RUHE MINOR SUBDIVISION

ZONING DATA

R-4 - MEDIUM DENSITY RESIDENTIAL RESIDENTIAL MINIMUM LOT AREA LOT 1 (WITH PRIVATE UTILITIES) LOT 2 43560 S.F. 46900 S F 43560 S.F. 43588 S.F MINIMUM LOT WIDTH AT R.O.W. 149 97 FT 80 FT 80 FT 82.72 FT LOT 4 MINIMUM BUILDING SETBACK LOT 1 19 FT(EX.) LOT 3 413 FT LOT 4 141 FT SIDE 10 FT LOT 1 30 FT LOT 2 26 FT REAR LOT 1 134 FT LOT 2 30 FT LOT 4 79 FT

MAXIMUM BUILDING HEIGHT 35 FT

WATER: PUBLIC PROPOSED PRIVATE PROPOSED

LOT COVERAGE LOT 1: 26.2%
LOT 2: 8.47%
LOT 3: 8.71%

SENERAL NOTES

PROPERTY IS OUTSIDE OF THE 500 YEAR FLOOD PLAIN.

2. ALL CONSTRUCTION OF STORM SEWERAGE SYSTEMS, WATER SYSTEMS, SANITARY SEPTIC SYSTEMS, AND ROADS ARE TO BE IN ACCORDANCE WITH THE TOWNSHIP SPECIFICATIONS AND STANDARDS FOR CONSTRUCTION.

3. DEP, NPDES, CCD, AND LVPC PERMITS ARE REQUIRED FOR THIS PROJECT. ALL REQUIRED PERMITS AND APPROVALS SHOULD BE OBTAINED AND COPIES PROVIDED TO THE TOWNSHIP AND THE TOWNSHIP ENGINEER'S OFFICE.

5.98%

. EXISTING WELLS AND ON-LOT SEWAGE DISPOSAL SYSTEMS STATED TO BE REMOVED/ABANDONDED SHALL BE ABANDONED IN ACCORDANCE WITH PADEP REGULATIONS

5. THE DETAILS ON THESE PLANS DEPICT A MINIMUM STANDARD FOR ALL CONSTRUCTION WITHIN THE TOWNSHIP, AND THAT INCORPORATION OF PORTIONS OR ALL OF THE TOWNSHIPS STANDARD CONSTRUCTION DETAILS ON THE PLANS CONSTITUTES AN ACCEPTANCE OF AND ENDORSEMENT OF THOSE STANDARDS BY THE DEVELOPER AND THE DEVELOPER'S ENGINEER.

. EXISTING BARN SHALL BE USED FOR STORAGE ONLY.

AN ADDITIONAL AMOUNT OF IMPERVIOUS AREA HAS BEEN ACCOUNTED FOR IN THE STORMWATER CALCULATIONS FOR THIS PROJECT AND FOR ANY FUTURE IMPERVIOUS AREAS SUCH AS SHEDS, PATIOS, POOLS, ETC. THIS AREA IS LISTED BELOW FOR EACH OF THE

LOT 2: 0.009 ACRES (400 SQUARE FEET)
LOT 3: 0.01 ACRES (450 SQUARE FEET PROPOSED AS DECK ON PLAN)
LOT 4: 0.009 ACRES (400 SQUARE FEET)

. ALL REQUIRED WATER DISTRIBUTION SYSTEM SHUT-OFFS OR SERVICE INTERRUPTIONS SHALL BE COORDINATED THROUGH THE TOWNSHIP. THE CONTRACTOR SHALL PROVIDE MINIMUM OF SEVENTY-TWO(72) HOUR ADVANCE NOTICE TO THE TOWNSHIP PUBLIC WORKS DEPARTMENT PRIOR TO PLANNED WATER SYSTEM SHUT DOWN.

D. THE CONTRACTOR SHALL NOT OPERATE EXISTING VALVES, FIRE HYDRANTS OR APPURTENANCES WITHIN THE TOWNSHIP WATER DISTRIBUTION. UPON REQUEST TOWNSHIP PERSONNEL WILL BE AVAILABLE TO OPERATE THE EXISTING VALVES, ETC.

D. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS, ELEVATIONS AND DIMENSIONS
PRIOR TO BEGINNING CONSTRUCTION OPERATIONS.

1. EXCAVATION IN PAVED AREAS SHALL BE SAW-CUT FULL PAVEMENT DEPTH PRIOR TO INITIAL EXCAVATION AND AGAIN AT FINAL TRENCH RESTORATION.

2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE AND MAINTAIN TEMPORARY AND / OR PERMANENT SUPPORT FOR ALL EXISTING UTILITY LINES ENCOUNTERED DURING THE EXCAVATION AND INSTALLATION OF THE WATER MAIN AND APPURTENANCES. SPECIFIC UTILITY SUPPORT METHODS OR PROCEDURES SHALL BE AS RECOMMENDED BY THE AFFECTED UTILITY COMPANY, AT NO ADDITIONAL COST TO THE TOWNSHIP OR OWNER.

13. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH ACT 287 (LATEST REVISION) SEVENTY—TWO (72) HOURS PRIOR TO COMMENCEMENT OF ANY FIELD OPERATIONS.

14. ALL TRENCHES SHALL BE COMPLETELY BACKFILLED AT THE END OF EACH WORKDAY, NO EXCAVATION SHALL REMAIN OPEN DURING NON—WORKING HOURS. ALL PAVED AREAS DISTURBED BY CONSTRUCTION ACTIVITY SHALL BACKFILLED AND COMPACTED WITH 2A STONE AND TEMPORARILY PAVED BY THE END OF THE WORK DAY.

5. ALL MAIN LINE FITTINGS, TEE, BENDS, SLEEVES, ETC. SHALL BE JOINED USING MEG—A—LUG GLANDS FOR THRUST RESTRAINT. FIELD LOK GASKETS SHALL BE INSTALLED IN ALL PUSH—ON JOINTS WITHIN 40', EITHER SIDE, OF ALL VERTICAL AND HORIZONTAL BENDS FOR 12" AND SMALLER PIPE. IN ADDITION CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL END CAPS, PLUGS, FITTINGS, ETC.

7. ADJACENT PROPERTIES SHALL NOT BE USED FOR SITE INGRESS/EGRESS, MATERIAL OR EQUIPMENT STORAGE OR CONTRACTOR PERSONNEL PARKING.

8. ALL AREAS DISTURBED OUTSIDE THE WORK ZONE AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE GRADED, SEEDED AND/OR PAVED TO MEET ORIGINAL PRE—CONSTRUCTION CONDITIONS.

9. THE APPLICANT ACKNOWLEDGES THAT FOLLOWING APPROVAL OF THIS PLAN, PLAN CHANGES MAY BE REQUIRED TO ADDRESS THE COMMENTS AND REGULATIONS OF OUTSIDE AGENCIES RESPONSIBLE TO REVIEW ANY ASPECT OF THE PROJECT REFLECTED ON THIS PLAN, INCLUDING BUT NOT LIMITED TO POST—CONSTRUCTION STORMWATER MANAGEMENT AND NPDES PERMIT REGULATIONS. IN THE EVENT OF CHANGES TO THE PLAN FOLLOWING APPROVAL (WHETHER OR NOT THE PLAN HAS BEEN RECORDED), THE APPLICANT SHALL SUBMIT THE REVISED PLAN TO THE TOWNSHIP FOR REVIEW BEFORE THE APPLICANT MAY MOVE FORWARD WITH CONSTRUCTION ACTIVITIES PURSUANT TO THE REVISED PLAN (WHETHER OR NOT THE PLAN HAS BEEN RECORDED).

20. NOTWITHSTANDING ANY PROVISIONS OF THE TOWNSHIP STORM WATER MANAGEMENT PLAN, INCLUDING EXEMPTION AND WAIVER PROVISIONS, ANY LANDOWNER AND ANY PERSON ENGAGED IN THE ALTERATION OR DEVELOPMENT OF LAND WHICH MAY AFFECT STORM WATER RUNOFF CHARACTERISTICS SHALL IMPLEMENT SUCH MEASURES AS ARE REASONABLY NECESSARY TO PREVENT INJURY TO HEALTH, SAFETY OR OTHER PROPERTY. SUCH MEASURES SHALL INCLUDE SUCH ACTIONS AS ARE REQUIRED TO MANAGE THE RATE VOLUME, DIRECTION AND QUALITY OF RESULTING STORM WATER RUNOFF IN A MANNER WHICH OTHERWISE ADEQUATELY PROTECTS HEALTH AND PROPERTY FROM INJURY AND DAMAGE.

1. MUNICIPALITY REVIEW AND APPROVAL OF THE DRAINAGE PLAN OR THE SUBSEQUENT OBSERVATION AND APPROVAL OF STORM WATER MANAGEMENT FACILITIES, SHALL NOT CONSTITUTE LAND DEVELOPMENT ON BEHALF OF OR BY THE MUNICIPALITY OR OTHERWISE CAUSE THE MUNICIPALITY TO BE ENGAGED IN THE ALTERATION OR DEVELOPMENT OF LAND. BY SUBMITTING AN APPLICATION UNDER THE TOWNSHIP STORM WATER MANAGEMENT PLAN, THE DEVELOPER HEREBY AGREES TO INDEMNIFY, DEFEND, AND HOLD HARMLESS THE MUNICIPALITY AND ALL ITS REPRESENTATIVES, SERVANTS, EMPLOYEES, OFFICIALS AND CONSULTANTS OF AND FROM ANY AND ALL CLAIMS DEMANDS, CAUSES OF ACTION OR SUITS WHICH ARISE OUT OF OR RELATE TO THE REVIEW, APPROVAL, CONSTRUCTION OR OBSERVATION OF THE DEVELOPER'S DRAINAGE PLAN AND STORM WATER MANAGEMENT

SITE DATA

OWNER:
APPLICANT:

WILLIAM H. RUHE, ET. AL.
ROBERT H. RUHE
1558 N. MUHLENBERG ST.
ALLENTOWN, PA 18104

TAX MAP DATA:
PIN 548777128174 1
ID G08NE3 002 009

DEED REFERENCE: 2012006215

TOTAL AREA:
4.5920 ACRES

LENGTH OF PROPOSED DRIVE: 246 FT

PRELIMINARY/FINAL PLAN 2442 HUCKLEBERRY ROAD

SOUTH WHITEHALL TOWNSHIP

<u>WAIVERS</u>

PRIVATE STREET (Ordinance Requirement):
1. \$11-32(b)(1).: CURBS ARE REQUIRED ON ALL PUBLIC AND PRIVATE STREETS.

A waiver from this requirement is requested for installation of curb along the shared private driveway. Curbing is provided along the western radius of the entrance driveway and along the proposed widening of Huckleberry Road or

2. §11-32(c)(1)(A).: SIDEWALKS SHALL BE REQUIRED WITHIN ALL SUBDIVISIONS.

A waiver from this requirement is requested due to the low traffic volume on the shared private driveway and limited connectivity with existing structures.

3. §11-32(a)(2)(C).: CUL-DE-SAC SHALL HAVE A RIGHT-OF-WAY OF 52-FOOT RADIUS AND A CURB RADIUS OF 40 FEET.

A waiver of this requirement is requested as the proposed shared driveway cul-de-sac provides a 30-foot edge of pave radius and a 42-foot right-of-way/access easement radius. This is a cul-de-sac on a shared private driveway and not a local road, we therefore request a smaller radius for the proposed cul-de-sac.

. §11-33(c)(1).: PRIVATE STREET WIDTH.

A waiver from this requirement is requested as dimensional requirements between the existing residential structures prohibits a private street width of 36 feet. A 20-foot cartway is proposed for this shared private driveway.

811-33(d)(1)(A): CRADING RETWEEN THE CURB AND RIGHT-OF-WAY LINE TO BE NO CREATER THAN 3/8" VERTICAL PER

5. §11-33(d)(1)(A).: GRADING BETWEEN THE CURB AND RIGHT-OF-WAY LINE TO BE NO GREATER THAN 3/8" VERTICAL PER FOOT HORIZONTAL.
A waiver from this requirement is requested for grading within the easement for the private driveway to be a

maximum of 1 foot vertical to 3 feet horizontal. The existing structures do not permit grading to current ordinance.

6. §11-32(a)(3)(E)(ii).: CENTERLINES OF INTERSECTING STREETS. TWO STREETS INTERSECTING A THIRD STREET FROM OPPOSITE SIDES SHALL EITHER INTERSECT WITH A COMMON CENTERLINE, OR THEIR CENTERLINES SHALL BE OFFSET (SEE DIAGRAM) A MINIMUM DISTANCE OF FOUR HUNDRED (400) FEET, IF THE INTERSECTING STREET IS A COLLECTOR STREET.

A waiver of this requirement is requested as the proposed private driveway is to remain at its current location which is 347.59 feet from Joseph Circle.

HUCKLEBERRY ROAD:
7. §11-33(b)(1).: CARTWAY WIDTH REQUIREMENTS. (Across Frontage of Lot 3 & 4)

A waiver from this requirement is requested for width of cartway along Huckleberry Road. The ordinance requires a 40—foot cartway for collector streets. The eastern frontage (Lot 3 and 4) of the property is not contiguous with any roadway widening to the west as there is an outparcel of limited size immediately to the west of lot 4. There is no proposed widening to the existing 24—foot cartway due to safety concerns of a very limited widened roadway with severe grading restrictions at the two adjoining parcels.

8. §11-33(b)(1).: CARTWAY WIDTH REQUIREMENTS. (Across Frontage of Lots 1 and 2)

A waiver from this requirement is requested for width of cartway along Huckleberry Road. The ordinance requires a 40—foot cartway for collector streets. The western frontage (Lots 1 and 2) of the property requires a taper from 20 feet to 16 feet roadway half—width with taper length as coordinated with the Township Engineer due to the existing structure and lot grading of the out—parcel just to the east of the private roadway.

9. §11-32(b)(1): SIDEWALKS SHALL BE REQUIRED WITH A WIDTH OF 5 FEET ALONG COLLECTOR STREETS AT A LOCATION 1 FOOT INSIDE OF THE RIGHT-OF-WAY LINE. (Frontage of Lots 1 and 2)

A waiver from the sidewalk width and location is requested. The proposed sidewalk shall be 4 feet wide and located 7 to 8 feet inside the right—of—way line. This is required in order to provide a pedestrian facility due to the existing structures and area topography.

10. §11—33(d)(1)(A).: GRADING BETWEEN THE CURB AND RIGHT—OF—WAY LINE TO BE NO GREATER THAN 3/8" VERTICAL PER

FOOT HORIZONTAL. (All Lots)

A waiver from this requirement is requested for grading within the right—of—way for the Huckleberry Road to be a maximum of 1 foot vertical to 4 feet horizontal due to the existing structures and area topography.

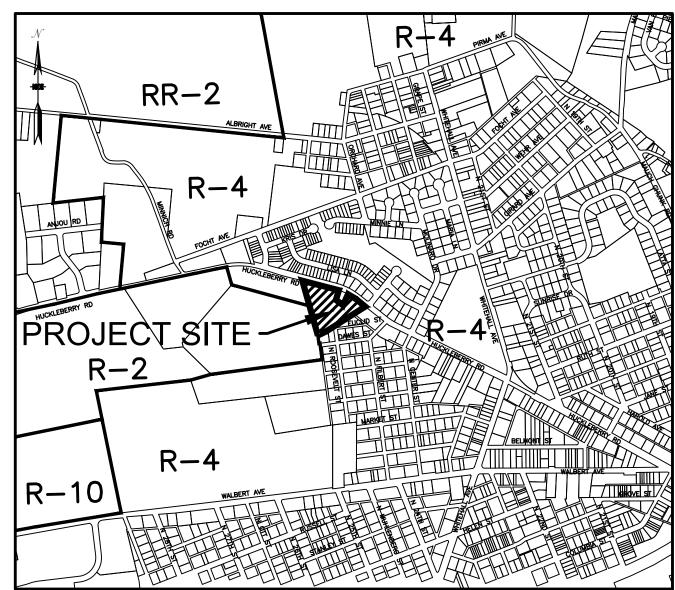
11. §11-32(b)(1): SIDEWALKS SHALL BE REQUIRED WITH A WIDTH OF 5 FEET ALONG COLLECTOR STREETS AT A LOCATION 1 FOOT INSIDE OF THE RIGHT-OF-WAY LINE. (Frontage of Lots 3 & 4)

A deferral from this requirement is requested due to inability to connect a sidewalk to other sidewalk facilities.

12. §11-32(b)(1).: CURBS ARE REQUIRED ON ALL PUBLIC AND PRIVATE STREETS. (Across Frontage of Lots 3 & 4)

A deferral from this requirement is requested for installation of curbs along Huckleberry Road for the eastern frontage (Lot 3 & 4). Since huckleberry road cannot be reasonably widened in this area, a waiver is requested for curb until such time as the roadway would be widened.

LEHIGH COUNTY, PENNSYLVANIA



LOCATION MA

DIAL 8-DAYS ISTART PENNSY

DIAL 8-1-1 OR 1-800-242-1776 NOT LESS THAN 3 BUSINESS DAYS NOR MORE THAN 10 BUSINESS DAYS PRIOR TO THE START OF EXCAVATION.

PENNSYLVANIA ONE CALL SYSTEM SERIAL NUMBER & DATE OF CALL 217420210222-000 FEBRUARY 22, 2021

KEYSTONE CONSULTING ENGINEERS, INC., HAS PREPARED THESE TOPOGRAPHIC DRAWINGS FOR THE PURPOSE OF THE DESIGN OF THE SUBDIVISION OR LAND DEVELOPMENT IMPROVEMENTS SHOWN. PURSUANT TO THE REQUIREMENTS OF PA ACT 287 OF 1974, AS AMENDED BY ACT 187 OF 1996, KEYSTONE CONSULTING ENGINEERS, INC., HAS:

(1) REQUESTED THE LINE AND FACILITY INFORMATION FROM A ONE CALL SYSTEM NOT LESS THAN TEN NOR MORE THAN NINETY WORKING DAYS BEFORE FINAL DESIGN IS TO BE COMPLETED.

(2) SHOWN UPON THE DRAWINGS THE POSITION AND TYPE OF EACH FACILITY OWNER'S LINE, DERIVED PURSUANT TO THE REQUEST MADE, INCLUDING THE FACILITY OWNER'S NAME, OFFICE

ADDRESS AND TELEPHONE NUMBER AS SHOWN ON THE LIST MAINTAINED BY THE ONE-CALL SYSTEM;

(3) MADE A REASONABLE EFFORT IN PREPARATION OF THE CONSTRUCTION DRAWINGS TO AVOID DAMAGE TO AND MINIMIZE INTERFERENCE WITH THE FACILITY OWNER'S FACILITIES IN THE CONSTRUCTION AREA BY MAINTAINING AN EIGHTEEN-INCH CLEARANCE OF THE FACILITY

(4) SHOWN UPON THE DRAWINGS THE SERIAL NUMBER AND DATE OF THE ONE CALL NOTICE. KEYSTONE CONSULTING ENGINEERS, INC., MAKES NO REPRESENTATION, ASSURANCE OR GUARANTEE THAT THE INFORMATION OBTAINED AS NOTED ABOVE AND ILLUSTRATED HEREON ACCURATELY DEPICTS FIELD CONDITIONS. ALL CONTRACTORS PERFORMING ACTUAL EXCAVATION OR DEMOLITION WORK ON THIS SITE ARE HEREBY ALERTED TO THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE ONE—CALL SYSTEM AS REQUIRED BY ACT



SHEET INDEX **DESCRIPTION** SHEET ORIGINAL DATE LAST REVISED TITLE SHEET * 03/05/2021 11/17/2023 EXISTING FEATURES & DEMOLITION PLAN 03/05/2021 11/17/2023 EXISTING FEATURES (EXPANDED VIEW, 60 SCALE) 03/05/2021 11/17/2023 SUBDIVISION PLAN 03/05/2021 11/17/2023 **EASEMENT PLAN *** 03/05/2021 11/17/2023 RECORD PLAN * 03/05/2021 11/17/2023 11/17/2023 FIRE TRUCK TURN PLAN 04/17/2021 GARBAGE TRUCK TURN PLAN 07/19/2021 11/17/2023 03/05/2021 GRADING & DRAINAGE PLAN 11/17/2023 UTILITY PLAN 03/05/2021 11/17/2023 03/05/2021 LANDSCAPING PLAN 11/17/2023 SHARED PRIVATE DRIVEWAY & DRIVEWAY PROFILES 03/05/2021 11/17/2023 STORMWATER PLAN & PROFILE 03/05/2021 11/17/2023 WATER SYSTEM PLAN & PROFILE 03/05/2021 11/17/2023 CONSTRUCTION DETAILS 03/05/2021 UTILITY DETAILS 03/05/2021 STORMWATER DETAILS 03/05/2021 03/05/2021 EROSION & SEDIMENTATION CONTROL PLAN 11/17/2023 EROSION & SEDIMENTATION CONTROL DETAILS 03/05/2021 11/17/2023 20 03/05/2021 EROSION & SEDIMENTATION CONTROL DETAILS 2 11/17/2023 POST CONSTRUCTION STORMWATER * 03/05/2021 11/17/2023 MANAGEMENT PLAN POST CONSTRUCTION STORMWATER * 03/05/2021 11/17/2023 MANAGEMENT DETAILS POST CONSTRUCTION STORMWATER * 03/05/2021 MANAGEMENT DETAILS 2

* PLANS TO BE RECORDED

SURVEY NOTES

REFERENCE IS MADE TO A PLAN ENTITLED "SURVEY & PLAN FOR VICTOR D.D. KUHNS" DATED MAY 1, 1948
 PREPARED BY BASCOM & SIEGER REGISTERED ENGINEERS DRAWING DR 18 / 103.

2. ELEVATIONS ARE REFERENCED TO NGVD 29 DATUM AND ARE DERIVED FROM SCALED DIMENSIONS FROM THE ALLENTOWN WEST USGS QUADRANGLE.

3. THIS PLAN IS BASED UPON A FIELD SURVEY CONDUCTED AS OF FEBRUARY 12, 2021 BY KEYSTONE CONSULTING ENGINEERS INC. USING A TRIMBLE S5 TOTAL STATION AND A TRIMBLE R-8 GPS WITH KEYNET AND REPRESENTS EXISTING FEATURES AND TOPOGRAPHY ON LANDS NOW OR FORMERLY OF WILLIAM H RUHE, ET AL.

4. UTILITY LOCATIONS DEPICTED HEREON ARE APPROXIMATE AND ARE BASED ON FIELD LOCATION OF OBVIOUS ABOVE—GROUND EVIDENCE. UNDERGROUND LINES WHOSE PRESENCE IS NOT IMPLIED ON THE SURFACE BY MARKINGS OR STRUCTURES MAY NOT HAVE BEEN SHOWN. THIS PLAN DOES NOT GUARANTEE THAT ADDITIONAL UTILITIES DO NOT FXIST.

5. THE EXISTENCE AND LOCATIONS OF UNDERGROUND UTILITIES ON THE SITE SHALL BE VERIFIED BY THE CONTRACTOR IN ACCORDANCE WITH PA ACT 187 AND 121 PRIOR TO COMMENCING ANY EXCAVATION WORK.

6. PROPERTY OWNER NAME, DEED AND TAX PARCEL IDENTIFIER INFORMATION AS SHOWN IS BASED UPON LEHIGH COUNTY TAX MAP RECORDS AS OF FEBRUARY 12, 2021 AND IS SUBJECT TO THE ACCURACIES OR INACCURACIES THEREOF.

7. LINES AS SHOWN WITH BEARINGS AND DISTANCES OR CURVE INFORMATION INDICATE LINES MEASURED BY THIS SURVEY. LINES WITHOUT ANY GEOMETRIC ANNOTATION MAY HAVE BEEN PLOTTED USING RECORD INFORMATION AND ARE INTENDED FOR GENERAL SITE ORIENTATION ONLY.

8. ELEVATIONS AND CONTOURS AS SHOWN HEREON ARE BASED UPON GPS OBSERVATIONS USING A TRIMBLE R-8 WITH KEYNET AND ARE ACCURATE WITHIN 0.15' OF USGS NORTH AMERICAN VERTICAL DATUM OF 1988.

9. THIS SURVEY AND PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE SEARCH AND IS THEREFORE SUBJECT TO ANY EASEMENTS OR OTHER PERTINENT FACTS WHICH SUCH MIGHT DISCLOSE.

THIS PLAN HAS BEEN REVIEWED BY THE TOWNSHIP STAFF AND TOWNSHIP ENGINEER FOR CONSISTENCY WITH

SOUTH WHITEHALL TOWNSHIP REVIEW SCOPE

TOWNSHIP, THE TOWNSHIP ENGINEER, OR THE TOWNSHIP SOLICITOR.

MUNICIPAL REGULATIONS AND ORDINANCES RELATING TO LAND USAGE AND DIMENSIONAL REQUIREMENTS OF ZONING. INVESTIGATIONS REGARDING PERIPHERAL LAND AND PLAN ISSUES WHICH ARE NOT REQUIRED AS PART OF A REVIEW PROCESS SUCH AS CLARITY OF TITLE, SUBSURFACE CONDITIONS INCLUDING BUT NOT LIMITED TO, SOIL AND WATER QUALITY, KARST GEOLOGICAL ACTIVITY, AND HISTORIC AND ARCHEOLOGICAL ISSUES, OR SUCH OTHER ISSUES (AS APPROPRIATE) THAT MAY AFFECT THE MERCHANTABILITY OF THE LAND, HAVE NOT BEEN INVESTIGATED OR REVIEWED BY THE TOWNSHIP OR THE TOWNSHIP ENGINEER. THE TOWNSHIP AND TOWNSHIP ENGINEER MAKE NO REPRESENTATION OR WARRANTY CONCERNING THESE ISSUES, WHICH SHOULD BE ADDRESSED BY QUALIFIED PROFESSIONALS, COMMISSIONED BY THE DEVELOPER AND/OR LAND OWNER(S) AS APPROPRIATE, AND ENGAGED IN APPROPRIATE FIELD OF PRACTICE. DIMENSIONS AND GEOMETRY OF THE PROPERTY BOUNDARY AND ANY INTERNAL LOTS AND STREETS HAVE BEEN OVERVIEWED WITH RESPECT TO APPLICABLE ORDINANCE STANDARDS FOR MATHEMATICAL COMPLETENESS, CLARITY OF DEPICTION, CONSISTENCY, CLOSURE, AND AREA (ONLY). THE RESEARCH FOR DETERMINATION AND LOCATION OF PROPERTY LINES, STREET RIGHTS—OF—WAY, AND OTHER EASEMENTS, ETC. ARE THE RESPONSIBILITY OF THE SURVEYOR OF RECORD WHOSE SEAL APPEARS ON THIS PLAN, AND HAVE NOT BEEN INDEPENDENTLY CONFIRMED OR VERIFIED BY THE

OWNER'S STATEMENT

THE UNDERSIGNED IS THE OWNER, EQUITABLE OWNER, OR HAS AN OPTION OR CONDITIONAL CONTRACT OF SALE ON THE LAND PROPOSED TO BE SUBDIVIDED OR DEVELOPED AND HAS NO LITIGATION OR LIENS EXIST OR ARE PENDING ON THE SITE.

OWNER

OWNER'S CERTIFICATION

I BEING DULY SWORN ACCORDING TO LAW DEPOSE AND SAY THAT I AM THE SOLE OWNER OF THIS PROPERTY, IN PEACEFUL POSSESSION OF THE SAME, AND THAT THERE ARE NO SUITS PENDING AFFECTING THE TITLE THEREOF. I D FURTHER DEPOSE AND SAY THAT I HAVE COMPLIED WITH ALL REQUIREMENTS, PROVISIONS AND CONDITIONS OF RESOLUTION 20_____ BY WHICH THE TOWNSHIP BOARD OF COMMISSIONERS CONDITIONALLY WAIVED THE REQUIREMENTS OF THE TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE FOR THE PROJECT REFLECTED ON THIS PLAN. I AGREE THAT I SHALL EXONERATE, INDEMNIFY, PROTECT, DEFEND AND SAVE HARMLESS THE TOWNSHIP FROM ANY AND ALL CLAIMS, LAWSUITS, DAMAGES AND LIABILITIES OF EVERY KIND, CHARACTER AND MANNER WHATSOEVER PERTAINING TO, RELATING TO, RESULTING FROM, CAUSED BY OR ARISING OUT OF THE TOWNSHIP'S APPROVAL OF THE WAIVER REQUEST AS EVIDENCED BY RESOLUTION 20_____

WILLIAM H. RUHE OWNER

ADJACENT OWNER'S STATEMENT

THE UNDERSIGNED ACKNOWLEDGES ALL IMPROVEMENTS PROPOSED ON AND AROUND THE PROPERTY AT 2436 HUCKELBERRY ROAD ARE LIMITED TO ADJUSTMENT OF DRIVEWAY AND GRADING TIE IN, HAVE BEEN AGREED UPON.

JOHN P. LUTZ ADJACENT PROPERTY OWNER

REVIEWED BY THE LEHIGH VALLEY PLANNING COMMISSION:

COUNTY PLANNING COMMISSION STAFF PERSON DATE

APPROVED BY THE SOUTH WHITEHALL TOWNSHIP PLANNING COMMISSION:

APPROVED BY THE SOUTH WHITEHALL MONTH DAY YEAR

TOWNSHIP PLANNING COMMISSION.

CHAIRWAN

SECERTARY

PRESIDENT

APPROVED BY THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH WHITEHALL:

APPROVED BY THE BOARD O

MONTH DAY YEAR
COMMISSIONERS OF THE TOWNSHIP OF SOUTH WHITEHALL.

TOWNSHIP ENGINEER

TOWNSHIP WAIVER ACKNOWLEDGEMENT:

BASED UPON AND EXPRESSLY IN RELIANCE ON THE FOREGOING CERTIFICATIONS OF THE OWNER AND DESIGN PROFESSIONAL, THE WITHIN PLAN IS ACCEPTED BY SOUTH WHITEHALL TOWNSHIP AS THE PLAN SATISFYING ALL REQUIREMENTS, PROVISIONS AND CONDITIONS OF RESOLUTION 20_____.

SECRETARY

RESIDENT

PROFESSIONAL ENGINEER'S CERTIFICATION

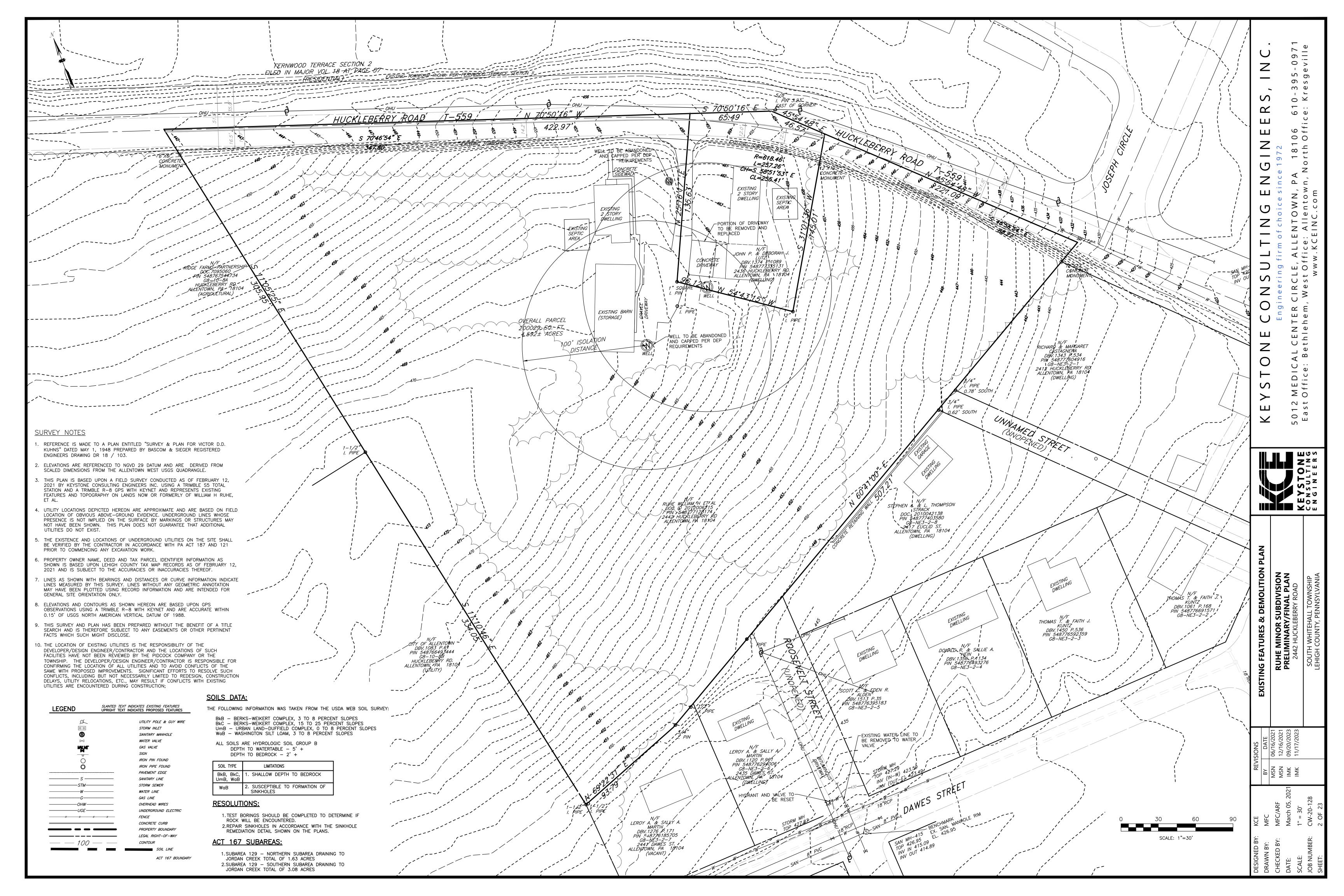
I, ALAN R. FORNWALT, P.E., A REGISTERED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF PENNSYLVANIA, DO HEREBY CERTIFY THAT THE ACCOMPANYING APPLICATION, PLANS AND SUPPORTING DOCUMENTATION ARE TRUE AND CORRECT, TO THE BEST OF MY KNOWLEDGE.

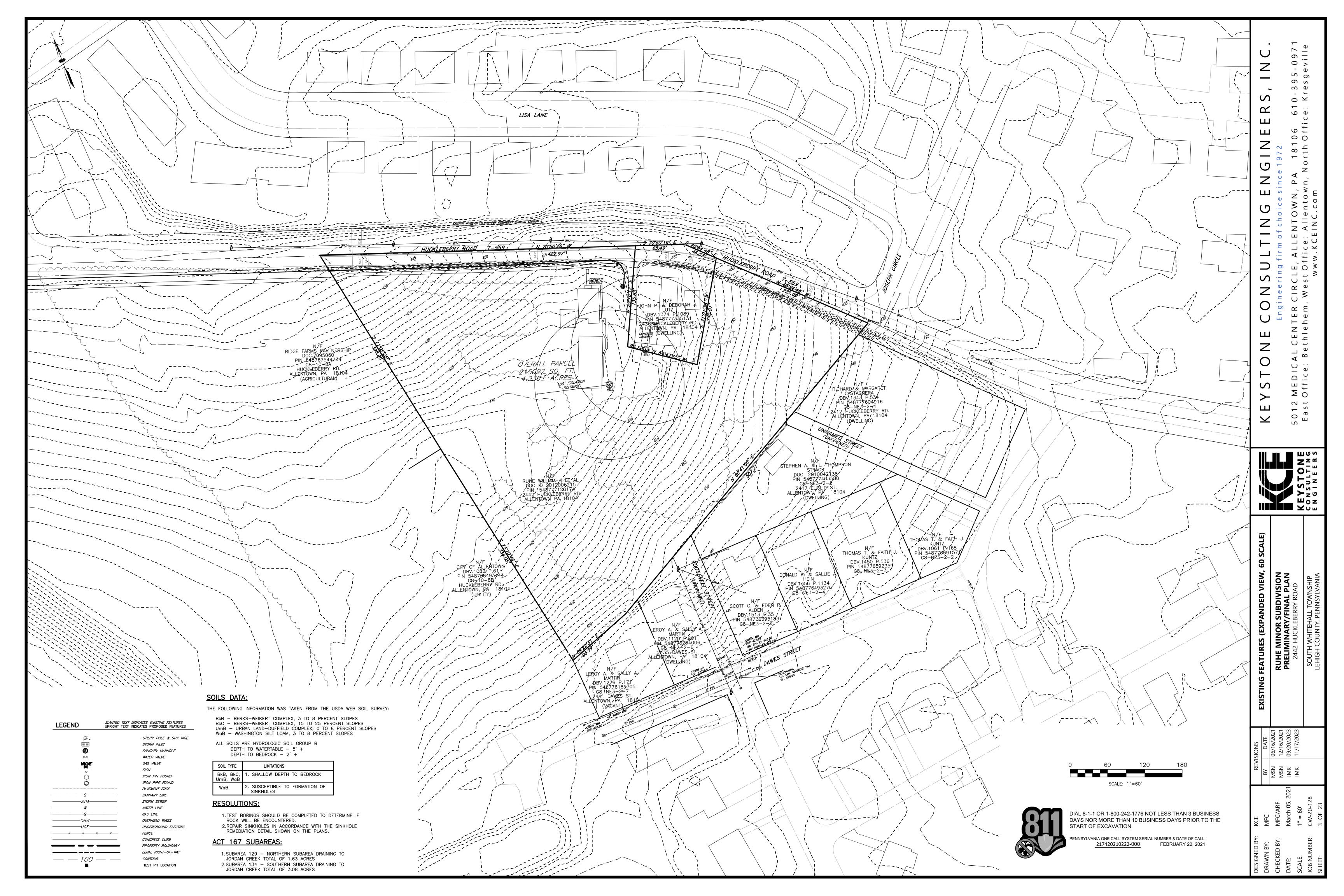
ALAN R. FORNWALT P.E. PE 070819 KEYSTONE CONSULTING ENGINEERS, INC. 5012 MEDICAL CENTER CIRCLE, ALLENTOWN, PA 18106

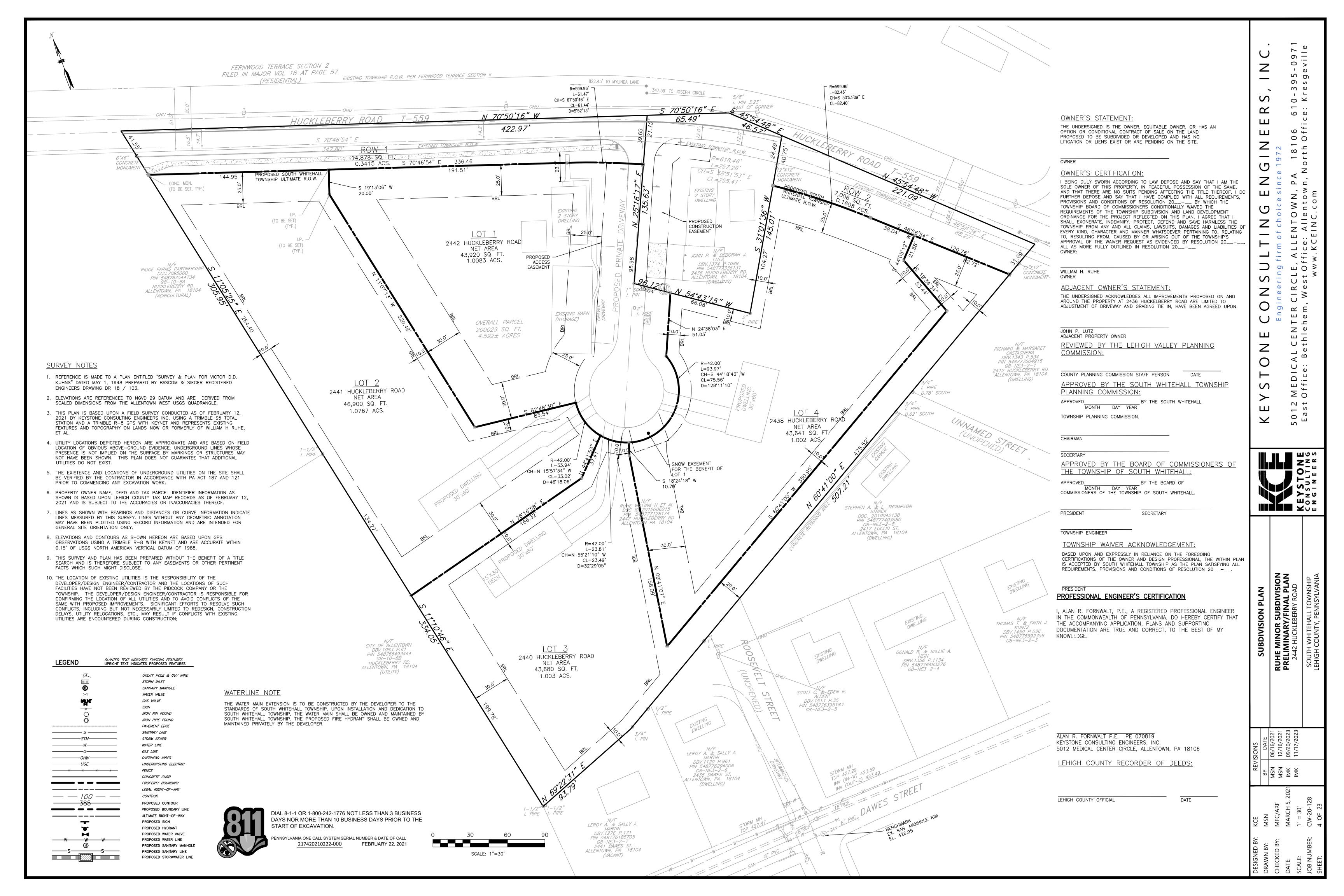
LEHIGH COUNTY RECORDER OF DEEDS:

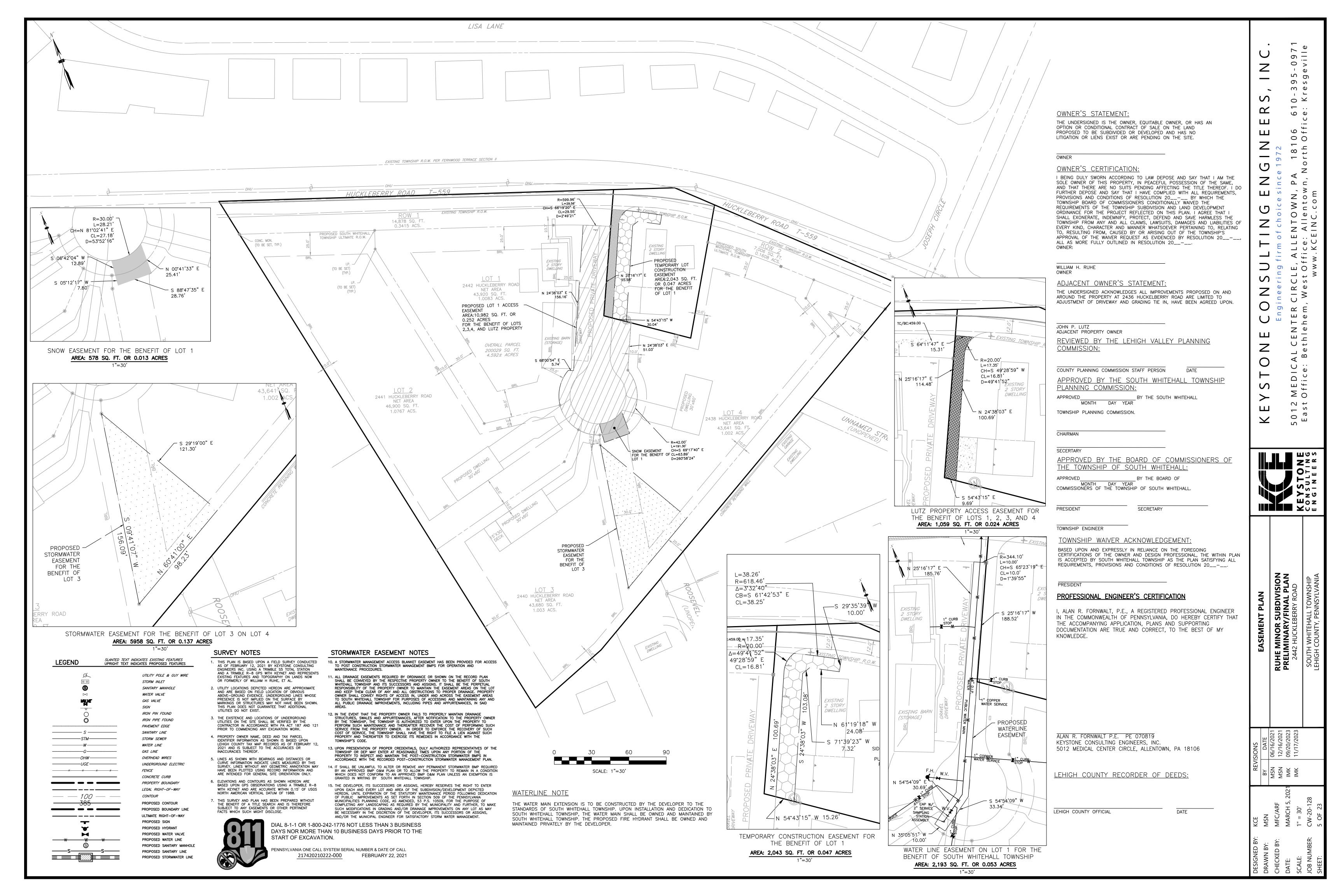
LEHIGH COUNTY OFFICIAL

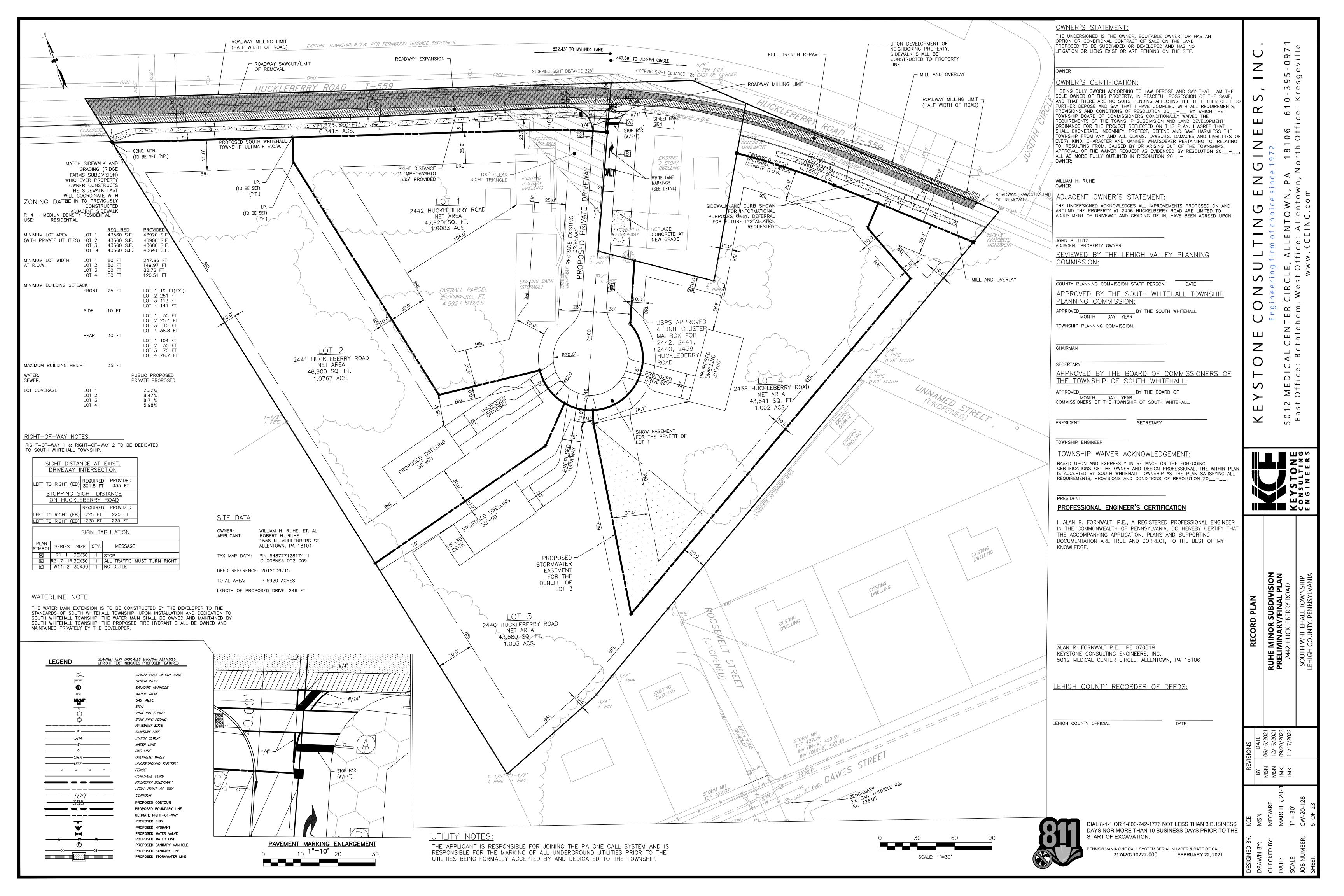
DATE

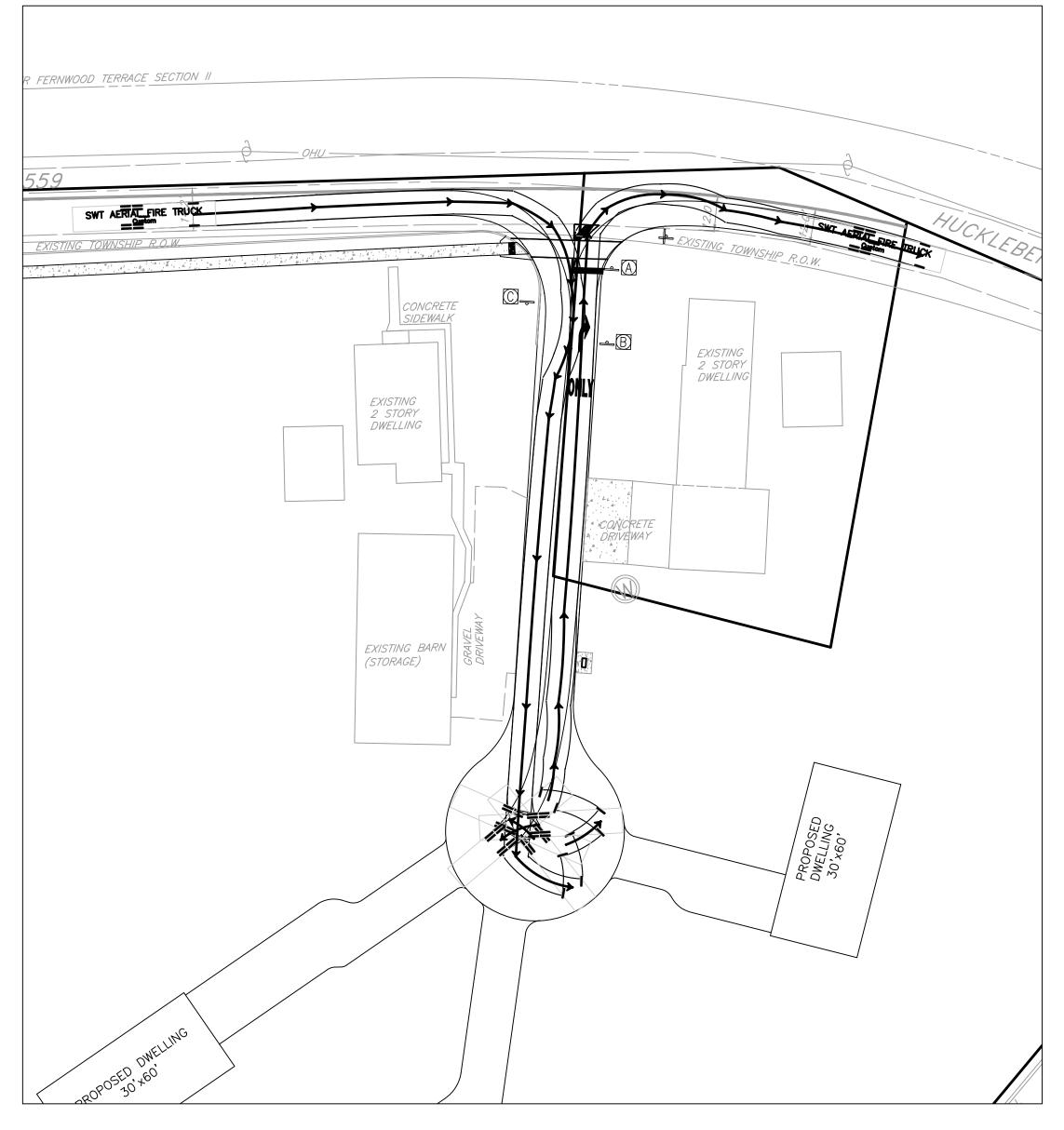






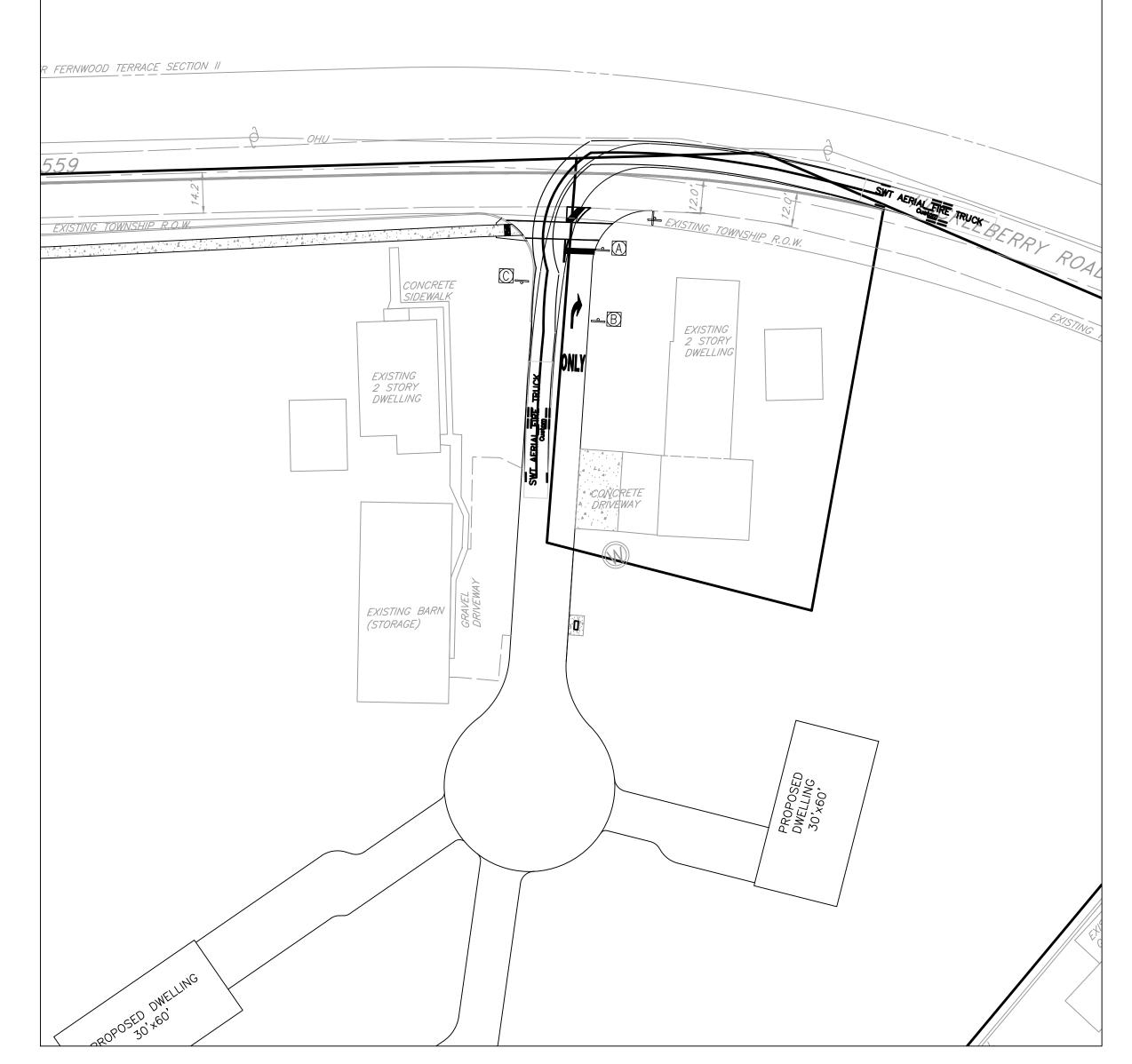






SWT FIRE TRUCK RIGHT IN-RIGHT OUT TURNING TEMPLATE

1"=30"



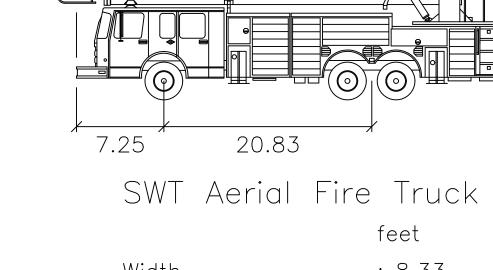
SWT FIRE TRUCK WESTBOUND LEFT TURN TURNING TEMPLATE

1"=30"

SLANTED TEXT INDICATES EXISTING FEATURES
UPRIGHT TEXT INDICATES PROPOSED FEATURES UTILITY POLE & GUY WIRE STORM INLET SANITARY MANHOLE WATER VALVE GAS VALVE IRON PIN FOUND IRON PIPE FOUND PAVEMENT EDGE SANITARY LINE STORM SEWER OVERHEAD WIRES CONCRETE CURB PROPOSED CONTOUR PROPOSED BOUNDARY LINE ULTIMATE RIGHT-OF-WAY PROPOSED SIGN PROPOSED HYDRANT PROPOSED WATER VALVE PROPOSED WATER LINE PROPOSED SANITARY MANHOLE

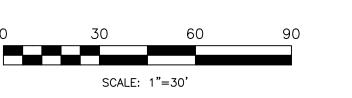
PROPOSED SANITARY LINE





| | | 1000 |
|----------------|-----------|------------------|
| Width Track | | : 8.33 : 8.33 |
| | Lock Time | : 6.0 |
| Steering | Angle | : 44.0 |

48.00



| DESIGNED BY: | KCE | REV | REVISIONS | + /// id+ idii |
|--------------|---------------|-----|------------|------------------|
| DRAWN BY: | MSN | ВУ | DATE | FIRE I RUCK I |
| | L () | MSN | 06/16/2021 | |
| CHECKED BY: | MIPC/ARF | MSN | 12/16/2021 | KOHE MINOK S |
| DATE: | MARCH 5, 2021 | IMK | 09/20/2023 | PRELIMINARY/ |
| 0.00 | 1" - 20' | IMK | 11/17/2023 | 2442 HUCKLEBI |
| SCALE. | 06 - 1 | | | |
| JOB NUMBER: | CW-20-128 | | | SOUTH WHITEHA |
| SHEET: | 7 OF 23 | | | LEHIGH COUNTY, P |

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CLE, ALLENTOWN, PA st Office: Allentown, N www.KCEINC.com

5012 East

DIAL 8-1-1 OR 1-800-242-1776 NOT LESS THAN 3 BUSINESS DAYS NOR MORE THAN 10 BUSINESS DAYS PRIOR TO THE START OF EXCAVATION.

PENNSYLVANIA ONE CALL SYSTEM SERIAL NUMBER & DATE OF CALL 217420210222-000 FEBRUARY 22, 2021

EXISTING 2 STORY DWELLING

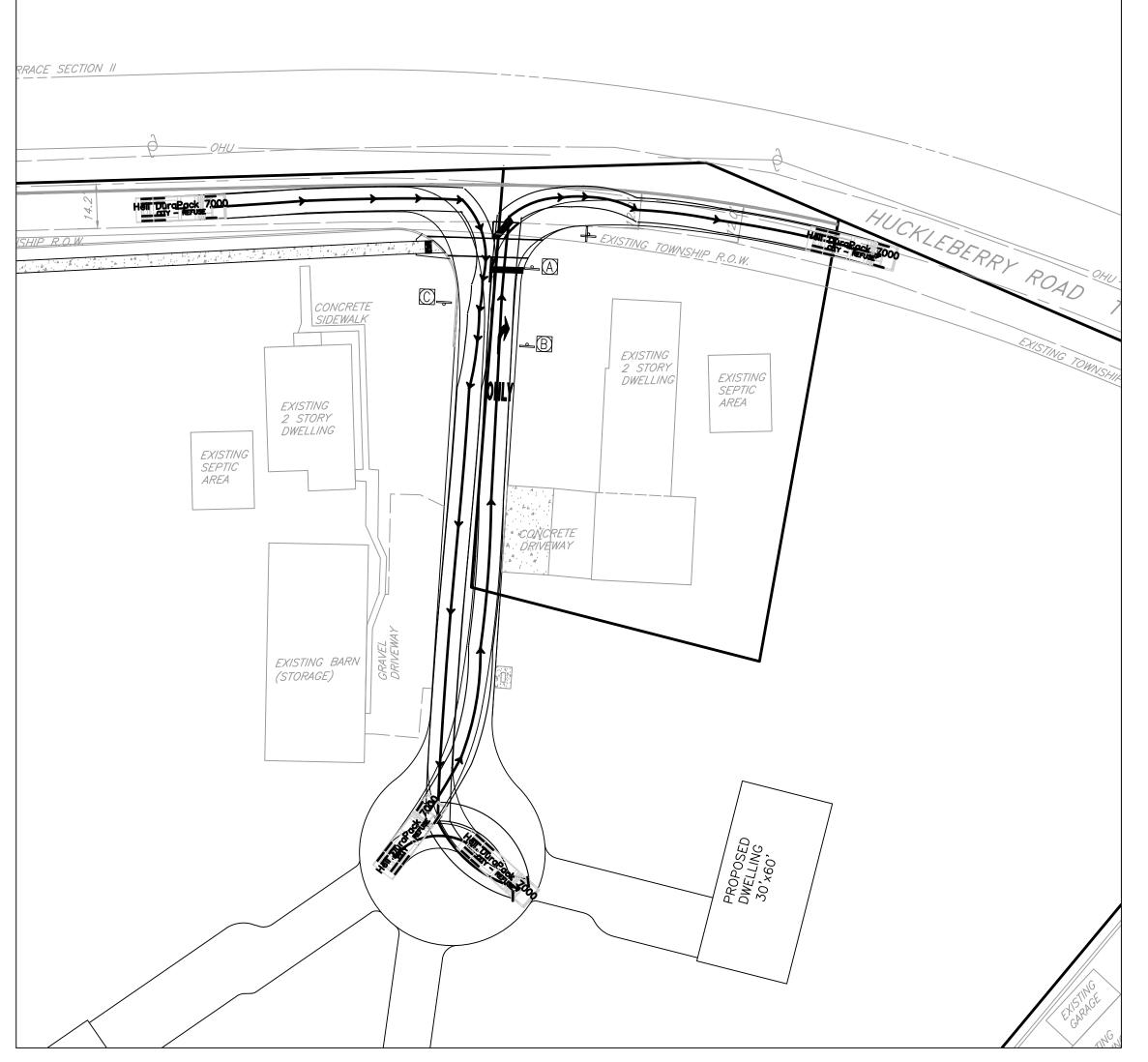
EXISTING BARN (STORAGE)

EXISTING SEPTIC AREA

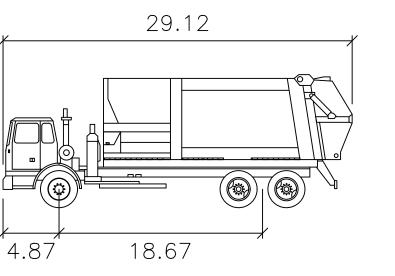
7 4 2 5

GARBAGE TRUCK WESTBOUND LEFT TURN TURNING TEMPLATE
1"=30"

SCALE: 1"=30'



GARBAGE TRUCK RIGHT IN-RIGHT OUT TURNING TEMPLATE
1"=30"





feet

| | | 1000 |
|------------|-----------|--------|
| Width | | : 8.00 |
| Track | | : 8.00 |
| Lock to L | _ock Time | : 6.0 |
| Steering / | Angle | : 45.0 |

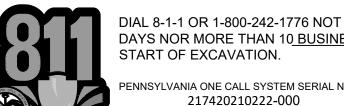


| STORM INLET |
|------------------------|
| SANITARY MANHOLE |
| WATER VALVE |
| GAS VALVE |
| SIGN |
| IRON PIN FOUND |
| IRON PIPE FOUND |
| PAVEMENT EDGE |
| SANITARY LINE |
| STORM SEWER |
| WATER LINE |
| GAS LINE |
| OVERHEAD WIRES |
| UNDERGROUND ELECTRIC |
| FENCE |
| CONCRETE CURB |
| PROPERTY BOUNDARY |
| LEGAL RIGHT-OF-WAY |
| CONTOUR |
| PROPOSED CONTOUR |
| PROPOSED BOUNDARY LINE |

UTILITY POLE & GUY WIRE

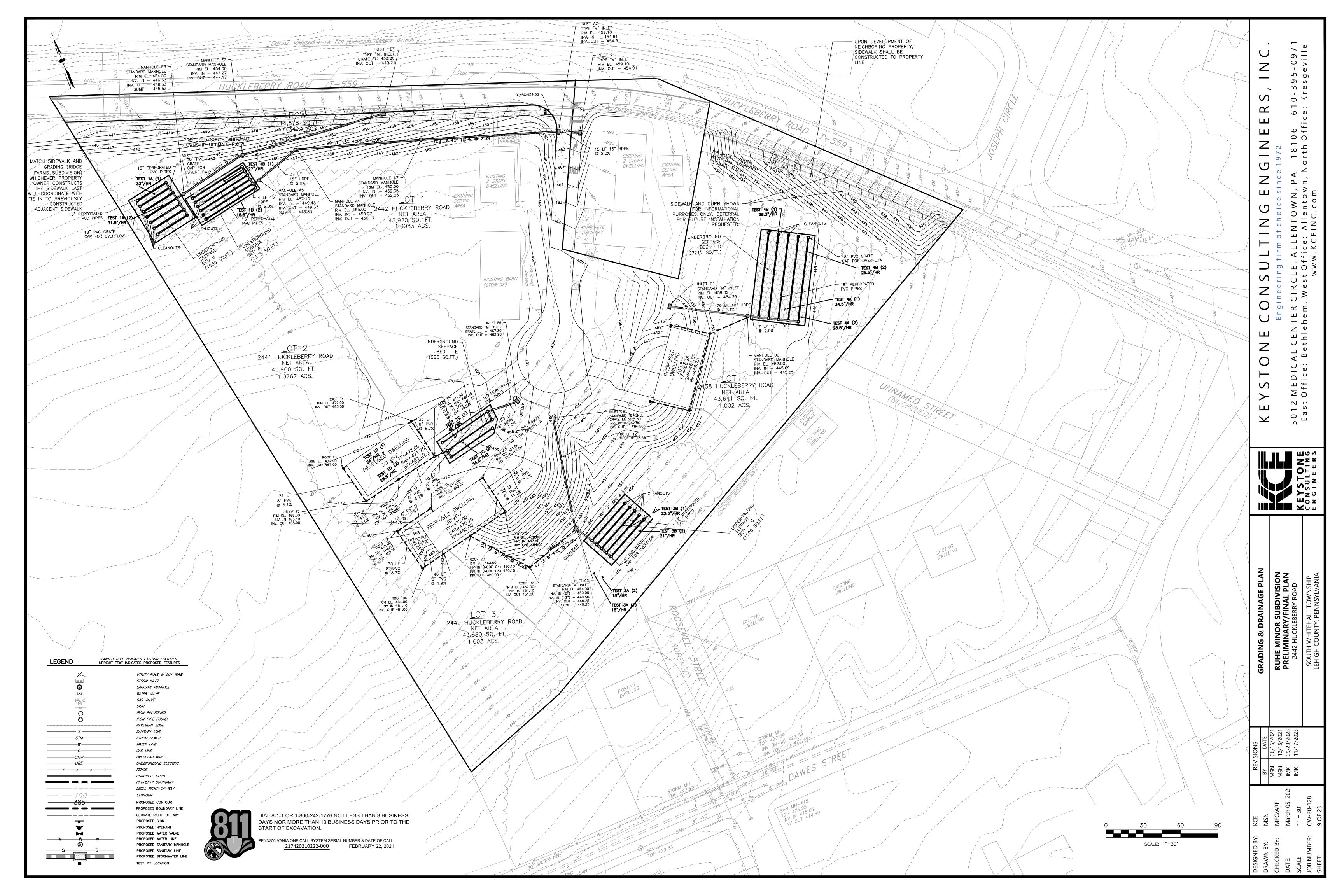
| | PROPERTY BOUNDARY |
|----------------|------------------------|
| | LEGAL RIGHT-OF-WAY |
| — — 100 — — | CONTOUR |
| 385 | PROPOSED CONTOUR |
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| | ULTIMATE RIGHT-OF-WAY |
| | PROPOSED SIGN |
| ₩ | PROPOSED HYDRANT |
| \bowtie | PROPOSED WATER VALVE |
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| S | PROPOSED SANITARY MAN |
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| | PROPOSED STORMWATER I |

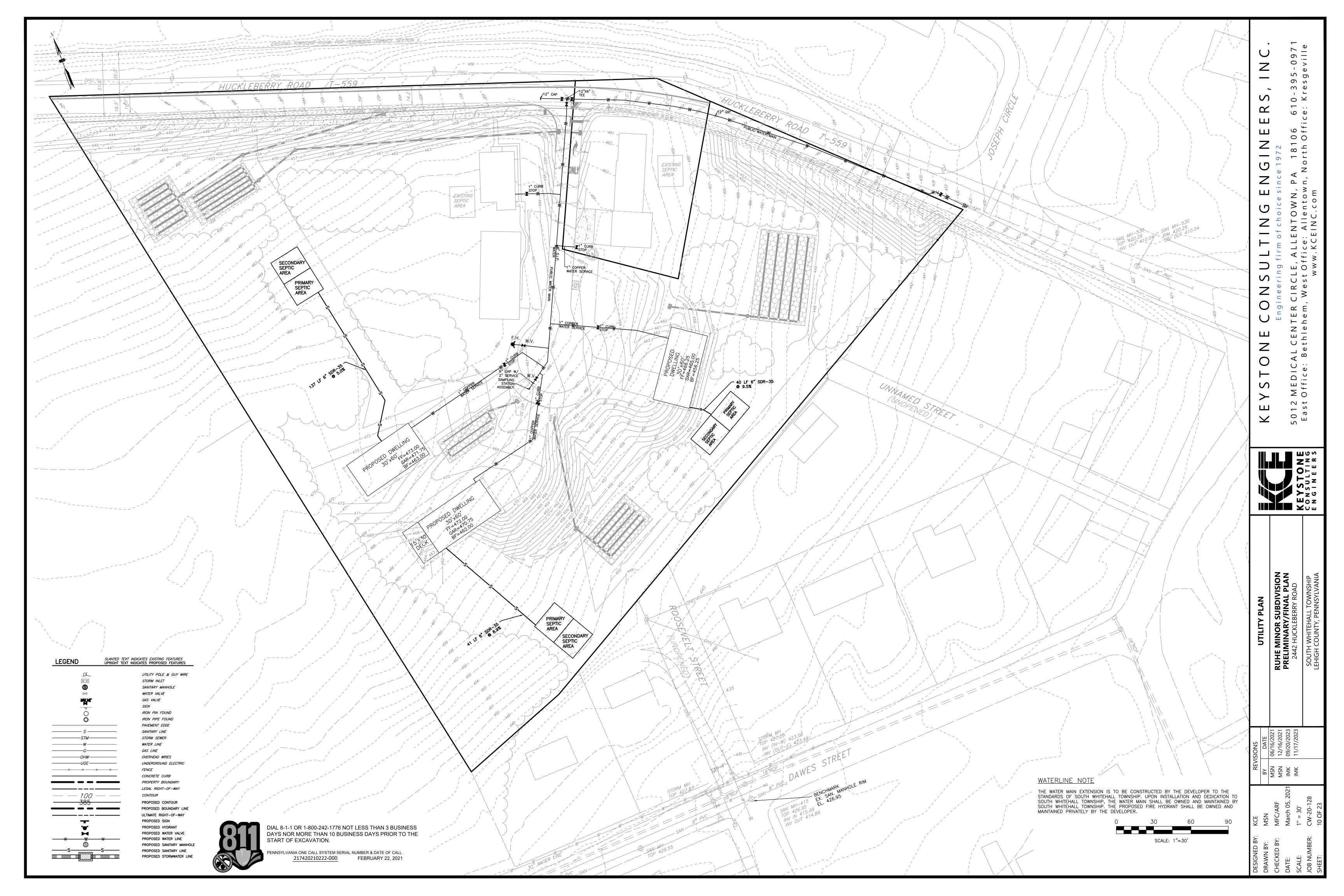
SLANTED TEXT INDICATES EXISTING FEATURES
UPRIGHT TEXT INDICATES PROPOSED FEATURES

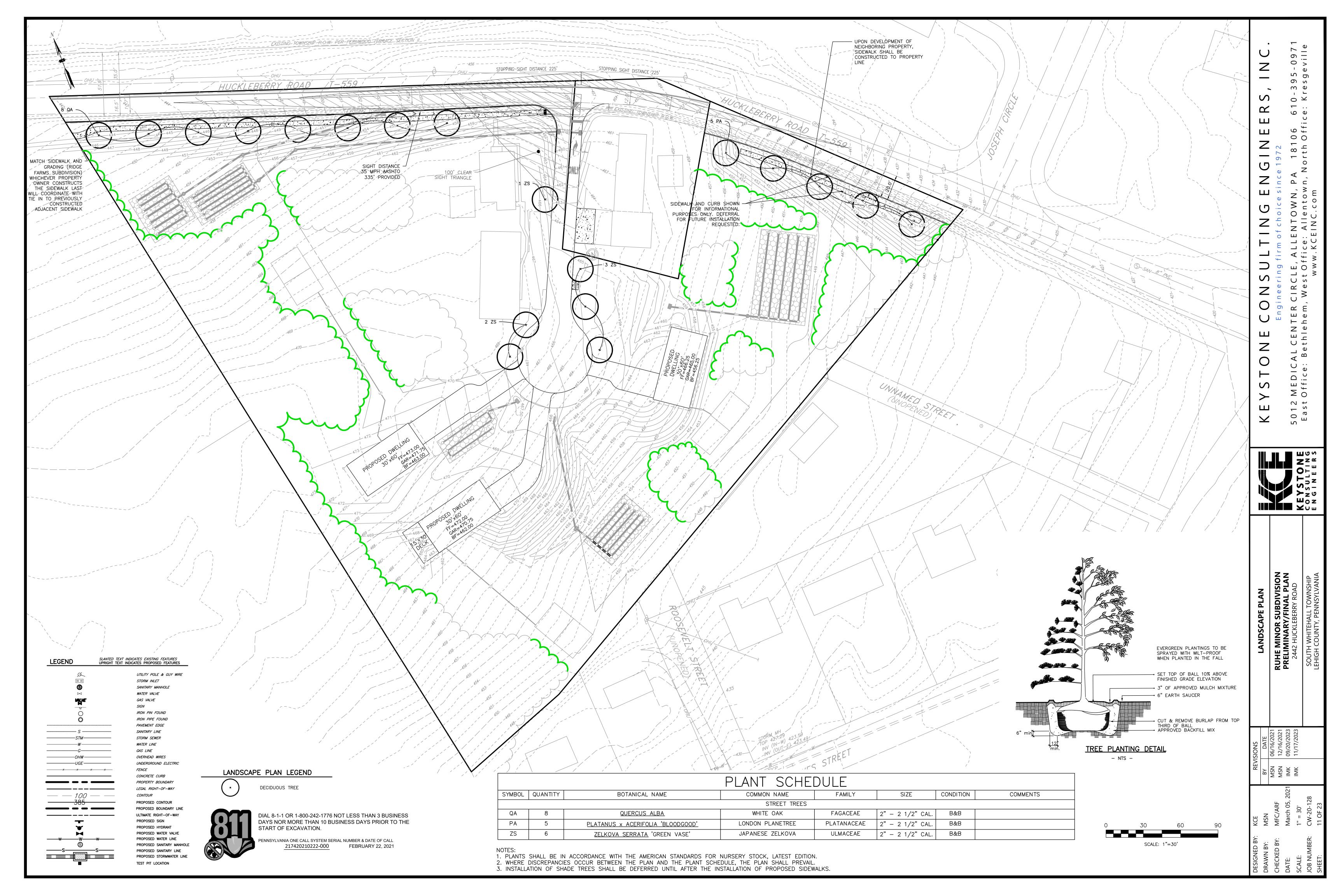


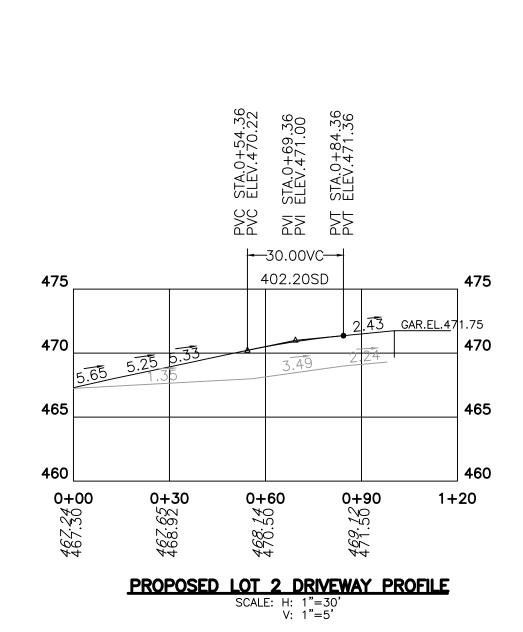
DIAL 8-1-1 OR 1-800-242-1776 NOT LESS THAN 3 BUSINESS DAYS NOR MORE THAN 10 BUSINESS DAYS PRIOR TO THE START OF EXCAVATION.

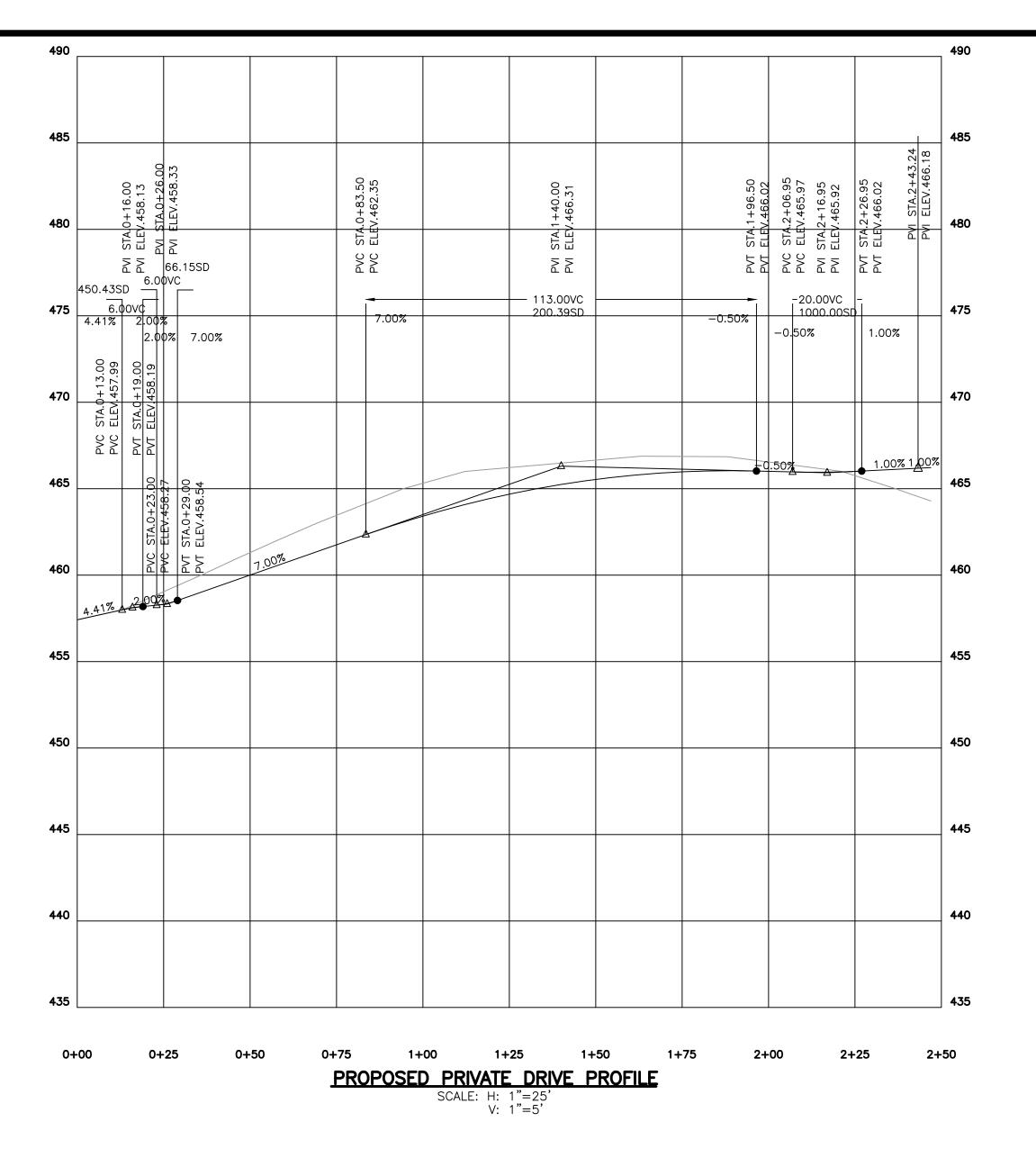
PENNSYLVANIA ONE CALL SYSTEM SERIAL NUMBER & DATE OF CALL 217420210222-000 FEBRUARY 22, 2021

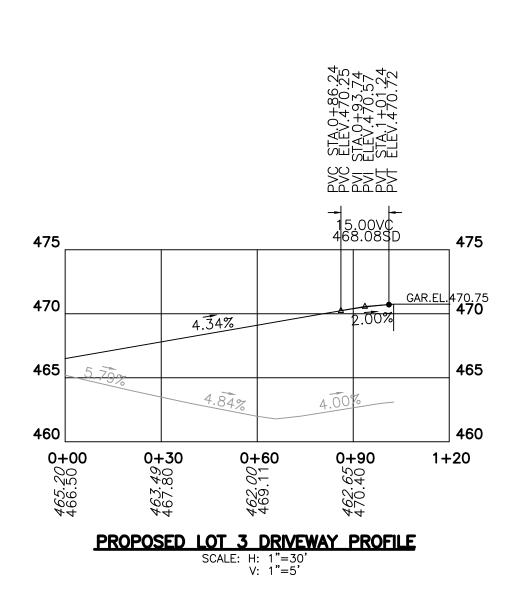


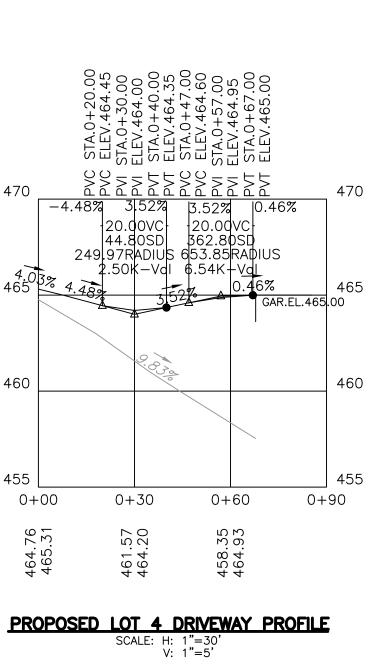












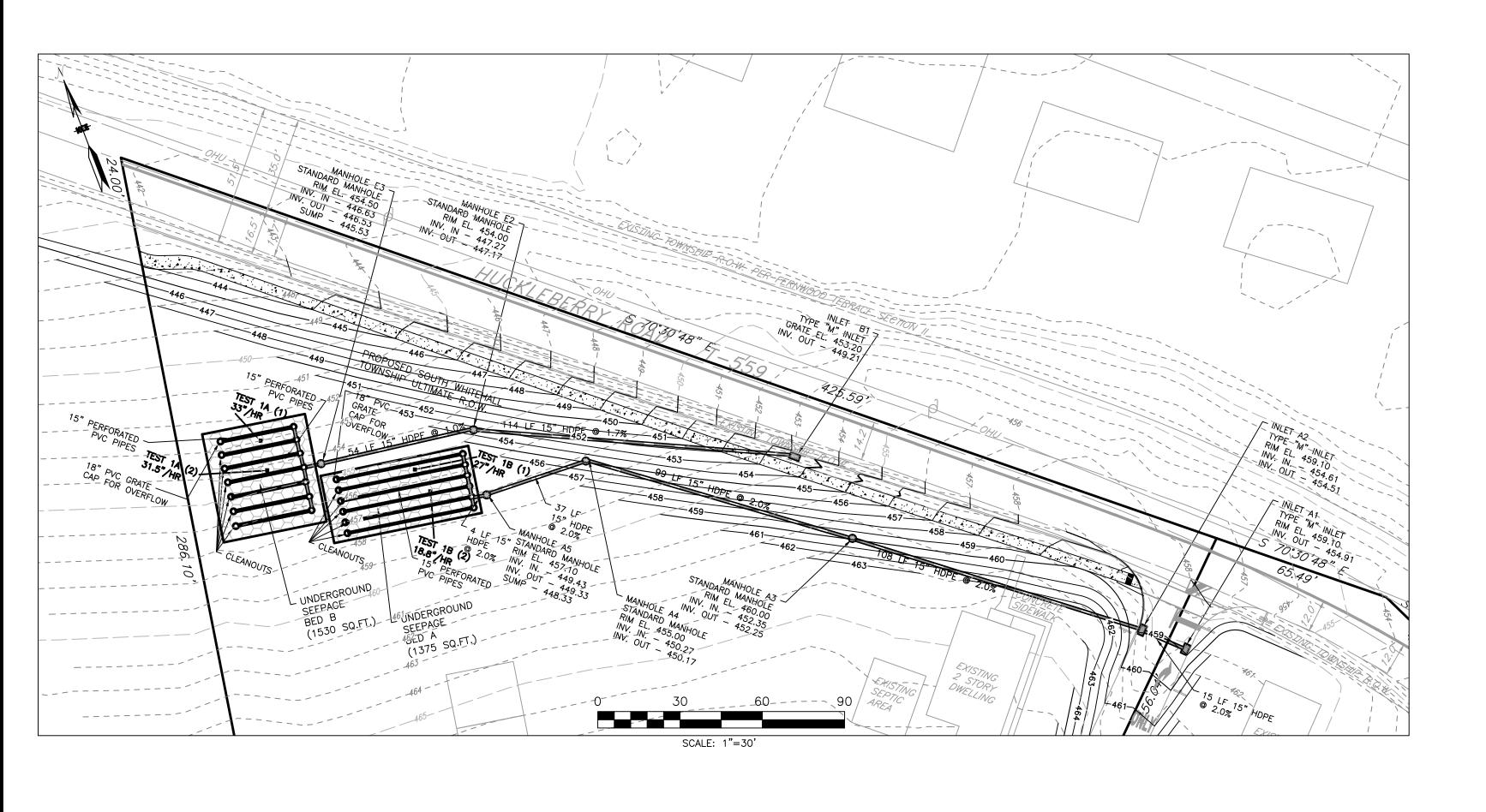
| NS SUABER BRIVAT | DATE SHARED PRIVE | 06/16/2021 | 12/16/2021 KU | 09/20/2023 PRI | 11/17/2023 | OS |
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| KCE | MSN | | MFC/AKF | March 05, 2021 | AS SHOWN | CW-20-128 |
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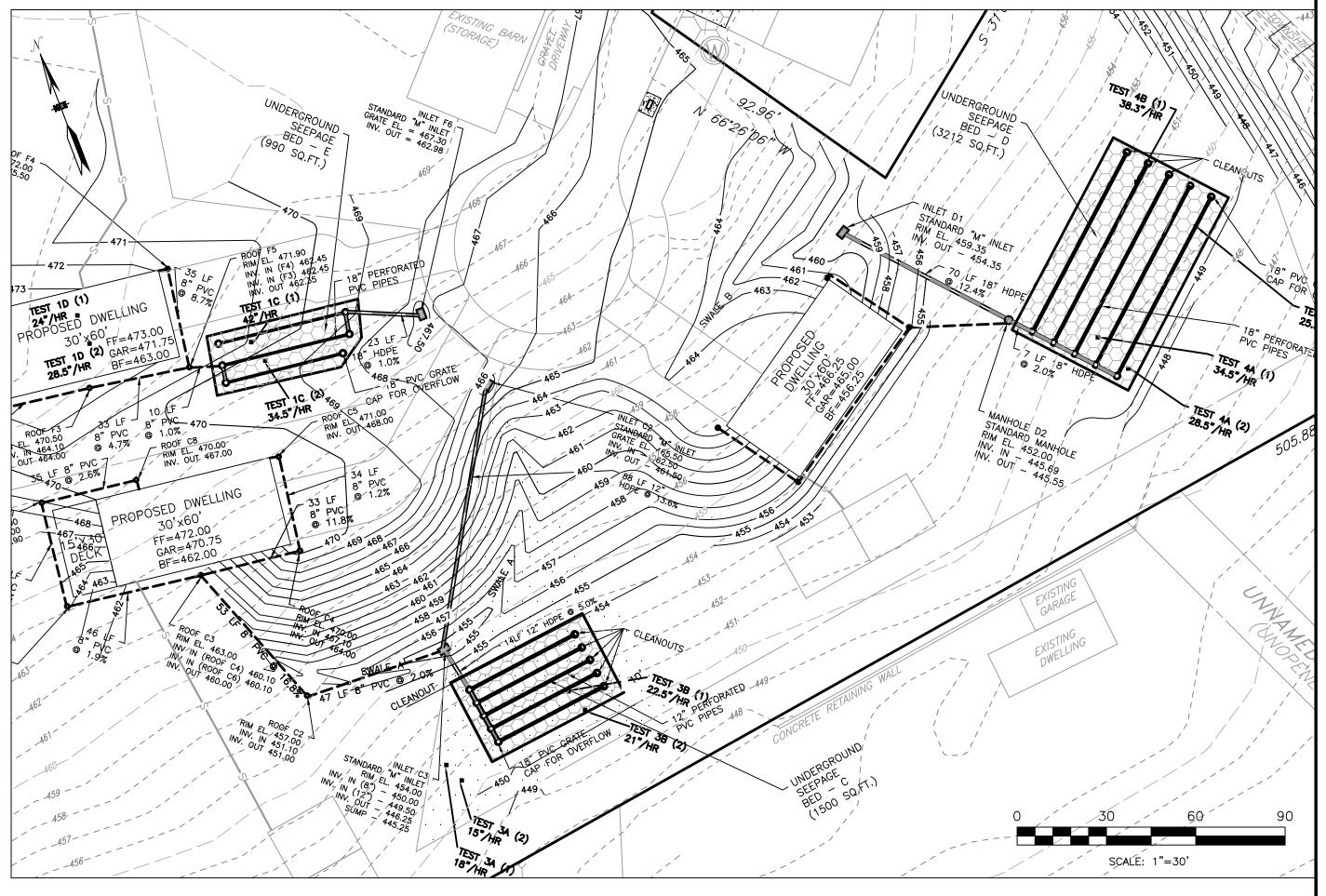
TE DRIVEWAY & DRIVEWAY PROFILES

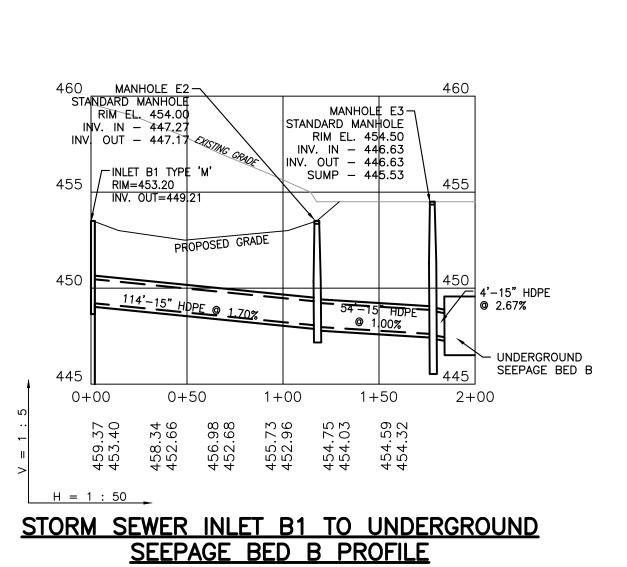
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461.05 462.60

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462.02 462.86

1+50

INLET A1 TYPE 'M' RIM=459.10 INV. OUT=454.91

15'-15" HDPE © 2.00%

450

0+00

| INLET A2 TYPE 'M' | RIM=459.10

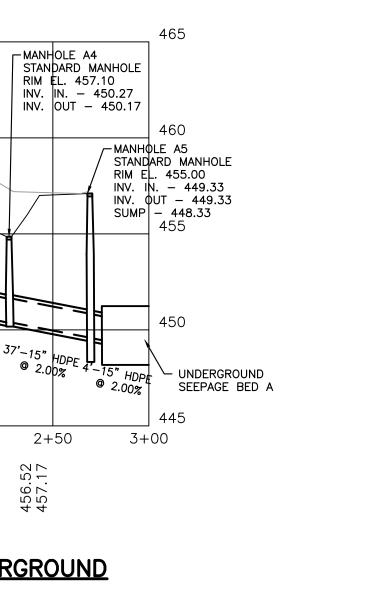
INV. IN=454.61 INV. OUT=454.51 MANHOLE A3
STANDARD MANHOLE
RIM EL. 460.00
INV. IN – 452.35
INV. OUT – 452.25

2+00

455.65 458.37

457.15 460.06

2+50



18" HDPE @ 1.0% STORM SEWER INLET F6 TO UNDERGROUND SEEPAGE BED E

PROPOSED -GRADE

INLET F6 STANDARD "M" INLET GRATE EL. 467.30 INV. OUT – 462.98

470

460

0+00

470

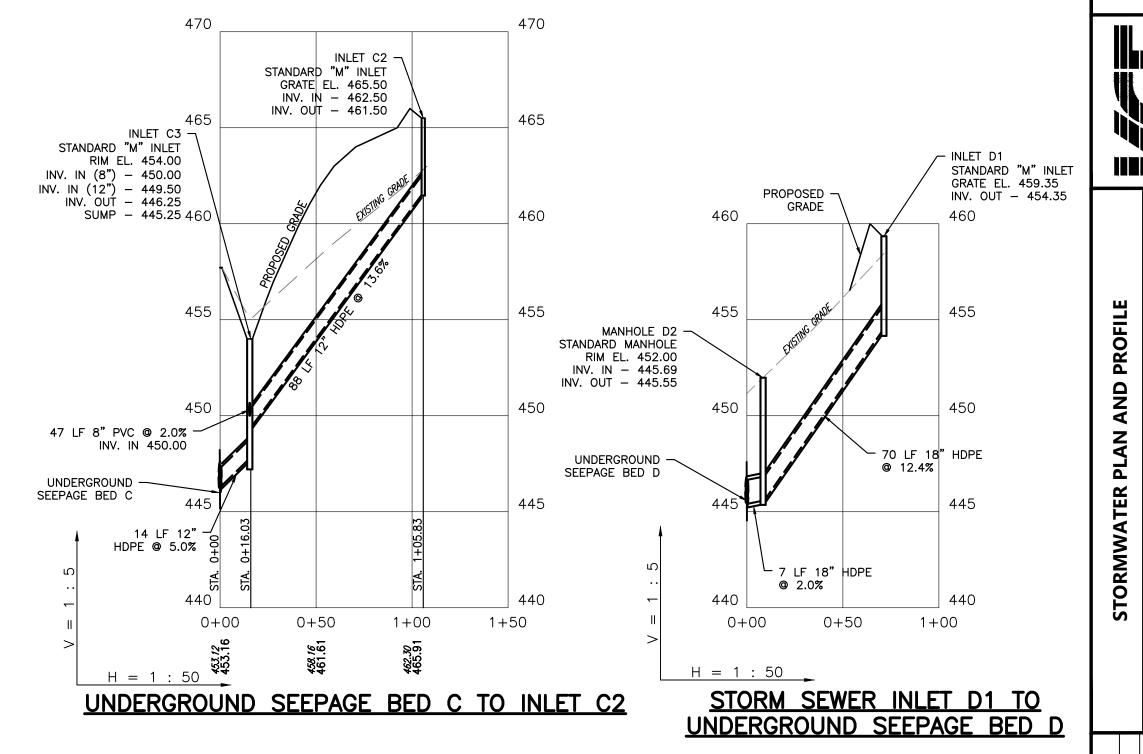
PROPOSED

- UNDERGROUND SEEPAGE BED E

GRADE

460

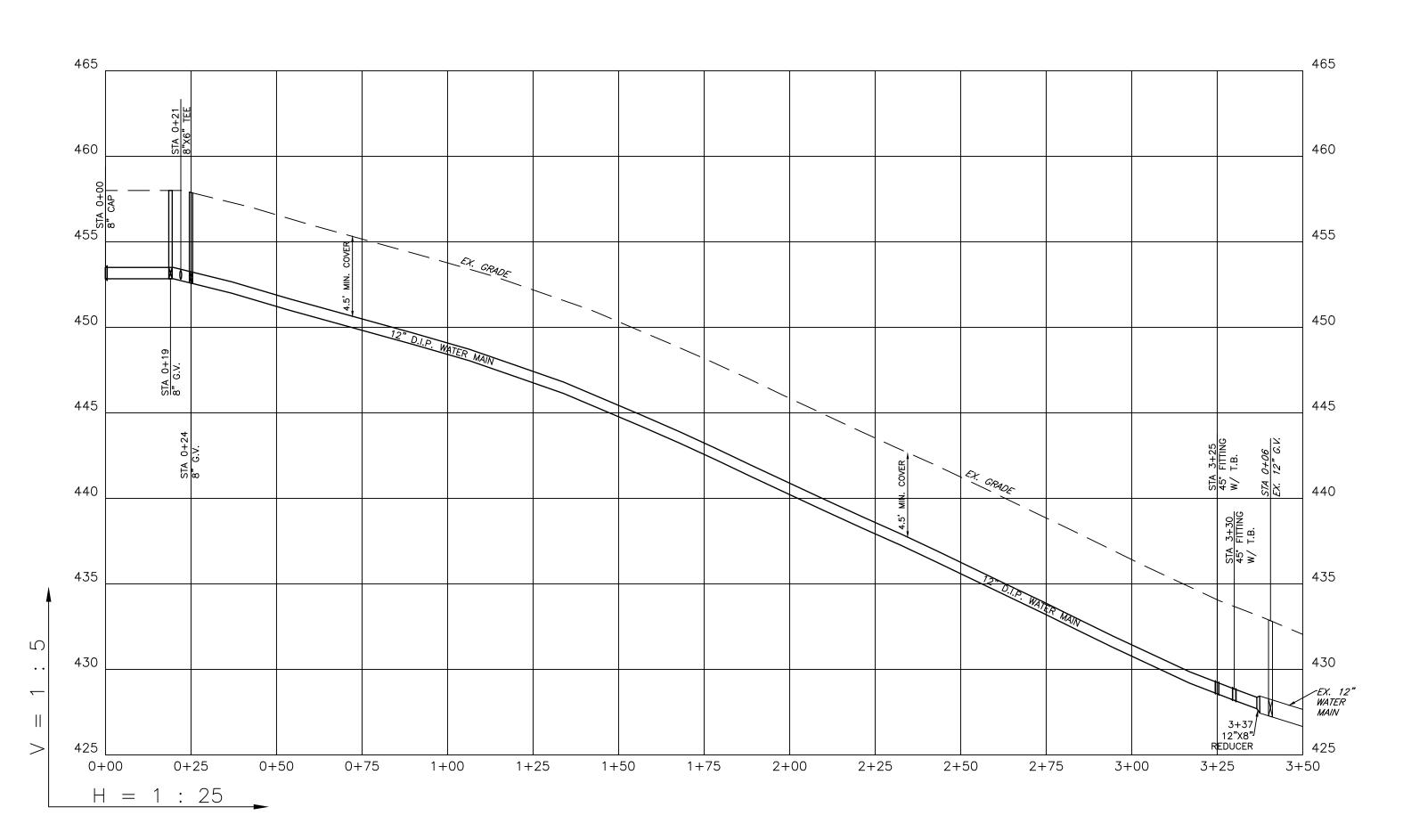
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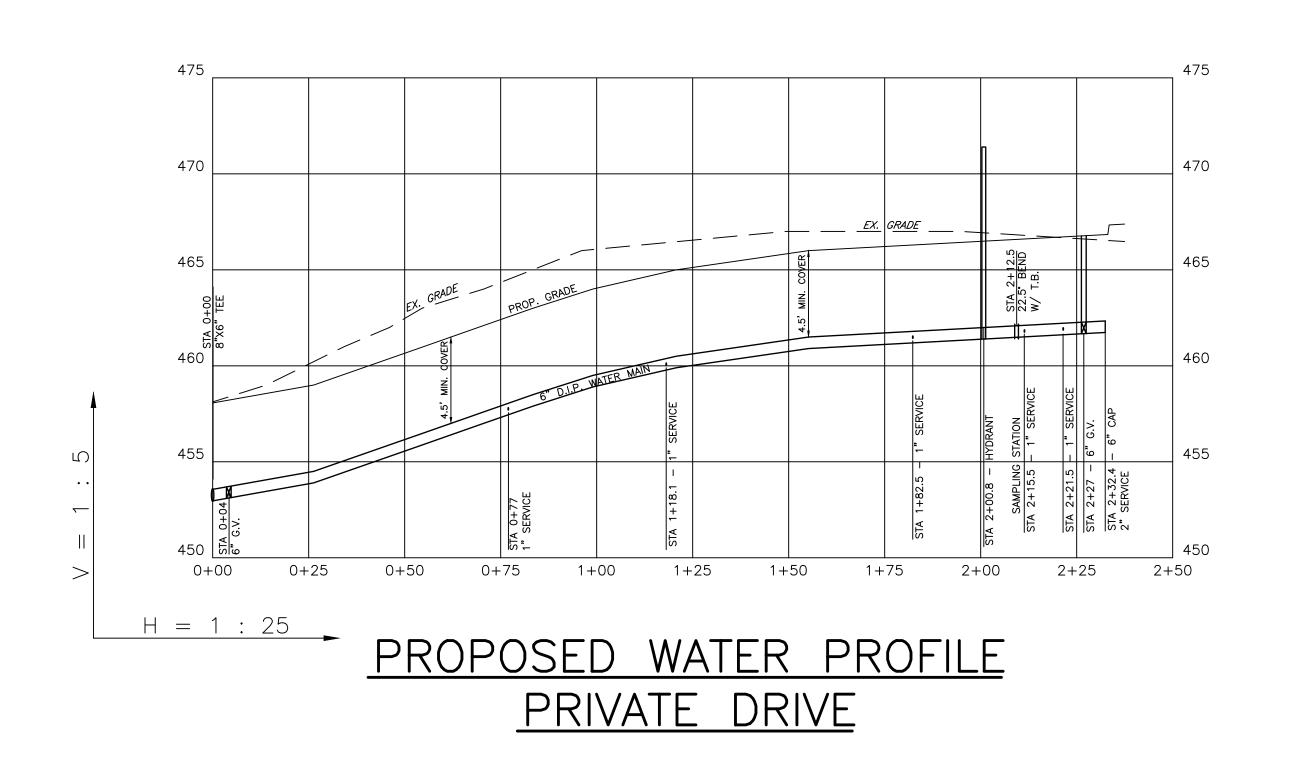
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RUHE MINOR SUBDIVISION
PRELIMINARY/FINAL PLAN
2442 HUCKLEBERRY ROAD
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY, PENNSYLVANIA



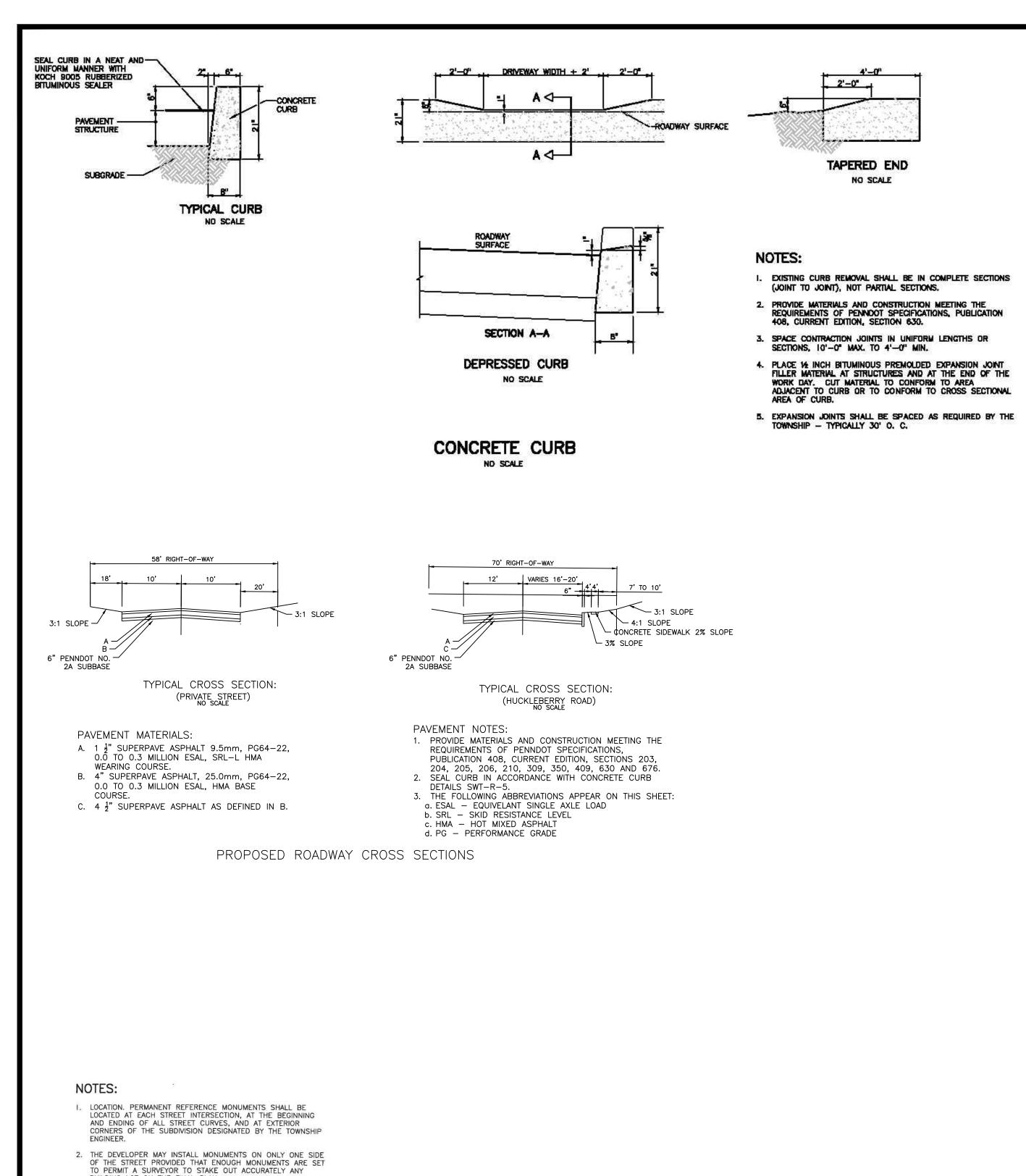
PROPOSED WATER PROFILE HUCKLEBERRY ROAD



. 3 9 5 - 0 9 7 1 . e s g e v i l l e U Z ENGINE CONSULTING KEYSTONE

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5012 MEDICAL CENTER East Office: Bethlehem ON E



-3/8" STEEL ROD

EDGES OF 1/2"

TO 3/4"

STANDARD CONCRETE MONUMENT

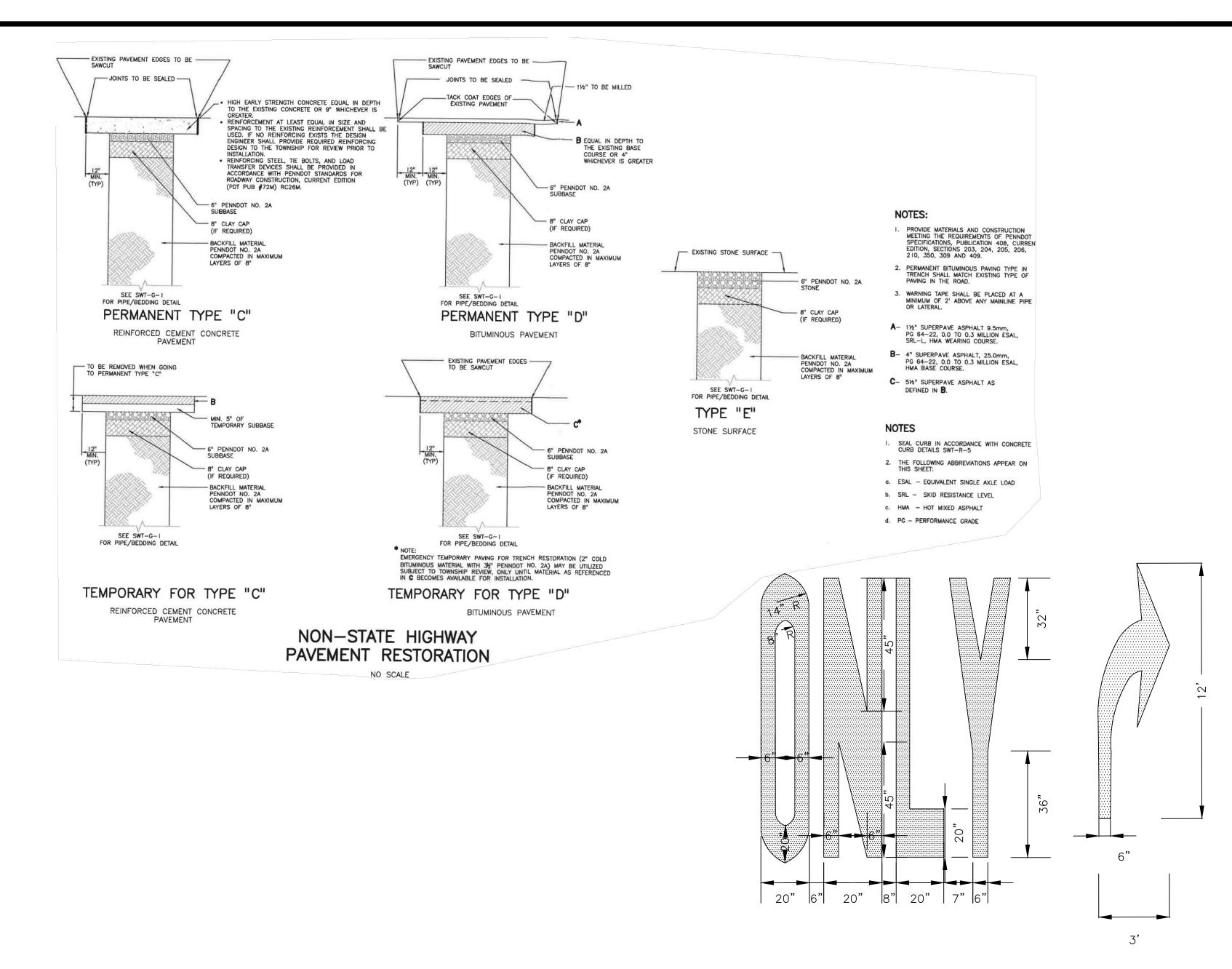
NO SCALE

BUILDING LOT ON THE FINAL PLAN.

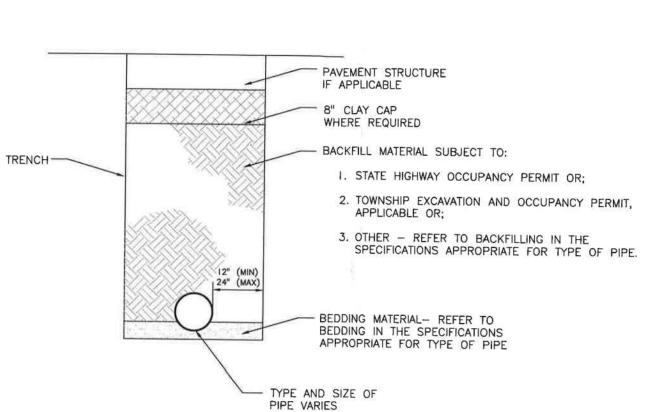
WRITING BY THE TOWNSHIP ENGINEER.

3. TYPE. REFERENCE MONUMENTS SHALL BE CONSTRUCTED OF STEEL REINFORCED PORTLAND CEMENT TO THE DIMENSIONS SHOWN ON THIS DRAWING, OR AS REVIEWED IN ADVANCE IN

PLACEMENT. REFERENCED MONUMENTS SHALL BE PLACED SO THAT THE TOP OF THE MONUMENT IS FLUSH WITH FINISH GRADE.



PROPOSED ROADWAY MARKINGS IN WHITE THERMOPLASTIC



STANDARD TRENCH

NO SCALE

1. POST MOUNTED SIGNS SHALL BE TYPE B CHANNEL BAR POSTS AND SHALL CONFORM TO PADOT "TRAFFIC CONTROL SIGNING STANDARDS" TC-8702B SHEET 8 THRU 11 OF 11. APPROPRIATE POSTS SHALL BE SELECTED BASED ON THE SIZE OF THE SIGN USING THE SELECTION TABLES CONTAINED THEREIN.

POST MOUNTED SIGN DETAIL

N.T.S.

- SPLICE SIGN POST TO ANCHOR POST WITH ANCHOR BOLTS, ACORN LOCK NUTS, WASHERS AND SPACER PER PADOT INSTALLATION INSTRUCTIONS & DETAILS (SEE PADOT "TRAFFIC CONTROL SIGNING STANDARDS TC-8702B SHEET 9 OF 11)

30" x 30"

STOP SIGN

STANDARD PENNDOT ANCHOR

PLATE (FOR USE IN AREAS

WITH SOFT SOIL) BOLT THE TOP OF THE ANCHOR POST

6 TO 7 HOLES FROM THE

END OF THE ANCHOR POST)

- 2. SIGN INSTALLATION SHALL BE IN ACCORDANCE WITH PADOT "TRAFFIC CONTROL SIGNING STANDARDS" TC-8702B SHEETS 8 THRU 11 OF 11 AS AMENDED.
- 3. SEE CIVIL PLANS FOR EXACT LOCATION, TYPE AND SIZE OF SIGNS. ALL REGULATORY (R SERIES) SIGNS SHALL CONFORM TO THE PADOT "HANDBOOK OF APPROVED SIGNS", PUBLICATION 236M, AS AMENDED UNLESS OTHERWISE SPECIFIED.
- 4. SIGNS SHALL BE SETBACK 2' FROM CURBLINES OR OTHER OBSTRUCTIONS AS MEASURED FROM THE FACE/EDGE OF
- 5. RESERVED PARKING SPACE SIGNS SHALL CONFORM TO DEPARTMENT OF JUSTICE "ADA STANDARDS FOR ACCESSIBLE DESIGN" AS AMENDED.
- 6. ALL SIGNS SHALL BE INSTALLED WITH ACORN NUT FASTENERS.

| | | KEYSTONE | CONSULTING |
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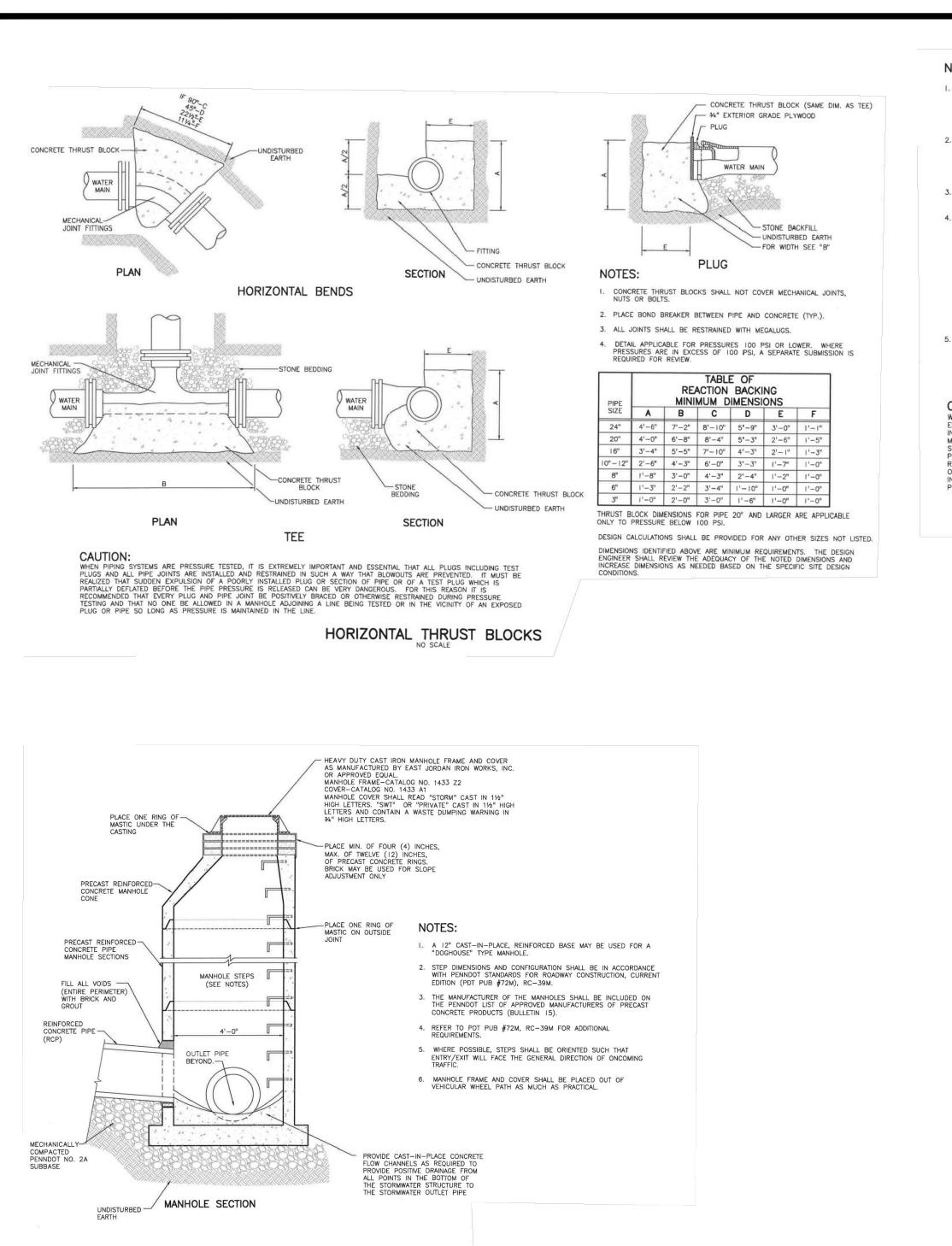
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| | CONSTRUCTION DETAILS | | | PR | 2442 HUCKLEBERRY ROAD | SOUTH WHITEHALL TOWNSHIP | LEHIGH COUNTY, PENNSYLVANIA |
|-----------|----------------------|------------|------------|------------|-----------------------|--------------------------|-----------------------------|
| REVISIONS | DATE | 06/16/2021 | 12/16/2021 | 09/20/2023 | 11/17/2023 | | |
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NOTES:

TROUT LOGO PLATE

SECTION B-B

CONCRETE INLET AND TOP UNITS SHALL BE AS DETAILED IN PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION, CURRENT EDITION (PDT PUB #72M) RC-45M, "INLETS, CONCRETE TOP UNITS CAST-IN-PLACE AND PRECAST".

2. PROVIDE A MINIMUM OF 4 INCHES AND MAXIMUM OF 8 INCHES VERTICALLY OF PRECAST CONCRETE COLLARS WITH THROUGH-WALL OPENINGS ADJACENT TO SUBGRADE TO SERVE AS WEEP HOLES.

STEPS SHALL BE PROVIDED WHENEVER STRUCTURE EXCEEDS 4
FEET IN DEPTH.

STEP DIMENSIONS AND CONFIGURATION SHALL BE IN ACCORDANCE WITH PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION,

 PROVIDE STRUCTURAL STEEL GRATE - BICYCLE SAFE, AS DETAILED IN PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION, CURRENT EDITION (PDT PUB #72M) RC-45M, "INLET GRATES". THE BACKFILL AROUND THE WEEPHOLES SHALL NOT CONTAIN

SCREENINGS; i.e., PLACE PENNDOT NO. 3 OR LARGER STONES AS REQUIRED BY ENGINEER, WITHOUT SCREENINGS TO ALLOW WATER TO ENTER WEEPHOLES. PLACE GEOTEXTILE FABRIC AROUND BACKFILL TO PREVENT MIGRATION OF SURROUNDING MATERIAL INTO VOIDS OF BACKFILL.

THE MANUFACTURER OF THE INLETS SHALL BE INCLUDED ON THE PENNDOT LIST OF APPROVED MANUFACTURERS OF PRECAST

TOP UNITS MUST CONTAIN THE 24-INCH BY 3-INCH TROUT LOGO PLATE AND TAGS DISPLAYING A DUMPING WARNING AS MANUFACTURED BY EAST JORDAN IRON WORKS INC. (CATALOG NO.

7003PLI) TO BE READ FROM ROADWAY SIDE OF INLET. REFER TO CURRENT EDITION, (PDT PUB #72M), RC-46M FOR ADDITIONAL INLET BOX REQUIREMENTS.

3. ALL EXPOSED EDGES SHALL BE CHAMFERED I"xI".

CURRENT EDITION (PDT PUB #72M), RC-39M.

CONCRETE PRODUCTS (BULLETIN 15).

STANDARD PRECAST CONCRETE PIPE MANHOLE

(SHOWN WITH PRECAST BASE)

-SEE NOTE 2

CAST-IN-PLACE CONCRETE FLOW —
 CHANNEL. SHAPE TO PROVIDE
 POSITIVE DRAINAGE FROM ALL
 CORNERS OF STRUCTURE AND TO
 THE OUTLET PIPE

MECHANICALLY COMPACTED-PENNDOT NO. 2A SUBBASE (FOR PRECAST INLET BOX)

TYPE M INLET

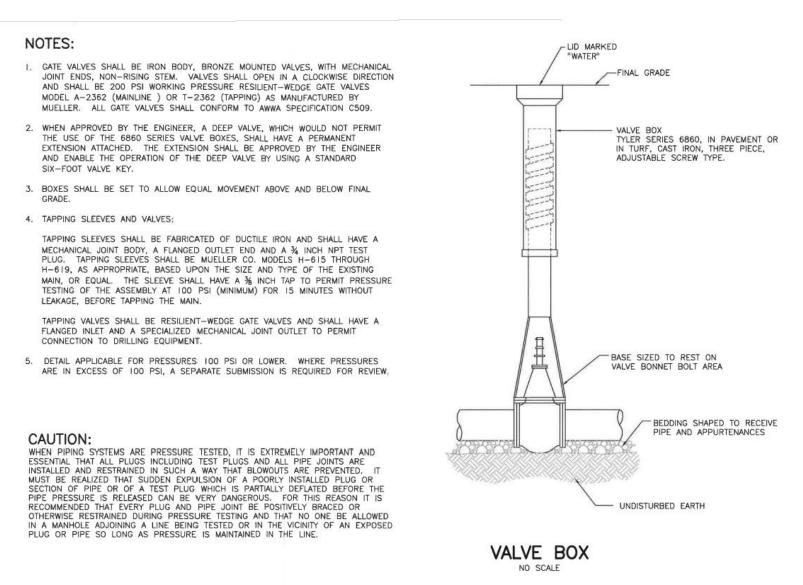
(SEE NOTE NO. 9)

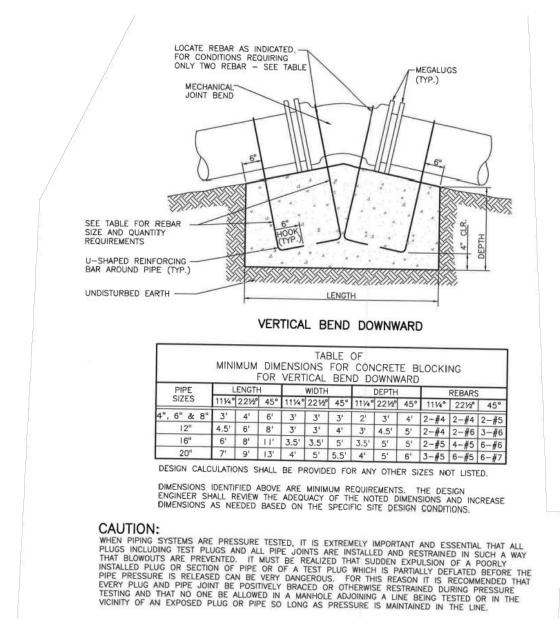
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REINFORCED CONCRETE PIPE (RCP)

PLAN

SECTION A-A

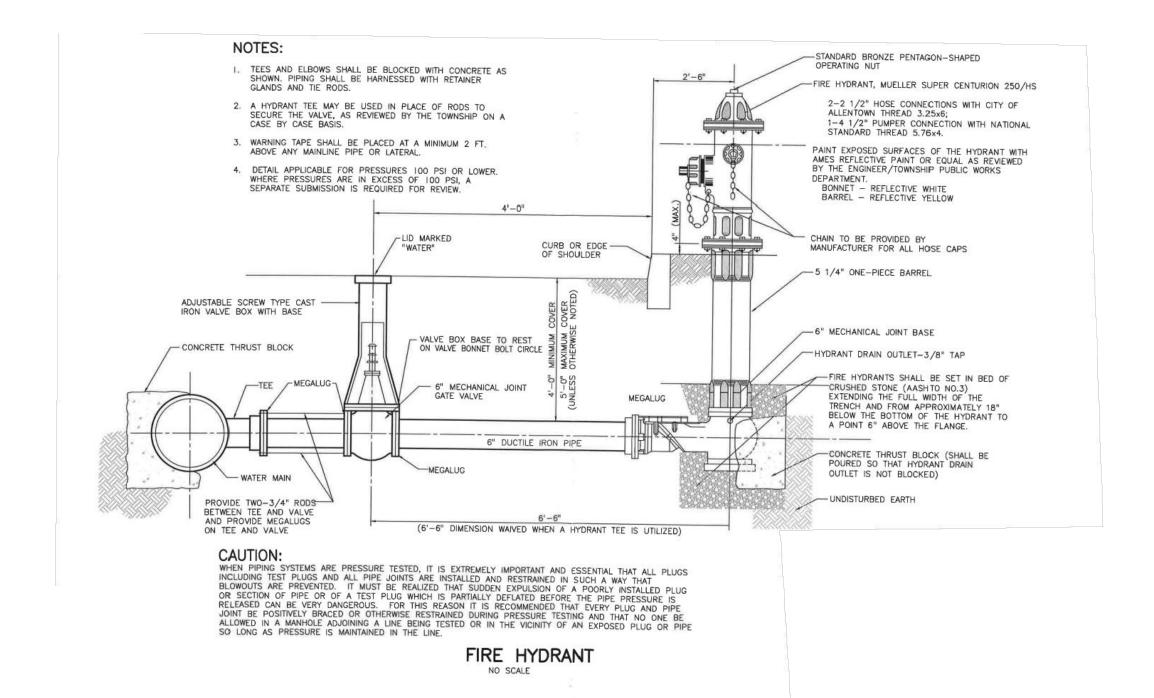


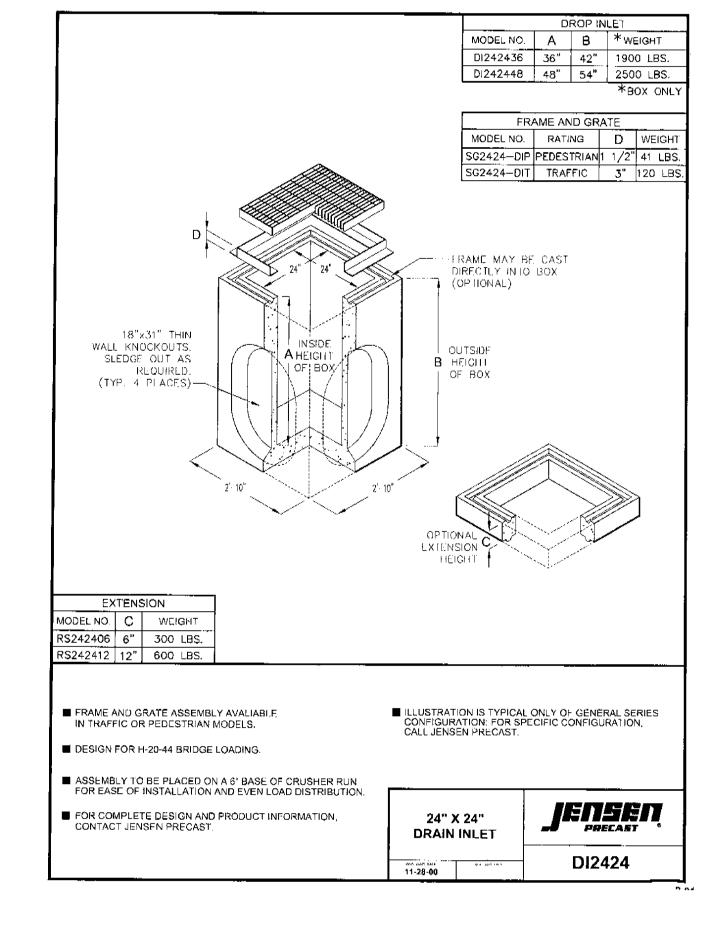


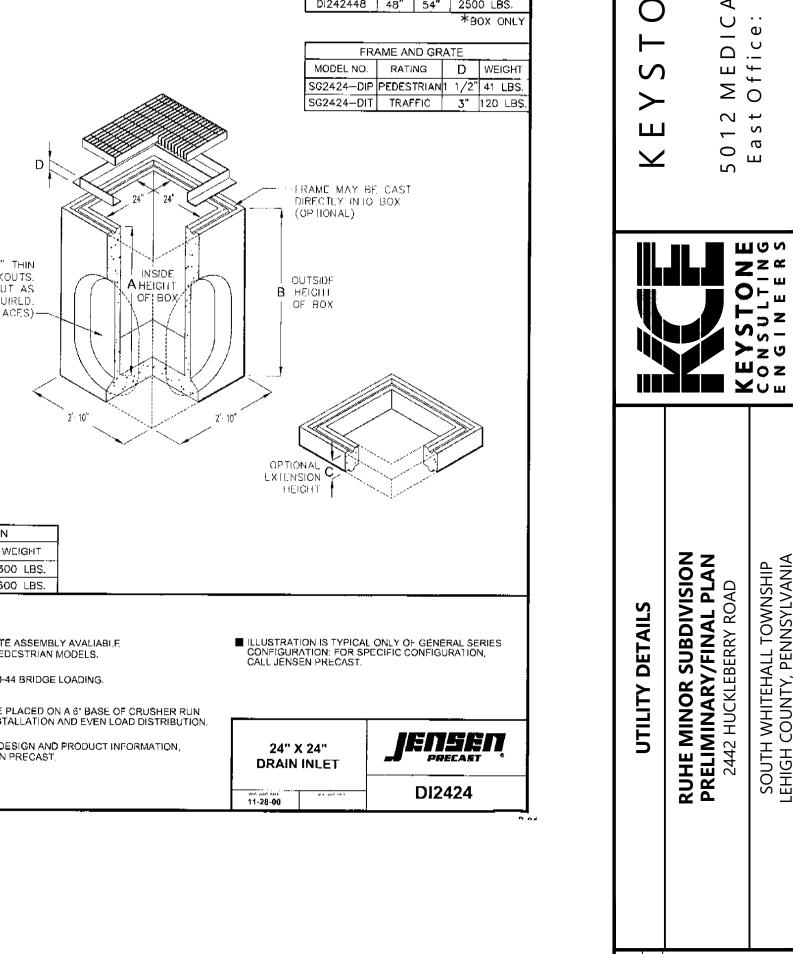
VERTICAL THRUST BLOCKS

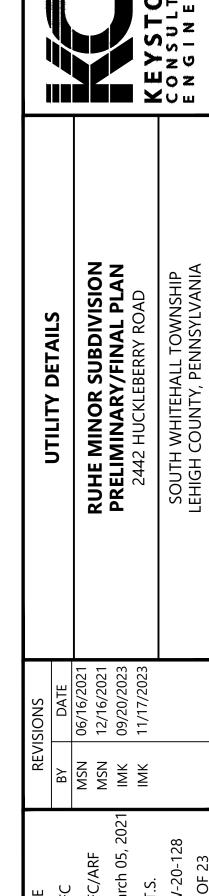
NO SCALE

DETAIL APPLICABLE FOR PRESSURES 100 PSI OR LOWER. WHERE PRESSURES ARE IN EXCESS OF 100 PSI, A SEPARATE SUBMISSION IS REQUIRED FOR REVIEW.









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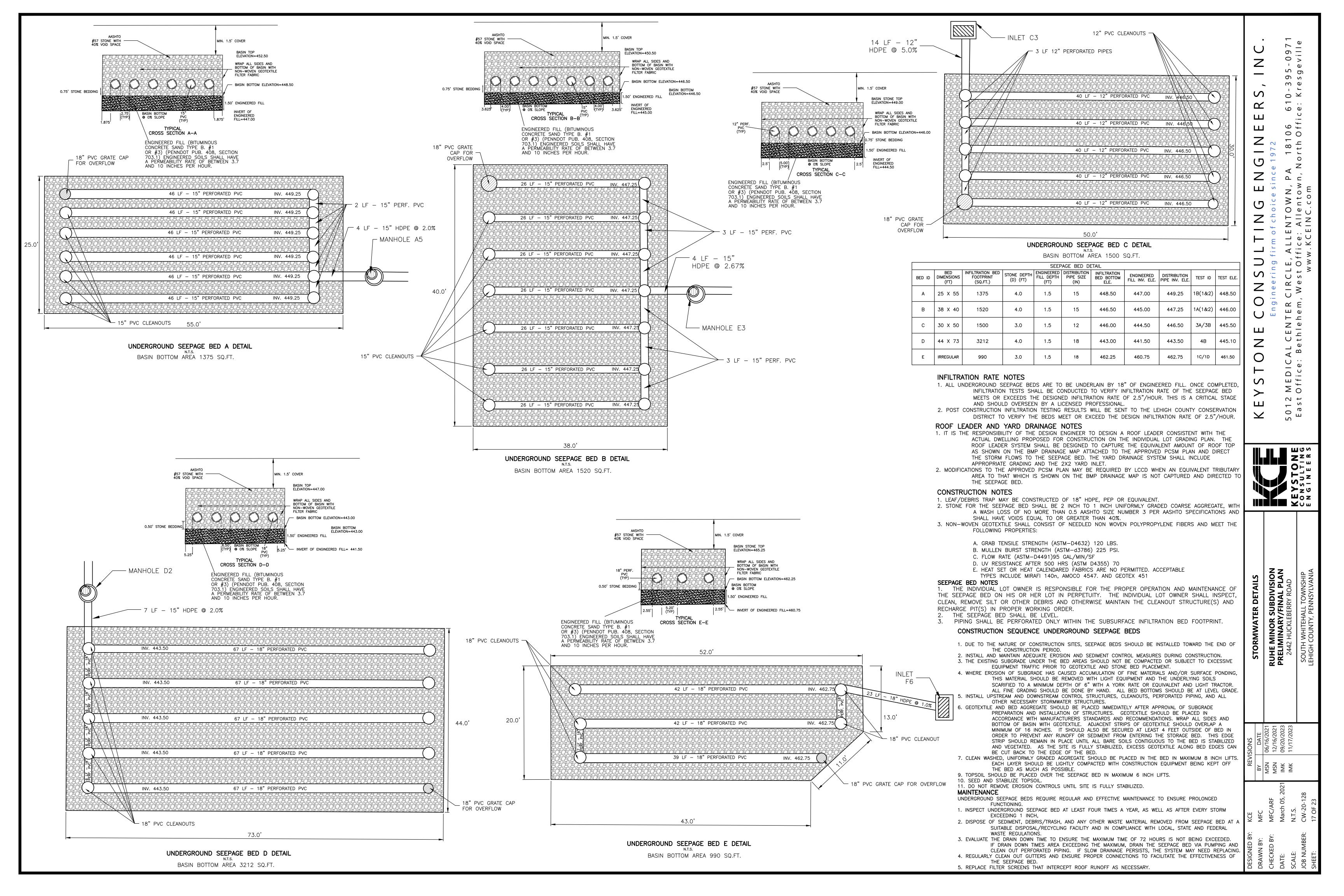
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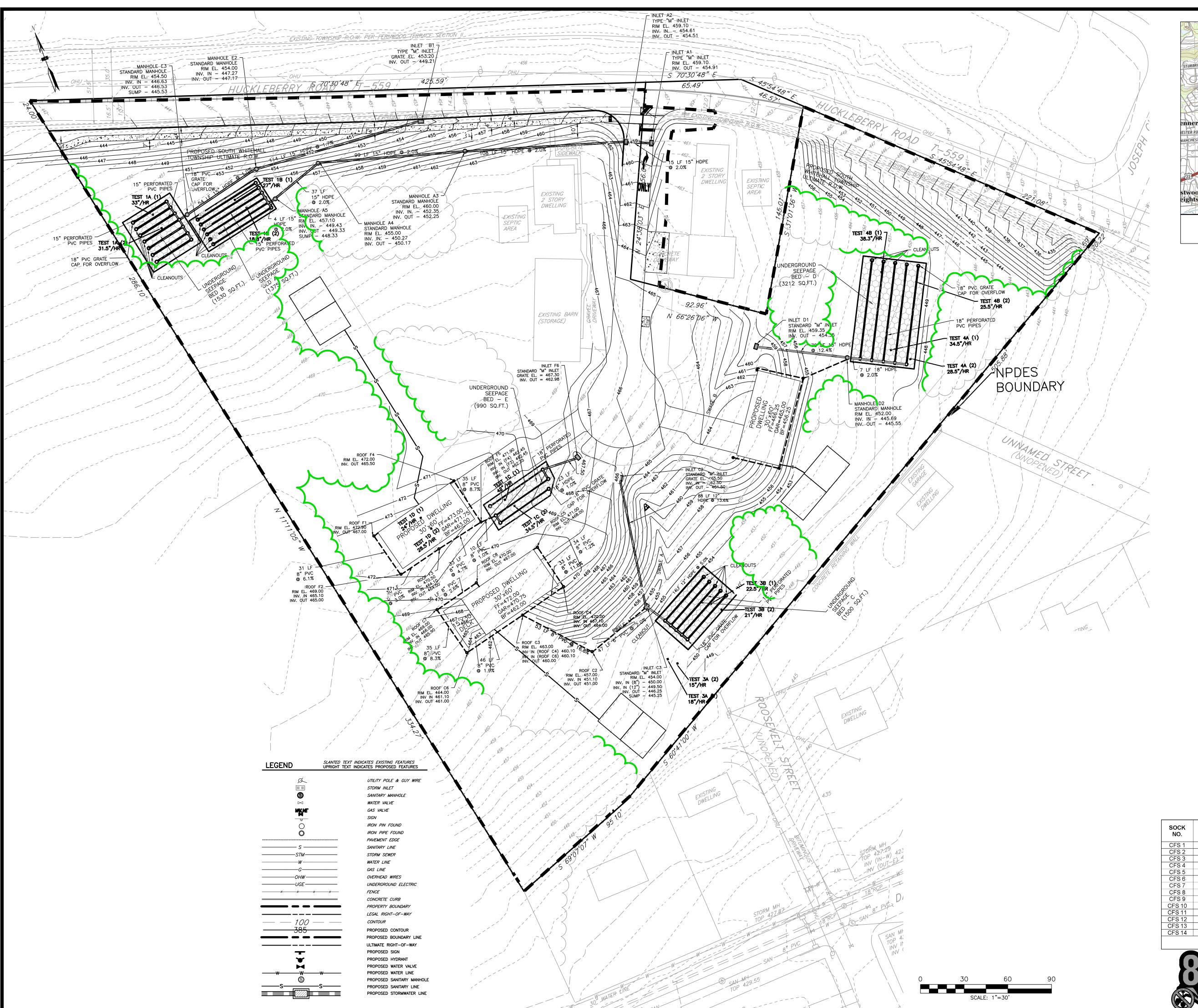
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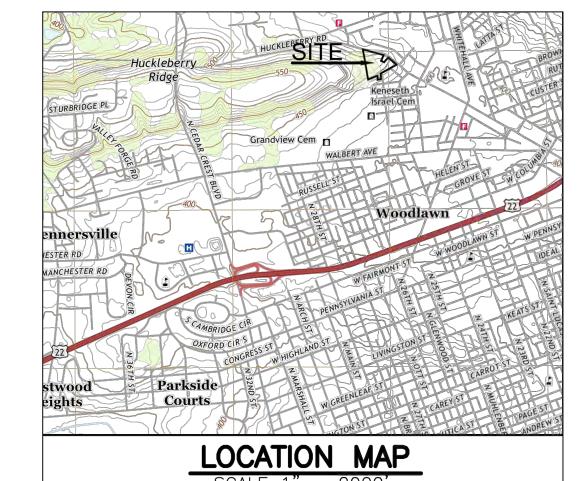
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EROSION AND SEDIMENTATION

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| SOCK NO. | Dia. In. | LOCATION | SLOPE- PERCENT | SLOPE LENGTH ABOVE BARRIER (FT) |
|-------------|-------------|---------------|-------------------|---------------------------------------|
| CFS 1 | 24" | Lot 4 | 7.2% | 313' |
| CFS 2 | 32" | Lot 4 | 50% | 178' |
| CFS 3 | 12" | Lot 4 | 7.6% | 224' |
| CFS 4 | 12" | Lot 4 | 9.2% | 206' |
| CFS 5 | 8" | Lot 4 | 9.6% | 167' |
| CFS 6 | 24" | Lot 3 | 7.2% | 340' |
| CFS 7 | 8" | Lot 3 | 8.6% | 134' |
| CFS 8 | 18" | Lot 2 | 50% | 10' |
| CFS 9 | 5" | Lot 2 | 2.4% | 106' |
| CFS 10 | 5" | Lot 2 | 7.4% | 102' |
| CFS 11 | 8" | Lutz Property | 5.3% | 170' |
| CFS 12 | 5" | ROW 1 | 8.3% | 84' |
| CFS 13 | 5" | ROW 1 | 12.7% | 55' |
| CFS 14 | 18" | Lot 2 | 10.4% | 198' |



DIAL 8-1-1 OR 1-800-242 DAYS NOR MORE THAN START OF EXCAVATION

PENNSYLVANIA ONE CALL SYS 217420210222

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|--------|---------------|-----------------|---|-------------------------|-------------------|---------------|----------------|--------------|-------------|
| | 7.2% | 340' | | REVIS | | | | | |
| | 8.6% | 134' | | RE | | т т | × | \checkmark | |
| | 50% | 10' | | | ВУ | EAH FAH | Σ | Σ | |
| | 2.4% | 106' | | | | | _ | _ | |
| | 7.4% | 102' | | | | | | | |
| | 5.3% | 170' |] | | | | 21 | | |
| | 8.3% | 84' | 1 | | | | 20 | | ω |
| | 12.7% | 55' |] | | | ш | ار | | 2 |
| | 10.4% | 198' |] | | | MFC/ARF | March 05, 2021 | 30' | CW-20-128 |
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| 22-000 |) FEBF | RUARY 22, 2021 | | 9 | ≥ | Ť | نن | Ш | Z |
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All earth disturbances, including clearing and grubbing as well as cuts and fills shall be done in accordance with the approved E&S plan. A copy of the approved drawings (stamped, signed and dated by the reviewing agency) must be available at the project site at all times. The reviewing agency shall be notified of any changes to the approved plan prior to implementation of those changes. The reviewing agency may require a written submittal of those changes for review and approval at its discretion.

At least 7 days prior to starting any earth disturbance activities, including clearing and grubbing, the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, the licensed professional responsible for oversight of critical stages of implementation of the PCSM plan, and a representative from the local conservation district to an on-site preconstruction meeting.

At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1—800—242—1776 for the location of existing underground utilities.

All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. Deviation from that sequence must be approved in writing from the local conservation district or by the Department prior to

Areas to be filled are to be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots and other objectionable material.

Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing and topsoil stripping may not commence in any stage or phase of the project until the E&S BMPs specified by the BMP sequence for that stage or phase have been installed and are functioning as

At no time shall construction vehicles be allowed to enter areas outside the limit of disturbance boundaries shown on the plan maps. These areas must be clearly marked and fenced off before clearing and grubbing operations begin.

Topsoil required for the establishment of vegetation shall be stockpiled at the location(s) shown on the plan map(s) in the amount necessary to complete the finish grading of all exposed areas that are to be stabilized by vegetation. Each stockpile shall be protected in the manner shown on the plan drawings. Stockpile heights shall not exceed 35 feet. Stockpile slopes shall be 2H:1V or flatter.

Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to minimize the potential for erosion and sediment pollution and notify the local conservation district and/or the regional office of the Department.

All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1, and 287.1 et. seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at this site.

All off—site waste and borrow areas must have an E&S plan approved by the local conservation district or the Department fully implemented prior to being activated.

The contractor is responsible for ensuring that any material brought on site is clean fill. Form FP-001 must be retained by the property owner for any fill material affected by a spill or release of a regulated substance but qualifying as clean fill due to analytical testing.

All pumping of water from any work area shall be done according to the procedure described in this plan, over undisturbed vegetated areas. All pumping of sediment laden water shall be through a sediment control BMP, such as a pumped water filter bag discharging over non-disturbed areas.

Vehicles and equipment may neither enter directly nor exit directly onto any public road. Vehicles and Equipment may only enter and exit the construction site via a stabilized rock construction entrance.

Until the site is stabilized, all erosion and sediment BMPs shall be maintained properly. Maintenance shall include inspections of all erosion and sediment BMPs after each runoff event and on a weekly basis. The operator will maintain and make available to Lehigh County Conservation District complete, written inspection logs of all those inspections. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching and renetting must be performed immediately. If the E&S BMPs fail to perform as expected, replacement BMPs, or modifications of those installed will be required.

A log showing dates that E&S BMPs were inspected as well as any deficiencies found and the date they were corrected shall be maintained on the site and be made available to regulatory agency officials at the time of inspection.

Sediment tracked onto any public roadway or sidewalk shall be returned to the construction site by the end of each work day and disposed in the manner described in this plan. In no case shall the sediment be washed, shoveled, or swept into any roadside ditch, storm sewer, or surface water.

All sediment removed from BMPs shall be disposed of in the manner described on the plan drawings. Sediment removed from BMPs shall be disposed of in landscaped areas outside of steep slopes, wetlands, floodplains or drainage swales and immediately stabilized, or placed in topsoil stockpiles.

Areas which are to be topsoiled shall be scarified to a minimum depth of 3 to 5 inches — 6 to 12 inches on compacted soils - prior to placement of topsoil. Areas to be vegetated shall have a minimum 4 inches of topsoil in place prior to seeding and mulching. Fill outslopes shall have a minimum of 2 inches of topsoil.

All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc. shall be compacted in accordance with local requirements or

All earthen fills shall be placed in compacted layers not to exceed 9 inches in thickness.

Fill materials shall be free of frozen particles, brush, roots, sod, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills. Frozen materials or soft, mucky, or highly compressible materials shall not be incorporated into fills.

Fill shall not be placed on saturated or frozen surfaces.

Seeps or springs encountered during construction shall be handled in accordance with the standard and specification for

All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated. Seeded areas within 50 feet of a surface water, or as otherwise shown on the plan drawings, shall be blanketed according to the standards of this plan.

Immediately after earth disturbance activities cease in any area or subarea of the project, the operator shall stabilize all disturbed areas. During non-germinating months, mulch or other protective blanketing shall be applied as described in the plan. Areas not at finished grade, which will be reactivated within 1 year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will not be reactivated within 1 year shall be stabilized in accordance with the permanent stabilization specifications.

Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or mother movements.

Erosion and sediment BMPs must be constructed, stabilized, and functional before site disturbance begins within the tributary areas of those BMPs. E&S BMPs shall remain functional as such until all areas tributary to them are permanently stabilized or until they are replaced by another BMP approved by the local conservation district or the

WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION VEHICULAR TRAFFIC. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the local conservation district for an inspection prior to removal/conversion of the E&S BMPs. After final site stabilization has been achieved, temporary erosion and sediment BMPs must be removed or converted to permanent post construction stormwater management BMPs. Areas disturbed during removal or conversion of the BMPs

be done only during the germinating season. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the local conservation district to schedule a final inspection.

Failure to correctly install E&S BMPs, failure to prevent sediment—laden runoff from leaving the construction site or failure to take immediate corrective action to resolve failure of E&S BMPs may result in administrative, civil, and/or criminal penalties being instituted by the Department as defined in Section 602 of the Clean Streams Law. The Clean Streams Law provides for up to \$10,000 per day in civil penalties, up to \$10,000 in summary criminal penalties, and up to \$25,000 in misdemeanor criminal penalties for each violation.

In the event of sinkhole discovery a professional geologist or engineer will be contacted concerning mitigation. Additionally, the Lehigh County Conservation District will be made aware of the sinkhole discovery immediately.

The operator shall assure that the approved erosion and sediment control plan is properly and completely implemented. The contractor is advised to become thoroughly familiar with the provisions of the Appendix 64, Erosion Control Rules and Regulations, Title 25, Part 1, Department of Environmental Protection, Subpart C, Protection of Natural Resources, Article III, Water Resources, Chapter 102, Erosion Control.

The E&S control plan mapping must display a PA ONE CALL SYSTEM INCORPORATED symbol including the site identification number. (This is a numbered symbol not a note.)

At stream crossings, 50' buffer areas should be maintained. On buffers, clearing, sod disturbances, excavation, and equipment traffic should be minimized. Activities such as stacking logs, burning cleared brush, discharging rainwater from trenches, welding pipe sections, refueling and maintaining equipment should be accomplished outside of buffers.

All wetlands must be delineated and protected with orange safety fence prior to any earthmoving activity.

Straw mulch shall be applied in long strands, not chopped or finely broken

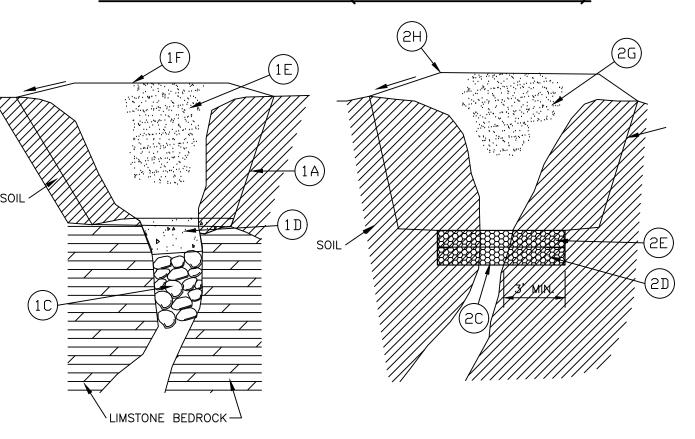
Concrete wash water shall be handled in the manner described on the plan drawings. In no case shall it be allowed to enter any surface waters or groundwater systems. All channels shall be kept free of obstructions including but not limited to fill, rocks, leaves, woody debris, accumulated

sediment, excess vegetation, and construction material/wastes. Erosion control blanketing shall be installed on all slopes 3H:1V or steeper within 50 feet of a surface water and on all

other disturbed areas specified on the plan maps and/or detail sheets.

Fill material for embankments shall be free of roots, or other woody vegetation, organic material, large stones, and other objectionable materials. The embankment shall be compacted in maximum 8"layered lifts at 95% density.

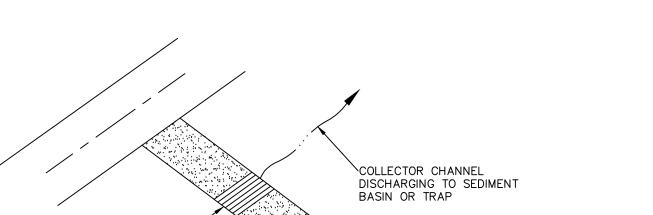
SINKHOLE REPAIR (IF ENCOUNTERED)



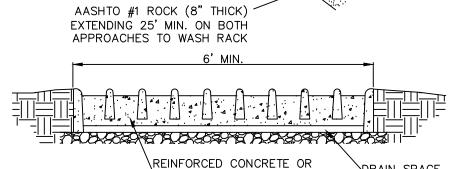
GENERAL GUIDELINES FOR SINKHOLE REPAIR

- ** THE TOWNSHIP GEOTECHNICAL REPRESENTATIVE SHOULD BE CONSULTED PRIOR TO IMPLEMENTING A REPAIR PROCEDURE.
- 1. ORIFICE LOCATED AND EXTENDING INTO ROCK: A. EXCAVATE SOILS TO ROCK SURFACE. EXCAVATIONS MORE THAN 4' DEEP SHOULD BE SHORED OR SLOPED FOLLOWING OSHA REQUIREMENTS.
- B. WASH ROCK SURFACE AND CLEAN ORIFICE. C. IF NECESSARY, PLUG ORIFICE WITH QUARRY ROCK
- D. BACKFILL ORIFICE AND A MINIMUM OF 2 FEET ABOVE ROCK SURFACE WITH HIGH SLUMP LEAN CONCRETE (K-CRETE). E. BACKFILL EXCAVATION WITH COMPACTED, IMPERMEABLE SOIL TO THE GROUND
- SURFACE. COMPACT BACKFILL TO 95% OF DRY DENSITY. F. PROVIDE POSITIVE SURFACE DRAINAGE.
- G. CONSULT GEOLOGIST OR GEOTECHNICAL ENGINEER IF UNUSUAL CIRCUMSTANCES ARE ENCOUNTERED.
- 2. ORIFICE LOCATED BUT ROCK NOT ENCOUNTERED, OR ORIFICE NOT LOCATED: A. EXCAVATE UNTIL FIRM SOIL IS ENCOUNTERED. EXCAVATIONS MORE THAN 4 FEET DEEP SHOULD BE SHORED OR SLOPED FOLLOWING OSHA REQUIREMENTS.
- B. CLEAN LOOSE SOILS FROM BOTTOM. C. PLACE LAYER OF HEAVY-DUTY NON-WOVEN GEOTEXTILE FABRIC (TYPAR 3401, MIRAFI 500X OR EQUIVALENT).
- D. PLACE AND COMPACT 1 FOOT OF COARSE AGGREGATE (PENNDOT 2A MODIFIED) COMPACT TO 95% OF DRY DENSITY.
- E. LAP OVER FIRST LAYER OF FABRIC AND PLACE SECOND LAYER OF FABRIC. F. REPEAT STEPS D. AND E. AS NECESSARY (MINIMUM 2 COURSES).
- G. BACKFILL REMAINDER OF EXCAVATION WITH COMPACTED, IMPERMEABLE SOIL TO THE GROUND SURFACE. COMPACT BACKFILL TO 95% OF DRY DENSITY.

I. CONSULT GEOLOGIST OR GEOTECHNICAL ENGINEER IF UNUSUAL CIRCUMSTANCES



DRAIN SPACE



WASH RACK

H. PROVIDE POSITIVE SURFACE DRAINAGE.

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

WELDED STEEL PIPE

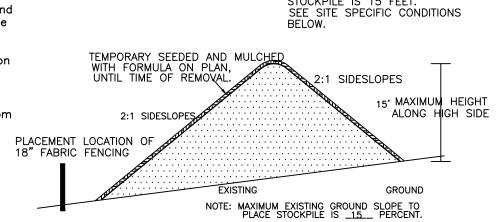
A WATER SUPPLY SHALL BE MADE AVAILABLE TO WASH THE WHEELS OF ALL VEHICLES EXITING

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED shall be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal/conversions are to TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. DRAIN SPACE UNDER WASH RACK SHALL BE KEPT OPEN AT ALL TIMES. DAMAGE TO THE WASH RACK SHALL BE REPAIRED PRIOR TO FURTHER USE OF THE RACK. ALL SEDIMENT DEPOSITED ON ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS

STANDARD CONSTRUCTION DETAIL #3-2 ROCK CONSTRUCTION ACCESS WITH WASH RACK

MAXIMUM ALLOWABLE HEIGHT OF

NOT TO SCALE



SPECIAL DETAIL STOCKPILED TOPSOIL AND FILL MATERIAL

1. The stockpiled topsoil and fill material will be inspected on a daily basis and after every runoff event. All necessary repairs will be made immediately. 2. All stockpiles will be temporary seeded and mulched at all times.

NOTES: REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR

PLAN VIEW

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

GEOTEXTILE-

FXISTING

GROUND

DRAINAGE COURSES IS NOT ACCEPTABLE.

INTERMITTENT CHECK SLOT

STATIONS

WELL VEGETATED, GRASSY AREA

AOS % RETAINED

SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

ELEVATION VIEW

MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN

TEST METHOD

ASTM D-4632

ASTM D-3786

WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR

WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEP

AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS

DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED

ONTO STABLE, EROSION RESISTANT AREAS, WHERE THIS IS NOT POSSIBLE, A ONIO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS

COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING

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

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

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED,

STANDARD CONSTRUCTION DETAIL #3-16

PUMPED WATER FILTER BAG

MIN 8" AASHTO #1

PROFILE

PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS

PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

NOTES:

ISOMETRIC VIEW

CHANNEL CROSS-SECTION

SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION

DEPTH

ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE

CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED

SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON

MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS

OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT

AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED

(RECOMMENDED)

-HEAVY DUTY LIFTING STRAPS

INTAKE HOSE-

MINIMUM STANDARD

BERM (6 IN. MIN.)*

EXISTING ROADWAY

`PIPE AS NECESSARY

-DISCHARGE HOSE

CLAMPS

WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.

LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

WIDTH Z1 Z2 W (FT) (FT)

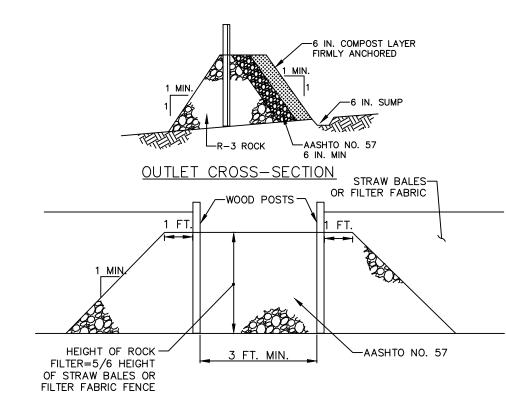
SHINGLE-LAP SPLICED ENDS OR BEGIN NEW ROLL IN AN INTERMITTENT CHECK SLOT MIN. SHINGLE LAP=6 IN.

TO ENTERING ROCK CONSTRUCTION ENTRANCE. MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER

> STANDARD CONSTRUCTION DETAIL #3-1 **ROCK CONSTRUCTION ENTRANCE**

NOT TO SCALE

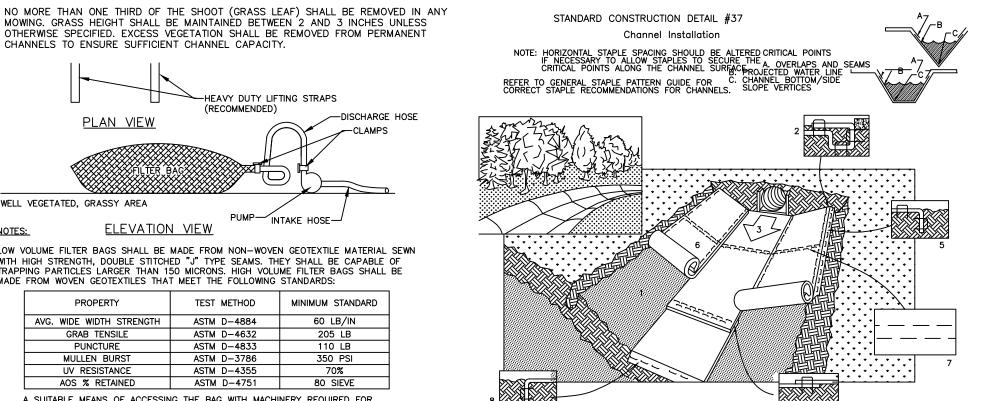


<u>UP-SLOPE FACE</u>

A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

ROCK FILTER OUTLET



- 1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- 3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF' STAGGERED STAPLES 4" APART TO SECURE BLANKETS. 5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

14649 HIGHWAY 41 NORTH, EVANSVILLE, INDIANA 47711 USA 1-800-772-2040 CANADA 1-800-448-2040

CHANNEL INSTALLATION GUIDE NORTH AMERICAN GREEN



X X X2 STAPLE PER SQ. YD. 14649 HIGHWAY 41 NORTH, EVANSVILLE, INDIANA 47711 USA 1-800-772-2040 CANADA 1-800-448-2040 STAPLE PATTERN GUIDE

1.5 STAPLE PER SQ. YD.

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SEEDING AND SOIL SUPPLEMENTS THE FOLLOWING SPECIFICATIONS ARE IN ACCORDANCE WITH PENNDOT PUBLICATION #408, SECTION 804. TEMPORARY SEED MIXTURES

SEED TYPE (PENNDOT FORMULA E) APPLY SEED AT A RATE OF 50 LBS. PER ACRE. APPLY STRAW MULCH (SEE MULCH APPLICATION RATES TABLE) PERMANENT SEED MIXTURE SEED TYPE PERENNIAL RYEGRASS MIXTURE (LOLIUM PERENNE) CREEPING RED FESCUE 97% 0.10%

KENTUCKY BLUEGRASS MIXTURE **

ANNUAL RYEGRASS

1 STAPLE PER SQ. YD.

APPLY SEED AT A RATE OF 105 LBS. PER ACRE APPLY MULCH (SEE MULCH APPLICATION RATES TABLE) APPLY PULVERIZED AGRICULTURAL LIMESTONE AT A RATE OF 2 TONS/ACRE UNLESS TESTING HAS BEEN APPLY 10-20-20 ANALYSIS COMMERCIAL FERTILIZER AT A RATE OF 680 LBS./ACRE UNLESS TESTING HAS BEEN PERFORMED. APPLY 38-0-0 UREAFORM FERTILIZER AT A RATE OF 250 LBS./ACRE UNLESS TESTING HAS BEEN SEEDING SEASON DATES: MARCH 15 TO JUNE 1; AUGUST 1 TO OCTOBER 15 MULCH IN ACCORDANCE WITH THE BELOW MULCH APPLICATION TABLE.

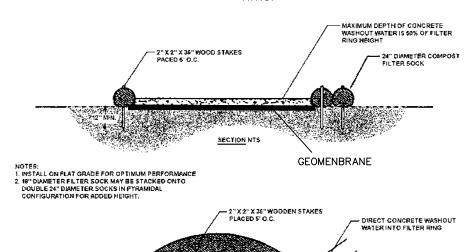
* A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL ** A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 25% OF THE

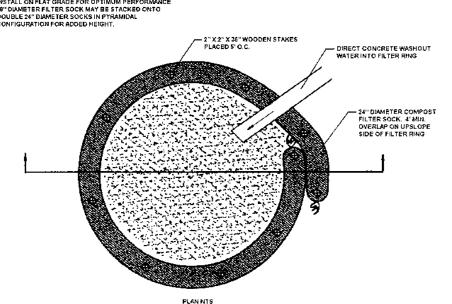
PERMANENT SEED MIXTURES ON STEEP SLOPES (SLOPES EXCEEDING 3:1) SEED TYPE PURITY MAX. WEED SEED % BY WEIGHT TALL FESCUE (FESTUCA ARUNDINACEA VAR. KENTUCKY 21 CREEPING RED FESCUE 0.10%

APPLY SEED AT A RATE OF 105 LBS. PER ACRE MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED. APPLY PULVERIZED AGRICULTURAL LIMESTONE AT A RATE OF 2 TONS/ACRE UNLESS TESTING HAS BEEN APPLY 10-20-20 ANALYSIS COMMERCIAL FERTILIZER AT A RATE OF 680 LBS./ACRE UNLESS TESTING HAS APPLY 38-0-0 UREAFORM FERTILIZER AT A RATE OF 250 LBS./ACRE UNLESS TESTING HAS BEEN SEEDING SEASON DATES: MARCH 15 TO JUNE 1; AUGUST 1 TO OCTOBER 15

| | | APPLICATION RATE (MIN.) | | |
|------------|----------|-------------------------|-------------------|--|
| MULCH TYPE | PER ACRE | PER 1,000 SQ.FT. | PER 1,000 SQ. YD. | NOTES |
| STRAW | 3 TONS | 140 LB | 1,240 LB | EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN |
| HAY | 3 TONS | 140 LB | 1,240 LB | TIMOTHY, MIXED CLOVER AND TIMOTHY OR OTHER NATIVE FORAGE GRASSES |
| WOOD CHIPS | 4-6 TONS | 185-275 LB. | 1,650-2,500 LB. | MAY PREVENT GERMINATION OF GRASSES AND LEGUMES |
| HYDROMULCH | 1 TON | 47 LB. | 415 LB. | IF UTILIZED ON SLOPES STEEPER THAN 5%, USE WOOD FIBER HYDROMULCH WITH A TACKIFIER |

CONCRETE WASHOUT DETAIL





A suitable impervious geomembrane shall be placed at the location of the washout prior to installing the socks. Adapted from Filtrexx

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SUBDIVI RUHE PRELII

All earth disturbances, including clearing and grubbing as well as cuts and fills shall be done in accordance with the approved E&S plan. A copy of the approved drawings (stamped, signed and dated by the reviewing agency) must be available at the project site at all times. The reviewing agency shall be notified of any changes to the approved plan prior to implementation of those changes. The reviewing agency may require a written submittal of those changes for review and approval at its discretion.

At least 7 days prior to starting any earth disturbance activities, including clearing and grubbing, the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, the licensed professional responsible for oversight of critical stages of implementation of the PCSM plan, and a representative from the local conservation district to an on-site preconstruction meeting.

At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.

All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. Deviation from that sequence must be approved in writing from the local conservation district or by the Department prior to

Areas to be filled are to be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots and other objectionable material.

Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing and topsoil stripping may not commence in any stage or phase of the project until the E&S BMPs specified by the BMP sequence for that stage or phase have been installed and are functioning as described in this E&S plan.

At no time shall construction vehicles be allowed to enter areas outside the limit of disturbance boundaries shown on the plan maps. These areas must be clearly marked and fenced off before clearing and grubbing operations begin.

Topsoil required for the establishment of vegetation shall be stockpiled at the location(s) shown on the plan map(s) in the amount necessary to complete the finish grading of all exposed areas that are to be stabilized by vegetation. Each stockpile shall be protected in the manner shown on the plan drawings. Stockpile heights shall not exceed 35 feet. Stockpile slopes shall be 2H:1V or flatter.

Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to minimize the potential for erosion and sediment pollution and notify the local conservation district and/or the regional office of the Department.

All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1, and 287.1 et. seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at this site.

All off-site waste and borrow areas must have an E&S plan approved by the local conservation district or the Department fully implemented prior to being activated.

The contractor is responsible for ensuring that any material brought on site is clean fill. Form FP-001 must be retained by the property owner for any fill material affected by a spill or release of a regulated substance but qualifying as clean fill due to analytical testing.

All pumping of water from any work area shall be done according to the procedure described in this plan, over undisturbed vegetated areas. All pumping of sediment laden water shall be through a sediment control BMP, such as a pumped water filter bag discharging over non-disturbed areas.

Vehicles and equipment may neither enter directly nor exit directly onto any public road. Vehicles and Equipment may only enter and exit the construction site via a stabilized rock construction entrance.

Until the site is stabilized, all erosion and sediment BMPs shall be maintained properly. Maintenance shall include inspections of all erosion and sediment BMPs after each runoff event and on a weekly basis. The operator will maintain and make available to Lehigh County Conservation District complete, written inspection logs of all those inspections. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching and renetting must be performed immediately. If the E&S BMPs fail to perform as expected, replacement BMPs, or modifications of those installed will be required.

A log showing dates that E&S BMPs were inspected as well as any deficiencies found and the date they were corrected shall be maintained on the site and be made available to regulatory agency officials at the time of inspection.

Sediment tracked onto any public roadway or sidewalk shall be returned to the construction site by the end of each work day and disposed in the manner described in this plan. In no case shall the sediment be washed, shoveled, or swept into any roadside ditch, storm sewer, or surface water.

All sediment removed from BMPs shall be disposed of in the manner described on the plan drawings. Sediment removed from BMPs shall be disposed of in landscaped areas outside of steep slopes, wetlands, floodplains or drainage swales and immediately stabilized, or placed in topsoil stockpiles.

Areas which are to be topsoiled shall be scarified to a minimum depth of 3 to 5 inches - 6 to 12 inches on compacted soils - prior to placement of topsoil. Areas to be vegetated shall have a minimum 4 inches of topsoil in place prior to seeding and mulching. Fill outslopes shall have a minimum of 2 inches of topsoil.

All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc. shall be compacted in accordance with local requirements or

All earthen fills shall be placed in compacted layers not to exceed 9 inches in thickness.

Fill materials shall be free of frozen particles, brush, roots, sod, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills. Frozen materials or soft, mucky, or highly compressible materials shall not be incorporated into fills.

Fill shall not be placed on saturated or frozen surfaces.

Seeps or springs encountered during construction shall be handled in accordance with the standard and specification for subsurface drain or other approved method.

All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated. Seeded areas within 50 feet of a surface water, or as otherwise shown on the plan drawings, shall be blanketed according to the standards of this plan.

Immediately after earth disturbance activities cease in any area or subarea of the project, the operator shall stabilize all disturbed areas. During non-germinating months, mulch or other protective blanketing shall be applied as described in the plan. Areas not at finished grade, which will be reactivated within 1 year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will not be reactivated within 1 year shall be stabilized in accordance with the permanent stabilization specifications.

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Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the local conservation district for an inspection prior to removal/conversion of the E&S BMPs.

After final site stabilization has been achieved, temporary erosion and sediment BMPs must be removed or converted to permanent post construction stormwater management BMPs. Areas disturbed during removal or conversion of the BMPs shall be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal/conversions are to be done only during the germinating season.

Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the local conservation district to schedule a final inspection.

Failure to correctly install E&S BMPs, failure to prevent sediment-laden runoff from leaving the construction site or failure to take immediate corrective action to resolve failure of E&S BMPs may result in administrative, civil, and/or criminal penalties being instituted by the Department as defined in Section 602 of the Clean Streams Law. The Clean Streams Law provides for up to \$10,000 per day in civil penalties, up to \$10,000 in summary criminal penalties, and up to \$25,000 in misdemeanor criminal penalties for each violation.

In the event of sinkhole discovery a professional geologist or engineer will be contacted concerning mitigation. Additionally, the Lehigh County Conservation District will be made aware of the sinkhole discovery immediately.

The operator shall assure that the approved erosion and sediment control plan is properly and completely implemented. The contractor is advised to become thoroughly familiar with the provisions of the Appendix 64, Erosion Control Rules and Regulations, Title 25, Part 1, Department of Environmental Protection, Subpart C, Protection of Natural Resources, Article III, Water Resources, Chapter 102, Erosion Control.

The E&S control plan mapping must display a PA ONE CALL SYSTEM INCORPORATED symbol including the site identification number. (This is a numbered symbol not a note.)

At stream crossings, 50' buffer areas should be maintained. On buffers, clearing, sod disturbances, excavation, and equipment traffic should be minimized. Activities such as stacking logs, burning cleared brush, discharging rainwater from trenches, welding pipe sections, refueling and maintaining equipment should be accomplished outside of buffers.

All wetlands must be delineated and protected with orange safety fence prior to any earthmoving activity.

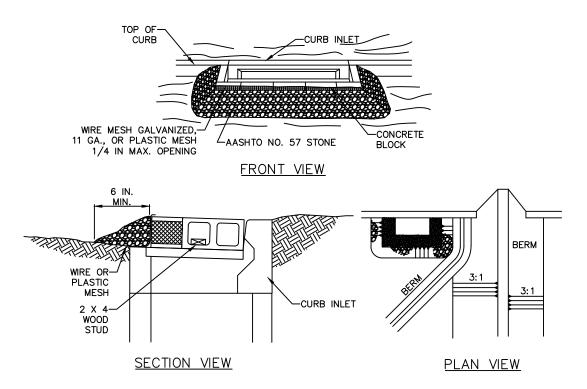
Straw mulch shall be applied in long strands, not chopped or finely broken

Concrete wash water shall be handled in the manner described on the plan drawings. In no case shall it be allowed to enter any surface waters or groundwater systems.

All channels shall be kept free of obstructions including but not limited to fill, rocks, leaves, woody debris, accumulated sediment, excess vegetation, and construction material/wastes.

Erosion control blanketing shall be installed on all slopes 3H:1V or steeper within 50 feet of a surface water and on all other disturbed areas specified on the plan maps and/or detail sheets.

Fill material for embankments shall be free of roots, or other woody vegetation, organic material, large stones, and other objectionable materials. The embankment shall be compacted in maximum 8"layered lifts at 95% density.



NOTES:

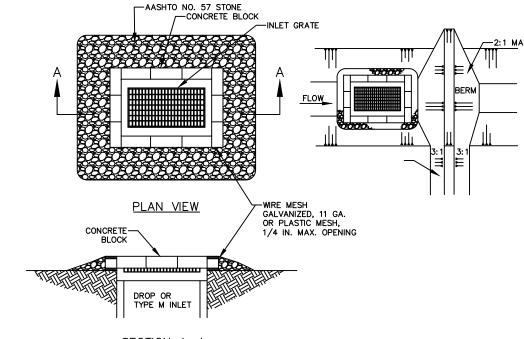
MAXIMUM DRAINAGE AREA = 1 ACRE

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT

SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-17 STONE AND CONCRETE BLOCK INLET PROTECTION - TYPE C INLET



SECTION A-A

NOTES: MAXIMUM DRAINAGE AREA =1 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT. GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.

TOP OF BLOCK SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC. SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL #4-18 STONE AND CONCRETE BLOCK INLET PROTECTION - TYPE M INLET NOT TO SCALE

| TABLE 4.2 - COMPOST STANDARDS | | | |
|-------------------------------|-------------------------------|--|--|
| ORGANIC MATTER CONTENT | 25%-100% (DRY WEIGHT BASIS) | | |
| ORGANIC PORTION | FIBROUS AND ELONGATED | | |
| рН | 5.5-8.5 | | |
| MOISTURE CONTENT | 30%-60% | | |
| PARTICLE SIZE | 30%-50% PASS THROUGH %" SIEVE | | |
| SOLUBLE SALT CONCENTRATION | 5.0 dS/m (mmhos/cm) MAXIMUM | | |

| TABLE 4 — ABSORBED MASS OF NUTRIENTS AND METALS IN UNVEGETATED PLOT RUNOFF FROM 30-MINUTE, HIGH-INTENSITY (100-mm/hr.) RAINSTORM | | | | | | | | |
|--|-----------------------|-----------|--------------------------|-------------------------|----------|--|--|--|
| | COMPOST TREATMENT | | | CONVENTIONAL TREATMENTS | | | | |
| | BIOSOLIDS | YARDWASTE | BIOINDUSTRIAL COMPOST | COMPACTED SUBSOIL | TOPSOIL | | | |
| ELEMENT | GEOMETRIC MEAN (mg) | | | | | | | |
| CHROMIUM | 0.01 b | <0.01 a | <0.01 b | 0.92 c | 0.76 c | | | |
| COPPER | 0.02 b | <0.01 a | 0.01 b | 1.03 c | 0.66 c | | | |
| NICKEL | <0.01 b | <0.01 a | <0.01 b | 0.96 c | 0.67 c | | | |
| LEAD | 0.01 b | <0.01 a | <0.01 b | 1.82 c | 0.95 c | | | |
| ZINC | 0.10 b | <0.01 a | 0.03 b | 6.55 c | 3.99 c | | | |
| NITROGEN | 0.47 b | <0.01 a | 0.09 a,b | 266.65 c | 211.87 c | | | |
| PHOSPHORUS | 0.45 b | <0.01 a | 0.09 a,b | 36.47 c | 29.01 c | | | |
| POTASSIUM | 0.17 b | <0.01 a | 0.09 a,b | 103.94 c | 71.57 c | | | |
| MEANS WITHIN THE SAME ROW WITH DIFFERENT LETTER DESIGNATIONS ARE SIGNIFICANTLY DIFFERENT (p<0.05) | | | | | | | | |
| | HIGHEST MEDIUM LOWEST | | | | | | | |

| TABLE | 4.1 - COM | IPOST SOCK | FABRIC MIN | NIMUM SPECIFICA | TIONS | | | |
|--|----------------------|--------------------------|---|---|---|--|--|--|
| MATERIAL TYPE | 3 MIL HDPE | 5 MIL HDPE | 5 MIL HDPE | MULTI-FILAMENT POLYPROPYLENE (MFPP) | HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP) | | | |
| MATERIAL CHARACTERISTICS | PHOTO- DEGRADABLE | PHOTO- DEGRADABLE | BIO- DEGRADABLE | PHOTO- DEGRADABLE | PHOTO- DEGRADABLE | | | |
| SOCK DIAMETERS | 12" 18" | 12" 18" 24" 32" | 12" 18" 24" 32" | 12" 18' 24" 32" | 12" 18" 24" 32" | | | |
| MESH OPENING | ¾" | ¾" | %" | ∛6" | %" | | | |
| TENSILE STRENGTH | | 26 PSI | 26 PSI | 44 PSI | 202PSI | | | |
| ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155) | 23% AT 1000 HR. | 23% AT 1000 HR. | | 100% AT 1000 HR. | 100% AT 1000 HR. | | | |
| MINIMUM FUNCTIONAL LONGEVITY | 6 MONTHS | 9 MONTHS | 6 MONTHS | 1 YEAR | 2 YEARS | | | |
| | | TWO-PI | Y SYSTEMS | | | | | |
| | | | | HDPE BIAXIAL NE | | | | |
| INNER CONTAINMENT NETTING | | | CONTINUOUSLY WOUND | | | | | |
| | | | FUSION—WELDED JUNCTURES | | | | | |
| | | | | x ¾" MAX. APERTUR | | | | |
| OUTER FILTRATION MESH | | | COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH) | | | | | |
| | | | | | ¾6" MAX. APERTURE SIZE | | | |

SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS. CONTRACTOR SHALL USE 5 MIL HDPE PHOTO-DEGRADABLE COMPOST SOCK.

SEE PLAN FOR SIZE DIAMETERS AND LOCATIONS.

—2 IN. x 2 IN. WOODEN STAKES PLACED 10 FT ON CENTER COMPOST FILTER SOCK-BLOWN/PLACED UNDISTURBED AREA DISTURBED AREA DISTURBED AREA CONTOURS UNDISTURBED AREA 2 IN. x 2 IN. WOODEN STAKES FILTER SOCK-PLACED 10 FT ON PLAN VIEW

SOCK

NO.

CFS 1

CFS 4

CFS 5

CFS 9

CFS 10

CFS 11

CFS 12 CFS 13

CFS 14

Dia.

LOCATION

Lot 4

Lot 2

Lot 2

Lot 2

Lutz Property

7.4%

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION. BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS: PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

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

| SLOPE- PERCENT | SLOPE LENGTH ABOVE BARRIER | | VILS 2 | |
|-------------------|-------------------------------|--|--------|--|

PRELIMINARY/FINAL PLAN
2442 HUCKLEBERRY ROAD

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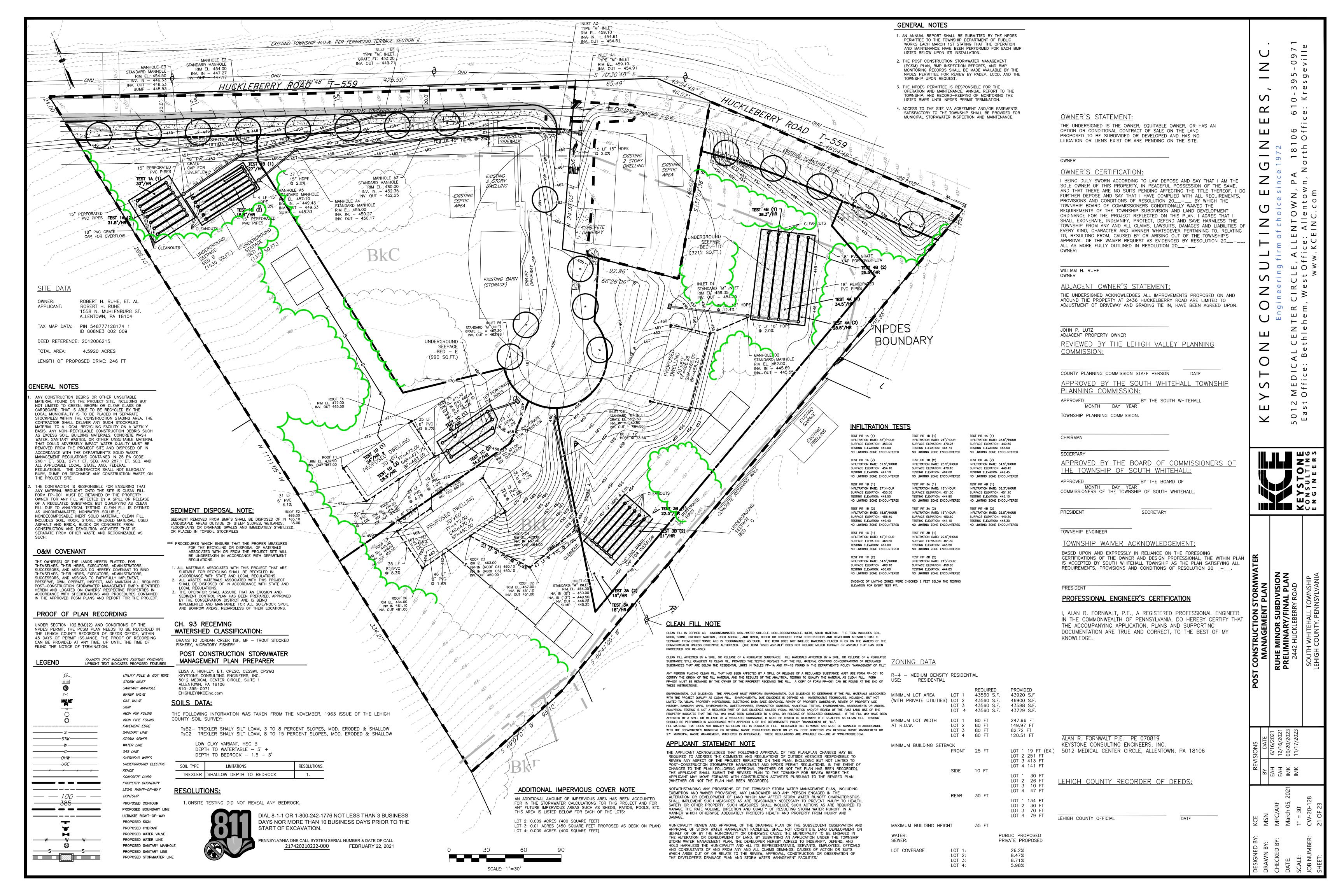
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SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR

THE NOTICE OF TERMINATION MUST INCLUDE:

CONSERVATION DISTRICT.

- a. THE FACILITY NAME, ADDRESS AND LOCATION. b. THE OPERATOR NAME AND ADDRESS.
- . THE PERMIT NUMBER. d. THE REASON FOR PERMIT TERMINATION. e. 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 §102.8(M) AND f. PROOF OF COMPLIANCE WITH \$102.8(M)(2)

PCSM REQUIREMENTS PCSM REPORTING AND RECORDKEEPING. THE PCSM PLAN, INSPECTION REPORTS, AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY

THE DEPARTMENT OR THE CONSERVATION DISTRICT.

LICENSED PROFESSIONAL OVERSIGHT OF CRITICAL STAGES. A LICENSED PROFESSIONAL OR A DESIGNEE HALL BE PRESENT ONSITE AND BE RESPONSIBLE DURING CRITICAL STAGES OF IMPLEMENTATION OF THE APPROVED PCSM PLAN. THE CRITICAL STAGES MAY INCLUDE THE INSTALLATION OF UNDERGROUND TREATMENT OR STORAGE BMPS, STRUCTURALLY ENGINEERED BMPS, OR OTHER BMPS AS DEEMED APPROPRIATE BY THE DEPARTMENT OR THE CONSERVATION DISTRICT

FINAL CERTIFICATION. THE PERMITTEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS:

"I (NAME) DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA.C.S.A. §4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS. ARE TRUE AND CORRECT AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES."

a. THE PERMITTEE SHALL RETAIN A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN.

b. THE PERMITTEE SHALL PROVIDE A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN TO THE PERSON IDENTIFIED IN THIS SECTION AS BEING RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE

LIMSTONE BEDROCK-

** THE TOWNSHIP GEOTECHNICAL REPRESENTATIVE SHOULD BE CONSULTED PRIOR TO

D. BACKFILL ORIFICE AND A MINIMUM OF 2 FEET ABOVE ROCK SURFACE WITH HIGH

E. BACKFILL EXCAVATION WITH COMPACTED, IMPERMEABLE SOIL TO THE GROUND

A. EXCAVATE UNTIL FIRM SOIL IS ENCOUNTERED. EXCAVATIONS MORE THAN 4 FEET DEEP SHOULD BE SHORED OR SLOPED FOLLOWING OSHA REQUIREMENTS.

C. PLACE LAYER OF HEAVY-DUTY NON-WOVEN GEOTEXTILE FABRIC (TYPAR 3401,

G. BACKFILL REMAINDER OF EXCAVATION WITH COMPACTED, IMPERMÉABLE SOIL TO THE

D. PLACE AND COMPACT 1 FOOT OF COARSE AGGREGATE (PENNDOT 2A MODIFIED).

I. CONSULT GEOLOGIST OR GEOTECHNICAL ENGINEER IF UNUSUAL CIRCUMSTANCES

THE FOLLOWING SEQUENCE SHALL BE PERFORMED AS INDICATED IN THE SEQUENCE OF

1. BEGIN VEGETATED SWALE CONSTRUCTION ONLY WHEN TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE. VEGETATED SWALES SHOULD BE CONSTRUCTED AND STABILIZED EARLY IN THE CONSTRUCTION SCHEDULE, PREFERABLY BEFORE MASS EARTHWORK AND PAVING INCREASE THE RATE AND VOLUME OF RUNOFF. (EROSION AND SEDIMENT CONTROL METHODS SHALL ADHERE TO THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S EROSION AND SEDIMENT POLLUTION

2. ROUGH GRADE THE VEGETATED SWALE. EQUIPMENT SHALL AVOID EXCESSIVE COMPACTION AND/OR LAND DISTURBANCE. EXCAVATING EQUIPMENT SHOULD OPERATE

FROM THE SIDE OF THE SWALE AND NEVER ON THE BOTTOM. IF EXCAVATION LEADS TO

SUBSTANTIAL COMPACTION OF THE SUBGRADE (WHERE AN INFILTRATION TRENCH IS NOT

PROPOSED), 18 INCHES SHALL BE REMOVED AND REPLACED WITH A BLEND OF TOPSOIL

AND SAND TO PROMOTE INFILTRATION AND BIOLOGICAL GROWTH. AT THE VERY LEAST. TOPSOIL SHALL THOROUGHLY PLOWED INTO THE SUBGRADE IN ORDER TO PENETRATE THE COMPACTED ZONE AND PROMOTE AFRATION AND THE FORMATION OF MACROPORES.

FOLLOWING THIS, THE AREA SHOULD BE DISKED PRIOR TO FINAL GRADING OF TOPSOIL. 3. FINE GRADE THE VEGETATED SWALE. ACCURATE GRADING IS CRUCIAL FOR SWALES.

4. SEED, VEGETATE AND INSTALL PROTECTIVE LINING AS PER APPROVED PLANS AND

ACCORDING TO FINAL PLANTING LIST. PLANT THE SWALE AT A TIME OF YEAR WHEN SUCCESSFUL ESTABLISHMENT WITHOUT IRRIGATION IS MOST LIKELY, HOWEVER, TEMPORARY

5. ONCE ALL TRIBUTARY AREAS ARE SUFFICIENTLY STABILIZED, REMOVE TEMPORARY

EROSION AND SEDIMENT CONTROLS. IT IS VERY IMPORTANT THAT THE SWALE BE

IT SHOULD BE REGRADED AND RESEEDED IMMEDIATELY AFTER CONSTRUCTION AND

STABILIZED BEFORE RECEIVING UPLAND STORMWATER FLOW.

6. FOLLOW MAINTENANCE GUIDELINES.

ENSURE FUTURE FUNCTIONALITY OF THE SWALE.

IRRIGATION MAY BE NEEDED IN PERIODS OF LITTLE RAIN OR DROUGHT. VEGETATION SHOULD BE ESTABLISHED AS SOON AS POSSIBLE TO PREVENT EROSION AND SCOUR.

NOTE: IF A VEGETATED SWALE IS USED FOR RUNOFF CONVEYANCE DURING CONSTRUCTION,

STABILIZATION HAS OCCURRED. ANY DAMAGED AREAS SHOULD BE FULLY RESTORED TO

EVEN THE SMALLEST NON-CONFORMITIES MAY COMPROMISE FLOW CONDITIONS.

E. LAP OVER FIRST LAYER OF FABRIC AND PLACE SECOND LAYER OF FABRIC. F. REPEAT STEPS D. AND E. AS NECESSARY (MINIMUM 2 COURSES).

GROUND SURFACE. COMPACT BACKFILL TO 95% OF DRY DENSITY.

A. EXCAVATE SOILS TO ROCK SURFACE. EXCAVATIONS MORE THAN 4' DEEP SHOULD BE SHORED OR SLOPED FOLLOWING OSHA REQUIREMENTS.

SURFACE. COMPACT BACKFILL TO 95% OF DRY DENSITY.

G. CONSULT GEOLOGIST OR GEOTECHNICAL ENGINEER IF UNUSUAL

2. ORIFICE LOCATED BUT ROCK NOT ENCOUNTERED, OR ORIFICE NOT LOCATED:

GENERAL GUIDELINES FOR SINKHOLE REPAIR

IMPLEMENTING A REPAIR PROCEDURE.

. ORIFICE LOCATED AND EXTENDING INTO ROCK:

B. WASH ROCK SURFACE AND CLEAN ORIFICE. C. IF NECESSARY, PLUG ORIFICE WITH QUARRY ROCK.

SLUMP LEAN CONCRETE (K-CRETE).

F. PROVIDE POSITIVE SURFACE DRAINAGE.

CIRCUMSTANCES ARE ENCOUNTERED.

B. CLEAN LOOSE SOILS FROM BOTTOM.

MIRAFI 500X OR EQUIVALENT).

COMPACT TO 95% OF DRY DENSITY.

H. PROVIDE POSITIVE SURFACE DRAINAGE.

VEGETATED SWALE SEQUENCE OF CONSTRUCTION:

CONTROL PROGRAM MANUAL, MARCH 2000 OR LATEST EDITION.)

CONSTRUCTION FOUND ON THE EROSION & SEDIMENT CONTROL PLAN:

ARE ENCOUNTERED.

PCSM LONG—TERM O&M REQUIREMENTS

1. UNTIL THE PERMITTEE OR CO—PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBL FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMPs ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE. THE DEPARTMENT OR CONSERVATION DISTRICT WILL CONDUCT A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF

2. THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs.

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, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPs 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 SUBSEQUENT GRANTEES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER §102.7(B)(5)

(RELATING TO PERMIT TERMINATION 4. THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING CONSERVATION DISTRICT, NONPROFIT ORGANIZATION, MUNICIPALITY, AUTHORITY, PRIVATE CORPORATION OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSM BMPs OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO

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 BMPs LOCATED ON THE PROPERTY.

SINKHOLE REPAIR (IF ENCOUNTERED)

BMP O&M PLAN

INLETS AND SUMPS . INSPECT INLETS AND SUMPS AT LEAST ONCE EVERY THREE MONTHS AND FOLLOWING

SIGNIFICANT RAINFALL EVENTS (PRECIPITATION ≥ 1 IN.). 2. REMOVE SEDIMENT AND DEBRIS FROM INLET SUMPS WHEN ACCUMULATIONS REACH

HALF THE DEPTH OF THE SUMP. 3. INLET SUMPS AT LEAST ONCE PER YEAR. FLUSH ANTI-SIPHON VENTS WITH WATER

TO ASSURE PROPER OPERATION. DISPOSAL OF WASTE 1. RECYCLE OR DISPOSE OF ALL WASTE REMOVED FROM THE SITE IN ACCORDANCE

WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS CONTAINED IN 25 PA CODE 260.1 ET. SEQ., 271.1 ET. SEQ. AND 287.1 ET. SEQ. 2. REDISTRIBUTE SEDIMENT FROM LAWN AND LANDSCAPED AREAS IN VEGETATED AREAS DO NOT ILLEGALLY BURY, DUMP OR DISCHARGE ANY WASTE ON THE PROJECT SITE.

MAINTENANCE ACTIVITIES TO BE PERFORMED ANNUALLY AND WITHIN 48 HOURS

FOLLOWING A MAJOR STORM EVENT (>1-IN. RAINFALL DEPTH):

INSPECT RIP—RAP APRONS.

2. CORRECT EROSION PROBLEMS. 3. REMOVE AND PROPERLY DISPOSE OF LITTER AND SEDIMENT.

4. PLACE ADDITIONAL ROCK AS NEEDED TO RESTORE RIP-RAP APRONS TO DESIGN

GENERAL RECOMMENDATIONS

FACILITY OWNERS OR OPERATORS SHALL MAINTAIN AN INSPECTION LOG DOCUMENTING ALL INSPECTION DATES, OBSERVATIONS, AND MAINTENANCE ACTIVITIES RELATED TO REQUIRED POST-CONSTRUCTION STORMWATER BMPs.

RECYCLING AND DISPOSAL OF MATERIALS

BURNED, BURIED, DUMPED, OR DISCHARGED AT THIS SITE.

ANTICIPATED PROJECT WASTES INCLUDE VEGETATED WASTE, BITUMINOUS PAVEMENT, AND CONCRETE BUILDING MATERIALS. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE

SEDIMENT DISPOSAL NOTE

SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL

PROCEDURES WHICH ENSURE THAT THE PROPER MEASURES FOR THE RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THE PROJECT SITE WILL BE UNDERTAKEN IN ACCORDANCE WITH DEPARTMENT

1. ALL MATERIALS ASSOCIATED WITH THIS PROJECT THAT ARE SUITABLE FOR RECYCLING SHALL BE RECYCLED IN ACCORDANCE WITH STATE AND LOCAL

2. ALL WASTES MATERIALS ASSOCIATED WITH THIS PROJECT SHALL BE DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.

3. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE CONSERVATION DISTRICT AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL/ROCK SPOIL AND BORROW AREAS,

CRITICAL STAGES OF PCSM BMP INSTALLATION

FOR ADDITIONAL INFORMATION.

REGARDLESS OF THEIR LOCATIONS.

A LICENSED PROFESSIONAL OR HIS DESIGNEE SHALL BE PRESENT ON THE PROJECT SITE DURING THE FOLLOWING CRITICAL STAGES OF PCSM BMP INSTALLATION.

CONSTRUCTION AND STABILIZATION OF UNDERGROUND SEEPAGE BEDS,

LONGITUDINAL ANCHOR TRENCH

SHINGLE-LAP SPLICED ENDS OR BEGIN NEW ROLL IN AN INTERMITTENT CHECK SLOT MIN. SHINGLE LAP=6 IN.

LINING *

INTERMITTENT CHECK SLOT

NOTES:

(LOOKING DOWNSTREAM)

* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.

LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY

ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE

CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED

SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON

AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINÈD BETWEEN 2 AND 3 INCHES UNLESS

OTHERWISE SPECIFIED. FXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT

WIDTH | 2

CHANNEL CROSS-SECTION

CONSISTENT WITH DESIGN SPECIFICATIONS * NOTE: REFER TO THE DETAILED SEQUENCE OF PCSM BMP INSTALLATION HEREIN

SPECIFICATIONS FOR SEEDING STABILIZATION AND SOIL SUPPLEMENTS TEMP. NON-VEGETATIVE SURFACE STABILIZATION

PIPE (RCP)

TEMPORARY MULCH TYPE: HAY OR STRAW APPLICATION RATE: 3 TONS/AC.

TEMPORARY SEED MIXTURE PENNDOT FORMULA E PER PennDOT PUB. 408, SEC. 804 % WEIGHT PURITY GERMINATION

100

APPLICATION RATE: 10 LBS. PER 1,000 S.Y. FERTILIZER TYPE: 10-10-10 LIME APPLICATION RATE: 400 LBS. PER 1,000 S.Y. SEEDING PERIOD: MARCH 15 TO OCTOBER 15

ANNUAL RYEGRASS

FERTILIZER APPLICATION RATE: 30 LBS. PER 1,000 S.Y. PERMANENT SEED MIXTURE - TYPICAL

PENNDOT FORMULA B PER PennDOT PUB. 408, SEC. 804 % WEIGHT PURITY GERMINATION SPECIES PERENNIAL RYEGRASS 20 98% 90% CREEPING RED FECUE 30 98% 85% KENTUCKY BLUEGRASS 50 98% 80%

APPLICATION RATE: 44 LBS. PER 1,000 S.Y. FERTILIZER TYPE: 10-20-20 FFRTILIZER APPLICATION RATE: 30 LBS. PER 1,000 S.Y. LIME APPLICATION RATE: 400 LBS. PER 1,000 S.Y. SEEDING PERIOD: MARCH 15 TO OCTOBER 15

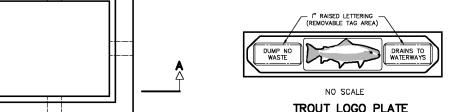
PERMANENT SEED MIXTURE - SLOPES > 3:1 PENNDOT FORMULA D PER PennDOT PUB. 408, SEC. 804 % WEIGHT PURITY GERMINATION TALL FESCUE 98% 70 90% 98% CREEPING RED FECUE 30 85% (FESTUCA ARUNDINACEA VAR. KENTUCKY 21)

APPLICATION RATE: 22 LBS. PER 1,000 S.Y. FERTILIZER TYPE: 10-20-20 COMMERCIAL FERTILIZER) FERTILIZER APPLICATION RATE: 140 LBS. PER 1,000 S.Y. * FERTILIZER TYPE: 38-0-0 (UREAFORM FERTILIZER) FERTILIZER APPLICATION RATE: 52 LBS. PER 1,000 S.Y. * LIME APPLICATION RATE: 830 LBS, PER 1,000 S.Y. * MULCH: APPROVED EROSION MATTING REQUIRED

* UNLESS TESTING HAS BEEN PERFORMED

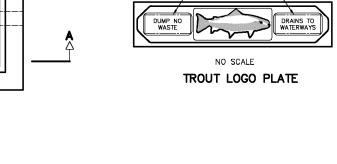
SEEDING PERIOD: MARCH 15 TO OCTOBER 15

. THE CUTOFF DATE FOR HYDROSEEDING IS NOVEMBER 15. SLURRY APPLICATIONS OF SEED USING A CELLULOSE ACKIFIER SHALL INCLUDE A STRAW MULCH BINDER AT A RATE OF 3 TONS PER ACRE



(SEE NOTE NO. 9)

SECTION A-A



NOTES:

CONCRETE INLET AND TOP UNITS SHALL BE AS DETAILED IN PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION, CURREN

4. STEPS SHALL BE PROVIDED WHENEVER STRUCTURE EXCEEDS 4 FEET IN DEPTH.

PROVIDE STRUCTURAL STEEL GRATE — BICYCLE SAFE, AS DETAILED IN PENNDOT STANDARDS FOR ROADWAY CONSTRU

CURRENT EDITION (PDT PUB #72M) RC-45M, "INLET GRATES".

THE BACKFILL AROUND THE WEEPHOLES SHALL NOT CONTAIN SCREENINGS; i.e., PLACE PENNDOT NO. 3 OR LARGER STONES AS REQUIRED BY ENGINEER, WITHOUT SCREENINGS TO ALLOW WATER TO ENTER WEEPHOLES. PLACE GEOTEXTILE FABRIC AROUND

THE MANUFACTURER OF THE INLETS SHALL BE INCLUDED ON THE PENNDOT LIST OF APPROVED MANUFACTURERS OF PRECAST

TOP UNITS MUST CONTAIN THE 24-INCH BY 3-INCH TROUT LOGO

7003PL1) TO BE READ FROM ROADWAY SIDE OF INLET

REFER TO PDT PUB #72M, RC-46M FOR ADDITIONAL

PLATE AND TAGS DISPLAYING A DUMPING WARNING AS MANUFACTURED BY EAST JORDAN IRON WORKS INC. (CATALOG NO.

TO PREVENT MIGRATION OF SURROUNDING MATERIAL

5. STEP DIMENSIONS AND CONFIGURATION SHALL BE IN ACCORDANCE WITH PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION,

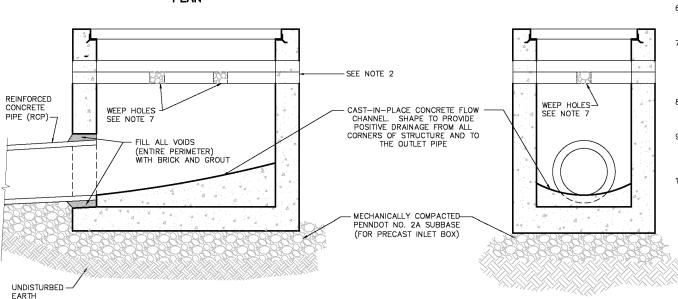
3. ALL EXPOSED EDGES SHALL BE CHAMFERED 1"x1".

CURRENT EDITION (PDT PUB #72M), RC-39M.

CONCRETE PRODUCTS (BULLETIN 15).

EDITION (PDT PUB #72M) RC-34M, "INLETS, CONCRETE TOP UNITS CAST-IN-PLACE AND PRECAST".

PROVIDE A MINIMUM OF 4 INCHES AND MAXIMUM OF 8 INCHES VERTICALLY OF PRECAST CONCRETE COLLARS WITH THROUGH—WALL OPENINGS ADJACENT TO SUBGRADE TO SERVE AS WEEP HOLES.



TYPE M INLET NOT TO SCALE

SECTION B-B

OWNER'S STATEMENT:

THE UNDERSIGNED IS THE OWNER, EQUITABLE OWNER, OR HAS AN OPTION OR CONDITIONAL CONTRACT OF SALE ON THE LAND PROPOSED TO BE SUBDIVIDED OR DEVELOPED AND HAS NO LITIGATION OR LIENS EXIST OR ARE PENDING ON THE SITE.

OWNER'S CERTIFICATION

I BEING DULY SWORN ACCORDING TO LAW DEPOSE AND SAY THAT I AM THE SOLE OWNER OF THIS PROPERTY, IN PEACEFUL POSSESSION OF THE SAME, AND THAT THERE ARE NO SUITS PENDING AFFECTING THE TITLE THEREOF. I DO FURTHER DEPOSE AND SAY THAT I HAVE COMPLIED WITH ALL REQUIREMENTS, PROVISIONS AND CONDITIONS OF RESOLUTION 20____ BY WHICH THE TOWNSHIP BOARD OF COMMISSIONERS CONDITIONALLY WAIVED THE REQUIREMENTS OF THE TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE FOR THE PROJECT REFLECTED ON THIS PLAN. I AGREE THAT I SHALL EXONERATE. INDEMNIFY, PROTECT, DEFEND AND SAVE HARMLESS THE TOWNSHIP FROM ANY AND ALL CLAIMS, LAWSUITS, DAMAGES AND LIABILITIES OF EVERY KIND, CHARACTER AND MANNER WHATSOEVER PERTAINING TO. RELATING TO, RESULTING FROM, CAUSED BY OR ARISING OUT OF THE TOWNSHIP'S APPROVAL OF THE WAIVER REQUEST AS EVIDENCED BY RESOLUTION 20____, ALL AS MORE FULLY OUTLINED IN RESOLUTION 20____. OWNER:

WILLIAM H. RUHE OWNER

ADJACENT OWNER'S STATEMENT:

THE UNDERSIGNED ACKNOWLEDGES ALL IMPROVEMENTS PROPOSED ON AND AROUND THE PROPERTY AT 2436 HUCKELBERRY ROAD ARE LIMITED TO ADJUSTMENT OF DRIVEWAY AND GRADING TIE IN, HAVE BEEN AGREED UPON.

JOHN P. LUTZ ADJACENT PROPERTY OWNER

REVIEWED BY THE LEHIGH VALLEY PLANNING **COMMISSION:**

COUNTY PLANNING COMMISSION STAFF PERSON APPROVED BY THE SOUTH WHITEHALL TOWNSHIP

PLANNING COMMISSION: BY THE SOUTH WHITEHALL APPROVED

TOWNSHIP PLANNING COMMISSION

CHAIRMAN

SECERTARY

APPROVED BY THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH WHITEHALL

APPROVED BY THE BOARD OF

MONTH DAY YEAR
COMMISSIONERS OF THE TOWNSHIP OF SOUTH WHITEHALL.

PRESIDENT

TOWNSHIP WAIVER ACKNOWLEDGEMENT:

BASED UPON AND EXPRESSLY IN RELIANCE ON THE FOREGOING CERTIFICATIONS OF THE OWNER AND DESIGN PROFESSIONAL, THE WITHIN PLAN IS ACCEPTED BY SOUTH WHITEHALL TOWNSHIP AS THE PLAN SATISFYING ALL REQUIREMENTS, PROVISIONS AND CONDITIONS OF RESOLUTION 20_____.

SECRETARY

PRESIDENT

PROFESSIONAL ENGINEER'S CERTIFICATION

I, ALAN R. FORNWALT, P.E., A REGISTERED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF PENNSYLVANIA. DO HEREBY CERTIFY THAT THE ACCOMPANYING APPLICATION, PLANS AND SUPPORTING DOCUMENTATION ARE TRUE AND CORRECT, TO THE BEST OF MY KNOWLEDGE.

5012 MEDICAL CENTER CIRCLE, ALLENTOWN, PA 18106

LEHIGH COUNTY OFFICIAL

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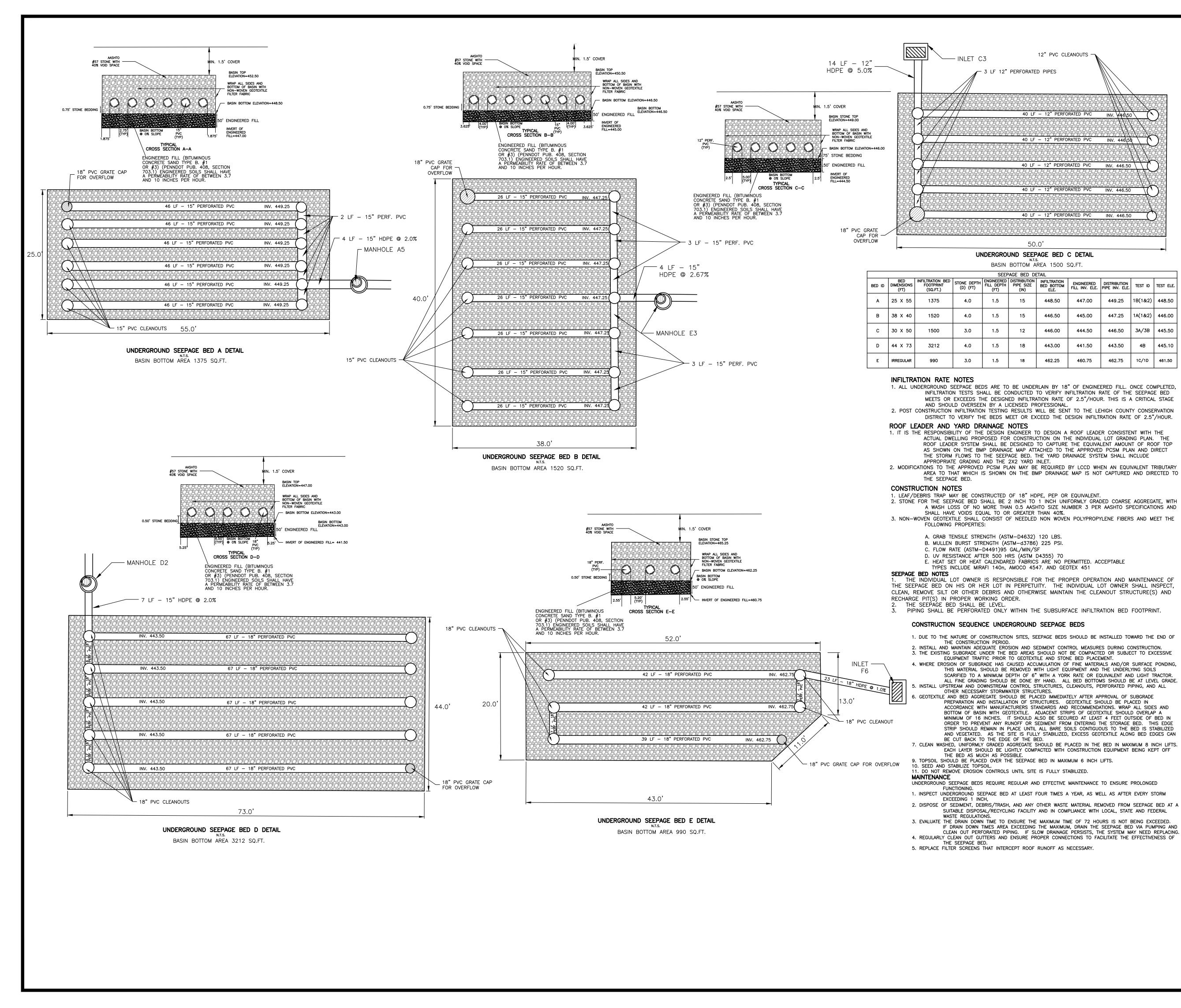
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N STORMWAT
F DETAILS
JBDIVISION
INAL PLAN
RRY ROAD

LEHIGH COUNTY RECORDER OF DEEDS:

ALAN R. FORNWALT P.E. PE 070819 KEYSTONE CONSULTING ENGINEERS, INC.



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JOHN P. LUTZ ADJACENT PROPERTY OWNER

REVIEWED BY THE LEHIGH VALLEY PLANNING <u> COMMISSION:</u>

APPROVED BY THE SOUTH WHITEHALL TOWNSHIP <u>PLANNING COMMISSION:</u>

TOWNSHIP PLANNING COMMISSION

COUNTY PLANNING COMMISSION STAFF PERSON

<u>APPROVED BY THE BOARD OF COMMISSIONERS OF</u> THE TOWNSHIP OF SOUTH WHITEHALL

BY THE BOARD OF

MONTH DAY YEAR
COMMISSIONERS OF THE TOWNSHIP OF SOUTH WHITEHALL.

TOWNSHIP ENGINEER

TOWNSHIP WAIVER ACKNOWLEDGEMENT:

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I. ALAN R. FORNWALT. P.E., A REGISTERED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF PENNSYLVANIA, DO HEREBY CERTIFY THAT THE ACCOMPANYING APPLICATION, PLANS AND SUPPORTING DOCUMENTATION ARE TRUE AND CORRECT, TO THE BEST OF MY KNOWLEDGE.

ALAN R. FORNWALT P.E. PE 070819 KEYSTONE CONSULTING ENGINEERS, INC. 5012 MEDICAL CENTER CIRCLE, ALLENTOWN, PA 18106

LEHIGH COUNTY RECORDER OF DEEDS:

LEHIGH COUNTY OFFICIAL

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