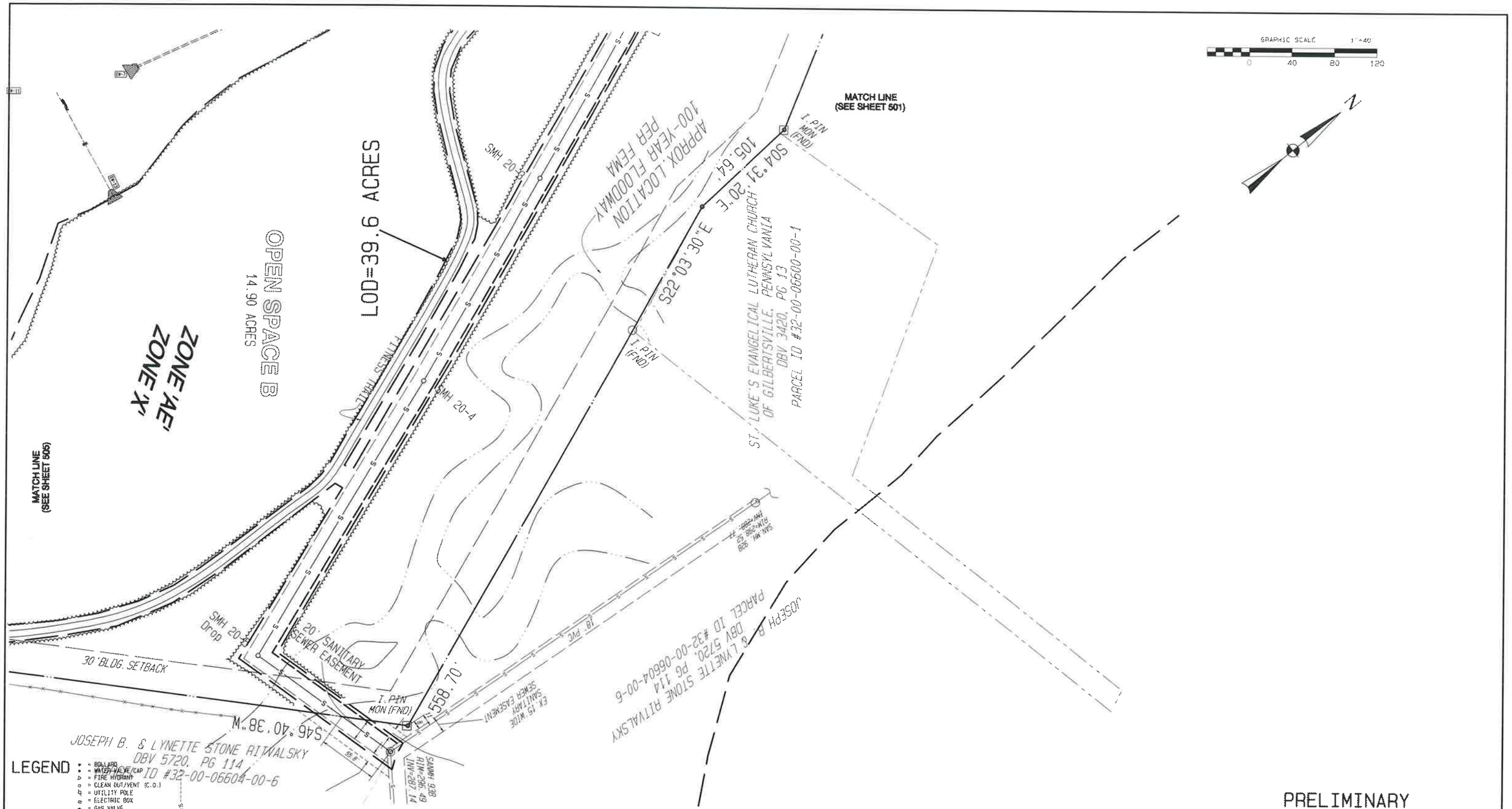

PRELIMINARY UTILITY PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

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REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNDNI REVIEW OF 12-03-20
#5 WAH	08-23-21	
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#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

Project Desc.: PATH C:\Users\admin\Desktop\GDE CAD\2016\15-CONCEPT-REVISIT.dwg Plot Date/time Wed Dec 13,2021 10:37:55

NOTE :
THERE WERE NO TREES 6" OR GREATER FOUND WITHIN THE LOD. IF SUCH TREES ARE FOUND DURING CONSTRUCTION THEY ARE TO BE NOTED AND ARE TO REMAIN AND/OR BE REPLACED AT APPLICANTS EXPENSE.

Soils on site are

MeB - Manbeistown silt loam, 3-8% slopes
Bo - Bowmansville-Hatboro silt loams
CrA - Croton silt loam, occasionally flooded, 0-3% slopes
PeB - Penn silt loam, 3-8% slopes
PkD - Penn-Klinesville channery silt loams, 15-25% slopes
BaA - Barclay silt loam, 0-3% slopes
RdB - Raritan silt loam, 3-8% slopes
RhB - Rowland silt loam, 3-8% slopes
UusB - Urban land-Udorthents, shale and sandstone complex, 0-8% slopes

SOIL LIMITATIONS	SOIL RESOLUTIONS	MeB	Bo	CrA	PeB	PkD	BaA	RdB	RhB	UusB
Hydric/Hydric Inclusions	Avoidance, pumped water filter bags, trench plugs		X	X			X			
Depth to Saturated Zone/Seasonal High Water Table	Pumped water filter, footer drains	38cm	0cm	8cm	>200cm	>200cm	53cm	53cm	53cm	>200cm
Depth to Restrictive Layer	Test to determine depth. Design for conditions	51cm	217cm	48cm	56cm	86cm	68cm	38cm	81cm	138cm
Cutbanks Cave	Layback slopes, follow OSHA rules for safety	X	X	X	X	X	X	X	X	X
Corrosion to Concrete/Steel	Corrosive resistant concrete - protective barrier between water and the steel - galvanized steel	C/S	C/S	C/S	C	C	C/S	C/S	C/S	C/S
Droughty	Compost mix to hold in moisture				X	X			X	X
Easily Erodible	Maintain erosion control BMPs	X		X					X	X
Flooding	Layback slopes/design for conditions		X							
Low Strength/Landslide Prone	Drainage ditch, pumped water filter bag	X	X	X	X	X				X
Slow Percolation	Maintain erosion control BMPs	X	X	X			X	X	X	X
Piping	Trench plugs	X	X	X	X	X	X	X	X	
Poor Source of Topsoil	Avoid reuse as topsoil or amend as necessary	X	X	X	X	X	X	X	X	X
Frost Action	Construct below frost depths/positive subgrade	X	X	X	X	X	X	X	X	X
Ponding	Design for conditions drainage trenches, pumped water filter bag, sump pumps, footer drains			X						
Wetness	Trench plugs	X	X	X		X	X	X	X	

FOR SAFETY: Keep the following items in mind.

In the event groundwater is encountered, the contractor shall employ methods of the pumped water details as shown on the plan.

If bedrock is encountered, notify Design Engineer immediately. Changes may need to occur to the plan. The Conservation District must be informed of any changes.

Excavation walls may be unstable. Contractor shall always ensure that proper shoring methods and OSHA safety procedures are utilized to keep workers safe.

Contractor must ensure that areas that have been disturbed will be immediately stabilized with erosion control blanket, stone or whatever is called out in the construction sequence. Keep hay bales on readiness for emergencies.

LEGEND :

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
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- GAS VALVE
- GAS METER
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#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

EXISTING CONDITIONS

GAMBONE: HOLLY ROAD

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DRAWN	COMP 1ST	COMP 2ND	PA ONE CALL DATE	COMPUTER FILE
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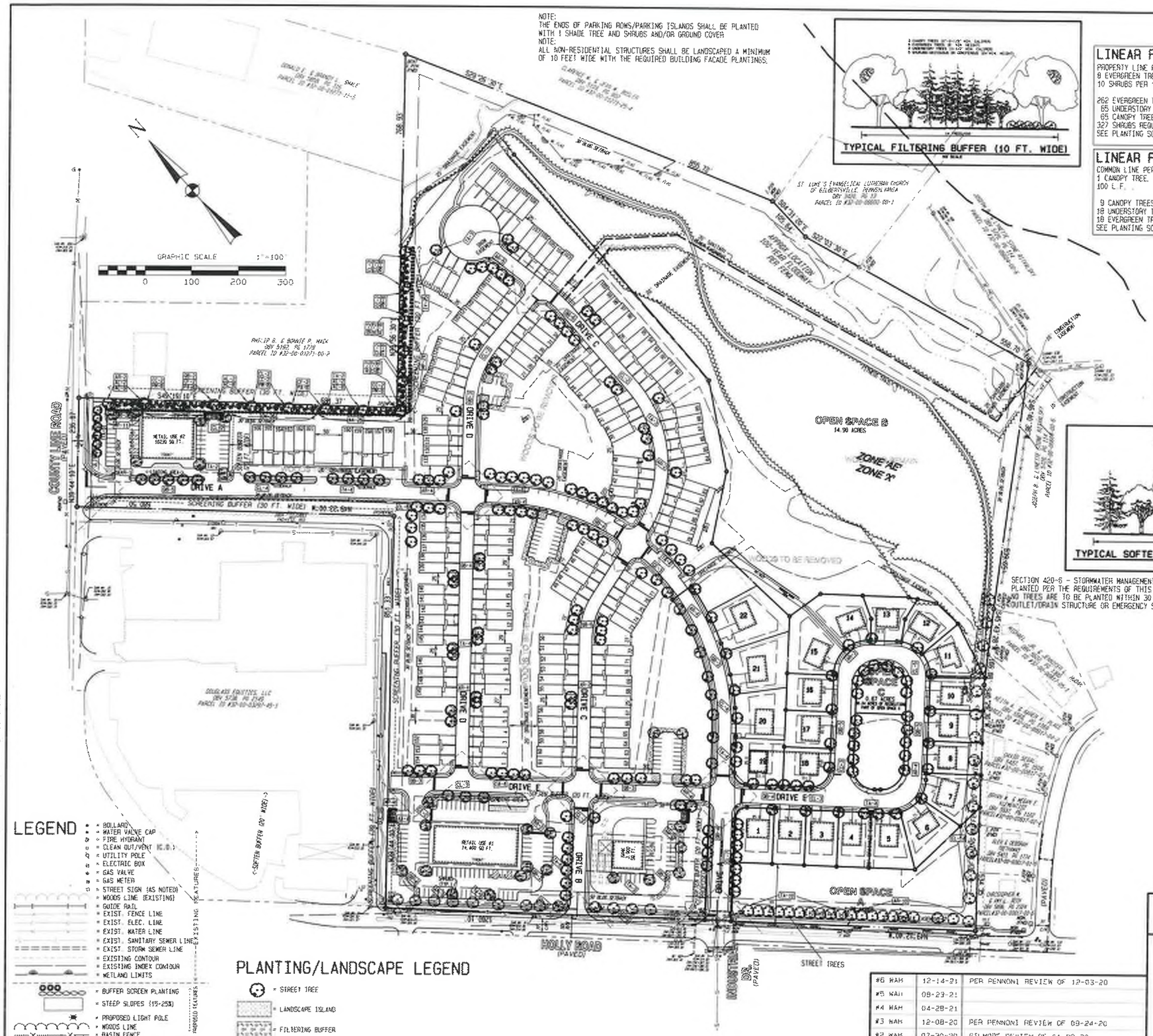
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100'	SEE ABOVE		D-7802015	SHEET 47 OF 80

Project Dwg. Path: C:\Users\wharr\Desktop\HOME CAD\7802015-CONCEPT-DEC2017 and Plot Date/Time: Wed Dec 13 2017 / 10:38:53

NOTE:
THE ENDS OF PARKING ROWS/PARKING ISLANDS SHALL BE PLANTED WITH 1 SHADE TREE AND SHRUBS AND/OR GROUND COVER
NOTE:
ALL NON-RESIDENTIAL STRUCTURES SHALL BE LANDSCAPED A MINIMUM OF 10 FEET WIDE WITH THE REQUIRED BUILDING FACADE PLANTINGS.



LINEAR FEET FOR SCREENING BUFFER

PROPERTY LINE PERIMETER = 3,274 L.F.
8 EVERGREEN TREES, 2 UNDERSTORY TREES, 2 CANOPY TREES
10 SHRUBS PER 100 L.F.

262 EVERGREEN TREES REQUIRED
65 UNDERSTORY TREES REQUIRED
65 CANOPY TREES REQUIRED
327 SHRUBS REQUIRED
SEE PLANTING SCHEDULE FOR SPECIES.

LINEAR FEET FOR SOFTENING BUFFER

COMMON LINE PERIMETER = 882 L.F.
1 CANOPY TREE, 2 UNDERSTORY TREES, 2 EVERGREEN TREES PER 100 L.F.

9 CANOPY TREES REQUIRED
18 UNDERSTORY TREES REQUIRED
18 EVERGREEN TREES REQUIRED
SEE PLANTING SCHEDULE FOR SPECIES.

PLANTING ISLAND REQUIREMENTS

RESIDENTIAL USE = 40/15 = 3 ISLANDS REQ'D.
NON-RESIDENTIAL USE= 153/15 = 11 STREET TREES REQ'D.
14 TOTAL REQ'D.
(25 TOTAL PROVIDED)
1 ISLAND PER PARKING ROW @ DRIVE = 20 ISLANDS REQ'D.
(20 PROVIDED)
SEE PLANTING SCHEDULE FOR SPECIES

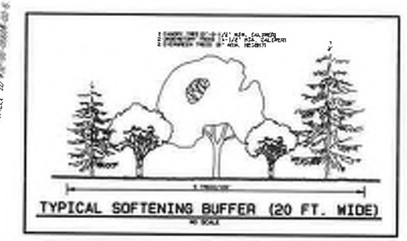
SECTION 420-5.A.4.C - CANOPY TREES SHALL BE PROVIDED AT 1 CANOPY TREE FOR EVERY 2 TOWNHOUSE DWELLING UNITS, THEREFORE 83 CANOPY TREES SHALL BE PROVIDED FOR FOUNDATION PLANTINGS.

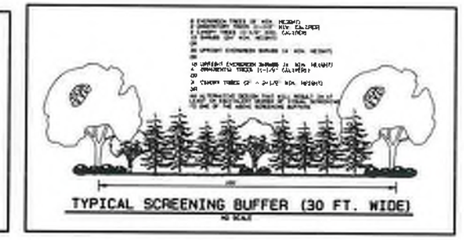
LINEAR FEET FOR EXIST. STREETS

HOLLY ROAD = 1,280/40 = 32 STREET TREES REQ'D.
COUNTY LINE ROAD = 237/40 = 6 STREET TREES REQ'D.
38 TOTAL REQ'D.
(38 TOTAL PROVIDED)
SEE PLANTING SCHEDULE FOR SPECIES

LINEAR FEET FOR NEW STREETS

DRIVE A = 2,130/40 = 54 STREET TREES REQ'D.
DRIVE B = 298/40 = 8 STREET TREES REQ'D.
DRIVE C = 1,416/40 = 36 STREET TREES REQ'D.
DRIVE D = 1,129/40 = 29 STREET TREES REQ'D.
DRIVE E = 1,880/40 = 47 STREET TREES REQ'D.
174 TOTAL REQ'D.
(185 TOTAL PROVIDED)
SEE PLANTING SCHEDULE FOR SPECIES





SECTION 420-6 - STORMWATER MANAGEMENT BASINS SHALL BE PLANTED PER THE REQUIREMENTS OF THIS SECTION OF THE ORDINANCE. NO TREES ARE TO BE PLANTED WITHIN 30 FEET OF AN OUTLET/DRAIN STRUCTURE OR EMERGENCY SPILLWAY.

PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	PLANTING SIZE	HT. RANGE AT MATURITY	WD. RANGE AT MATURITY	MIN. SPACING AT PLANTING	COMMENTS	TOTAL PROPOSED
SHADE OR CANOPY TREES FOR STREET TREES AND/OR BUFFERS							
TA TILIA AMERICANA	AMERICAN LINDEN	2 1/2" C.	50'-70'	25'-35'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
AR ACER RUBRUM	RED MAPLE	2 1/2" C.	50'-60'	35'-45'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
QR QUERCUS RUBRA	RED OAK	2 1/2" C.	60'-75'	40'-50'	25'	STRAIGHT TRUNK FULL HEAD, B & B	70
LL LIQUIDAMBAR LUTEA	YELLOWWOOD	2 1/2" C.	30'-50'	40'-55'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
UNDERSTORY TREES							
AL AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	2 1/2" C.	15'-25'	15'-25'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CC CORNUS CANADENSIS	EASTERN REDBUD	2 1/2" C.	20'-30'	25'-35'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CF CORNUS FLORIDA	FLOWERING DOGWOOD	2 1/2" C.	20'-25'	35'-30'	25'	STRAIGHT TRUNK FULL HEAD, B & B	10
EVERGREEN TREES FOR PROPERTY LINE BUFFERS							
AC ABIES CONCOLOR	WHITE FIR	6' HT.	40'-50'	15'-25'	12'	B & B	94
PM PSEUDOTSUGA MENZIESII	DOUGLAS FIR	6' HT.	40'-50'	15'-25'	12'	B & B	94
PA PICEA ABIES	NORWAY SPRUCE	6' HT.	40'-50'	15'-25'	12'	B & B	92
SHRUBS							
IV ILEX VERTICILLATA	WINTERBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	109
HP HYPERICA PERNSYLVANICA	DWARF	3' HT.	5'-10'	6'-10'	3'	B & B	109
AA ARONIA ARBUTIFOLIA	BLACK CHOKEBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	108
CS CORNUS MAS	CORNELIANCHERRY DOGWOOD	3' HT.	6'-10'	6'-10'	3'	B & B	108

LANDSCAPING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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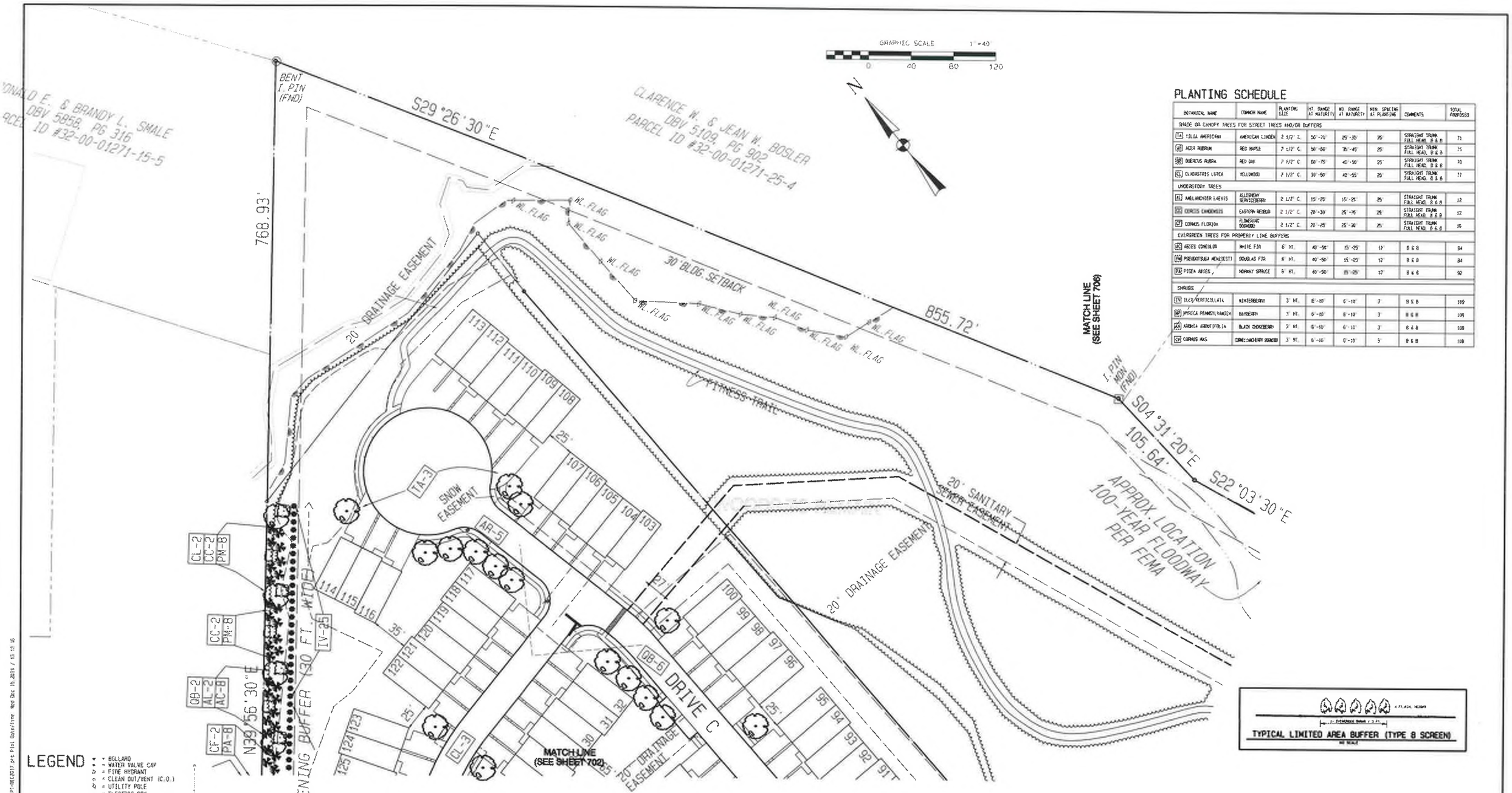
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100'	SEE ABOVE		D-7800B015	SHEET 40 OF 82

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19



PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	PLANTING SIZE	HT. RANGE AT MATURITY	WD. RANGE AT MATURITY	MIN. SPACING AT PLANTING	COMMENTS	TOTAL PROPOSED
SHADE OR CANOPY TREES FOR STREET TREES AND/OR BUFFERS							
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AR ACER RUBRUM	RED MAPLE	2 1/2" C.	50'-60'	35'-45'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
QR QUERCUS RUBRA	RED OAK	2 1/2" C.	60'-75'	45'-50'	25'	STRAIGHT TRUNK FULL HEAD, B & B	70
CL CLADRASTIS LUTEA	YELLOWOOD	2 1/2" C.	30'-50'	40'-55'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
UNDERSTORY TREES							
AL AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	2 1/2" C.	15'-25'	15'-25'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CC CORCUS CANADENSIS	EASTERN REDBUD	2 1/2" C.	20'-30'	25'-35'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CF CORNUS FLORIDA	FLOWERING DOGWOOD	2 1/2" C.	20'-25'	25'-30'	25'	STRAIGHT TRUNK FULL HEAD, B & B	10
EVERGREEN TREES FOR PROPERTY LINE BUFFERS							
AC ABIES CONCOLOR	WHITE FIR	6' HT.	40'-50'	15'-25'	12'	B & B	84
PM PSEUDOTSUGA MENZIESII	DOUGLAS FIR	6' HT.	40'-50'	15'-25'	12'	B & B	84
PA PICEA ABIES	NORWAY SPRUCE	6' HT.	40'-50'	15'-25'	12'	B & B	90
SHRUBS							
IV ILEX VERTICILLATA	WINTERBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	199
MP MYRICA PENNSYLVANICA	BAYBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	199
AA ARONIA ARBUTIFOLIA	BLACK CHOKEBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	199
CM CORNUS MAS	CORNELIANCHERRY DOGWOOD	3' HT.	6'-10'	6'-10'	5'	B & B	199

TYPICAL LIMITED AREA BUFFER (TYPE B SCREEN)
NO SCALE

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

PLANTING/LANDSCAPE LEGEND

- = STREET TREE
- = LANDSCAPE ISLAND
- = FILTERING BUFFER

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
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SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

LANDSCAPING PLAN

GAMBONE: HOLLY ROAD

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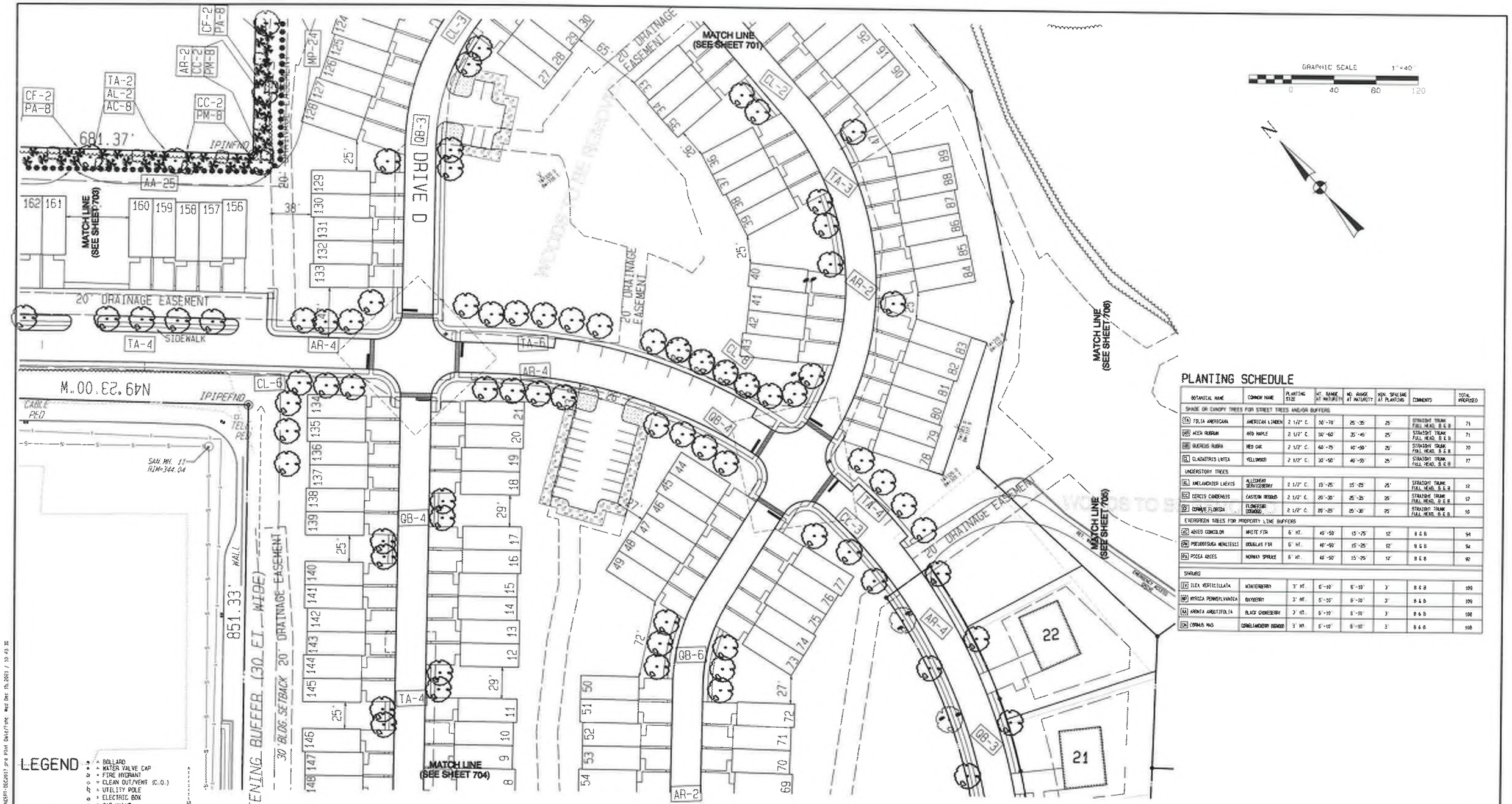

PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	PLANTING SIZE	HT. RANGE AT MATURITY	WD. RANGE AT MATURITY	MIN. SPACING AT PLANTING	COMMENTS	TOTAL PROPOSED
SHADE OR CANOPY TREES FOR STREET TREES AND/OR BUFFERS							
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AR ACER RUBRUM	RED MAPLE	2 1/2" C.	50'-60'	35'-45'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
QR QUERCUS RUBRA	RED OAK	2 1/2" C.	60'-75'	40'-50'	25'	STRAIGHT TRUNK FULL HEAD, B & B	20
GL GLEDITSIA LINTEA	YELLOWOOD	2 1/2" C.	30'-50'	40'-55'	25'	STRAIGHT TRUNK FULL HEAD, B & B	37
UNDERSTORY TREES							
AL AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	2 1/2" C.	15'-25'	15'-25'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CC CERCIS CANADENSIS	EASTERN REDBUD	2 1/2" C.	20'-30'	25'-35'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
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EVERGREEN TREES FOR PROPERTY LINE BUFFERS							
AC ABIES CONCOLOR	WHITE FIR	6' HT.	40'-50'	15'-25'	12'	B & B	94
PM PSEUDOTSUGA MENZIESII	DOUGLAS FIR	6' HT.	40'-50'	15'-25'	12'	B & B	94
PA PICEA ABIES	NORWAY SPRUCE	6' HT.	45'-50'	15'-25'	12'	B & B	92
SHRUBS							
IV ILEX VERTICILLATA	WINTERBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	109
MP MYRICA PENNSYLVANICA	BAYBERRY	3' HT.	5'-10'	6'-10'	3'	B & B	109
AA ARONIA ARBUTIFOLIA	BLACK CHOKEBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	108
CM CORNUS MAS	CORNELIANCHERRY DOGWOOD	3' HT.	6'-10'	6'-10'	3'	B & B	108

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS
- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)
- PROPOSED LIGHT POLE
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- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
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PLANTING/LANDSCAPE LEGEND

- STREET TREE
- LANDSCAPE ISLAND
- FILTERING BUFFER

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
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SITUATE IN:
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LANDSCAPING PLAN

GAMBONE: HOLLY ROAD

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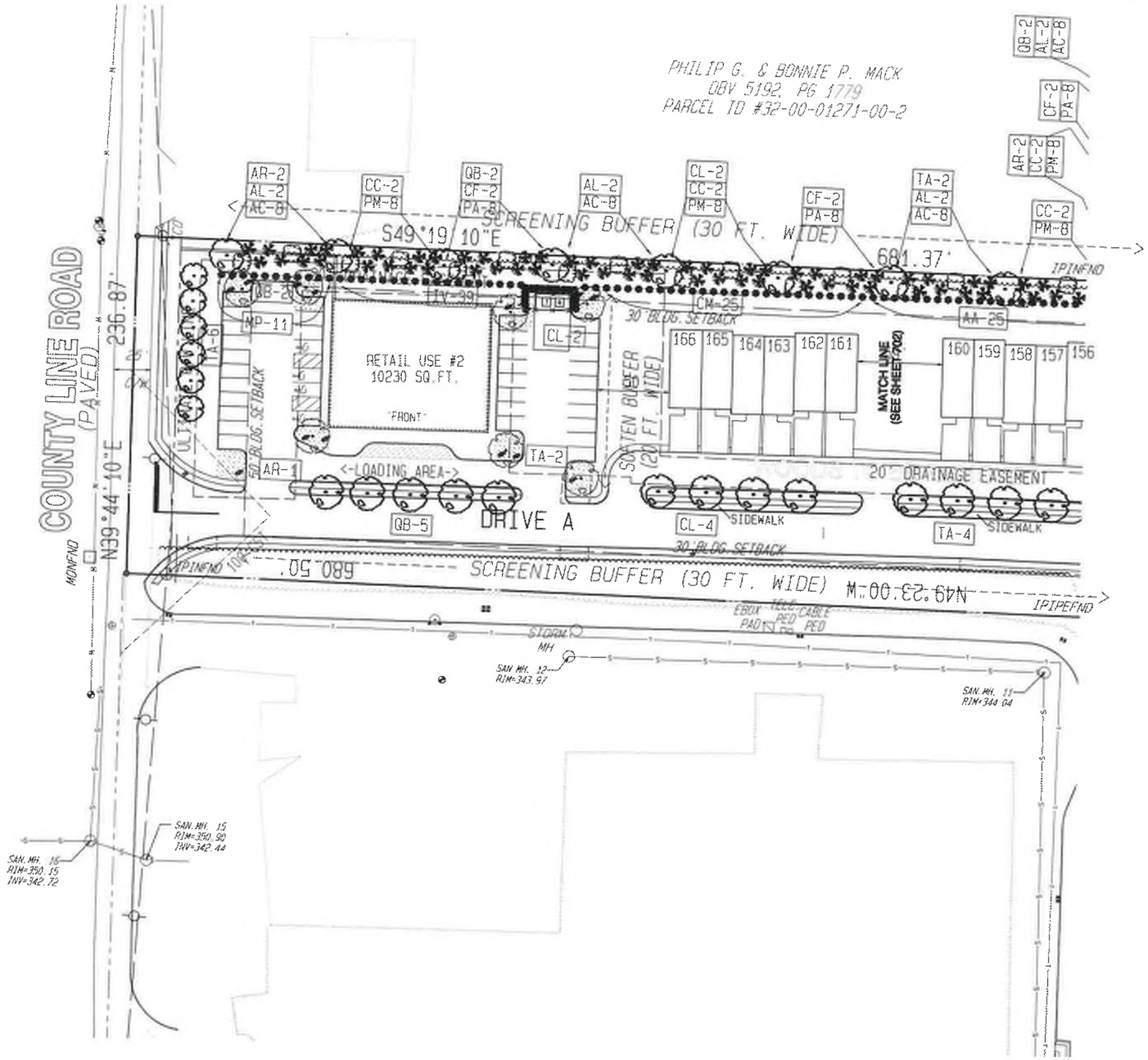

PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	PLANTING SIZE	HT. RANGE AT MATURITY	NO. RANGE AT MATURITY	MIN. SPACING AT PLANTING	COMMENTS	TOTAL PROPOSED
SHADE OR CANOPY TREES FOR STREET TREES AND/OR BUFFERS							
TA TILIA AMERICANA	AMERICAN LINDEN	2 1/2" C.	50'-70'	25'-35'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
AR ACER RUBRUM	RED MAPLE	2 1/2" C.	50'-60'	35'-45'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
QB QUERCUS RUBRA	RED OAK	2 1/2" C.	60'-75'	40'-50'	25'	STRAIGHT TRUNK FULL HEAD, B & B	70
CL CLADASTRIS LUTEA	YELLOWWOOD	2 1/2" C.	30'-50'	40'-55'	25'	STRAIGHT TRUNK FULL HEAD, B & B	77
UNDERSTORY TREES							
AL AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	8 1/2' C.	15'-25'	15'-25'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CC CERCIS CANADENSIS	EASTERN REDBUD	2 1/2" C.	20'-30'	25'-35'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CF CORNUS FLORIDA	FLOWERING DOGWOOD	2 1/2" C.	20'-25'	25'-30'	25'	STRAIGHT TRUNK FULL HEAD, B & B	10
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SHRUBS							
IV ILEX VERTICILLATA	WINTERBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	109
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CM CORNUS MAS	CORNELIANCHERRY DOGWOOD	3' HT.	6'-10'	6'-10'	3'	B & B	108

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
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- GAS METER
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- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)
- PROPOSED LIGHT POLE
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- PROPOSED STREET LIGHT

PROPOSED FEATURES

PLANTING/LANDSCAPE LEGEND

- STREET TREE
- LANDSCAPE ISLAND
- FILTERING BUFFER

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
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PENNSYLVANIA

LANDSCAPING PLAN

GAMBONE: HOLLY ROAD

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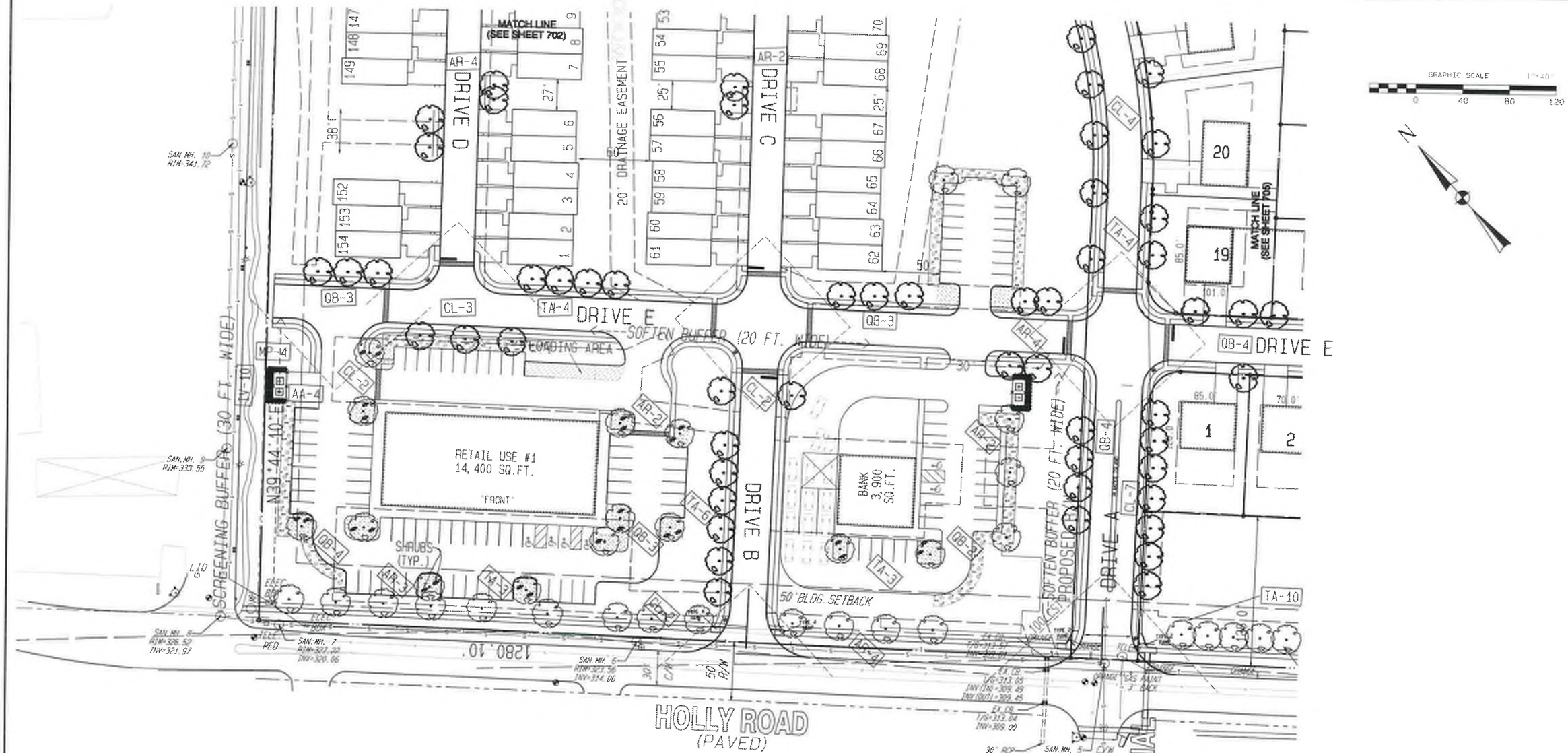

PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	PLANTING SIZE	HT. RANGE AT MATURITY	WD. RANGE AT MATURITY	MIN. SPACING AT PLANTING	COMMENTS	TOTAL PROPOSED
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CL CLADRASTIS LUTEA	YELLOWWOOD	2 1/2" C.	30'-50'	40'-55'	25'	STRAIGHT TRUNK FULL HEAD, B & B	77
UNDERSTORY TREES							
AL AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	2 1/2" C.	15'-25'	15'-25'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CC CERCIS CANADENSIS	EASTERN REDBUD	2 1/2" C.	20'-30'	25'-35'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CF CORNUS FLORIDA	FLOWERING DOGWOOD	2 1/2" C.	20'-25'	25'-30'	25'	STRAIGHT TRUNK FULL HEAD, B & B	10
EVERGREEN TREES FOR PROPERTY LINE BUFFERS							
AC ABIES CONCOLOR	WHITE FIR	6' HT.	40'-50'	15'-25'	12'	B & B	94
PM PSEUDOTSUGA MENZIESII	DOUGLAS FIR	6' HT.	40'-50'	15'-25'	12'	B & B	94
PA PICEA ABIES	NORWAY SPRUCE	6' HT.	40'-50'	15'-25'	12'	B & B	92
SHRUBS							
IV ILEX VERTICILLATA	WINTERBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	109
MP MYRICA PENNSYLVANICA	BAYBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	109
AA ARONIA ARBUTIFOLIA	BLACK CHOKEBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	108
CM CORNUS MAS	DOGWOOD	3' HT.	6'-10'	6'-10'	3'	B & B	108

PLANTING/LANDSCAPE LEGEND

- = STREET TREE
- = LANDSCAPE ISLAND
- = FILTERING BUFFER

LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)

PROPOSED FEATURES

- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
- = PROPOSED STREET LIGHT

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-26-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

LANDSCAPING PLAN

GAMBONE: HOLLY ROAD

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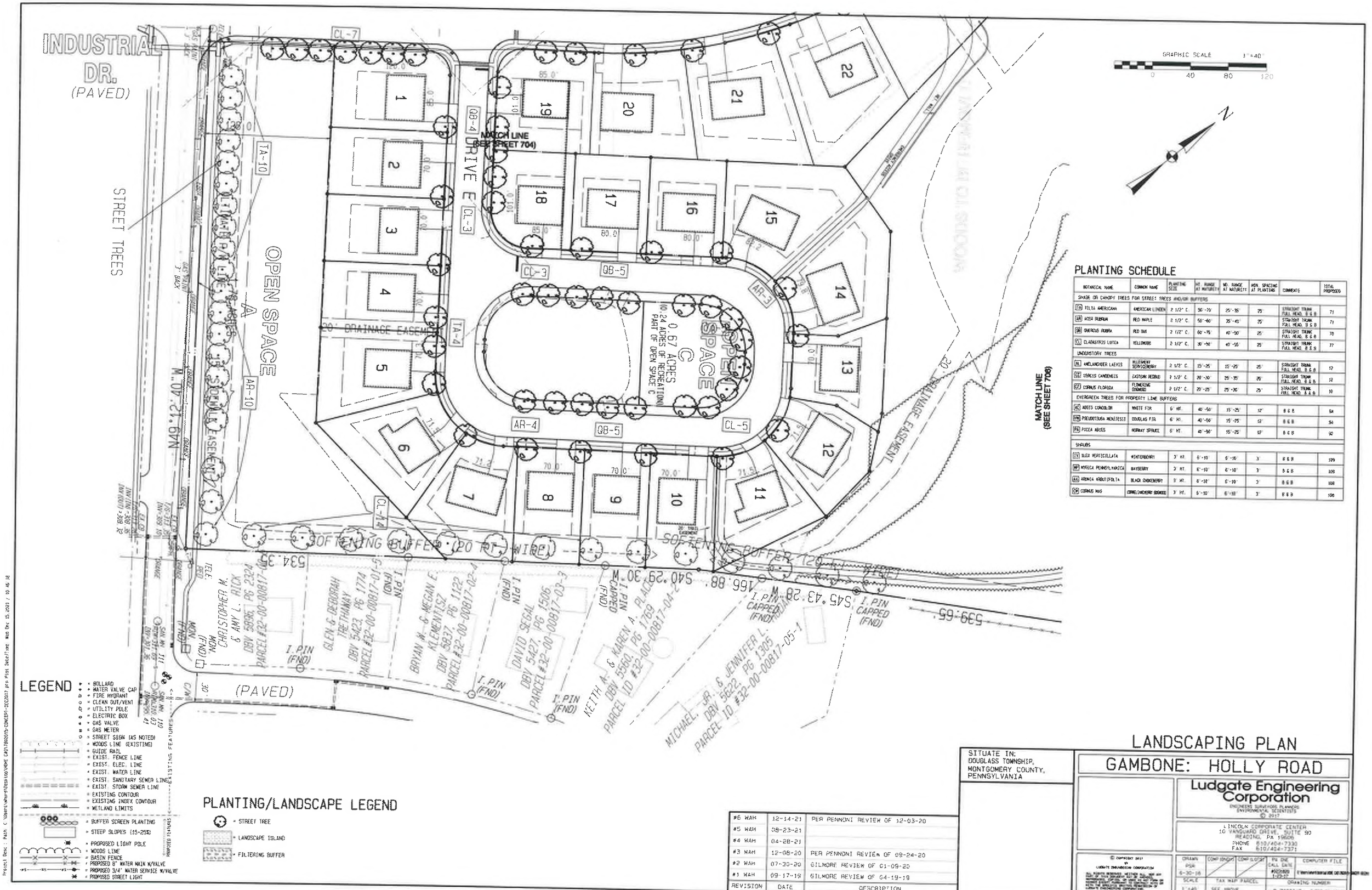
DRAWN	COMP ENGRS	COMP CLERK	PA ONE CALL DATE	COMPUTER FILE
PGR 6-30-06			#20211600 12-13-17	E:\Work\Gambone\HOLLY RD\Plan\HOLLY RD.dwg
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=40'	SEE ABOVE		0-7802015 SHEET 52 OF 80	

Project Sync Path: C:\Users\whoot\Desktop\WORK CAD\7802015-CONCEPT SEC2017 pro Plot Date/Time: Wed Dec 15 2021 / 10:45:32



PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	PLANTING SIZE	HT. RANGE AT MATURITY	WD. RANGE AT MATURITY	MIN. SPACING AT PLANTING	COMMENTS	TOTAL PROPOSED
SHADE OR CANOPY TREES FOR STREET TREES AND/OR BUFFERS							
TA TILIA AMERICANA	AMERICAN LINDEN	2 1/2" C.	50'-70'	25'-35'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
AR ACER RUBRUM	RED MAPLE	2 1/2" C.	50'-60'	25'-45'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
QR QUERCUS RUBRA	RED OAK	2 1/2" C.	60'-75'	40'-50'	25'	STRAIGHT TRUNK FULL HEAD, B & B	70
LT LIRIODENDRON TULIPA	YELLOWOOD	2 1/2" C.	50'-70'	40'-55'	25'	STRAIGHT TRUNK FULL HEAD, B & B	77
UNDERSTORY TREES							
AL AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	2 1/2" C.	15'-25'	15'-25'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CC CERCIS CANADENSIS	EASTERN REDBUD	2 1/2" C.	20'-30'	25'-35'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CF CORNUS FLORIDA	FLOWERING DOGWOOD	2 1/2" C.	20'-25'	25'-30'	25'	STRAIGHT TRUNK FULL HEAD, B & B	10
EVERGREEN TREES FOR PROPERTY LINE BUFFERS							
AC ABIES CONCOLOR	WHITE FIR	6' HT.	40'-50'	15'-25'	12'	B & B	54
PM PSEUDOTSUGA MENZIESII	DOUGLAS FIR	6' HT.	40'-50'	15'-25'	12'	B & B	54
PA PICEA ABIES	NORWAY SPRUCE	6' HT.	40'-50'	15'-25'	12'	B & B	92
SHRUBS							
IV ILEX VERTICILLATA	WINTERBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	109
MP MYRICA PENNSYLVANICA	BAYBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	109
AA ARONIA ARBUTIFOLIA	BLACK CHOKEBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	108
CM CORNUS MAS	CORNELIANCHERRY DOGWOOD	3' HT.	6'-10'	6'-10'	3'	B & B	106

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
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LANDSCAPING PLAN

GAMBONE: HOLLY ROAD

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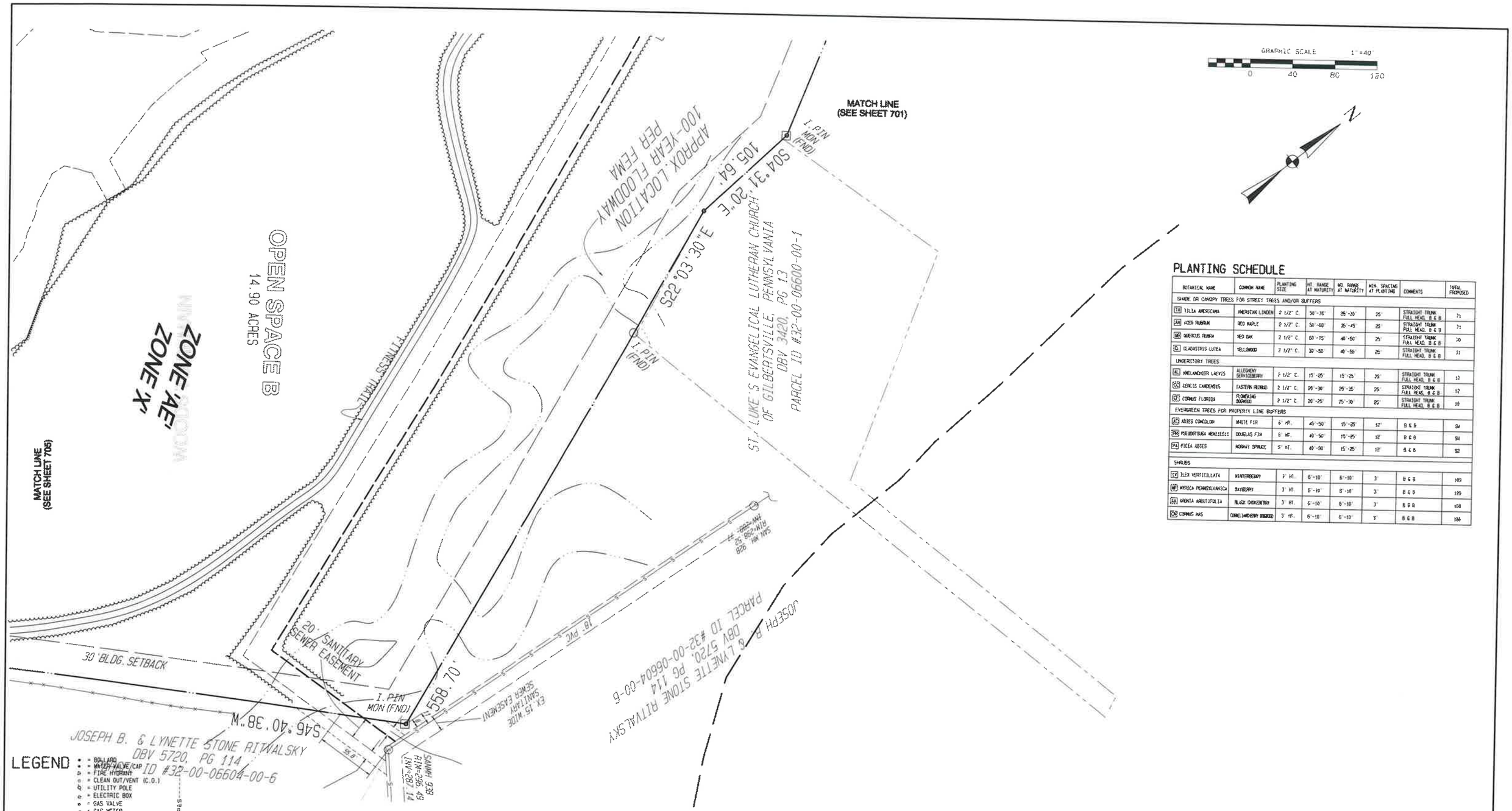
DRAWN BY	COMP DRAFT	COMP CLEAN	PA ONE CALL DATE	COMPUTER FILE
6-30-16			#20080 1152-27	E:\WAH\GAMBONE DEVELOPMENT\GAMBONE
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=40'	SEE ABOVE		0-7802015	SHEET 53 OF 82

Project Desc.: Path C:\Users\wahar\Onedrive\CAD\7802015-GAMBONE\7802015-DCD2017.pto Plot Date/Time: Wed Dec 15, 2021 / 10:46:18



PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	PLANTING SIZE	HT. RANGE AT MATURITY	WD. RANGE AT MATURITY	MIN. SPACING AT PLANTING	COMMENTS	TOTAL PROPOSED
SHADE OR CANOPY TREES FOR STREET TREES AND/OR BUFFERS							
TA TILIA AMERICANA	AMERICAN LINDEN	2 1/2" C.	50'-70'	35'-45'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
AR ACER RUBRUM	RED MAPLE	2 1/2" C.	50'-60'	35'-45'	25'	STRAIGHT TRUNK FULL HEAD, B & B	71
RO QUERCUS RUBRA	RED OAK	2 1/2" C.	60'-75'	40'-50'	25'	STRAIGHT TRUNK FULL HEAD, B & B	70
CL CLADASTRIS LUTEA	YELLOWWOOD	2 1/2" C.	30'-50'	40'-55'	25'	STRAIGHT TRUNK FULL HEAD, B & B	77
UNDERSTORY TREES							
AL AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	2 1/2" C.	15'-25'	15'-25'	25'	STRAIGHT TRUNK FULL HEAD, B & B	13
CC CERCIS CANADENSIS	EASTERN REDBUD	2 1/2" C.	20'-30'	25'-35'	25'	STRAIGHT TRUNK FULL HEAD, B & B	12
CF CORNUS FLORIDA	FLOWERING DOGWOOD	2 1/2" C.	20'-25'	25'-30'	25'	STRAIGHT TRUNK FULL HEAD, B & B	10
EVERGREEN TREES FOR PROPERTY LINE BUFFERS							
AC ABIES CONCOLOR	WHITE FIR	6' HT.	40'-50'	15'-25'	12'	B & B	94
PSM PSEUDOTSUGA MENZIESII	DOUGLAS FIR	6' HT.	40'-50'	15'-25'	12'	B & B	94
PA PICEA ABIES	NORWAY SPRUCE	5' HT.	40'-50'	15'-25'	12'	B & B	92
SHRUBS							
IV ILEX VERTICILLATA	WINTERBERRY	2' HT.	6'-10'	6'-10'	3'	B & B	189
MP MYRICA PENNSYLVANICA	BAYBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	189
AA ARONIA ARBUTIFOLIA	BLACK CHOKEBERRY	3' HT.	6'-10'	6'-10'	3'	B & B	188
CM COMPTUS MAS	CORNELIANCHERRY DOGWOOD	3' HT.	6'-10'	6'-10'	3'	B & B	186

LANDSCAPING PLAN

SITUATE IN:
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SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=40'	SEE ABOVE		D-7602015	SHEET 54 OF 82

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

Project Data: Path: I:\Users\wh\Desktop\Data\Gambone CAD\Gambone 5 (Gmoth)-082017.pc Plot Date/Time: Wed Dec 15 2021 / 10:46:50

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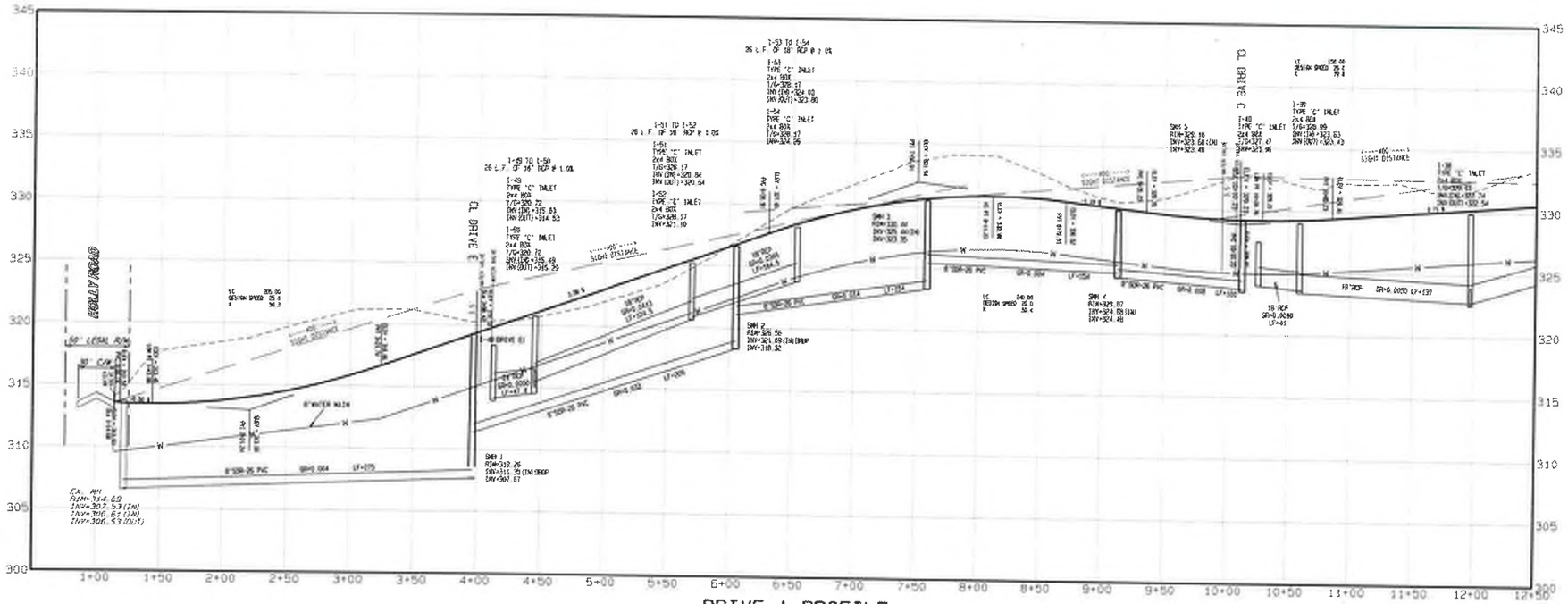

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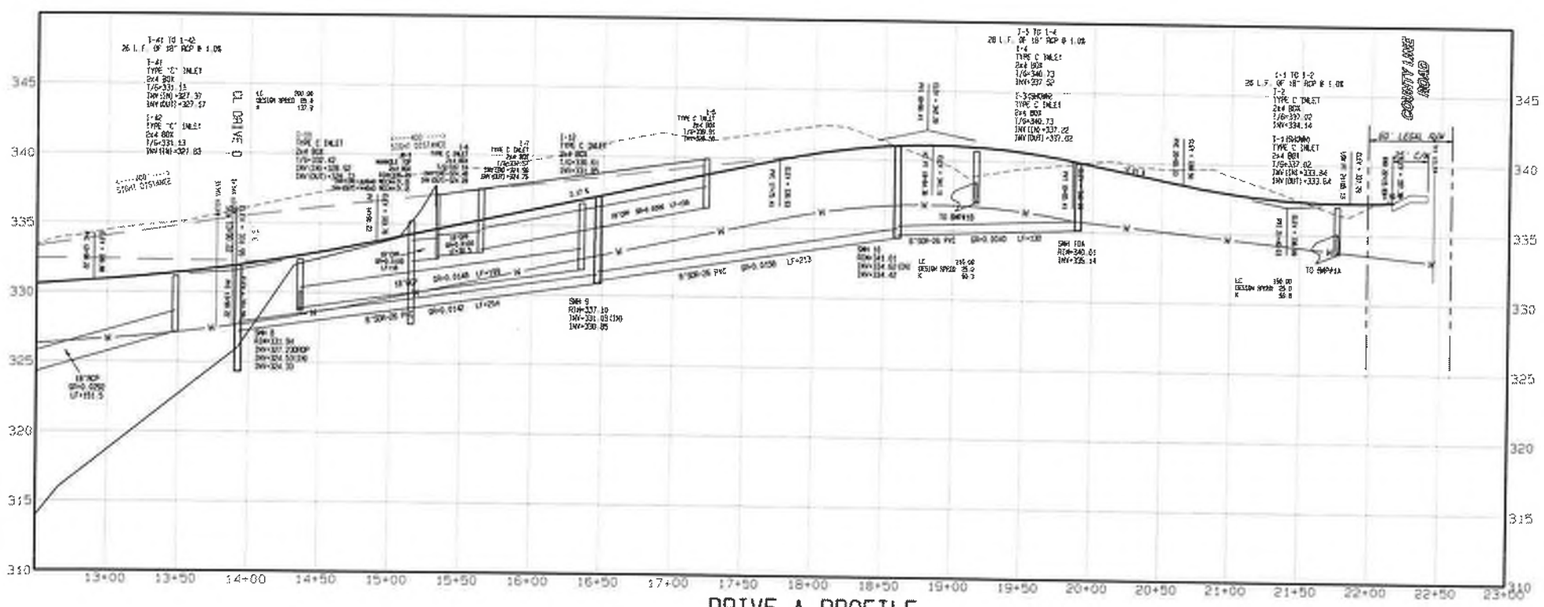
SCALE: 1"=50' (H)
1"=5' (V)



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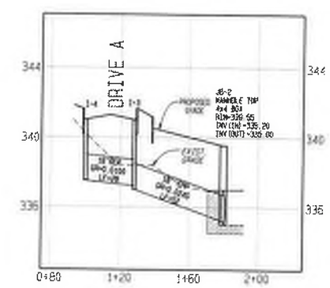
1"=5' (V)



PROFILE I-4 - JB-2
(BMP#1B)

SCALE: VERT 1"=4'
HORIZ 1"=40'

REVISION	DATE	DESCRIPTION
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#5 WAH	05-25-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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DRAWN	COMP CHECK	COMP ELECTRIC	PW ENG CALL DATE	COMPUTER FILE
PSR 8-30-18			11-22-21	C:\Users\Gambone\AB Holly\Profiles
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
AS NOTED	SEE ABOVE		D-7802015	SHEET 55 OF 60

Project Desc: Path: I:\Users\Gambone\Documents\DWG D:\7802015-CONCEPT-DEC2017.dwg Plot Date/time: Wed Dec 15, 2021 / 10:45:06

GRAPHIC SCALE 1"=50'

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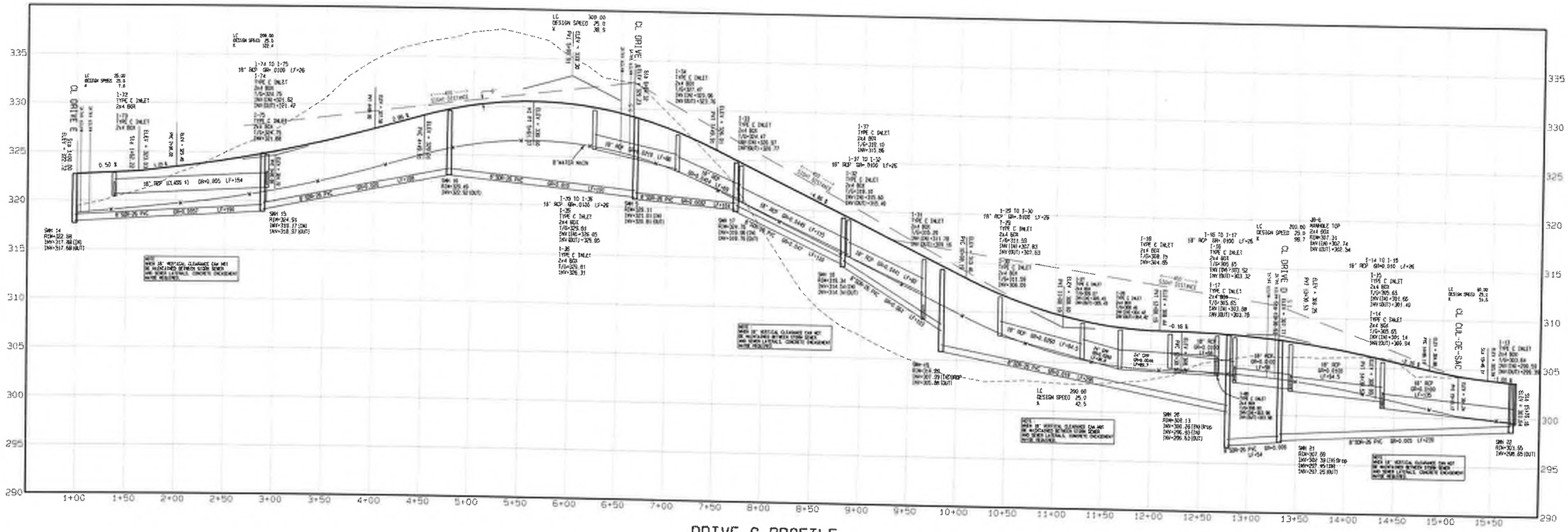

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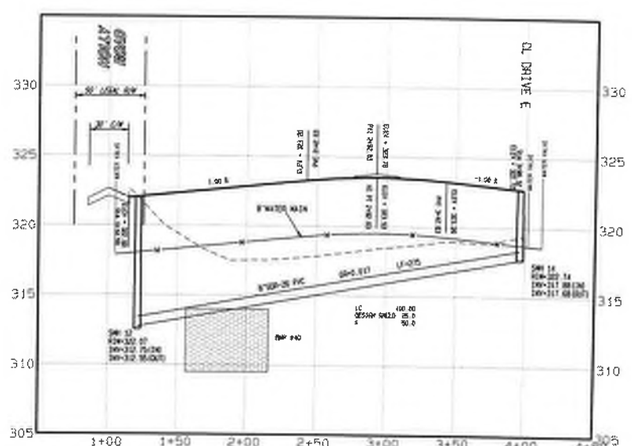
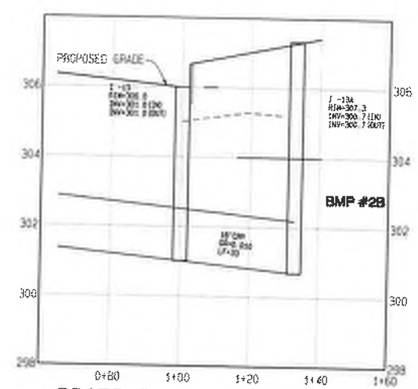
SCALE: 1"=50' (H)
1"=5' (V)



DRIVE B (HOLLY TO DRIVE E) PROFILE

SCALE: 1"=50' (H)
1"=5' (V)



PROFILE I-13 TO I-13A

SCALE: VERT 1"=2'
HORIZ 1"=20'

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
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DRAWN	COMP CHKD	COMP CLOSE	PA SPC	COMPUTER FILE
BTR 6-30-16			CALL DATE A020800 1-20-17	C:\Bentley\Projects\GAMBONE-HOLLY ROAD\
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
AS NOTED	SEE ABOVE		0-7802019	SHEET 56 OF 60

Project Base Path: C:\Users\wharton\Desktop\HOME OWNER\2015-1DWG\PP-DEC2017 pro Plot Date/Time: Wed Dec 13, 2017 / 15:48:54

GRAPHIC SCALE 1"=50'

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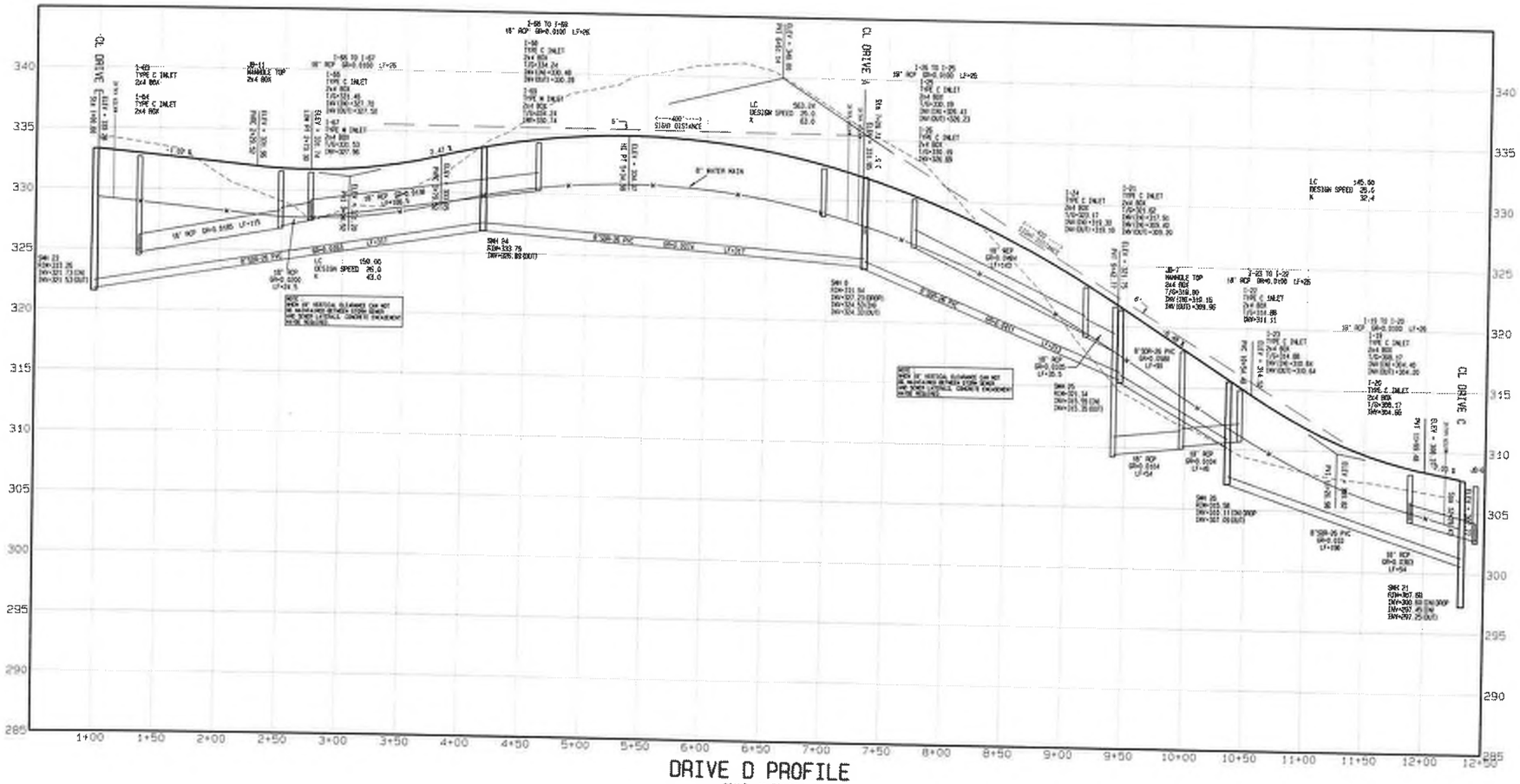

DRIVE D PROFILE

SCALE: 1"=50' (H)
1"=5' (V)

PROFILES

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-05-20
#1 WAH	05-17-19	GILMORE REVIEW OF 04-19-19

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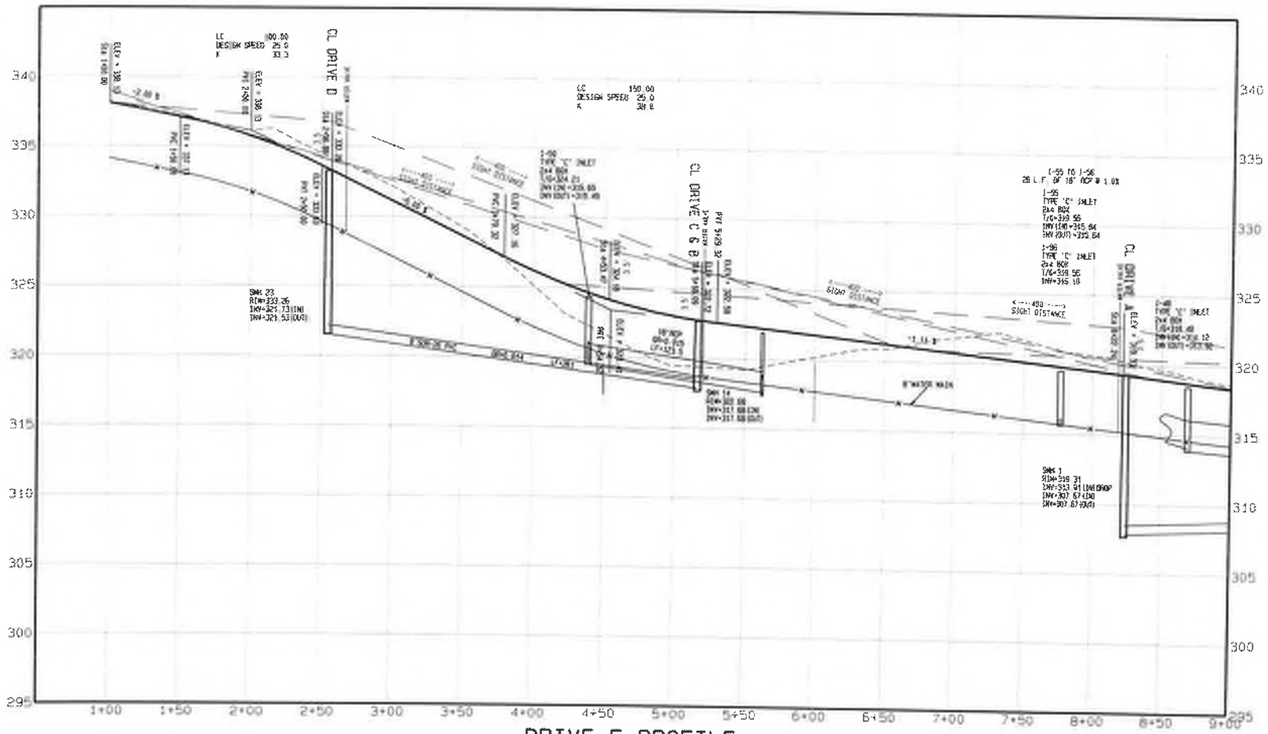
DRAWN	COMP LENGTH	COMP LOCAT	PA ONE CALL DATE	COMPUTER FILE
PGM 6-30-16			PA20180801 1-29-17	[illegible]
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
AS NOTED	SEE ABOVE		D-7002015 SHEET 57 OF 62	

Project Dwg: | Path: C:\Users\wheer\Desktop\HOME CAD\7002015-CONCEPT-DEC2017.dwg Plot Date/Time: Wed Dec 15,2021 / 10:50:06



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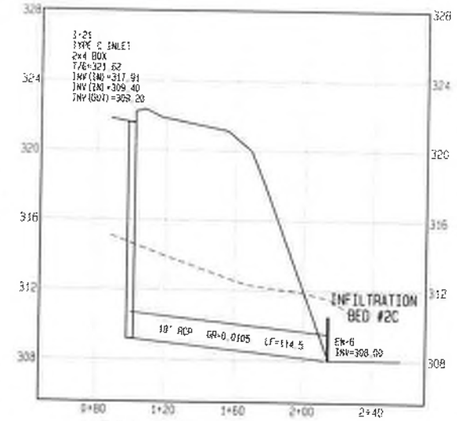
1"=5' (V)



PROFILE I-21 - EW-6
(INFILTRATION BED #2C)

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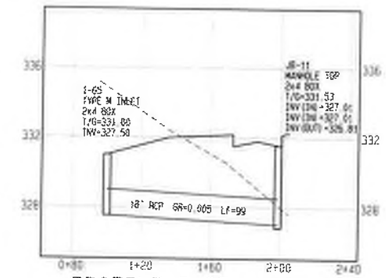
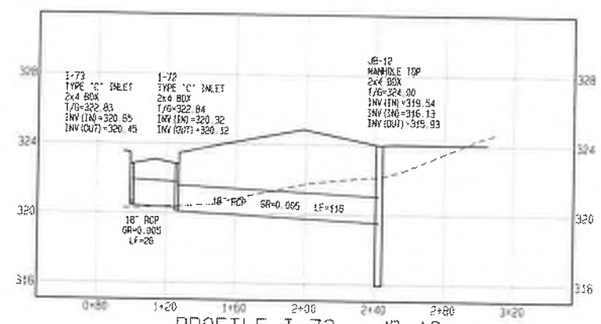
HORIZ. 1"=40'

GRAPHIC SCALE 1"=50'



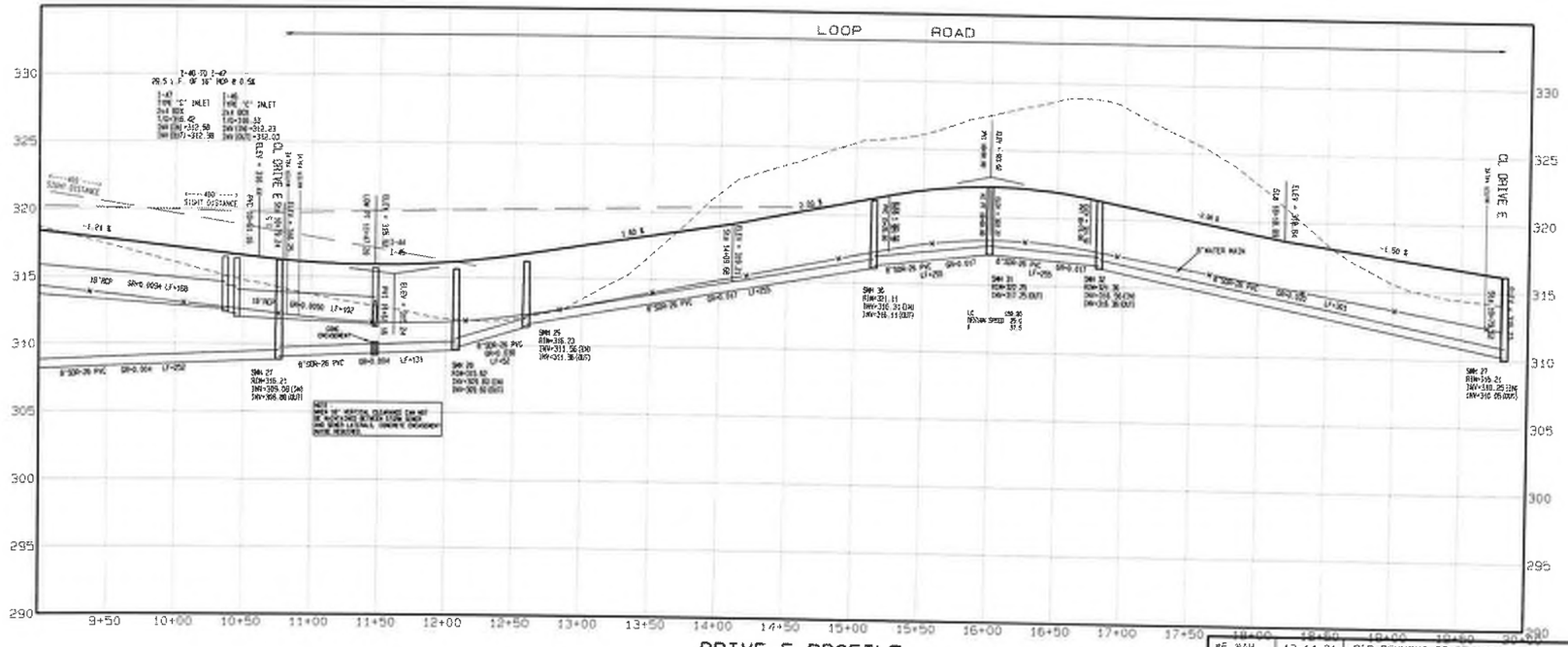
PROFILE I-65 - JB-11

SCALE: VERT. 1"=4'
HORIZ. 1"=40'



PROFILE I-73 - JB-12

SCALE: VERT. 1"=4'
HORIZ. 1"=40'



DRIVE E PROFILE

SCALE: 1"=50' (H)
1"=5' (V)

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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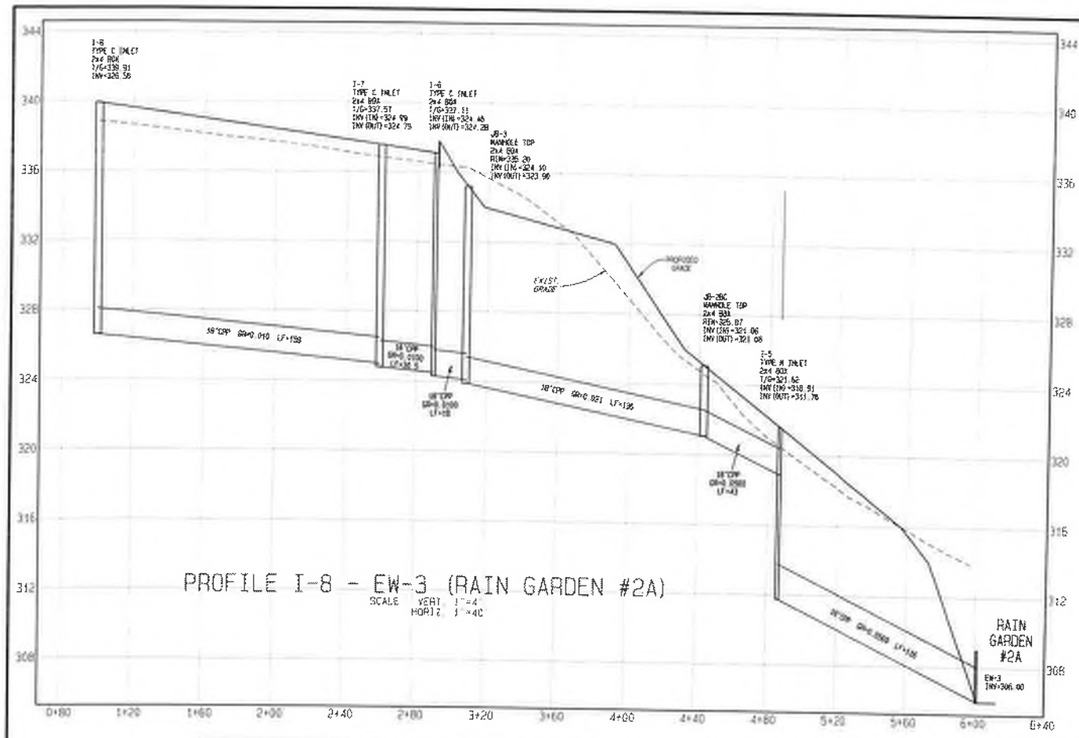

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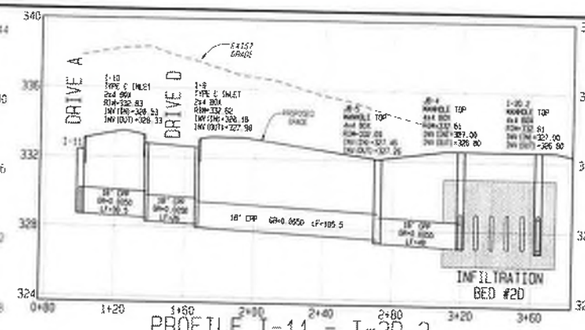

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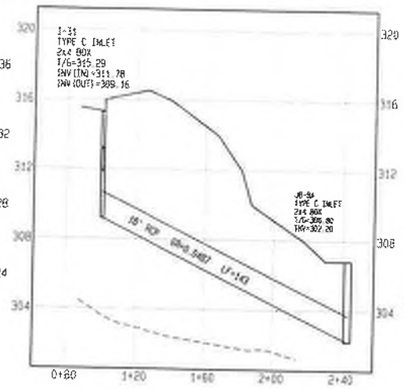

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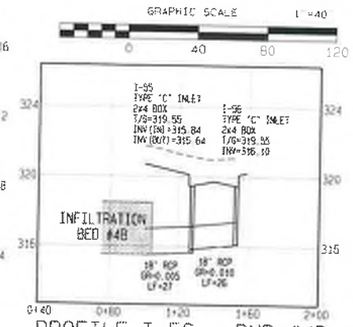

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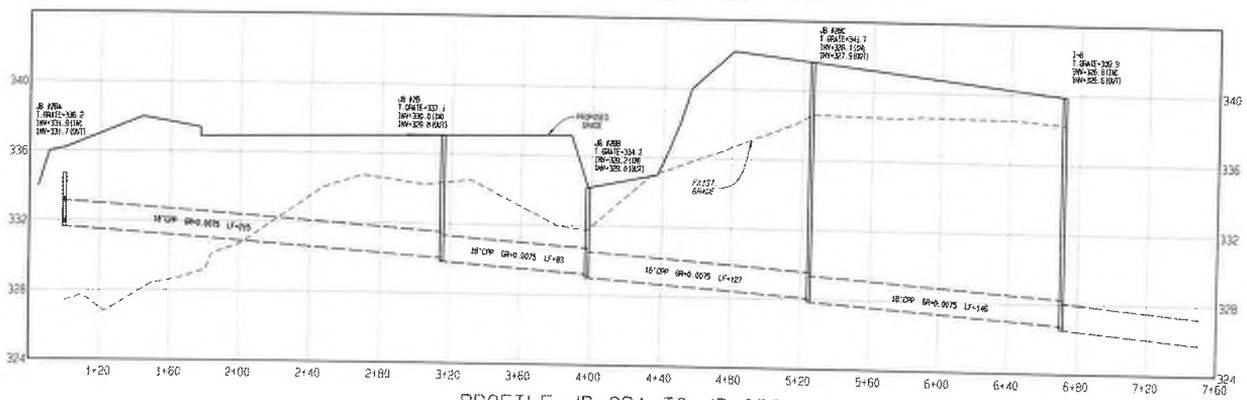

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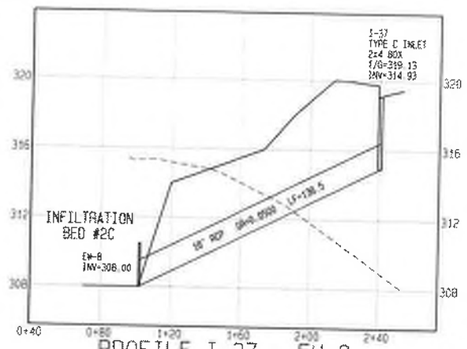

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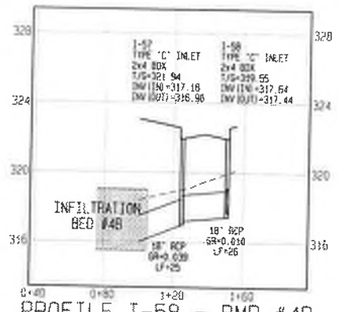

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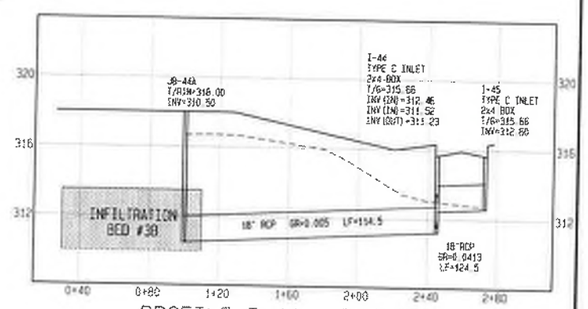

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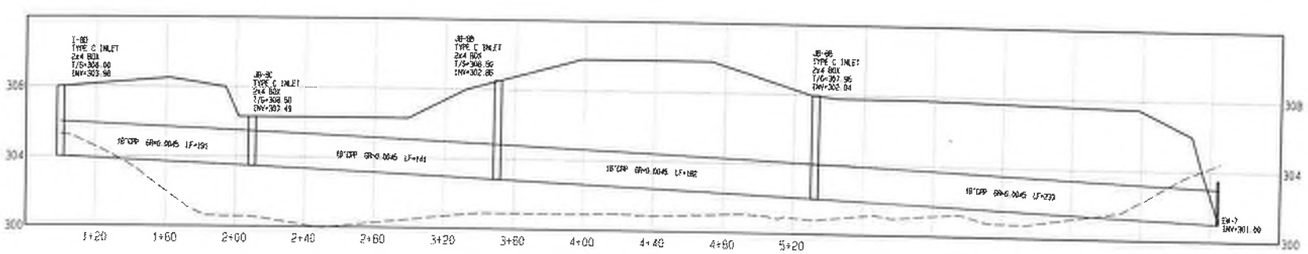

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REVISION	DATE	DESCRIPTION
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#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 03-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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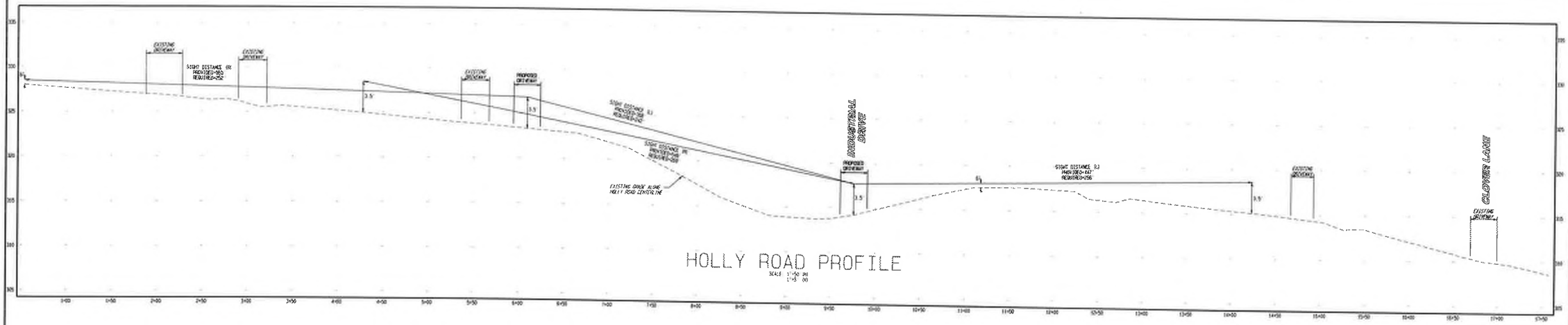

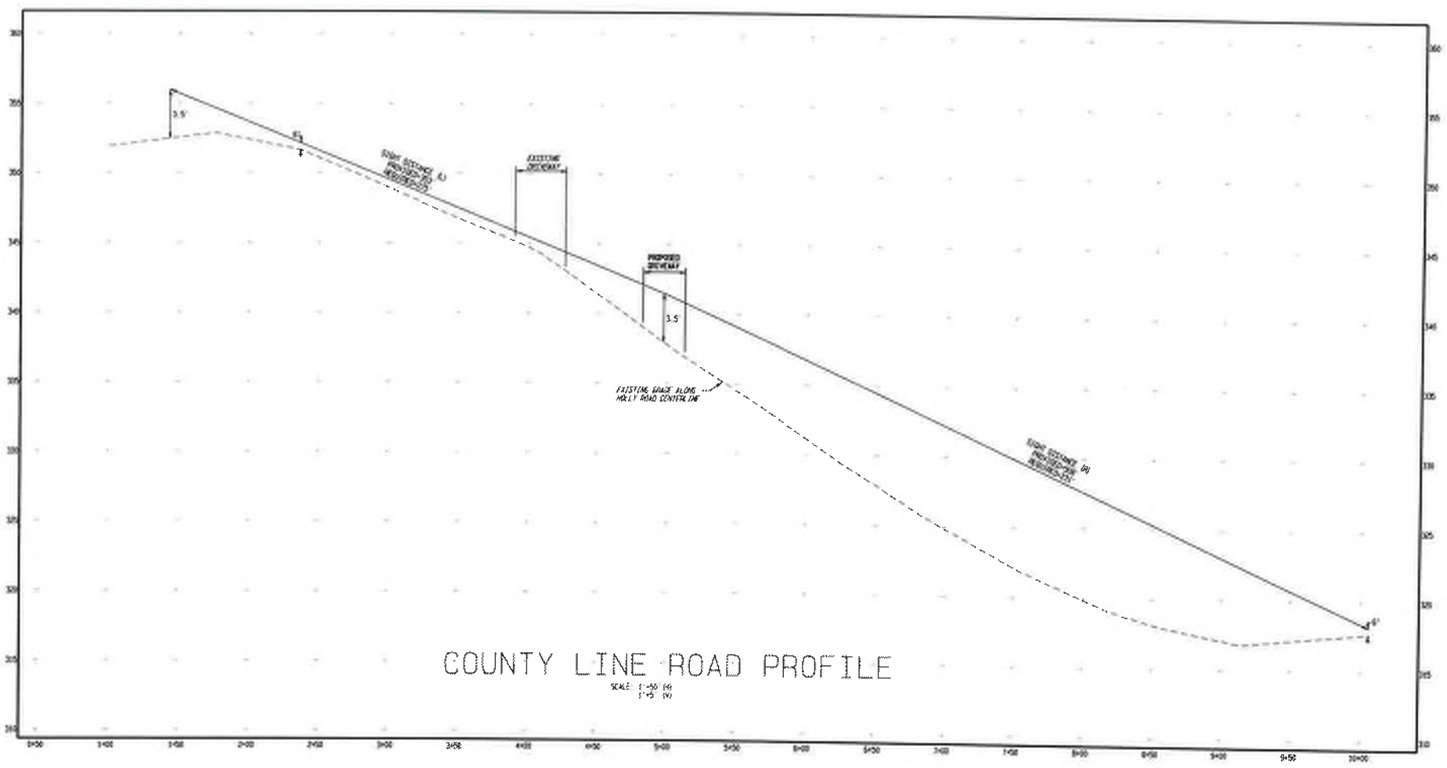

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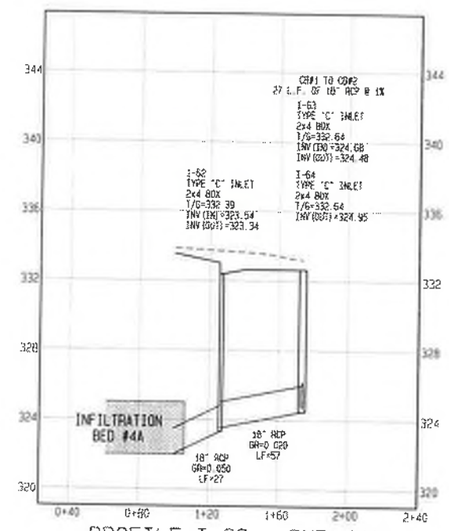

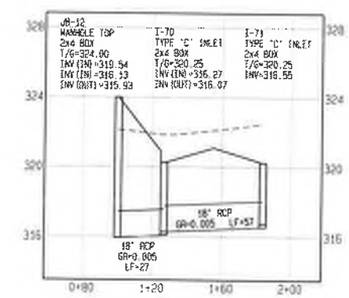

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#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-18-19

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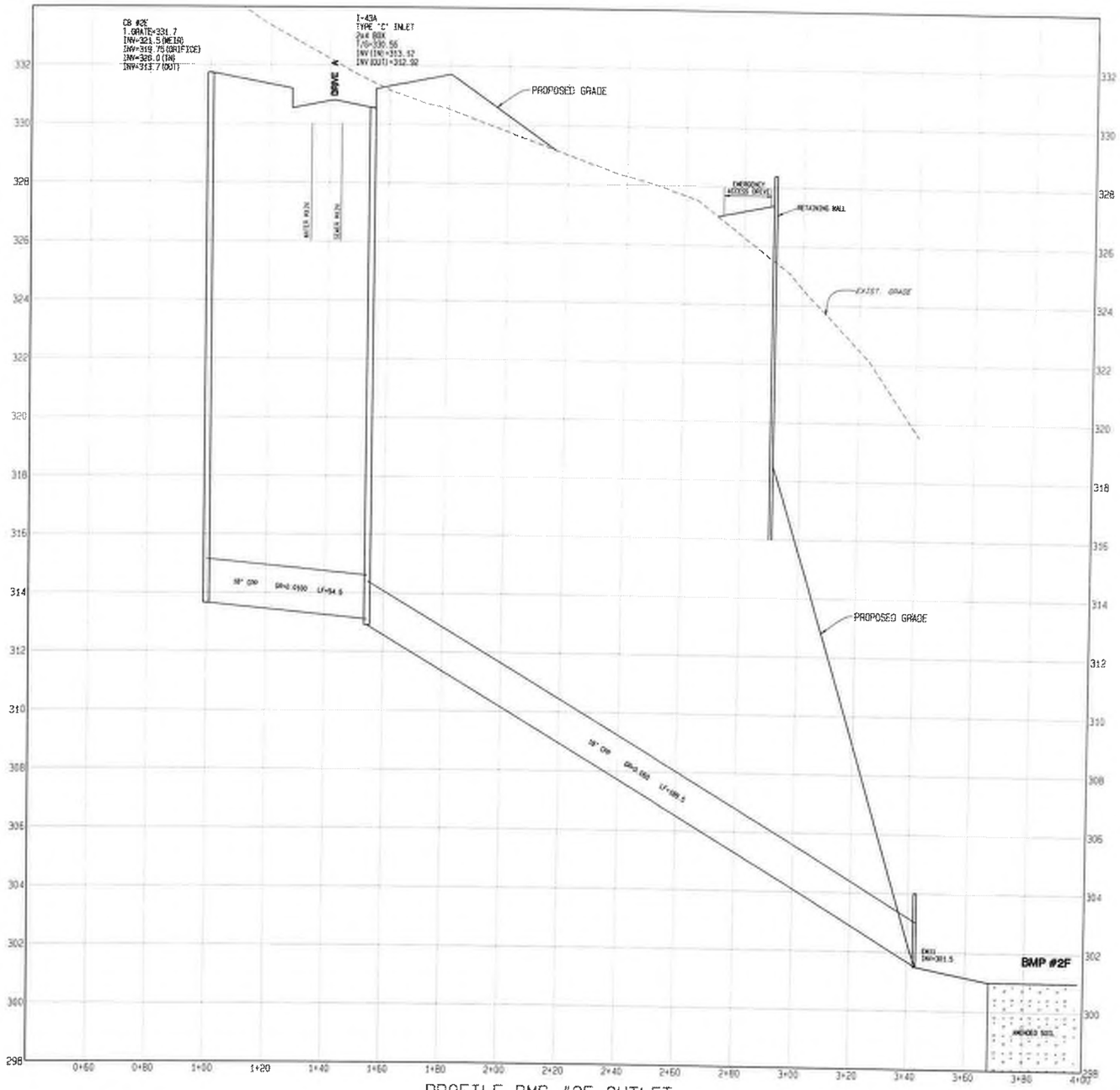

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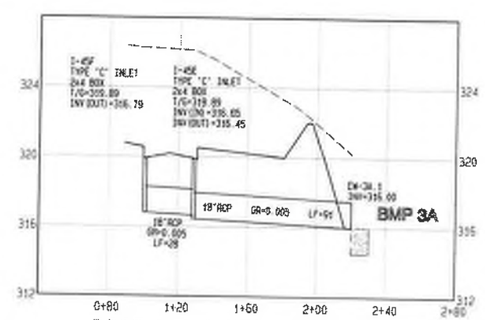

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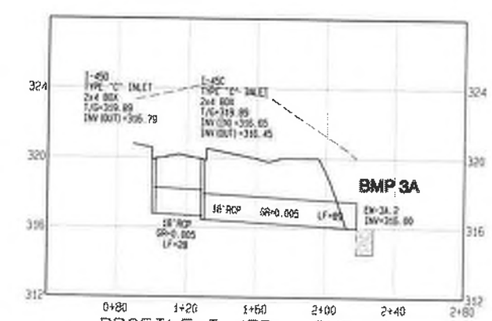

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#5 WAH	06-23-21	
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#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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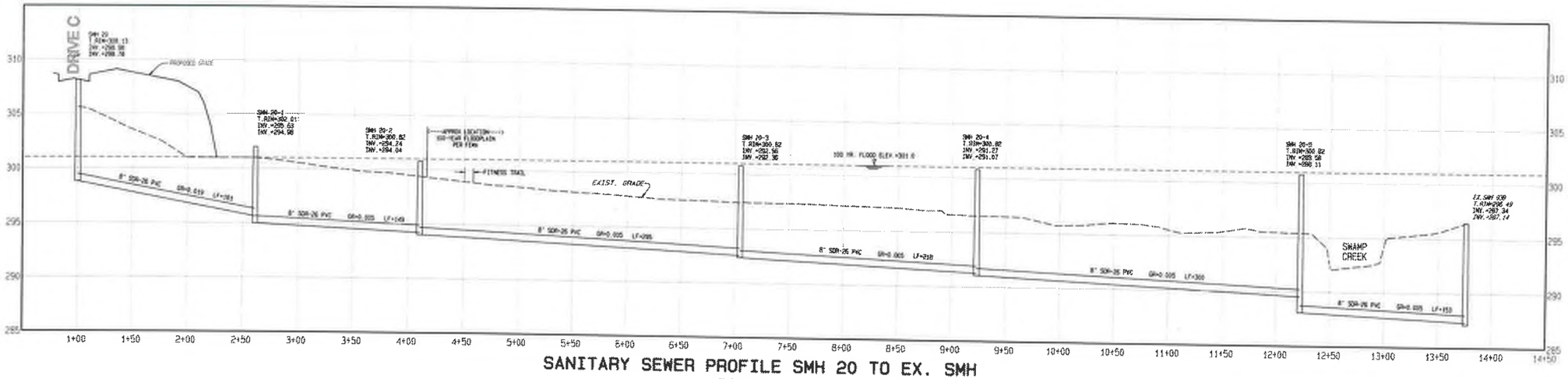

SANITARY SEWER PROFILE SMH 20 TO EX. SMH

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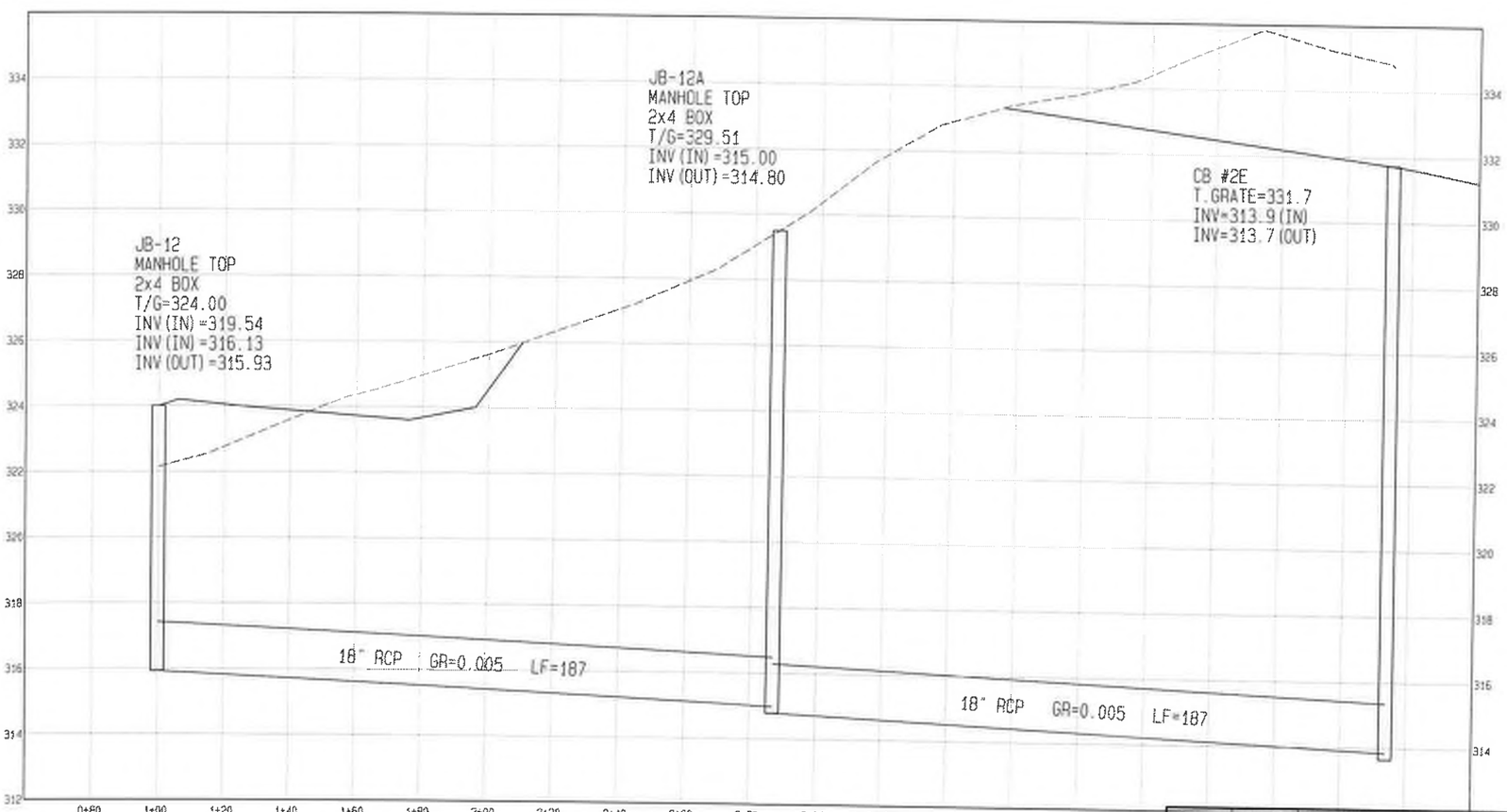

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#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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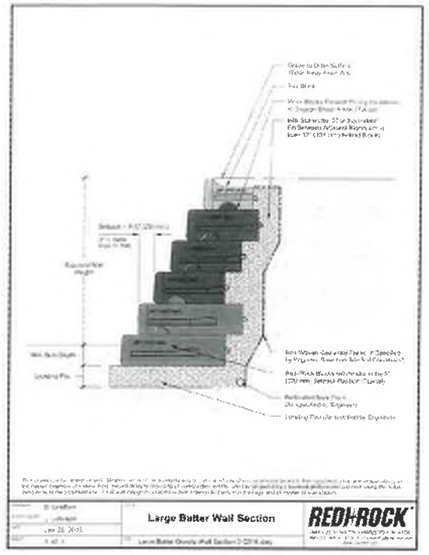
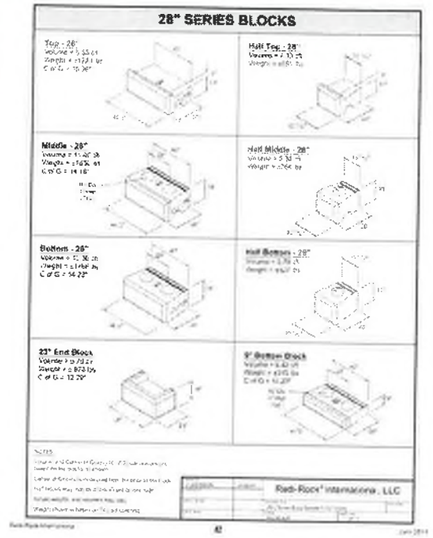
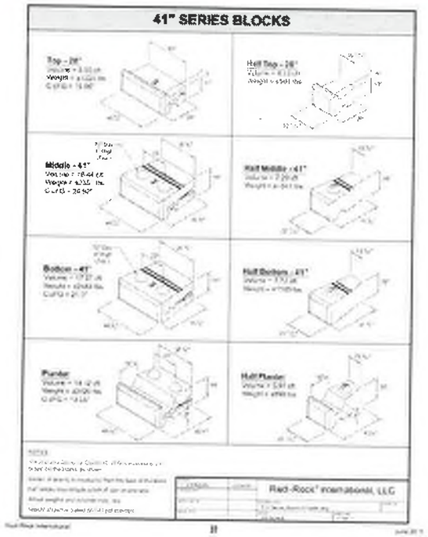
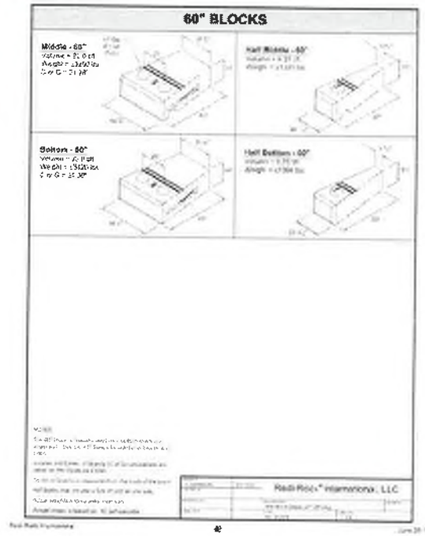


WALL DESIGN CHART

WALL HEIGHT	CONC. BASE	NO. 60" BLOCK	NO. 41" BLOCK	NO. 28" BLOCK (TOP)
3 FT.	5'W x 1'H	N/A	1	1
6 FT.	5'W x 1'H	N/A	3	1
9 FT.	7'W x 1'H	1	4	1
12 FT.	7'W x 1'H	1	6	1
15 FT.	7'W x 1'H	1	8	1







SUBGRADE SOILS

Proper base preparation is a critical element in the construction of your retaining wall. Not only is it important to provide a stable foundation for the wall, but a properly prepared base will greatly increase the structural efficiency of your wall installation. Proper base preparation starts with the subgrade soils.

Retaining soils must be removed to the bottom of the leveling pad elevation for the retaining wall. (Figure 3)

The base and back of excavation should expose fresh, undisturbed soil or rock. Remove all disturbed soils which "balloon" along the base of the wall or the back of the excavation.

The subgrade soil (below the leveling pad) should be evaluated by the Professional Engineer responsible for the wall to make sure it meets the design requirements and to determine its adequacy to support the retaining wall. Any unsuitable material shall be excavated and replaced as directed. Subgrade soils must be compacted to a minimum of 95% maximum density (as determined by a standard proctor test (ASTM D698).

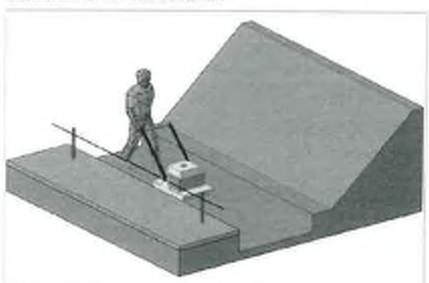


Figure 3

LEVELING PAD

Base preparation continues with proper leveling pad construction. Redi-Rock retaining walls can be designed with an open-graded crushed stone, dense-graded crushed stone, CAB, or concrete leveling pad which supports the bottom row of blocks. The choice of which type of leveling pad to use is made by the wall designer and depends on several factors including the bearing capacity of the native soil, location of the drain outlet, conditions of the face of the wall, and any other special considerations for the wall.

OPEN-GRADED CRUSHED STONE LEVELING PAD

The most common type of leveling pad is made using an open-graded crushed stone with a drain located in the bottom of the stone. (Figure 4) This is the method that is shown in most Redi-Rock preferred any of concrete down-slope. An open-graded crushed stone leveling pad assumes that the wall drain can drain to daylight (by gravity) somewhere on the site below the elevation of the bottom of the leveling pad. If you can not outlet the wall drain below the elevation of the bottom of the leveling pad, you should not use open-graded crushed stone. Water will become trapped behind the drain rock, saturating the base of your retaining wall and causing other problems.

Figure 4

Leveling pad material is used to washed crushed stone, 1 inch diameter and smaller. A crushed stone meeting the gradation requirements of ASTM No. 57 with no material passing the No. 200 sieve is preferred. The leveling pad thickness shall be as designed by the Professional Engineer. A minimum thickness of 6" or 10" is common. The leveling pad should extend at least 6" in front and 12" behind the bottom block. Make sure to check your plans.

A drain is placed in the bottom of the leveling pad to provide an outlet for any water collected behind the wall. A 4" perforated pipe drain is commonly used. The drain runs the entire length of the wall and must have proper outlets to provide drainage for the wall. (Figure 5)

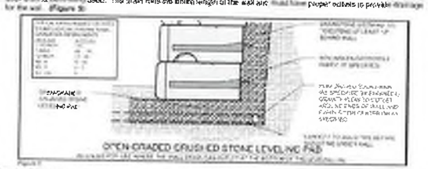


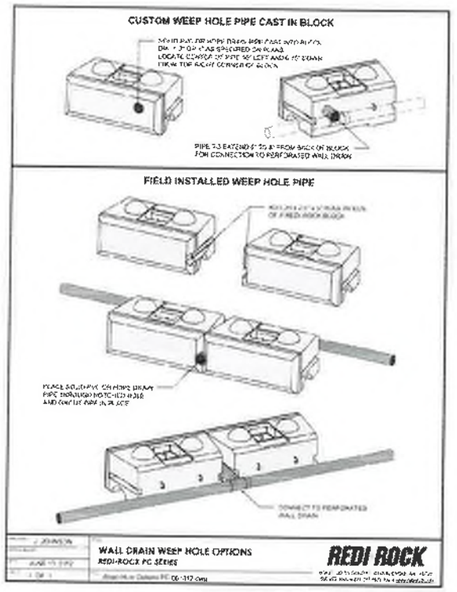
Figure 5

The leveling pad material should be placed and compacted to provide a uniform level pad on which to construct the retaining wall. (Figure 6) Proper elevation can be established with a laser level or transit. You can also set two 2x4 long grade posts in the desired grade and extend the crushed stone material between the posts.

Figure 6

Place the stone leveling pad in uniform lifts not in excess of 6" thick. Conveniently this will be with a minimum of three passes with a 28" wide walk-behind vibratory plate compactor capable of delivering at least 4000 pounds of centrifugal force. This should achieve 90% relative density of the stone determined in accordance with ASTM D-4253 and D-4254. In place density of the stone fill should be performed using ASTM D-6938. If you don't achieve a minimum of 90% relative density, place the stone in smaller lifts or apply more compaction effort until you do achieve 90% relative density of the stone.

Do NOT place a thin layer of sand between the leveling pad and bottom block. This layer will reduce the sliding resistance between the leveling pad and bottom block.



RETAINING WALL DETAIL PLAN

SITUATE IN:
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REVISION	DATE	DESCRIPTION
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#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	08-17-19	GILMORE REVIEW OF 04-19-19

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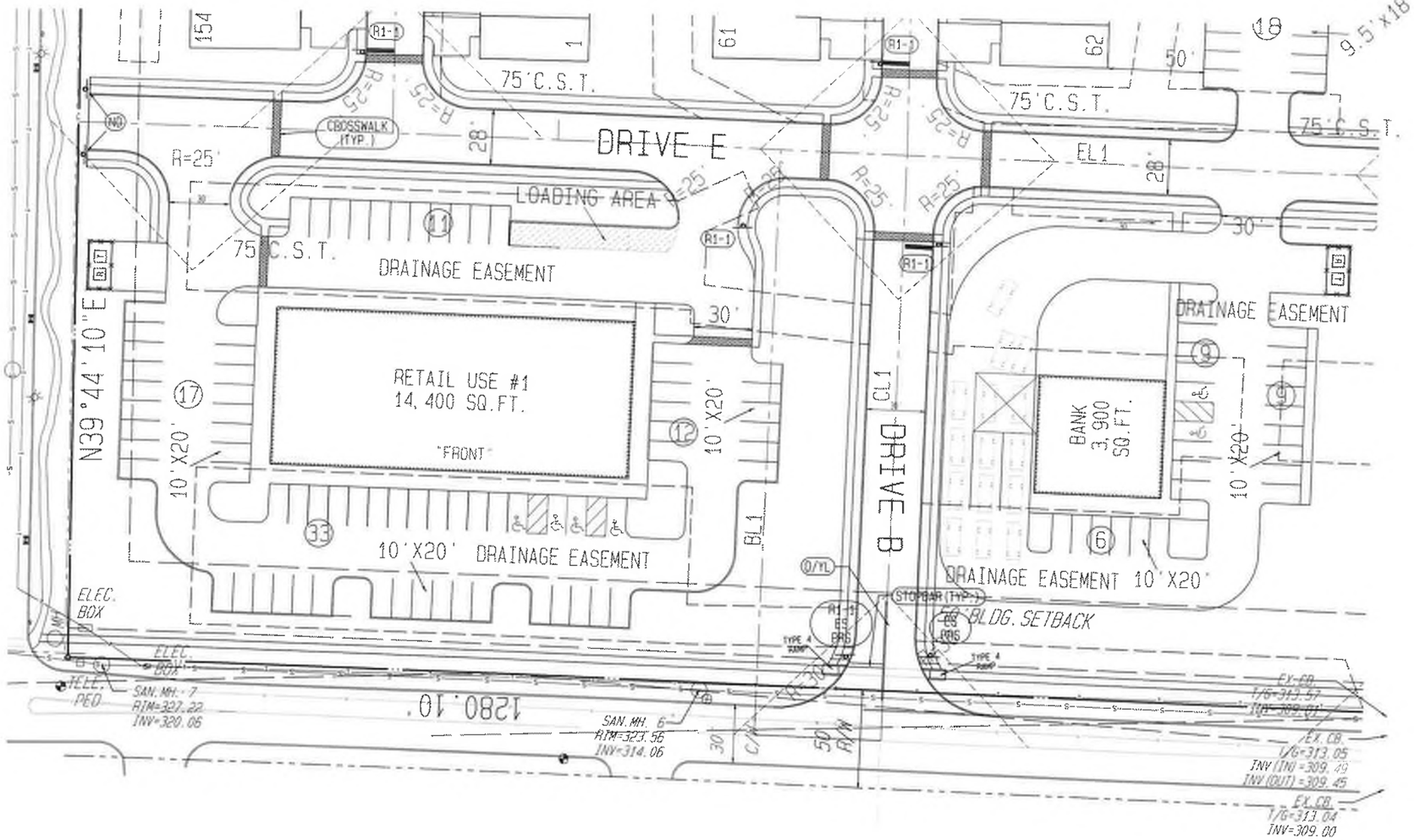
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
AS NOTED	SEE ABOVE		01-7802015	SHEET 63 OF 82



LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/VENT (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS

EXISTING FEATURES

- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
- = PROPOSED STREET LIGHT

PROPOSED FEATURES

PRELIMINARY RETAIL 1 LAND DEVELOPMENT PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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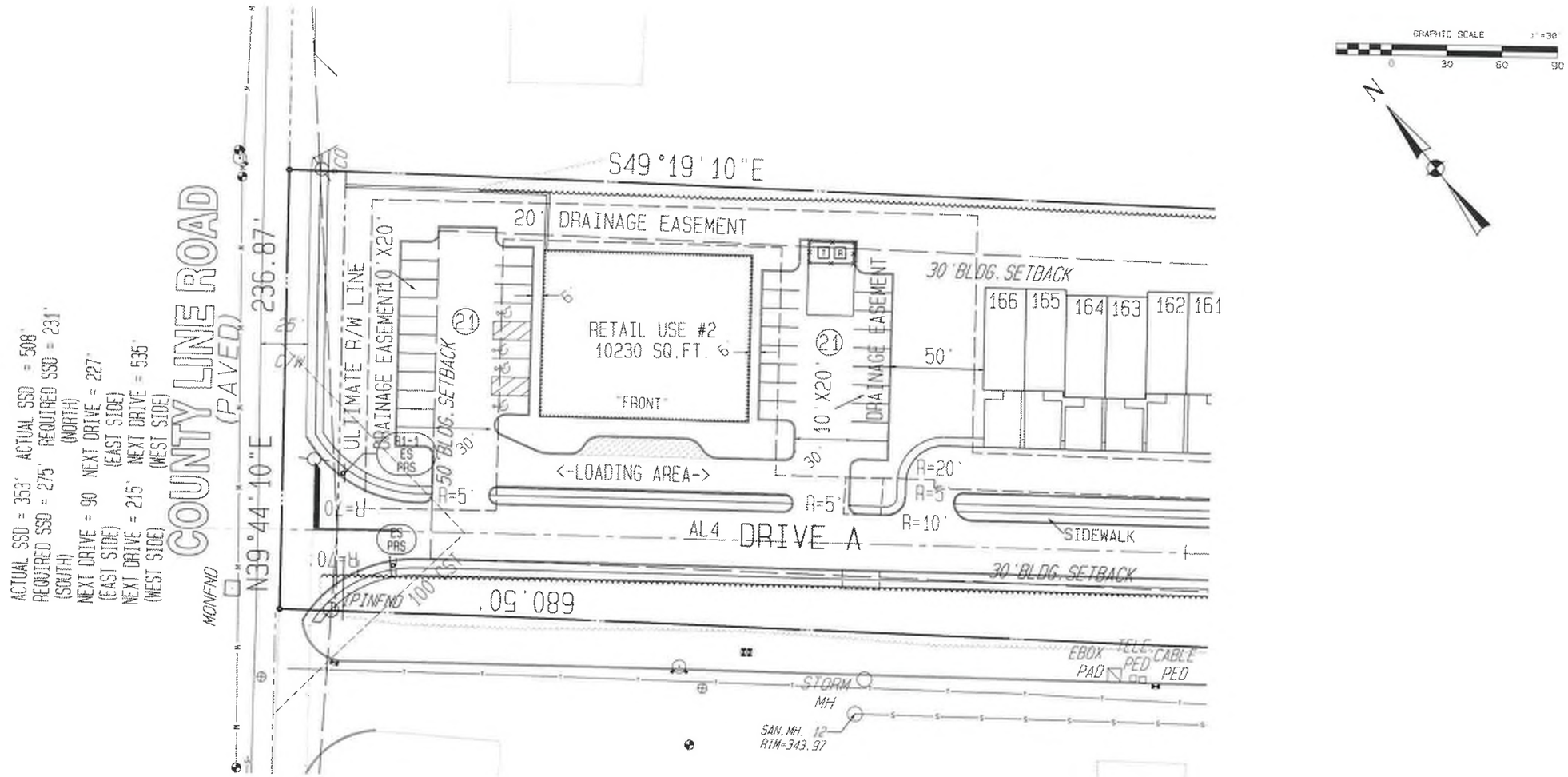
DRAWN	COMP CHECKED	COMP CLOSED	PA ONE CALL DATE	COMPUTER FILE
PSR			#20080 1-22-17	[illegible]
E-30-05				
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=30'	SEE ABOVE		0-7802015 SHEET 64 OF 82	

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

Project Dwg: /Path: [:\Users\wharris\Desktop\HOME LAD\7802015-GAMBONI-DEC2017 pre Plot Date/Time Wed Dec 15,2021 / 10:35:32



LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

PRELIMINARY RETAIL 2 LAND DEVELOPMENT PLAN

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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PGM 6-30-16			#20211020 1-25-21	[illegible]
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=30'	SEE ABOVE		D-7802015	SHEET 05 OF 42

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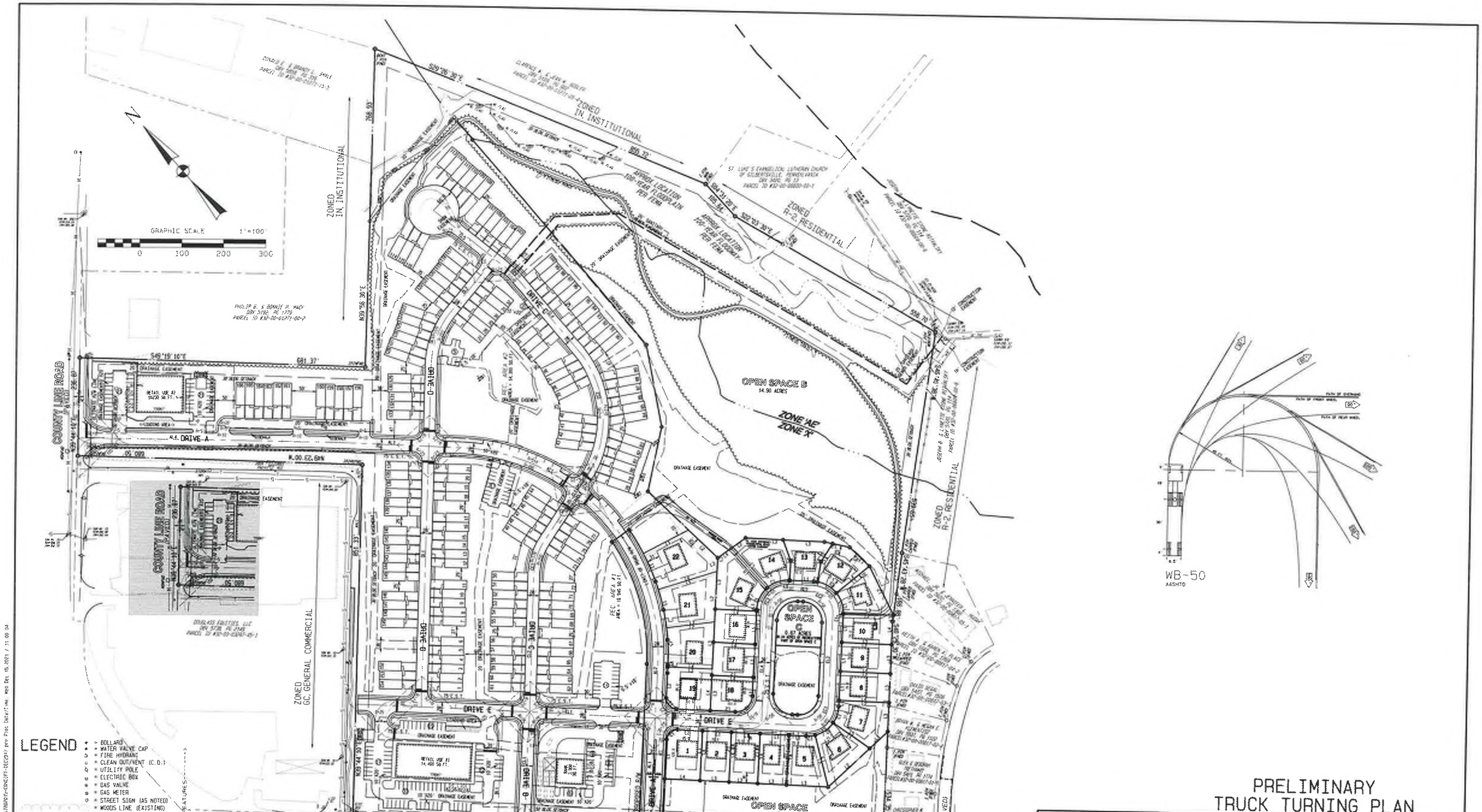

LEGEND:

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS
- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)
- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

PRELIMINARY TRUCK TURNING PLAN

SITUATE IN:
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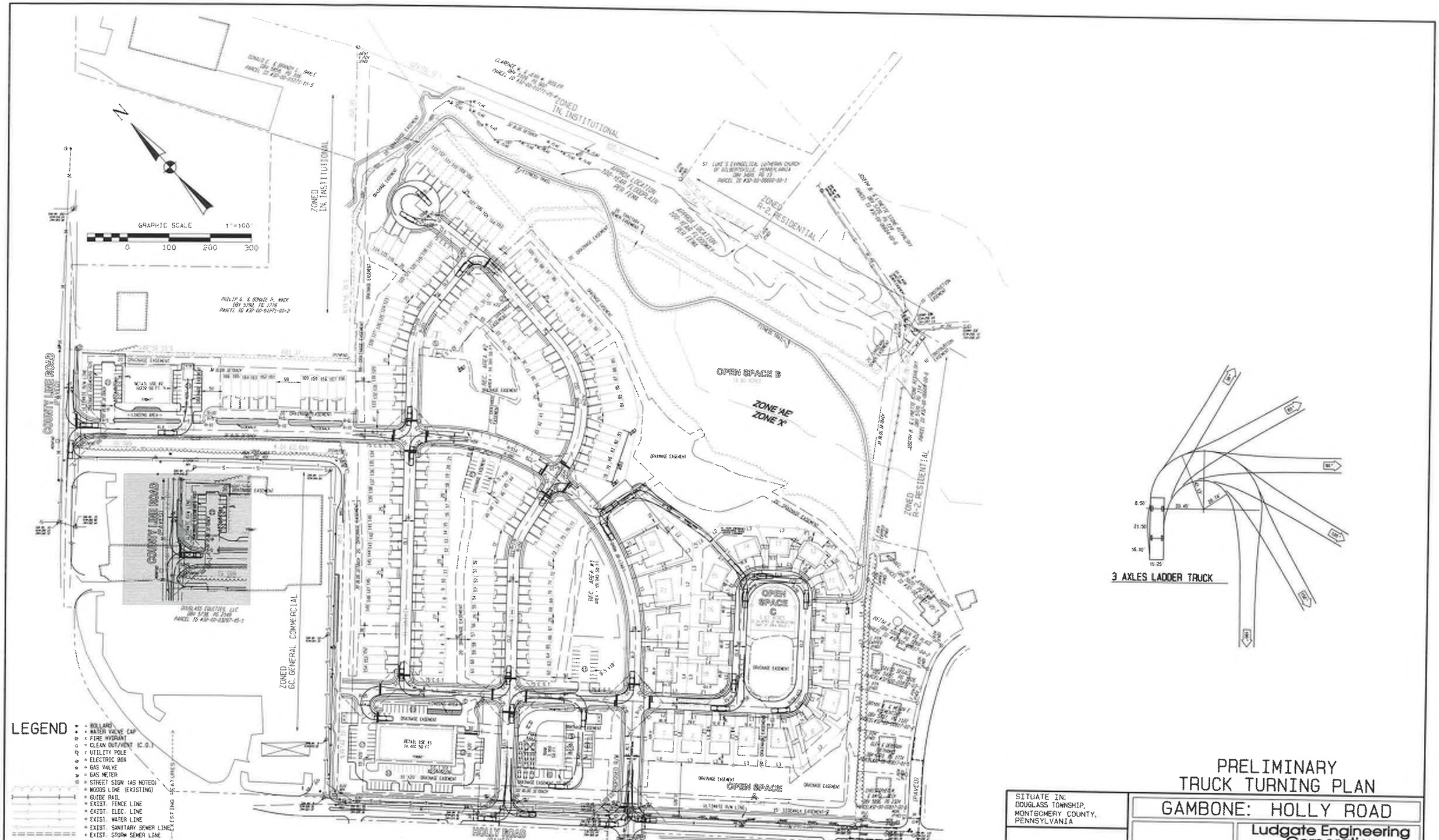
DRAWN	COMPUTED	COMPLETED	AS ONE CALL DATE	COMPUTER FILE
PSR 6-30-16			11/21/2016 1:22:37	C:\WORKING\GAMBONE DEVELOPMENT\DWG
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100	SEE ABOVE		D-7802015	SHEET 66 OF 82

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

Project Dwg: Path: C:\Users\wahard\Desktop\HOME EACH\PROFILE\CONCEPT-REC01.dwg per Plot Date:Fri Dec 10, 2021 / 11:00:04



PRELIMINARY TRUCK TURNING PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

GAMBONE: HOLLY ROAD

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DRAWN	COMP. CHECKED	COMP. CLEARED	PA ONE CALL DATE	COMPUTER FILE
PGH 6-30-16			WORKING 9-20-17	C:\Work\Gambone\GB 0-7802015\0-7802015.dwg
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100'	SEE ABOVE		0-7802015 SHEET 67 OF 82	

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

Project Date: Path: F:\Users\wharvey\Desktop\HOME EXD\7802015\DWG\PT-0E2017.dwg Plot Date/Time: Wed Dec 15 2021 / 11:08:15

GRAPHIC SCALE 1" = 100
0 100 200 300

N

POI 1

POI 2

POI 3

POI 4

LOD=39.6 ACRES

ZONE 'AE'
ZONE 'X'

APPROX. LOCATION 100-YEAR FLOODWAY PER FEMA

COUNTY LINE ROAD (PAVED)

HOLLY ROAD (PAVED)

INDUSTRIAL DR. (PAVED)

Bo
CtA
RaB
PeB
PkD
RhB
AbB
RaA
UusB

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS
- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)
- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

EXISTING FEATURES

PROPOSED FEATURES

- LIMIT OF DISTURBANCE
- LIMIT OF DRAINAGE AREA
- LIMIT OF SUB DRAINAGE AREA

PRELIMINARY PRE DRAINAGE PLAN

SITUATE IN:
DOUGLASS TOWNSHIP,
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GAMBONE: HOLLY ROAD

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SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100	SEE ABOVE		D-7802015	SHEET 88 OF 82

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-26-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

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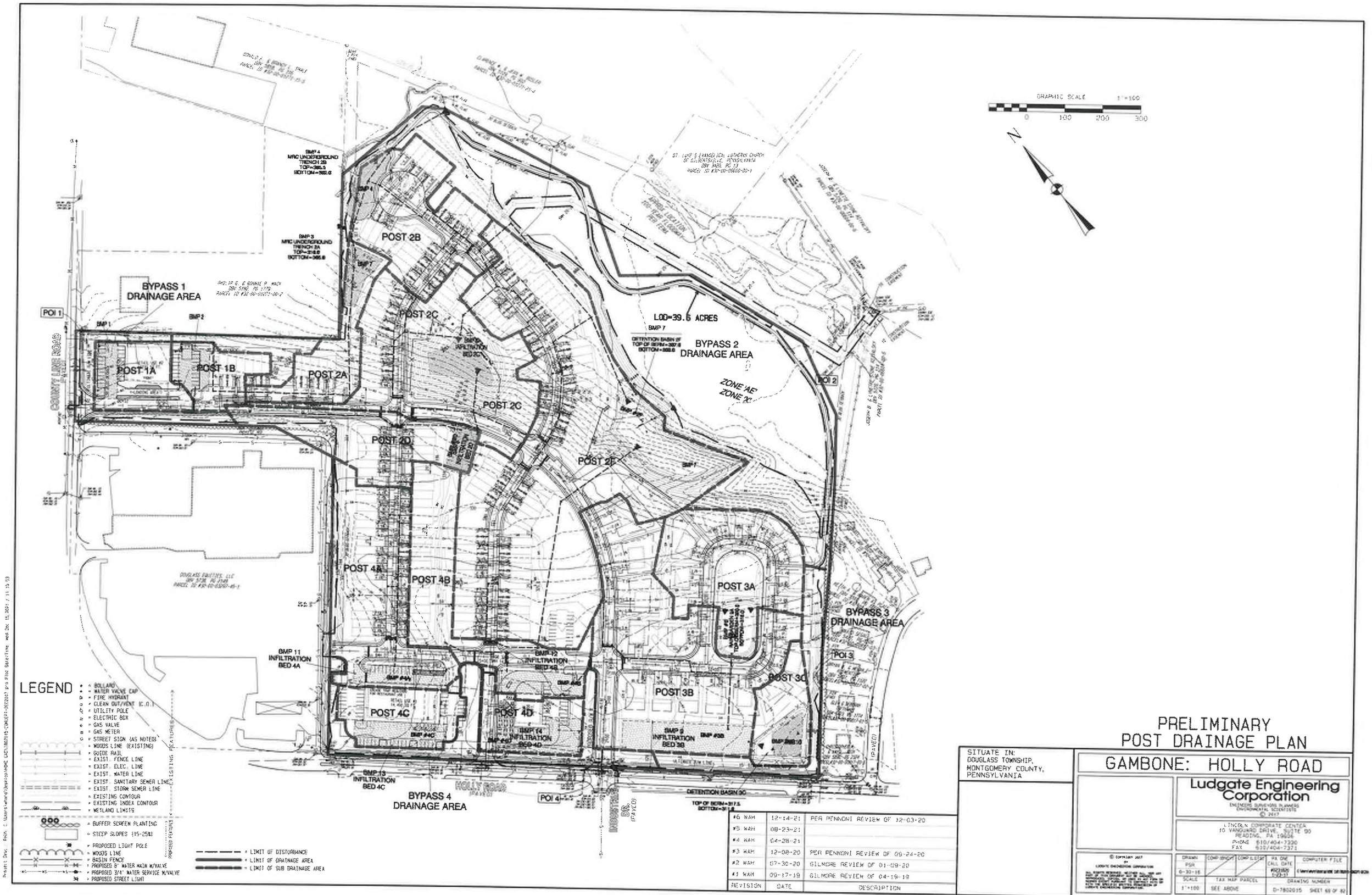

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

PRELIMINARY POST DRAINAGE PLAN

SITUATE IN:
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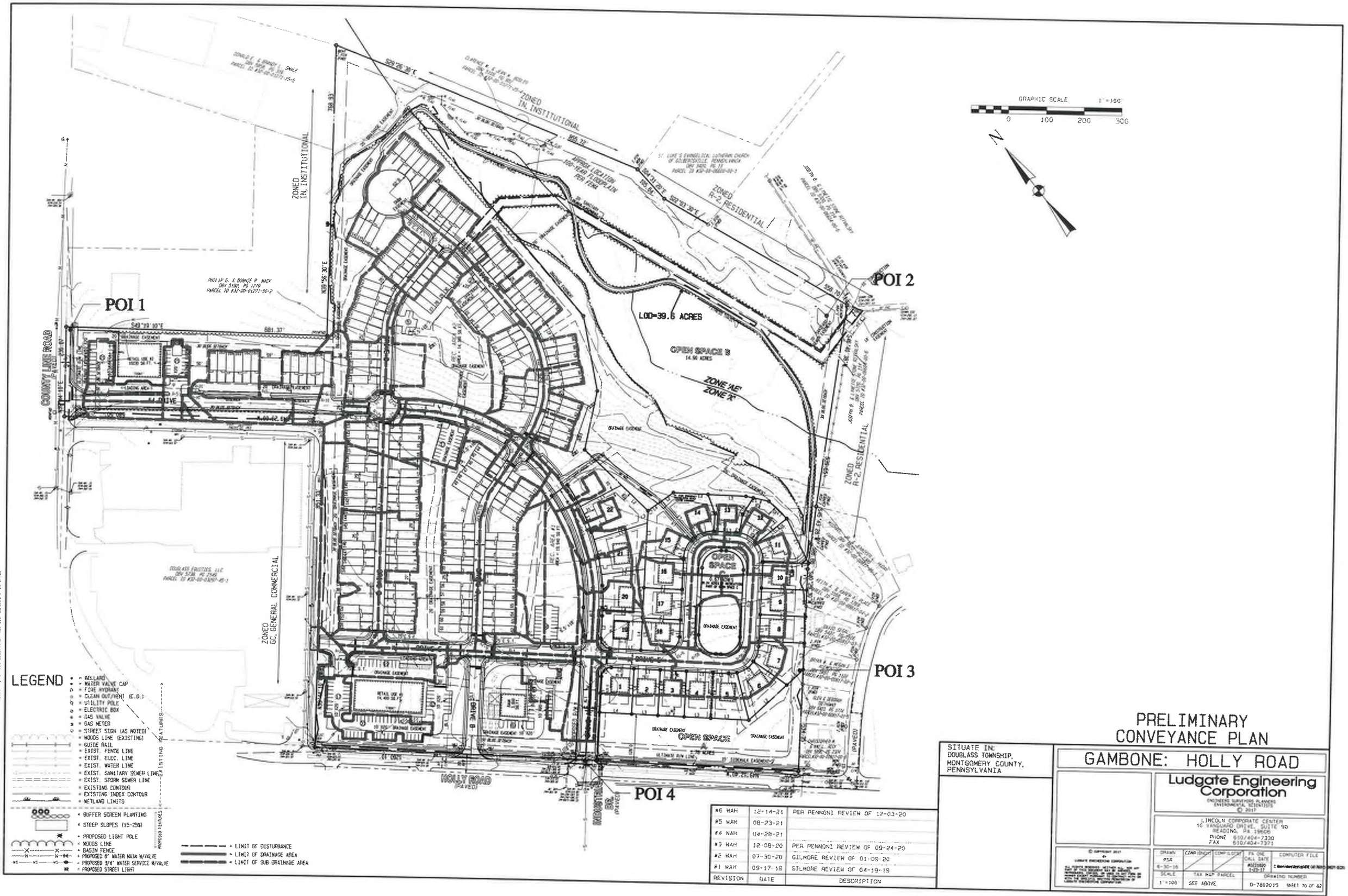
DRAWN	COMP ENGINT	COMP CHECKT	PA ONE CALL DATE	COMPUTER FILE
PGA			PROJECT 1-22-21	C:\Users\wahamer\Desktop\D-7802015
6-30-16				
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100	SEE ABOVE		D-7802015 SHEET 60 OF 82	



REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

PRELIMINARY CONVEYANCE PLAN

SITUATE IN:
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DRAWN	COMP. ENGINEER	COMPTROLLER	FB ONE CALL DATE	COMPUTER FILE
PSR 6-30-16			#6219000 1-20-17	C:\Users\wharrington\ADE CAD\WORKING\
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100'	SEE ABOVE		D-7892015	SHEET 70 OF 82

Project Desc.: Path: C:\Users\wharrington\ADE CAD\WORKING\D-7892015-CONCEPT-DEVELOP.dwg Plot Date/Time: Wed Dec 15, 2021 / 11:17:02

GRAPHIC SCALE 1"=100'
0 100 200 300

N

L.OD=39.6 ACRES

ZONE 'AE'
ZONE 'X'

COUNTY LINE ROAD

HOLLY ROAD (PAVED)

BMP 1
BMP 2
BMP 4
BMP 5
BMP 7
BMP 9
BMP 10
BMP 11
BMP 12
BMP 13

BMP 4
MRC UNDERGROUND TRENCH 2B
TOP=
BOTTOM=

BMP 5
MRC UNDERGROUND TRENCH 2A
TOP=
BOTTOM=

BMP 7
DETENTION BASIN 2F
TOP OF BERM=
BOTTOM=

BMP 11
INFILTRATION BED 4A

BMP 12
INFILTRATION BED 4B

BMP 13
INFILTRATION BED 4C

BMP 14
INFILTRATION BED 4D

BMP 9
INFILTRATION BED 3B

DETENTION BASIN 3C
TOP OF BERM=317.5
BOTTOM=

NOTE :

EACH DRAINAGE AREA IS LABELED THE SAME AS THE ASSOCIATED INLET.

LEGEND

- = BOLLARD
- = WATER VALVE CAP
- = FIRE HYDRANT
- = CLEAN OUT/INLET (C.O.)
- = UTILITY POLE
- = ELECTRIC BOX
- = GAS VALVE
- = GAS METER
- = STREET SIGN (AS NOTED)
- = WOODS LINE (EXISTING)
- = GUIDE RAIL
- = EXIST. FENCE LINE
- = EXIST. ELEC. LINE
- = EXIST. WATER LINE
- = EXIST. SANITARY SEWER LINE
- = EXIST. STORM SEWER LINE
- = EXISTING CONTOUR
- = EXISTING INDEX CONTOUR
- = WETLAND LIMITS
- = BUFFER SCREEN PLANTING
- = STEEP SLOPES (15-25%)
- = PROPOSED LIGHT POLE
- = WOODS LINE
- = BASIN FENCE
- = PROPOSED 8" WATER MAIN W/VALVE
- = PROPOSED 3/4" WATER SERVICE W/VALVE
- = PROPOSED STREET LIGHT
- = LIMIT OF DISTURBANCE
- = LIMIT OF DRAINAGE AREA
- = LIMIT OF SUB DRAINAGE AREA

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

INLET DRAINAGE AREA PLAN

SITUATE IN:
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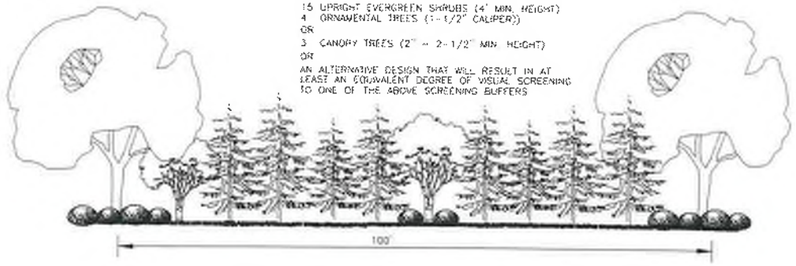
DRAWN	COMP. CHKD	COMP. CLOSE	PA ONE CALL DATE	COMPUTER FILE
BSR 6-30-16			PROMISE 1-22-22	C:\WINTEMP\GAMBONE DETENTION BASIN.DWG
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100'	SEE ABOVE		D-7802015	SHEET 21 OF 82



TYPICAL SCREENING BUFFER

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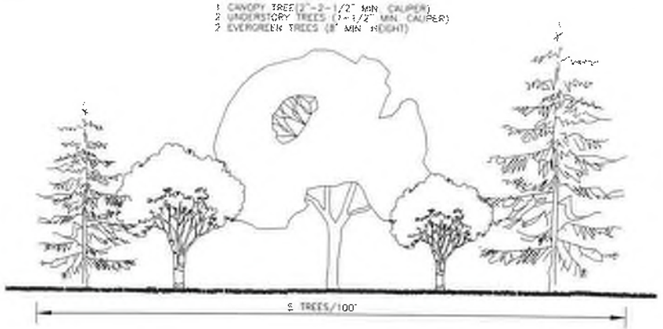
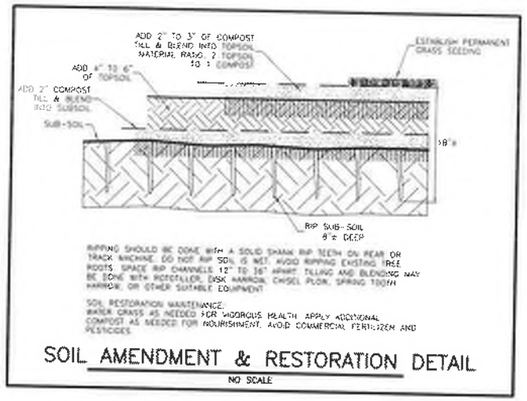


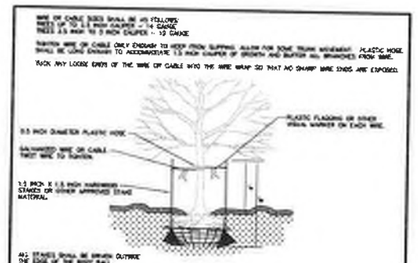
TYPICAL SOFTENING BUFFER

NO SCALE

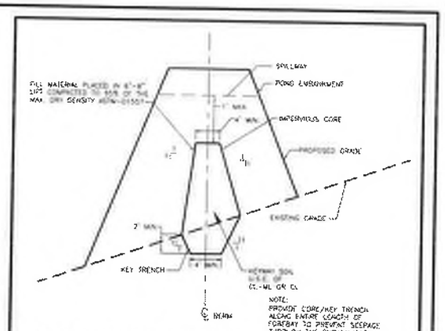


SOIL AMENDMENT & RESTORATION DETAIL

NO SCALE

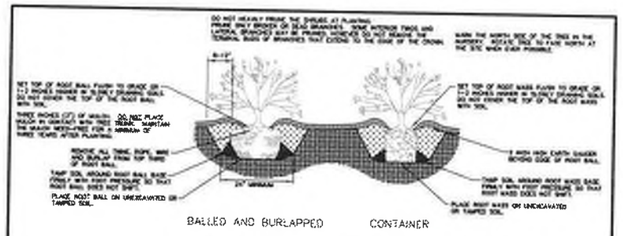


DECIDUOUS TREE STAKING DETAIL
TREES 3" CALIPER OR LESS



TYPICAL IMPERVIOUS CORE/KEY TRENCH DETAIL

NOT TO SCALE



NOTES:
1. PLANTS WITH POOR QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN BROKEN OR DAMAGED SHALL BE REJECTED.
2. PLANTS THAT DO NOT DISPLAY THE NORMAL CHARACTERISTICS FOR THEIR SPECIES SHALL BE REJECTED.

DECIDUOUS & EVERGREEN SHRUB DETAIL

NPDES APPLICANT

PCSM DETAIL SHEET

SITUATE IN:
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

811
#20030969 7-22-13

GAMBONE: HOLLY ROAD

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6-30-16		
SCALE	MAP	DRAWING NUMBER
AS NOTED		D-7802015 SHEET 72 OF 82

REVISION	DATE	DESCRIPTION
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	06-17-19	GILMORE REVIEW OF 04-19-19

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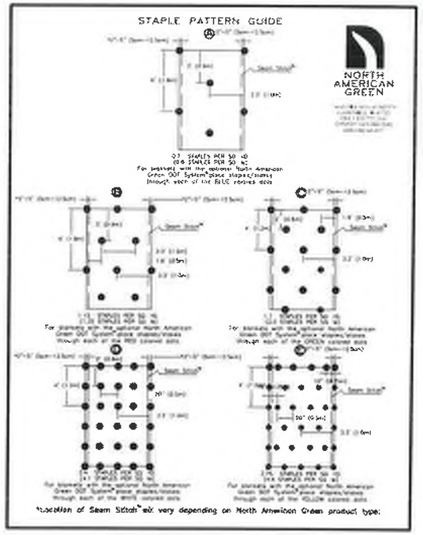
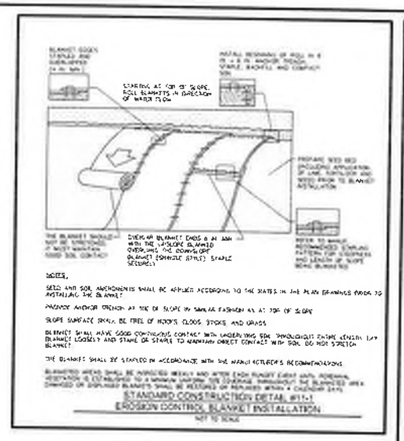
SHEET 3000

STAPLE PATTERN GUIDE





NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET

PROVIDE ANCHOR TRENCH AT TOP OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET

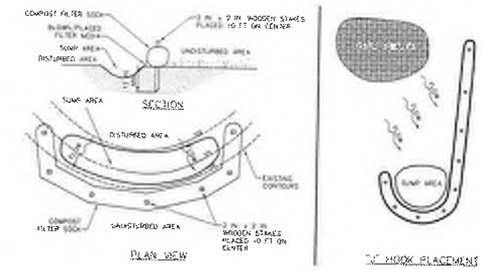
THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS

BLANKET AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERMANENT VEGETATION HAS ACHIEVED 75% COVERAGE. DAMAGED BLANKETS SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN A CALENDAR DAY.

STANDARD CONSTRUCTION DETAIL #3-1
EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE

CHANNEL INSTALLATION



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 SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT(SEE #1). MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON FIGURE 4.2. STAKES MAY BE INSTALLED IMMEDIATELY DOWN SLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.

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 SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

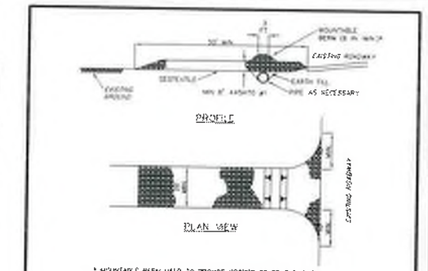
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

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.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK

NOT TO SCALE



* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF DRIVEWAY.

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROXIMATELY FOR SIZE OF DRAIN BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STANDARD CONSTRUCTION DETAIL #3-1
ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE

SECTION VIEW

NOTES:

WATERBARS SHALL DISCHARGE TO A STABLE AREA

WATERBARS SHALL BE INSPECTED WEEKLY (DAILY ON ACTIVE ROADS) AND AFTER EACH RUNOFF EVENT. DAMAGED OR ERODED WATERBARS SHALL BE RESTORED TO ORIGINAL DIMENSIONS WITHIN 24 HOURS OF INSPECTION.

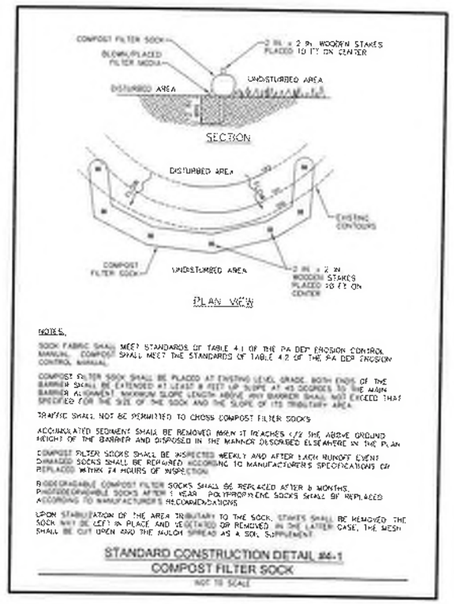
MAINTENANCE OF WATERBARS SHALL BE PROVIDED UNTIL ROADWAY, SHOULDER, OR RIGHT-OF-WAY HAS ACHIEVED PERMANENT STABILIZATION.

WATERBARS ON RETIRED ROADWAYS, SHOULDERS, AND RIGHT-OF-WAYS SHALL BE LEFT IN PLACE AFTER PERMANENT STABILIZATION HAS BEEN ACHIEVED.

SEE PA DEP EROSION CONTROL MANUAL TABLE 3.1 FOR WATERBAR SPACING

STANDARD CONSTRUCTION DETAIL #3-5
WATERBAR

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 ANY 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.

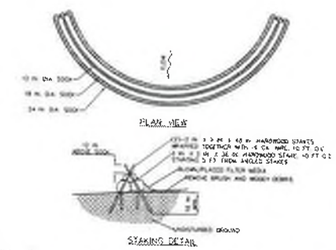
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

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.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK

NOT TO SCALE



STAKING DETAIL

NOTES:

1. COMPOST SOCK SEDIMENT TRAP SHALL BE SIZED TO PROVIDE 1800 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 1/2 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. WEIR SHALL BE LOCATED IN THE MIDDLE OF SOCKPIPE

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 BARRIER SEDIMENT TRAPS SHALL NOT EXCEED THREE SOCKS IN HEIGHT AND SHALL BE STAKED IN A PYRAMID FASHION 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 MINIMUM 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 1/2 THE HEIGHT OF THE SOCK.

PHOTODEGRADABLE AND BIODEGRADABLE SOCKS SHALL NOT BE USED FOR MORE THAN 1 YEAR

STANDARD CONSTRUCTION DETAIL #5-11
COMPOST SOCK SEDIMENT TRAP

NOT TO SCALE

COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

MATERIAL TYPE	3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 24" 18" 32"	12" 24" 18" 32"	12" 24" 18" 32"	12" 24" 18" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	3/8"
TENSILE STRENGTH		76 psi	76 psi	44 psi	202 psi
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
MINIMUM FUNCTIONAL LONGEVITY	6 months	9 months	6 months	1 year	2 years

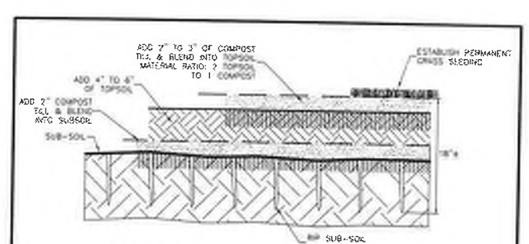
TWO-PLY SYSTEMS

INNER CONTAINMENT NETTING	HDPE BIAXIAL NET
	CONTINUOUSLY WOUND
	FUSION-WELDED JUNCTURES
	1" X 1" MAX. APERTURE SIZE
OUTER FILTRATION MESH	COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)
	3/8" MAX. APERTURE SIZE
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS	

COMPOST SHOULD BE A WELL DECOMPOSED, WEED-FREE ORGANIC MATTER DERIVED FROM AGRICULTURE, FOOD, STUMP GRINDINGS, AND YARD OR WOOD/BARK ORGANIC MATTER SOURCES. THE COMPOST SHOULD BE AEROBICALLY COMPOSTED. THE COMPOST SHOULD POSSESS NO OBJECTIONABLE ODORS AND SHOULD BE REASONABLY FREE (<1% BY DRY WEIGHT) OF MAN-MADE FOREIGN MATTER. THE COMPOST PRODUCT SHOULD NOT RESEMBLE THE RAW MATERIAL FROM WHICH IT WAS DERIVED. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS ARE NOT ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

THE PHYSICAL PARAMETERS OF THE COMPOST SHOULD COMPLY WITH THE FOLLOWING STANDARDS. THE STANDARDS CONTAINED IN THE PENNDOT PUB. 408 ARE AN ACCEPTABLE ALTERNATIVE.

COMPOST STANDARDS	
ORGANIC MATERIAL CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.0
MOISTURE CONTENT	35% - 55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM

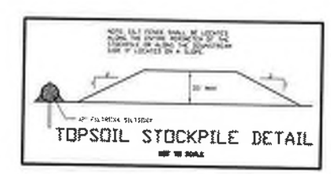


RIPPING SHOULD BE DONE WITH A SOLID SHANK RIP TEETH ON REAR OF TRACK MACHINE. DO NOT RIP SOIL IS WET. AVOID RIPPING EXISTING TREE ROOTS. SPACE RIP CHANNELS 12" TO 36" APART. TILLING AND BLENDING MAY BE DONE WITH ROTOTILLER, DISK HARROW, CHISEL PLOW, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT

SOIL RESTORATION MAINTENANCE:
WATER GRASS AS NEEDED FOR VIGOROUS HEALTH. APPLY ADDITIONAL COMPOST AS NEEDED FOR NOURISHMENT. AVOID COMMERCIAL FERTILIZER AND PESTICIDES.

SOIL AMENDMENT & RESTORATION DETAIL

NO SCALE



TOPSOIL STOCKPILE DETAIL

NOT TO SCALE

NPDES APPLICANT

REVISION	DATE	DESCRIPTION
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	06-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
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#20J0869 7-22-13

E&S DETAIL SHEET

GAMBONE: HOLLY ROAD

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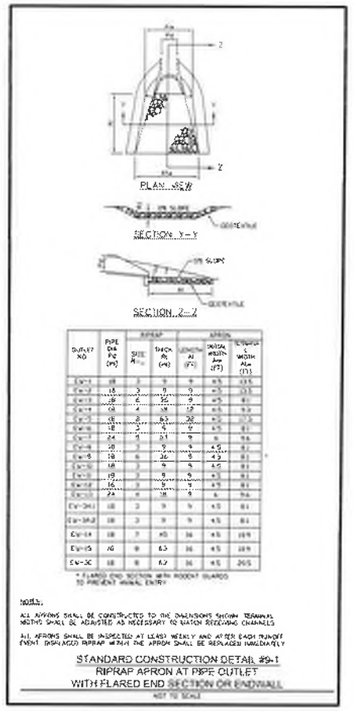


OUTLET NO	PIPE DIA Pd (IN)	RIPRAP SIZE R_{50}	RIPRAP THICK R (IN)	RIPRAP LENGTH A (FT)	RIPRAP WIDTH AT END B (FT)	EXCAVATION WIDTH AT OUTLET (FT)
EW-1	18	3	9	9	4.5	13.5
EW-2	18	3	9	9	4.5	13.5
EW-3	18	3	9	9	4.5	13.5
EW-4	18	4	12	12	6	18
EW-5	18	4	12	12	6	18
EW-6	18	4	12	12	6	18
EW-7	24	4	12	12	6	18
EW-8	18	3	9	9	4.5	13.5
EW-9	18	3	9	9	4.5	13.5
EW-10	18	3	9	9	4.5	13.5
EW-11	18	3	9	9	4.5	13.5
EW-12	18	3	9	9	4.5	13.5
EW-13	24	4	12	12	6	18
EW-14A	18	3	9	9	4.5	13.5
EW-14B	18	3	9	9	4.5	13.5
EW-14C	18	7	21	21	10.5	31.5
EW-15	48	9	63	36	18	108
EW-16	18	9	63	36	18	108

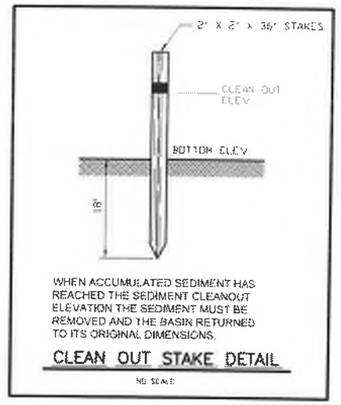
* FLARED END SECTION WITH RODENT GUARDS TO PREVENT animal ENTRY

NOTES:

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WEIRS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

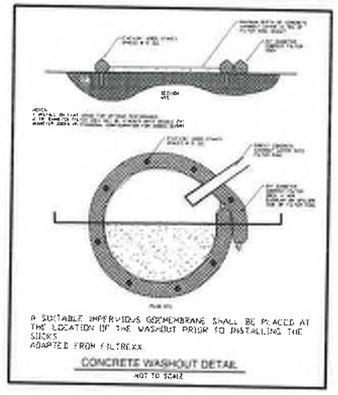
ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

STANDARD CONSTRUCTION DETAIL #9-1
RIPRAP APRON AT PIPE OUTLET
WITH FLARED END SECTION OR ENDWALL
NOT TO SCALE



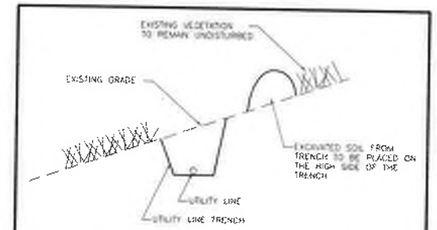
WHEN ACCUMULATED SEDIMENT HAS REACHED THE SEDIMENT CLEANOUT ELEVATION THE SEDIMENT MUST BE REMOVED AND THE BASIN RETURNED TO ITS ORIGINAL DIMENSIONS.

CLEAN OUT STAKE DETAIL
NO SCALE

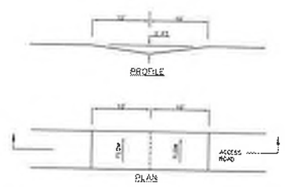


A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SIGNS.
ADAPTED FROM FILTREXX

CONCRETE WASHOUT DETAIL
NOT TO SCALE



UTILITY TRENCH DETAIL
NOT TO SCALE



NOTES:

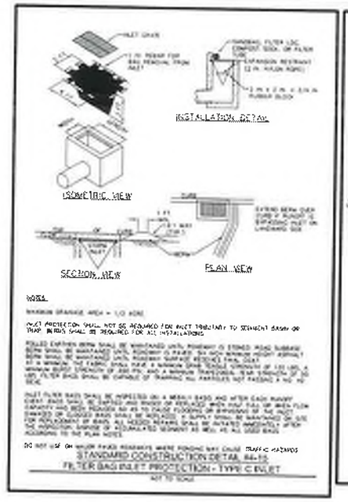
BROAD-BASED DIPS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN AND AT THE LOCATIONS SHOWN ON THE PLAN DRAWINGS.

DIPS SHALL BE OPERATED SO AS TO DISCHARGE TO THE LOW SIDE OF THE ROADWAY.

DIPS SHALL BE INSPECTED DAILY. DAMAGED OR NON-FUNCTIONING DIPS SHALL BE REPAIRED BY THE END OF THE WORKDAY.

MINIMUM SPACING OF BROAD-BASED DIPS SHALL BE AS SHOWN IN TABLE 3.3 OF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL #3-6
BROAD BASED DIP - LOW GRADIENT (4.5 %) ROADWAYS
NOT TO SCALE



NOTES:

MAXIMUM DRAINAGE AREA = 1.0 ACRE

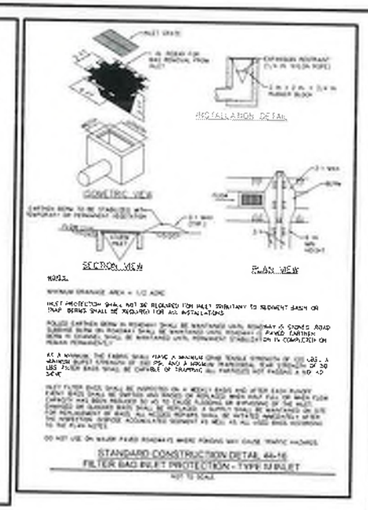
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR THAT BERM SHALL BE REQUIRED FOR ALL INSTALLATIONS

ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOID TEAR STRENGTH OF 50 LBS. FILTER SOCK SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 10 SIEVE.

INLET FILTER SOCK SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. SOCK SHALL BE EMPTIED AND SOCKS OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED BY 40 % CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED SOCK SHALL BE REPLACED. SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF SOCK. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS NEEDED. RE-SEED ALL BARE AREAS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS

STANDARD CONSTRUCTION DETAIL #4-16
FILTER BAG INLET PROTECTION - TYPE C INLET
NOT TO SCALE



NOTES:

MAXIMUM DRAINAGE AREA = 1.0 ACRE

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR THAT BERM SHALL BE REQUIRED FOR ALL INSTALLATIONS

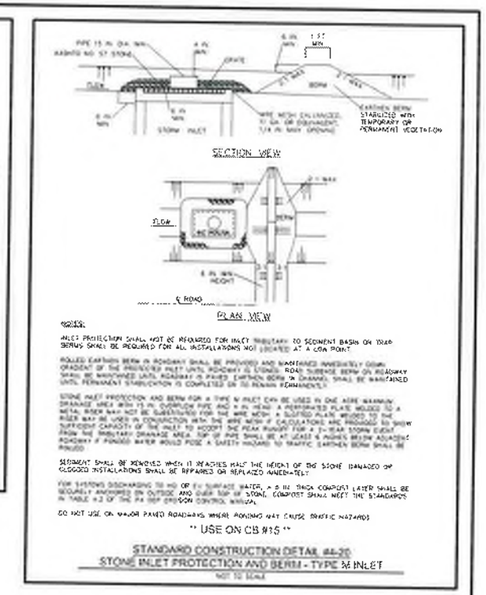
ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN DRAINAGE SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED ON PERMANENT EARTHEN BERM.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOID TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 10 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND BAGS OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED BY 40 % CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS NEEDED. RE-SEED ALL BARE AREAS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS

STANDARD CONSTRUCTION DETAIL #4-16
FILTER BAG INLET PROTECTION - TYPE B INLET
NOT TO SCALE



NOTES:

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN ON TOP BERM SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN DRAINAGE SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED ON PERMANENT EARTHEN BERM.

STONE INLET PROTECTION AND BERM FOR A TYPE M INLET CAN BE USED IN ONE ACRE MAXIMUM DRAINAGE AREA WITH 15 IN. OVERFLOW PIPE AND 4 IN. HEIGHT. A PERFORATED PLATE WELDED TO A METAL RISER MAY NOT BE SUBSTITUTED FOR THE WIRE MESH. A SLOTTED PLATE WELDED TO THE RISER MAY BE USED IN CONJUNCTION WITH THE WIRE MESH IF CALCULATIONS ARE PROVIDED TO SHOW SUFFICIENT CAPACITY OF THE INLET TO ACCEPT THE PEAK RUNOFF FOR A 25-YEAR STORM EVENT FROM THE TRIBUTARY DRAINAGE AREA. TOP OF PIPE SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADWAY IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC. EARTHEN BERM SHALL BE ROUNDED.

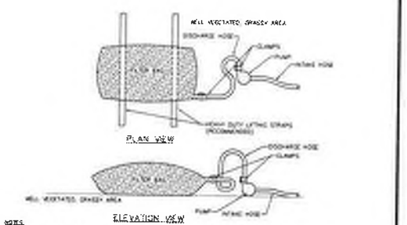
SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 IN. THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS

** USE ON CB #15 **

STANDARD CONSTRUCTION DETAIL #4-20
STONE INLET PROTECTION AND BERM - TYPE M INLET
NOT TO SCALE



NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH DOUBLE STITCHED 1/2" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN THOSE PASSING HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	45 LB/IN
GRAB TENSILE	ASTM D-4632	200 LB
PUNCTURE	ASTM D-4833	120 LB
MULLEN BURST	ASTM D-3786	390 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS, % RETAINED	ASTM D-4751	70 US#
AOS, % RETAINED	ASTM D-4751	40 US#

A SUITABLE MEANS OF ADDRESSING THE BAG WITH MACHINERY REQUIRED FOR REMOVAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAWS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS AS ARE ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED GRASSED AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A SECONDARY DISCHARGE HOSE AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FLOW STRAW TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% OR ON SLOPES EXCEEDING THE ALLOWABLE CAPACITY. BAGS SHALL BE PLACED ON NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

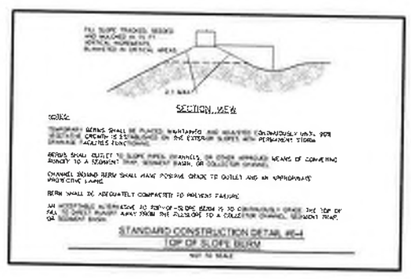
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN AREA OF EV WATERSHEDS, WITHIN 50 FEET OF ANY FLOWING SURFACE WATER OR WHERE SPACE AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS AT THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MINIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SUBMERGED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG
NOT TO SCALE



NOTES:

TEMPORARY BERMS SHALL BE PLACED, MAINTAINED AND REMOVED CHRONOLOGICALLY UNTIL NEW VEGETATIVE GROWTH IS ESTABLISHED ON THE EXTERIOR SLOPES WITH PERMANENT STORM DRAINAGE FACILITIES FUNCTIONING.

BERMS SHALL OUTLET TO SLOPE PIPES, CHANNELS, OR OTHER APPROVED MEANS OF CONVEYING RUNOFF TO A SEDIMENT TRAP, SEDIMENT BASIN, OR SOUND DISCHARGE.

CHANNEL BROAD BERM SHALL HAVE POSITIVE GRADE TO OUTLET AND AN APPROPRIATE PROTECTIVE LINING.

BERM SHALL BE ADEQUATELY COMPACTED TO PREVENT FAILURE.

AN ACCEPTABLE ALTERNATIVE TO TOP-OF-SLOPE BERM IS TO CONTINUOUSLY GRADE THE TOP OF FILL TO DIRECT RUNOFF AWAY FROM THE FILLSLOPE TO A COLLECTOR CHANNEL, SEDIMENT TRAP, OR SEDIMENT BASIN.

STANDARD CONSTRUCTION DETAIL #6-4
TOP OF SLOPE BERM
NOT TO SCALE

NPDES APPLICANT

E&S DETAIL SHEET

REVISION	DATE	DESCRIPTION
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	06-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

811
#20J0869 7-22-13

GAMBONE: HOLLY ROAD

Ludgate Engineering Corporation
ENGINEERS SURVEYORS PLANNERS
ENVIRONMENTAL SCIENTISTS
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AS NOTED			0-7802015 SHEET 75 OF 82

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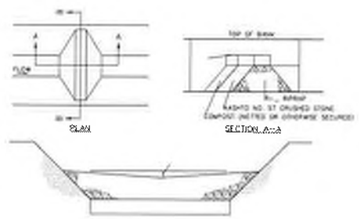
SHEET 2003



BOTTOM FLOW LINE NO	LOCATION	D (FT)	BERMUDA GRASS (Y/N)
#4	STATION 19+00	0.8	Y

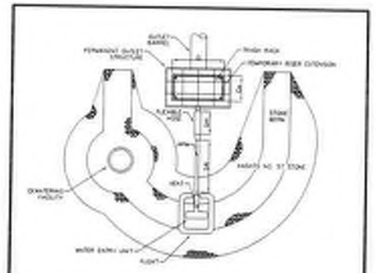
FOR D ≥ 3 FT - USE R-1
FOR D ≥ 2 FT TO D < 3 FT - USE R-2
NOT APPLICABLE FOR D < 2 FT

NOTES:

SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS

IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER AND STABILIZE DISTURBED AREAS

STANDARD CONSTRUCTION DETAIL #4-14
ROCK FILTER
NOT TO SCALE

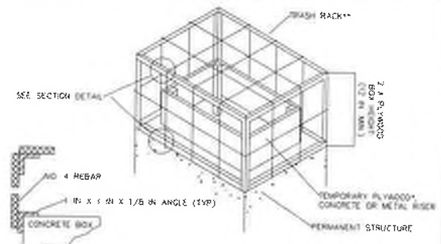


NOTE:

NO DOOR PADS SHALL BE REQUIRED FOR THIS INSTALLATION

THIS DETAIL SHALL BE USED IN CONJUNCTION WITH STANDARD CONSTRUCTION DETAILS #7-1 AND #7-4

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



SECTION DETAIL

* 3/4 IN. PRESSURE TREATED PLYWOOD BOX WITH 2 IN. X 2 IN. PRESSURE TREATED CORNER SUPPORTS, SET INTO 1-1/2 IN. GRATE OFFSETS, CAULK ALL SEAMS TO FORM WATERTIGHT SEALS.

** TRASH RACK COMPOSED OF 1 IN. X 1 IN. X 1/8 IN. L (TYP.) AND #4 BARS (TYP.) WELDED TO THE ANGLES AND AT EACH INTERSECTION OF THE BARS. #4 BARS SPACED AT HALF THE DIAMETER OF THE BARREL MAX.

NOTES:

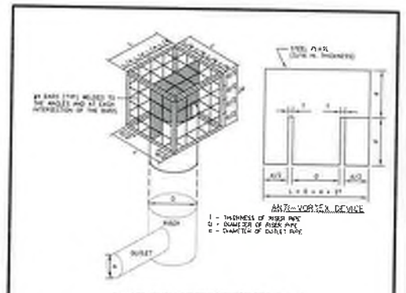
BOX SHALL BE BOLTED, STRAPPED, OR OTHERWISE SECURED TO THE PERMANENT RISER.

TOP OF TEMPORARY RISER EXTENSION SHALL BE AT LEAST AS HIGH AS SEDIMENT BASIN TEMPORARY RISER AND SHALL BE 6 IN. (MINIMUM) BELOW CREST OF EMERGENCY SPILLWAY.

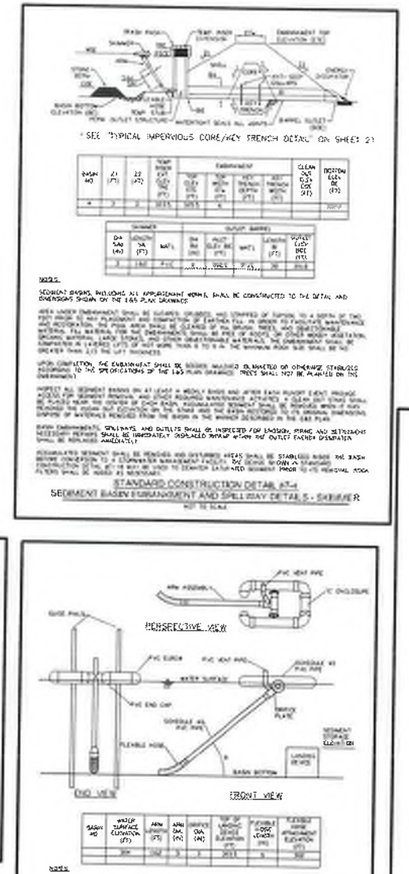
ALL JOINTS SHALL BE WATER TIGHT.

CLOGGED OR DAMAGED SPILLWAYS SHALL BE REPAIRED IMMEDIATELY. TRASH AND OTHER DEBRIS SHALL BE REMOVED FROM THE BASIN AND RISER.

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



STANDARD CONSTRUCTION DETAIL #7-5
TRASH RACK AND ANTI-VORTEX DEVICE
NOT TO SCALE



* SEE "TYPICAL IMPERVIOUS CORE/KEY FRENCH DETAIL" ON SHEET 21

BASIN NO	A1 (FT)	A2 (FT)	TRAP BASIN CLEAN OUT ELEV. (FT)	EMBANKMENT				CLEAN OUT ELEV. (FT)	BOTTOM ELEV. (FT)
				TOP OF CLEAN OUT ELEV. (FT)	TOP WIDTH (FT)	SIDE SLOPES (H:V)	CREST LENGTH (FT)		
4	2	2	97.5	99.5	4			97.5	

SKIMMER			OUTLET BARREL				
DIA SKIM (IN)	LENGTH (A) (FT)	WAT'L	DIA BAR (IN)	INLET ELEV. BC (FT)	WAT'L	LENGTH (B) (FT)	OUTLET ELEV. BCC (FT)
3	1.50	0.25	3	99.5	0.25	30	99.0

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 FENCE AND OTHER REQUIRED IMPROVEMENTS, AND STRIPPED OF TOPSOIL TO A DEPTH OF TWO FEET PRIOR TO THE PLACEMENT AND CONSTRUCTION OF EMBANKMENT FILL. IN ORDER TO FACILITATE MAINTENANCE AND RESTORATION, THE POOL AREA SHALL BE CLEARED OF THE GROUND COVER. ALL UNSUITABLE 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 9 TO 9 IN. THE MINIMUM POOL DEPTH SHALL BE NOT GREATER THAN 3.0 THE LIFT THICKNESS.

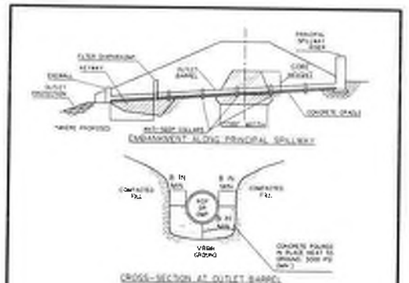
UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED, MULCHED, DAMASTED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS. TREES SHALL NOT BE PLANTED ON THE EMBANKMENT.

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 EMBANKMENTS, SPILLWAYS AND OUTLETS SHALL BE INSPECTED FOR EROSION, PIPING AND SETTLEMENT. NECESSARY REPAIRS SHALL BE IMMEDIATELY. DISPLACED RIPRAP WITHIN THE OUTLET PROTECTION SHALL BE REPLACED IMMEDIATELY.

PERMANENTLY SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED. WHEN THE BASIN BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. THE CORE WITHIN STANDARD CONSTRUCTION DETAIL #7-1 MAY BE USED TO DEWATER SATURATED SEDIMENT PRIOR TO ITS REMOVAL. POOL FILTERS SHALL BE ADDED AS NECESSARY.

STANDARD CONSTRUCTION DETAIL #7-4
SEDIMENT BASIN PERMANENT AND SPILLWAY DETAIL 5 - SKIMMER
NOT TO SCALE

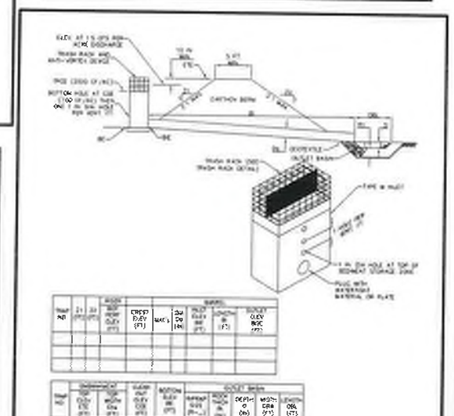


NOTES:

A CONCRETE CRADLE MAY BE USED IN CONJUNCTION WITH ANTI-SEEP COLLARS AND/OR FLOW DIAPHRAGMS.

ANTI-SEEP COLLAR MEMBER SIZE AND SPACING SHALL BE AS SHOWN ELSEWHERE IN A AN FILTER DIAPHRAGM LOCATION (VFD) SHALL BE AS SHOWN IN FIGURE 1.8 OF THE PA DEP EROSION CONTROL MANUAL.

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



TRAP NO	A1 (FT)	A2 (FT)	BASIN				BARREL					
			TOP OF CLEAN OUT ELEV. (FT)	TOP WIDTH (FT)	SIDE SLOPES (H:V)	CREST ELEV. (FT)	WAT'L	DIA BAR (IN)	INLET ELEV. BC (FT)	WAT'L	LENGTH (B) (FT)	OUTLET ELEV. BCC (FT)

TRAP NO	EMBANKMENT				BASIN	OUTLET BASIN			
	TOP OF CLEAN OUT ELEV. (FT)	TOP WIDTH (FT)	SIDE SLOPES (H:V)	CREST LENGTH (FT)	BOTTOM ELEV. (FT)	WATER SURFACE ELEV. (FT)	DEPTH (IN)	WIDTH (IN)	LENGTH (IN)

NOTES:

FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 9 TO 9 IN. THE MINIMUM POOL DEPTH SHALL BE NOT GREATER THAN 3.0 THE LIFT THICKNESS.

UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS.

ALL SEDIMENT TRAPS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT.

ACCESS FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES SHALL BE PROVIDED.

A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH TRAP. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE TRAP IN THE MANNER DESCRIBED IN THE E&S PLAN.

BASIN EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. CLOGGED OR DAMAGED SPILLWAYS AND/OR EMBANKMENTS SHALL BE IMMEDIATELY RESTORED TO THE DESIGN SPECIFICATIONS. DISPLACED RIPRAP WITHIN THE OUTLET PROTECTION SHALL BE REPLACED IMMEDIATELY.

ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS WHERE THE TRAP SHALL BE STABILIZED BEFORE CONVERSION TO STORMWATER MANAGEMENT FACILITY.

STANDARD CONSTRUCTION DETAIL #8-8
CONCRETE RISER WITH TEMPORARY DEWATERING HOLES
NOT TO SCALE

NAMES APPLICANT

E&S DETAIL SHEET

SITUATE IN:
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

811

#2030969 7-22-13

GAMBONE: HOLLY ROAD

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ENGINEERS SURVEYORS PLANNERS
ENVIRONMENTAL CONSULTANTS
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6-30-16			
SCALE		MAP	DRAWING NUMBER
AS NOTED			0-7802015 SHEET 76 OF 82

REVISION	DATE	DESCRIPTION
#5 WAH	08-23-21	
#4 WAH	04-28-21	
#3 WAH	12-08-20	
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	06-17-19	GILMORE REVIEW OF 04-19-19

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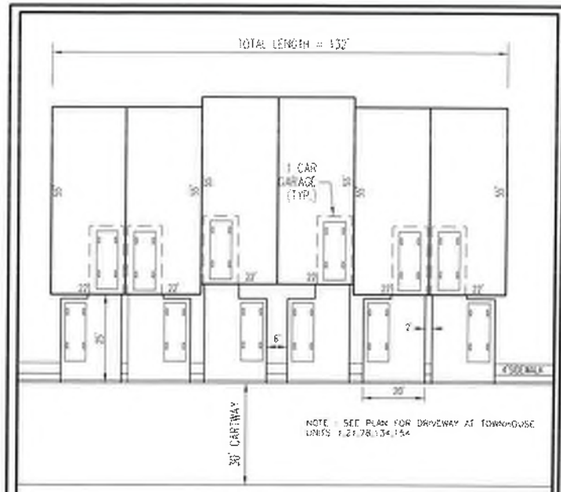
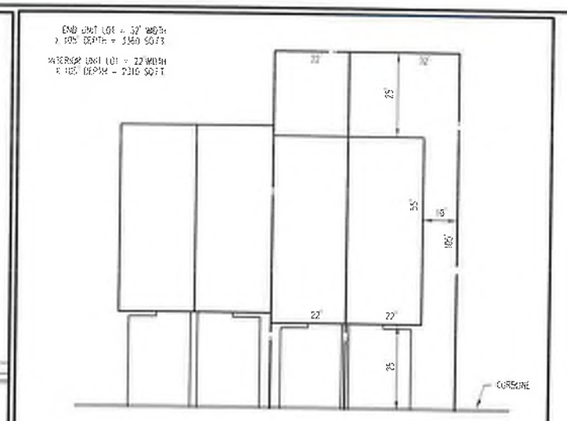
SHEET 20.04



TYPICAL TOWNHOUSE UNIT DETAIL

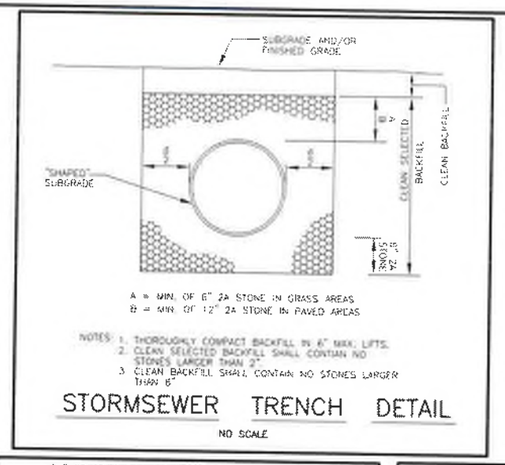
SCALE: 1"=30'



TYPICAL TOWNHOUSE LOT DETAIL

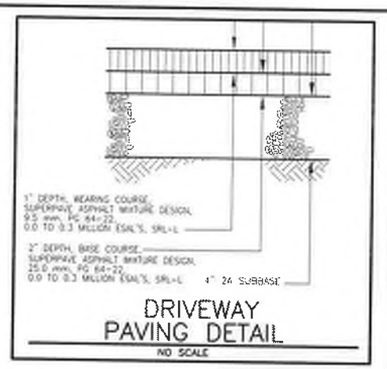
SCALE: 1"=30'

THE PURPOSE OF THIS DETAIL IS TO SHOW HOW A TYPICAL TOWNSHIP FEE SIMPLE LOT COULD BE SET UP; FEE SIMPLE LOTS ARE NOT PROPOSED.



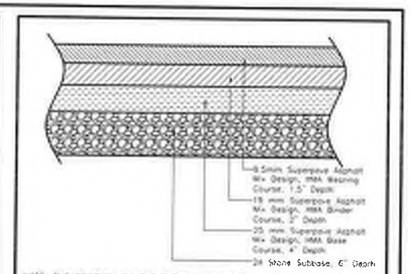
STORMSEWER TRENCH DETAIL

NO SCALE



DRIVEWAY PAVING DETAIL

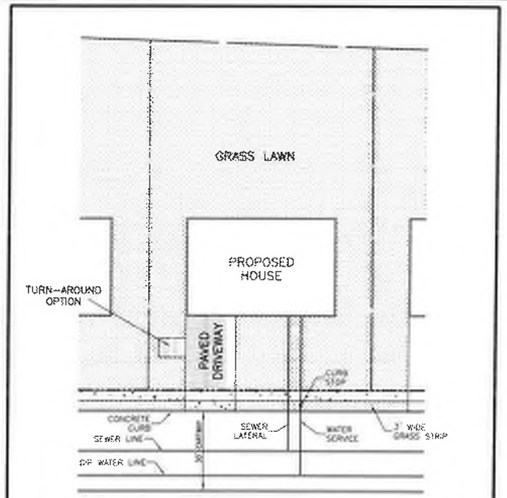
NO SCALE



NOTE: THE DRIVEWAY PAVEMENT THICKNESS SPECIFICATIONS ARE BASED ON A "GOOD" SUBGRADE CLASS, BASED UPON THE GEOTECHNICAL RESULTS. THE APPLICANT SHALL PROVIDE MODIFIED PAVING THICKNESSES BASED ON EXISTING CONDITIONS. THE TOWNSHIP ENGINEER SHALL BE NOTIFIED IF THE SUBGRADE CLASS IS LESS THAN "GOOD" IN THE FIELD PRIOR TO PAVEMENT CONSTRUCTION.

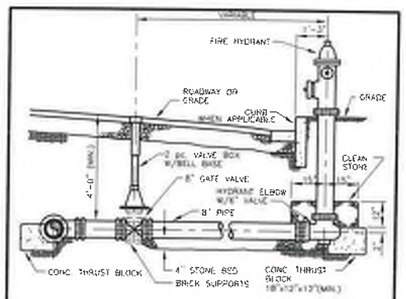
PAVING DETAIL

NO SCALE



TYPICAL UTILITY CONNECTION

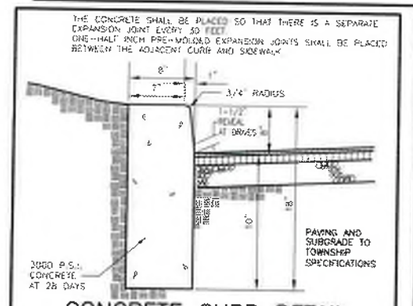
NO SCALE



ALL FIRE HYDRANTS SHALL HAVE A BLUE PLASTIC ROAD REFLECTOR INSTALLED IN THE CENTER OF THE ROADWAY LOCATED IN FRONT OF THE FIRE HYDRANT. ALL REFLECTORS SHALL BE RECESSED INTO THE ROADWAY TO PREVENT DAMAGE BUT ALLOW FOR REFLECTED LIGHT. ADDITIONALLY, ALL FIRE HYDRANTS SHALL HAVE A 5" FIBERGLASS REFLECTIVE WHIP ATTACHED TO THE BONNET OF THE HYDRANT AS WELL AS THE CURBING PAINTED YELLOW OR HAVE THE PAVEMENT DIAGONALLY STRIPED WITH YELLOW PAINT FOR 15' ON EACH SIDE OF THE FIRE HYDRANT (30' TOTAL LENGTH). THIS IDENTIFICATION OF A NO PARKING ZONE IS IN ADDITION TO THE REQUIRED "NO PARKING - FIRE LANE" SIGNAGE.

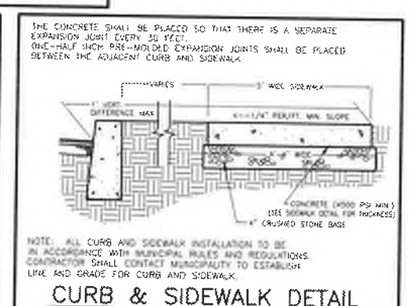
FIRE HYDRANT DETAIL

NO SCALE



CONCRETE CURB DETAIL

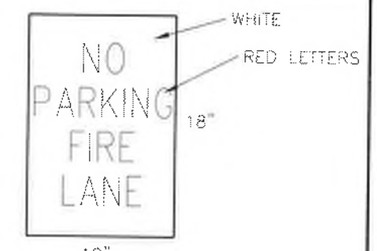
NO SCALE



NOTE: ALL CURB AND SIDEWALK INSTALLATION TO BE IN ACCORDANCE WITH MUNICIPAL RULES AND REGULATIONS. CONTRACTOR SHALL CONTACT MUNICIPALITY TO ESTABLISH LINE AND GRADE FOR CURB AND SIDEWALK.

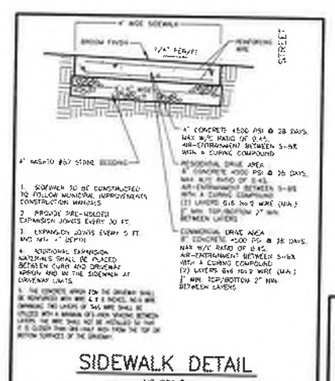
CURB & SIDEWALK DETAIL

NO SCALE



FIRE LANE SIGN

"NO PARKING - FIRE LANE" SIGNS SHALL BE INSTALLED AS REQUIRED AND SHALL HAVE A MINIMUM DIMENSION OF 12" WIDE BY 18" HIGH HAVING RED LETTERING ON A WHITE REFLECTIVE BACKGROUND.

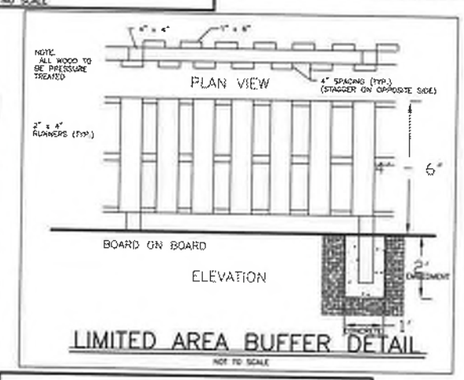


1. SIDEWALK TO BE CONSTRUCTED TO FOLLOW MUNICIPAL IMPROVEMENTS CONSTRUCTION MANUALS
2. PROVIDE PRE-MOLDED EXPANSION JOINTS EVERY 30 FT.
3. EXPANSION JOINTS EVERY 5 FT. AND MIN. 1" DEPTH
4. ADDITIONAL EXPANSION MATERIALS SHALL BE PLACED BETWEEN CURB AND DRIVEWAY APRON AND IN THE SIDEWALK AT DRIVEWAY LIMITS
5. THE CONCRETE APRON FOR THE DRIVEWAY SHALL BE REINFORCED WITH MIN. 6 X 6 GAUGE, W2.9 WIRE SPACING. TWO LAYERS OF THIS WIRE SHALL BE STAGGERED WITH A MINIMUM OFFSET OF ONE SPACING BETWEEN LAYERS. THE WIRE SHALL NOT BE INSTALLED SO THAT IT IS CLOSER THAN ONE-HALF INCH FROM THE TOP OR BOTTOM SURFACES OF THE DRIVEWAY.

- 4" CONCRETE 4500 PSI @ 28 DAYS. MAX W/C RATIO OF 0.45. AIR-ENTRAINMENT BETWEEN 5-8% WITH A CURING COMPOUND
- RESIDENTIAL DRIVE AREA 4" CONCRETE 4000 PSI @ 28 DAYS. MAX W/C RATIO OF 0.45. AIR-ENTRAINMENT BETWEEN 5-8% WITH A CURING COMPOUND (2) LAYERS 6x6 W2.9 WIRE (MIN.) 2" MIN. TOP/BOTTOM 2" MIN BETWEEN LAYERS
- COMMERCIAL DRIVE AREA 8" CONCRETE 4500 PSI @ 28 DAYS. MAX W/C RATIO OF 0.45. AIR-ENTRAINMENT BETWEEN 5-8% WITH A CURING COMPOUND (2) LAYERS 6x6 W2.9 WIRE (MIN.) 2" MIN. TOP/BOTTOM 2" MIN BETWEEN LAYERS

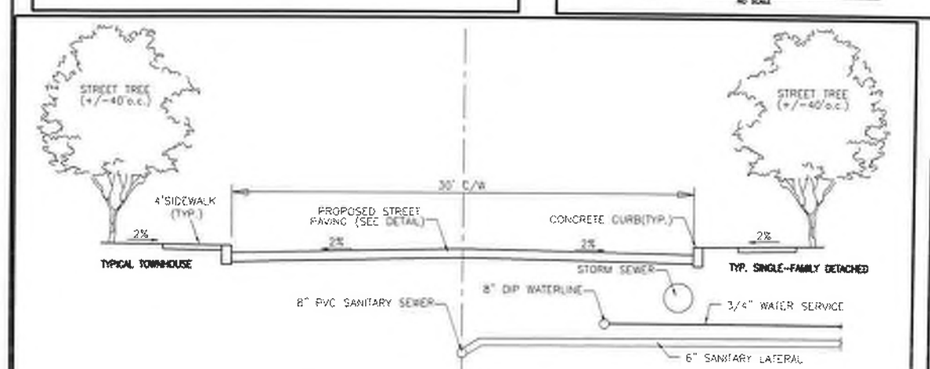
SIDEWALK DETAIL

NO SCALE



LIMITED AREA BUFFER DETAIL

NOT TO SCALE



TYPICAL INTERNAL ROAD CROSS SECTION

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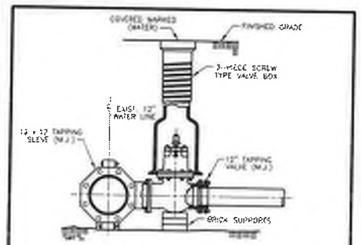

WATER LINE CONNECTION DETAIL

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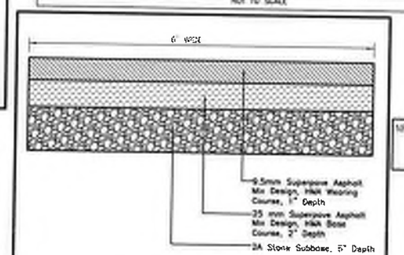
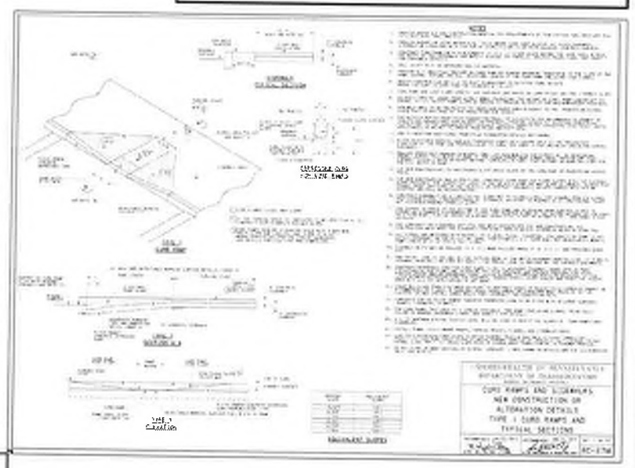


WALKING TRAIL PAVING DETAIL



DETAIL SHEET

NPDES APPLICANT

REVISION	DATE	DESCRIPTION
#5 WAH	08-23-21	NO SCALE
#4 WAH	04-28-21	
#3 WAH	12-08-20	
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	06-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

811

#20309697-22-13

GAMBONE: HOLLY ROAD

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DRAWN	COMPUTER	COMPUTER	COMPUTER FILE
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6-30-16			C:\CDS\WORK\DESIGN\HOLLY DET.DWG
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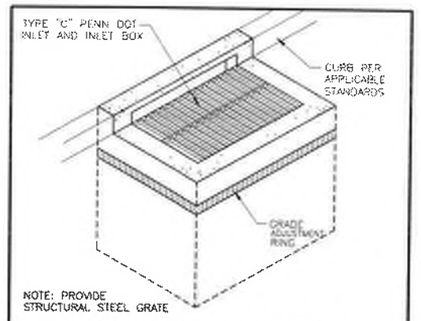
AS NOTED			D-7802015 SHEET 78 OF 82

PLOTTED: 12/15/2021 11:30 AM

SHEET 2006



TYPE "C" INLET DETAIL

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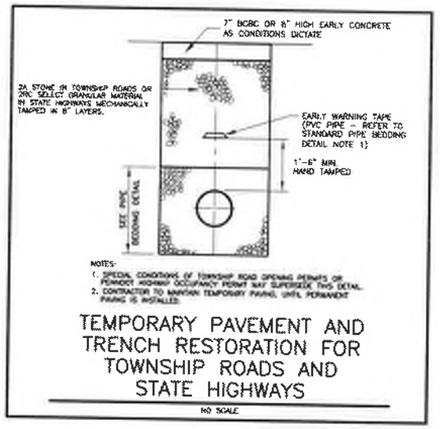

TEMPORARY PAVEMENT AND TRENCH RESTORATION FOR TOWNSHIP ROADS AND STATE HIGHWAYS

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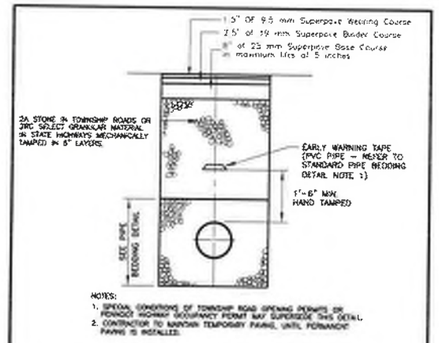
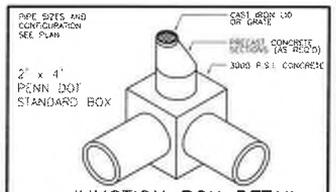


PERMANENT PAVEMENT AND TRENCH RESTORATION FOR TOWNSHIP ROADS AND STATE HIGHWAYS

NO SCALE



JUNCTION BOX DETAIL

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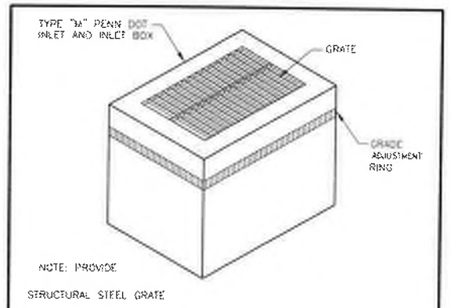
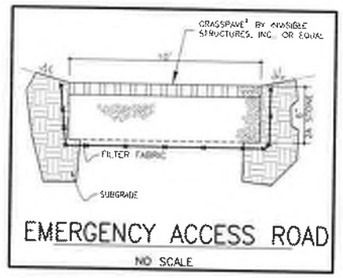


TYPE "M" INLET DETAIL



EMERGENCY ACCESS ROAD

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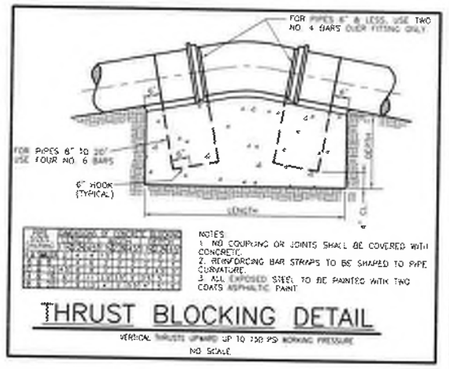

THRUST BLOCKING DETAIL

VERTICAL THRUSTS UPWARD UP TO 150 PSI WORKING PRESSURE

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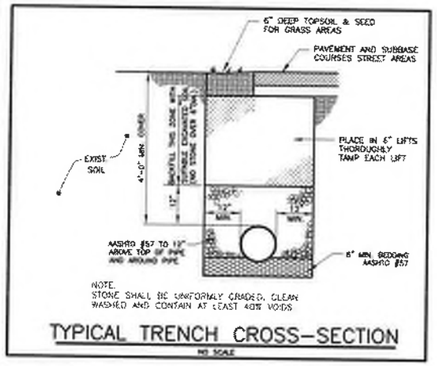

TYPICAL TRENCH CROSS-SECTION

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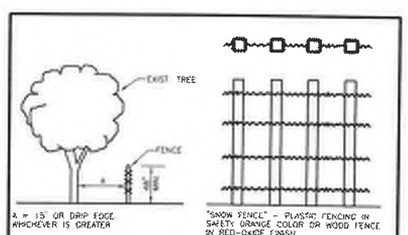

TREE/BMP PROTECTION FENCE DETAIL

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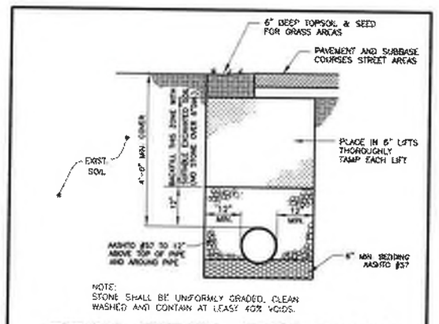

TYPICAL TRENCH CROSS-SECTION

NO SCALE

NPDES APPLICANT

DETAIL SHEET

SITUATE IN:
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

811

#2030069 7-22-13

GAMBONE: HOLLY ROAD

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AS NOTED			D-7802015 SHEET 79 OF 82

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#4 WAH	04-28-21	
#3 WAH	12-08-20	
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	06-17-19	GILMORE REVIEW OF 04-19-19

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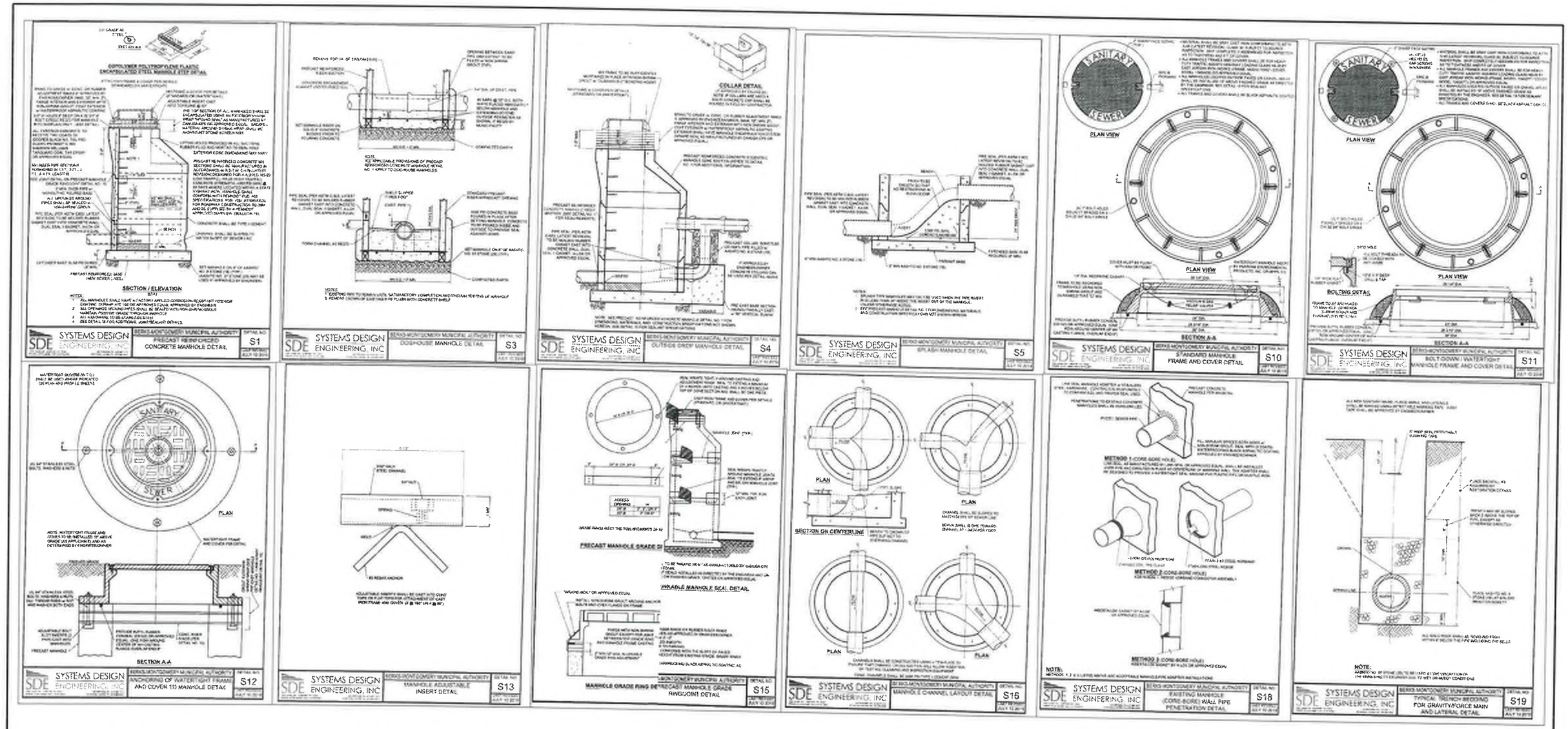
SHEET 2007



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DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

811

#2030969 7-22-13

REVISION	DATE	DESCRIPTION
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DETAIL SHEET

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AS NOTED			D-7802015 SHEET 80 OF 82

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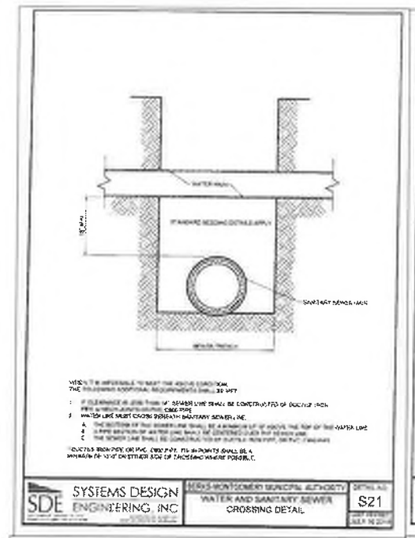

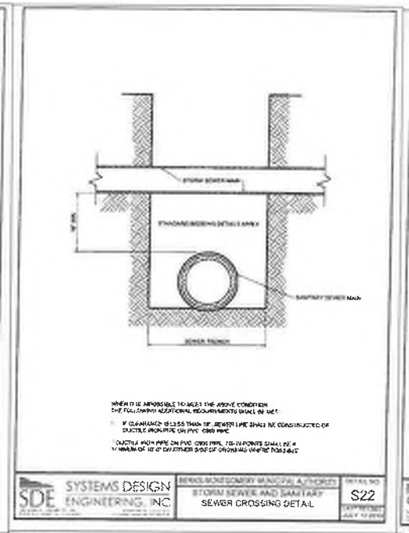

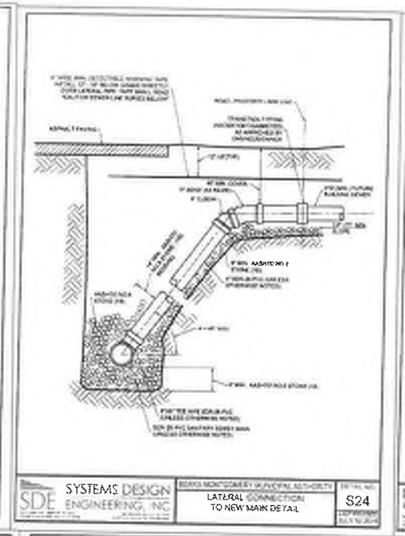

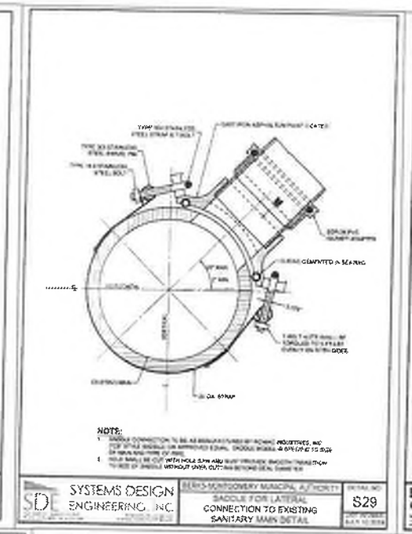

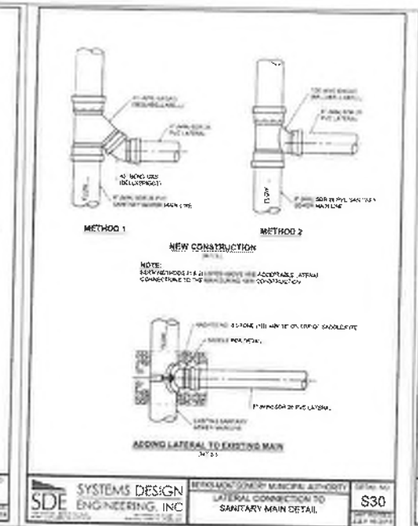

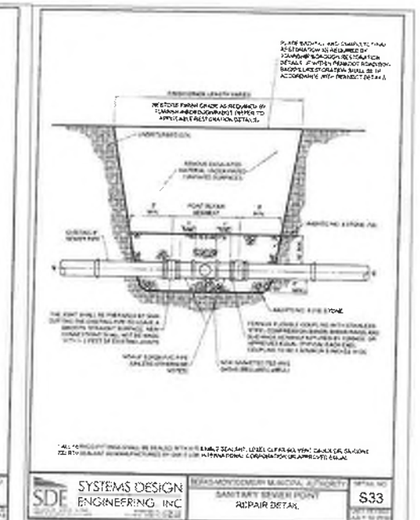

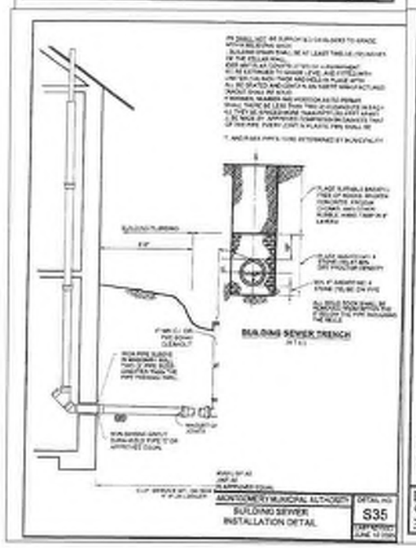

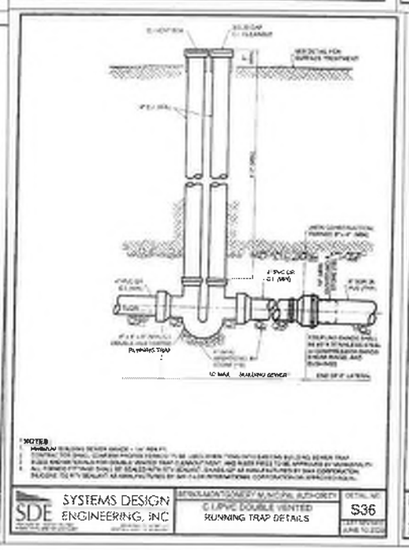

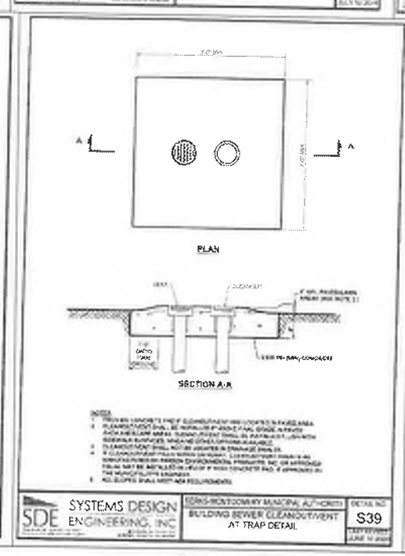

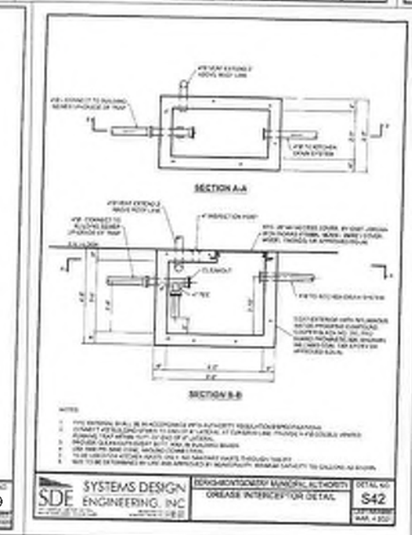

NPDES APPLICANT

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MONTGOMERY COUNTY
PENNSYLVANIA

811

#2030969 7-22-13

REVISION	DATE	DESCRIPTION
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DETAIL SHEET

GAMBONE: HOLLY ROAD

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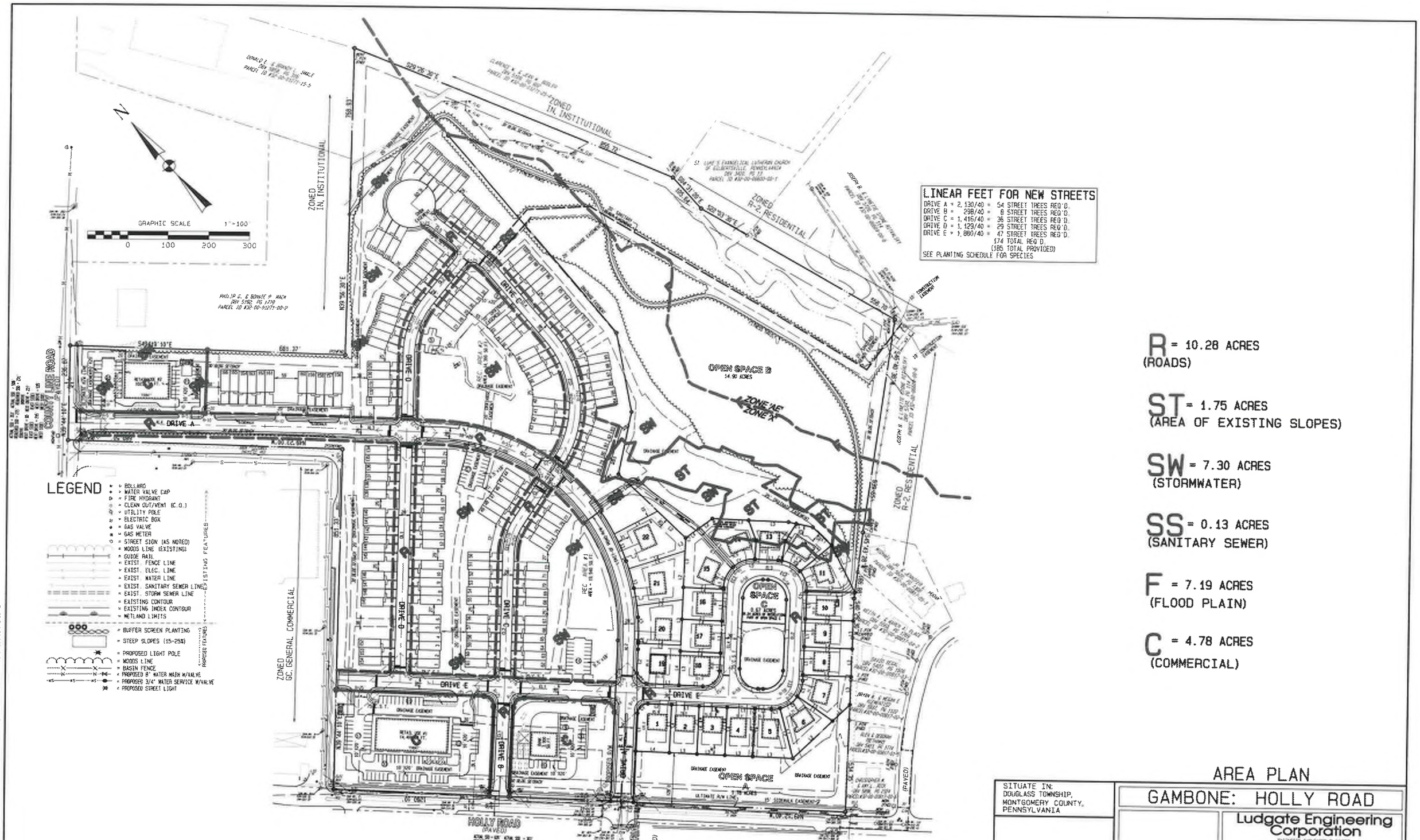
SHEET 2009



LINEAR FEET FOR NEW STREETS

DRIVE A =	2,130/40 =	54 STREET TREES REQ'D.
DRIVE B =	298/40 =	8 STREET TREES REQ'D.
DRIVE C =	1,416/40 =	36 STREET TREES REQ'D.
DRIVE D =	1,129/40 =	29 STREET TREES REQ'D.
DRIVE E =	1,880/40 =	47 STREET TREES REQ'D.
		174 TOTAL REQ'D.
		(186 TOTAL PROVIDED)

SEE PLANTING SCHEDULE FOR SPECIES

R = 10.28 ACRES
(ROADS)

ST = 1.75 ACRES
(AREA OF EXISTING SLOPES)

SW = 7.30 ACRES
(STORMWATER)

SS = 0.13 ACRES
(SANITARY SEWER)

F = 7.19 ACRES
(FLOOD PLAIN)

C = 4.78 ACRES
(COMMERCIAL)

LEGEND

- BOLLARD
- WATER VALVE CAP
- FIRE HYDRANT
- CLEAN OUT/VENT (C.O.)
- UTILITY POLE
- ELECTRIC BOX
- GAS VALVE
- GAS METER
- STREET SIGN (AS NOTED)
- WOODS LINE (EXISTING)
- GUIDE RAIL
- EXIST. FENCE LINE
- EXIST. ELEC. LINE
- EXIST. WATER LINE
- EXIST. SANITARY SEWER LINE
- EXIST. STORM SEWER LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- WETLAND LIMITS

EXISTING FEATURES

- BUFFER SCREEN PLANTING
- STEEP SLOPES (15-25%)

PROPOSED FEATURES

- PROPOSED LIGHT POLE
- WOODS LINE
- BASIN FENCE
- PROPOSED 8" WATER MAIN W/VALVE
- PROPOSED 3/4" WATER SERVICE W/VALVE
- PROPOSED STREET LIGHT

REVISION	DATE	DESCRIPTION
#6 WAH	12-14-21	PER PENNONI REVIEW OF 12-03-20
#5 WAH	08-23-21	
#4 WAH	04-26-21	
#3 WAH	12-08-20	PER PENNONI REVIEW OF 09-24-20
#2 WAH	07-30-20	GILMORE REVIEW OF 01-09-20
#1 WAH	09-17-19	GILMORE REVIEW OF 04-19-19

SITUATE IN:
DOUGLASS TOWNSHIP,
MONTGOMERY COUNTY,
PENNSYLVANIA

AREA PLAN

GAMBONE: HOLLY ROAD

Ludgate Engineering Corporation
ENGINEERS SURVEYORS PLANNERS
ENVIRONMENTAL SCIENTISTS
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DRAWN	COMP LENGTH	COMP LOCK	PA ONE CALL DATE	COMPUTER FILE
PGH 6-30-16			10/20/20 1:26:32	C:\Users\wahar\Desktop\HOME CAD\78002015-GAMBONE-GEC2017.pcz
SCALE	TAX MAP PARCEL		DRAWING NUMBER	
1"=100	SEE ABOVE		D-78002015	SHEET 02 OF 02

Project Dwg: Path: C:\Users\wahar\Desktop\HOME CAD\78002015-GAMBONE-GEC2017.pcz Plot Date/Time: Mon Dec 18, 2023 / 8:21:49