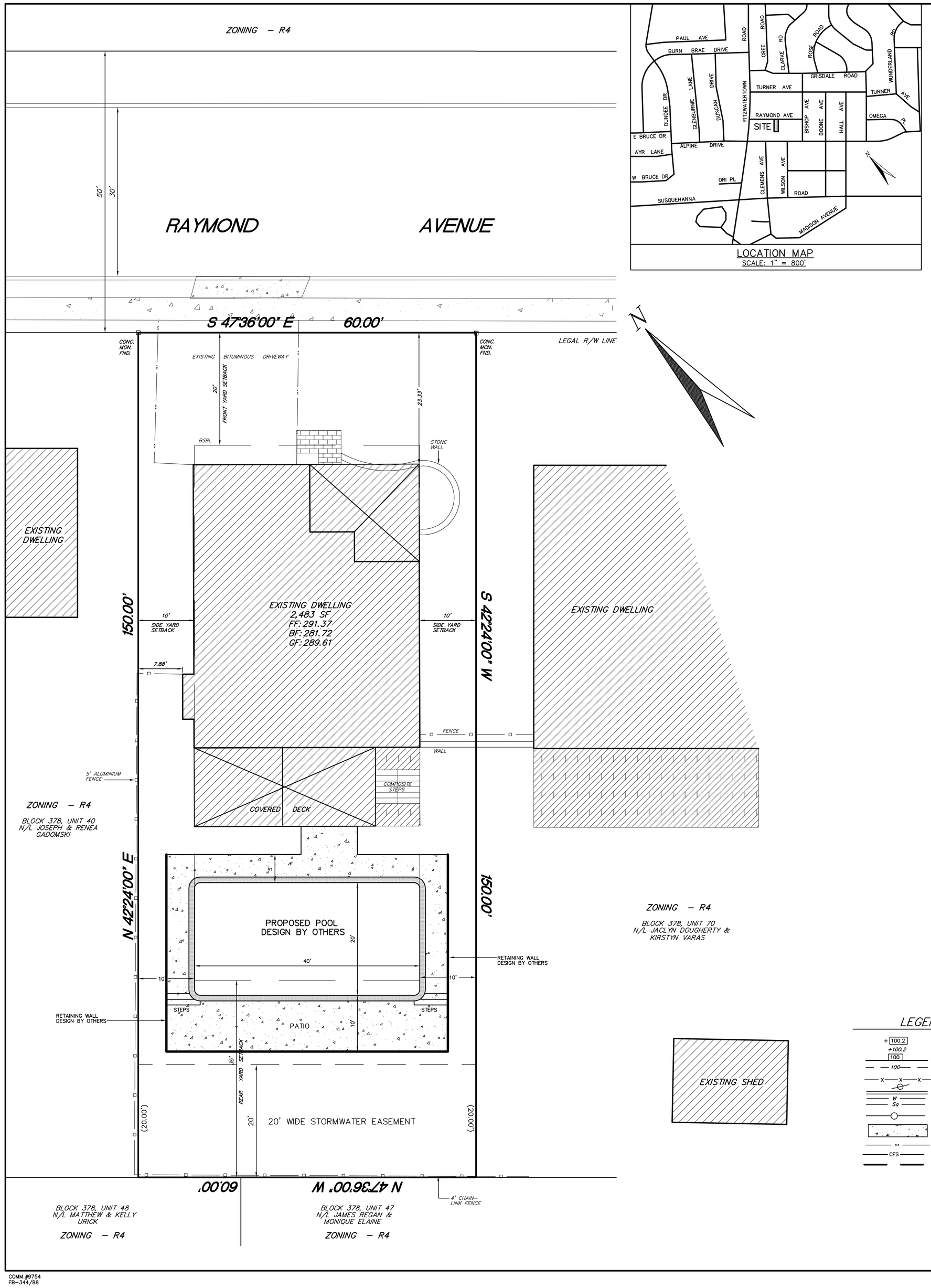


LOCATION MAP
SCALE: 1" = 800'

SUMMARY

1. TAX PARCEL – BLOCK 378, UNIT 69 (P/N 30-00-55364-12-7)
2. AREA TO LEGAL R/W LINE – 9,000 SF
3. ZONING – R4, HIGH DENSITY RESIDENTIAL DISTRICT

REQUIRED	PROVIDED
a.LOT AREA-7,500 SF	9,000 SF
b.LOT WIDTH-50'	60.00'
c.LOT DEPTH-100'	150.00'
d.FRONT YARD-20'	23.33'
e.SIDE YARD-10'	7.88'
f.REAR YARD-25'	62.32'
g.BLDG. AREA-40%	27.6% (2,483 SF)
h.IMP. COV.-55%	54.6% (4,911 SF)
i.GREEN AREA-45%	45.4%

EXISTING IMPERVIOUS COVERAGE	
DWELLING	2,483 SF
DRIVEWAY	588 SF
WALKWAY	40 SF
TOTAL	3,111 SF

PROPOSED IMPERVIOUS COVERAGE	
DWELLING	2,483 SF
DRIVEWAY	588 SF
WALKWAY	40 SF
POOL & DECK	1,800 SF
TOTAL	4,911 SF*

* TOTAL INCREASE OF IMPERVIOUS COVERAGE = 1,800 SF

4. THESE DRAWINGS INDICATE THE APPROXIMATE LOCATION OF EXISTING SUBSURFACE UTILITIES IN THE VICINITY OF THE PROJECT & ARE NOT GUARANTEED FOR ACCURACY AND/OR COMPLETENESS. PENNSYLVANIA ACT 187 REQUIRES THAT CONTRACTORS DETERMINE THE LOCATION OF ALL UTILITY, SEWERAGE & WATER LINES BEFORE COMMENCING CONSTRUCTION. (1-800-242-1776)
5. 2 OFF-STREET PARKING SPACES – 2 in DRIVEWAY
   1 in GARAGE
6. OWNERS/APPLICANTS: JOSEPH & LOUISE DOUGHERTY
   3028 RAYMOND AVENUE
   ABINGTON, PA 19001
7. SOILS LIST: UrkD – Urban land-Edgemont complex, 8 to 25 percent slopes.
   UroB – Urban land-Lawrenceville complex, 0 to 8 percent slopes.
8. DATUM OF TOPOGRAPHY – ABINGTON TOWNSHIP SEWER DATUM, MANHOLE #5681 IN RAYMOND AVENUE, RIM ELEVATION = 288.32, INVERT = 279.60.

ON THE _____ DAY OF, _____, A.D. 20____, BEFORE ME THE SUBSCRIBER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA, RESIDING IN _____, PERSONALLY APPEARED _____

KNOWN TO ME (OR SATISFACTORILLY PROVEN) TO BE THE PERSON(S) WHOSE NAME(S) (IS/ARE) SUBSCRIBED TO THE FOREGOING PLAN, AND ACKNOWLEDGED THAT (HE, SHE, THEY) (IS/ARE) THE OWNER (S) OF THE DESIGNATED LAND, THAT ALL NECESSARY APPROVAL OF THE PLAN HAS BEEN OBTAINED AND IS ENDORSED THEREON, AND THAT (HE, SHE, THEY) DESIRE THAT THE FOREGOING PLAN MAY BE DULY RECORDED.

_____ _____
OWNER NOTARY PUBLIC

_____ _____
OWNER MY COMMISSION EXPIRES

(SEAL)

APPROVED BY THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF ABINGTON THIS _____ DAY OF _____ 20____.

_____ PRESIDENT
ATTEST _____ SECRETARY
_____ ENGINEER

CERTIFIED BY THE MONTGOMERY COUNTY PLANNING COMMISSION THIS _____ DAY OF _____ 20____.
FILE # _____

ATTEST _____ SECRETARY

RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC. AT NORRISTOWN, PA. IN PLAN BOOK _____, PAGE NO. _____, ON _____ _____, BY _____.

MCPC. No. _____

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

Certified this date _____

_____
For the Director

Montgomery County Planning Commission

LEGEND

+ 100.2	PROPOSED SPOT ELEVATION
+100.2	EXISTING SPOT ELEVATION
100	PROPOSED CONTOUR
100	EXISTING CONTOUR
X X X	FENCE
	UTILITY POLE
	CONCRETE CURB
W	EXISTING WATERLINE
SS	EXISTING SANITARY SEWER
	EXISTING MANHOLE
	CONCRETE SIDEWALK OR PAD
	EDGE OF PAVING
CFS	COMPOST FILTER SOCK
	SOIL BOUNDARY LINE

ACT 187 USERS LIST FOR ABINGTON

USER	ADDRESS	TELEPHONE
1.TOWNSHIP OF ABINGTON	1176 OLD YORK RD. ABINGTON, PA.19001	215-884-5000
2.AQUA PENNSYLVANIA, INC.	762 LANCASTER AVE. BRYN MAWR,PA. 19010	1-800-711-4779
3.BELL TELEPHONE CO. of PA.	104 WITMER RD. HORSHAM,PA. 19044	215-956-2623
4.PHILADELPHIA ELECTRIC Co.	400 PARK AVE. WARMINSTER PA. 18974	OUTSIDE PA. 412-323-7100 IN PA. 800-242-1776
5.PENNA. DEPT. OF TRANSPORTATION	EAST NORRITON TWP.,P.O. BOX 350 NORRISTOWN,PA.	1-215-275-2368

STOP-CALL BEFORE YOU DIG!

PENNSYLVANIA ONE CALL SYSTEM, INC.
CONTACTED: 11-9-2018 SERIAL No.20183132789

SHEET INDEX

SHEET 1 of 2

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL LAWRENCE J. BYRNE ENGINEER 40487-E

LAWRENCE J. BYRNE
PROFESSIONAL ENGINEER
LICENSE No.40487

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL EDMUND A. CHADROW, III LAND SURVEYOR NO. 75128

EDMUND A. CHADROW, III
PROFESSIONAL LAND SURVEYOR
LICENSE No.75128

PLAN OF LAND DEVELOPMENT
3028 RAYMOND AVENUE
ABINGTON TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA
MADE FOR
JOSEPH J. & LOUISE DOUGHERTY

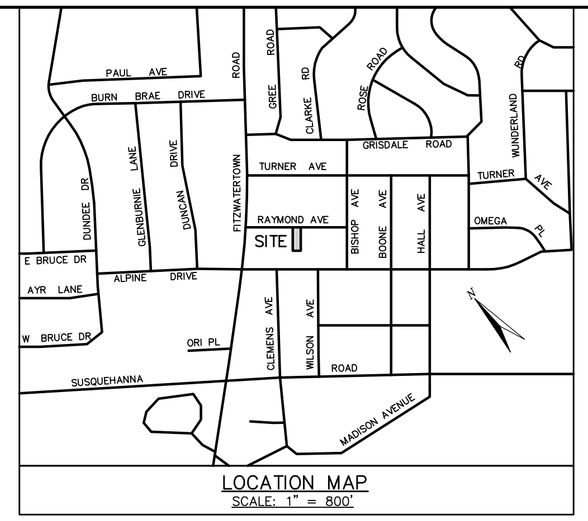
SCALE: 1"=10' 0 10 20 30 18 MARCH 2019

EASTERN/CHADROW ASSOCIATES, INC.
333 E. STREET ROAD • WARMINSTER, PA. 18974 • (215) 672-8671 FAX (215) 672-6765
EST. 1967

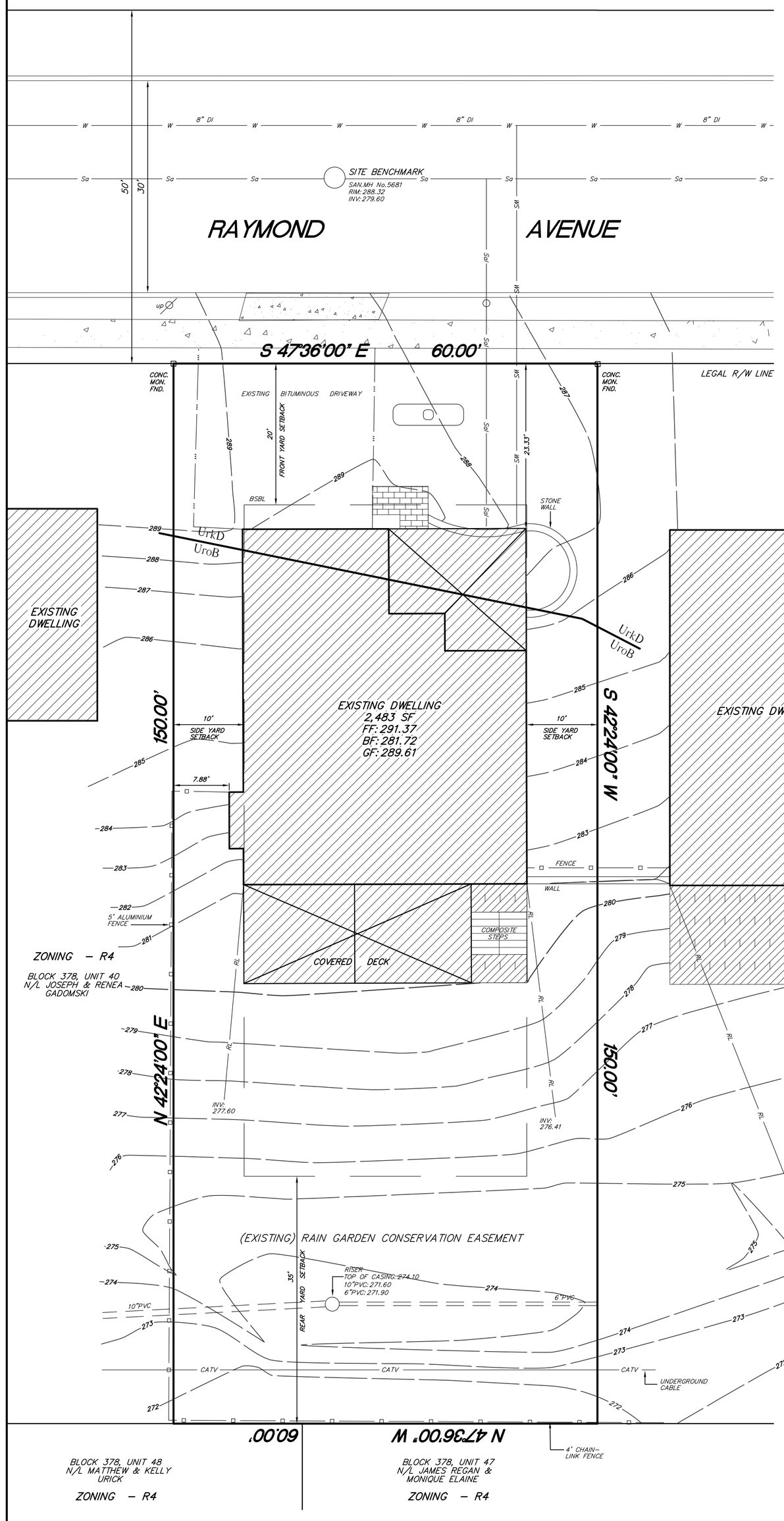
COMM.#9754
FB-344/88

E-2578-1

ZONING – R4



LOCATION MAP
SCALE: 1" = 800'



LEGEND

- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR
- EXISTING CONTOUR
- FENCE
- UTILITY POLE
- CONCRETE CURB
- EXISTING WATERLINE
- EXISTING SANITARY SEWER
- EXISTING MANHOLE
- CONCRETE SIDEWALK OR PAD
- EDGE OF PAVING
- COMPOST FILTER SOCK
- SOIL BOUNDARY LINE

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5. PENNA. DEPT. OF TRANSPORTATION	EAST NORRITON TWP., P.O. BOX 350 NORRISTOWN,PA.	1-215-275-2368

STOP-CALL BEFORE YOU DIG!

PENNSYLVANIA ONE CALL SYSTEM, INC.
CONTACTED: 11-9-2018 SERIAL No.20183132789

SHEET 2 of 4

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
LAWRENCE J. BYRNE
ENGINEER
40487-E

LAWRENCE J. BYRNE
PROFESSIONAL ENGINEER
LICENSE No.40487

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
EDMUND A. CHADROW, III
LAND SURVEYOR
NO. 75128

EDMUND A. CHADROW, III
PROFESSIONAL LAND SURVEYOR
LICENSE No.75128

EXISTING FEATURES PLAN
3028 RAYMOND AVENUE
ABINGTON TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA
MADE FOR
JOSEPH J. & LOUISE DOUGHERTY

SCALE: 1"=10' 0 10 20 30 18 MARCH 2019

EASTERN/CHADROW ASSOCIATES, INC.
333 E. STREET ROAD • WARMINSTER, PA. 18974 • (215) 672-8671 FAX (215) 672-6765
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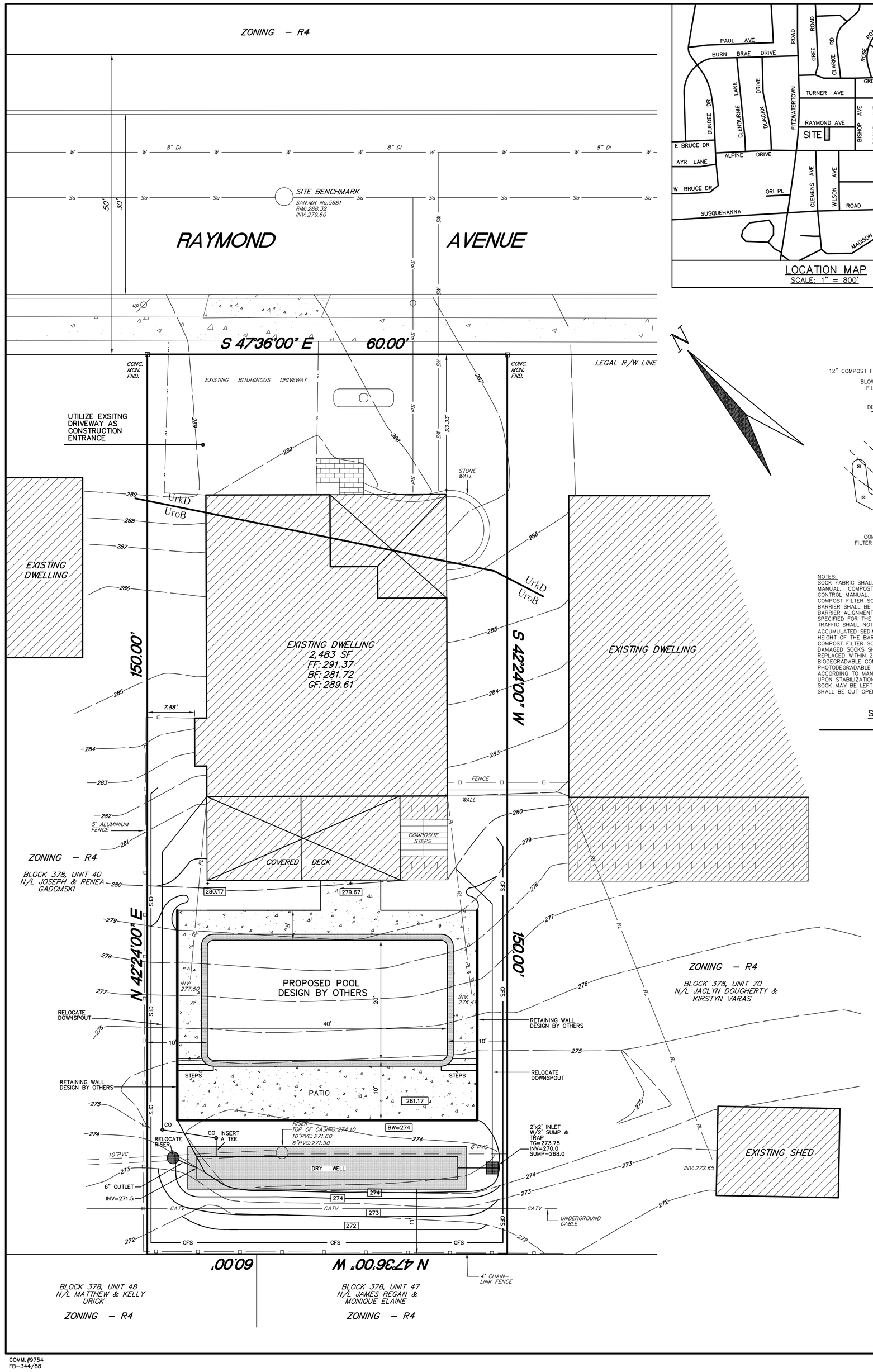
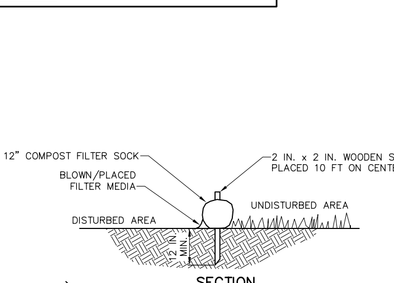
E-2578-2



LOCATION MAP
SCALE: 1" = 800'



PLAN VIEW

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

GENERAL SEEDING & MULCH GUIDELINE PERMANENT SEED MIXTURE– LAWN AREAS

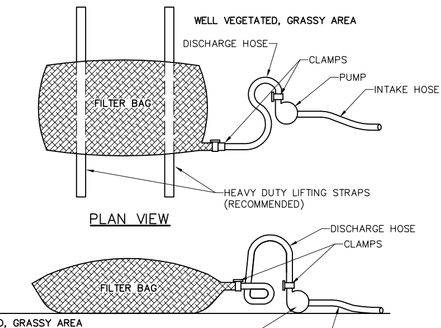
PREPARATION BY WEIGHT	COMMON WEIGHT	PURITY	GERMINATION
50%	KENTUCKY BLUEGRASS	90%	80%
40%	RED FESCUE	90%	80%
10%	PERENNIAL RYEGRASS	95%	90%

1. MIX MAY BE MODIFIED IN ACCORDANCE WITH BEST LOCAL PRACTICE.
2. GRASS SEED SHALL BE APPLIED TO ALL AREAS NOT OCCUPIED BUILDINGS, PAVING OR OTHER PLANT MATERIAL.
3. SEEDING RATES SHALL BE 3.5 LBS./1000 SQ. FT. PLACED ONTO A PREPARED SEED BED OF RAKED TOPSOIL HAVING A MINIMUM DEPTH OF 6 INCHES.
4. FERTILIZER SHALL INCLUDE 18 LBS. OF LIME, 2.3 LBS. OF NITROGEN, 4–6 LBS. OF PHOSPHORUS, AND 4–6 LBS. OF POTASSIUM PER 1000 SQ. FT. THESE RATES CAN BE MODIFIED TO SOIL TEST RECOMMENDATIONS.
5. STRAW MULCH SHALL BE SPREAD OVER GRASS SEEDED AREAS AT THE RATE OF 3 TONS/ACRE TO PREVENT EROSION AND SEED WASH–OUT.
6. EMULSIFIED ASPHALT TO BE USED TO TACK STRAW IN PLACE ON SLOPES 2 TO 1 OR STEEPER.

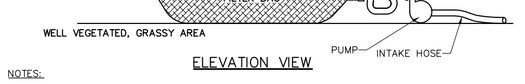
TEMPORARY SEED MIXTURE ALTERNATES

PREPARATION BY WEIGHT	COMMON WEIGHT	SEEDING RATE LBS/1000 SQ. FT.	RECOMMENDED SEEDING DATES
1. 100%	ANNUAL RYEGRASS	1	MARCH 1 – JUNE 15 MARCH 15 – SEPT. 15
2. 100%	FIELD BROMEGRASS	1	MARCH 1 – JUNE 15 AUGUST 15 – SEPT. 15
3. 100%	SPRING OATS	2.5	MARCH 1 – JUNE 15
4. 100%	SUDAN GRASS	1	MAY 15 – AUGUST 15
5. 100%	WINTER RYE	3.5	AUGUST 15 – OCTOBER 15

FOR ADDITIONAL SEEDING INFORMATION CONSULT "THE AGRONOMY GUIDE", BY PENNSYLVANIA STATE UNIVERSITY.



PLAN VIEW



ELEVATION VIEW

NOTES:
LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON–WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. 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	60 LB/IN
GRAB TENSILE	ASTM D–4632	205 LB
PUNCTURE	ASTM D–4833	110 LB
MULLEN BURST	ASTM D–3786	350 PSI
UV RESISTANCE	ASTM D–4355	70%
AOS % RETAINED	ASTM D–4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL 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 STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL–VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER 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 HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN 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 MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

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

CONSTRUCTION SEQUENCE

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE INITIATED. CLEARING & GRUBBING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE.
At least 3 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call System, Inc. at 1–800–242–1776. for buried utilities locations.
At least 3 days before starting any earth disturbance activities, the applicant shall notify the Township.

STAGE 1 – Utilize existing driveway as construction entrance. Install silt sock in accordance with the details. Strip topsoil, stockpile excavated material & protect with silt fence. Immediately stabilize all exposed areas with temporary seed mixture & straw. All erosion & stabilization control must be implemented before proceeding to Stage 2.

STAGE 2 – Upon completion of Stage 1 begin construction of pool, drywell & utilities. Inspect silt fence after every runoff event. Sediment must be removed where accumulations reach ½ the above ground height of the silt sock. Any sediment on roadway will be cleared immediately. Stage 2 must be implemented before proceeding to Stage 3.

STAGE 3 – Upon completion of Stage 2, complete construction of pool, drywell & final grades as per the approved plans. Distribute topsoil from the storage area & stabilize disturbed areas in accordance with the seeding & mulching guidelines found on the plans. After final site stabilization has been acheived, temporary erosion & sediment BMP controls must be removed. Areas disturbed during removal of the BMP's must be stabilized immediately. Immediately after earth disturbance activities cease, the operator shall stabilize any activities disturbed by the activities. during non–germinating periods, mulch must be applied at the specified rates. Disturbed areas which are not at finished grade & which will be redisturbed within one year must be stabilized in accordance with the temporary vegetation stabilization specifications. Disturbed areas which are at finished grade or which will not be redisturbed within one year must be stabilized in accordance with the permanent vegetative stabilization specifications. An area shall be considered to have achieved final stabilization when it has a minimum uniform 70% perennial vegetative cover or other non–vegetative cover with a density sufficient to resist accelerated surface erosion & subsurface characteristics sufficient to resist sliding & other movements.

EROSION AND SEDIMENT CONTROL NOTES

DATE PROJECT TO BEGIN: SPRING 2019
DATE OF FINAL STABILIZATION: SUMMER 2019

A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SHOWN ON THE PLAN.

TEMPORARY SEED MIXTURE

ALL AREAS OF SURFACE DISTURBANCE SUBJECT TO STORMWATER RUNOFF SHALL BE SEEDED AND MULCHED IMMEDIATELY. STATE REGULATIONS REQUIRE THAT UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED, AS FOLLOWS:

1) PERFORM CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
2) APPLY LIMESTONE UNIFORMLY @ 100 LBS. PER 1,000 SQ. FT.
3) APPLY 10–10–10 FERTILIZER @ 10 LBS. PER 1,000 SQ. FT.
4) WORK IN LIME AND FERTILIZER TO A DEPTH OF 4 INCHES USING SUITABLE EQUIPMENT.
5) APPLY WINTER RYE @ 3.5 LBS. PER 1,000 SQ. FT.
6) COVER RYE WITH 2 INCHES OF SOIL OR SUITABLE MATERIAL. RATE MAY BE ALTERED ACCORDING TO TESTS MADE AT SITE OR, AFTER OCTOBER 15TH.
7) MULCH WITH SMALL GRAIN STRAW AT A RATE OF 137 LBS. PER 1,000 SQ. FT. OR 3 TONS PER ACRE.
8) DURING NON–GERMINATING PERIODS (BETWEEN OCTOBER 15 AND MARCH 1) TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED BY MULCHING WITH SMALL GRAIN STRAW AT A RATE OF 137 LBS. PER 1,000 SQ. FT., OR 3 TONS PER ACRE. CONSULT THE AGRONOMY GUIDE, 2005–2006 FOR OTHER ALTERNATIVES.

PERMANENT SURFACE MATERIALS SHALL BE PLACED AS SOON AS CONSTRUCTION OPERATIONS ALLOW, IN ACCORDANCE WITH GUIDELINES ON THE PLANS.

STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT SHALL BE FOLLOWED. SHOULD UNFORESEEN EROSION CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF AND/OR SEDIMENT DISPLACEMENT. SPECIAL ATTENTION SHOULD BE GIVEN TO FROZEN SLOPES. STOCKPILES OF WOOD CHIPS, HAY BALES, CRUSHED STONE AND OTHER MULCHES SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.

NO PORTION OF THE SUBJECT PROPERTY IS DESIGNATED AS WETLANDS ACCORDING TO NATIONAL WETLANDS INVENTORY MAPS.

THE DETENTION BASIN/and or DRYWELLS ON SITE ARE PERMANENT FACILITES & SHALL NOT BE ALTERED. THE INDIVIDUAL OWNER, THEIR SUCCESSORS OR ASSIGNS, SHALL BE RESPONSIBLE FOR THE PERPETUAL MAINTENANCE (GRASS CUTTING, CLEANUP OF LEAVES, DEBRIS, SEDIMENT, ETC.), GRADES & ELEVATIONS OF SAID FACILITIES & SHALL DO NOTHING TO ALTER SAME. THE INDIVIDUAL OWNER, THEIR SUCCESSORS OR ASSIGNS, SHALL LIKEWISE BE RESPONSIBLE TO MAINTAIN THE FACILITIES & RELATED STORM SEWER PIPES IN A REASONABLY NEAT & WELL KEPT CONDITION.

RECYCLING & DISPOSAL NOTE
ANY FILL OR TOPSOIL TAKEN FROM SITE SHOULD BE TAKEN TO A SITE WITH AN APPROVED E & S PLAN.
ANY MATERIALS THAT CAN BE RECYCLED SHOULD BE COMPLETED ACCORDING TO LOCAL, COUNTY, STATE & FEDERAL LAWS.

THE OPERATOR SHALL REMOVE FROM THIS SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS & WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 Pa. Code 260.1 et. seq., 271.1 et. seq. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THIS SITE.

LEGEND

- + 100.2 — PROPOSED SPOT ELEVATION
- + 100.2 — EXISTING SPOT ELEVATION
- 100 — PROPOSED CONTOUR
- 100 — EXISTING CONTOUR
- X—X—X— FENCE
- UTILITY POLE
- CONCRETE CURB
- W — EXISTING WATERLINE
- SS — EXISTING SANITARY SEWER
- EXISTING MANHOLE
- CONCRETE SIDEWALK OR PAD
- EDGE OF PAVING
- CFS — COMPOST FILTER SOCK
- SOIL BOUNDARY LINE

I, LAWRENCE J. BYRNE, P.E. HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS & CRITERIA OF THE ABINGTON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

SIGNATURE _____ DATE _____

ACT 187 USERS LIST FOR ABINGTON

USER	ADDRESS	TELEPHONE
1.TOWNSHIP OF ABINGTON	1176 OLD YORK RD. ABINGTON, PA.19001	215–884–5000
2.AQUA PENNSYLVANIA, INC.	762 LANCASTER AVE. BRYN MAWR,PA. 19010	1–800–711–4779
3.BELL TELEPHONE CO. of PA.	104 WITMER RD. HORSHAM,PA. 19044	215–956–2623
4.PHILADELPHIA ELECTRIC Co.	400 PARK AVE. WARMINSTER PA. 18974	OUTSIDE PA. 412–323–7100 IN PA. 800–242–1776
5.PENNA. DEPT. OF TRANSPORTATION	EAST NORRITON TWP.,P.O. BOX 350 NORRISTOWN,PA.	1–215–275–2368

STOP–CALL BEFORE YOU DIG!
1–800–242–1776
PENNSYLVANIA ONE CALL SYSTEM, INC.
CONTACTED: 11–9–2018 SERIAL No.20183132789

SHEET 3 of 4

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — LAWRENCE J. BYRNE — ENGINEER 40487–E
LAWRENCE J. BYRNE
PROFESSIONAL ENGINEER
LICENSE No.40487

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — EDMUND A. CHADROW, III — LAND SURVEYOR NO. 75128
EDMUND A. CHADROW, III
PROFESSIONAL LAND SURVEYOR
LICENSE No.75128

GRADING, EROSION & SEDIMENT CONTROL PLAN
3028 RAYMOND AVENUE
ABINGTON TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA
MADE FOR
JOSEPH J. & LOUISE DOUGHERTY

SCALE: 1"=10' 0 10 20 30 18 MARCH 2019

EASTERN/CHADROW ASSOCIATES, INC.
333 E. STREET ROAD • WARMINSTER, PA. 18974 • (215) 672–8671 FAX (215) 672–6765
EST. 1967

COMM.#9754
FB–344/88

E–2578–3

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740 OR SC-310.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET, THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

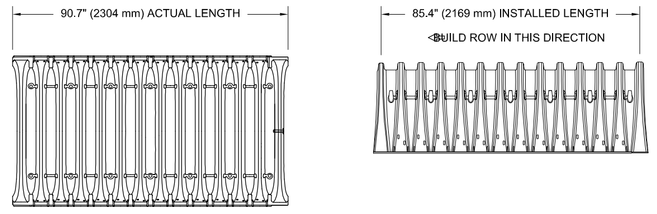
1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

SC-740 TECHNICAL SPECIFICATION

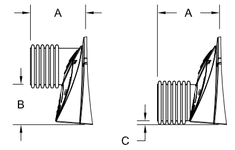
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1,30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2,12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	---	---
SC740EPE18B / SC740EPE18BPC			5.0" (127 mm)	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

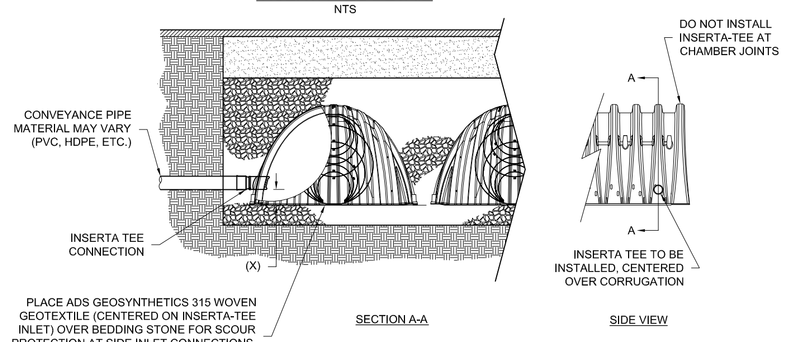
ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

INSERTA TEE DETAIL

NTS



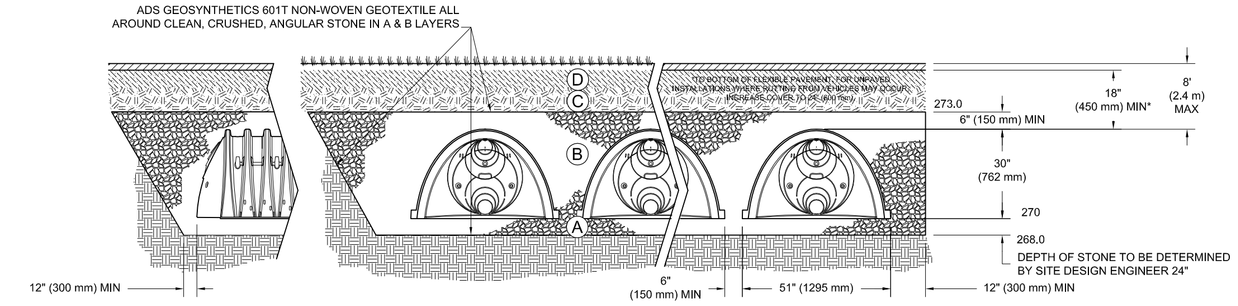
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

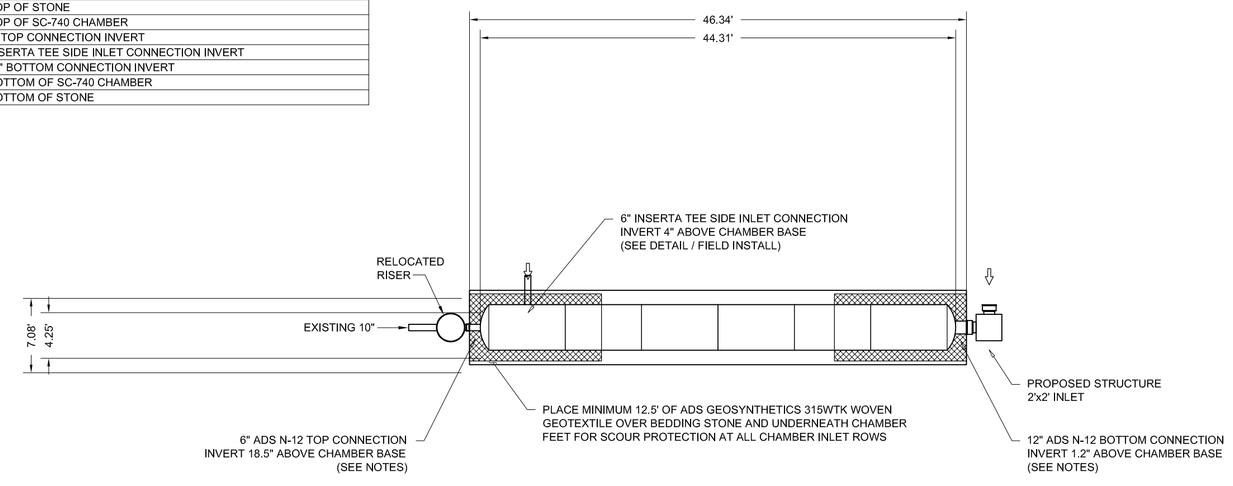


NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

PROPOSED LAYOUT	
6	STORMTECH SC-740 CHAMBERS
2	STORMTECH SC-740 END CAPS
6	STONE ABOVE (in)
24	STONE BELOW (in)
40	% STONE VOID

PROPOSED ELEVATIONS	
280.50	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
274.50	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
274.00	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
274.00	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
274.00	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
273.00	TOP OF STONE
272.50	TOP OF SC-740 CHAMBER
271.54	6" TOP CONNECTION INVERT
270.33	INSERTA TEE SIDE INLET CONNECTION INVERT
270.10	12" BOTTOM CONNECTION INVERT
270.00	BOTTOM OF SC-740 CHAMBER
268.00	BOTTOM OF STONE



SHEET 4 of 4

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — LAWRENCE J. BYRNE — ENGINEER 40487-E

LAWRENCE J. BYRNE
PROFESSIONAL ENGINEER
LICENSE No.40487

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — EDMUND A. CHADROW, III — LAND SURVEYOR NO. 75128

EDMUND A. CHADROW, III
PROFESSIONAL LAND SURVEYOR
LICENSE No.75128

DETAILS SHEET
3028 RAYMOND AVENUE
ABINGTON TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA
MADE FOR
JOSEPH J. & LOUISE DOUGHERTY

18 MARCH 2018

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