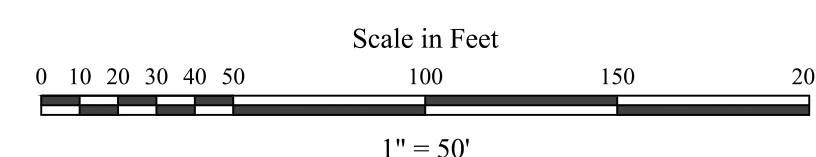
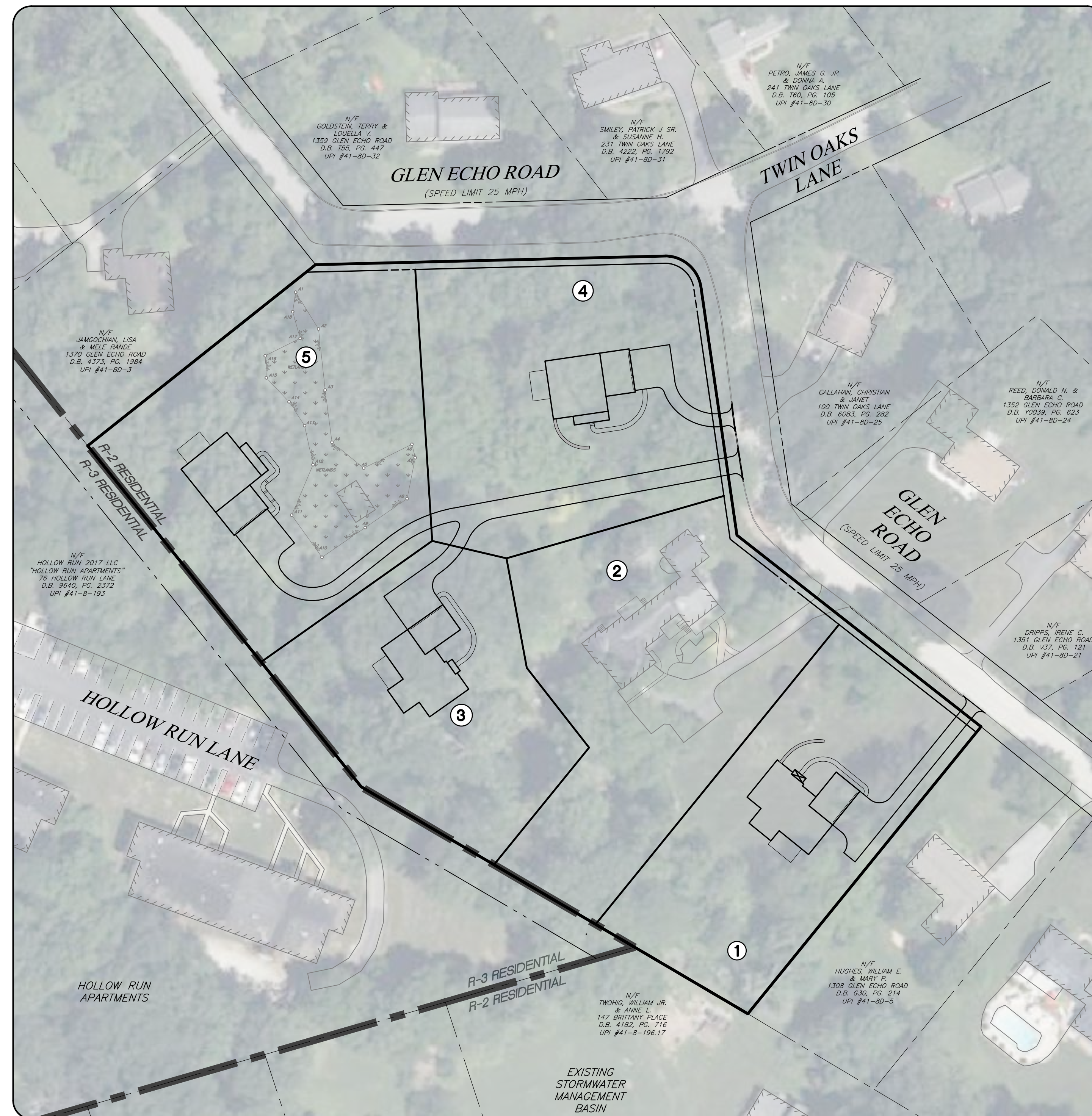


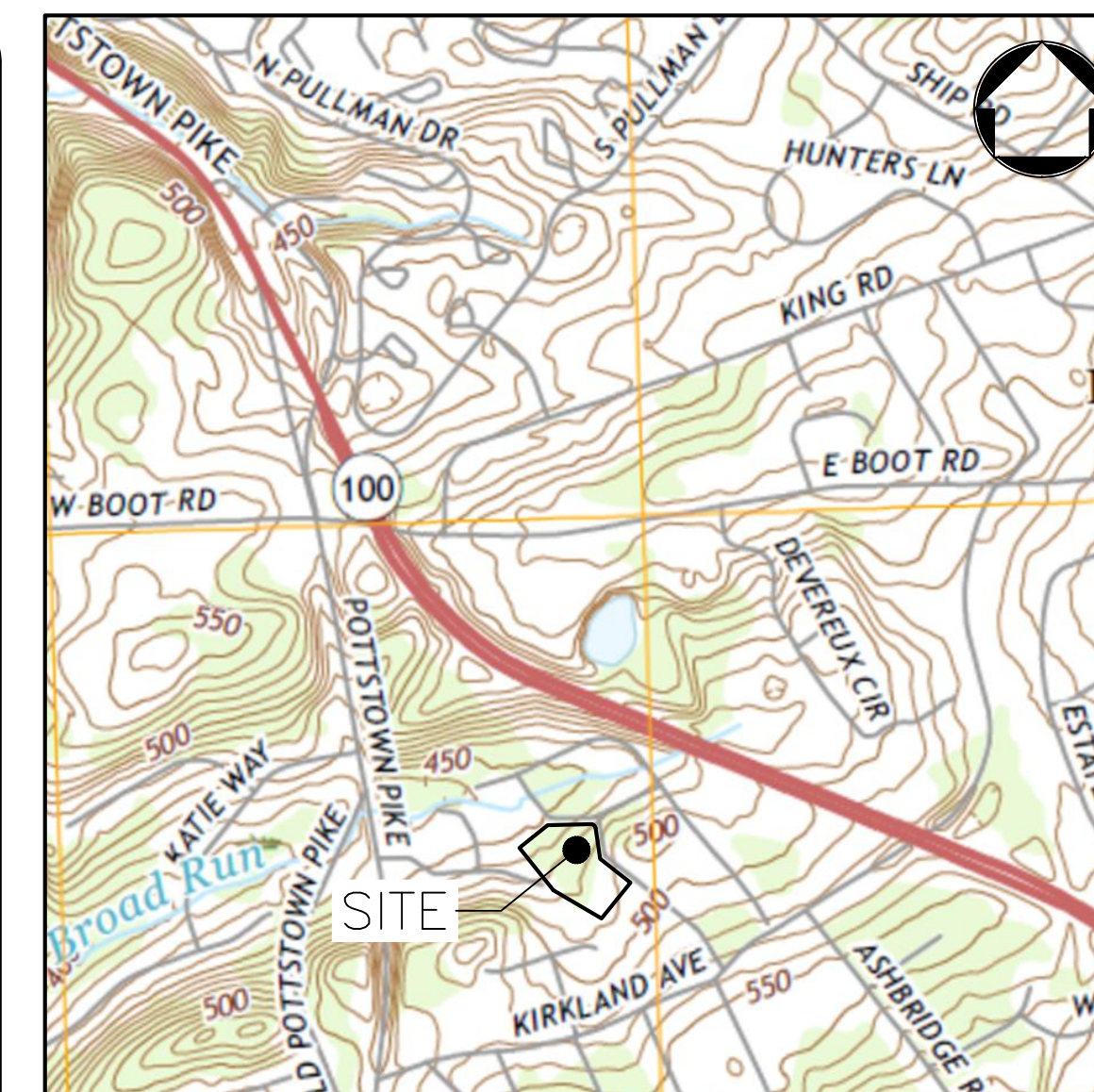
# PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLAN

## FOR 1358 GLEN ECHO ROAD

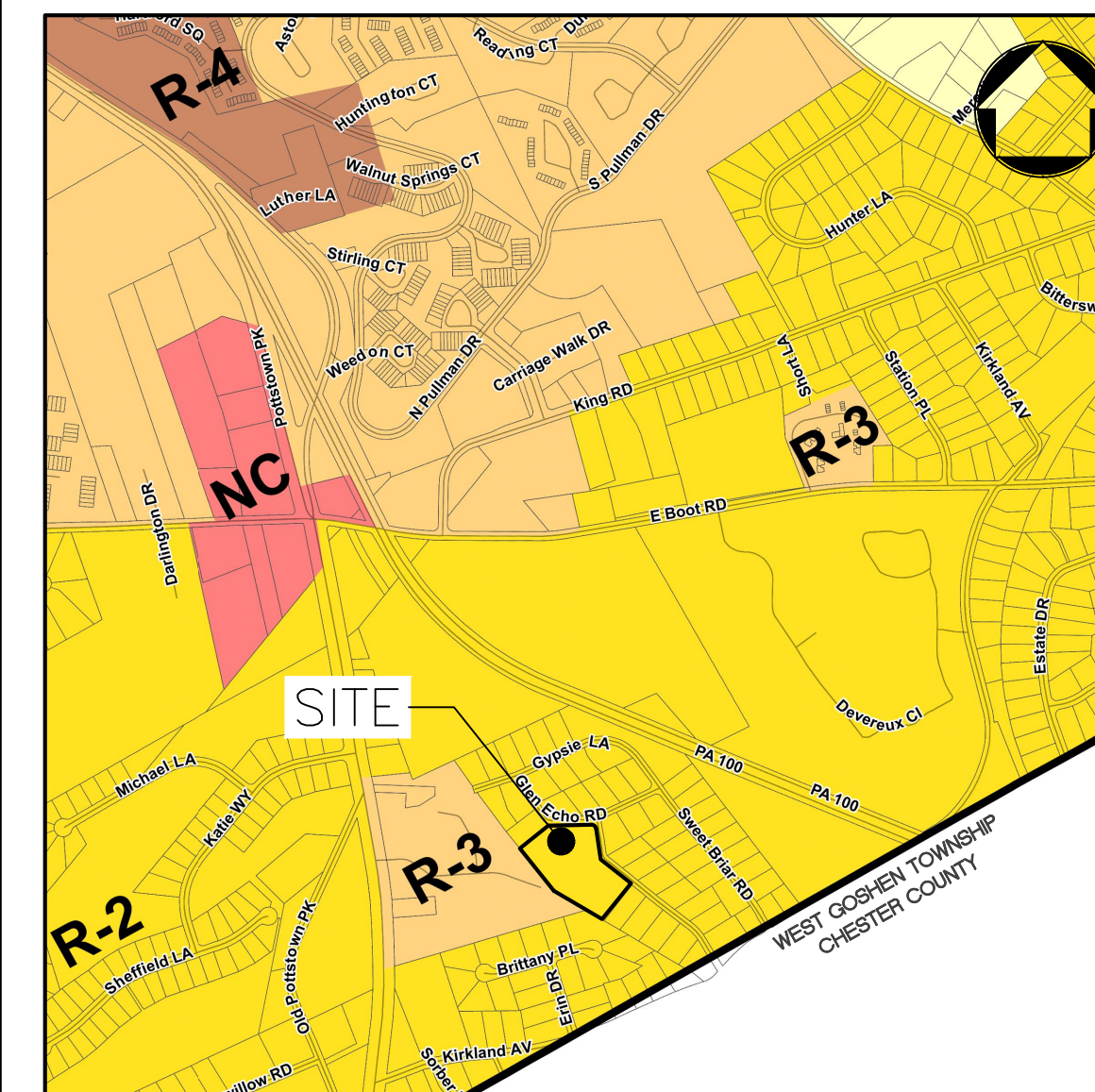
RESIDENTIAL DISTRICT (R-2) ZONING DISTRICT  
WEST WHITELAND TOWNSHIP - CHESTER COUNTY - PENNSYLVANIA



**OVERALL PLAN**  
SCALE: 1"=50'



**LOCATION MAP** SCALE: 1" = 1,000'  
WEST WHITELAND TOWNSHIP - CHESTER COUNTY - PENNSYLVANIA  
COURTESY: USGS



**ZONING MAP** SCALE: 1" = 1,000'  
WEST WHITELAND TOWNSHIP - CHESTER COUNTY - PENNSYLVANIA  
COURTESY: WEST WHITELAND TOWNSHIP

SHEET INDEX	
S-1	COVER SHEET
S-2	TITLE PLAN
S-3	EXISTING FEATURES & DEMOLITION PLAN
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S-6	PCSM PLAN
S-7	EROSION CONTROL PLAN
S-8	LANDSCAPING PLAN
S-9	PROFILES
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S-12	PCSM DETAILS
S-13	PCSM DETAILS
S-14	EROSION CONTROL DETAILS

**SWM AND E&S REPORT NOTE**  
THESE PLANS HAVE BEEN PREPARED IN CONJUNCTION WITH THE "PCSM NARRATIVE AND REPORT" PREPARED BY JMR ENGINEERING, LLC DATED NOVEMBER 18, 2024, AS AMENDED.  
THESE PLANS HAVE BEEN PREPARED IN CONJUNCTION WITH THE "E&S NARRATIVE AND REPORT" PREPARED BY JMR ENGINEERING, LLC DATED NOVEMBER 18, 2024, AS AMENDED.

COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF CHESTER

ON THIS, THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 2024, BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED \_\_\_\_\_ RESPONSIBLE OFFICIAL FROM OAK KNOLL, LLC, WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT THEY ARE THE OWNER(S) AND/OR EQUITABLE OWNER(S) OF THE PROPERTY SHOWN ON THIS PLAN, THAT THE PLAN THEREOF WAS MADE AT THEIR DIRECTION, THAT THEY ACKNOWLEDGE THAT SAME TO BE RECORDED, AND THAT ALL STREETS AND OTHER PROPERTY IDENTIFIED AS PROPOSED "PUBLIC PROPERTY" (EXCEPTING THOSE AREAS LABELED "NOT FOR DEDICATION") WILL BE OFFERED FOR DEDICATION.

\_\_\_\_\_ GLENN WHITE

SWORN TO AND SUBSCRIBED BEFORE ME  
THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2026.

(NOTARY PUBLIC)

**APPROVALS**  
**BOARD OF SUPERVISORS**  
APPROVED BY THE BOARD OF SUPERVISORS OF WEST WHITELAND TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

**WEST WHITELAND PLANNING COMMISSION**  
APPROVED BY THE PLANNING COMMISSION OF WEST WHITELAND TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

**CHESTER COUNTY PLANNING COMMISSION**  
THIS PLAN WAS REVIEWED BY THE CHESTER COUNTY PLANNING COMMISSION ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.  
(CCPC FILE NUMBER)  
(PLANNING COMMISSION SECRETARY)

**CHESTER COUNTY RECORDER OF DEEDS**  
RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF CHESTER COUNTY AT WEST CHESTER, PENNSYLVANIA, IN PLAN BOOK \_\_\_\_\_, PAGE \_\_\_\_\_, ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.  
(DEPUTY RECORDER OF DEEDS)

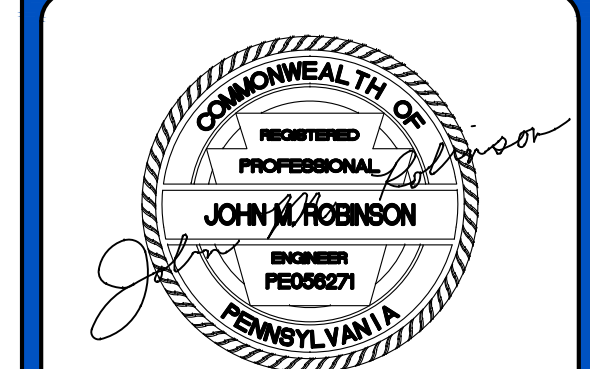
**DESIGNER CERTIFICATION**  
I, JOHN M. ROBINSON, P.E., HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF PENNSYLVANIA AND THAT THESE PLANS ARE IN CONFORMITY WITH ENGINEERING, ZONING, SUBDIVISION, BUILDING, SANITATION AND OTHER APPLICABLE TOWNSHIP ORDINANCES AND REGULATIONS, EXCEPT AS NOTED.

*John M. Robinson* 01/27/26  
PROFESSIONAL ENGINEER DATE

**OWNER/APPLICANT:**  
OAK KNOLL, LLC  
C/O GLENN WHITE  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382  
(610) 399-6686

PERMITTING REQUIREMENTS:					
PERMIT	PERMIT No.	ACTIVITY	AGENCY	STATUS	APPROVAL DATE
1. PADEP NPDES	N/A	EARTH DISTURBANCE	CCCD & PA DEP	PENDING	N/A
2. SEWAGE EXEMPTION	N/A	SEWER PERMIT	PA DEP	PENDING	N/A

**JMR ENGINEERING, LLC**  
PROFESSIONAL CIVIL ENGINEERING • LAND PLANNING SERVICES  
108 SCHUBERT DRIVE ~ DOWNTOWN, PA 19335  
VOICE: (484) 880-7342  
EMAIL: ADMIN@JMRENGINEERING.COM  
WEBSITE: WWW.JMRENGINEERING.COM



**JOHN M. ROBINSON**  
PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE No. PE056271

**UTILITY USERS LIST**

USERS	RESPONSES
AQUA	FIELD MARKED
BUCKEYE PARTNERS	NO CONFLICT
COMCAST CABLE	NO CONFLICT
HOLLOW RUN APARTMENTS	NO CONFLICT
PECO	NO CONFLICT
VERIZON	NO CONFLICT
WEST WHITELAND TOWNSHIP	NO CONFLICT

**CALL BEFORE YOU DIG!**  
PENNSYLVANIA LAW REQUIRES THE CONTRACTOR TO NOTIFY UNDERGROUND UTILITY PRIOR TO AT LEAST 3 WORKING DAYS TO THE COMMENCEMENT OF CONSTRUCTION, AND TO OBTAIN THE LOCATION OF ALL UTILITIES SHOWN ON THE PLAN OF THE PROJECT. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.  
1-800-242-1776  
POCS SERIAL NUMBER:

**PLAN REVISIONS**

REV	DATE	DESCRIPTION OF CHANGES
1	09/30/25	REVISED PER TOWNSHIP COMMENTS
2	01/27/26	REVISED PER TOWNSHIP COMMENTS

**PROJECT:**  
**PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLAN**  
FOR  
**1358 GLEN ECHO ROAD**  
WEST CHESTER, PA 19380  
WEST WHITELAND TOWNSHIP  
CHESTER COUNTY, PA

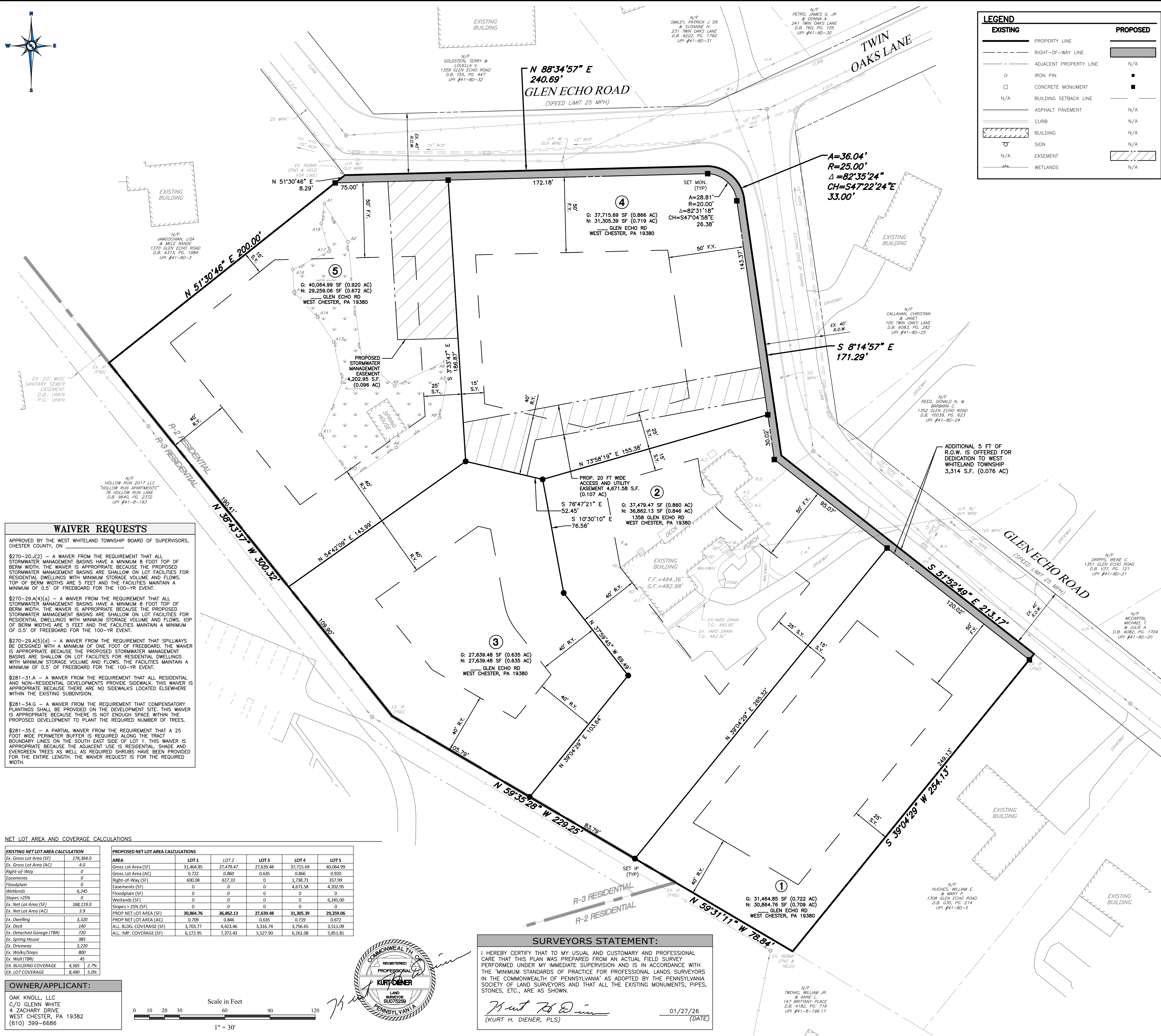
LOCATION:  
1358 GLEN ECHO ROAD  
WEST CHESTER, PA 19380  
WEST WHITELAND TOWNSHIP  
CHESTER COUNTY, PA

PARCELS:  
**TAX PARCEL NUMBER:**  
41-8D-4

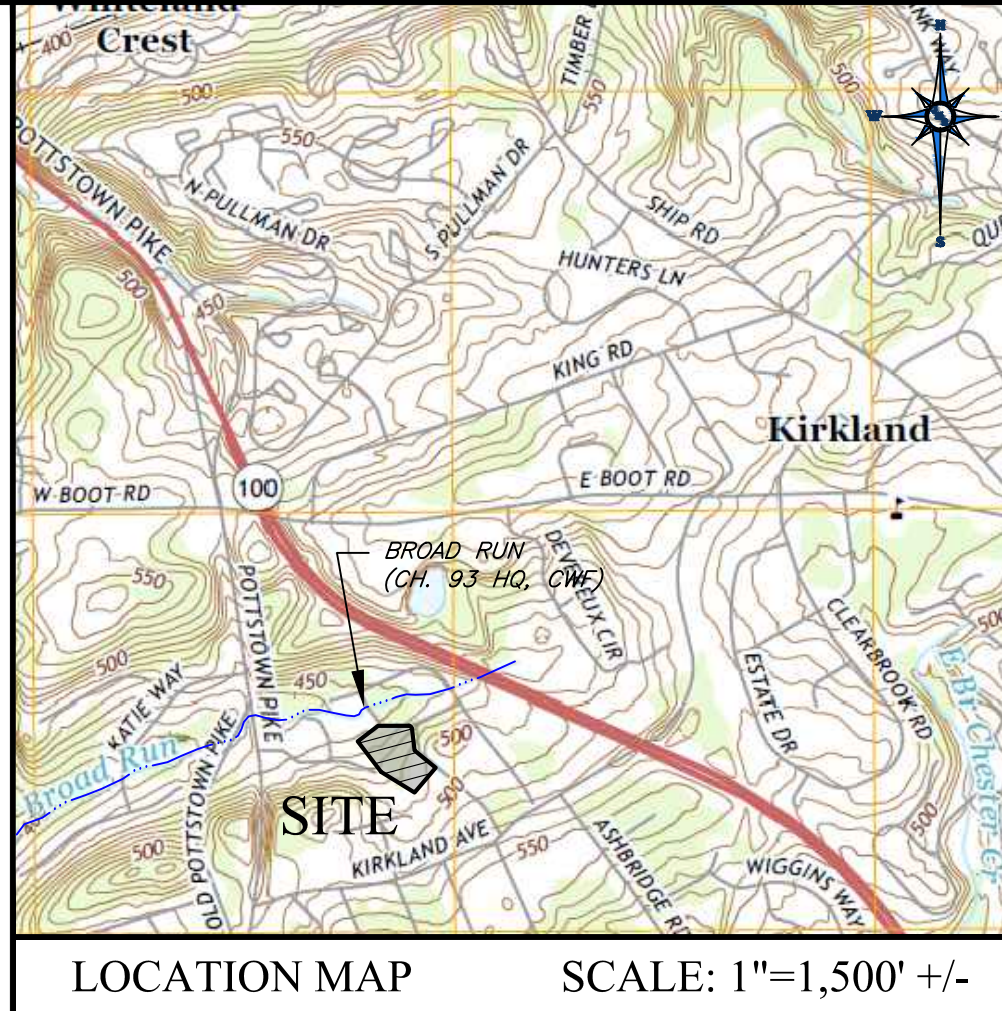
CLIENT:  
**OAK KNOLL, LLC**  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382

PROJECT No.: 1763-1  
SURVEY REF.: 1763-EX(JMR)  
DRAWN BY: S.E.D.  
CHECKED BY: J.M.R.  
PLAN DATE: NOVEMBER 18, 2024  
PLAN SCALE: AS NOTED

SHEET TITLE:  
**COVER SHEET**  
SHEET NUMBER:  
**1 OF 14**  
Plot Date: Tue, Jan 27, 2026  
File: COVER.DWG



LEGEND		EXISTING	PROPOSED
---	PROPERTY LINE	---	---
---	RIGHT-OF-WAY LINE	---	---
---	ADJACENT PROPERTY LINE	---	N/A
○	IRON PIN	○	●
□	CONCRETE MONUMENT	□	■
N/A	BUILDING SETBACK LINE	N/A	N/A
---	ASPHALT PAVEMENT	---	N/A
---	CURB	---	N/A
---	BUILDING	---	N/A
---	WETLANDS	---	---
---	EASEMENT	---	---
---	WETLANDS	---	---



LOCATION MAP SCALE: 1"=1,500' +/-

- PROJECT GENERAL NOTES:**
- PROPERTY INFORMATION: ROBERT J. & SUSAN W. SHENKIN, 1358 GLEN ECHO ROAD, WEST CHESTER, PA 19380. APPLICANT INFORMATION: OAK KNOLL, LLC, 4 ZACHARY DRIVE, WEST CHESTER, PA 19382.
  - FIELD SURVEY CONDUCTED BY JMR ENGINEERING OF 106 SCHUBERT DRIVE, DOWNINGTOWN, PA 19335 IN MARCH 2024 AND SEPTEMBER 2024. THE HORIZONTAL DATUM IS NAD83 AND VERTICAL DATUM IS NAVD83. THIS WAS ESTABLISHED BY STATIC OBSERVATIONS CORRECTED BY THE USGS ONLINE POSITIONING USER SYSTEM (OPUS).
  - REFERENCE PLANS: A. IYI GLEN IN WEST WHITELAND TWP., CHESTER CO, PENNA., BY J.W. HARRY, C.E., COATESVILLE, PA FEB. 18, 1984. B. MAP OF PROPERTY LOUISE K. HELLER, WEST WHITELAND TWP., CHESTER CO., PENNA., BY JAMES J. SPINELLI REGISTERED PROFESSIONAL CIVIL ENGINEER, WAYNE, PA DATED JANUARY 20, 1960 LAST REVISED MARCH 4, 1960. C. FINAL SUBDIVISION PLAN BRITANNY MOODS, WEST WHITELAND TWP., CHESTER CO., PENNA., BY JOHN SMARCA, 600 FLETCHER RD., WAYNE, PA 19087, DATED 4-27-86 LAST REVISED 10/10/86. D. FINAL LOT LINE CHANGE FOR JOHN PANIZZA & THOMAS MCQUILKIN, WEST WHITELAND TOWNSHIP, CHESTER COUNTY, PA. BY HOWARD DORAN, P.E., P.L.S., PROFESSIONAL ENGINEER - REGISTERED SURVEYOR NEWTOWN SQUARE, PA. DATED DECEMBER 30, 1987 LAST REVISED FEB. 6, 1989.
  - THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. THIS PROPERTY MAY BE SUBJECT TO RESTRICTIONS, COVENANTS, EASEMENTS, AND/OR RIGHT-OF-WAYS, WRITTEN OR IMPLIED.
  - HISTORICAL NOTES: 1358 GLEN ECHO ROAD IS LISTED AS SITE 61 ON THE WEST WHITELAND HISTORICAL RESOURCES MAP. LAST REVISED IN 2022. SITE 61 INCLUDES MULTIPLE HISTORICAL RESOURCES AS DESCRIBED BELOW.
    - 61.01: DANIEL MESSRETH HOUSE - CONTRIBUTING RESOURCE (TO REMAIN)
    - 61.02: OUTBUILDING - NON-CONTRIBUTING RESOURCE (TO BE REMOVED)
    - 61.03: UNLISTED SITE: SPRING HOUSE - CONTRIBUTING RESOURCE (TO REMAIN)
    - 61.04: EVIDENCE OF ARCHAEOLOGICAL RESOURCES IS DISCOVERED DURING CONSTRUCTION, THE TOWNSHIP SHALL BE NOTIFIED AND REPRESENTATIVES OF THE TOWNSHIP HISTORICAL COMMISSION SHALL BE GIVEN THE OPPORTUNITY TO PHOTOGRAPH SAID ARCHAEOLOGICAL RESOURCES IN SITU AND SHALL BE PERMITTED TO REMOVE SAID ARCHAEOLOGICAL RESOURCES IN CONFORMANCE WITH APPROPRIATE LAWS.
  - UNDERGROUND UTILITIES ARE SHOWN AS APPROXIMATE. NO GUARANTEE IS MADE THAT UNDERGROUND UTILITIES ARE ACCURATELY OR COMPLETELY SHOWN HEREON. THE SITE CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO BEGINNING CONSTRUCTION.
  - THE DEVELOPER SHALL NOTIFY UNDERGROUND UTILITY USERS AT LEAST THREE DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION IN ACCORDANCE WITH PA ACT 287 OF 1974, AS AMENDED BY ACT 189 OF 2004 & ANY OTHER APPLICABLE AMENDMENTS, AS WELL AS CONFORM TO APPLICABLE REGULATIONS OF SAID ACTS. UNDERGROUND UTILITIES SHOWN ARE FROM SURFACE EVIDENCE OBSERVABLE IN THE FIELD AND AS MARKED BY THE UTILITY COMPANIES.
  - FEMA FLOOD MAP NUMBER 42029C0155G, WITH AN EFFECTIVE DATE OF 09/29/2017 INDICATES THAT THE PROPERTY IS LOCATED WITHIN ZONE X AND IS OUTSIDE OF THE 100-YR FLOODPLAIN.
  - SOILS PLOTTED FROM NATIONAL RESOURCES CONSERVATION DISTRICT (NRCS) WEB SOIL SURVEY BY THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) ARE: UPLAND SANDY LOAM. THE SITE IS LOCATED WITHIN THE BROAD RUN WATERSHED WHICH IS CLASSIFIED AS HIGH QUALITY (HQ) BY PAEP CHAPTER 93.
  - A WETLANDS DETERMINATION WAS COMPLETED IN SEPTEMBER 2024 BY ENVIRONMENTAL MANAGEMENT & CONSULTING, INC. OF THORNDALE, PA AND WAS COMPLETED IN ACCORDANCE WITH THE STANDARDS DESCRIBED IN THE 1987 U.S. ARMY CORP. OF ENGINEERS WETLAND DELINEATION MANUAL AND THE CURRENT APPLICABLE REGIONAL SUPPLEMENT. THE REPORT INDICATES THAT THERE IS A POCKET OF WETLANDS OBSERVED ON THE NORTH WEST PORTION OF THE PROPERTY. THE WETLANDS WERE MARKED IN THE FIELD AND LOCATED BY JMR ENGINEERING, LLC AS PART OF THE EXISTING FEATURES SURVEY.
  - THE P.N.D.I. WAS CLEARED BY LIBERTY ENVIRONMENTAL, INC. WHO COMPLETED A PHASE 1 BIODIVERSITY ASSESSMENT AND CONCLUDED "TODD TURTLE HABITAT" WAS PRESENT WITHIN WETLAND SINCE THE WETLAND IS A BREACHED POND AND ISOLATED WETLAND.
  - STORMWATER INFILTRATION TESTING WAS PERFORMED BY ENVIRONMENTAL MANAGEMENT & CONSULTING, INC. IN SEPTEMBER 2024 AND RISE ENGINEERING AND DESIGN ON AUGUST 28 & 29, 2025 AND WAS COMPLETED IN ACCORDANCE WITH THE PA DEP BMP MANUAL, APPENDIX C.
  - THE SITE UNDERLIES THE GLENAM MESSACHON FORMATION. THE FORMATION IS COMPOSED OF SCHIST AND IS NOT KNOWN TO CONTAIN ANY KARST GEOLOGICAL FEATURES.
  - NO DEBRIS SHALL BE BURIED ON THIS SITE. ALL DEBRIS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE TOWNSHIP, COUNTY, STATE AND FEDERAL LAWS AND REQUIREMENTS.
  - AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER AND/OR ANY OTHER PERMANENT, NON-REMOVABLE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER SUBSURFACE MOVEMENTS.
  - THE EXISTING DWELLING IS SERVED BY PUBLIC WATER AND SEWER. THE PROPOSED DEVELOPMENT SHALL ALSO BE SERVED BY PUBLIC WATER AND SEWER.
  - THE DEVELOPER SHALL BE RESPONSIBLE FOR INSTALLATION OF ALL STREET MONUMENTS, BOUNDARY PINS AND/OR MONUMENTS AND LOT CORNER PINS INCLUDING WITH THE PLANS. ALL MONUMENTS MUST BE INSTALLED PRIOR TO CLOSURE OF THE PROJECT WITH WEST WHITELAND TOWNSHIP. CONCRETE MONUMENTS SHOWN AS "■" AND IRON PINS SHOWN AS "●" ARE TO BE PLACED UPON FINAL GRADING. MONUMENTS SHALL BE PLACED AT ALL BLOCK CORNERS, ANGLE POINTS, POINTS OF CURVES IN LOT BOUNDARIES, AND INTERMEDIATE POINTS AS SHALL BE REQUIRED BY THE TOWNSHIP ENGINEER. MONUMENTS SHALL ALSO BE PLACED AT ANY POINT OF DIRECTIONAL CHANGE IN LOT BOUNDARIES. MONUMENTS SHALL BE OF SUCH PERMANENT MATERIAL, SIZE, AND LENGTH AS MAY BE APPROVED BY THE TOWNSHIP ENGINEER. THE IRON PINS SHALL BE OF SUCH SIZE AND LENGTH AS APPROVED BY THE TOWNSHIP ENGINEER, BUT NOT LESS THAN TWO AND ONE-HALF (2 1/2) FEET IN LENGTH.
  - THE DEVELOPER SHALL CONFORM TO OR CAUSE CONFORMANCE WITH ALL APPLICABLE REQUIREMENTS OF THIS PLAN AND THE WEST WHITELAND TOWNSHIP ZONING ORDINANCE AND SUBDIVISION AND LAND DEVELOPMENT ORDINANCE AS WELL AS OTHER APPLICABLE LOCAL, STATE AND FEDERAL LAWS, STATUTES, REGULATIONS AND ORDINANCES.
  - ALL UTILITIES, INCLUDING, BUT NOT LIMITED TO, ELECTRIC, GAS, STREET LIGHT SUPPLY, COMMUNICATION LINES, ETC., SHALL BE INSTALLED UNDERGROUND.
  - STORMWATER MANAGEMENT NOTES:
    - 21.1. ALL PROPOSED STORMWATER MANAGEMENT FACILITIES ARE PERMANENT. MAINTENANCE OF PERMANENT STORMWATER MANAGEMENT FACILITIES WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
    - 21.2. NO STRUCTURES THAT ARE NOT COMPONENTS OF AN APPROVED BMP SHALL BE PERMITTED WITHIN OR ON TOP OF AN AREA DESIGNATED FOR STORMWATER INFILTRATION.
    - 21.3. STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ANNUALLY FOR THE FIRST FIVE (5) YEARS THEREAFTER.
    - 21.4. THE APPLICANT SHALL BE REQUIRED TO PREPARE AND SUBMIT AN AS-BUILT PLAN IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN §270-38 OF THE TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.
    - 21.5. REPRESENTATIVES OF WEST WHITELAND TOWNSHIP AND/OR OTHER GOVERNMENTAL AUTHORITIES SHALL HAVE PERMISSION TO GAIN ACCESS TO THE STORMWATER FACILITIES THROUGH A BLANKET EASEMENT OVER THE PROPERTY TO PERFORM INSPECTIONS, MAINTENANCE AND REPAIRS OF ALL STORMWATER FACILITIES, AS NECESSARY. WEST WHITELAND TOWNSHIP HAS THE RIGHT, BUT NOT THE DUTY, TO ENTER THE PROPERTY TO MAINTAIN THE FACILITIES AND ANY REASONABLE COSTS INCURRED AS PART OF THE MAINTENANCE AND/OR REPAIRS SHALL BE THE RESPONSIBILITY OF THE LANDOWNER.
    - 21.6. THE RECORD OWNER AND HIS SUCCESSORS AND ASSIGNS IN OWNERSHIP OF TAX PARCEL 41-8D-4 SHALL CONVEY AND DEDICATE IN FEE TO WEST WHITELAND TOWNSHIP UNDER DEEDMAN AT NO COST, THE LAND AREA BETWEEN THE EXISTING LEGAL RIGHT-OF-WAY LINE AND THE ULTIMATE RIGHT-OF-WAY LINE ALONG GLEN ECHO ROAD TO BE USED FOR PUBLIC ROAD PURPOSES: SIDEWALKS, UTILITIES, AND OTHER PUBLIC PURPOSES.
    - 21.7. THE SUBJECT DEVELOPMENT IS LOCATED WITHIN THE TOWNSHIP'S ACT 209 TRANSPORTATION SERVICE AREA AND AS SUCH, IS SUBJECT TO THE TOWNSHIP'S TRANSPORTATION IMPACT FEE WHICH IS EQUAL TO \$1,440.00 PER NEW WEEKDAY AFTERNOON PEAK HOUR TRIP BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION TRIP GENERATION MANUAL, 11TH EDITION FOR SINGLE FAMILY DETACHED HOUSING (E-LAND USE CODE 210). FOUR NEW SINGLE-FAMILY HOMES WILL GENERATE THE NEW WEEKDAY AFTERNOON PEAK HOUR TRIPS, AND THE RESULTANT TRANSPORTATION IMPACT FEE IS \$7,245.
    - 21.8. IN ACCORDANCE WITH §281-47.8(2), THE PROJECT PROPOSES TO PAY THE FEE IN LIEU FOR OPEN SPACE AND RECREATION AREAS.
    - 21.9. THE AREA BETWEEN THE LEGAL RIGHT-OF-WAY AND ULTIMATE RIGHT-OF-WAY WHICH ARE OFFERED FOR DEDICATION SHALL BE DEEMED TO REMAIN PRIVATE UNTIL SUCH TIME WEST WHITELAND TOWNSHIP ACCEPTS THE DEDICATION.
    - 21.10. A BUILDING PERMIT SHALL BE REQUIRED FOR ALL PROPOSED RETAINING WALLS. DETAILED DRAWINGS, DETAILS AND APPLICABLE CALCULATIONS SEALED BY AN ENGINEER REGISTERED IN THE COMMONWEALTH OF PENNSYLVANIA, SHALL BE SUBMITTED TO WEST WHITELAND TOWNSHIP AS PART OF THE BUILDING PERMIT APPLICATION.
    - 21.11. THE ESTIMATE CONSTRUCTION SCHEDULE FOR THE PROJECT IS ANTICIPATED TO BEGIN IN SPRING 2026 AFTER SECURING THE REQUIRED PERMITS. THE PROJECT WILL BE CONSTRUCTED IN A SINGLE PHASE, TO BE COMPLETED BY SPRING 2027.

**WAIVER REQUESTS**

APPROVED BY THE WEST WHITELAND TOWNSHIP BOARD OF SUPERVISORS, CHESTER COUNTY, ON \_\_\_\_\_

§270-20.2(a) - A WAIVER FROM THE REQUIREMENT THAT ALL STORMWATER MANAGEMENT BASINS HAVE A MINIMUM 8 FOOT TOP OF BERM WIDTH. THE WAIVER IS APPROPRIATE BECAUSE THE PROPOSED STORMWATER MANAGEMENT BASINS ARE SHALLOW ON LOT FACILITIES FOR RESIDENTIAL DWELLINGS WITH MINIMUM STORAGE VOLUME AND FLOWS. TOP OF BERM WIDTHS ARE 5 FEET AND THE FACILITIES MAINTAIN A MINIMUM OF 0.5' OF FREEBOARD FOR THE 100-YR EVENT.

§270-29.4(a)(3) - A WAIVER FROM THE REQUIREMENT THAT ALL STORMWATER MANAGEMENT BASINS HAVE A MINIMUM 8 FOOT TOP OF BERM WIDTH. THE WAIVER IS APPROPRIATE BECAUSE THE PROPOSED STORMWATER MANAGEMENT BASINS ARE SHALLOW ON LOT FACILITIES FOR RESIDENTIAL DWELLINGS WITH MINIMUM STORAGE VOLUME AND FLOWS. TOP OF BERM WIDTHS ARE 5 FEET AND THE FACILITIES MAINTAIN A MINIMUM OF 0.5' OF FREEBOARD FOR THE 100-YR EVENT.

§270-29.4(b) - A WAIVER FROM THE REQUIREMENT THAT SPILLWAYS BE DESIGNED WITH A MINIMUM OF ONE FOOT OF FREEBOARD. THE WAIVER IS APPROPRIATE BECAUSE THE PROPOSED STORMWATER MANAGEMENT BASINS ARE SHALLOW ON LOT FACILITIES FOR RESIDENTIAL DWELLINGS WITH MINIMUM STORAGE VOLUME AND FLOWS. THE FACILITIES MAINTAIN A MINIMUM OF 0.5' OF FREEBOARD FOR THE 100-YR EVENT.

§281-31.A - A WAIVER FROM THE REQUIREMENT THAT ALL RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENTS PROVIDE SIDEWALK. THIS WAIVER IS APPROPRIATE BECAUSE THERE ARE NO SIDEWALKS LOCATED ELSEWHERE WITHIN THE EXISTING SUBDIVISION.

§281-34.G - A WAIVER FROM THE REQUIREMENT THAT COMPENSATORY PLANTINGS SHALL BE PROVIDED ON THE DEVELOPMENT SITE. THIS WAIVER IS APPROPRIATE BECAUSE THERE IS NOT ENOUGH SPACE WITHIN THE PROPOSED DEVELOPMENT TO PLANT THE REQUIRED NUMBER OF TREES.

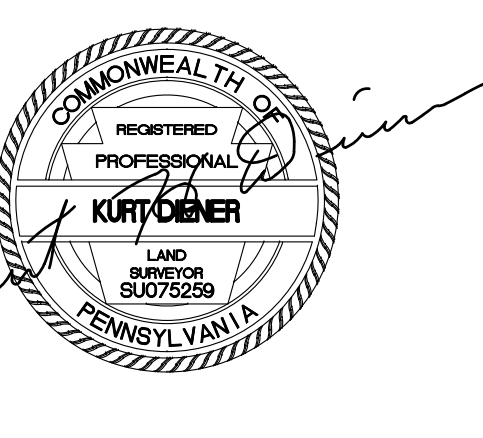
§281-35.E - A PARTIAL WAIVER FROM THE REQUIREMENT THAT A 25 FOOT WIDE PERIMETER BUFFER IS REQUIRED ALONG THE TRACT BOUNDARY LINES ON THE SOUTH EAST SIDE OF LOT 1. THIS WAIVER IS APPROPRIATE BECAUSE THE ADJACENT USE IS RESIDENTIAL SHADE AND EVERGREEN TREES AS WELL AS REQUIRED SHRUBS HAVE BEEN PROVIDED FOR THE ENTIRE LENGTH. THE WAIVER REQUEST IS FOR THE REQUIRED WIDTH.

**NET LOT AREA AND COVERAGE CALCULATIONS**

EXISTING NET LOT AREA CALCULATION		PROPOSED NET LOT AREA CALCULATIONS					
EX. GROSS LOT AREA (SF)	174,364.0	AREA	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5
Ex. Gross Lot Area (AC)	4.0	Gross Lot Area (SF)	31,464.85	37,470.47	27,639.48	37,715.69	40,064.99
Right-of-Way	0	Gross Lot Area (AC)	0.722	0.860	0.635	0.866	0.920
Easements	0	Right-of-Way (SF)	600.08	617.33	0	1,738.71	357.99
Wetlands	6,245	Easements (SF)	0	0	0	4,671.58	4,202.95
Slopes >25%	0	Wetlands (SF)	0	0	0	0	0
Ex. Net Lot Area (SF)	168,119.0	Wetlands > 25% (SF)	0	0	0	0	0
Ex. Net Lot Area (AC)	3.9	PROP NET LOT AREA (SF)	30,864.76	36,853.13	27,639.48	31,905.39	29,259.06
Ex. Driveway	3,220	PROP NET LOT AREA (AC)	0.709	0.846	0.635	0.719	0.672
Ex. Deck	140	ALL BLDG. COVERAGE (SF)	3,703.77	4,423.46	3,316.74	3,756.65	3,511.09
Ex. Detached Garage (TR)	720	ALL IMP. COVERAGE (SF)	6,172.95	7,372.43	5,527.90	6,261.08	5,851.81
Ex. Spring House	385						
Ex. Driveway	3,220						
Ex. Walkways	800						
Ex. Wall (TR)	45						
Ex. BUILDING COVERAGE	4,565						
Ex. LOT COVERAGE	8,490						

**OWNER/APPLICANT:**  
OAK KNOLL, LLC  
C/O GLENN WHITE  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382  
(610) 399-6686

Scale in Feet  
0 10 20 30 60 90 120  
1" = 30'



**SURVEYORS STATEMENT:**

I HEREBY CERTIFY THAT TO MY USUAL AND CUSTOMARY AND PROFESSIONAL CARE THAT THIS PLAN WAS PREPARED FROM AN ACTUAL FIELD SURVEY PERFORMED UNDER MY IMMEDIATE SUPERVISION AND IS IN ACCORDANCE WITH THE MINIMUM STANDARDS OF PRACTICE FOR PROFESSIONAL LAND SURVEYORS IN THE COMMONWEALTH OF PENNSYLVANIA AS ADOPTED BY THE PENNSYLVANIA SOCIETY OF LAND SURVEYORS AND THAT ALL THE EXISTING MONUMENTS, PIPES, STONES, ETC., ARE AS SHOWN.

*Kurt H. Diener*  
(KURT H. DIENER, PLS)  
01/27/26 (DATE)

**JMR ENGINEERING, LLC**

PROFESSIONAL CIVIL ENGINEERING • LAND PLANNING SERVICES  
106 SCHUBERT DRIVE • DOWNINGTOWN, PA 19335  
VOICE: (484) 880-7342  
EMAIL: ADMIN@JMRENGINEERING.COM  
WEBSITE: WWW.JMRENGINEERING.COM

**JOHN M. ROBINSON**  
PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE NO. PE056271

**UTILITY USERS LIST**

USERS	RESPONSES
AQUA	FIELD MARKED
BUCKEYE PARTNERS	NO CONFLICT
COMCAST CABLE	NO CONFLICT
HOLLOW RUN APARTMENTS	NO CONFLICT
PECO	NO CONFLICT
VERIZON	NO CONFLICT
WEST WHITELAND TOWNSHIP	NO CONFLICT

**CALL BEFORE YOU DIG!**

1-800-242-1776  
POCS SERIAL NUMBER:

**PLAN REVISIONS**

REV	DATE	DESCRIPTION OF CHANGES
1	09/30/25	REVISED PER TOWNSHIP COMMENTS
2	01/27/26	REVISED PER TOWNSHIP COMMENTS

**PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLAN**  
FOR  
**1358 GLEN ECHO ROAD**  
WEST CHESTER, PA 19380  
WEST WHITELAND TOWNSHIP CHESTER COUNTY, PA

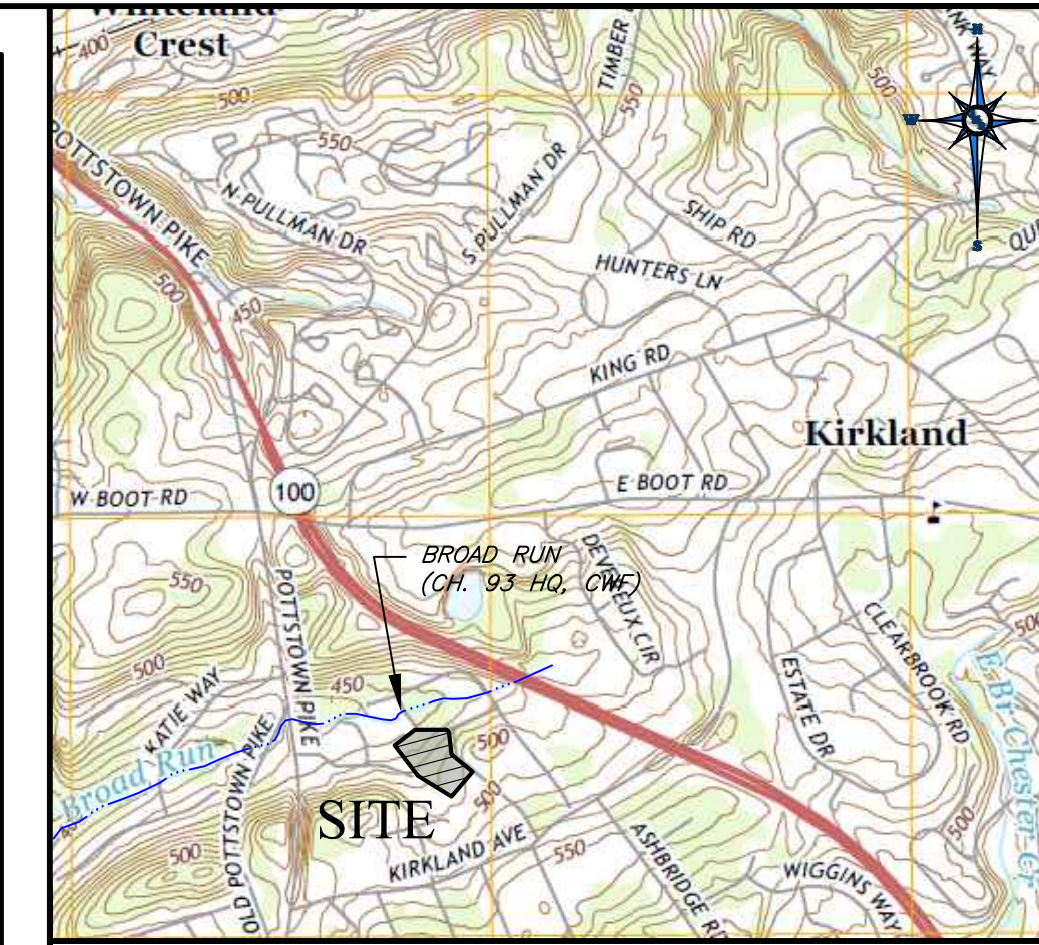
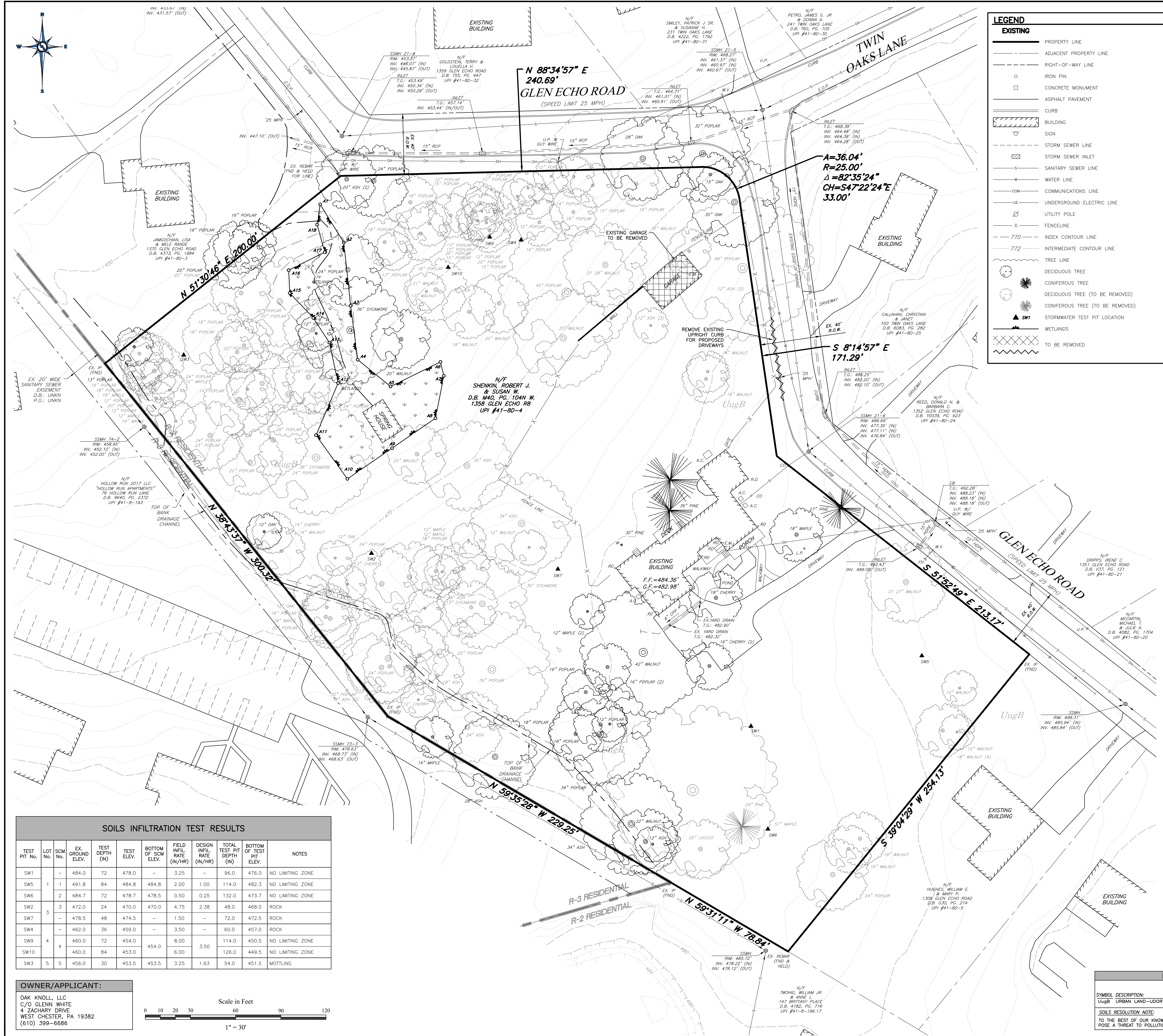
PARCELS:  
**TAX PARCEL NUMBER: 41-8D-4**

CLIENT:  
**OAK KNOLL, LLC**  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382

PROJECT No.: 1763-1  
SURVEY REF.: 1763-EX(JMR)  
DRAWN BY: S.E.D.  
CHECKED BY: J.M.R.  
PLAN DATE: NOVEMBER 18, 2024  
PLAN SCALE: 1" = 30'

SHEET TITLE:  
**TITLE PLAN**  
SHEET NUMBER:  
**2 OF 14**

Plot Date: Tue, Jan. 27, 2026  
File: TITLE.DWG



LOCATION MAP SCALE: 1"=1,500' +/-

**LEGEND**

**EXISTING**

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- RIGHT-OF-WAY LINE
- IRON PIN
- CONCRETE MONUMENT
- ASPHALT PAVEMENT
- CURB
- BUILDING
- SIGN
- STORM SEWER LINE
- STORM SEWER INLET
- SANITARY SEWER LINE
- WATER LINE
- COMMUNICATIONS LINE
- UNDERGROUND ELECTRIC LINE
- UTILITY POLE
- FENCELINE
- INDEX CONTOUR LINE
- INTERMEDIATE CONTOUR LINE
- TREE LINE
- DECIDUOUS TREE
- CONIFEROUS TREE
- DECIDUOUS TREE (TO BE REMOVED)
- CONIFEROUS TREE (TO BE REMOVED)
- STORMWATER TEST PIT LOCATION
- WETLANDS
- TO BE REMOVED

- PROJECT GENERAL NOTES:**
- PROPERTY INFORMATION: ROBERT J. & SUSAN W. SHENKIN, 1358 GLEN ECHO ROAD, WEST CHESTER, PA 19380. APPLICANT INFORMATION: OAK KNOLL, LLC, 4 ZACHARY DRIVE, WEST CHESTER, PA 19382.
  - FIELD SURVEY CONDUCTED BY JMR ENGINEERING OF 106 SCHUBERT DRIVE, DOWNINGTOWN, PA, 19335 IN MARCH, 2024 AND SEPTEMBER 2024. THE HORIZONTAL DATUM IS NAD83 AND VERTICAL DATUM IS NAVD83. THIS WAS ESTABLISHED BY STATIC OBSERVATIONS CORRECTED BY THE USGS ONLINE POSITIONING USER SYSTEM (OPUS).
  - REFERENCE PLANS: A. IY GLEN IN WEST WHELAN TWP., CHESTER CO, PENNA., BY J.H. HARRY, C.E., COATESVILLE, PA, FEB. 18, 1926.
  - B. MAP OF PROPERTY LOUISE K. HELLER, WEST WHELAN TWP., CHESTER CO., PENNA., BY JAMES SPINELLI REGISTERED PROFESSIONAL CIVIL ENGINEER, WAYNE, PA, DATED JANUARY 20, 1960 LAST REVISED MARCH 4, 1960.
  - C. FINA. SUBDIVISION PLAN BRITAIN MOSES, WEST WHELAN TWP., CHESTER CO., PENNA., BY JOHN SMARCO, 600 FLETCHER RD., WAYNE, PA 19087, DATED 4-27-86, LAST REVISED 10/10/86.
  - D. FINAL REGISTERED CHANGE FOR JOHN PANIZZA & THOMAS MCDOLKIN, WEST WHELAN TOWNSHIP, CHESTER COUNTY, PA. BY HOWARD DORAN, P.E., P.L.S. PROFESSIONAL ENGINEER - REGISTERED SURVEYOR NEWTOWN SQUARE, PA. DATED DECEMBER 30, 1987 LAST REVISED FEB. 6, 1989.
  - THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. THIS PROPERTY MAY BE SUBJECT TO RESTRICTIONS, COVENANTS, EASEMENTS, AND/OR RIGHTS-OF-WAYS, WRITTEN OR IMPLIED.
  - HISTORICAL NOTES: 1358 GLEN ECHO ROAD IS LISTED AS SITE 61 ON THE WEST WHELAN HISTORICAL RESOURCES MAP. LAST REVISED IN 2022. SITE 61 INCLUDES MULTIPLE HISTORICAL RESOURCES AS DESCRIBED BELOW.
    - 61.01: DANIEL MEREDITH HOUSE - CONTRIBUTING RESOURCE (TO REMAIN)
    - 61.02: OUTBUILDING - NON-CONTRIBUTING RESOURCE (TO BE REMOVED)
    - 61.03: UNLISTED SITE: SPRING HOUSE - CONTRIBUTING RESOURCE (TO REMAIN)
    - IF EVIDENCE OF ARCHAEOLOGICAL RESOURCES IS DISCOVERED DURING CONSTRUCTION, THE TOWNSHIP SHALL BE NOTIFIED AND REPRESENTATIVES OF THE TOWNSHIP HISTORICAL COMMISSION SHALL BE GIVEN THE OPPORTUNITY TO PHOTOGRAPH SAID ARCHAEOLOGICAL RESOURCES IN SITU AND SHALL BE PERMITTED TO REMOVE SAID ARCHAEOLOGICAL RESOURCES IN CONFORMANCE WITH APPLICABLE LAW.
  - UNDERGROUND UTILITIES ARE SHOWN AS APPROXIMATE. NO GUARANTEE IS MADE THAT UNDERGROUND UTILITIES ARE ACCURATELY OR COMPLETELY SHOWN HEREON. THE SITE CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO BEGINNING CONSTRUCTION.
  - THE DEVELOPER SHALL NOTIFY UNDERGROUND UTILITY USERS AT LEAST THREE DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION IN ACCORDANCE WITH PA ACT 287 OF 1974, AS AMENDED BY ACT 193 OF 2004 & ALL APPLICABLE AMENDMENTS, AS WELL AS CONFORM TO APPLICABLE REGULATIONS OF SAID AGENCIES. UNDERGROUND UTILITIES SHOWN ARE FROM SURFACE EVIDENCE OBSERVABLE IN THE FIELD AND AS MARKED BY THE UTILITY COMPANIES.
  - FEMA FLOOD MAP NUMBER 42029C0155G, WITH AN EFFECTIVE DATE OF 09/29/2017 INDICATES THAT THE PROPERTY IS LOCATED WITHIN ZONE X AND IS OUTSIDE OF THE 100-YR FLOODPLAIN.
  - SOILS PLOTTED FROM NATIONAL RESOURCES CONSERVATION DISTRICT (NRCS) WEB SOIL SURVEY, BY THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA).
  - THE SITE IS LOCATED WITHIN THE BROAD RUN WATERSHED WHICH IS CLASSIFIED AS HIGH QUALITY (HQ) BY PA DEP CHAPTER 93A.
  - A WETLANDS DETERMINATION WAS COMPLETED IN SEPTEMBER 2024 BY ENVIRONMENTAL MANAGEMENT & CONSULTING, INC. OF THORNDALE, PA, AND WAS COMPLETED IN ACCORDANCE WITH THE STANDARDS DESCRIBED IN THE 1987 U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE CURRENT APPLICABLE REGIONAL SUPPLEMENT. THE REPORT INDICATED THAT THERE IS A POCKET OF WETLANDS DISCOVERED ON THE NORTH WEST PORTION OF THE PROPERTY. THE WETLANDS WERE MARKED IN THE FIELD AND LOCATED BY JMR ENGINEERING, LLC AS PART OF THE EXISTING FEATURES SURVEY.
  - THE P.N.D.I. WAS CLEARED BY LIBERTY ENVIRONMENTAL, INC. WHO COMPLETED A PHASE 1 BIODIVERSITY HABITAT ASSESSMENT AND CONCLUDED "TODD TURTLE HABITAT" WAS NOT PRESENT WITHIN WETLAND A SINCE THE WETLAND IS A BREACHED POND AND ISOLATED WETLAND.
  - STORMWATER INFILTRATION TESTING WAS PERFORMED BY ENVIRONMENTAL MANAGEMENT & CONSULTING, INC. IN SEPTEMBER 2024 AND RISE ENGINEERING AND DESIGN ON AUGUST 28 & 29, 2025 AND WAS COMPLETED IN ACCORDANCE WITH THE PA DEP BMP MANUAL, APPENDIX C.
  - THE SITE IS UNDERLAIN BY THE GLENAN WISSAHICKON FORMATION. THE FORMATION IS COMPOSED OF SCHIST AND IS NOT KNOWN TO CONTAIN ANY KARST GEOLOGIC FEATURES.

**TREES TO BE REMOVED**

QUANTITY	CAUMPER (IN)	TYPE
1	12	CHERRY
4	12	MAPLE
2	12	OAK
8	12	POPLAR
3	12	WALNUT
1	13	CHERRY
3	13	POPLAR
1	13	SYCAMORE
1	12	WALNUT
1	14	CHERRY
1	14	MAPLE
2	14	POPLAR
1	14	WALNUT
5	15	POPLAR
1	15	WALNUT
5	16	POPLAR
3	16	WALNUT
2	18	MAPLE
6	18	POPLAR
3	18	WALNUT
1	20	LOCUST
1	20	POPLAR
2	20	WALNUT
1	21	WALNUT
2	22	POPLAR
1	23	POPLAR
1	24	PINE
8	24	POPLAR
1	27	WALNUT
1	28	POPLAR
1	28	WALNUT
2	30	POPLAR
1	30	SYCAMORE
1	33	WALNUT
1	38	SYCAMORE
1	39	POPLAR
1	45	POPLAR
1	48	POPLAR
1	57	MAPLE
89		<b>TOTAL TREES REMOVED</b>

**NRCS SOILS IDENTIFICATION TABLE**

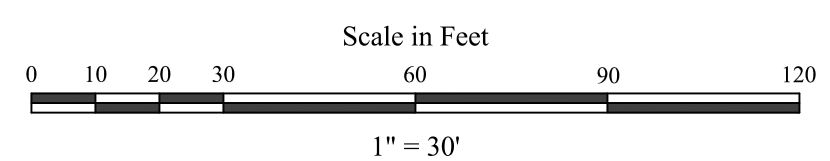
SYMBOL DESCRIPTION:	HYDROLOGIC GROUP:	SEASONAL HIGH WATER DEPTH:	DEPTH TO BEDROCK:
UuGB URBAN LAND-UDORHTENTS, SCHIST AND GNEISS COMPLEX, 0 - 8% SLOPES	C	60"	10"-99"

**SOILS RESOLUTION NOTE:**  
TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THERE ARE NO KNOWN SOIL OR GEOLOGIC CONDITIONS THAT WOULD POSE A THREAT TO POLLUTION OF THE WATERS OF THE COMMONWEALTH LOCATED WITHIN THE PROPOSED PROJECT AREA.

**SOILS INFILTRATION TEST RESULTS**

TEST PIT No.	LOT No.	SCM No.	EX. GROUND ELEV.	TEST DEPTH (IN)	TEST ELEV.	BOTTOM OF SCM ELEV.	FIELD INFIL. RATE (IN/HR)	DESIGN INFIL. RATE (IN/HR)	TOTAL TEST PIT DEPTH (IN)	BOTTOM OF TEST PIT ELEV.	NOTES
SW1	-	-	484.0	72	478.0	-	3.25	-	96.0	476.0	NO LIMITING ZONE
SW5	1	1	491.8	84	484.8	484.8	2.00	1.00	114.0	482.3	NO LIMITING ZONE
SW6	2	2	484.7	72	478.7	478.5	0.50	0.25	132.0	473.7	NO LIMITING ZONE
SW2	3	3	472.0	24	470.0	470.0	4.75	2.38	48.0	468.0	ROCK
SW7	-	-	478.5	48	474.5	-	1.50	-	72.0	472.5	ROCK
SW4	-	-	462.0	36	459.0	-	3.50	-	60.0	457.0	ROCK
SW9	4	4	460.0	72	454.0	450.5	8.00	3.50	114.0	450.5	NO LIMITING ZONE
SW10	-	-	460.0	84	453.0	454.0	6.00	3.50	126.0	449.5	NO LIMITING ZONE
SW3	5	5	456.0	30	453.5	453.5	3.25	1.63	54.0	451.5	MOTTLING

**OWNER/APPLICANT:**  
OAK KNOLL, LLC  
C/O GLENN WHITE  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382  
(610) 399-6686



**JMR ENGINEERING, LLC**

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HOLLOW RUN APARTMENTS	NO CONFLICT
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VERIZON	NO CONFLICT
WEST WHELAN TOWNSHIP	NO CONFLICT

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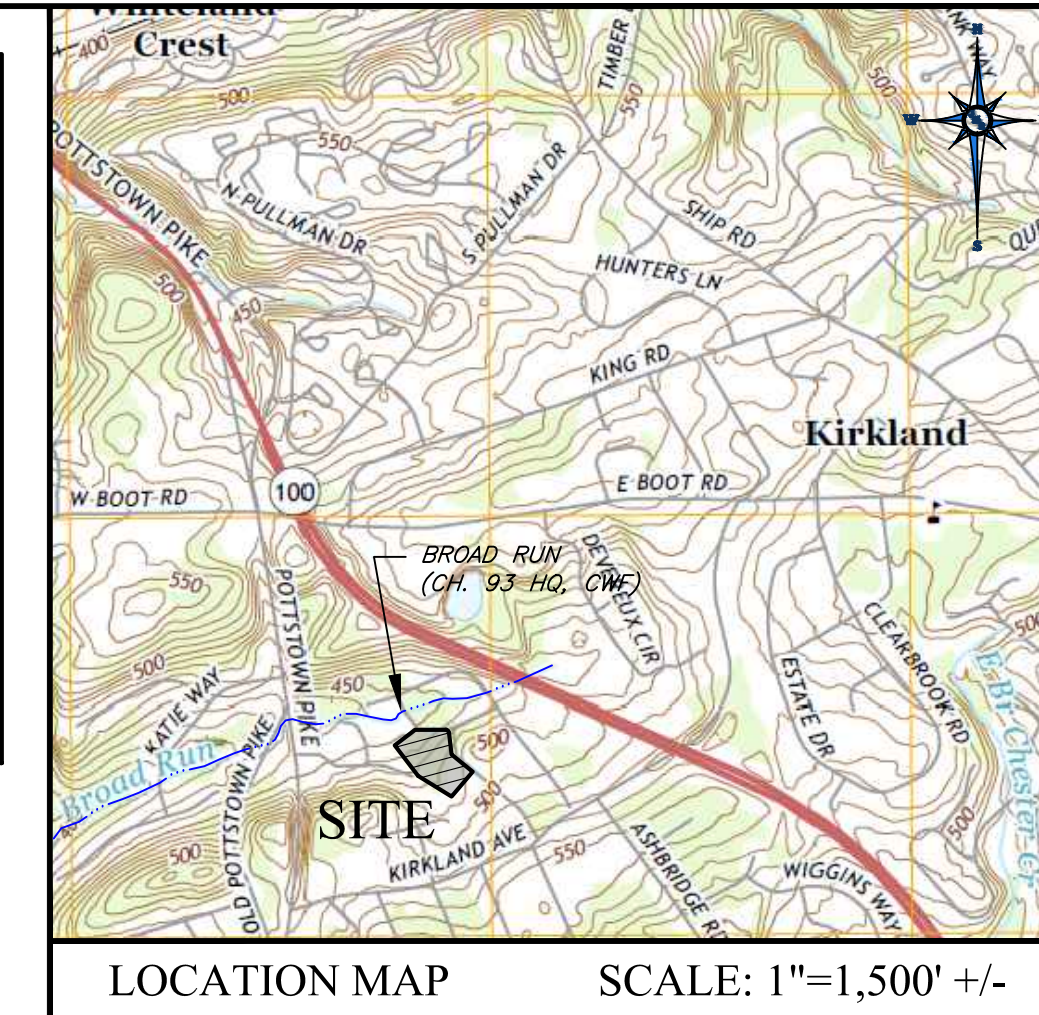
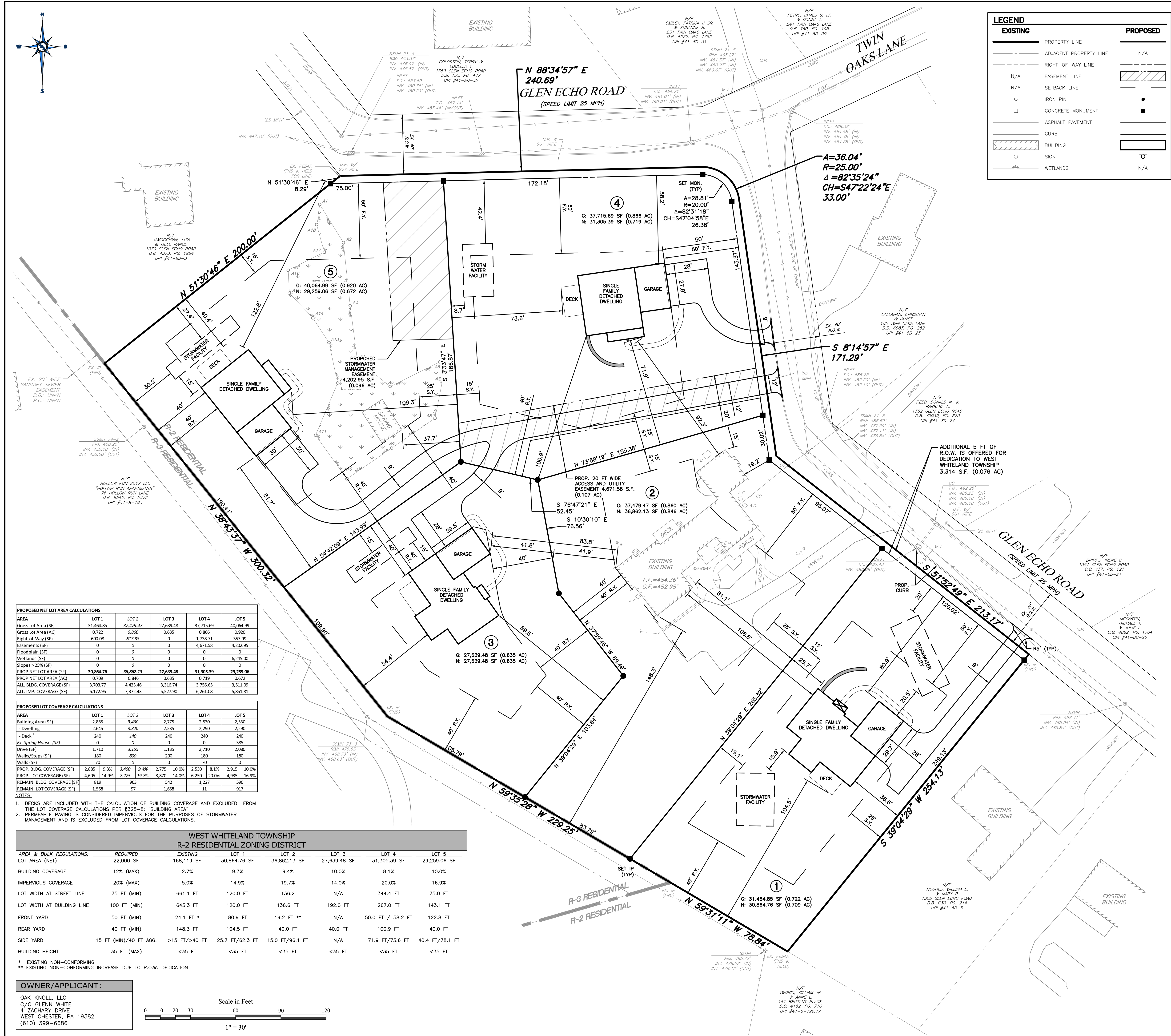
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PROJECT No.: 1763-1  
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DRAWN BY: S.E.D.  
CHECKED BY: J.M.R.  
PLAN DATE: NOVEMBER 18, 2024  
PLAN SCALE: 1" = 30'

**EXISTING FEATURES & DEMOLITION PLAN**

SHEET NUMBER:  
**3 OF 14**

Plot Date: Tue, Jan. 27, 2026  
File: EXISTING.DWG



LEGEND		EXISTING	PROPOSED
---	PROPERTY LINE	---	N/A
---	ADJACENT PROPERTY LINE	---	N/A
---	RIGHT-OF-WAY LINE	---	N/A
---	EASEMENT LINE	---	N/A
---	SETBACK LINE	---	N/A
○	IRON PIN	○	N/A
□	CONCRETE MONUMENT	□	N/A
▨	ASPHALT PAVEMENT	▨	N/A
▩	CURB	▩	N/A
▭	BUILDING	▭	N/A
▽	SIGN	▽	N/A
▧	WETLANDS	▧	N/A

PROJECT GENERAL NOTES:

- PROPERTY INFORMATION: ROBERT J. & SUSAN W. SHENKIN, 1358 GLEN ECHO ROAD, WEST CHESTER, PA 19382. APPLICANT INFORMATION: OAK KNOLL, LLC, 4 ZACHARY DRIVE, WEST CHESTER, PA 19382.
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  - 61.04: EVIDENCE OF ARCHAEOLOGICAL RESOURCES IS DISCOVERED DURING CONSTRUCTION, THE TOWNSHIP SHALL BE NOTIFIED AND REPRESENTATIVES OF THE TOWNSHIP HISTORICAL COMMISSION SHALL BE GIVEN THE OPPORTUNITY TO PHOTOGRAPH AND ARCHAEOLOGICAL RESOURCES IN SITU AND SHALL BE PERMITTED TO REMOVE SAID ARCHAEOLOGICAL RESOURCES IN CONFORMANCE WITH THE ANTI-ARCHAEOLOGICAL CONSERVATION ACT.
- UNDERGROUND UTILITIES ARE SHOWN AS APPROXIMATE. NO GUARANTEE IS MADE THAT UNDERGROUND UTILITIES ARE ACCURATELY OR COMPLETELY SHOWN HEREON. THE SITE CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO BEGINNING CONSTRUCTION.
- THE DEVELOPER SHALL NOTIFY UNDERGROUND UTILITY USERS AT LEAST THREE DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION IN ACCORDANCE WITH PA ACT 287 OF 1974, AS AMENDED BY ACT 159 OF 2004 AND ANY APPLICABLE REGULATIONS. THE UTILITY COMPANIES SHALL BE NOTIFIED AND REPRESENTATIVES OF THE TOWNSHIP HISTORICAL COMMISSION SHALL BE GIVEN THE OPPORTUNITY TO PHOTOGRAPH AND ARCHAEOLOGICAL RESOURCES IN SITU AND SHALL BE PERMITTED TO REMOVE SAID ARCHAEOLOGICAL RESOURCES IN CONFORMANCE WITH THE ANTI-ARCHAEOLOGICAL CONSERVATION ACT.
- FEMA FLOOD MAP NUMBER 42029C0155G, WITH AN EFFECTIVE DATE OF 09/29/2017 INDICATES THAT THE PROPERTY IS LOCATED WITHIN ZONE X AND IS OUTSIDE OF THE 100-YR FLOODPLAIN.
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- A WETLANDS DETERMINATION WAS COMPLETED IN SEPTEMBER 2024 BY ENVIRONMENTAL MANAGEMENT & CONSULTING, INC. OF THORNDALE, PA AND WAS COMPLETED IN ACCORDANCE WITH THE STANDARDS WITH STANDING WATER AND IN THE PRESENCE OF SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER SUBSURFACE MOVEMENTS.
- THE P.N.D.I. WAS CLEARED BY LIBERTY ENVIRONMENTAL, INC. WHO COMPLETED A PHASE 1 BIODIVERSITY HABITAT ASSESSMENT AND CONCLUDED "TURTLE HABITAT" WAS PRESENT WITHIN WETLAND SINCE THE WETLAND IS A BREACHED POND AND ISOLATED WETLAND.
- STORMWATER INFILTRATION TESTING WAS PERFORMED BY ENVIRONMENTAL MANAGEMENT & CONSULTING, INC. IN SEPTEMBER 2024 AND RISE ENGINEERING AND DESIGN ON AUGUST 28 & 29, 2025 AND WAS COMPLETED IN ACCORDANCE WITH THE PA DEP BMP MANUAL, APPENDIX C.
- THE SITE UNDERLIES THE GLENAMM MESSASCON FORMATION. THE FORMATION IS COMPOSED OF SCHIST AND IS NOT KNOWN TO CONTAIN ANY KARST GEOLOGICAL FEATURES.
- NO DEBRIS SHALL BE BURIED ON THIS SITE. ALL DEBRIS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE TOWNSHIP, COUNTY, STATE AND FEDERAL LAWS AND REGULATIONS.
- AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER AND/OR ANY OTHER PERMANENT, NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCESSIBLE SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER SUBSURFACE MOVEMENTS.
- THE EXISTING DWELLING IS SERVED BY PUBLIC WATER AND SEWER. THE PROPOSED DWELLING SHALL ALSO BE SERVED BY PUBLIC SEWER AND WATER.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR INSTALLATION OF ALL STREET MONUMENTS, BOUNDARY PINS AND/OR MONUMENTS AND LOT CORNER PINS INCLUDED WITH THE PLANS. ALL MARKERS MUST BE INSTALLED PRIOR TO CLOSURE OF THE PROJECT WITH WEST WHITELAND TOWNSHIP. CONCRETE MONUMENTS SHOWN AS AND IRON PINS SHOWN AS ARE TO BE PLACED UPON FINAL FILL GRADING. MONUMENTS SHALL BE PLACED AT ALL BLOCK CORNERS AND ANGLE POINTS OF CURVES IN LOT BOUNDARIES. INTERMEDIATE POINTS SHALL BE REQUIRED BY THE TOWNSHIP ENGINEER. MONUMENTS SHALL ALSO BE PLACED AT ANY POINT OF BOUNDARY LINE CHANGE. THE LENGTH OF ALL MONUMENTS SHALL BE OF SUCH PERMANENT MATERIAL, SIZE, AND LENGTH AS MAY BE APPROVED BY THE TOWNSHIP ENGINEER. THE IRON PINS SHALL BE OF SUCH SIZE AND LENGTH AS APPROVED BY THE TOWNSHIP ENGINEER, BUT NOT LESS THAN TWO AND ONE-HALF (2 1/2) FEET IN LENGTH.
- THE DEVELOPER SHALL CONFORM TO OR CAUSE CONFORMANCE WITH ALL APPLICABLE REQUIREMENTS OF THIS PLAN AND THE WEST WHITELAND TOWNSHIP ZONING ORDINANCE AND SUBDIVISION AND LAND DEVELOPMENT ORDINANCE AS WELL AS OTHER APPLICABLE LOCAL, STATE AND FEDERAL LAWS, STATUTES, REGULATIONS AND ORDINANCES.
- ALL UTILITIES, INCLUDING, BUT NOT LIMITED TO, ELECTRIC, GAS, STREET LIGHT SUPPLY, COMMUNICATION LINES, ETC., SHALL BE INSTALLED UNDERGROUND.
- STORMWATER MANAGEMENT NOTES:
  1. ALL PROPOSED STORMWATER MANAGEMENT FACILITIES ARE PERMANENT. MAINTENANCE OF PERMANENT STORMWATER MANAGEMENT FACILITIES WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
  2. NO STRUCTURES THAT ARE NOT COMPONENTS OF AN APPROVED BMP SHALL BE PERMITTED WITHIN OR ON TOP OF AN AREA DESIGNATED FOR STORMWATER INFILTRATION.
  3. STORMWATER MANAGEMENT FACILITIES SHALL BE INSPECTED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ANNUALLY FOR THE FIRST FIVE (5) YEARS EVERY THREE (3) YEARS THEREAFTER.
  4. THE APPLICANT SHALL BE REQUIRED TO PREPARE AND SUBMIT AN AS-BUILT PLAN IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN §270-38 OF THE TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.
  5. REPRESENTATIVES OF WEST WHITELAND TOWNSHIP AND/OR OTHER GOVERNMENTAL AUTHORITIES SHALL HAVE PERMISSION TO GAIN ACCESS TO THE STORMWATER FACILITIES THROUGH A BLANKET EASEMENT OVER THE PROPERTY TO PERFORM INSPECTIONS, MAINTENANCE AND REPAIRS OF ALL STORMWATER FACILITIES, AS NECESSARY. WEST WHITELAND TOWNSHIP HAS THE RIGHT, BUT NOT THE DUTY, TO NOTIFY THE PROPERTY OWNER TO MAINTAIN THE FACILITIES AND ANY REASONABLE COSTS INCURRED AS PART OF THE MAINTENANCE, AND/OR RESPONSIBILITY OF THE LANDOWNER.
  6. THE RECORD OWNER AND HIS SUCCESSORS AND ASSIGNS IN OWNERSHIP OF TAX PARCEL 41-8D-4 SHALL CONVEY AND DEDICATE IN FEE TO WEST WHITELAND TOWNSHIP UPON DEMAND (AT NO COST) THE LAND AREA BETWEEN THE EXISTING LEGAL RIGHT-OF-WAY LINE AND THE ULTIMATE RIGHT-OF-WAY LINE ALONG GLEN ECHO ROAD TO BE USED FOR PUBLIC ROAD PURPOSES, SIDEWALKS, UTILITIES, AND OTHER PUBLIC PURPOSES.
  7. THE SUBJECT DEVELOPMENT IS LOCATED WITHIN THE TOWNSHIP'S ACT 209 TRANSPORTATION SERVICE AREA AND AS SUCH, IS SUBJECT TO THE TOWNSHIP'S TRANSPORTATION IMPACT FEE WHICH IS EQUAL TO \$1,440.00 PER NEW WEEKDAY AFTERNOON PEAK HOUR TRIP BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION TRIP GENERATION MANUAL, 11TH EDITION FOR SINGLE FAMILY DETACHED HOUSING (IE LAND USE CODE 210). FOUR NEW SINGLE-FAMILY HOMES WILL GENERATE FIVE NEW WEEKDAY AFTERNOON PEAK HOUR TRIPS, AND THE RESULTANT TRANSPORTATION IMPACT FEE IS \$7,245.
  8. IN ACCORDANCE WITH §281-47.8(2), THE PROJECT PROPOSES TO PAY THE FEE IN LIEU FOR OPEN SPACE AND RECREATION AREAS.
  9. THE AREA BETWEEN THE LEGAL RIGHT-OF-WAY AND ULTIMATE RIGHT-OF-WAY WHICH ARE OFFERED FOR DEDICATION SHALL BE DEEMED TO REMAIN PRIVATE UNTIL SUCH TIME WEST WHITELAND TOWNSHIP ACCEPTS THE OFFER OF DEDICATION VIA RESOLUTION.
  10. A BUILDING PERMIT SHALL BE REQUIRED FOR ALL PROPOSED RETAINING WALLS. DETAILED DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO WEST WHITELAND TOWNSHIP AS PART OF THE BUILDING PERMIT APPLICATION.
  11. THE ESTIMATE CONSTRUCTION TIMELINE FOR THE PROJECT IS ANTICIPATED TO BEGIN IN SPRING 2026 AFTER SECURING THE REQUIRED PERMITS. THE PROJECT WILL BE CONSTRUCTED IN A SINGLE PHASE, TO BE COMPLETED BY SPRING 2027.

PROPOSED NET LOT AREA CALCULATIONS					
AREA	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5
Gross Lot Area (SF)	31,464.85	37,479.47	27,639.48	37,715.69	40,064.99
Gross Lot Area (AC)	0.723	0.860	0.635	0.866	0.910
Right-of-Way (SF)	600.08	612.83	0	1,788.71	357.99
Easements (SF)	0	0	0	4,671.58	4,202.95
Floodplain (SF)	0	0	0	0	0
Wetlands (SF)	0	0	0	0	6,245.00
Slopes > 20% (SF)	0	0	0	0	0
PROP NET LOT AREA (SF)	30,864.76	36,862.13	27,639.48	31,905.39	29,259.06
PROP NET LOT AREA (AC)	0.709	0.846	0.635	0.719	0.672
ALL BLDG. COVERAGE (SF)	3,703.77	4,423.46	3,316.74	3,756.05	3,511.09
ALL IMP. COVERAGE (SF)	6,172.95	7,372.43	5,527.90	6,261.08	5,851.81

PROPOSED LOT COVERAGE CALCULATIONS					
AREA	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5
Building Area (SF)	2,885	3,460	2,775	2,530	2,530
- Dwelling	2,645	3,320	2,535	2,290	2,290
- Deck	240	140	240	240	240
Ex. Spring House (SF)	0	0	0	0	385
Drive (SF)	1,710	3,155	1,135	3,710	2,880
Walks/Steps (SF)	180	800	200	180	180
Walls (SF)	0	0	0	0	0
PROP. BLDG. COVERAGE (SF)	2,885	3,460	2,775	2,530	2,915
PROP. LOT COVERAGE (SF)	4,605	14,990	7,275	19,790	4,935
REMAIN. BLDG. COVERAGE (SF)	819	963	542	1,227	596
REMAIN. LOT COVERAGE (SF)	1,568	917	1,658	11	917

- DECKS ARE INCLUDED WITH THE CALCULATION OF BUILDING COVERAGE AND EXCLUDED FROM THE LOT COVERAGE CALCULATIONS PER §325-46 "BUILDING AREA".
- PERMEABLE PAVING IS CONSIDERED IMPERVIOUS FOR THE PURPOSES OF STORMWATER MANAGEMENT AND IS EXCLUDED FROM LOT COVERAGE CALCULATIONS.

WEST WHITELAND TOWNSHIP R-2 RESIDENTIAL ZONING DISTRICT						
AREA & BULK REGULATIONS	REQUIRED	EXISTING	LOT 1	LOT 2	LOT 3	LOT 4
LOT AREA (NET)	22,000 SF	168,119 SF	30,864.76 SF	36,862.13 SF	27,639.48 SF	31,905.39 SF
BUILDING COVERAGE	12% (MAX)	2.7%	9.3%	9.4%	10.0%	8.1%
IMPERVIOUS COVERAGE	20% (MAX)	5.0%	14.9%	19.7%	14.0%	20.0%
LOT WIDTH AT STREET LINE	75 FT (MIN)	661.1 FT	120.0 FT	136.2 FT	N/A	344.4 FT
LOT WIDTH AT BUILDING LINE	100 FT (MIN)	643.3 FT	120.0 FT	136.6 FT	192.0 FT	267.0 FT
FRONT YARD	50 FT (MIN)	24.1 FT	80.9 FT	19.2 FT	N/A	50.0 FT / 58.2 FT
REAR YARD	40 FT (MIN)	148.3 FT	104.5 FT	40.0 FT	40.0 FT	100.9 FT
SIDE YARD	15 FT (MIN)/40 FT AGG.	>15 FT / >40 FT	25.7 FT / 62.3 FT	15.0 FT / 78.1 FT	N/A	71.9 FT / 73.6 FT
BUILDING HEIGHT	35 FT (MAX)	<35 FT	<35 FT	<35 FT	<35 FT	<35 FT

OWNER/APPLICANT:  
OAK KNOLL, LLC  
C/O GLENN WHITE  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382  
(610) 399-6686

Scale in Feet  
0 10 20 30 60 90 120  
1" = 30'

**JMR ENGINEERING, LLC**  
PROFESSIONAL CIVIL ENGINEERING • LAND PLANNING SERVICES  
106 SCHUBERT DRIVE • DOWNINGTOWN, PA 19335  
VOICE: (484) 880-7342  
EMAIL: ADMIN@JMRENGINEERING.COM  
WEBSITE: WWW.JMRENGINEERING.COM

**JOHN M. ROBINSON**  
PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE NO. PE056271

UTILITY USERS LIST	
USERS	RESPONSES
AQUA	FIELD MARKED
BUCKEYE PARTNERS	NO CONFLICT
COMCAST CABLE	NO CONFLICT
HOLLOW RUN APARTMENTS	NO CONFLICT
PECO	NO CONFLICT
VERIZON	NO CONFLICT
WEST WHITELAND TOWNSHIP	NO CONFLICT

**CALL BEFORE YOU DIG!**  
PENNSYLVANIA HAS REQUESTED THE CONTRACTOR TO NOTIFY UNDERGROUND UTILITY USERS AT LEAST THREE (3) DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL BE NOTIFIED AND REPRESENTATIVES OF THE TOWNSHIP HISTORICAL COMMISSION SHALL BE GIVEN THE OPPORTUNITY TO PHOTOGRAPH AND ARCHAEOLOGICAL RESOURCES IN SITU AND SHALL BE PERMITTED TO REMOVE SAID ARCHAEOLOGICAL RESOURCES IN CONFORMANCE WITH THE ANTI-ARCHAEOLOGICAL CONSERVATION ACT.

1-800-242-1776  
POCS SERIAL NUMBER:

PLAN REVISIONS	
REV. DATE	DESCRIPTION OF CHANGES
1 09/20/25	REVISED PER TOWNSHIP COMMENTS
2 01/27/26	REVISED PER TOWNSHIP COMMENTS

**PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLAN**  
FOR  
**1358 GLEN ECHO ROAD**  
WEST CHESTER, PA 19380  
WEST WHITELAND TOWNSHIP  
CHESTER COUNTY, PA

PARCELS:  
**TAX PARCEL NUMBER: 41-8D-4**

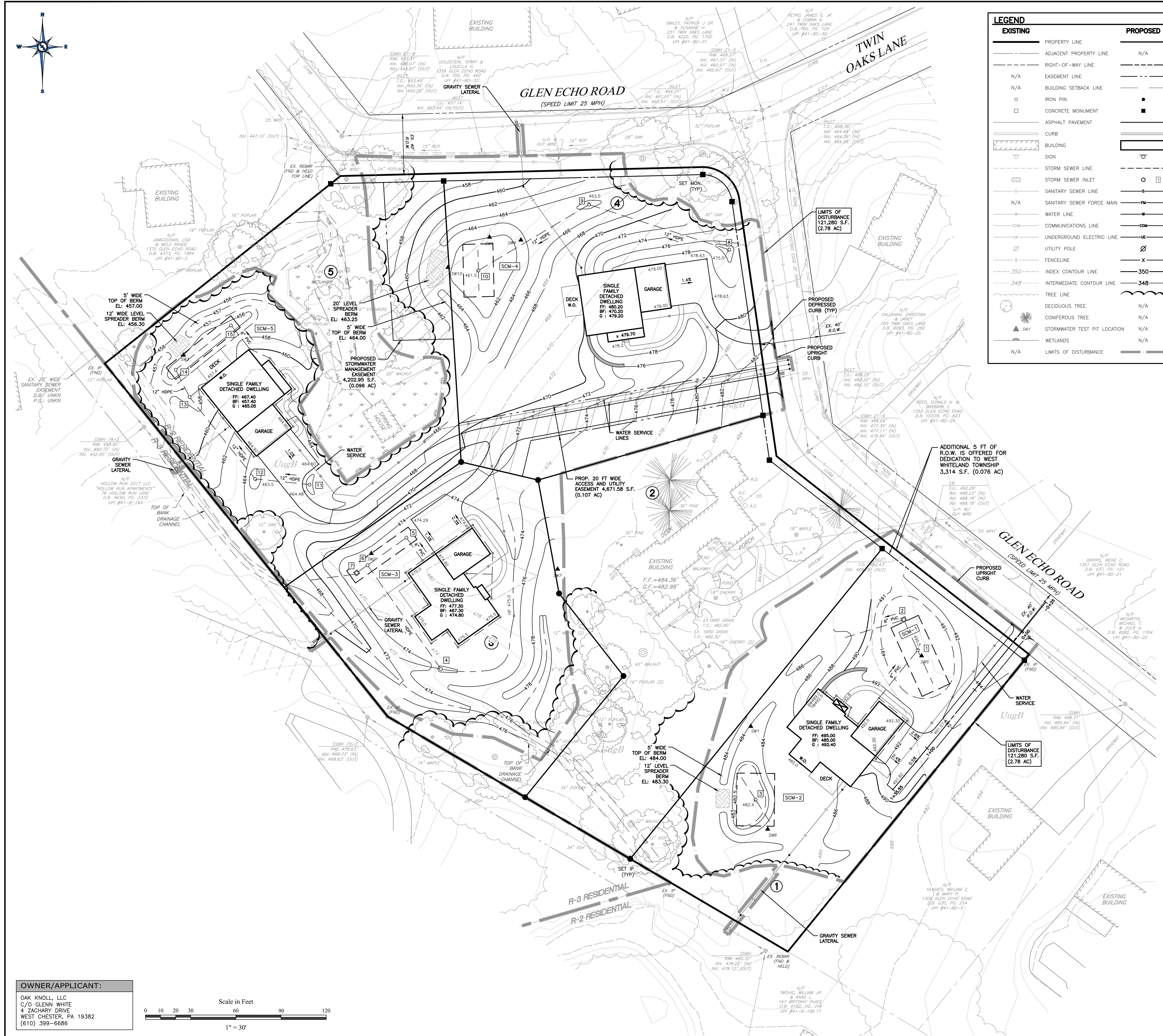
CLIENT:  
**OAK KNOLL, LLC**  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382

PROJECT No.: 1763-1  
SURVEY REF.: 1763-EX(JMR)  
DRAWN BY: S.E.D.  
CHECKED BY: J.M.R.  
PLAN DATE: NOVEMBER 18, 2024  
PLAN SCALE: 1" = 30'

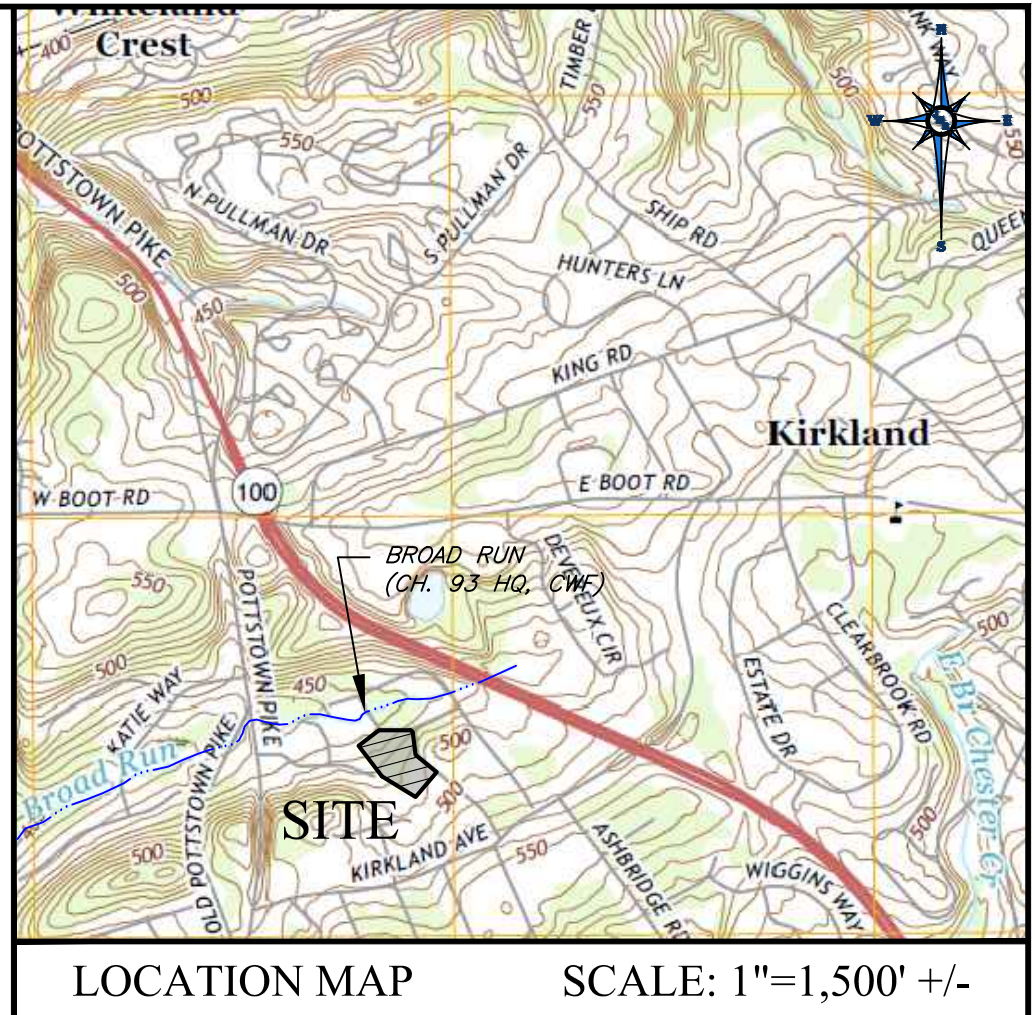
SHEET TITLE:  
**LAYOUT PLAN**

SHEET NUMBER:  
**4 OF 14**

Plot Date: Tue, Jan 27, 2026  
File: LAYOUT.DWG



LEGEND		EXISTING	PROPOSED
---	PROPERTY LINE	---	N/A
---	ADJACENT PROPERTY LINE	---	N/A
---	RIGHT-OF-WAY LINE	---	N/A
---	EASEMENT LINE	---	N/A
---	BUILDING SETBACK LINE	---	N/A
○	IRON PIN	○	●
□	CONCRETE MONUMENT	□	■
---	ASPHALT PAVEMENT	---	---
---	CURB	---	---
---	BUILDING	---	---
---	SIGN	---	---
---	STORM SEWER LINE	---	---
---	STORM SEWER INLET	---	---
---	SANITARY SEWER LINE	---	---
---	SANITARY SEWER FORCE MAIN	---	---
---	WATER LINE	---	---
---	COMMUNICATIONS LINE	---	---
---	UNDERGROUND ELECTRIC LINE	---	---
---	UTILITY POLE	---	---
---	FENCELINE	---	---
---	INDEX CONTOUR LINE	---	---
---	INTERMEDIATE CONTOUR LINE	---	---
---	TREE LINE	---	---
---	DECIDUOUS TREE	---	N/A
---	CONIFEROUS TREE	---	N/A
---	STORMWATER TEST PIT LOCATION	---	N/A
---	WETLANDS	---	N/A
---	LIMITS OF DISTURBANCE	---	---



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**JOHN M. ROBINSON**  
 PROFESSIONAL ENGINEER  
 PENNSYLVANIA LICENSE NO. PE058271

**UTILITY USERS LIST**

USERS	RESPONSES
AQUA	FIELD MARKED
BUCKEYE PARTNERS	NO CONFLICT
COMCAST CABLE	NO CONFLICT
HOLLOW RUN APARTMENTS	NO CONFLICT
PECO	NO CONFLICT
VERIZON	NO CONFLICT
WEST WHITELAND TOWNSHIP	NO CONFLICT

**CALL BEFORE YOU DIG!**  
 PENNSYLVANIA LAW REQUIRES THE CONTRACTOR TO NOTIFY UNDERGROUND UTILITY SERVICE AT LEAST 3 DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITY SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITY SERVICES PRIOR TO CONSTRUCTION.  
 1-800-242-1776  
 POC'S SERIAL NUMBER:

**PLAN REVISIONS**

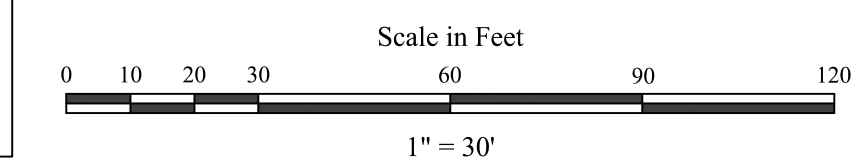
REV	DATE	DESCRIPTION OF CHANGES
1	09/30/25	REVISED PER TOWNSHIP COMMENTS
2	01/27/26	REVISED PER TOWNSHIP COMMENTS

**PROJECT: PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLAN FOR 1358 GLEN ECHO ROAD**  
 LOCATION:  
 1358 GLEN ECHO ROAD  
 WEST CHESTER, PA 19380  
 WEST WHITELAND TOWNSHIP  
 CHESTER COUNTY, PA  
 PARCELS:  
**TAX PARCEL NUMBER: 41-8D-4**  
 CLIENT:  
**OKAY KNOLL, LLC**  
 4 ZACHARY DRIVE  
 WEST CHESTER, PA 19382

PROJECT No.: 1763-1  
 SURVEY REF.: 1763-EX(JMR)  
 DRAWN BY: S.E.D.  
 CHECKED BY: J.M.R.  
 PLAN DATE: NOVEMBER 18, 2024  
 PLAN SCALE: 1" = 30'

SHEET TITLE:  
**GRADING & UTILITIES PLAN**  
 SHEET NUMBER:  
**5 OF 14**  
 Plot Date: Tue, Jan 27, 2026  
 File: GRADING PLAN.DWG

**OWNER/APPLICANT:**  
 OKAY KNOLL, LLC  
 C/O GLENN WHITE  
 4 ZACHARY DRIVE  
 WEST CHESTER, PA 19382  
 (610) 399-6686



**UTILITY NOTES**

**PUBLIC WATER SUPPLY**

- ALL WATER MAINS SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS, STANDARDS AND DETAILS OF THE WATER COMPANY THAT WILL OWN THE FACILITIES.
- ALL WATER SERVICES, INCLUDING DOMESTIC AND FIRE PROTECTION, SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS, STANDARDS AND DETAILS OF WEST WHITELAND TOWNSHIP. SHOP DRAWINGS AND/OR CATALOG CUTS FOR ALL PROPOSED MATERIALS SHALL BE SUBMITTED TO WEST WHITELAND TOWNSHIP AS PART OF THE APPLICATION FOR A PLUMBING PERMIT.

**SANITARY SEWERAGE**

- ALL SEWER LATERALS SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS, STANDARDS AND DETAILS OF WEST WHITELAND TOWNSHIP. SHOP DRAWINGS AND/OR CATALOG CUTS FOR ALL PROPOSED MATERIALS SHALL BE SUBMITTED TO WEST WHITELAND TOWNSHIP AS PART OF THE APPLICATION FOR A PLUMBING PERMIT.
- ALL SANITARY SEWERS AND LATERALS SHALL HAVE A MINIMUM OF THREE (3) FEET OF COVER PROVIDED.
- THE SANITARY SEWER MAIN AND MANHOLES WITHIN THE SANITARY SEWER EASEMENT SHALL BE DEDICATED TO WEST WHITELAND TOWNSHIP.

**OTHER UTILITIES**

- ALL OTHER UTILITIES (ELECTRIC, COMMUNICATIONS, GAS, ETC.) SHALL BE INSTALLED IN ACCORDANCE WITH THE UTILITY COMPANY'S REQUIREMENTS AND SHALL BE INSTALLED SO AS TO NOT INTERFERE WITH THE WATER, SANITARY SEWER AND/OR STORM SEWER FACILITIES PROPOSED AS PART OF THESE PLANS.
- BACKFILL OF ALL UTILITY TRENCHES WITHIN EXISTING AND/OR PROPOSED WEST WHITELAND TOWNSHIP RIGHTS-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS, STANDARDS AND DETAILS OF WEST WHITELAND TOWNSHIP AND SHALL BE SUBJECT TO THE APPROVAL OF WEST WHITELAND TOWNSHIP OR THEIR DESIGNEE.

**SCM NOTES:**

- NO SCM OR MAN-MADE CONVEYANCE MAY BE USED BY THE OWNER OR OTHERS FOR ANY PURPOSE OTHER THAN ITS INTENDED STORMWATER CONTROL FUNCTION.
- THE PERSON RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF A SCM OR CONVEYANCE SHALL MAKE RECORDS OF THE INSTALLATION AND OF ALL MAINTENANCE AND REPAIRS, AND SHALL RETAIN THE RECORDS FOR AT LEAST 10 YEARS. THESE RECORDS SHALL BE SUBMITTED TO THE MUNICIPALITY.

**PCSM REPORTING AND RECORDKEEPING**

THE PCSM PLAN, INSPECTION REPORTS AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT, THE TOWNSHIP OR THE CHESTER COUNTY CONSERVATION DISTRICT. INSPECTIONS SHALL BE LOGGED ONTO DEP FORM 3800-FM-SCW0271G AND KEPT ONSITE AT ALL TIMES.

**BROAD RUN ATTRIBUTES**

**DESIGNATION:**

- CHAPTER 93 CLASSIFICATION OF HIGH QUALITY (HQ), COLD WATER FISHES (CWF)

**IMPACTS:**

- URBAN RUNOFF / STORM SEWER (CAT 4A - SILTATION)
- URBAN RUNOFF / STORM SEWER (CAT 4C - FLOW REGIME MODIFICATION)

**ANTICIPATED CONSTRUCTION WASTES:**

- TREES: TREES SHALL BE CHIPPED AND REMOVED OFFSITE FOR USE AS MULCH.
- BUILDING MATERIALS: BUILDING MATERIALS SHALL BE REMOVED, RECYCLED AND DISPOSED OF PER THE "CONSTRUCTION WASTE DISPOSAL" NOTE BELOW.
- ROCK WASTE: ALL ROCKS SUITABLE FOR LANDSCAPING USES SHALL BE USED ON-SITE OR AT ANOTHER FACILITY.
- SOIL & SEDIMENT WASTE: ALL EXCAVATED SOIL SHALL BE USED ON-SITE AS FILL MATERIAL WHERE POSSIBLE. ANY EXCESS MATERIAL NOT USED ON-SITE MAY ONLY BE DISPOSED AT A FACILITY WITH A VALID EARTH DISTURBANCE AND NPDES PERMIT APPROVED AND WHERE ALL BMPs ARE PROPERLY INSTALLED.

2. ALL SEDIMENT REMOVED DURING MAINTENANCE AND CLEANING OF EROSION AND SEDIMENTATION CONTROL DEVICES WILL BE INCORPORATED INTO THE FINE GRADING UPSTREAM FROM A SEDIMENT CONTROL DEVICE. EXCESS MATERIAL REMOVED FROM EROSION AND SEDIMENTATION CONTROL MEASURES THAT CANNOT BE INCORPORATED INTO THE FINE GRADING SHALL BE REMOVED AND MAY ONLY BE DISPOSED AT A FACILITY WITH A VALID EARTH DISTURBANCE AND NPDES PERMIT APPROVED AND WHERE ALL BMPs ARE PROPERLY INSTALLED.

**CONSTRUCTION WASTE DISPOSAL NOTE:**

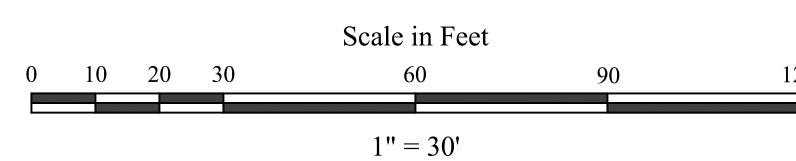
ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 282.1 ET SEQ., 271.1, AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.

**SOILS INFILTRATION TEST RESULTS**

TEST PIT No.	LOT No.	SCM No.	EX. GROUND ELEV.	TEST DEPTH (IN)	TEST ELEV.	BOTTOM OF SCM ELEV.	FIELD INFIL. RATE (IN/HR)	DESIGN INFIL. RATE (IN/HR)	TOTAL TEST PIT DEPTH (IN)	BOTTOM OF TEST PIT ELEV.	NOTES
SW1	-	-	484.0	72	478.0	-	3.25	-	96.0	476.0	NO LIMITING ZONE
SW5	1	1	491.8	84	484.8	484.8	2.00	1.00	114.0	482.3	NO LIMITING ZONE
SW6	2	4	484.7	72	478.7	478.5	0.50	0.25	132.0	473.7	NO LIMITING ZONE
SW2	3	4	472.0	24	470.0	470.0	4.75	2.38	48.0	468.0	ROCK
SW7	3	-	478.5	48	474.5	-	1.50	-	72.0	472.5	ROCK
SW4	-	-	462.0	36	459.0	-	3.50	-	60.0	457.0	ROCK
SW9	4	4	460.0	72	454.0	454.0	8.00	114.0	450.5	NO LIMITING ZONE	
SW10	4	4	460.0	84	453.0	454.0	6.00	3.50	126.0	449.5	NO LIMITING ZONE
SW3	5	5	456.0	30	453.5	453.5	3.25	1.63	54.0	451.5	MOTTLING

**OWNER/APPLICANT:**

OAK KNOLL, LLC  
 C/O GLENN WHITE  
 4 ZACHARY DRIVE  
 WEST CHESTER, PA 19382  
 (610) 399-6686



**PROPERTY OWNER NOTIFICATION**

THE NEW PROPERTY OWNER NOTIFICATION FORM (3800-FM-RW0271G) SHALL BE COMPLETED AND SUBMITTED TO THE CONSERVATION DISTRICT WITHIN 30 DAYS OF THE DATE OF TRANSFER OF A PROPERTY.

**NOTE:**

SEE SHEETS 6, 12 & 13 FOR ADDITIONAL PCSM PLAN NOTES, DETAILS AND OPERATION & MAINTENANCE PROCEDURES.

**BMP DISCHARGE NOTE**

ANY EROSION CAUSED BY DISCHARGES FROM THE PROPOSED BMP FACILITIES SHALL BE REPAIRED AND STABILIZED.

**MAINTENANCE OWNERSHIP**

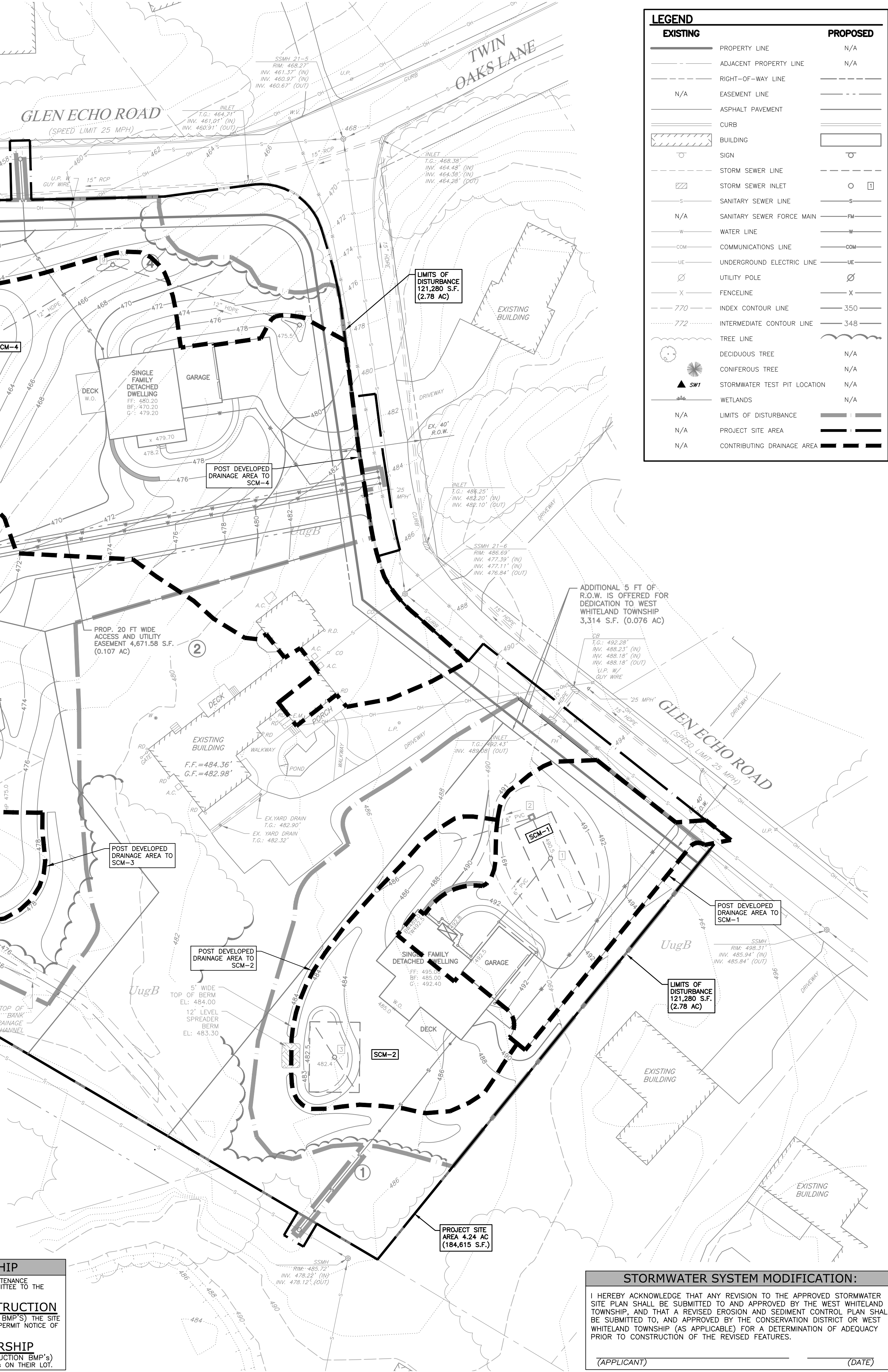
UPON COMPLETION OF THE PROPOSED BMP'S, OWNERSHIP & MAINTENANCE RESPONSIBILITIES SHALL BE TRANSFERRED FROM THE NPDES PERMITTEE TO THE INDIVIDUAL PROPERTY OWNERS.

**RESPONSIBLE PARTY DURING CONSTRUCTION**

(CONSTRUCTION & STABILIZATION OF POST CONSTRUCTION BMP'S) THE SITE CONTRACTOR IS RESPONSIBLE FOR THE BMP'S UNTIL THE NPDES PERMIT NOTICE OF TERMINATION (NOT) IS EXECUTED.

**RESPONSIBLE PARTY DURING OWNERSHIP**

(ON-GOING OPERATION & MAINTENANCE OF POST CONSTRUCTION BMP'S) THE PROPERTY OWNER(S) SHALL BE RESPONSIBLE FOR THE BMP'S ON THEIR LOT.



**LEGEND**

EXISTING	PROPOSED
PROPERTY LINE	N/A
ADJACENT PROPERTY LINE	N/A
RIGHT-OF-WAY LINE	N/A
EASEMENT LINE	N/A
ASPHALT PAVEMENT	N/A
CURB	N/A
BUILDING	N/A
SIGN	N/A
STORM SEWER LINE	N/A
STORM SEWER INLET	N/A
SANITARY SEWER LINE	N/A
SANITARY SEWER FORCE MAIN	N/A
N/A	N/A
WATER LINE	N/A
COMMUNICATIONS LINE	N/A
UNDERGROUND ELECTRIC LINE	N/A
UTILITY POLE	N/A
FENCELINE	N/A
INDEX CONTOUR LINE	350
INTERMEDIATE CONTOUR LINE	348
TREE LINE	N/A
DECIDUOUS TREE	N/A
CONIFEROUS TREE	N/A
STORMWATER TEST PIT LOCATION	N/A
WETLANDS	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A



**POST CONSTRUCTION STORMWATER MANAGEMENT GENERAL NOTES**

- THE PERMITTEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER SCMS. ADDITIONAL SCMS MAY BE REQUIRED PRIOR TO THE INSTALLATION OF INFILTRATION SCMS TO ENSURE PROPER LOCATION AND FUNCTION. A REGISTERED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER SCMS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE INSPECTION ACROSS THE INFILTRATION AREAS.
- EXISTING SUBGRADE UNDER THE INFILTRATION AREAS SHALL NOT BE COMPACTED OR SUBGRADE SHALL EXCEED INTERSECTION EQUIPMENT TRAFFIC PLOTTING TO THE PLACEMENT OF GEOTEXTILE FABRIC AND STONE.
- PRIOR TO CONSTRUCTION, INFILTRATION AREAS SHALL BE MARKED OFF IN THE FIELD. THE AREAS SHALL BE DEMARKED WITH CONSTRUCTION FENCING OR TAPE IN SUCH A MANNER AS TO PREVENT THE PARKING OR REPEATED MOVEMENT OF CONSTRUCTION EQUIPMENT ACROSS THE INFILTRATION AREAS.
- IF UNFAVORABLE CONDITIONS FOR INFILTRATION ARE ENCOUNTERED DURING THE INSTALLATION OF THE ON-LINE INFILTRATION BED, EXCAVATION SHALL BE DISCONTINUED IN THE AFFECTED AREA AND THE OWNER AND ENGINEER NOTIFIED IMMEDIATELY.
- A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING APPROVAL OF THE FINAL AS-BUILT PLANS. PRIOR TO PERMANENT STABILIZATION AND INSTALLATION OF BMP'S IN ACCORDANCE WITH AN APPROVED PLAN PREPARED AND IMPLEMENTED IN ACCORDANCE WITH SECTIONS 102.6(a) & 102.6(b) OF THE PA CODE (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS), AND PCSM REQUIREMENTS, THE PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO DEP OR THE CONSERVATION DISTRICT. THE NOTICE OF TERMINATION MUST INCLUDE:
  - THE FACILITY NAME, ADDRESS AND LOCATION.
  - THE OPERATOR NAME AND ADDRESS.
  - THE PERMIT NUMBER.
  - THE REASON FOR PERMIT TERMINATION.
  - IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP'S IN ACCORDANCE WITH SECTION 102.6(b)(1) OF THE PA CODE AND PROOF OF COMPLIANCE WITH SECTION 102.6(b)(2) OF THE PA CODE PRIOR TO ACCEPTING THE NOT, DEP AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION (NOT).
- A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP OR OTHERWISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEVERALLY RESPONSIBLE WITH THE LANDOWNER FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM.

**POST CONSTRUCTION STORMWATER MANAGEMENT LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS**

- UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMP'S ON THE PROJECTS SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.
- THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMP'S ON THE PROJECTS SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.
- FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE PCSM BMP AND PROVIDE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP'S AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY THE SUBSEQUENT GRANTEE, AND RECORD WITH NOTICE OF FILING WITH THE NOTICE OF FILING UNDER PA CODE SECTION: 102.7(b)(5) (PERMIT TERMINATION)
- THE TOWNSHIP RESERVES THE RIGHT, BUT NOT THE RESPONSIBILITY, TO CONDUCT SUCH INSPECTIONS AS WELL AS TO EXECUTE SUCH ACTIONS AS MAY BE NECESSARY TO ELIMINATE ANY IMMEDIATE THREAT TO THE PUBLIC HEALTH, SAFETY OR WELFARE WITHOUT PRIOR NOTICE TO THE PROPERTY OWNER. THE TOWNSHIP FURTHER RESERVES THE RIGHT TO CHARGE TO THE PROPERTY OWNER FOR SUCH INSPECTIONS AND ACTIONS IN ACCORDANCE WITH THE DULY ENACTED FEES SCHEDULE.
- THE PROFESSIONAL ENGINEER CONDUCTING THE INSPECTION SHALL BE REQUIRED TO DOCUMENT THE CONDITION OF THE PCSM BMP'S. THE REPORT WILL PRESENT RECOMMENDATIONS REGARDING THE CONDITION OF THE FACILITY AND RECOMMEND NECESSARY REPAIRS, IF ANY ARE NEEDED. ANY SUCH REPAIRS SHALL BE COMPLETED BY THE OWNER WITHIN ONE YEAR OF THE DATE OF THE REPORT. THE REPORT SHALL ALSO DOCUMENT ALL PREVIOUS INSPECTIONS AND ALL PREVIOUS BMP REPAIR AND MAINTENANCE ACTIVITIES.
- THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT OR MUNICIPALITY, PRIVATELY OR THROUGH A CONSERVATION OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSM BMP'S OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE DEPARTMENT.
- STORMWATER MANAGEMENT BMP AREAS SHALL BE INSPECTED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ON BEHALF OF THE APPLICANT OR RESPONSIBLE ENTITY (INCLUDING THE TOWNSHIP ENGINEER FOR DEDICATED FACILITIES) ON THE FOLLOWING BASIS:
  - ANNUALLY FOR THE FIRST YEAR.
  - ONCE EVERY THREE (3) YEARS THEREAFTER.

**CRITICAL STAGE NOTES**

- LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT ON SITE AND INSPECT DURING THE CRITICAL STAGES OF BMP INSTALLATION. THE CRITICAL STAGES ARE:
  - ENSURE SENSITIVE/SPECIAL FEATURES AND INFILTRATION AREAS ARE PROTECTED.
  - INFILTRATION BEDS/BASINS (SCM-1 / SCM-2 / SCM-3 / SCM-4 / SCM-5):
    - OBSERVE EARTHWORK/EXCAVATION TO ENSURE THE INFILTRATION ZONE IS NOT COMPACTED.
    - INFILTRATION TESTING SHALL BE CONDUCTED AT THE SUBGRADE ELEVATION OF THE FACILITY IN ORDER TO VERIFY THE DESIGN RATE DURING CONSTRUCTION.
    - OBSERVE STONE INFILTRATION BED INSTALLATION AND ENSURE SUBGRADE IS SCARIFIED TO THE MINIMUM DEPTH PER THE DESIGN RATE DURING CONSTRUCTION.
    - OBSERVE ALL EARTHEN LEVEL SPREADER BERMS ARE CONSTRUCTED PER DESIGN.
    - MAKE SURE AREAS TRIBUTARY TO INFILTRATION BEDS ARE STABILIZED AND ALL IN-LINE STRUCTURES ARE CLEAR OF SEDIMENT AND DEBRIS PRIOR TO RECEIVING STORMWATER RUNOFF.
  - THE APPLICANT SHALL BE REQUIRED TO PROVIDE THE CHAPTER 102 SCM CONSTRUCTION CERTIFICATION FORM (3800-FM-RW0271G) TO THE CONSERVATION DISTRICT WITHIN 30 DAYS OF SUBMITTING COMPLETION WITH THE NOTICE OF TERMINATION UNDER PA CODE SECTION: 102.7(b)(5) (PERMIT TERMINATION)

**SUMMARY OF IMPERVIOUS AREA FOR STORMWATER MANAGEMENT**

IMPERVIOUS AREA	LOT 1	LOT 3	LOT 4	LOTS
BUILDING	2,645	2,535	2,290	2,290
DRIVEWAY	180	1135	4000	2000
WALKWAY	180	200	180	180
WALLS	70	0	70	0
ADDITIONAL IMPERVIOUS	0	0	0	0
TOTAL IMPERVIOUS AREA	4,745	3,870	6,570	4,550

**ENGINEER'S CERTIFICATION:**

I, JOHN M. ROBINSON, P.E., HEREBY CERTIFY THAT THE SWM SITE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF CHAPTER 270 OF THE WEST WHITELAND TOWNSHIP CODE OF ORDINANCES, STORMWATER MANAGEMENT.

John M. Robinson 01/27/26  
 (PROFESSIONAL ENGINEER) (DATE)

**JMR ENGINEERING, LLC**

PROFESSIONAL CIVIL ENGINEERING • LAND PLANNING SERVICES

108 SCHUBERT DRIVE • DOWNTOWN, PA 19335

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WEBSITE: WWW.JMRENGINEERING.COM

**JOHN M. ROBINSON**

PROFESSIONAL ENGINEER

PENNSYLVANIA LICENSE NO. PE0506271

**UTILITY USERS LIST**

USERS	RESPONSES
AQUA	FIELD MARKED
BUCKEYE PARTNERS	NO CONFLICT
COMCAST CABLE	NO CONFLICT
HOLLOW RUN APARTMENTS	NO CONFLICT
PECO	NO CONFLICT
VERIZON	NO CONFLICT
WEST WHITELAND TOWNSHIP	NO CONFLICT

**CALL BEFORE YOU DIG!**

1-800-242-1776

PCS SERIAL NUMBER:

**PLAN REVISIONS**

REV	DATE	DESCRIPTION OF CHANGES
1	09/30/25	REVISED PER TOWNSHIP COMMENTS
2	01/27/26	REVISED PER TOWNSHIP COMMENTS

**PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLAN FOR 1358 GLEN ECHO ROAD**

LOCATION:  
 1358 GLEN ECHO ROAD  
 WEST CHESTER, PA 19380  
 WEST WHITELAND TOWNSHIP  
 CHESTER COUNTY, PA

PARCELS:  
**TAX PARCEL NUMBER:**  
 41-8D-4

CLIENT:  
**OAK KNOLL, LLC**  
 4 ZACHARY DRIVE  
 WEST CHESTER, PA 19382

PROJECT No.: 1763-1

SURVEY REF.: 1763-EX(JMR)

DRAWN BY: S.E.D.

CHECKED BY: J.M.R.

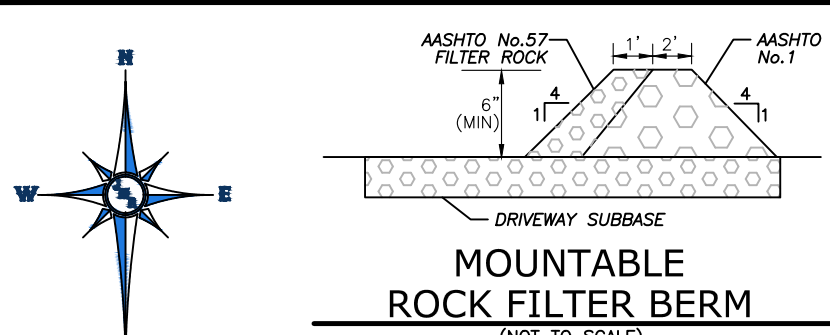
PLAN DATE: NOVEMBER 18, 2024

PLAN SCALE: 1" = 30'

SHEET TITLE:  
**PCSM PLAN**

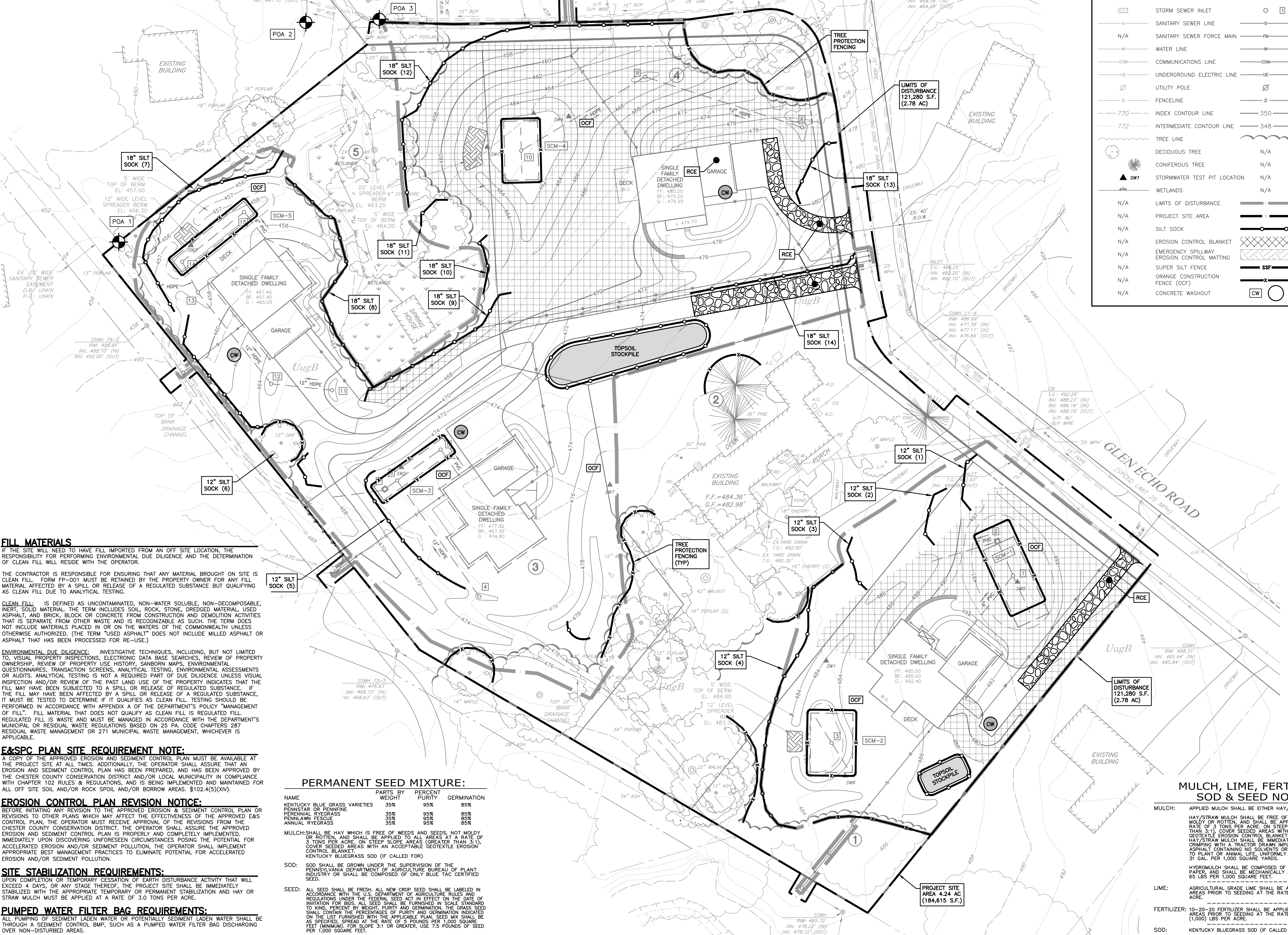
SHEET NUMBER:  
**6 OF 14**

Plot Date: Tue, Jan. 27, 2026  
 File: PCSM.DWG



**MOUNTABLE ROCK FILTER BERM**  
(NOT TO SCALE)

- NOTES:**
1. THE STONE FILTER BERM MUST BE CONTINUOUSLY MAINTAINED IN PROPER WORKING ORDER. A STOCKPILE OF CLEAN STONE MUST BE KEPT ON-SITE FOR REQUIRED REPAIRS.
  2. THE BERM MUST BE INSPECTED DAILY AND AFTER EACH DELIVERY FOR STRUCTURAL INTEGRITY AND PROPER FUNCTIONALITY.
  3. THE BERM MUST REMAIN INSTALLED UNTIL THE DRIVEWAY AND ITS NEWLY GRADED EXHIBITS HAVE BEEN COMPLETELY STABILIZED.



**FILL MATERIALS**  
IF THE SITE WILL NEED TO HAVE FILL IMPORTED FROM AN OFF SITE LOCATION, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND THE DETERMINATION OF CLEAN FILL WILL RESIDE WITH THE OPERATOR.

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.

**ENVIRONMENTAL DUE DILIGENCE:** INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANDBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS, ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE.

**E&SPC PLAN SITE REQUIREMENT NOTE:**  
A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. ADDITIONALLY, THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED AND HAS BEEN APPROVED BY THE CHESTER COUNTY CONSERVATION DISTRICT AND/OR LOCAL MUNICIPALITY IN COMPLIANCE WITH CHAPTER 102 RULES & REGULATIONS, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL OFF SITE SOIL AND/OR ROCK POOL AND/OR BORROW AREAS. §102.4(5)(K).

**EROSION CONTROL PLAN REVISION NOTICE:**  
BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION & SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED, 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.

**SITE STABILIZATION REQUIREMENTS:**  
UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION AND HAY OR STRAW MULCH MUST BE APPLIED AT A RATE OF 3.0 TONS PER ACRE.

**PUMPED WATER FILTER BAG REQUIREMENTS:**  
ALL PUMPING OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.

**OWNER/APPLICANT:**  
OAK KNOLL, LLC  
C/O GLENN WHITE  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382  
(610) 399-6686

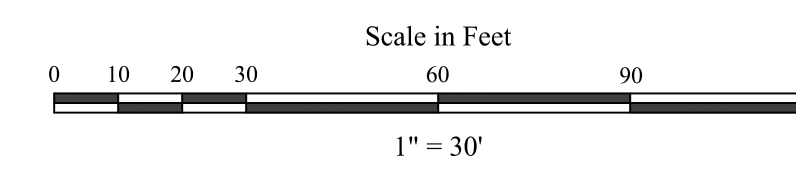
**PERMANENT SEED MIXTURE:**

NAME	PARTS BY WEIGHT	PURITY	GERMINATION
KENTUCKY BLUE GRASS VARIETIES	35%	95%	85%
PENNSYLVANIAN RYEGRASS	35%	95%	85%
PERENNIAL RYEGRASS	35%	95%	85%
ANNUAL RYEGRASS	35%	95%	85%

MULCH SHALL BE HAY WHICH IS FREE OF WEEDS AND SEEDS, NOT MOLDED OR ROTTEN, AND SHALL BE APPLIED TO ALL AREAS AT A RATE OF 3 TONS PER ACRE ON STEEP SLOPE AREAS (GREATER THAN 3:1).

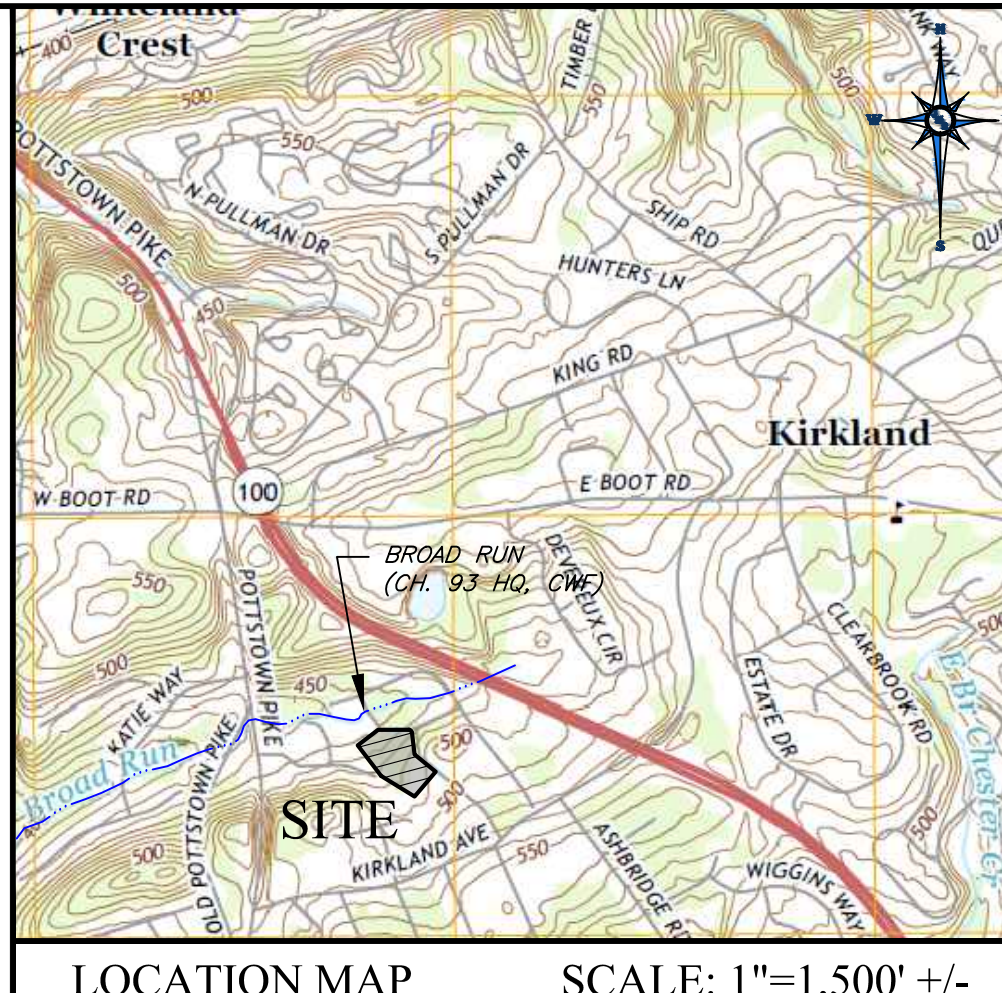
SOD: SOD SHALL BE GROWN UNDER THE SUPERVISION OF THE PENNSYLVANIA DEPARTMENT OF AGRICULTURE BUREAU OF PLANT INDUSTRY OR SHALL BE COMPOSED OF ONLY BLUE TAC CERTIFIED SEED.

SEED: ALL SEED SHALL BE FRESH, ALL NEW CROP SEED SHALL BE LABELED IN ACCORDANCE WITH THE U.S. DEPARTMENT OF AGRICULTURE RULES AND REGULATIONS UNDER THE FEDERAL SEED ACT IN EFFECT ON THE DATE OF INVITATION FOR BIDS. ALL SEED SHALL BE FURNISHED TO KIND, PERCENT BY WEIGHT, PURITY AND GERMINATION. THE GRASS SEED SHALL CONTAIN THE PERCENTAGES OF PURITY AND GERMINATION INDICATED ON THE LIST FURNISHED WITH THE APPLICABLE PLAN. SEED MIX SHALL BE AS SPECIFIED, SPREAD AT THE RATE OF 5 POUNDS PER 1,000 SQUARE FEET (MINIMUM), FOR SLOPE 3:1 OR GREATER, USE 7.5 POUNDS OF SEED PER 1,000 SQUARE FEET.



**LEGEND**

EXISTING	PROPOSED
PROPERTY LINE	N/A
ADJACENT PROPERTY LINE	N/A
RIGHT-OF-WAY LINE	N/A
EASEMENT LINE	N/A
ASPHALT PAVEMENT	N/A
CURB	N/A
BUILDING	N/A
SIGN	N/A
STORM SEWER LINE	N/A
STORM SEWER INLET	N/A
SANITARY SEWER LINE	N/A
SANITARY SEWER FORCE MAIN	N/A
WATER LINE	N/A
COMMUNICATIONS LINE	N/A
UNDERGROUND ELECTRIC LINE	N/A
UTILITY POLE	N/A
FENCELINE	N/A
770 INDEX CONTOUR LINE	350
772 INTERMEDIATE CONTOUR LINE	348
TREE LINE	N/A
DECIDUOUS TREE	N/A
CONIFEROUS TREE	N/A
N/A LIMITS OF DISTURBANCE	N/A
N/A PROJECT SITE AREA	N/A
N/A SILT SOCK	N/A
N/A EROSION CONTROL BLANKET	N/A
N/A EMERGENCY SPILLWAY	N/A
N/A EROSION CONTROL MATTING	N/A
N/A SUPER SILT FENCE	N/A
N/A ORANGE CONSTRUCTION FENCE (OCF)	N/A
N/A CONCRETE WASHOUT	N/A
▲ SW1	STORMWATER TEST PIT LOCATION
▲	WETLANDS



LOCATION MAP SCALE: 1"=1,500' +/-

**SEQUENCE OF CONSTRUCTION:**

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE THE FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. FOLLOW ALL GUIDELINES AND PROCEDURES AS STATED IN EROSION & SEDIMENTATION POLLUTION CONTROL MEASURES DURING ENTIRE CONSTRUCTION PERIOD.

AN ON-SITE PRE-CONSTRUCTION MEETING IS REQUIRED TO OCCUR NO LESS THAN 7 DAYS PRIOR TO ANY EARTH DISTURBANCE UNLESS NOTIFIED BY SERO DEP FOR THE CHESTER COUNTY CONSERVATION DISTRICT. PERMITTED OPERATORS, ALL APPLICABLE MUNICIPAL OFFICIALS REPRESENTATIVES FROM THE CHESTER COUNTY CONSERVATION DISTRICT AND THE SERO DEP AND ALL APPLICABLE PROFESSIONALS OR DESIGNERS RESPONSIBLE FOR THE EARTH DISTURBANCE ACTIVITY, INCLUDING PERMITTED OPERATORS AND ALL APPLICABLE PROFESSIONALS, SHALL ATTEND THE APPROVED PCSM PLAN, SHALL ATTEND THE PRE-CONSTRUCTION MEETING.

CONSTRUCTION OVERSIGHT SHALL BE REQUIRED DURING STAGES LISTED AS CRITICAL STAGE. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMPs, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.

1. FOLLOW ALL GUIDELINES AND PROCEDURES AS STATED IN "GENERAL EROSION AND SEDIMENT POLLUTION CONTROL NOTES" (LOCATED ON E&S DETAILS SHEETS) DURING THE ENTIRE CONSTRUCTION PERIOD.
2. UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBING ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION AND HAY OR STRAW MULCH MUST BE APPLIED AT A RATE OF 3.0 TONS PER ACRE.
3. NO MORE THAN 15,000 SQUARE FEET OF DISTURBED AREA REACH FINAL GRADE BEFORE INITIATING SEEDING AND MULCHING OPERATIONS.
4. CLEARLY DELINEATE THE LIMITS OF DISTURBANCE AND TREES TO BE PROTECTED. INSTALL TREE PROTECTION FENCING AROUND EXISTING VEGETATION TO BE PRESERVED. DELINEATE THE LOCATION OF THE PROPOSED STORMWATER FACILITIES WITH DRAINAGE CONSTRUCTION FENCING AS DEPICTED ON THIS PLAN. AVOID EXCESSIVE CONSTRUCTION TRAFFIC OVER THE DELINEATED AREAS TO PREVENT SUBGRADE COMPACTION.
5. INSTALL THE ROCK CONSTRUCTION ENTRANCES IN ACCORDANCE WITH THE PLANS AND DETAILS. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND THROUGHOUT THE DAY AS NEEDED OR DIRECTED BY THE CCOD OR TOWNSHIP AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEP INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
6. INSTALL COMPOST SILT SOCKS AS OUTLINED ON THE EROSION AND SEDIMENT CONTROL PLAN. DAMAGED SILT SOCKS SHALL BE IMMEDIATELY REPLACED. SILT SOCKS SHOULD BE INSTALLED DOWNSLOPE AND EXTEND A MINIMUM OF 6 FEET AT A 45° ANGLE UPSLOPE.
7. CLEAR AND GRUB PROJECT AREA. STRIP TOPSOIL AND STOCKPILE IN AREAS AS SHOWN ON THE PLAN.
8. ROUGH GRADE THE DRIVEWAYS IN ORDER TO ACCESS EACH LOT.
9. BRING THE LOTS TO FINAL SUBGRADE ELEVATIONS. IMMEDIATELY STABILIZE THESE DISTURBED AREAS WITH THE SPECIFIED EROSION CONTROL BLANKETS AND PERMANENT SEED MIXTURE, MULCH AT 3 TONS/ACRE, AND LIME AS PRESCRIBED.
10. CONSTRUCT PROPOSED DWELLINGS AND INSTALL ALL UTILITIES.
11. CRITICAL STAGE: CONSTRUCT THE ONLOT SCM'S AFTER THE CONSTRUCTION OF THE DWELLING IS SUBSTANTIALLY COMPLETED AND THE LOT IS BEING BROUGHT TO FINAL GRADE. SCM'S SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHEET, CONSTRUCTION SEQUENCE AND GENERAL NOTES LOCATED ON THE PCSM DETAILS SHEET.

THE APPLICANT SHALL BE REQUIRED TO PROVIDE THE CHAPTER 102 SCM CONSTRUCTION CERTIFICATION FORM (CS90-TM-BOW027-1) TO THE CONSERVATION DISTRICT WITHIN 30 DAYS OF SUBSTANTIAL COMPLETION OF THE FACILITY.

12. IMMEDIATELY STABILIZE ANY REMAINING DISTURBED AREAS WITH THE PERMANENT SEED MIXTURE, MULCH AT 3 TONS/ACRE, AND LIME AS PRESCRIBED.
13. CONSTRUCT DRIVEWAYS TO WEARING COURSE.
14. AFTER CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS ARE 70% STABILIZED WITH A UNIFORM PERMANENT VEGETATIVE COVER, SCHEDULE INSPECTIONS WITH THE TOWNSHIP AND THE CHESTER COUNTY CONSERVATION DISTRICT. NO TEMPORARY CONTROLS SHALL BE REMOVED WITHOUT APPROVAL FROM THE TOWNSHIP AND THE CHESTER COUNTY CONSERVATION DISTRICT. UPON APPROVAL, REMOVE ALL E&S CONTROLS AND IMMEDIATELY STABILIZE ANY REMAINING DISTURBED AREAS AND AREAS DISTURBED BY THE REMOVAL OF EROSION CONTROL FACILITIES WITH THE PERMANENT SEED MIXTURE, MULCH AT 3 TONS/ACRE, AND LIME AS PRESCRIBED.
15. CRITICAL STAGE: UPON COMPLETION OF THE PROJECT, THE STORMWATER MANAGEMENT FACILITY SHALL BE INSPECTED BY THE DESIGN ENGINEER TO DETERMINE THAT NO UNWANTED DAMAGE HAS OCCURRED DURING CONSTRUCTION AND THAT THE APPROPRIATE RAIN GARDEN SEED MIX IS HAS BEEN INSTALLED.
16. A NOTICE OF TERMINATION (NOT) FOR THE NPDES PERMIT SHALL BE SUBMITTED BY THE SITE CONTRACTOR UPON FINAL SITE INSPECTION AND APPROVAL.

**TEMPORARY SEED MIXTURE:**

SITE PREPARATION: APPLY 1 TON OF AGRICULTURAL-GRADE LIMESTONE PER ACRE PLUS FERTILIZER AT THE RATE OF 50-50-50 PER ACRE. WORK INTO THE SOIL WHERE POSSIBLE. SECURE A SOIL TEST BEFORE APPLICATION OF PERMANENT SEEDING. AFTER SEEDING, MULCH WITH HAY OR STRAW AT A RATE OF 3 TONS PER ACRE.

SPECIES: \_\_\_\_\_ LBS/ACRE:

FOR SPRING SEEDING (UP TO JUNE 15)

ANNUAL RYEGRASS	64	40
OR SPRING OATS PLUS RYEGRASS	96	40
OR WINTER WHEAT	180	30
OR WINTER RYE	180	30
OR LATE SPRING & SUMMER SEEDING (JUNE 16 TO AUGUST 15)	40	40
ANNUAL RYEGRASS	180	30
OR SUNDRANGRASS	180	30
OR FENNEL RYE	96	40
OR WINTER WHEAT	180	30
OR WINTER RYE	180	30
OR LATE SUMMER & FALL SEEDING (AUGUST 16 AND LATER)	168	40
ANNUAL RYEGRASS	180	30
OR WINTER WHEAT	180	30
OR SPRING OATS	96	40
(CAN BE USED BUT WILL WINTER KILL)		

**"SHADE MIX" SEED MIXTURE:**

FOR WEED TO MODERATELY DRAINAGE SOILS IN HEAVY SHADE:  
OREPERING REEGRASS 30 LBS/AC  
PERENNIAL RYEGRASS 30 LBS/AC  
10 LBS/AC

BASED ON RECOMMENDATIONS MADE BY THE PENNSYLVANIA STATE UNIVERSITY COLLEGE OF AGRICULTURE AND PENNSYLVANIA BUREAU OF PLANT INDUSTRY. PREPARATION: APPLY 1 TON OF AGRICULTURAL-GRADE LIMESTONE/ACRE PLUS FERTILIZER AT THE RATE OF 50-50 PER ACRE. WORK INTO THE SOIL WHERE POSSIBLE. SECURE A SOIL TEST BEFORE APPLICATION OF PERMANENT SEEDING. AFTER SEEDING, MULCH WITH HAY OR STRAW AT A RATE OF 3 TONS PER ACRE.

**NOTE:**  
SEE SHEETS 7 & 14 FOR ADDITIONAL PCSM PLAN NOTES, DETAILS AND OPERATION & MAINTENANCE PROCEDURES.

**MULCH, LIME, FERTILIZER, SOD & SEED NOTES:**

MULCH: APPLIED MULCH SHALL BE EITHER HAY/STRAW OR HYDROMULCH. HAY/STRAW MULCH SHALL BE FREE OF WEEDS AND SEEDS, NOT MOLDED OR ROTTEN, AND SHALL BE APPLIED TO ALL AREAS AT A RATE OF 3 TONS PER ACRE ON STEEP SLOPE AREAS (GREATER THAN 3:1). GEOTEXTILE EROSION CONTROL BLANKET: ALL AREAS RECEIVING APPLIED MULCH SHALL BE IMMEDIATELY STABILIZED WITH EMLMSEED ASH MULCH OR ANNUAL LIME, UNIFORMITY APPLIED AT THE RATE OF 31 CAL PER 1,000 SQUARE FEET.

LIME: HYDROMULCH SHALL BE COMPOSED OF WOOD FIBER OR RECYCLED PAPER, AND SHALL BE MECHANICALLY APPLIED AT THE RATE OF 45 LBS PER 1,000 SQUARE FEET.

FERTILIZER: 10-20-20 FERTILIZER SHALL BE APPLIED TO ALL DISTURBED AREAS PRIOR TO SEEDING AT THE RATE OF FOUR (4) TONS PER ACRE.

SOD: KENTUCKY BLUEGRASS SOD (IF CALLED FOR)

SEED: ALL SEED SHALL BE FRESH, ALL NEW CROP SEED SHALL BE LABELED IN ACCORDANCE WITH THE U.S. DEPARTMENT OF AGRICULTURE RULES AND REGULATIONS UNDER THE FEDERAL SEED ACT IN EFFECT ON THE DATE OF INVITATION FOR BIDS. ALL SEED SHALL BE FURNISHED TO KIND, PERCENT BY WEIGHT, PURITY AND GERMINATION. THE GRASS SEED SHALL CONTAIN THE PERCENTAGES OF PURITY AND GERMINATION INDICATED ON THE LIST FURNISHED WITH THE APPLICABLE PLAN. SEED MIX SHALL BE AS SPECIFIED, SPREAD AT THE RATE OF 5 POUNDS PER 1,000 SQUARE FEET (MINIMUM), FOR SLOPE 3:1 OR GREATER, USE 7.5 POUNDS OF SEED PER 1,000 SQUARE FEET.

**JMR ENGINEERING, LLC**  
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WEBSITE: WWW.JMRENGINEERING.COM

JOHN M. ROBINSON  
PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE NO. PE056271

**UTILITY USERS LIST**

USERS	RESPONSE
AQUA	FIELD MARKED
BUCKEYE PARTNERS	NO CONFLICT
COMCAST CABLE	NO CONFLICT
HOLLOW RUN APARTMENTS	NO CONFLICT
PECO	NO CONFLICT
VERIZON	NO CONFLICT
WEST WHITELAND TOWNSHIP	NO CONFLICT

**CALL BEFORE YOU DIG!**

1-800-242-1776  
POCS SERIAL NUMBER:

**PLAN REVISIONS**

REV	DATE	DESCRIPTION OF CHANGES
1	09/30/25	REVISED PER TOWNSHIP COMMENTS
2	01/27/26	REVISED PER TOWNSHIP COMMENTS

**PROJECT: PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLAN FOR 1358 GLEN ECHO ROAD**

1358 GLEN ECHO ROAD  
WEST CHESTER, PA 19380  
WEST WHITELAND TOWNSHIP  
CHESTER COUNTY, PA

TAX PARCEL NUMBER:  
41-8D-4

CLIENT:  
**OAK KNOLL, LLC**  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382

PROJECT No.: 1763-1  
SURVEY REF.: 1763-EX(JMR)  
DRAWN BY: S.E.D.  
CHECKED BY: J.M.R.  
PLAN DATE: NOVEMBER 18, 2024  
PLAN SCALE: 1" = 30'

SHEET TITLE:  
**EROSION CONTROL PLAN**  
SHEET NUMBER:  
**7 OF 14**  
Plot Date: Tue, Jan. 27, 2026  
File: ES.PLAN.DWG



- ### LANDSCAPE NOTES
- PLANT LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL STAKE LOCATIONS FOR APPROVALS BY THE LANDSCAPE ARCHITECT.
  - PROVIDE CONTINUOUS MULCH (3" THICK) IN ALL BEDDING AND GROUND COVER AREAS AND AT THE BASE OF SPECIMEN TREES. MULCH TO BE DOUBLE SHREDDED HARDWOOD BARK MULCH; FOR SHRUB AND PERENNIAL BEDS AND FOR EVERGREEN TREE CLUSTERS, A CONTINUOUS, MULCHED BED SHALL BE CREATED.
  - SIZES OF PLANT MATERIAL GIVEN ARE TO BE CONSIDERED MINIMUM.
  - NO SUBSTITUTES FOR PLANT MATERIAL ARE ACCEPTABLE UNLESS APPROVED BY THE TOWNSHIP.
  - CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE, INCLUDING WATERING OF PLANT MATERIAL UNTIL JOB IS TURNED OVER TO OWNER.
  - CONTRACTOR SHALL LOOSEN SUBGRADE OF PLANTING BED AREAS TO A MINIMUM DEPTH OF 24" USING A CULTIMULCHER OR SIMILAR EQUIPMENT. REMOVE STONES 1" - 1 1/2" IN ANY DIMENSIONS, AND STICKS, RUBBISH AND EXTRANEOUS MATTER.
  - WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED OR SUSPECTED, SUCH AS RUBBLE FILLS, UNACCEPTABLE TOPSOIL, ADVERSE DRAINAGE CONDITIONS OR OTHER OBSTRUCTIONS, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE OWNER AND THE LANDSCAPE ARCHITECT IN WRITING BEFORE PLANTING ANY TREE, SHRUBS, OR LAWN AREAS.
  - PLANTINGS AND THEIR MEASUREMENTS SHALL CONFORM TO THE STANDARDS OF THE PUBLICATION "AMERICAN OR U.S.A. STANDARD FOR NURSERY STOCK," ANSI OR U.S.A.S. Z60.1 OF THE AMERICAN ASSOCIATION OF NURSERMEN, AS AMENDED. ALL PLANT MATERIAL USED ON THE SITE SHALL HAVE BEEN GROWN WITHIN THE SAME USDA HARDINESS ZONE AS THE SITE. SHALL BE FREE OF DISEASE, AND SHALL BE NURSERY-GROWN, UNLESS IT IS DETERMINED BY THE TOWNSHIP THAT THE TRANSPLANTING OF TREES PARTIALLY FULFILLS THE REQUIREMENTS OF SECTION 22-629.
  - ANY TREE OR SHRUB WHICH DIES WITHIN EIGHTEEN (18) MONTHS OF THE DEDICATION OF PUBLIC IMPROVEMENTS OR OCCUPANCY SHALL BE REPLACED. ANY TREE OR SHRUB WHICH WITHIN THE AFORESAID PERIOD, IS DEEMED IN THE OPINION OF AN AGENT AUTHORIZED BY THE TOWNSHIP, NOT TO HAVE SURVIVED OR GROWN IN A MANNER CHARACTERISTIC OF ITS TYPE, SHALL BE REPLACED. ANY SUBSTITUTIONS SHALL BE APPROVED BY THE TOWNSHIP.
  - THE CONTRACTOR SHALL PROVIDE 4" OF ORGANIC TOPSOIL AT ALL LAWN AREAS, PLANTING BEDS AND TREE PITS.
  - THE DEVELOPER SHALL GUARANTEE REQUIRED PLANTINGS IN THE BUFFER YARD FOR 18 MONTHS FROM THE DATE OF DEDICATION OR CLOSE OUT OF THE CONSTRUCTION ESCROW ACCOUNT BY POSTING FINANCIAL SECURITY FOR 18 MONTHS IN THE AMOUNT OF 15% OF THE ACTUAL COST OF THE INSTALLED PLANTINGS.
  - REQUIRED PLANT MATERIAL SHALL BE MAINTAINED FOR THE LIFE OF THE PROPOSED DEVELOPMENT TO ACHIEVE THE REQUIRED VISUAL EFFECT OF THE BUFFER OR SCREEN. IT SHALL BE THE ULTIMATE RESPONSIBILITY OF SUCCESSIVE PROPERTY OWNERS TO ENSURE THAT THE REQUIRED PLANTINGS ARE PROPERLY MAINTAINED. DEAD OR DISEASED PLANT MATERIAL SHALL BE REMOVED OR TREATED PROMPTLY BY THE PROPERTY OWNER AND REPLACED AT THE NEXT PLANTING SEASON.
  - NO TREES SHALL BE PLANTED CLOSER THAN (15) FEET FROM OVERHEAD UTILITY LINES, FIRE HYDRANTS, STREETLIGHTS, OR STOP SIGNS. NO TREES SHALL BE PLANTED CLOSER THAN (10) FEET FROM UNDERGROUND UTILITY LINES AND THE WALKING TRAIL OR (5) FEET FROM CURBS AND SIDEWALKS.

#### PLANT SCHEDULE - DECIDUOUS TREES: §281-35.E PERIMETER BUFFER

SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT	CONDITION
UP	3	Ulmus Parvifolia	Chinese Elm	2"-2.5"	B & B
CC	2	Carpinus Caroliniana	American Hornbeam	2"-2.5"	B & B
AR	2	Acer Rubrum Red Sunset	Red Sunset Maple	2"-2.5"	B & B
TOTAL	7				

#### PLANT SCHEDULE - EVERGREEN TREES: §281-35.E PERIMETER BUFFER

SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT	CONDITION
PA	11	Picea Abies	Norway Spruce	7'-8'	B & B
PG	10	Picea Glauca	White Spruce	7'-8'	B & B
TOTAL	21				

#### PLANT SCHEDULE - §281-36.D STREET TREES

SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT	CONDITION
UP	2	Ulmus Parvifolia	Chinese Elm	2"-2.5"	B & B
CC	2	Carpinus Caroliniana	American Hornbeam	2"-2.5"	B & B
LA	3	Liquidambar styraciflua "Rotundifolia"	Seedless Sweet Gum	2"-2.5"	B & B
TOTAL	7				

#### PLANT SCHEDULE - SHRUBS: §281-35.E PERIMETER BUFFER

SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT	CONDITION
COS	8	Cornus Sericea	Red Twig Dogwood	36"-42"	cont.
FOGM	7	Fothergilla Gardenii "Mt. Airy"	Mt. Airy Fothergilla	36"-42"	cont.
HYMA	5	Hydrangea Macrophylla "All Summer Beauty"	All Summer Beauty Hydrangea	36"-42"	cont.
VIR	10	Viburnum Rhytidophyllum	Leatherleaf Viburnum	36"-42"	cont.
ILGD	2	Ilex Glabra 'Densa'	Densa Inkberry Holly	36"-42"	cont.
TOTAL	32				

#### PLANT SCHEDULE - DECIDUOUS TREES: §281-34 COMPENSATORY PLANTING

SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT	CONDITION
CC	6	Carpinus Caroliniana	American Hornbeam	2"-2.5"	B & B
LA	6	Liquidambar styraciflua "Rotundifolia"	Seedless Sweet Gum	2"-2.5"	B & B
AR	4	Acer Rubrum Red Sunset	Red Sunset Maple	2"-2.5"	B & B
CEC	12	Cercis Canadensis	Eastern Red Bud	2"-2.5"	B & B
CF	11	Cornus Florida	Flowering Dogwood	2"-2.5"	B & B
MAV	10	Magnolia Virginiana	Sweetbay Magnolia	2"-2.5"	B & B
TOTAL	49				

#### PLANT SCHEDULE - EVERGREEN TREES: §281-34 COMPENSATORY PLANTING

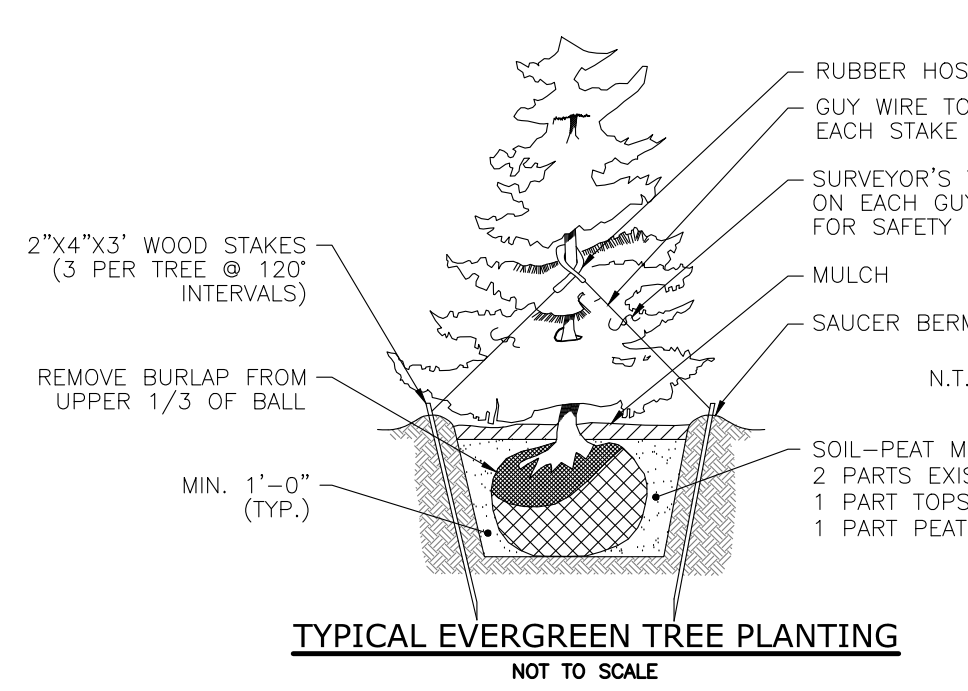
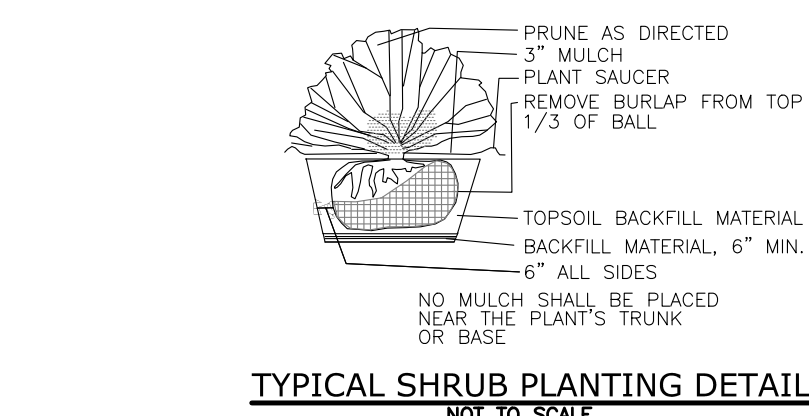
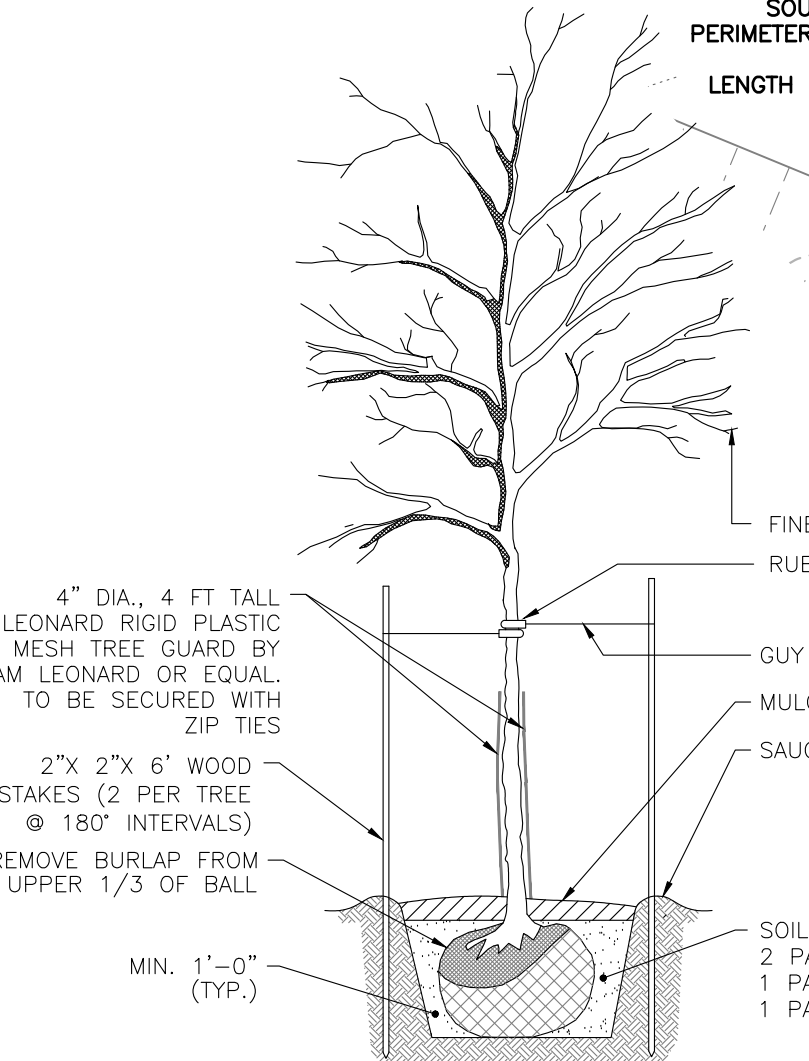
SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT	CONDITION
PA	5	Picea Abies	Norway Spruce	7'-8'	B & B
PG	19	Picea Glauca	White Spruce	7'-8'	B & B
TOTAL	24				

#### COMPENSATORY PLANTING CALCULATION

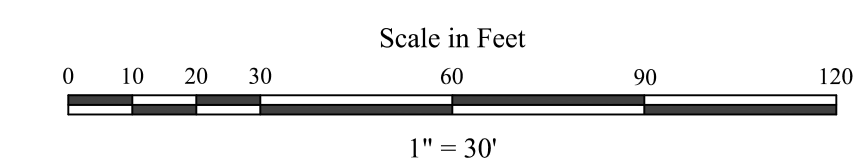
TOTAL REQUIRED COMPENSATORY PLANTING	=	261 TREES
TOTAL PROPOSED BUFFER & STREET TREES	=	35 TREES
TOTAL PROPOSED COMPENSATORY PLANTING	=	73 TREES
TOTAL REMAINING FOR WAIVER	=	153 TREES

#### §281-34.G(5) - COMPENSATORY PLANTING REQUIREMENTS

TY	CALIPER (IN)	TYPE	CALIPER INCHES (IN)	REPLACEMENT CRITERIA (IN/IN)	REQUIRED REPLACEMENT (IN)
1	12	CHERRY	12	4	12
4	12	MAPLE	48	4	12
2	12	OAK	24	4	6
8	12	POPLAR	96	4	24
3	12	WALNUT	36	4	9
1	13	CHERRY	13	4	3
3	13	POPLAR	39	4	10
1	13	SYCAMORE	13	4	3
1	13	WALNUT	13	4	3
6	18	CHERRY	14	4	4
1	14	MAPLE	14	4	4
2	14	POPLAR	28	4	7
1	14	WALNUT	14	4	4
5	15	POPLAR	75	4	19
1	15	WALNUT	15	4	4
5	16	POPLAR	80	4	20
3	16	WALNUT	48	4	12
2	18	MAPLE	36	4	9
6	18	POPLAR	108	4	27
3	18	WALNUT	54	4	14
1	20	LOCUST	20	4	5
7	20	POPLAR	140	4	35
3	20	WALNUT	40	4	10
1	21	WALNUT	21	4	5
2	22	POPLAR	44	4	11
1	23	POPLAR	23	4	6
1	24	PINE	24	4	6
8	24	POPLAR	192	3	64
1	27	WALNUT	27	3	9
1	28	POPLAR	28	3	9
1	28	WALNUT	28	3	9
2	30	POPLAR	60	3	20
1	30	SYCAMORE	30	3	10
1	33	WALNUT	33	3	11
1	38	SYCAMORE	38	2	19
1	39	POPLAR	39	2	20
1	45	POPLAR	45	2	23
1	48	POPLAR	48	2	24
1	57	MAPLE	57	2	29
TOTAL CALIPER REQUIRED (IN)					521
CALCULATED REPLACEMENT (TREES)					261
PROP. BUFFER & STREET TREES					35
TOTAL REQUIRED (TREES)					226



**OWNER/APPLICANT:**  
OAK KNOLL, LLC  
C/O GLENN WHITE  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382  
(610) 399-6686



**THIS PLAN IS FOR LANDSCAPE PURPOSES ONLY**

**JM ENGINEERING, LLC**  
PROFESSIONAL CIVIL ENGINEERING • LAND PLANNING SERVICES  
108 SCHUBERT DRIVE • DOWNTOWN, PA 19335  
VOICE: (484) 880-7342  
EMAIL: ADMIN@JMENGINEERING.COM  
WEBSITE: WWW.JMENGINEERING.COM

**JOHN M. ROBINSON**  
PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE NO. PE056271

#### UTILITY USERS LIST

USERS	RESPONSES
AQUA	FIELD MARKED
BUCKEYE PARTNERS	NO CONFLICT
COMCAST CABLE	NO CONFLICT
HOLLOW RUN APARTMENTS	NO CONFLICT
PECO	NO CONFLICT
VERIZON	NO CONFLICT
WEST WHITELAND TOWNSHIP	NO CONFLICT

**CALL BEFORE YOU DIG!**  
PENNSYLVANIA LAW REQUIRES THE CONTRACTOR TO NOTIFY UNDERGROUND UTILITY SERVICE AT LEAST 3 WORKING DAYS BEFORE THE COMMENCEMENT OF CONSTRUCTION AND TO OBTAIN A UTILITY LOCATING REPORT FROM THE UTILITY SERVICE PROVIDER. THE CONTRACTOR SHALL NOTIFY THE LOCATIONS OF ALL SURFACE UTILITIES PRIOR TO CONSTRUCTION.  
1-800-242-1776  
POCS SERIAL NUMBER:

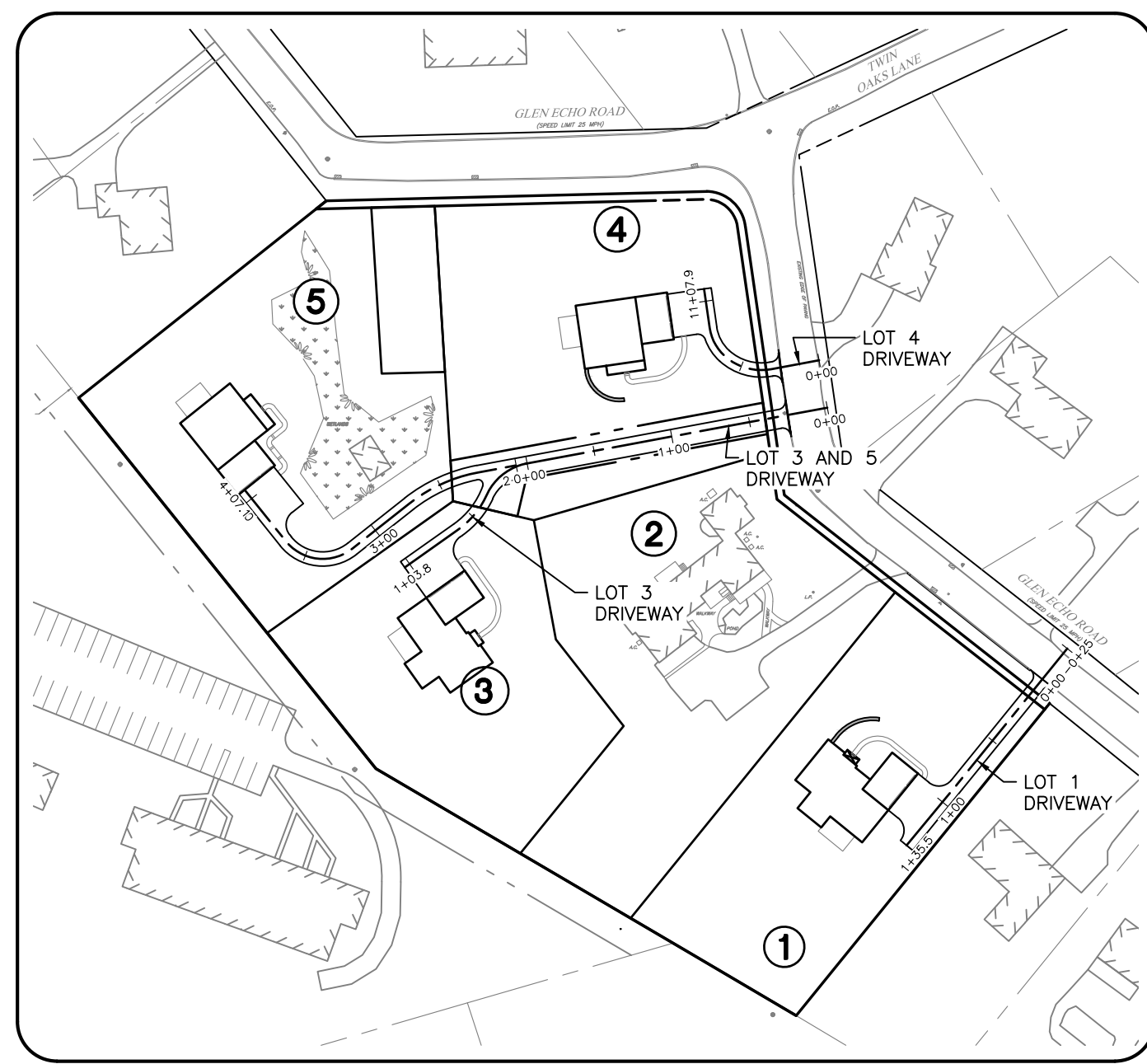
#### PLAN REVISIONS

REV. DATE	DESCRIPTION OF CHANGES
1 09/30/25	REVISED PER TOWNSHIP COMMENTS
2 01/27/26	REVISED PER TOWNSHIP COMMENTS

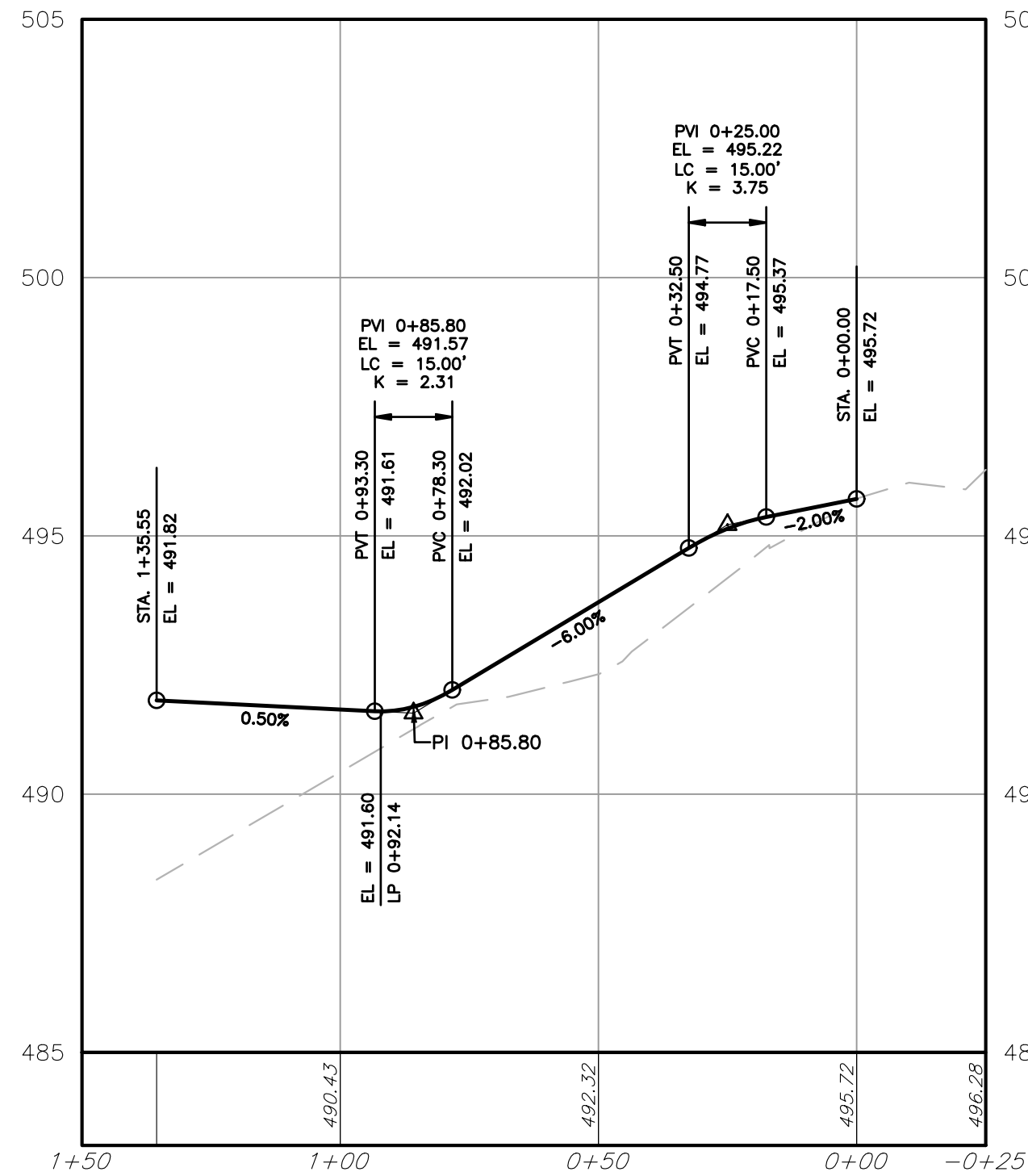
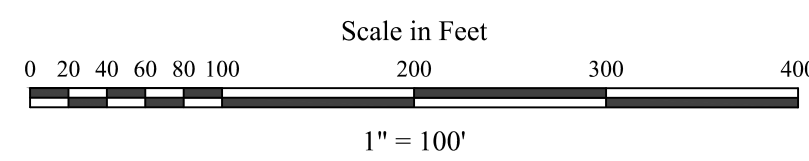
**PROJECT: PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLAN FOR 1358 GLEN ECHO ROAD**  
LOCATION: 1358 GLEN ECHO ROAD WEST CHESTER, PA 19380 WEST WHITELAND TOWNSHIP CHESTER COUNTY, PA  
PARCELS: TAX PARCEL NUMBER: 41-8D-4  
CLIENT: OAK KNOLL, LLC 4 ZACHARY DRIVE WEST CHESTER, PA 19382

PROJECT No.: 1763-1  
SURVEY REF.: 1763-EX(JMR)  
DRAWN BY: S.E.D.  
CHECKED BY: J.M.R.  
PLAN DATE: NOVEMBER 18, 2024  
PLAN SCALE: 1" = 30'

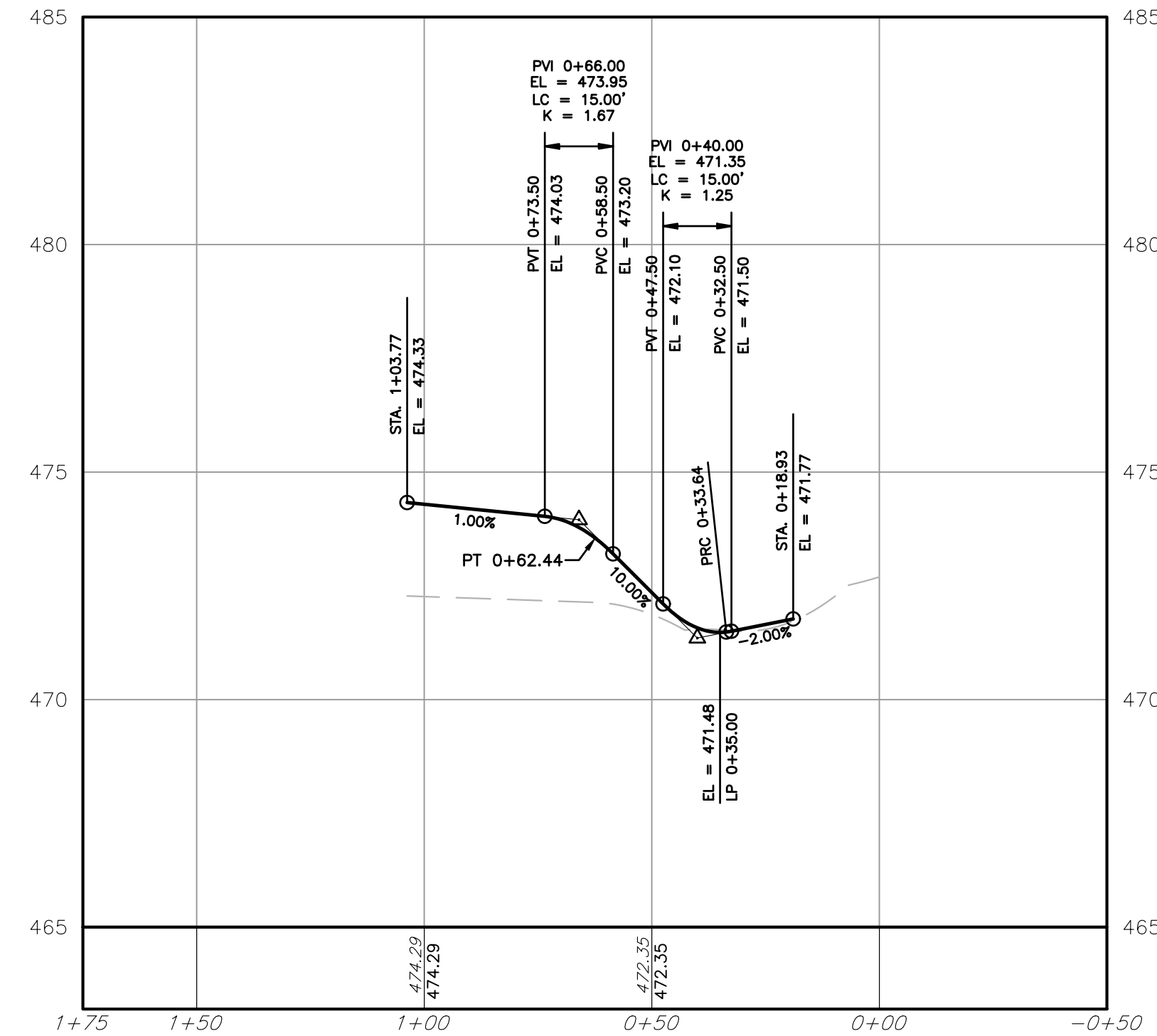
**LANDSCAPING PLAN**  
SHEET NUMBER: 8 OF 14  
Plot Date: Tue, Jan. 27, 2026  
File: LANDSCAPE PLAN.DWG



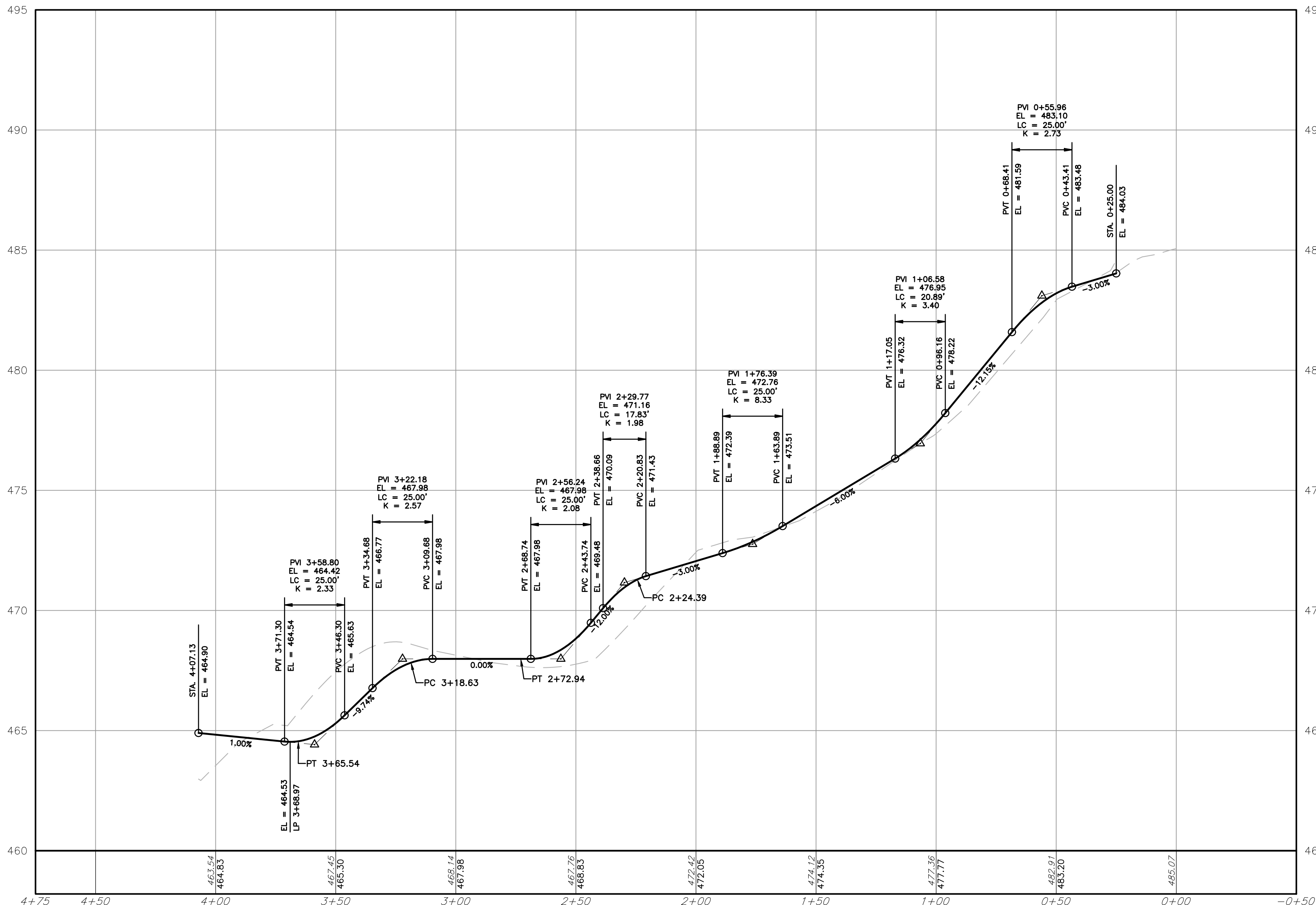
PLAN VIEW  
SCALE: 1" = 100'



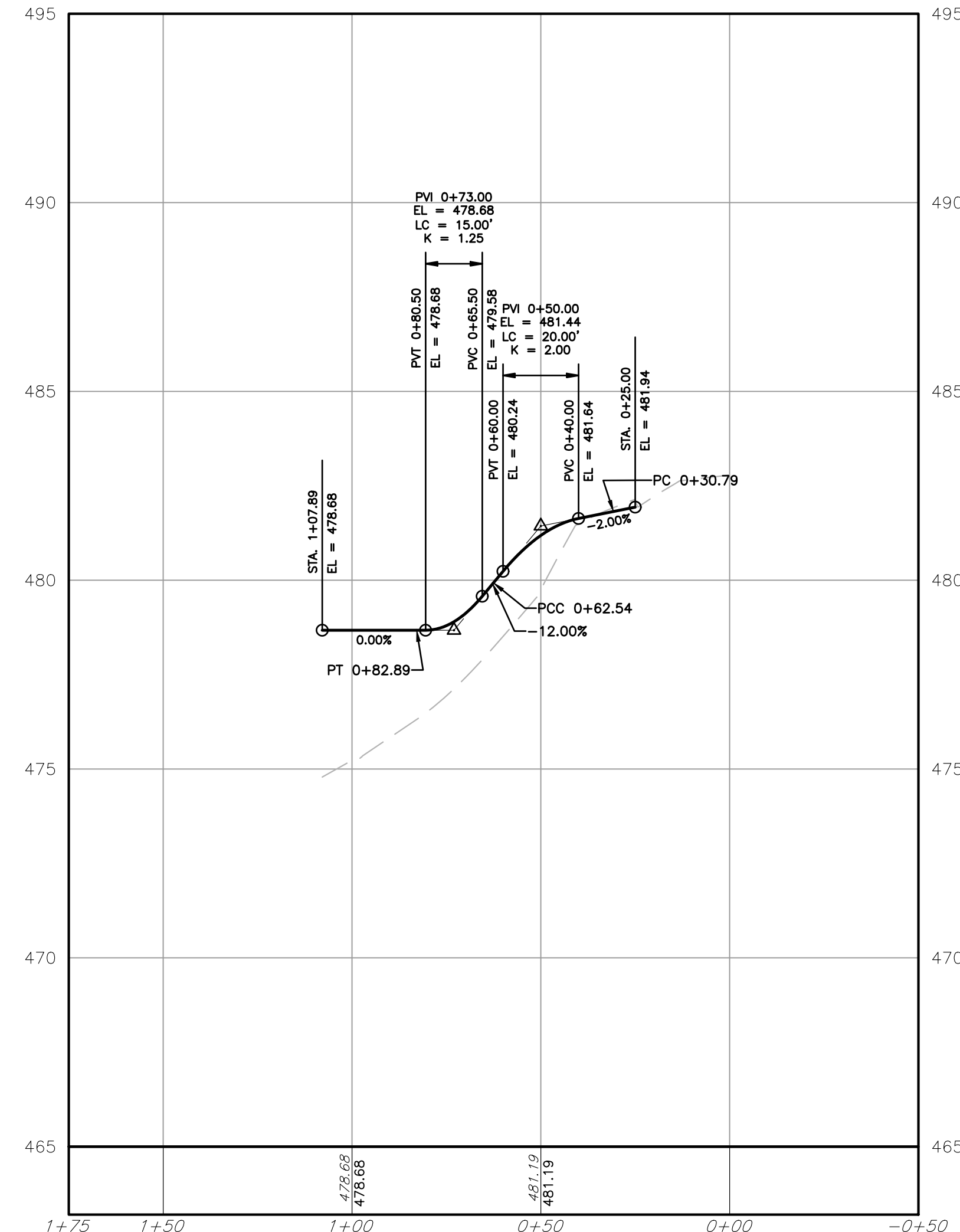
LOT 1 DRIVEWAY  
HORIZ. 1" = 30'  
VERT. 1" = 3'



LOT 3 DRIVEWAY  
HORIZ. 1" = 30'  
VERT. 1" = 3'

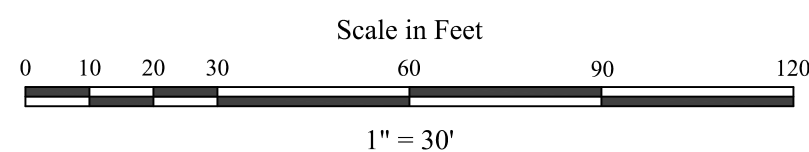


LOT 3 & 5 DRIVEWAY  
HORIZ. 1" = 30'  
VERT. 1" = 3'



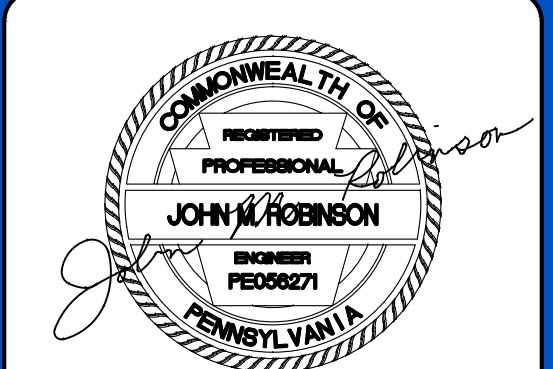
LOT 4 DRIVEWAY  
HORIZ. 1" = 30'  
VERT. 1" = 3'

OWNER/APPLICANT:  
OAK KNOLL, LLC  
C/O GLENN WHITE  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382  
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**JOHN M. ROBINSON**  
PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE NO. PE056271

**UTILITY USERS LIST**

USERS	RESPONSES
AQUA	FIELD MARKED
BUCKEYE PARTNERS	NO CONFLICT
COMCAST CABLE	NO CONFLICT
HOLLOW RUN APARTMENTS	NO CONFLICT
PECO	NO CONFLICT
VERIZON	NO CONFLICT
WEST WHITELAND TOWNSHIP	NO CONFLICT

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1-800-242-1776  
POCS SERIAL NUMBER:

**PLAN REVISIONS**

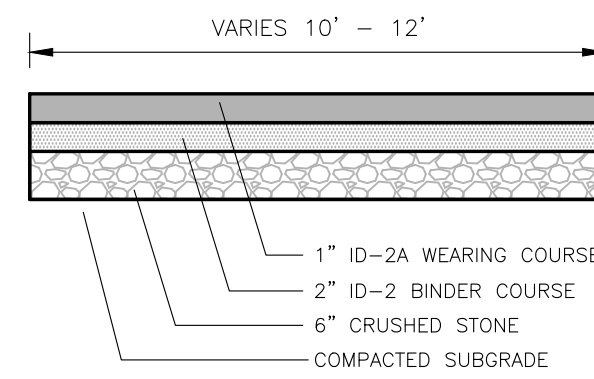
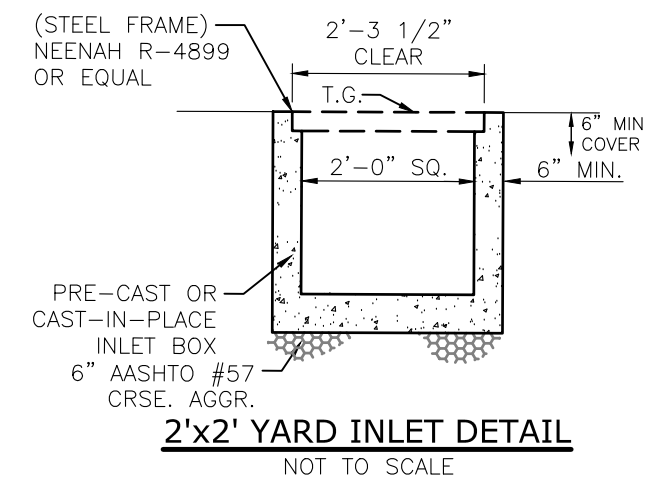
REV. DATE	DESCRIPTION OF CHANGES
1 09/30/25	REVISED PER TOWNSHIP COMMENTS
2 01/27/26	REVISED PER TOWNSHIP COMMENTS

PROJECT:  
**PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLAN**  
FOR  
**1358 GLEN ECHO ROAD**  
LOCATION:  
**1358 GLEN ECHO ROAD  
WEST CHESTER, PA 19380  
WEST WHITELAND TOWNSHIP  
CHESTER COUNTY, PA**  
PARCELS:  
**TAX PARCEL NUMBER:  
41-8D-4**  
CLIENT:  
**OAK KNOLL, LLC  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382**

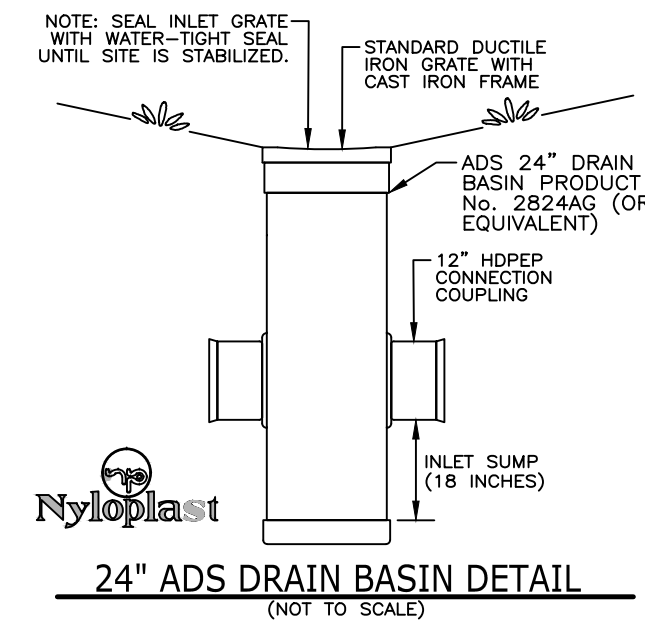
PROJECT No.: 1763-1  
SURVEY REF.: 1763-EX(JMR)  
DRAWN BY: S.E.D.  
CHECKED BY: J.M.R.  
PLAN DATE: NOVEMBER 18, 2024  
PLAN SCALE: AS SHOWN

SHEET TITLE:  
**PROFILES**  
SHEET NUMBER:  
**9 OF 14**  
Plot Date: Tue, Jan. 27, 2026  
File: PROFILES.DWG

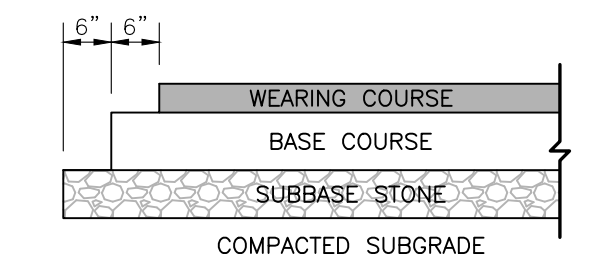




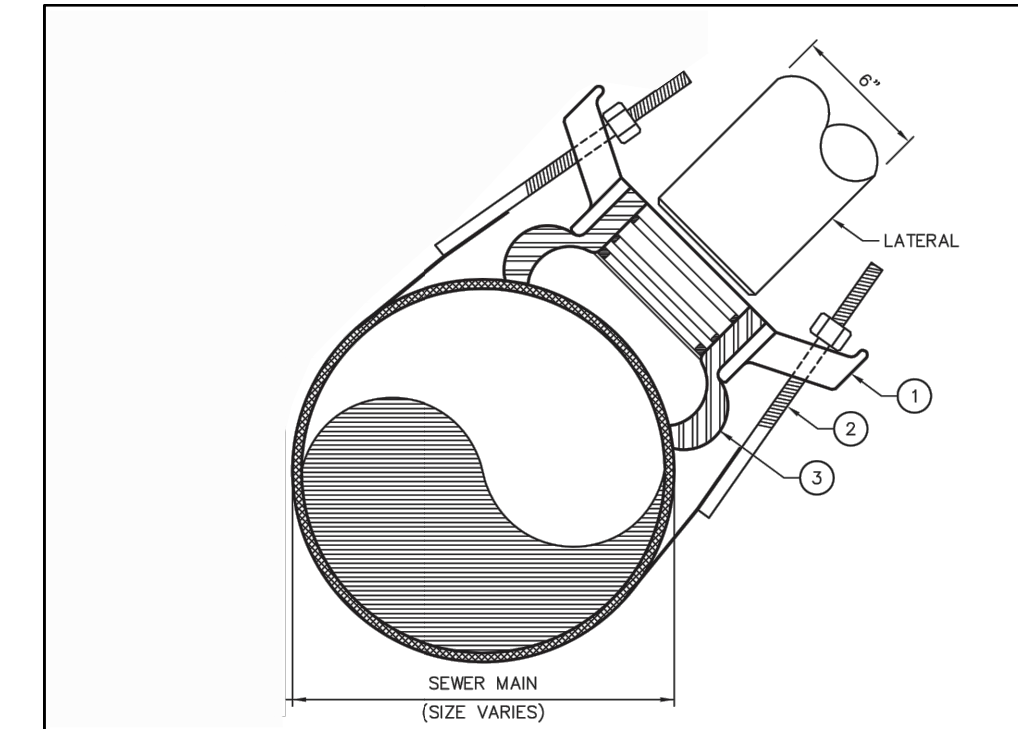
TYPICAL DRIVEWAY SECTION  
NOT TO SCALE



24\"/>

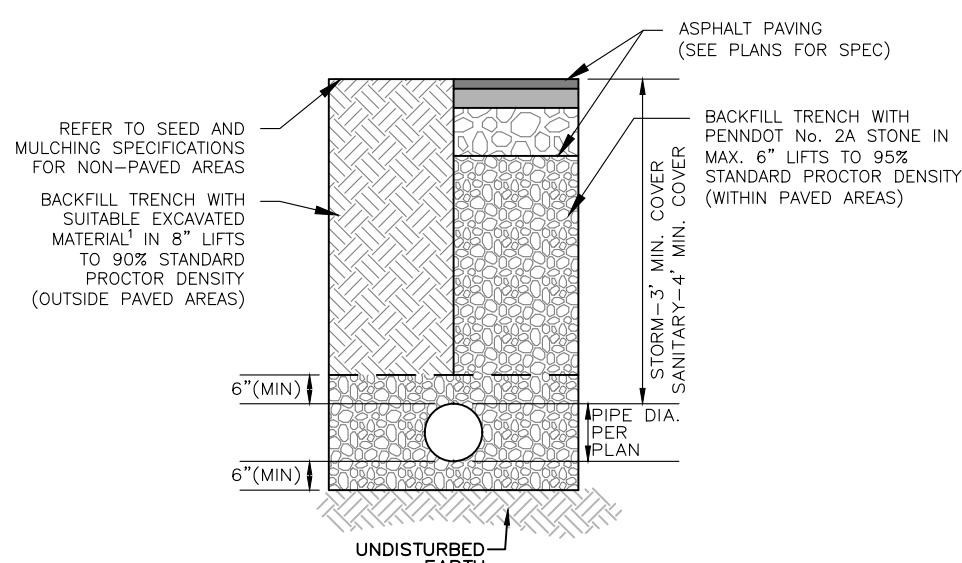


TYPICAL PAVING EDGE DETAIL  
(NOT TO SCALE)



- NOTES:
- SADDLE CASTING: DUCTILE IRON ASTM 536-80 GRADE 65-45-12 PROTECTED WITH CORROSION RESISTANT PAINT.
  - STAINLESS STEEL 304 ADJUSTABLE STRAP, BOLTS, NUTS AND WASHERS 1/2" N.C. ROLL THREAD TEFLOON COATED. 3 1/2" WIDE BAND TO SPREAD CLAMP FORCE OUT ON PIPE.
  - GASKET: VIRGIN SBR COMPOUNDED FOR SEWER SERVICE. MEETS ASTM D-2000.3 BR/TS.
  - STYLE CB SEWER SADDLE MANUFACTURED BY: ROMAC INDUSTRIES, INC.
  - SADDLE CAN BE INSTALLED BETWEEN 10:00 AND 2:00 POSITION ON THE EXISTING MAIN.

WEST WHITELAND TOWNSHIP	
DES. BY: MTY. OGD. BY: MRM	SEWER SADDLE CONNECTION
DATE: 4-14-23 SCALE: NONE	DATE
REVISION	DATE
	STANDARD DETAIL

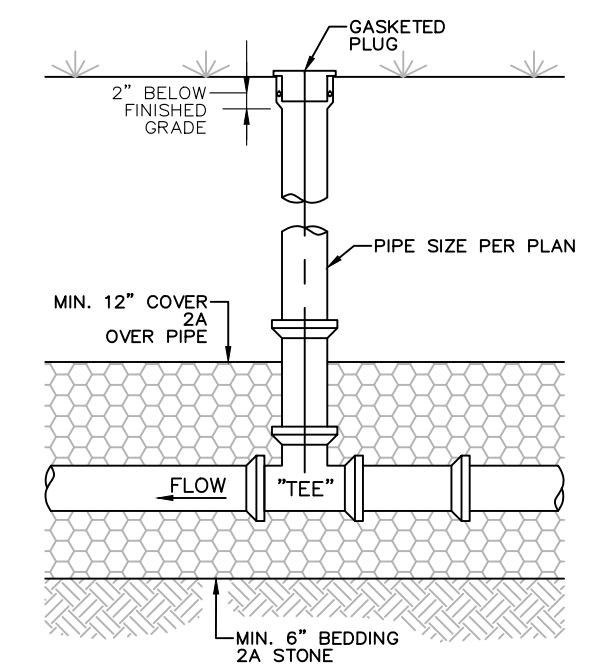


- NOTES:
- FOR NON-PAVED AREAS, SUITABLE EXCAVATED MATERIAL SHALL BE CLEAN, DRY, NON-FROZEN EARTH, FREE OF ORGANICS AND DEBRIS, WITH A MAXIMUM STONE SIZE OF 6."
  - EXCAVATION DEPTH, BENCHING AND SHORING SHALL BE IN ACCORDANCE WITH OSHA REGULATIONS.
  - FOR WATER, GAS AND ELECTRIC, REFER TO THE MEP PLANS.

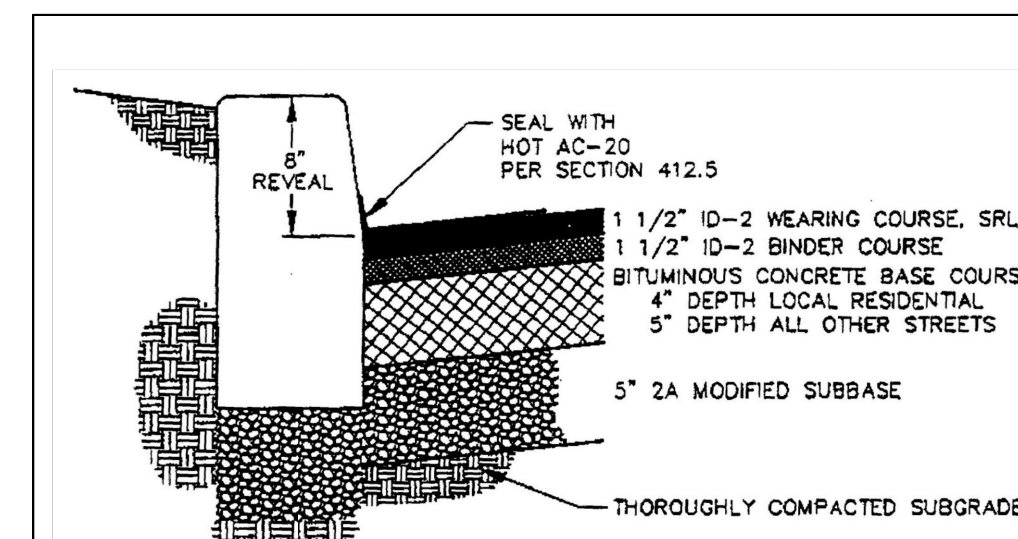
UTILITY TRENCH DETAIL  
(NOT TO SCALE)

UTILITY TRENCH EXCAVATION:

- LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO BE A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
- WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
- LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.
- ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE AT THE END OF EACH WEEK.
- WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING. WATER SHALL BE DISCHARGED DOWNSLOPE INTO THE ROCK FILTER.

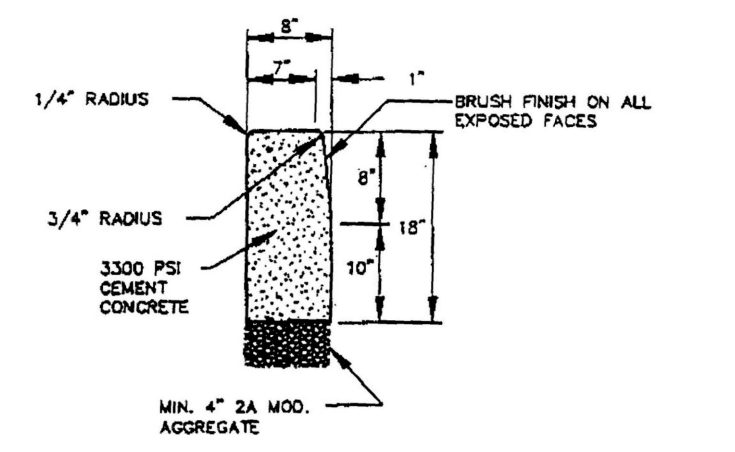


TYPICAL STORM SEWER CLEANOUT DETAIL  
(NOT TO SCALE)

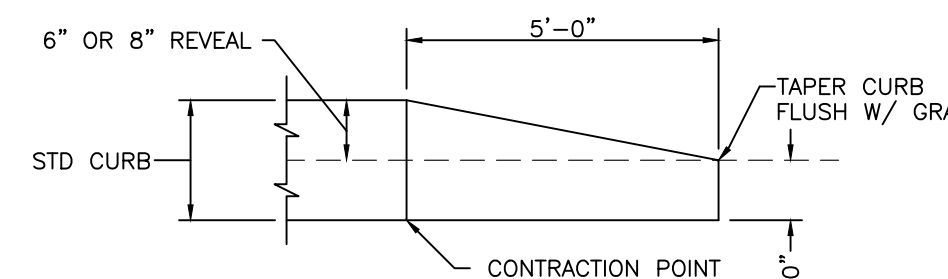


TYPICAL STREET SECTION  
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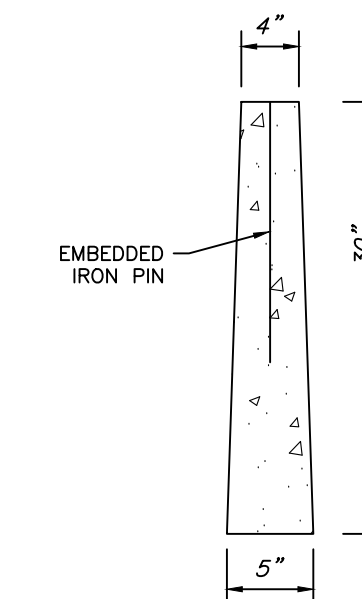
NOTE: ALL CONSTRUCTION PRACTICES AND MATERIALS TO MEET PennDOT PUB. 408 SPECIFICATIONS UNLESS OTHERWISE NOTED.



STANDARD CURB DETAIL  
NO SCALE



CURB END TREATMENT DETAIL  
N.T.S.



- NOTES:
- ALL MONUMENTS SHALL BE PLACED BY A REGISTERED PROFESSIONAL ENGINEER OR SURVEYOR SO THAT THE SCORED POINT (AN INDENTED CROSS OR DRILL HOLE OF NOT MORE THAN ONE-FOURTH-INCH DIAMETER IN THE TOP OF THE MONUMENT) SHALL COINCIDE EXACTLY WITH THE POINT OF INTERSECTION OF THE LINES BEING MONUMENTED. MONUMENTS PLACED ON STREET RIGHTS-OF-WAY AND EASEMENTS FOR PUBLIC, DRAINAGE, OR UTILITY USE SHALL BE CONCRETE OR STONE, TAPERED (FOUR-INCH SQUARE TOP, FIVE-INCH SQUARE BOTTOM) AND 30 INCHES IN LENGTH.
  - THE TOPS OF MONUMENTS SHALL BE SET LEVEL WITH THE FINISHED GRADE OF THE SURROUNDING GROUND, EXCEPT:
    - MONUMENTS WHICH ARE PLACED WITHIN THE LINES OF EXISTING OR PROPOSED SIDEWALKS SHALL BE LOCATED BENEATH THE SIDEWALKS SO THAT THEIR TOPS WILL NOT BE AFFECTED BY LATERAL MOVEMENT OF THE SIDEWALKS.
    - WHERE MONUMENTS ARE LOCATED BENEATH A SIDEWALK, PROPER ACCESS TO THEM SHALL BE ASSURED.
    - IN WOODED AREAS, MONUMENTS SHALL PROTRUDE SIX INCHES ABOVE THE SURFACE OF THE GROUND.
    - CONCRETE MONUMENTS SHALL INCLUDE AN EMBEDDED IRON PIN TO MAKE FUTURE LOCATION OF THE MONUMENT EASIER.

CONCRETE MONUMENT DETAIL  
(NOT TO SCALE)

OWNER/APPLICANT:

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C/O GLENN WHITE  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382  
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**JOHN M. ROBINSON**  
PROFESSIONAL ENGINEER  
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UTILITY USERS LIST

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POCS SERIAL NUMBER:

PLAN REVISIONS

REV. DATE	DESCRIPTION OF CHANGES
1 09/30/25	REVISED PER TOWNSHIP COMMENTS
2 01/27/26	REVISED PER TOWNSHIP COMMENTS

PROJECT:  
**PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLAN**

FOR  
**1358 GLEN ECHO ROAD**

LOCATION:  
**1358 GLEN ECHO ROAD  
WEST CHESTER, PA 19380  
WEST WHITELAND TOWNSHIP  
CHESTER COUNTY, PA**

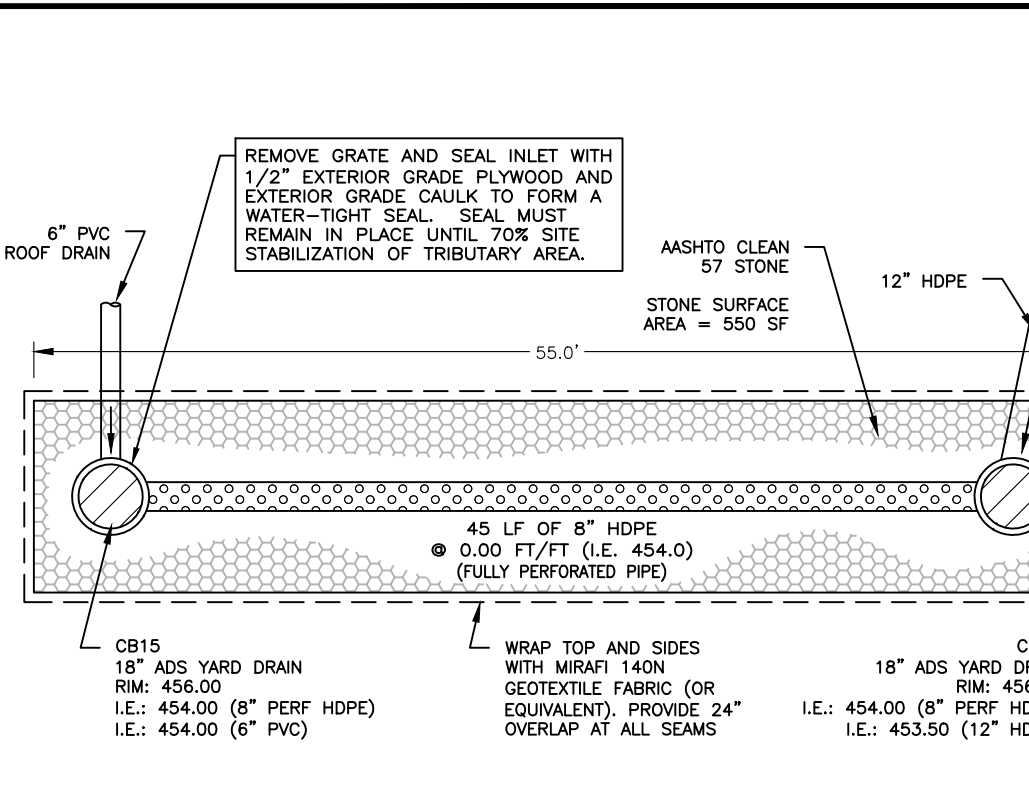
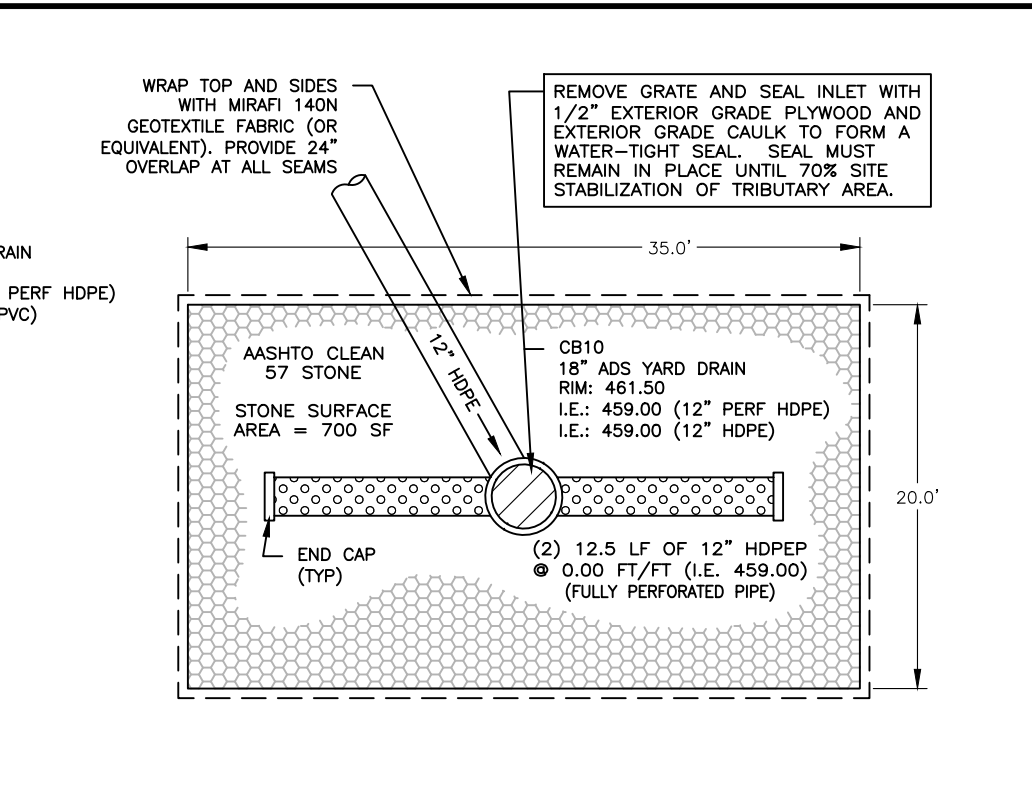
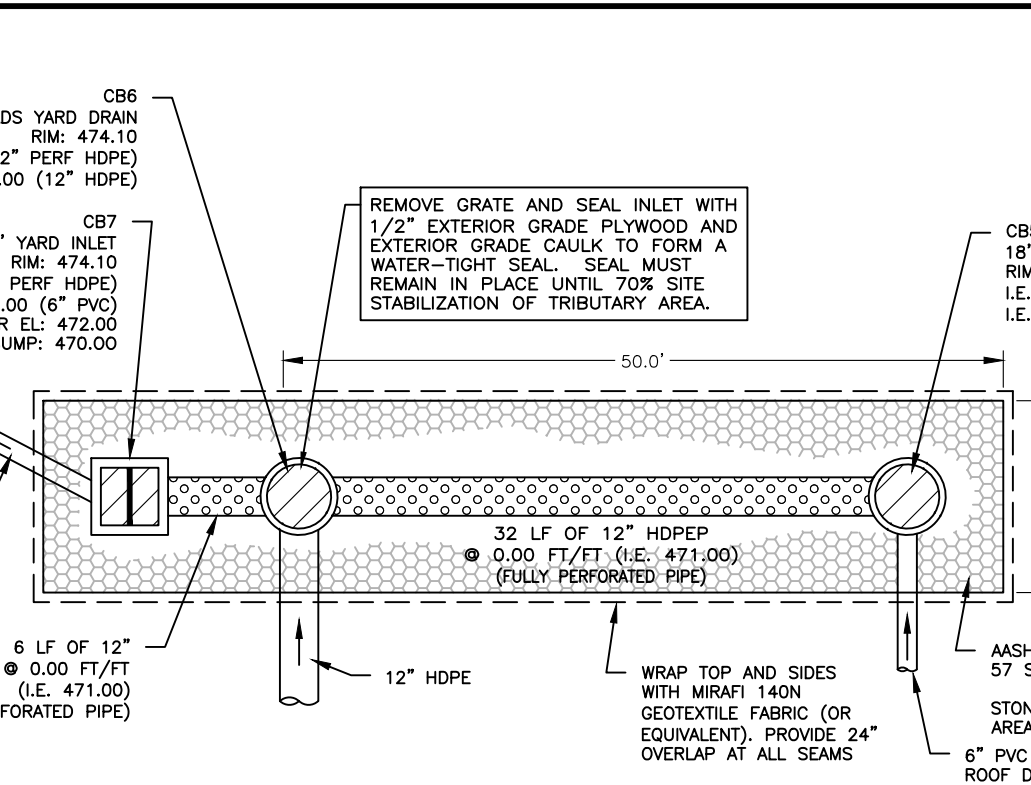
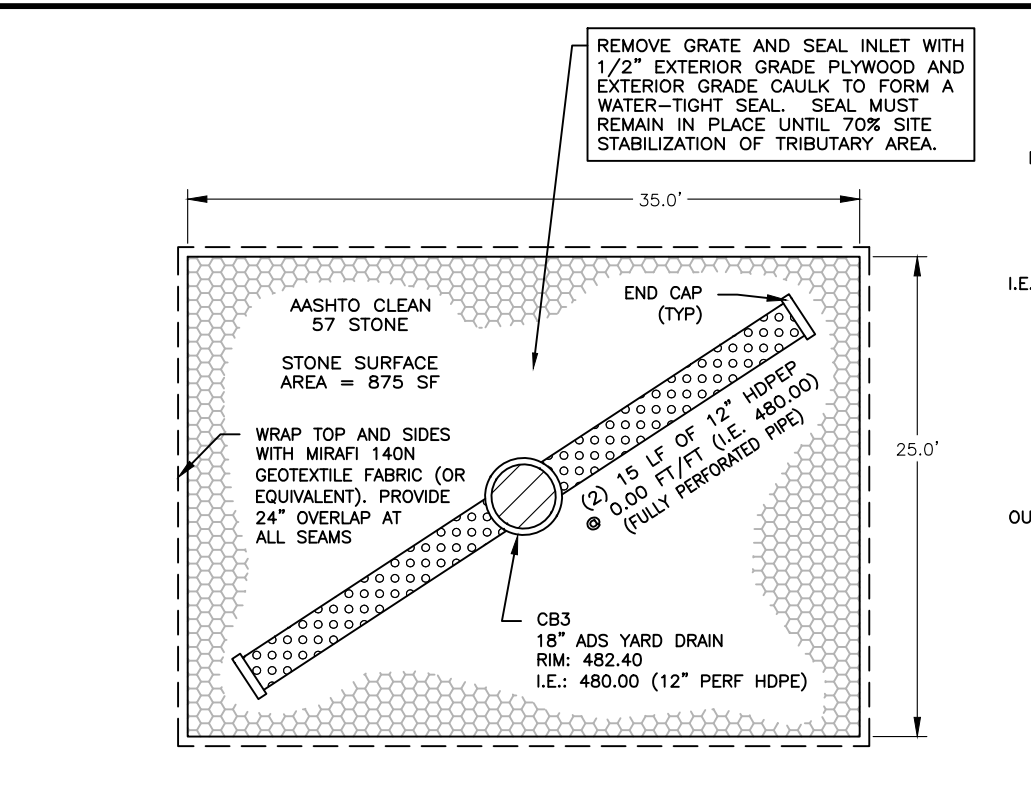
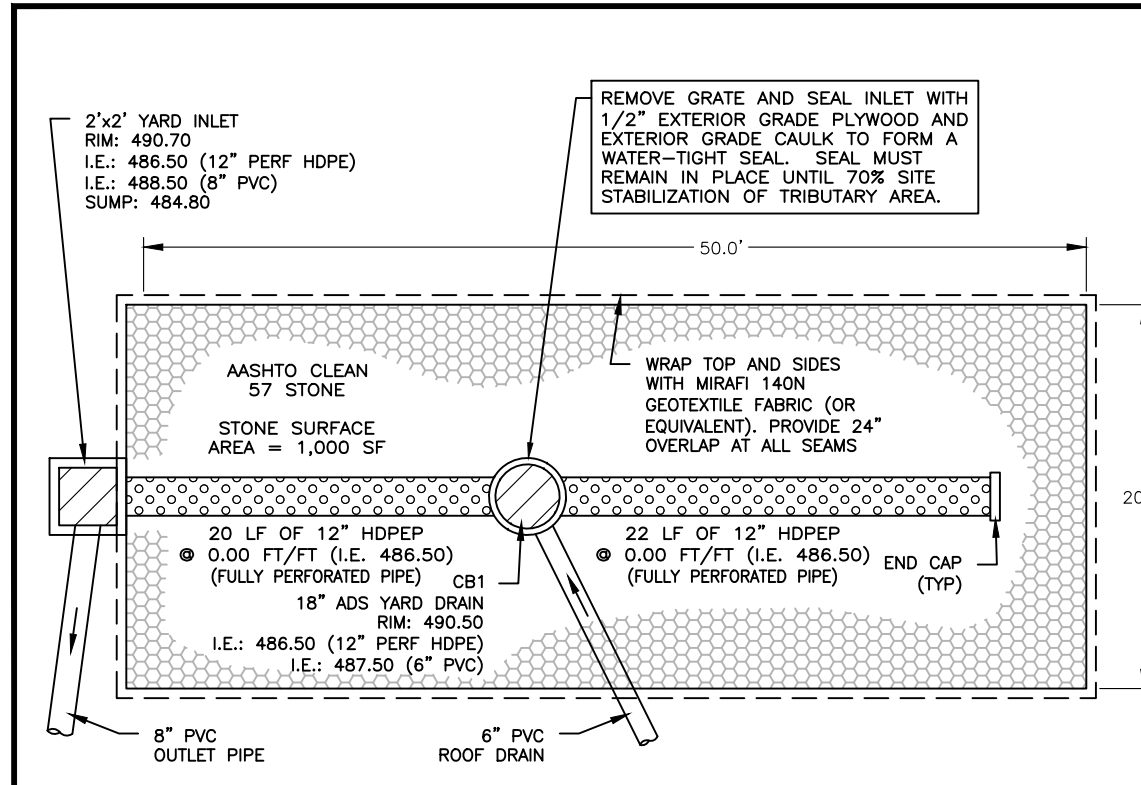
PARCELS:  
**TAX PARCEL NUMBER:  
41-8D-4**

CLIENT:  
**OAK KNOLL, LLC  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382**

PROJECT No.: 1763-1  
SURVEY REF.: 1763-EX(JMR)  
DRAWN BY: S.E.D.  
CHECKED BY: J.M.R.  
PLAN DATE: NOVEMBER 18, 2024  
PLAN SCALE: AS SHOWN

SHEET TITLE:  
**CONSTRUCTION DETAILS**

SHEET NUMBER:  
**11 OF 14**



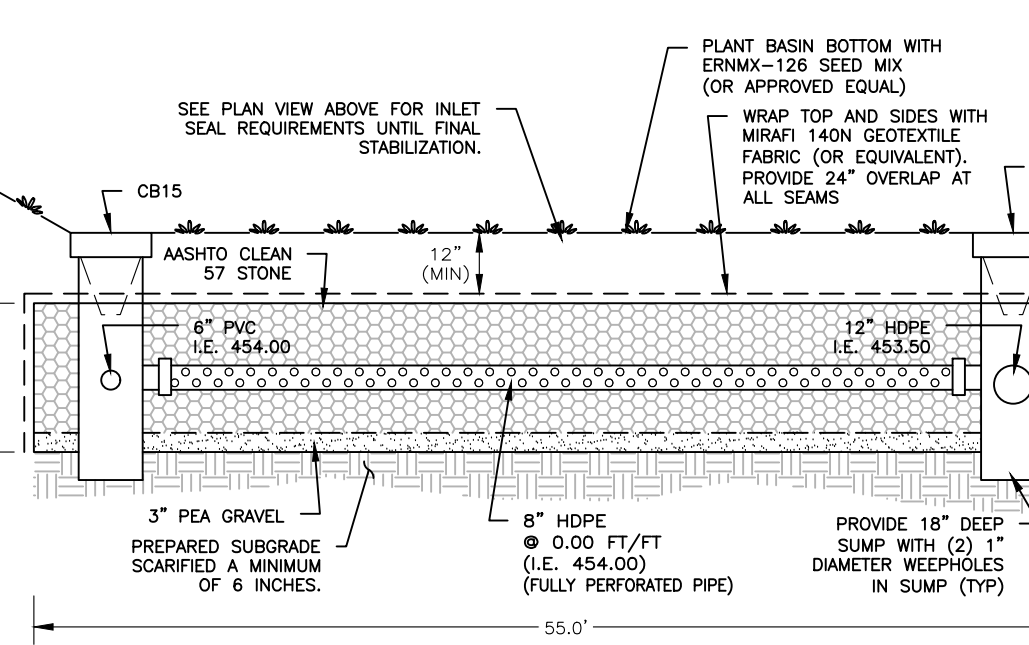
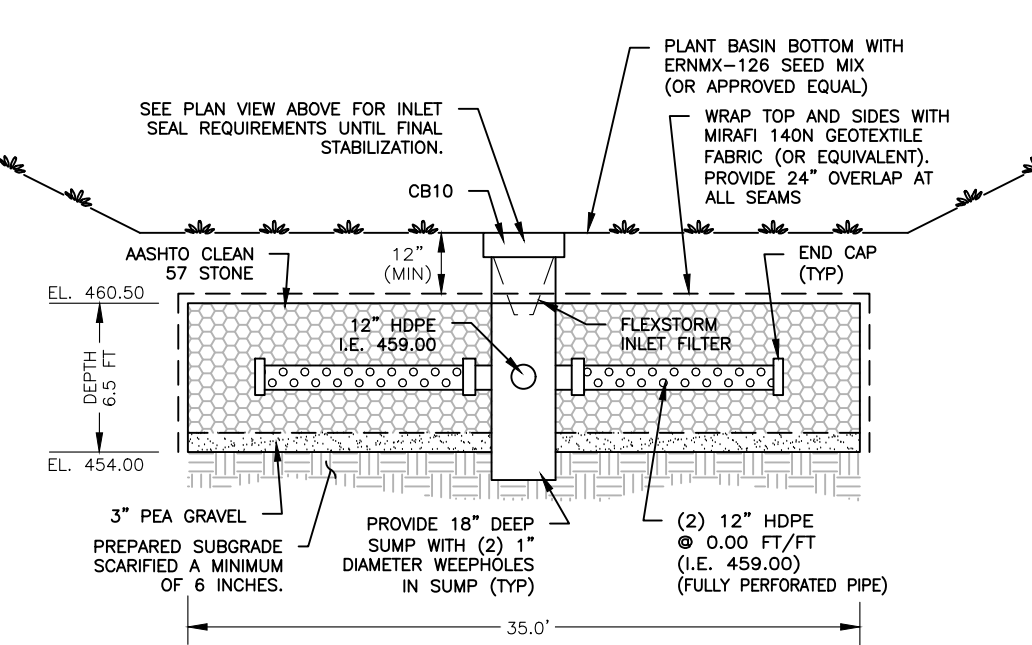
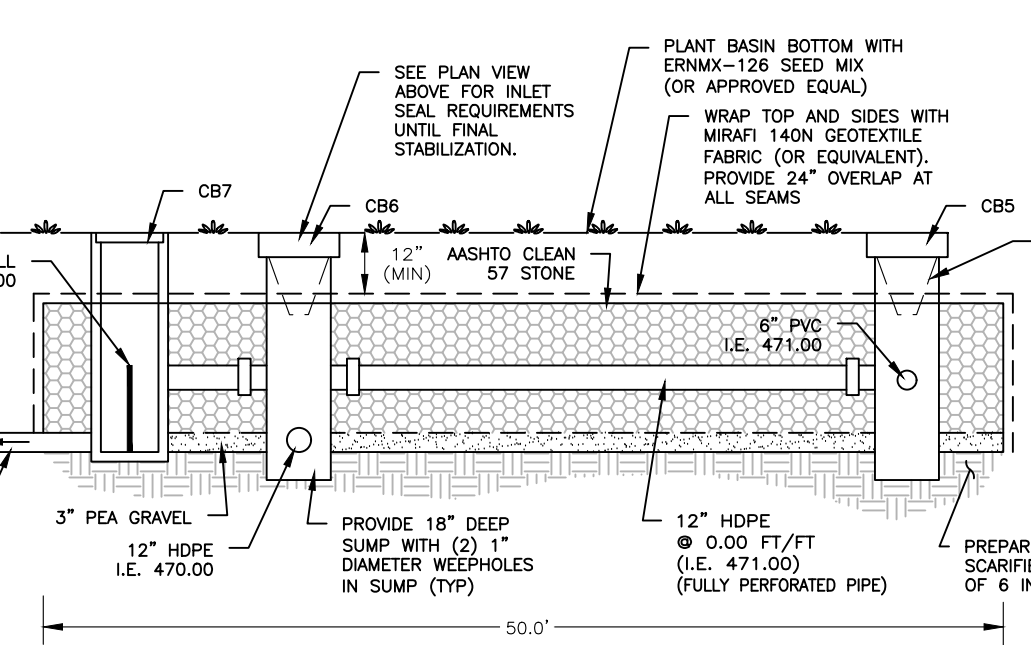
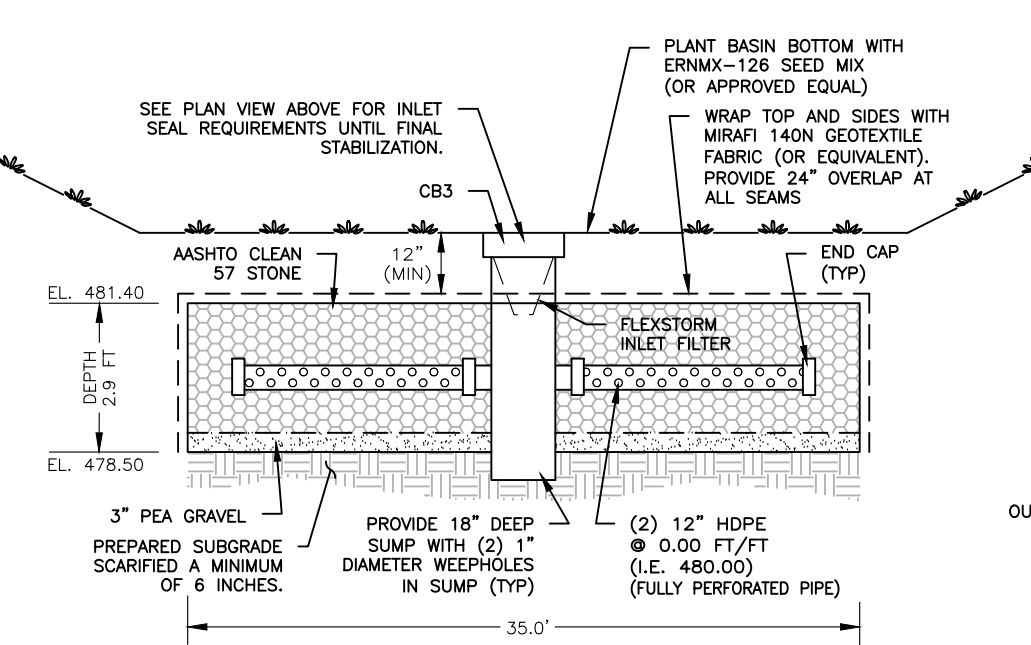
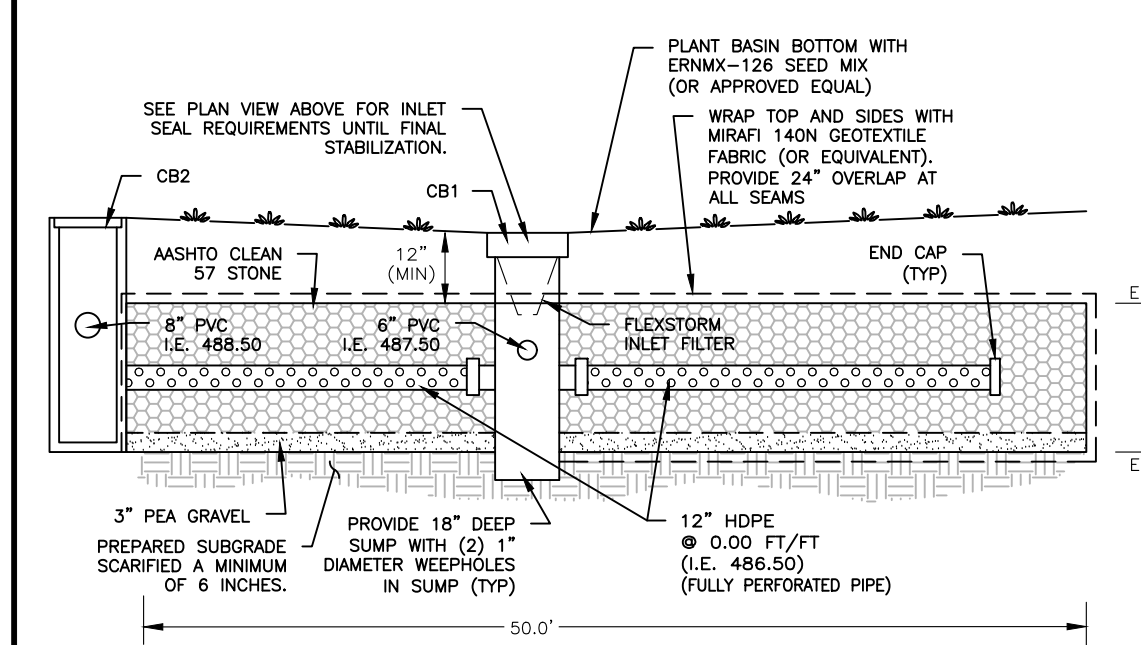
SCM-1 INFILTRATION BED DETAIL - PLAN VIEW (NOT TO SCALE)

SCM-2 INFILTRATION BED DETAIL - PLAN VIEW (NOT TO SCALE)

SCM-3 INFILTRATION BED DETAIL - PLAN VIEW (NOT TO SCALE)

SCM-4 INFILTRATION BED DETAIL - PLAN VIEW (NOT TO SCALE)

SCM-5 INFILTRATION BED DETAIL - PLAN VIEW (NOT TO SCALE)



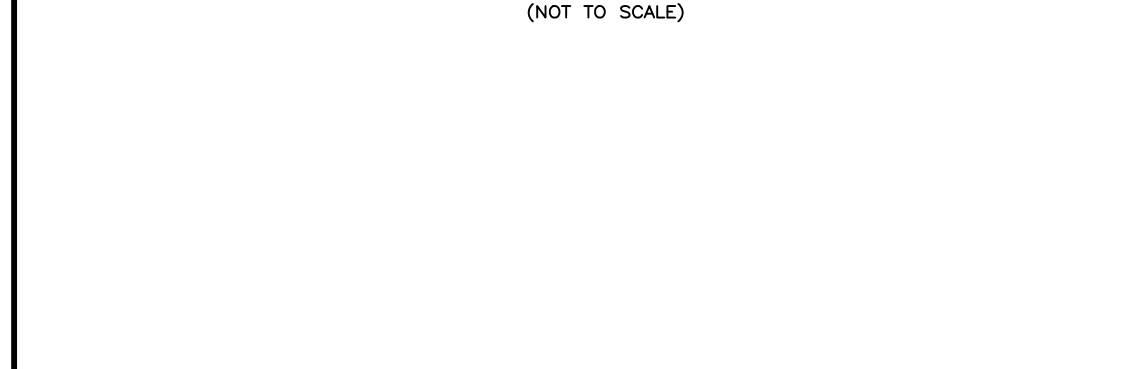
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SCM-2 INFILTRATION BED DETAIL - PROFILE VIEW (NOT TO SCALE)

SCM-3 INFILTRATION BED DETAIL - PROFILE VIEW (NOT TO SCALE)

SCM-4 INFILTRATION BED DETAIL - PROFILE VIEW (NOT TO SCALE)

SCM-5 INFILTRATION BED DETAIL - PROFILE VIEW (NOT TO SCALE)



SCM-1/SCM-2/SCM-4/SCM-5/SCM-6 CONSTRUCTION SEQUENCE AND NOTES:

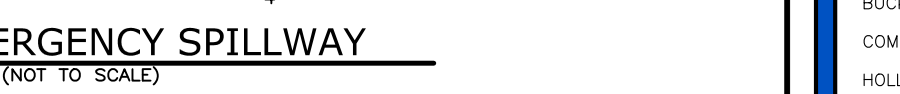
- PRIOR TO CONSTRUCTION, INFILTRATION AREAS SHALL BE MARKED OFF IN THE FIELD. THE AREAS SHALL BE DELINEATED WITH CONSTRUCTION FENCING OR TAPE SO AS TO PREVENT THE PARKING OR OPERATION OF CONSTRUCTION EQUIPMENT ACROSS THE INFILTRATION AREAS. CONTACT THE MUNICIPAL ENGINEER TO SCHEDULE AN INSPECTION OF THE BED CONSTRUCTION. A MINIMUM OF 36 HRS NOTICE MUST BE PROVIDED TO THE INSPECTION AGENCY.
- EXISTING SUB-GRADE UNDER THE INFILTRATION BED SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO THE PLACEMENT OF GEOTEXTILE AND STONE BED.
- PRIOR TO INFILTRATION BED GRADING AND PLACEMENT OF GEOTEXTILE, UPGRADATION AREAS SHALL BE SUFFICIENTLY STABILIZED TO PREVENT THE WASHING OF SEDIMENT INTO THE RECHARGE AREAS. ALTERNATIVELY, THE CONTRACTOR SHALL INSTALL SILT SOCKS IN ACCORDANCE WITH THE APPROVED PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PREVENT THE DEPOSITION OF SEDIMENT OR SEDIMENT-LADEN WATERS INTO THE INFILTRATION STRUCTURES AFTER FINAL GRADING.
- EXCAVATE PROPOSED INFILTRATION BED AREA TO FINAL BED BOTTOM ELEVATION. IF A LIMITING ZONE SUCH AS GROUNDWATER OR BEDROCK WILL INTERFERE WITH THE CONSTRUCTION OF THE INFILTRATION BED, EXCAVATION IS TO BE DISCONTINUED IN THE AFFECTED AREA AND THE TOWNSHIP, OWNER AND ENGINEER NOTIFIED AT ONCE. ALL BED BOTTOMS SHALL BE LEVEL AFTER FINAL GRADING. CONTACT TOWNSHIP AND A LICENSED PROFESSIONAL OR DESIGNER, PREFERABLY THE DESIGN ENGINEER, TO INSPECT THE BED BOTTOM.
- UPON APPROVAL OF FINAL SUB-GRADE PREPARATION, GEOTEXTILE, PEA GRAVEL/COURSE SAND BASE LAYER AND INFILTRATION BED AGGREGATE SHALL BE PLACED IMMEDIATELY. ANY ACCUMULATION OF DEBRIS OR SEDIMENT WHICH HAS TAKEN PLACE AFTER APPROVAL OF SUB-GRADE SHALL BE REMOVED PRIOR TO INSTALLATION OF GEOTEXTILE AT NO EXTRA COST TO OWNER. WHERE EROSION HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS MATERIAL SHALL BE REMOVED WITH LIGHT EQUIPMENT & THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES.
- PLACE GEOTEXTILE AND/OR LINER IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDATIONS. ADJACENT STRIPS OF GEOTEXTILE AND/OR LINES SHALL OVERLAP A MINIMUM OF TWENTY-FOUR (24) INCHES. SECURE GEOTEXTILE AND/OR LINER AT LEAST FOUR (4) FEET OUTSIDE OF BED AND TAKE STEPS NECESSARY TO PREVENT ANY SEDIMENT FROM ENTERING TRENCH.
- PLACE STONE AGGREGATE AND ALL STRUCTURES/PIPING AS REQUIRED. AGGREGATE SHALL BE CLEAN WITH A WASH LOSS OF NO MORE THAN 0.5 PERCENT. INSTALLATION OF THE STONE SHOULD BE CHECKED BY THE DESIGN OR SITE ENGINEER PRIOR TO INSTALLATION INTO THE INFILTRATION BED. THE STONE SHOULD BE CLEAN WASHED AND THE BEDS RESTORED TO THE OWNER'S SATISFACTION.
- FOLLOWING PLACEMENT OF BED AGGREGATE, THE GEOTEXTILE SHALL BE FOLDED OVERTOP THE BED, WITH A MINIMUM OVERLAP OF TWENTY-FOUR (24) INCHES TO PROTECT FROM SEDIMENT WASHOUT ALONG BED EDGES. TOPSOIL (OR APPROPRIATE MATERIAL SPECIFIED BY PARTICULAR DESIGN) WILL BE USED TO FILL ABOVE THE BED TO THE SPECIFIED HEIGHT.
- BACKFILL AND COVER STONE BEDS WITH EXCAVATED MATERIAL. ENSURE ALL BED INLETS ARE SEALED OFF WITH WATER-TIGHT SEALS TO PREVENT ANY FLOW ENTERING BED.
- UPON COMPLETION OF THE INFILTRATION BED CONSTRUCTION, IMMEDIATELY STABILIZE ALL DISTURBED AREAS WITH PERMANENT SEED MIX.
- INFLOW AND OUTFLOW POINTS INTO THE SEEPAGE BED SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES OR DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THESE SYSTEMS. THE OVERFLOW PIPE SHALL BE KEPT IN GOOD WORKING ORDER.
- THE APPLICANT SHALL BE REQUIRED TO PROVIDE THE CHAPTER 102 SCM CONSTRUCTION CERTIFICATION FORM (3800-FM-BOW2714) TO THE CONSERVATION DISTRICT WITHIN 30 DAYS OF COMPLETION OF CONSTRUCTION OF THE FACILITY.



SCM-2 EMERGENCY SPILLWAY (NOT TO SCALE)



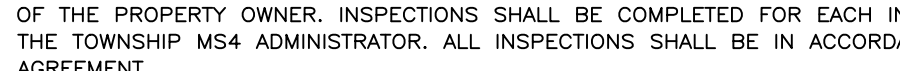
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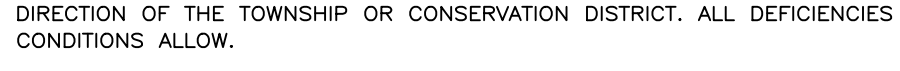
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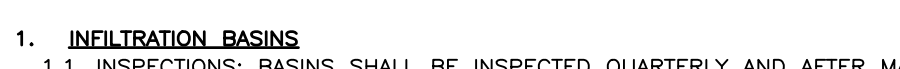
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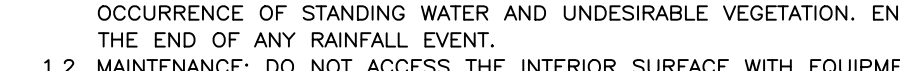
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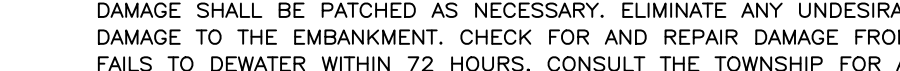
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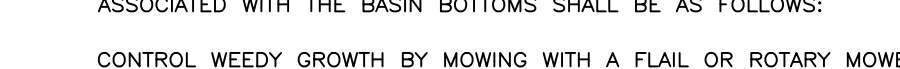
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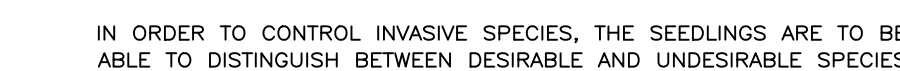
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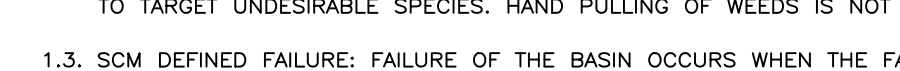
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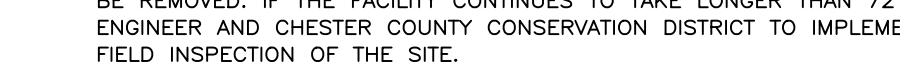
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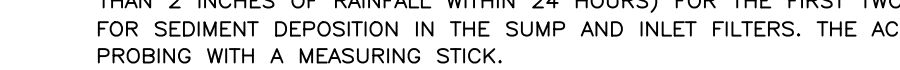
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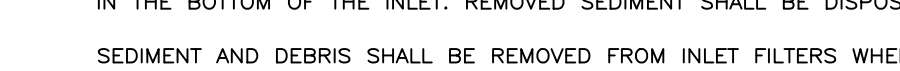
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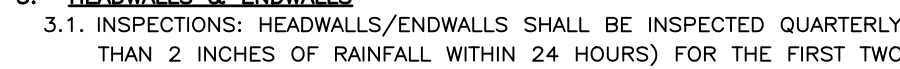
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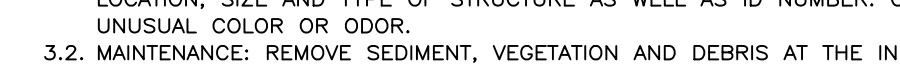
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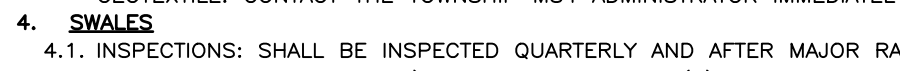
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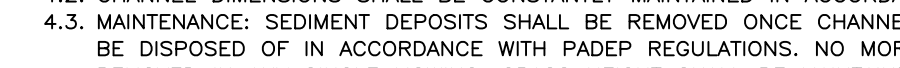
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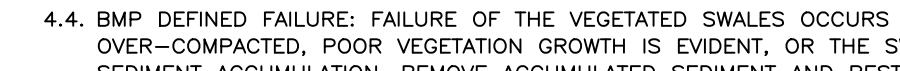
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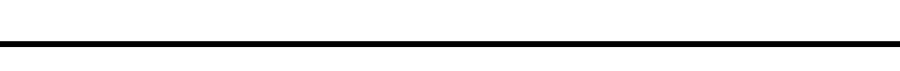
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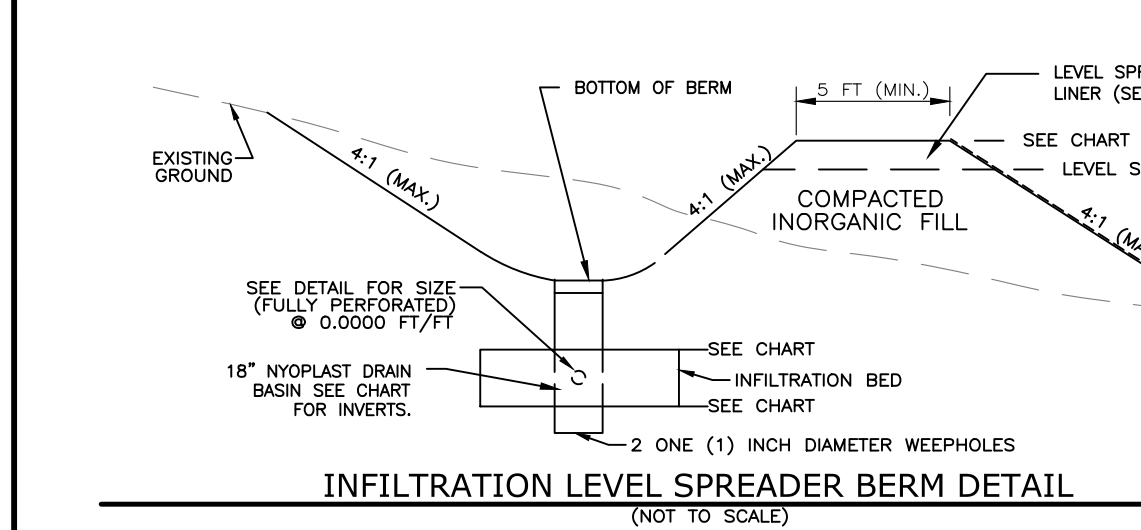
SCM-2 EMERGENCY SPILLWAY (NOT TO SCALE)



SCM-2 EMERGENCY SPILLWAY (NOT TO SCALE)



SCM-2 EMERGENCY SPILLWAY (NOT TO SCALE)



INFILTRATION LEVEL SPREADER BERM DETAIL (NOT TO SCALE)

NOTE: SEE EMBANKMENT, KEY TRENCH & IMPERVIOUS GLAY CORE SPECIFICATIONS ON SHEET 13 FOR BERM AND EMBANKMENT CONSTRUCTION

ON-LOT STORMWATER CONTROL CHART											
BMP No.	TOP OF BERM	BOT. OF BERM	SPREADER ELEVATION	INLET INLET	INLET INLET	TOP OF BED	BOT. OF BED	TOP OF BED	BOT. OF BED	PIPE SIZE (IN)	PIPE SIZE (IN)
SCM-1	N/A	N/A	N/A	495.50	486.50	484.50	484.80	4.7"	20.0'	50.0"	12"
SCM-2	484.00	482.40	483.30	482.40	480.00	478.50	481.40	2.9"	25.0'	35.0"	12"
SCM-3	N/A	N/A	N/A	474.00	471.00	469.00	473.00	3.0"	16.0'	60.0"	12"
SCM-4	464.00	461.50	463.25	461.50	459.00	457.00	460.50	6.5"	20.0'	35.0"	12"
SCM-5	457.00	456.00	456.30	456.00	454.00	452.00	455.00	1.5"	10.0'	55.0"	8"

OWNER/APPLICANT: OAK KNOLL, LLC  
C/O CLEVER WHITE  
4 ZACHARY DRIVE  
WEST CHESTER, PA 19382  
(610) 399-6686

NOTE: SEE SHEETS 6, 12 & 13 FOR ADDITIONAL PCSM PLAN NOTES, DETAILS AND OPERATION & MAINTENANCE PROCEDURES.

**SWM OPERATION AND MAINTENANCE NOTES**

IN ADDITION TO THE INSTALLATION AND MAINTENANCE DURING CONSTRUCTION, THE FOLLOWING PROCEDURES ARE TO BE PERFORMED FOR SHORT AND LONG TERM OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT FACILITIES:

- IT WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER TO MAINTAIN THE STORMWATER MANAGEMENT SCMs/FACILITIES AND RELATED APPURTENANCES. THE PROPERTY OWNER SHALL NOT ALTER THE STORMWATER FACILITIES OR SCMs'S ON THE SITE.
- THE PERSON RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF A SCM OR CONVEYANCE SHALL MAKE RECORDS OF THE INSTALLATION AND OF ALL MAINTENANCE AND REPAIRS, AND SHALL RETAIN THE RECORDS FOR AT LEAST 10 YEARS. THESE RECORDS SHALL BE SUBMITTED TO THE MUNICIPALITY.
- THE OWNER OF EACH SCM AND CONVEYANCE SHALL KEEP ON FILE WITH THE TOWNSHIP THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE PERSON RESPONSIBLE FOR MAINTENANCE ACTIVITIES AND IMPLEMENTATION OF THE O&M PLAN. IN THE EVENT OF A CHANGE, NEW INFORMATION SHALL BE SUBMITTED BY THE BMP OR CONVEYANCE OWNER TO THE MUNICIPALITY WITHIN 60 WORKING DAYS OF THE CHANGE.
- GENERAL OBJECTIVES OF MAINTENANCE ARE TO PREVENT CLOGGING OF THE OUTLETS, AND PREVENT THE GROWTH OF WEEDS AND NOXIOUS PLANTS AROUND INLETS AND TO PREVENT STANDING WATER.
- VEGETATION SHALL BE MOVED WHENEVER NECESSARY TO MAINTAIN A PLEASING APPEARANCE AND DISCOURAGE WEED GROWTH.
- DETAILED INSPECTIONS BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA AT THE INTERVALS NOTED BELOW TO ENSURE THAT ALL FACILITIES ARE OPERATING AS DESIGNED AND TO SCHEDULE MAINTENANCE THAT THE FACILITY MAY REQUIRE, IF POSSIBLE, INSPECTIONS SHOULD BE MADE DURING WEATHER TO ENSURE THAT THE FACILITY IS MAINTAINING DESIRED RETENTION TIMES. IN ADDITION TO REGULARLY SCHEDULED INSPECTIONS, DEFICIENCIES SHOULD BE NOTICED DURING ANY VISIT BY MAINTENANCE PERSONNEL. AN IMPORTANT PURPOSE OF INSPECTIONS IS TO ASCERTAIN THE OPERATIONAL CONDITION AND SAFETY OF THE FACILITY, PARTICULARLY THE CONDITION OF COVER, STANDING WATER AROUND INLETS AND OTHER SAFETY-RELATED ASPECTS. INSPECTION REPORTS ARE TO BE FORWARDED TO THE MUNICIPALITY.

- INSPECTIONS SHALL BE PERFORMED ON THE FOLLOWING BASIS:
  - ANNUALLY FOR THE FIRST FIVE (5) YEARS.
  - ONCE EVERY THREE (3) YEARS THEREAFTER.
- REGARDLESS OF WHO PERFORMS THE INSPECTIONS, IT IS CRITICAL TO MAINTAIN PROPER DOCUMENTATION. USE AN INSPECTION FORM OR CHECKLIST. LOG BOOKS ARE OFTEN USED, BUT THEY NEED TO INCLUDE MORE INFORMATION THAN MERELY THE DATE OF THE INSPECTIONS. PERMITTING AUTHORITIES REQUIRE SELF-INSPECTIONS; AND IF THEY AUDIT THE SITE, THEY WILL WANT TO SEE PROOF OF INSPECTIONS TO DOCUMENT COMPLIANCE. PERMITTING AUTHORITIES MAY ALSO WISH TO SEE INSPECTION AND MAINTENANCE DOCUMENTATION FOR EACH SPECIFIC SCM DURING A PROJECT'S LIFE. SEVERAL PERSONS MAY BE RESPONSIBLE FOR SITE INSPECTIONS. THEREFORE, IT IS IMPORTANT TO KEEP ADEQUATE DOCUMENTATION OF DATES OF INSPECTIONS, FINDINGS, AND MAINTENANCE AND REPAIR OF SCMs.

THE PERSON RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF A SCM OR CONVEYANCE SHALL MAKE RECORDS OF THE INSTALLATION AND OF ALL MAINTENANCE AND REPAIRS, AND SHALL RETAIN RECORDS FOR AT LEAST FIFTEEN (15) YEARS. THESE RECORDS SHALL BE SUBMITTED TO THE MUNICIPALITY, IF REQUESTED.

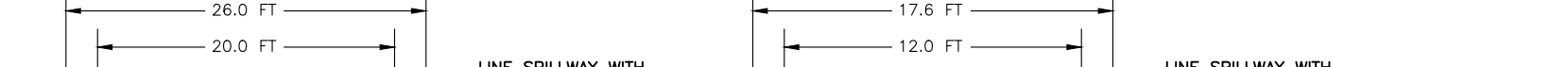
- INFLOW AND OUTFLOW POINTS INTO SCMs SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES OR DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THESE SYSTEMS.
- ANNUALLY ASSESS AND DOCUMENT THE VARIOUS SPECIES OF THE PLANT COVER. IT MAY BE NECESSARY TO SUPPLEMENT AND/OR REMOVE VARIOUS SPECIES DUE TO THEIR GROWING PATTERNS.
- AFTER ANY STORM RAINFALL EVENT OF A 2-YR OR GREATER MAGNITUDE, THE BMPs AND ASSOCIATED OUTLETS SHOULD BE INSPECTED. ANY CLOGGING, BLOCKAGE, INLET OR OUTLET STRUCTURES SHOULD BE REPAIRED OR REMOVED IMMEDIATELY. ANY ERODED AREAS SHOULD BE TOPSOILED AND PERMANENTLY SEEDED AND MULCHED.
- ALL SEDIMENT IS TO BE DISPOSED ON-SITE AS LONG AS SEDIMENT DOES NOT CONTAIN HAZARDOUS TOXINS. SEDIMENTS SHOULD BE TESTED FOR TOXINS IN COMPLIANCE WITH CURRENT DISPOSAL REQUIREMENTS. IF LAND USES IN THE BMPs INCLUDE COMMERCIAL OR INDUSTRIAL ZONES, OR IF VISUAL OR OLFACTORY INDICATIONS OF POLLUTION ARE NOTICED, SEDIMENT SHOULD BE TESTED FOR TOXINS. SEDIMENT SHOULD BE DISPOSED OF PROPERLY IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. NON-TOXIC SEDIMENT IS TO BE CLEAN OF ALL TRASH AND DEBRIS. SEDIMENT SHOULD BE PLACED IN AREAS AWAY FROM RELATIVELY STABLE WATER LEVELS. MATERIAL WHICH WILL NOT COMPACT THE UNDERLYING SOIL, SHOULD BE USED TO REMOVE THE TOP LAYER OF SEDIMENT. THE REMAINING SOIL SHOULD BE TILLED AND RE-VEGETATED AS SOON AS POSSIBLE. SEDIMENT REMOVED WITHIN THE BMPs SHOULD BE PERFORMED WHEN THE SEDIMENT IS DRY ENOUGH SO THAT IT IS CRACKED AND READILY SEPARATES FROM THE BMP FLOOR TO PREVENT SMEARING OF THE BMP FLOOR.

- ADDITIONAL BMP INSPECTION AND MAINTENANCE CRITERIA
  - CATCH BASINS AND INLETS (UPGRADINGS OF SCMs) SHOULD BE INSPECTED AND CLEANED AT LEAST TWO TIMES PER YEAR AND AFTER RAINFALL EVENTS.
  - THE VEGETATION ALONG THE SURFACE OF ANY SWALES SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS RE-VEGETATED AS SOON AS POSSIBLE.
  - INSPECT THE SCMs AFTER RAINFALL EVENTS AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS. MOSQUITOS SHOULD NOT BE A PROBLEM IF THE WATER DRAINS IN 72 HOURS. MOSQUITOES REQUIRE A CONSIDERABLY LONG BREEDING PERIOD WITH RELATIVELY STABLE WATER LEVELS.
  - E ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SLOPE STABILITY IN BERMS.
  - FLOW ONLY AS APPROPRIATE FOR VEGETATION COVER.
  - REMOVE ACCUMULATED SEDIMENT FROM SWALES AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND FLOW RATE. PROPERLY DISPOSE OF SEDIMENT.

ERNMX-127 RETENTION BASIN WILDLIFE MIX		SEED MIX APPLICATION RATE:	
30.00 % PANICUM CLANDESTINUM, TIOGA	20 LB PER 1,000 S.F.	20.00 % ELYMUS VIRGINICUS, MADISON-NY ECOTYPE	A COVER CROP OF GRASS @ 30 LB PER 1,000 S.F.
28.10 % PASTINACA SATIVUS, PA ECOTYPE		14.00 % CAREX LURIDA, PA ECOTYPE	
20.00 % ELYMUS VIRGINICUS, MADISON-NY ECOTYPE		1.80 % HELIOPSIS HELIANTHOIDES, PA ECOTYPE	
14.00 % CAREX LURIDA, PA ECOTYPE		1.50 % JUNCUS FLORIDANUS, PA ECOTYPE	
1.80 % HELIOPSIS HELIANTHOIDES, PA ECOTYPE		0.10 % VERBENA HASTATA, PA ECOTYPE	
1.50 % JUNCUS FLORIDANUS, PA ECOTYPE		0.10 % ASTER LAMINATUS, PA ECOTYPE	
0.10 % VERBENA HASTATA, PA ECOTYPE		0.10 % ASTER PLIOSUS, PA ECOTYPE	
0.10 % ASTER LAMINATUS, PA ECOTYPE		0.10 % ASTER UNIBELLATUS, PA ECOTYPE	
0.10 % ASTER PLIOSUS, PA ECOTYPE		0.10 % LOBELIA SPICULIFLORA, PA ECOTYPE	
0.10 % ASTER UNIBELLATUS, PA ECOTYPE		0.10 % LYCOPodium SPICULIFLORA, PA ECOTYPE	
0.10 % LOBELIA SPICULIFLORA, PA ECOTYPE		0.10 % MAMMILLARIA PLUMMERI, PA ECOTYPE	
0.10 % LYCOPodium SPICULIFLORA, PA ECOTYPE			
0.10 % MAMMILLARIA PLUMMERI, PA ECOTYPE			

- FERTILIZERS AS A NUTRIENT SUPPLEMENT, SHALL NOT BE USED UNLESS IT IS DOCUMENTED THAT SOIL CONDITIONS WARRANT SUCH USE AND THE NUTRIENT APPLIED DOES NOT EXCEED PLANT UPTAKE. SOIL FOR PLANTING SHOULD BE ANALYZED FOR NUTRIENT DEFICIENCIES. NUTRIENT DEFICIENCIES SHOULD BE DETERMINED BY AN AGRICULTURAL CHEMIST, WITH CERTIFICATION OF THE TEST BEFORE PLANTING.
- SEEDING SHALL TAKE PLACE BETWEEN APRIL 1 AND MAY 15 OR BETWEEN SEPTEMBER AND OCTOBER 15. PLANTING AREAS SHALL BE SOAKED TO MAINTAIN A CONSISTENT LEVEL OF MOISTURE FOR AT LEAST FOUR TO SIX WEEKS AFTER PLANTING.
- ONCE ESTABLISHED, ONLY A SINGLE ANNUAL MOWING WHEN PLANTS ARE DORMANT IS REQUIRED TO MAINTAIN THE LANDSCAPING DESCRIBED HEREIN. MAINTENANCE PRACTICES SHALL INCLUDE ERADICATION OF INVASIVE SPECIES AS IDENTIFIED BY THE PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES ("DCNR"), SECTION 270-30.3(a)(15).
- THE PLANS SHALL SPECIFY THAT ANY PESTICIDE SHALL ONLY BE APPLIED BY SOMEONE THAT IS LICENSED AND CERTIFIED IN THE APPLICATION OF CATEGORY 09 AQUATIC PEST CONTROL PESTICIDES.

**INFILTRATION BED WRAPPING DETAIL**



INFILTRATION BED WRAPPING DETAIL (NOT TO SCALE)

**2' X 2' YARD INLET DETAIL**



2' X 2' YARD INLET DETAIL (NOT TO SCALE)

NOTE: 1. ALL ONE (1) INCH WEEP HOLES MUST BE INSTALLED AT BASIN BASE TO ALLOW DRAINAGE OF THE SUMP. 2. ALL JOINTS AND PIPE PENETRATIONS SHALL BE WATER TIGHT.

**WEST WHITELAND TOWNSHIP SWM FACILITY CONSTRUCTION NOTES:**

- AREAS TO BE USED FOR STORMWATER INFILTRATION (HEREAFTER, "SUBJECT AREA") SHALL BE DELIMITED WITH ORANGE SAFETY FENCE PRIOR TO START OF CONSTRUCTION.
- COMPACTION OF THE SUBJECT AREAS IS PROHIBITED. EQUIPMENT AND OTHER TRAFFIC SHALL BE PROHIBITED FROM TRAVELING OVER THE SUBJECT AREAS, EXCEPT AS PROVIDED HEREIN. ONLY HEAVY EQUIPMENT SHOULD BE USED WITHIN SUBJECT AREAS. OTHER EQUIPMENT MAY BE USED AROUND THE PERIMETER - BUT OUTSIDE OF - SUBJECT AREAS FOR PURPOSES OF EXCAVATION AND TO SUPPLY SOILS AND AGGREGATE.
- WHERE THE CONFIGURATION OF THE FACILITY DICTATES THAT ANYTHING OTHER THAN HAND HELD EQUIPMENT MUST OPERATE WITHIN A SUBJECT AREA, EXCAVATION AND FILL PLACEMENT SHALL BE ACCOMPLISHED SUCH THAT THE HEAVY EQUIPMENT IS NEVER WITHIN THE SUBJECT AREA UNLESS THE SURFACE THAT SAID EQUIPMENT OCCUPIES IS AT LEAST TWO (2) FEET ABOVE THE PROPOSED FINISHED SUBGRADE FOR THAT LOCATION. FOR EXCAVATION OPERATIONS, THE EXCAVATOR SHALL WORK FROM HIGHER GROUND AND PROCEED IN A BACKWARDS DIRECTION, MOVING AWAY FROM THE FINISHED EXCAVATION AREA. FOR FILL OPERATIONS, AGGREGATE SHALL BE PLACED STARTING AT THE PERIMETER OF THE SUBJECT AREA AND PUSHED FORWARD, SUCH THAT EQUIPMENT IS NEVER WITHIN THE SUBJECT AREA UNLESS IT IS ON TOP OF AT LEAST TWO (2) FEET OF AGGREGATE.
- IF THE CONTRACTOR INTENDS TO UTILIZE ANYTHING OTHER THAN HAND HELD EQUIPMENT WITHIN A SUBJECT AREA, THE CONTRACTOR SHALL, TWO (2) WEEKS PRIOR TO SUCH USE, PROVIDE THE TOWNSHIP ENGINEER WITH A LIST OF EQUIPMENT TO BE USED WITHIN THE SUBJECT AREA. THE LIST SHALL INCLUDE EQUIPMENT SPECIFICATIONS AND SHALL BE ACCOMPANIED BY ENGINEERING CALCULATIONS CERTIFYING THAT THE EQUIPMENT WILL EXERT A PRESSURE OF 5 PSI OR LESS ON THE SUBGRADE OF THE INFILTRATION FACILITY.
- THE BOTTOM OF INFILTRATION BEDS SHALL BE SCARIFIED IMMEDIATELY PRIOR TO THE PLACEMENT OF THE GEOTEXTILE FABRIC OR THE LOWEST AGGREGATE SEPARATION LAYER, WHICHEVER IS IN CONTACT WITH THE SOIL SUBGRADE, AT THE BOTTOM OF THE BED.
- ONLY UNIFORMLY GRADED, CLEAN AGGREGATE, FREE OF FINES, SLATE, SHALE, CLAY, SILT, AND VEGETATIVE MATERIAL SHALL BE USED. THE AGGREGATE SHALL HAVE A MINIMUM VOID RATIO OF 40% AND A WASH LOSS OF NO MORE THAN 0.5%. THESE VALUES APPLY TO BOTH THE AGGREGATE WITHIN THE BED AND ANY AGGREGATE USED AS A SEPARATION LAYER. THE SUPPLIER OF THE AGGREGATE SHALL PROVIDE CERTIFICATION OF THE VOID RATIO OF THE AGGREGATE DELIVERED TO THE SITE. THE DESIGN ENGINEER SHALL VERIFY THAT THE VOID RATIO MEETS OR EXCEEDS THE REQUIREMENTS OF THE DESIGN AND SUBMIT SUCH VERIFICATION TO THE TOWNSHIP.
- WHEREVER DRAINAGE FILTER FABRIC IS SPECIFIED, IT SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS, INCLUDING PIPE PENETRATIONS, AND SHALL OVERLAP A MINIMUM OF TWENTY FOUR (24) INCHES.
- SUBJECT AREAS SHALL BE PROTECTED DURING CONSTRUCTION. SEDIMENT SHALL NOT BE ALLOWED TO BE WASHED BACK INTO SUBJECT AREAS WHEN THE BOTTOM OF THE FACILITY IS OPEN OR WHEN THE AGGREGATE IS IN PLACE AND EXPOSED. DURING SITE CONSTRUCTION, ALL INFILTRATION FACILITY COMPONENTS SHALL BE PROTECTED FROM SEDIMENTATION USING STORM INLET PROTECTION IN CONFORMANCE WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) AFTER 102 REGULATIONS, AS AMENDED. AND THE EROSION AND SEDIMENTATION POLLUTION CONTROL MANUAL, AS AMENDED. INLET PROTECTION SHALL REMAIN UNTIL THE CONTRIBUTORY DRAINAGE AREA HAS ACHIEVED FULL STABILIZATION.
- IF SEDIMENT DOES ENTER INTO A SUBJECT AREA, THE CONTRACTOR SHALL CLEAN OUT THE SEDIMENT TO THE TOWNSHIP'S SATISFACTION. THIS MAY REQUIRE THE RECONSTRUCTION OF PORTIONS OF OR THE ENTIRETY OF THE SYSTEM.
- A MINIMUM TWO (2)-FOOT SEPARATION SHALL BE PROVIDED BETWEEN THE SEASONAL HIGH GROUNDWATER TABLE OR BEDROCK (WHICHEVER IS HIGHER) AND THE BOTTOM OF THE INFILTRATION FACILITY. IF GROUNDWATER AND/OR BEDROCK ARE ENCOUNTERED WITHIN AND/OR ABOVE THIS 2-FOOT ZONE DURING CONSTRUCTION, THE DESIGN ENGINEER, THE TOWNSHIP, AND THE TOWNSHIP ENGINEER SHALL BE NOTIFIED IN WRITING WITHIN TWENTY-FOUR (24) HOURS OF SUCH DISCOVERY. UPON REVIEW OF THE ACTUAL SITE CONDITIONS THE DESIGN ENGINEER SHALL SUBMIT REMEDIAL RECOMMENDATIONS TO THE TOWNSHIP AND TOWNSHIP ENGINEER FOR REVIEW AND APPROVAL.
- THE DEVELOPER SHALL TEST INFILTRATION FACILITIES TO CONFIRM THAT THEY FUNCTION AS DESIGNED PRIOR TO TRANSFERRING RESPONSIBILITY TO THE PROPERTY OWNER. THIS SHALL BE ACCOMPLISHED BY FILLING THE COMPLETED FACILITY TO A DEPTH OF ONE-QUARTER (1/4) OF ITS DESIGN DEPTH OR TO A DEPTH OF SIX (6) INCHES, WHICHEVER IS GREATER, AND MEASURING THE AMOUNT OF TIME IT TAKES TO COMPLETELY DEWATER. THE TESTING SHALL BE WITNESSED BY THE TOWNSHIP ENGINEER AND THE DEVELOPER SHALL PROVIDE A REPORT TO THE TOWNSHIP VERIFYING THE TEST RESULTS AND COMPARING THE RESULTS TO THE DESIGN CRITERIA, RELATIVE TO THE PREDICTED TIME TO DEWATER THE PROPORTIONATE DEPTH OF WATER USED FOR THE TEST.

**WEST WHITELAND TOWNSHIP PCSM INSPECTION & MAINTENANCE NOTES:**

- NO STRUCTURES THAT ARE NOT COMPONENTS OF AN APPROVED BMP SHALL BE PERMITTED WITHIN OR ON TOP OF AN AREA DESIGNATED FOR STORMWATER INFILTRATION.

**JM ENGINEERING, LLC**  
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COMMONWEALTH OF PENNSYLVANIA  
REGISTERED PROFESSIONAL ENGINEER  
JOHN M. ROBINSON  
PE#056271

JOHN M. ROBINSON  
PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE NO. PE056271

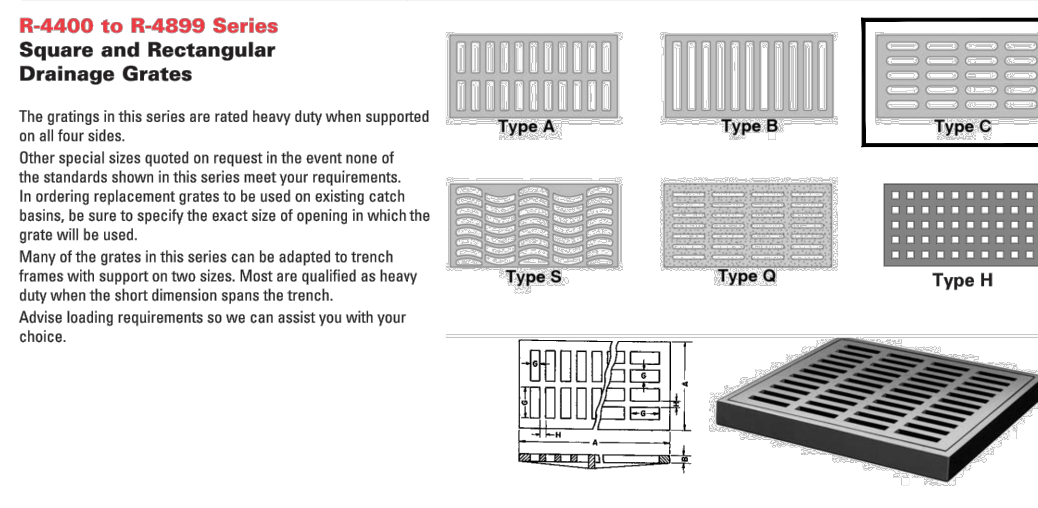
**UTILITY USERS LIST**

USERS	RESPONSES
AQUA	FIELD MARKED
BUCKEYE PARTNERS	NO CONFLICT
COMCAST CABLE	NO CONFLICT
HOLLOW RUN APARTMENTS	NO CONFLICT
PECO	NO CONFLICT
VERIZON	NO CONFLICT
WEST WHITELAND TOWNSHIP	NO CONFLICT

**CALL BEFORE YOU DIG!**

ANYONE WHO DIGS SHOULD CONTACT THE CONTRACTOR TO VERIFY UNDERGROUND UTILITY PRIOR TO ANY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR NOTIFYING ALL UTILITIES OF ANY WORK TO BE DONE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL UTILITIES AND FOR THE PROTECTION OF ALL UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTIL

Note: When specifying/ordering grates, refer to "Choosing the Proper Inlet Grate" on pages 125-126. For a complete listing of FREE OPEN AREAS and WEIR PERIMETERS of all NEEHAH grates, refer to pages 207-202.



Catalog No.	Dimensions in inches				Type	Catalog No.	Dimensions in inches				Type
	A	B	G	H			A	B	G	H	
R-4400*	1.8	1.4	1.4	1.4	A	R-4400*	1.8	1.4	1.4	1.4	A
R-4401*	1.8	1.8	1.8	1.8	B	R-4401*	1.8	1.8	1.8	1.8	B
R-4402*	1.8	1.8	1.8	1.8	C	R-4402*	1.8	1.8	1.8	1.8	C
R-4403*	1.8	1.8	1.8	1.8	D	R-4403*	1.8	1.8	1.8	1.8	D
R-4404*	1.8	1.8	1.8	1.8	E	R-4404*	1.8	1.8	1.8	1.8	E
R-4405*	1.8	1.8	1.8	1.8	F	R-4405*	1.8	1.8	1.8	1.8	F
R-4406*	1.8	1.8	1.8	1.8	G	R-4406*	1.8	1.8	1.8	1.8	G
R-4407*	1.8	1.8	1.8	1.8	H	R-4407*	1.8	1.8	1.8	1.8	H
R-4408*	1.8	1.8	1.8	1.8	I	R-4408*	1.8	1.8	1.8	1.8	I
R-4409*	1.8	1.8	1.8	1.8	J	R-4409*	1.8	1.8	1.8	1.8	J
R-4410*	1.8	1.8	1.8	1.8	K	R-4410*	1.8	1.8	1.8	1.8	K
R-4411*	1.8	1.8	1.8	1.8	L	R-4411*	1.8	1.8	1.8	1.8	L
R-4412*	1.8	1.8	1.8	1.8	M	R-4412*	1.8	1.8	1.8	1.8	M
R-4413*	1.8	1.8	1.8	1.8	N	R-4413*	1.8	1.8	1.8	1.8	N
R-4414*	1.8	1.8	1.8	1.8	O	R-4414*	1.8	1.8	1.8	1.8	O
R-4415*	1.8	1.8	1.8	1.8	P	R-4415*	1.8	1.8	1.8	1.8	P
R-4416*	1.8	1.8	1.8	1.8	Q	R-4416*	1.8	1.8	1.8	1.8	Q
R-4417*	1.8	1.8	1.8	1.8	R	R-4417*	1.8	1.8	1.8	1.8	R
R-4418*	1.8	1.8	1.8	1.8	S	R-4418*	1.8	1.8	1.8	1.8	S
R-4419*	1.8	1.8	1.8	1.8	T	R-4419*	1.8	1.8	1.8	1.8	T
R-4420*	1.8	1.8	1.8	1.8	U	R-4420*	1.8	1.8	1.8	1.8	U
R-4421*	1.8	1.8	1.8	1.8	V	R-4421*	1.8	1.8	1.8	1.8	V
R-4422*	1.8	1.8	1.8	1.8	W	R-4422*	1.8	1.8	1.8	1.8	W
R-4423*	1.8	1.8	1.8	1.8	X	R-4423*	1.8	1.8	1.8	1.8	X
R-4424*	1.8	1.8	1.8	1.8	Y	R-4424*	1.8	1.8	1.8	1.8	Y
R-4425*	1.8	1.8	1.8	1.8	Z	R-4425*	1.8	1.8	1.8	1.8	Z

FREE OPEN AREAS OF NEEHAH GRATES (Continued)

Catalog No.	Grate Type	FT.	W.E.I.R. PERIMETER	Catalog No.	Grate Type	FT.	W.E.I.R. PERIMETER	Catalog No.	Grate Type	FT.	W.E.I.R. PERIMETER	Catalog No.	Grate Type	FT.	W.E.I.R. PERIMETER
R-4400*	A	1.8	1.4	R-4400*	A	1.8	1.4	R-4400*	A	1.8	1.4	R-4400*	A	1.8	1.4
R-4401*	B	1.8	1.8	R-4401*	B	1.8	1.8	R-4401*	B	1.8	1.8	R-4401*	B	1.8	1.8
R-4402*	C	1.8	1.8	R-4402*	C	1.8	1.8	R-4402*	C	1.8	1.8	R-4402*	C	1.8	1.8
R-4403*	D	1.8	1.8	R-4403*	D	1.8	1.8	R-4403*	D	1.8	1.8	R-4403*	D	1.8	1.8
R-4404*	E	1.8	1.8	R-4404*	E	1.8	1.8	R-4404*	E	1.8	1.8	R-4404*	E	1.8	1.8
R-4405*	F	1.8	1.8	R-4405*	F	1.8	1.8	R-4405*	F	1.8	1.8	R-4405*	F	1.8	1.8
R-4406*	G	1.8	1.8	R-4406*	G	1.8	1.8	R-4406*	G	1.8	1.8	R-4406*	G	1.8	1.8
R-4407*	H	1.8	1.8	R-4407*	H	1.8	1.8	R-4407*	H	1.8	1.8	R-4407*	H	1.8	1.8
R-4408*	I	1.8	1.8	R-4408*	I	1.8	1.8	R-4408*	I	1.8	1.8	R-4408*	I	1.8	1.8
R-4409*	J	1.8	1.8	R-4409*	J	1.8	1.8	R-4409*	J	1.8	1.8	R-4409*	J	1.8	1.8
R-4410*	K	1.8	1.8	R-4410*	K	1.8	1.8	R-4410*	K	1.8	1.8	R-4410*	K	1.8	1.8
R-4411*	L	1.8	1.8	R-4411*	L	1.8	1.8	R-4411*	L	1.8	1.8	R-4411*	L	1.8	1.8
R-4412*	M	1.8	1.8	R-4412*	M	1.8	1.8	R-4412*	M	1.8	1.8	R-4412*	M	1.8	1.8
R-4413*	N	1.8	1.8	R-4413*	N	1.8	1.8	R-4413*	N	1.8	1.8	R-4413*	N	1.8	1.8
R-4414*	O	1.8	1.8	R-4414*	O	1.8	1.8	R-4414*	O	1.8	1.8	R-4414*	O	1.8	1.8
R-4415*	P	1.8	1.8	R-4415*	P	1.8	1.8	R-4415*	P	1.8	1.8	R-4415*	P	1.8	1.8
R-4416*	Q	1.8	1.8	R-4416*	Q	1.8	1.8	R-4416*	Q	1.8	1.8	R-4416*	Q	1.8	1.8
R-4417*	R	1.8	1.8	R-4417*	R	1.8	1.8	R-4417*	R	1.8	1.8	R-4417*	R	1.8	1.8
R-4418*	S	1.8	1.8	R-4418*	S	1.8	1.8	R-4418*	S	1.8	1.8	R-4418*	S	1.8	1.8
R-4419*	T	1.8	1.8	R-4419*	T	1.8	1.8	R-4419*	T	1.8	1.8	R-4419*	T	1.8	1.8
R-4420*	U	1.8	1.8	R-4420*	U	1.8	1.8	R-4420*	U	1.8	1.8	R-4420*	U	1.8	1.8
R-4421*	V	1.8	1.8	R-4421*	V	1.8	1.8	R-4421*	V	1.8	1.8	R-4421*	V	1.8	1.8
R-4422*	W	1.8	1.8	R-4422*	W	1.8	1.8	R-4422*	W	1.8	1.8	R-4422*	W	1.8	1.8
R-4423*	X	1.8	1.8	R-4423*	X	1.8	1.8	R-4423*	X	1.8	1.8	R-4423*	X	1.8	1.8
R-4424*	Y	1.8	1.8	R-4424*	Y	1.8	1.8	R-4424*	Y	1.8	1.8	R-4424*	Y	1.8	1.8
R-4425*	Z	1.8	1.8	R-4425*	Z	1.8	1.8	R-4425*	Z	1.8	1.8	R-4425*	Z	1.8	1.8

\* NOTE: On catalog # R-4400-4425 thru R-4400-4425, S.D.F.T. OPEN and WEIR PERIMETER per lineal foot. Type R indicates "Special" grate style and is not among standard types illustrated. \*\* Roll type or mountable curb.

ANNUAL REPORTING REQUIREMENTS 25 PA CODE §92A.61(g)

- THE PERMITEE MUST SUBMIT A COMPLETE ANNUAL REPORT TO THE OFFICE OF DEP/CDD THAT APPROVED GENERAL PERMIT COVERAGE BY DECEMBER 7 EACH YEAR USING DEP'S ANNUAL REPORT TEMPLATE (3800-PA-BOW2040SE). THE ANNUAL REPORT MUST ADDRESS ACTIVITIES UNDER THIS GENERAL PERMIT FOR THE REPORTING PERIOD OF OCTOBER 1 - SEPTEMBER 30.
- FOR EXISTING PERMITTEES, THE FIRST ANNUAL REPORT IS DUE BY DECEMBER 7, 2025 AND THE REPORTING PERIOD IS OCTOBER 1, 2024 - SEPTEMBER 30, 2025. THEREAFTER THE REPORTING PERIOD IS OCTOBER 1 - SEPTEMBER 30, AND THE ANNUAL REPORT IS DUE DECEMBER 7.
- FOR NEW PERMITTEES, THE FIRST ANNUAL REPORT IS DUE BY DECEMBER 7 FOLLOWING THE FIRST FULL YEAR OF GENERAL PERMIT COVERAGE AND THE REPORTING PERIOD IS THE EFFECTIVE DATE OF GENERAL PERMIT COVERAGE TO SEPTEMBER 30 FOLLOWING THE FIRST FULL YEAR OF GENERAL PERMIT COVERAGE. THEREAFTER THE REPORTING PERIOD IS OCTOBER 1 - SEPTEMBER 30, AND THE ANNUAL REPORT IS DUE DECEMBER 7.
- THE PERMITEE MUST SUBMIT THE ANNUAL REPORT TO DEP/CDD IN ELECTRONIC FORMAT UPON RECEIPT OF WRITTEN NOTIFICATION FROM DEP/CDD.

QUALIFIED INSPECTOR NOTE

EFFECTIVE DECEMBER 8, 2025, SITE INSPECTIONS MUST BE PERFORMED AND VISUAL SITE INSPECTION REPORTS MUST BE COMPLETED BY QUALIFIED PERSONNEL THAT ARE TRAINED AND EXPERIENCED IN E&S AND PCSM BMP CONSTRUCTION, FUNCTION, AND MAINTENANCE AND ARE FAMILIAR WITH THE E&S AND PCSM PLANS FOR THE PROJECT SITE. A PERSON IS QUALIFIED WHEN ONE OR MORE OF THE FOLLOWING CONDITIONS ARE SATISFIED:

- HE/HAS COMPLETED THE QUALIFIED SITE INSPECTOR TRAINING PROGRAM IN DEP'S CLEAN WATER ACADEMY INITIALLY AND EVERY TWO YEARS THEREAFTER;
- HE/HAS HOLD ACTIVE CERTIFICATION AS A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (EPESC) OR AS A CERTIFIED EROSION, SEDIMENT, AND STORMWATER INSPECTOR (CESSWI) FROM A RECOGNIZED ORGANIZATION; OR
- HE/CAN DEMONSTRATE TO THE SATISFACTION OF DEP/CDD THAT HE/HAS QUALIFICATIONS EQUIVALENT TO OR EXCEEDING THOSE IDENTIFIED IN PARAGRAPHS (i) OR (ii), IF THIS OPTION IS SELECTED, THE PERSON MUST SUBMIT DOCUMENTATION OF THEIR TRAINING AND EXPERIENCE TO DEP/CDD AND RECEIVE WRITTEN APPROVAL FROM DEP/CDD PRIOR TO CONDUCTING SITE INSPECTIONS, UNLESS WAIVED BY DEP/CDD.

FOR SITE INSPECTORS SATISFYING PARAGRAPH (i) OR (ii), THE PERMITEE MUST PROVIDE DOCUMENTATION (E.G., COMPLETION CERTIFICATE) OF THE INSPECTOR'S QUALIFICATIONS UPON THE REQUEST OF DEP/CDD.

POST CONSTRUCTION STORMWATER MANAGEMENT GENERAL NOTES

- THE PERMITEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER BMP'S. ADDITIONAL SOIL TESTING MAY BE REQUIRED PRIOR TO THE INSTALLATION OF INFILTRATION BMP'S ENSURING PROPER LOCATION AND FUNCTION. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMP'S, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
- EVERYWHERE UNDER THE INFILTRATION AREAS SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO THE PLACEMENT OF CONSTRUCTION STORMWATER BMP'S.
- PRIOR TO CONSTRUCTION, INFILTRATION AREAS SHALL BE MARKED OFF IN THE FIELD. THE AREAS SHALL BE DELINEATED WITH CONSTRUCTION FENCING OR TAPE IN SUCH A MANNER AS TO PROTECT THE INFILTRATION AREAS FROM UNDESIRABLE MOVEMENT OF CONSTRUCTION EQUIPMENT ACROSS THE INFILTRATION AREAS.
- IF UNFAVORABLE CONDITIONS FOR INFILTRATION ARE ENCOUNTERED DURING THE INSTALLATION OF THE ON-DOT INFILTRATION BED, EXCAVATION IS TO BE DISCONTINUED IN THE AFFECTED AREA AND THE OWNER AND ENGINEER NOTIFIED AT ONCE.
- A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING APPROVAL OF THE FINAL AS-BUILT PLANS. PRIOR TO ACCEPTING THE NOT, THE DEPARTMENT AND ENGINEER DISTRICT STAFF WILL PERFORM A FINAL INSPECTION TO ENSURE SITE STABILIZATION AND VERIFY ADEQUATE INSTALLATION AND FUNCTION OF STORMWATER BMP'S.
- UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY UNDER SECTION 102.220(2) OF THE PA CODE (RELATING TO PERMANENT STABILIZATION), AND INSTALLATION OF BMP'S IN ACCORDANCE WITH APPROVED PLAN PREPARED AND IMPLEMENTED IN ACCORDANCE WITH SECTIONS 102.4 & 102.8 OF THE PA CODE (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS; AND PCSM REQUIREMENTS), THE PERMITEE SHALL SUBMIT A NOTICE OF TERMINATION TO DEP OR THE CONSERVATION DISTRICT. THE NOTICE OF TERMINATION MUST INCLUDE:
  - THE FACILITY NAME, ADDRESS AND LOCATION.
  - THE OPERATOR NAME AND ADDRESS.
  - THE PERMIT NUMBER.
  - THE REASON FOR PERMIT TERMINATION.
  - IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF THE PCSM BMP'S IN ACCORDANCE WITH SECTION 102.8 OF THE PA CODE AND PROVIDE COMPLIANCE WITH SECTION 102.8(b)(2) OF THE PA CODE. PRIOR TO THE END OF THE PERMIT TERM, THE CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION (NOT).
  - A NOTICE OF PERMIT TERMINATION (NOT) TRANSFER LONG TERM OPERATION AND MAINTENANCE OF THE PCSM BMP'S OR OTHERWISE (PERMITS) TO ANOTHER PARTY. THE OWNER FOR LONG TERM OPERATION AND MAINTENANCE OF THE PCSM BMP'S.

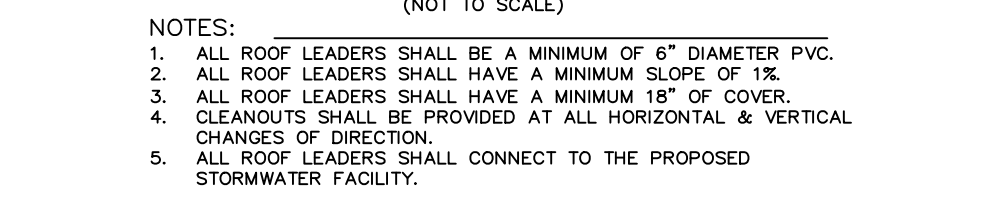
POST CONSTRUCTION STORMWATER MANAGEMENT LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS

- UNTIL THE PERMITEE OR CO-PERMITEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITEE OR CO-PERMITEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMP'S ON THE PROJECT'S SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.
- THE PERMITEE OR CO-PERMITEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMP'S ON THE PROJECT'S SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.
- FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITEE OR CO-PERMITEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OPERATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH. THE SUBJECT PROPERTY OWNER MUST OBTAIN A TITLE INSURANCE POLICY THAT PROVIDES NECESSARY ACCESS RELATED TO THE LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMP'S. THE PERMITEE OR CO-PERMITEE SHALL BE A COVENANT THAT RUNS WITH THE LAND. THE PERMITEE OR CO-PERMITEE SHALL PROVIDE THE NECESSARY COPIES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER PA CODE SECTION 102.7(b)(5) (PERMIT TERMINATION).
- THE TOWNSHIP ENGINEER HAS THE RIGHT, BUT NOT THE RESPONSIBILITY, TO CONDUCT SUCH INSPECTIONS AS WELL AS TO EXECUTE SUCH ACTIONS AS MAY BE NECESSARY TO ELIMINATE ANY HAZARD TO PUBLIC HEALTH, SAFETY OR WELFARE WITHOUT PRIOR NOTICE TO THE PROPERTY OWNER. THE TOWNSHIP FURTHER RESERVES THE RIGHT TO CHANGE THE PERMITS AND PROVIDE FOR SUCH INSPECTIONS AND ACTIONS IN ACCORDANCE WITH THE DULY ENACTED FEE SCHEDULE.
- THE PROFESSIONAL ENGINEER CONDUCTING THE INSPECTION SHALL BE REQUIRED TO SUBMIT A WRITTEN REPORT TO THE TOWNSHIP AND CONSERVATION DISTRICT WITHIN ONE MONTH OF THE COMPLETION OF THE INSPECTION. THE REPORT WILL PRESENT DOCUMENTATION AND PICTURES REGARDING THE CONDITION OF THE FACILITY AND RECOMMEND NECESSARY REPAIRS, IF ANY ARE NEEDED. ANY SUCH REPAIRS SHALL BE COMPLETED BY THE DATE OF THE ISSUE OF THE REPORT. THE REPORT SHALL ALSO DOCUMENT ALL PREVIOUS INSPECTIONS AND ALL PREVIOUS BMP REPAIR AND MAINTENANCE ACTIVITIES.
- THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT WAREHOUSE OCCUPANT WITHIN THE COMMONWEALTH OF PENNSYLVANIA OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSM BMP'S OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE DEPARTMENT.
- STORMWATER MANAGEMENT BMP AREAS SHALL BE INSPECTED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ON BEHALF OF THE APPLICANT OR RESPONSIBLE ENTITY (INCLUDING THE TOWNSHIP ENGINEER FOR DEDICATED FACILITIES) THE FOLLOWING BASIS:
  - ANNUALLY FOR THE FIRST FIVE (5) YEARS.
  - ONCE EVERY THREE (3) YEARS THEREAFTER.

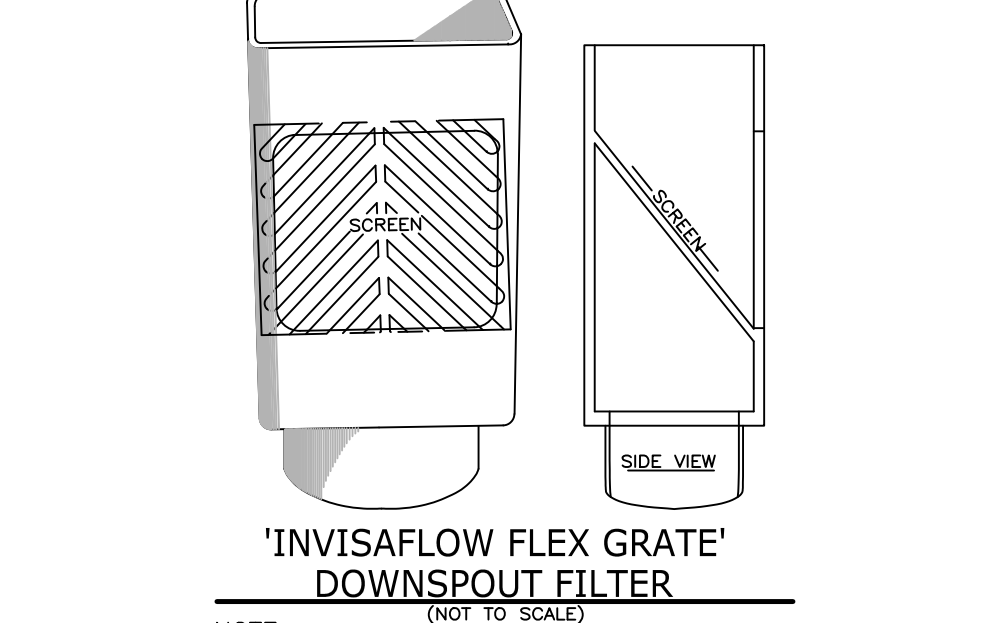
PROPERTY OWNER NOTIFICATION

THE NEW PROPERTY OWNER NOTIFICATION FORM (3800-PA-BOW2021) SHALL BE COMPLETED AND SUBMITTED THE CONSERVATION DISTRICT WITHIN 30 DAYS OF THE DATE OF TRANSFER OF A PROPERTY.

ROOF DRAIN COLLECTION SYSTEM (NOT TO SCALE)



- NOTES:
- ALL ROOF LEADERS SHALL BE A MINIMUM OF 6" DIAMETER PVC.
  - ALL ROOF LEADERS SHALL HAVE A MINIMUM SLOPE OF 1%.
  - ALL ROOF LEADERS SHALL HAVE A MINIMUM 18" OF COVER.
  - CLEANOUTS SHALL BE PROVIDED AT ALL HORIZONTAL & VERTICAL CHANGES OF DIRECTION.
  - ALL ROOF LEADERS SHALL CONNECT TO THE PROPOSED STORMWATER FACILITY.



NOTE: "INVISAFLOW FLEX GRATE" DOWNSPOUT FILTERS (OR A SIMILAR ALTERNATE DEVICE APPROVED BY THE TOWNSHIP ENGINEER) SHALL BE UTILIZED ON ALL DOWNSPOUTS.

SIZE	FRAME STYLE AND SIZE	FRAME STYLE AND SIZE	Frame P/N
Small	Steel Round (Up to 30" Dia) (Standard)	FR-300	FR-300
Small	Steel Round (31" - 36" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (37" - 42" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (43" - 48" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (49" - 54" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (55" - 60" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (61" - 66" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (67" - 72" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (73" - 78" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (79" - 84" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (85" - 90" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (91" - 96" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (97" - 102" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (103" - 108" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (109" - 114" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (115" - 120" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (121" - 126" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (127" - 132" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (133" - 138" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (139" - 144" Dia) (Up to 30" Dia opening)	FR-300	FR-300
Small	Steel Round (145" - 150" Dia) (Up to 30" Dia opening)	FR-300	FR-300

