



BENSALEM TOWNSHIP

Building and Planning Department
2400 Byberry Road • Bensalem PA 19020
215-633-3644 • FAX 215-633-3653

SUBDIVISION AND LAND DEVELOPMENT APPLICATION SITE AND PLAN CHARACTERISTICS

CHECK ONE:	DATE OF SUBMISSION:
<input type="checkbox"/> Sketch Plan	Tax Parcel # <u>2-79-7</u>
<input type="checkbox"/> Lot Line Change	Location <u>455 Dunks Ferry Road</u>
<input type="checkbox"/> Minor Subdivision	Zoning Classification <u>G-I General Industrial District</u>
<input type="checkbox"/> Minor Land Development	Proposed # of Lots or Leaseholds <u>1</u>
<input type="checkbox"/> Preliminary Subdivision	Area of Commercial Bldg of Addition (sf) <u>10,980 SF</u>
<input checked="" type="checkbox"/> Preliminary Land Development	Name of Development <u>Bound Dunks Ferry Building Addition</u>
<input type="checkbox"/> Final Subdivision	Proposed Use <u>Use 14, Warehouse</u>
<input type="checkbox"/> Final Land Development	Site Area (ac) <u>6.2283 AC</u>
<input type="checkbox"/> Conditional Use	Development Area (ac) <u>0.5 AC</u>
<input type="checkbox"/> Other	

SUBMISSION IS TO INCLUDE A DISC WITH APPLICATION AND PLAN(S) IN PDF FILE FORMAT or email same to jmryan@bensalem-township.org.

1. Name, address & phone No. of Applicant: Joseph Bound
455 Dunks Ferry Road
Bensalem, PA 19020

Signature

Daytime Contact Number

2. Name, address & phone No. of Attorney:
(if other than applicant) Thomas R. Hecker, Esq.
Begley, Carlin & Mandio, LLP
680 Middletown Boulevard, Langhorne, PA 19047

Signature

Daytime Contact Number

3. Name, address & phone No. of Owner: same as applicant

Signature

Daytime Contact Number

4. Name, address & phone No. of Person Designing Plan: Nick T. Rose, P.E.
ProTract Engineering, Inc.
P.O. Box 58, Hatboro, PA 19040

Signature

Daytime Contact Number

5. Has parcel ever been subject to subdivision or land development approval? No

If Yes: Date of Approval _____
Plan Title _____
Recording Date _____
Plan Book _____
Page _____

6. Has parcel ever received relief from the Zoning Hearing Board? Yes

If yes, list date of decision and attach copy of the decision. 7/8/15

7. Deed restrictions that apply or are being contemplated. If no restrictions, state none. If yes, attach copy.
None

8. List proposed improvements and utilities to be installed:
One-story, 10,980 SF warehouse building addition.

9. List title of each plan, report and any other documents submitted:

Land Development Plan (1 of 2)

Construction & E&S Control Plan (2 of 2)

Stormwater Management Report (9 pages)

10. List presence of floodplain, wetlands, steep slopes or any other environmental features on site:
No floodplain, wetlands, steep slopes, or other protected areas are affected by this project.

11. List all variances and special exceptions that will be required from the Zoning Hearing Board for this application:
No additional relief necessary. Variances granted for building coverage and side yard.

12. List all zoning changes, conditional uses and waivers that will be required for this application:

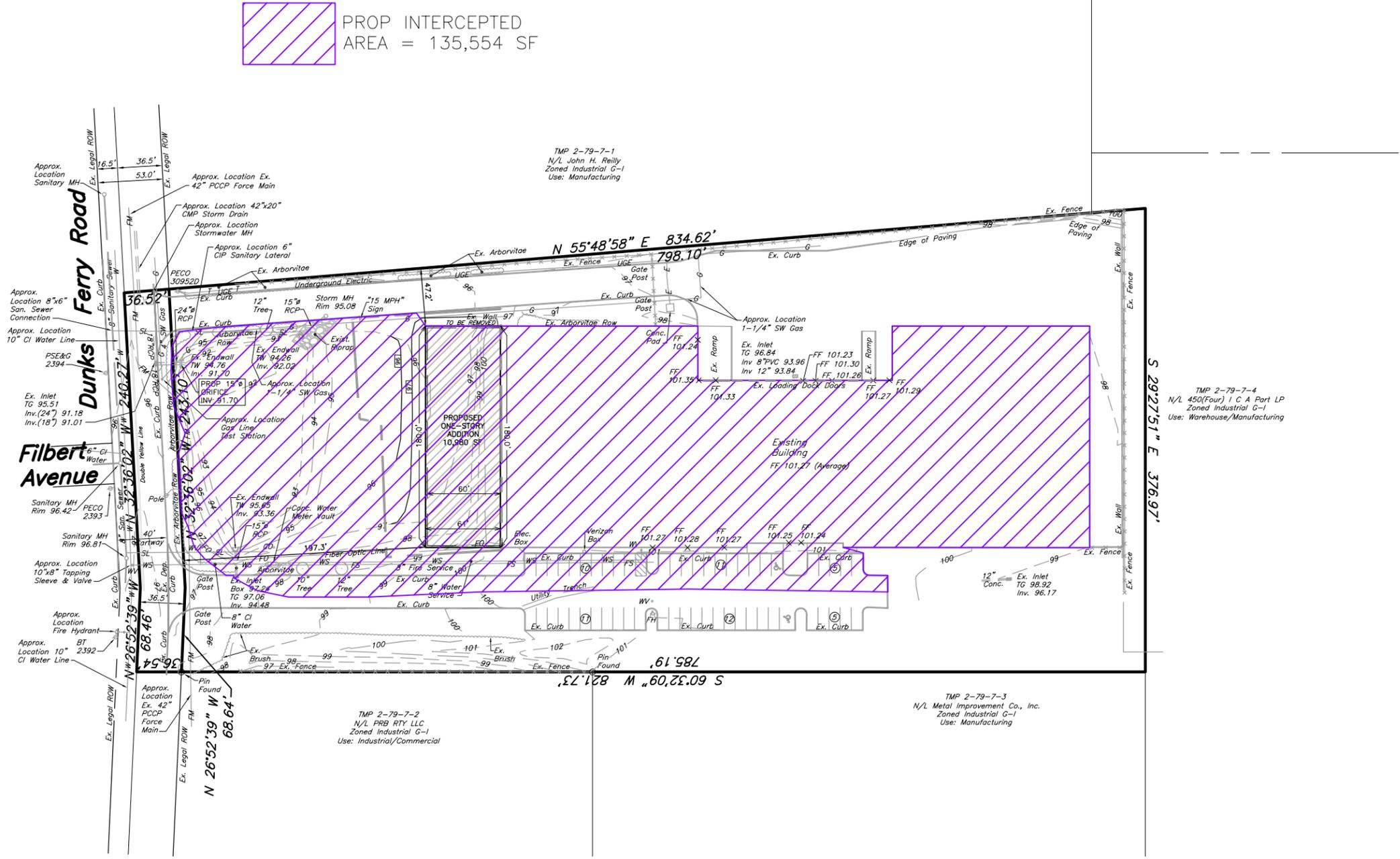
NOTE: Plan requirements can be found in The Code of the Township of Bensalem, Chapter 201

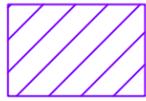
FOR MUNICIPAL USE ONLY:

Date Received: _____

Application Fee: _____

Escrow: _____



 PROP INTERCEPTED
AREA = 135,554 SF

DRAINAGE AREA PLAN
POST-DEVELOPMENT
PREPARED FOR

455 DUNKS FERRY ROAD



Engineering, Inc.
64 East Moreland Avenue, P.O. Box 58
Hatboro, Pennsylvania 19040

Phone (215)442-9230
Fax (215)442-9238

Township	BENSALEM
County	BUCKS
Date	7-24-15
Scale	1" = 60'
Sheet Number	1 of 1

No.	Date	Description	By
H2267		BASE	DBR/NTR
Project Number		File Number	Drafter/Engineer
CAD File Name		----	

OWNER'S CERTIFICATION OF INTENT

Know All Men by These Presents, that being landowners in Bensalem Township, Commonwealth of Pennsylvania, for its Successors and assigns, do hereby adopt this as its Plan of Lots of its property situate in the Township of Bensalem, County of Bucks, and Commonwealth of Pennsylvania.

IN WITNESS WHEREOF, the said company has caused the signature below to be affixed by the hand of its President this day of _____, A.D. _____.

Commonwealth of Pennsylvania: County of Bucks:

On the _____ day of _____, before me the subscriber a Notary Public of the Commonwealth of Pennsylvania personally appeared _____ who acknowledged this plan to be the official Plan of Lots and property shown thereon situated in the Township of Bensalem, County of Bucks, Commonwealth of Pennsylvania and desired that this plan be recorded according to law.

WITNESS MY HAND AND NOTARIAL SEAL this _____ day of _____, _____.

Notary Public (SEAL)

ATTEST:

My Commission Expires _____.

Recommended for approval by the Bensalem Township Planning Commission this _____ day of _____.

This Development Plan was reviewed by the Bensalem Township Engineer on the _____ day of _____.

Approved by the Township Council of the Township of Bensalem this _____ day of _____.

Reviewed by the Bucks County Planning Commission on the _____ day of _____.

Engineer

Chairman

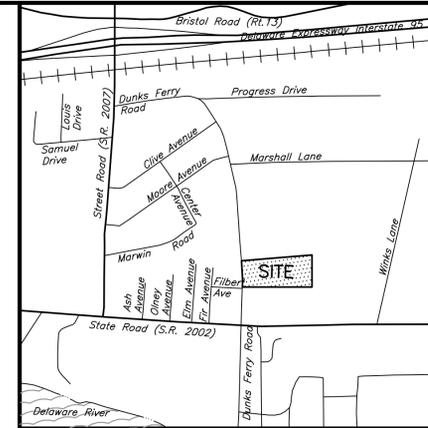
Director

LEGEND

- EXIST. RIGHT-OF-WAY
EXIST. EASEMENT
EXIST. BOUNDARY
LANDSCAPE BUFFER
BUILDING SETBACK
EXIST. CENTERLINE
EXIST. ADJ. OWNER
EXIST. BUILDING
EXIST. EDGE OF PAVING
EXIST. CURB
EXIST. FENCE
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EXIST. CONTOUR INTERMEDIATE
EXIST. FIBER OPTIC LINE
EXIST. STORM
EXIST. WATER
EXIST. UTILITY POLE
PROP. BUILDING ADDITION

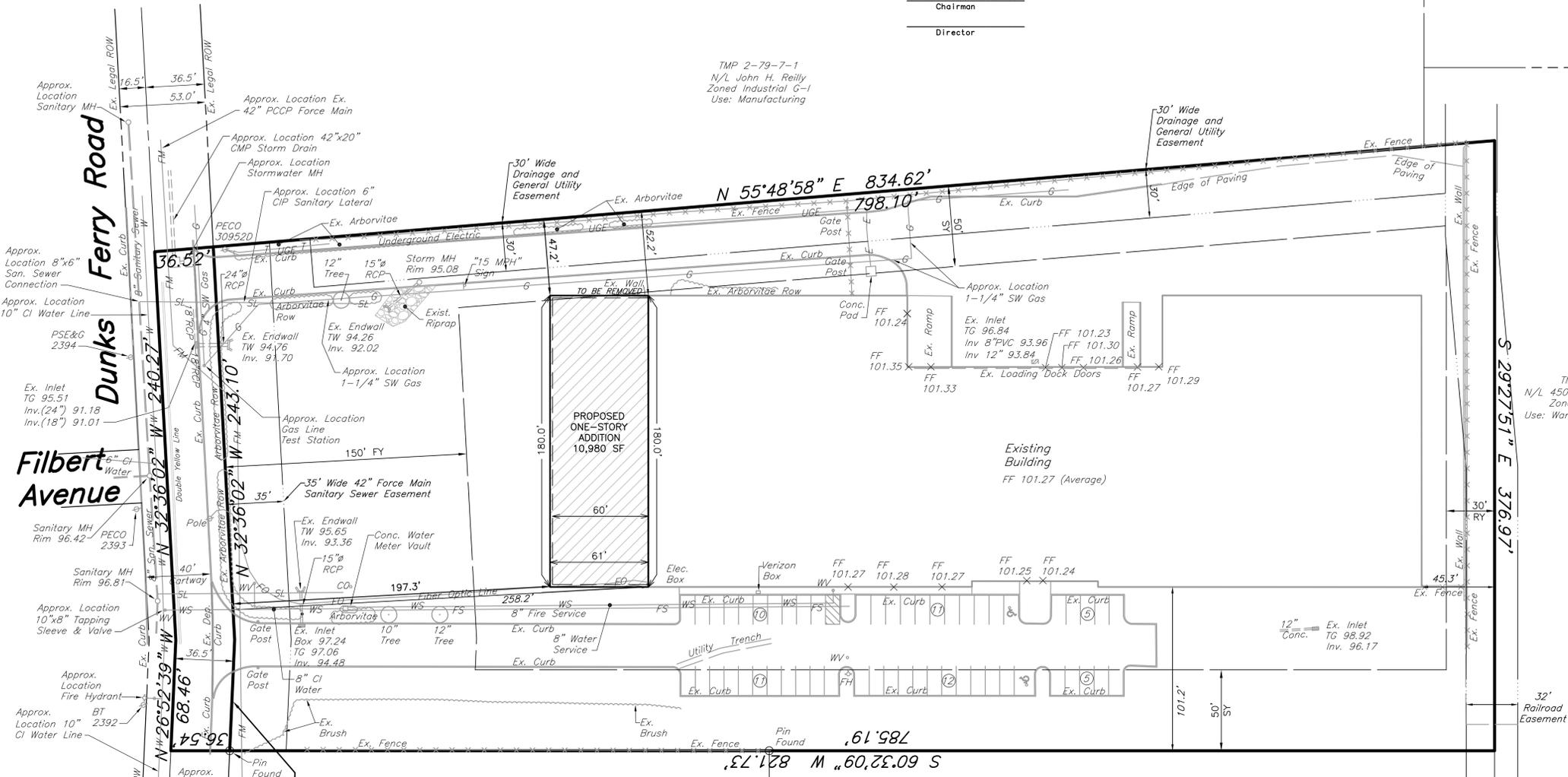
SHEET INDEX

- 1 OF 2 LAND DEVELOPMENT PLAN
2 OF 2 CONSTRUCTION AND E&S PLAN



NOTES:

- 1. TRACT IDENTIFICATION: PARCEL #2-79-7, DEED BOOK 4855 PAGE 56, INSTRUMENT #20060257030001
2. TRACT AREA SUMMARY: GROSS TRACT AREA = 282,627 SF (6.4882 ACRES), NET TRACT AREA = 271,304 SF (6.2283 ACRES)
3. BOUNDARY AS SHOWN TAKEN FROM DEEDS AND PLANS OF RECORD. NO TITLE SEARCH OR TITLE REPORT COMPLETED. TOPOGRAPHY TAKEN FROM A FIELD SURVEY IN APRIL 2015 AND AN AS BUILT SURVEY PLAN FOR JOEL HANKIN, DATED JUNE 20, 1990, PREPARED BY JOSEPH H. MIXNER.
4. PROTRACT ENGINEERING, INC. DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES PROTRACT ENGINEERING, INC. GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. TO COMPLY WITH ACT 187 THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES BEFORE THE START OF WORK. NO TEST HOLES WERE DUG TO DETERMINE EXACT UTILITY LOCATIONS.
5. TRACT IS CURRENTLY ZONED G-1 GENERAL INDUSTRIAL DISTRICT
ZONING REQUIREMENTS: MIN. LOT AREA 5 ACRES, EXISTING 6.23 ACRES, PROPOSED 6.23 ACRES
6. THIS PROJECT PROPOSES A 10,980 SQUARE FOOT BUILDING ADDITION TO BE USED AS A WAREHOUSE.
7. EXISTING BUILDING = 79,154 SF, PROPOSED ADDITION = 10,980 SF, PROPOSED TOTAL BUILDING AREA = 90,134 SF
8. ALL SOILS ON SITE ARE: UfUB URBAN LAND, 0 TO 8 PERCENT SLOPES. SOILS TAKEN FROM THE USDA/NRCS BUCKS COUNTY SOIL SURVEY, SEPTEMBER 2014.
9. FLOOD INSURANCE RATE MAP FOR BUCKS COUNTY, PA, PANEL 508 OF 532, DATED MARCH 16, 2015 WAS REVIEWED TO DETERMINE THE DEVELOPMENT SITE TO BE LOCATED OUTSIDE ANY REGULATED FLOODPLAIN.
10. ALL UTILITIES ARE TO BE PROVIDED BY THE DEVELOPER VIA UNDERGROUND CABLES AS PER 201-143.0.
11. THE LOT IS SERVED BY PUBLIC WATER AND SEWER.
12. OFF-STREET PARKING REQUIREMENTS: REQUIRED: 1 SPACE/200 SF OFFICE AREA/200 = 42 SPACES, APPROX. 8,300 SF OFFICE AREA/200 = 42 SPACES, 1 SPACE/WAREHOUSE EMPLOYEE = 6 SPACES, TOTAL PARKING REQUIRED = 48 SPACES, EXISTING PARKING = 54 SPACES (9' X 18' TYPICAL) (INCLUDES 2 H.C. SPACES)
13. THE FOLLOWING VARIANCES FROM THE ZONING ORDINANCE WERE GRANTED ON JULY 8, 2015: FROM SECTION 232-543(2): TO ALLOW BUILDING COVERAGE OF 33.2 PERCENT. FROM SECTION 232-543(3)b.1: TO ALLOW A SIDE YARD OF 47.2 FEET.



TMP 2-79-7-1 N/L John H. Reilly Zoned Industrial G-1 Use: Manufacturing

TMP 2-79-7-3 N/L Metal Improvement Co., Inc. Zoned Industrial G-1 Use: Manufacturing

TMP 2-79-7-2 N/L PRB RTY LLC Zoned Industrial G-1 Use: Industrial/Commercial

ENGINEER CERTIFICATION I hereby certify that I am a registered professional engineer, licensed in compliance with the laws of the Commonwealth of Pennsylvania; that this is based on a true and accurate engineering land survey made on the ground completed by ProTract Engineering, Inc. in April 2015; that all the monumentation shown thereon actually exists; and that their location, size, type and material are accurately shown.

Recorded this _____ day of _____ in the office for the recording of deeds, etc., in and for the County of Bucks in Doylestown, Pennsylvania in Plan Book No. _____, Page _____.

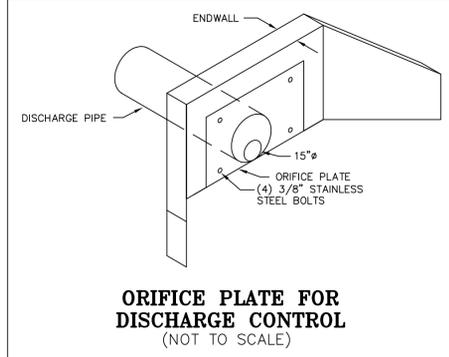
Signature _____ Date _____

Recorder

LAND DEVELOPMENT PLAN PREPARED FOR 455 DUNKS FERRY ROAD ProTract Engineering, Inc. 64 East Moreland Avenue, P.O. Box 88 Harborside, Pennsylvania 19040

LEGEND

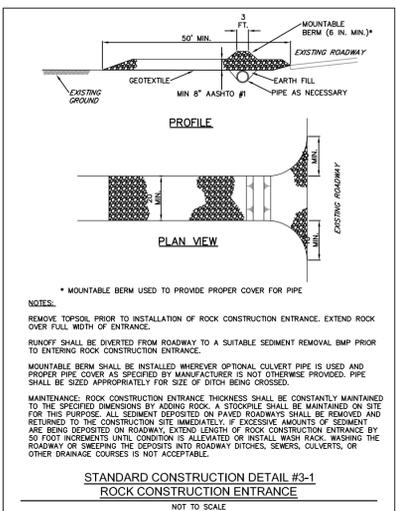
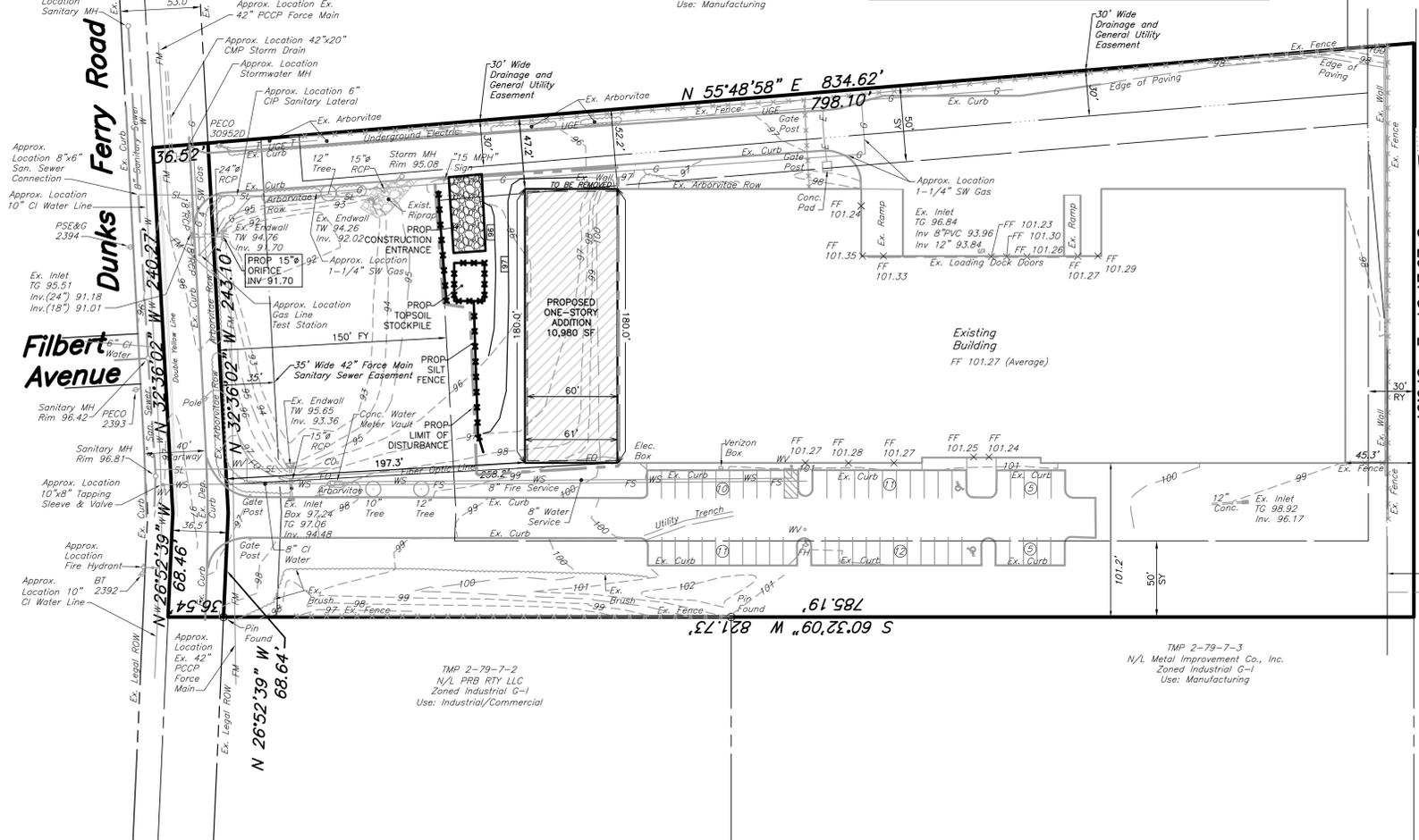
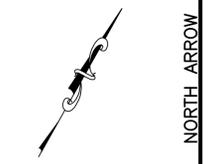
- EXIST. RIGHT-OF-WAY
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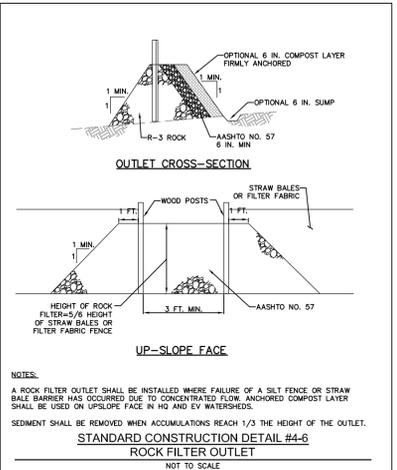
ORIFICE PLATE FOR DISCHARGE CONTROL (NOT TO SCALE)



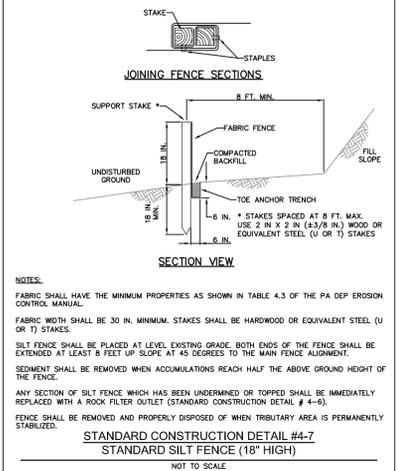
PLAN GRAPHIC SCALE 1"=50'



STANDARD CONSTRUCTION DETAIL #3-1 ROCK CONSTRUCTION ENTRANCE (NOT TO SCALE)



STANDARD CONSTRUCTION DETAIL #4-6 ROCK FILTER OUTLET (NOT TO SCALE)



STANDARD CONSTRUCTION DETAIL #4-7 STANDARD SILT FENCE (18\"/>

- CONSTRUCTION NOTES:**
- PROTRACT ENGINEERING, INC. DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES PROTRACT ENGINEERING, INC. GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN TO COMPLY WITH ACT 187. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES BEFORE THE START OF WORK.
 - ALL PROPOSED UTILITIES SERVING THE PROPOSED BUILDING SHALL BE INSTALLED UNDERGROUND.
 - ALL TOPSOIL STOCKPILES SHALL BE SEEDED AND MULCHED AND SILT FENCE INSTALLED AROUND THEM. UPON FINAL GRADING, TOPSOIL WILL BE REDISTRIBUTED AND PERMANENT GRASS SEED PLANTED. MINIMUM TOPSOIL THICKNESS = 6 (SIX) INCHES.
 - CONSTRUCTION SPECIFICATIONS:
 - A) EARTHWORK/CLEARING/GRUBBING: ALL WORK IN THIS CATEGORY SHALL COMPLY WITH COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408 (SPECIFICATIONS) SECTION 200. REMOVE ALL DEBRIS TO A SUITABLE WASTE LOCATION. TOPSOIL: ALL WORK IN THIS CATEGORY SHALL COMPLY WITH COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408 (SPECIFICATIONS) SECTION 802. SOODING/MULCHING/SEEDING: ALL WORK IN THIS CATEGORY SHALL COMPLY WITH COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408 (SPECIFICATIONS) SECTIONS 804, 805, AND 809.
 - B) BITUMINOUS PAVING: ALL WORK IN THIS CATEGORY SHALL COMPLY WITH COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408 (SPECIFICATIONS) SECTIONS 401, 420, KEY CUT AND MATCH AT JUNCTIONS BETWEEN EXISTING AND PROPOSED PAVING.

- EROSION AND SEDIMENT CONTROL STANDARD NOTES:**
- STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 3:1 OR FLATTER.
 - THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
 - UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE PERMITTEE AND COPERMITTEE SHALL ASSURE THAT THE APPROPRIATE CONSERVATION, MAINTENANCE, OPERATED AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES AND MAINTAIN AND MAKE AVAILABLE TO THE BUCKS COUNTY CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGARDING, RESEEDING, AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY.
 - IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
 - BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED EAS CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE BUCKS COUNTY CONSERVATION DISTRICT.
 - THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE APPROPRIATE CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
 - ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
 - THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64 - EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, ACTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
 - A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
 - EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S.
 - AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.
 - ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE.
 - IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-SEEDING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT BEING MAINTAINED SHALL BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE 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 PERMANENT NON-VEGETATIVE COVER SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.

- TEMPORARY STABILIZATION AND PERMANENT STABILIZATION:**
- HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
 - STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
 - UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S MUST BE MAINTAINED AND OPERATED. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMP'S AFTER EACH RAINFALL EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RESEEDING, REMULCHING, AND RESETTING, MUST BE DONE IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S, OR MODIFICATIONS TO THOSE INSTALLED WILL BE REQUIRED.
 - SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN LANDSCAPE AREAS OUTSIDE OF SLOPE SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
 - THE OPERATOR SHALL REMOVE FROM THIS SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS 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.
 - THE PROJECTS RECEIVING WATERCOURSE IS THE DELAWARE RIVER, AND THE CHAPTER 93 CLASSIFICATION IS WMF, MF.

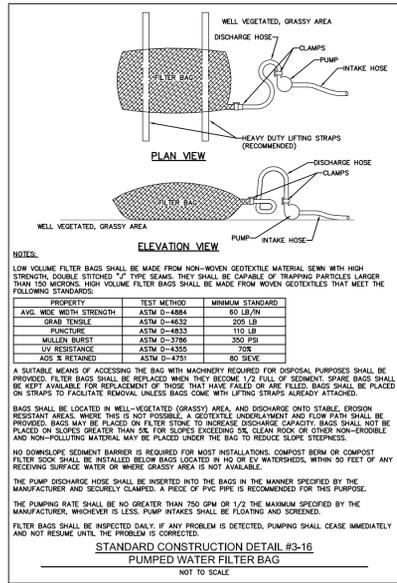
- GENERAL EROSION AND SEDIMENT CONTROL NOTES:**
- TOTAL DISTURBED AREA = 0.5 AC.
 - EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS. CONTROLS MUST BE CONSISTENT WITH STANDARDS AND SPECIFICATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION MANUAL, MARCH 2012.
 - AS MUCH AS POSSIBLE, CONSTRUCTION SHALL BE FROM THE TOP OF THE SLOPE DOWN TO UTILIZE EXISTING VEGETATION AS EROSION AND SEDIMENT CONTROLS.
 - ALL VEGETATED AREAS IN UNDISTURBED SECTIONS WILL REMAIN FOR EROSION PROTECTION. CONTRACTORS AND OPERATORS WILL BE RESTRAINED FROM VENTURING INTO ALL AREAS NOT BEING GRADED. DISTURBED AREAS WILL REMAIN EXPOSED FOR THE SHORTEST TIME POSSIBLE. NO WETLAND AREA MAY BE FILLED EXCEPT AS SHOWN ON PLANS AND APPROVED BY APPROPRIATE STATE AND FEDERAL AUTHORITIES.
 - DUST WILL BE KEPT WITHIN TOLERABLE LIMITS BY EITHER THE USE OF CHEMICAL AGENTS, SUCH AS CALCIUM CHLORIDE, OR BY SPRINKLING THE AREAS CONTRIBUTING TO AIR-DUST POLLUTION WITH WATER.
 - ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED MUST BE SEEDED AND MULCHED IMMEDIATELY. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MAY BE SEEDED AND MULCHED WITH A QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCH. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE SEEDED AND MULCHED WITH A PERMANENT SEED MIXTURE AND MULCH.
 - UPON FINAL GRADING, TOPSOIL WILL BE REDISTRIBUTED AND PERMANENT GRASS SEED PLANTED.
 - THE CONTRACTOR MUST DEVELOP AND COORDINATE WITH OWNER, AND HAVE APPROVED BY THE BUCKS COUNTY CONSERVATION DISTRICT, A SEPARATE EROSION AND SEDIMENTATION CONTROL PLAN FOR EACH SPOIL, BORROW, OR OTHER WORK AREA NOT DETAILLED ON THE PERMITTED PLAN, WHETHER LOCATED WITHIN OR OUTSIDE OF THE CONSTRUCTION LIMITS.
 - SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOWS PRIOR TO DISCHARGE OR OF STABILIZING THE SURFACES INVOLVED, ADDITIONAL MEASURES MUST BE IMMEDIATELY IMPLEMENTED BY THE CONTRACTOR TO ELIMINATE ALL SUCH PROBLEMS.

- STAGES OF EARTH DISTURBANCE ACTIVITY**
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE.

- CONSTRUCTION SEQUENCE**
- INSTALL STONE CONSTRUCTION ENTRANCE FOR TIRE CLEANING AS SHOWN. ALL CONSTRUCTION VEHICLES MUST ENTER-EXIT THE EARTH DISTURBANCE AREAS VIA THE CONSTRUCTION ENTRANCE.
 - INSTALL FABRIC SILT FENCE AS SHOWN ON PLAN.

- CLEAR AND GRUB ONLY THOSE AREAS NECESSARY FOR BUILDING AND RELATED CONSTRUCTION AND FOR PROPER GRADING.
- STRIP TOPSOIL AND ROUGH GRADE BUILDING AREA TO THE PROPOSED SUBGRADE ELEVATION.
- CONSTRUCT BUILDING.
- GRADING AWAY FROM THE WALL SECTIONS OF THE BUILDINGS WILL BE AT A MINIMUM SLOPE OF TWO PERCENT (2%) TOWARD A PROPER POINT OF COLLECTION.
- INSTALL ORIFICE PLATE ON BASIN OUTLET.
- FINISH GRADE AND ESTABLISH PERMANENT SEEDING AS SOON AS POSSIBLE. (SEE SEEDING AND MULCHING INFORMATION)
- EROSION CONTROL MEASURES, IN ADDITION TO THOSE SHOWN ON THE PLANS, SHALL BE PROVIDED BY THE CONTRACTOR IF THERE IS EVIDENCE OF SILT, SEDIMENT AND/OR MUD LEAVING THE SITE.
- ALL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS METHODS OF THE PA. DEPARTMENT OF ENVIRONMENTAL PROTECTION, DATED JANUARY, 1996.
- MAINTENANCE OF EROSION AND SEDIMENT CONTROLS:

DURING THE LIFE OF THE PROJECT, ALL EROSION AND SEDIMENT CONTROL DEVICES MUST BE MAINTAINED. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROLS. AFTER EVERY STORM EVENT AND EVERY WEEK, EXAMINE ALL FILTER STRUCTURES AND CONTROL FACILITIES. DAMAGE TO FACILITIES SHALL BE REPAIRED AND ACCUMULATED SEDIMENT REMOVED TO MAINTAIN EFFECTIVENESS OF THE STRUCTURE. ANY SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE REPLACED WITH ROCK FILTER OUTLETS IMMEDIATELY. STONE FILTERS MUST BE REPLACED WHEN CLOGGED WITH SILT. REGRADE, RESEED AND MULCH WASHED-OUT AREAS AS THEY OCCUR. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RESEEDING, REMULCHING AND RESETTING MUST BE PERFORMED IMMEDIATELY. MATERIALS CLEANED FROM EROSION AND SEDIMENT CONTROL DEVICES SHALL BE DISPOSED OF ON-SITE, OR OFF-SITE TO AN APPROVED RECEIVING FACILITY.
- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, REMOVE ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS. AREAS DISTURBED DURING REMOVAL OF THE CONTROLS MUST BE STABILIZED.
- AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
- THE OPERATOR SHALL REMOVE FROM THIS SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THIS SITE.



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

CONSTRUCTION AND EROSION & SEDIMENT CONTROL PLAN

PREPARED FOR

455 DUNKS FERRY ROAD

ProTract Engineering, Inc.
64 East Moreland Avenue, P.O. Box 48
Bartholomew, Pennsylvania 17040
Phone: (215)442-9280
Fax: (215)442-9288

Project Number: **H2267**

Scale: **1"=50'**

Sheet Number: **2** of **2**

STORMWATER MANAGEMENT REPORT

Bound Land Development

455 Dunks Ferry Road – Tax Parcel 2-79-7

Bensalem Township, Bucks County

prepared for:

Bucks County Economic Development Corporation
455 Dunks Ferry Road
Bensalem, PA 19020

July 24, 2015

prepared by:

ProTract Engineering, Inc.
P. O. Box 58, Hatboro, PA 19040

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DRAINAGE AREA PLAN ATTACHED

INTRODUCTION

General Project Description

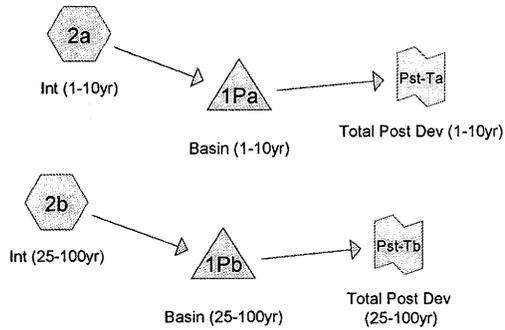
The project is located in Bensalem Township, Bucks County, Tax Parcel 2-79-7. The proposal consists of a 10,980 square foot building addition. Runoff from the proposed addition will drain directly into the existing on-lot surface basin. It will be shown that with a modification to the existing basin outlet structure, the storm system will be able to meet peak flow and volume requirements.

Hydrology and Stormwater Detention Requirements

The site is located in the Neshaminy Creek Watershed, District C. Stormwater runoff rates are computed for 2 through 100-year frequency rainfalls for pre-development and post-development flows. Rainfall and runoff are calculated using the Rational Method.

In order to reduce the additional flow (from the building addition), a 15" diameter orifice will be placed over the existing 24" outlet pipe in the existing basin. It will be shown that the resulting post development discharge is equal to or less than the pre-development flows, per the District C requirements. The basin routing method used is HydroCAD Version 8.5. The site study area is 3.112 AC, consisting of the disturbed area of the site (20,665 sf), plus additional on-site intercepted area (114,889 sf). The area intercepted by the basin does not change pre- to post-development. Per ordinance requirements, 20% of existing impervious in the study area is considered meadow.

1.0 PRE-DEVELOPMENT CALCULATIONS



A. Ground cover area:

Summary for Subcatchment 2b: Int (25-100yr)

Runoff = 16.04 cfs @ 0.08 hrs, Volume= 7,389 cf, Depth= 0.65"

Runoff by Rational method, Rise/Fall=1.0/2.0 xTc, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
PA-Region5 100-Year Duration=5.0 min, Inten=8.19 in/hr

Area (sf)	C	Description
63,323	0.95	main building (minus 20% meadow)
32,320	0.26	meadow
10,458	0.95	parking (minus 20% meadow)
10,980	0.26	meadow (prop addition area)
18,473	0.26	20% eximp as meadow
135,554	0.64	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Pond 1Pb: Basin (25-100yr)

Inflow Area = 135,554 sf, Inflow Depth = 0.65" for 100-Year event
 Inflow = 16.04 cfs @ 0.08 hrs, Volume= 7,389 cf
 Outflow = 5.70 cfs @ 0.19 hrs, Volume= 7,389 cf, Atten= 64%, Lag= 6.4 min
 Discarded = 0.05 cfs @ 0.19 hrs, Volume= 97 cf
 Primary = 5.65 cfs @ 0.19 hrs, Volume= 7,293 cf

Routing by Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 92.73' @ 0.19 hrs Surf.Area= 9,377 sf Storage= 4,556 cf

Plug-Flow detention time= 12.1 min calculated for 7,389 cf (100% of inflow)
 Center-of-Mass det. time= 12.1 min (18.8 - 6.7)

Volume	Invert	Avail.Storage	Storage Description
#1	91.70'	47,755 cf	Surface Basin (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
91.70	0	0	0
92.00	2,184	328	328
93.00	12,018	7,101	7,429
94.00	14,774	13,396	20,825
95.00	18,072	16,423	37,248
95.50	23,959	10,508	47,755

Device	Routing	Invert	Outlet Devices
#1	Discarded	91.70'	0.250 in/hr Exfiltration over Surface area
#2	Primary	94.25'	17.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#3	Primary	91.70'	24.0" Vert. Orifice/Gate C=0.600

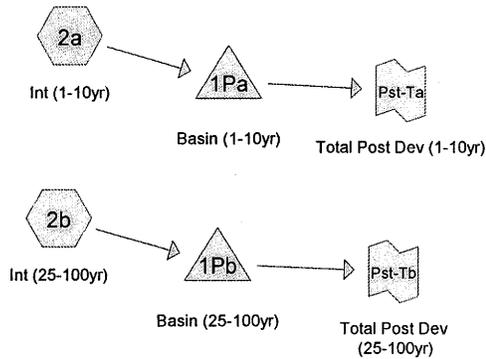
Discarded OutFlow Max=0.05 cfs @ 0.19 hrs HW=92.73' (Free Discharge)
 ↳1=Exfiltration (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=5.65 cfs @ 0.19 hrs HW=92.73' (Free Discharge)
 ↳2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
 ↳3=Orifice/Gate (Orifice Controls 5.65 cfs @ 3.5 fps)

B. Pre-Development Flow Summary

Rainfall Frequency (years)	Q Pre-Development Basin OutFlow (cfs)
2	2.94
5	3.39
10	3.75
25	4.73
50	5.23
100	5.65

2.0 POST DEVELOPMENT CALCULATIONS



2.1 POST DEVELOPMENT CALCULATIONS

A. Intercepted Area

Summary for Subcatchment 2b: Int (25-100yr)

Runoff = 19.79 cfs @ 0.08 hrs, Volume= 9,121 cf, Depth= 0.81"

Runoff by Rational method, Rise/Fall=1.0/2.0 xTc, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs
 PA-Region5 100-Year Duration=5.0 min, Inten=8.19 in/hr

Area (sf)	C	Description
10,980	0.95	addition
79,154	0.95	main building
23,783	0.26	grass undisturbed - meadow
13,212	0.95	parking
8,425	0.32	grass + 5%
135,554	0.79	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Pond 1Pb: Basin (25-100yr)

Inflow Area = 135,554 sf, Inflow Depth = 0.81" for 100-Year event
 Inflow = 19.79 cfs @ 0.08 hrs, Volume= 9,121 cf
 Outflow = 4.67 cfs @ 0.21 hrs, Volume= 9,121 cf, Atten= 76%, Lag= 7.6 min
 Discarded = 0.07 cfs @ 0.21 hrs, Volume= 157 cf
 Primary = 4.61 cfs @ 0.21 hrs, Volume= 8,964 cf

Routing by Stor-Ind method, Time Span= 0.00-120.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 92.93' @ 0.21 hrs Surf.Area= 11,311 sf Storage= 6,590 cf

Plug-Flow detention time= 18.8 min calculated for 9,120 cf (100% of inflow)
 Center-of-Mass det. time= 18.8 min (25.5 - 6.7)

Volume	Invert	Avail.Storage	Storage Description
#1	91.70'	47,678 cf	Surface Basin (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
91.70	0	0	0
92.00	2,184	328	328
93.00	12,018	7,101	7,429
94.00	14,774	13,396	20,825
95.00	18,072	16,423	37,248
95.50	23,650	10,431	47,678

Device	Routing	Invert	Outlet Devices
#1	Discarded	91.70'	0.250 in/hr Exfiltration over Surface area
#2	Primary	94.25'	17.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#3	Primary	91.70'	15.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.07 cfs @ 0.21 hrs HW=92.93' (Free Discharge)
 ↳1=Exfiltration (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=4.61 cfs @ 0.21 hrs HW=92.93' (Free Discharge)
 ↳2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
 ↳3=Orifice/Grate (Orifice Controls 4.61 cfs @ 3.8 fps)

2.2 SUMMARY OF POST-DEVELOPMENT FLOWS

Rainfall Frequency (years)	Total Post Development Basin Outflow (cfs)
2	2.83
5	3.21
10	3.49
25	4.11
50	4.41
100	4.61

3.0 SUMMARY OF PEAK FLOWS

Rainfall	Pre- Development Q-Allowable	Q-Total Post- Development
Frequency (years)	Flow (cfs)	Flow (cfs)
2	2.94	2.83
5	3.39	3.21
10	3.75	3.49
25	4.73	4.11
50	5.23	4.41
100	5.65	4.61

4.0 VOLUME CALCULATIONS

Required volume: the first 2 inches of runoff from the new impervious areas.

$$V = (2/12)(\text{Area}); \text{ where Area} = \text{new impervious (SF)}$$

$$V = (2/12)(10,980) = 1,830 \text{ CF}$$

$$\underline{\text{Volume required} = 1,830 \text{ CF}}$$

Full surface basin volume = 47,678 CF.

Pre-Development 100-year volume usage = 4,556 CF

$$\underline{\text{Available Basin Volume} = 43,122 \text{ CF}}$$

5.0 WATER QUALITY

All surface stormwater flow is directed overland for water quality. The intercepted stormwater will be directed to the surface basin, which will provide opportunity for infiltration.