LAND DEVELOPMENT DRAWINGS
FOR
ANDERSON TOWNSHIP FLOOD BYPASS POND
SITUATE IN
ANDERSON TOWNSHIP, HAMILTON COUNTY, OH.

PREPARED FOR
BOARD OF TRUSTEES OF ANDERSON TOWNSHIP

AUGUST 30, 2019

SHEET NUMBER	SHEET TITLE
C0.00	COVER SHEET
C1.00	GENERAL INFORMATION SHEET
C2.00	EXISTING CONDITIONS PLAN
C3.00	SITE/GRADING PLAN
C4.00	BASELINE PROFILE
C5.00	CHECK DAM SECTIONS
C6.00	SITE DETAILS
ES1.00	EROSION AND SEDIMENTATION CONTROL PRE-DEVELOPMENT
ES2.00	EROSION AND SEDIMENTATION CONTROL POST-DEVELOPMENT
ES3.00	EROSION AND SEDIMENTATION CONTROL NOTES
ES3.01	EROSION AND SEDIMENTATION CONTROL NOTES
ES3.02	EROSION AND SEDIMENTATION CONTROL DETAILS
ES3.03	EROSION AND SEDIMENTATION CONTROL DETAILS

PREPARED BY

H.F. LENZ COMPANY
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301

LOCATION MAP
NOT TO SCALE

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON
ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

FINAL DEVELOPMENT PLAN

No.:	Date:	Description:

Sheet Title:
COVER SHEET

Project No.: 2018-0034.02

Cadd Drawing File: C0.00.dwg

Drawn By: RDL

Checked By: JRBe

Date: 08/30/2019

Drawing Number
C0.00
Sheet 1 of 13

I:\Projects\2018\180000\180034x02\CA00\Design Files\Civil\Dwgs\C0.00.dwg 8/28/2019 1:49 PM

GENERAL NOTES:

- DO NOT SCALE DRAWINGS.
- NO SLAG SHALL BE PERMITTED.
- PROPOSED CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL STANDARDS, SPECIFICATIONS AND REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.
- THE CONTRACTOR SHALL EXERCISE CAUTION AND EMPLOY CAREFUL EXCAVATION METHODS DURING INSTALLATION OF THE FACILITIES TO AVOID DAMAGE TO OR CONFLICT WITH EXISTING UTILITIES. THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATIONS AS DIRECTED AND/OR REQUIRED BY THE ENGINEER TO ASCERTAIN THE HORIZONTAL AND VERTICAL ALIGNMENT OF EXISTING UTILITIES PRIOR TO CONSTRUCTION IN AFFECTED AREAS AND MAKE THE APPROPRIATE ADJUSTMENTS IN THE FIELD IF CONFLICTS OCCUR, NO SEPARATE PAYMENT SHALL BE MADE FOR THE HEREIN DESCRIBED PROVISIONS AND SHALL BE INCLUDED IN THE COST OF THOSE ITEMS FOR WHICH PAYMENT SHALL BE MADE IN THE BID SCHEDULE.
- CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL UTILITIES WITHIN THE IMMEDIATE WORK AREA DURING CONSTRUCTION WHEN WORK IS IN PROGRESS AT ALL TIMES.
- CONTRACTOR IS RESPONSIBLE TO STABILIZE AND MAINTAIN ALL UTILITY PILES WITHIN THE IMMEDIATE WORK AREA THAT MAY BE AFFECTED BY THE CONSTRUCTION OPERATIONS.
- PROVIDE , ERECT AND MAINTAIN BARRICADES, LIGHTING AND GUIDE RAILS AS REQUIRED BY APPLICABLE REGULATORY AGENCIES TO PROTECT THE PUBLIC AND WORKMAN.
- ALL DISTURBED AREAS EXCEEDING THE LIMITS OR WORK SHALL BE RESTORED TO EXISTING CONDITIONS AT THE FULL EXPENSE OF THE CONTRACTOR UNLESS OTHERWISE DIRECTED BY THE OWNER.
- ALL CONCRETE WORK SHALL COMPLY WITH THE SPECIFICATIONS AND THE AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318-14 OR THE LATEST REVISION THERETO.
- ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT THE END OF 28 DAYS.
- ALL REINFORCEMENT STEEL TO BE GRADE 60 DEFORMED BARS.
- MINIMUM SPLICE FOR REINFORCEMENT STEEL IS 30 BAR DIAMETERS UNLESS OTHERWISE NOTED.
- WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A-185 SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NECESSARY TO ESTABLISH LINES, LOCATIONS, GRADES, DIMENSIONS AND ELEVATIONS OF THE WORK FROM EXISTING FACILITIES.
- THE CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES AS SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED TO THE DEPTHS INDICATED. ALL EXCAVATED MATERIAL NOT REQUIRED OR UNSUITABLE FOR FILL SHALL BE REMOVED AND WASTED OFF SITE.
- UNLESS OTHERWISE INDICATED ON THESE DRAWINGS, REMOVE TREES, SHRUBS, GRASS AND OTHER VEGETATION INTERFERING WITH INSTALLATION OF NEW CONSTRUCTION. REMOVAL INCLUDES DIGGING OUT STUMPS AND ROOTS.
- DURING EXCAVATION EXTREME CARE SHOULD BE TAKEN BY THE CONTRACTOR TO AVOID UNNECESSARY CUTTING OF ROOTS. WHEN ROOTS ARE CUT THEY SHOULD BE PROPERTY DRESSED SO AS NOT TO KILL THE TREE.
- ALL TRENCH EXCAVATION SIDE WALL GREATER THAN 4 FEET IN DEPTH SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED BY MEANS OF THE SUFFICIENT STRENGTH TO PROTECT THE WORKMAN WITHIN THEM IN ACCORDANCE WITH APPLICABLE RULES AND REGULATIONS ESTABLISHED FOR CONSTRUCTION BY THE DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND BY LOCAL ORDINANCES. LATERAL TRAVEL DISTANCES TO AN EXIT LADDER OR STEPS SHALL NOT BE GREATER THAN 25 FEET IN TRENCHES 4 FEET OR DEEPER.

SYMBOL AND ABBREVIATION SCHEDULE

AC	ACRE
AC	AIR CONDITIONER
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAYS AND TRANSPORTATION OFFICIALS
ACI	AMERICAN CONCRETE TRANSPORTATION OFFICIALS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
@	AT
℄	BASELINE
BC	BOTTOM OF CURB
BW	BOTTOM OF WALL
BY/4"	BROKEN YELLOW PAVEMENT LINE/WIDTH
BLDG	BUILDING
℄	CENTERLINE
CC C/C	CENTER TO CENTER
CLR	CLEAR
CONC	CONCRETE
CONSTR	CONSTRUCTION
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
DIA	DIAMETER
DI	DUCTILE IRON
EOB	EDGE OF BERM
EOP	EDGE OF PAVEMENT
ELEC	ELECTRIC
EMH	ELECTRIC MANHOLE
EM	ELECTRIC METER
EL/ELEV	ELEVATION
EQ	EQUAL
EXP	EXPANSION
EX	EXISTING
FFE	FINISH FLOOR ELEVATION
FH	FIRE HYDRANT
GM	GAS METER
GV	GAS VALVE
HP	HIGH POINT
HORIZ	HORIZONTAL
INC	INCORPORATED
INV	INVERT
LP	LIGHT POLE
MH	MANHOLE
MAX	MAXIMUM
MIN	MINIMUM
MPH	MILES PER HOUR
N	NORTH
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
No/#	NUMBER
PM	PARKING METER
OC	ON CENTER
ODOT	OHIO DEPARTMENT OF TRANSPORATION
PERF	PERFORATED
PE	POLYETHYLENE
PUB	PUBLICATION
PSI	POUNDS PER SQUARE INCH
PP	POWER POLE
PVC	POLYVINYL CHLORIDE
℄	PROPERTY LINE
R	RADIUS
REINF	REINFORCEMENT
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT-OF-WAY
SCH	SCHEDULE
SEC	SECTION
SEG	SEGMENT
SLCPP	SMOOTH LINED CORRUGATED PLASTIC PIPE
STA	STATION
SR	STATE ROUTE
ST	STREET
SRL	SKID RESISTANCE LEVEL
S	SOUTH
SF	SQUARE FEET
SY	SQUARE YARD
TC	TOP OF CURB
TW	TOP OF WALL
XF	TRANSFORMER
TYP	TYPICAL
WM	WATER METER
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
W/4"	WHITE PAVEMENT LINE/WIDTH

OHIO811.org Before You Dig

CAUTION
THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (INCLUDING, BUT NOT LIMITED TO, MANHOLES, INLETS, VALVES, AND MARKS MADE UPON THE GROUND BY OTHERS) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.
OHIO UTILITIES PROTECTION SERVICES
CALL: 8-1-1 OR TOLL FREE: 1-800-362-2764

LIST OF PUBLIC UTILITES

OHT — CINCINNATI BELL TELEPHONE COMPANY
CUSTOMER SERVICE
201 E. FOURTH STREET, 103-1400
CINCINNATI, OHIO 45201-2301
397-9900

OHU / G — DUKE ENERGY (ELECTRIC AND GAS)
CUSTOMER SERVICE
P.O. BOX 740124
CINCINNATI, OHIO 45274-0124
287-4908

OHU — TIME WARNER CABLE
11252 CORNELL PARK DRIVE
CINCINNATI, OHIO 45242
247-5060

W — CINCINNATI WATER WORKS DEPARTMENT
4747 SPRING GROVE AVENUE
CINCINNATI, OHIO 45232
591-7700

SS — METROPOLITAN SEWER DISTRICT
1600 GEST STREET
CINCINNATI, OHIO 45202
352-4900

LEGEND

EXISTING	PROPOSED
W — WATERLINE	W — WATERLINE
G — GAS LINE	G — GAS LINE
SS — SANITARY SEWER	SS — SANITARY SEWER
ST — STORM SEWER	ST — STORM SEWER
STE — STEAM LINE	STE — STEAM LINE
EU — UNDERGROUND ELEC TELE CABLE	EU — UNDERGROUND ELEC TELE CABLE
TU — UNDERGROUND TELEPHONE	TU — UNDERGROUND TELEPHONE
CTVU — UNDERGROUND CABLE	CTVU — UNDERGROUND CABLE
E — OVERHEAD ELECTRIC	FO/COM — FIBER OPTICS/COMMUNICATIONS
T — OVERHEAD TELEPHONE	E — OVERHEAD ELECTRIC
CTV — OVERHEAD CABLE	T — OVERHEAD TELEPHONE
OHW — OVERHEAD WIRES	CTV — OVERHEAD CABLE
C — CONDUIT	C — CONDUIT
FO/COM — FIBER OPTICS / COMMUNICATIONS	FH — FIRE HYDRANT
FH — FIRE HYDRANT	PP — POWER POLE
PP — POWER POLE	SL — STREET LIGHT
SIGN (EXISTING)	SIGN
	FENCE
	(00) NUMBER OF PARKING SPACES

EROSION & SEDIMENTATION CONTROL

- CFS — COMPOST FILTER SOCK
- LIMIT OF DISTURBANCE/NPDES PERMIT BOUNDARY
- UeD — SOIL DESIGNATION
- SOIL BOUNDARY
- ROCK CONSTRUCTION ENTRANCE
- IP — INLET PROTECTION

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON
ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

FINAL DEVELOPMENT PLAN

No.:	Date:	Description:

Sheet Title:
GENERAL INFORMATION SHEET

Project No.: 2018-0034.02

Cadd Drawing File: C1.00.dwg

Drawn By: RDL

Checked By: JRBe

Date: 08/30/2019

Drawing Number
C1.00
Sheet 2 of 13

LOT 10
THE RESERVE OF TURPIN
BLOCK D – PART 2
P.B. 334, PG. 86

THE RESERVE OF TURPIN
HOMEOWNER'S ASSOCIATION
003-0009-0221
O.R. 9237, PG. 2560

TOP OF STREAM BANK

1" IP
1" IP IN 2" PIPE

609.32' (609.72' Deed)
N 13°25'58" E

LIMIT OF FLOODWAY

LIMIT OF FLOOD FRINGE

BOARD OF TRUSTEES OF
ANDERSON TOWNSHIP
500-0360-0004
O.R. 4950, PG. 2733

MON

WIRE HEIGHTS
VARY FROM
573.49 TO 588.64
GROUND=557.50

1/2" IPC
HEREALD

RIGHT OF WAY

EDGE OF PAVT

24' PAVT

SAN MH
TC=560.53
INV=547.88

RIGHT OF WAY

5/8" IPC
LANSDALE

5/8" IPC
LANSDALE

FIRE HYDRANT
& VALVE

INV=550.15

GUIDERAIL

CLOUGH PIKE

30" RCP

508.42'
S 65°22'14" E

INLET 2'x2'
T/G=554.94
INV=552.79

350.00'
S 63°00'48" E

SAN MH
TC=566.21
INV=539.61

INLET
T/G=553.81
INV=541.11

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

30' 15' 0' 30' 60'
SCALE: 1" = 30'

TOPOGRAPHIC SURVEY AND UTILITY INFORMATION
PREPARED BY:

Berding Surveying
GPS Surveying • 3D Laser Scanning
741 Main Street | Milford, OH 45150 | www.berdingsurveying.com
513.831.6761 fax | 513.831.5505 tel

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON
ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

FINAL DEVELOPMENT PLAN

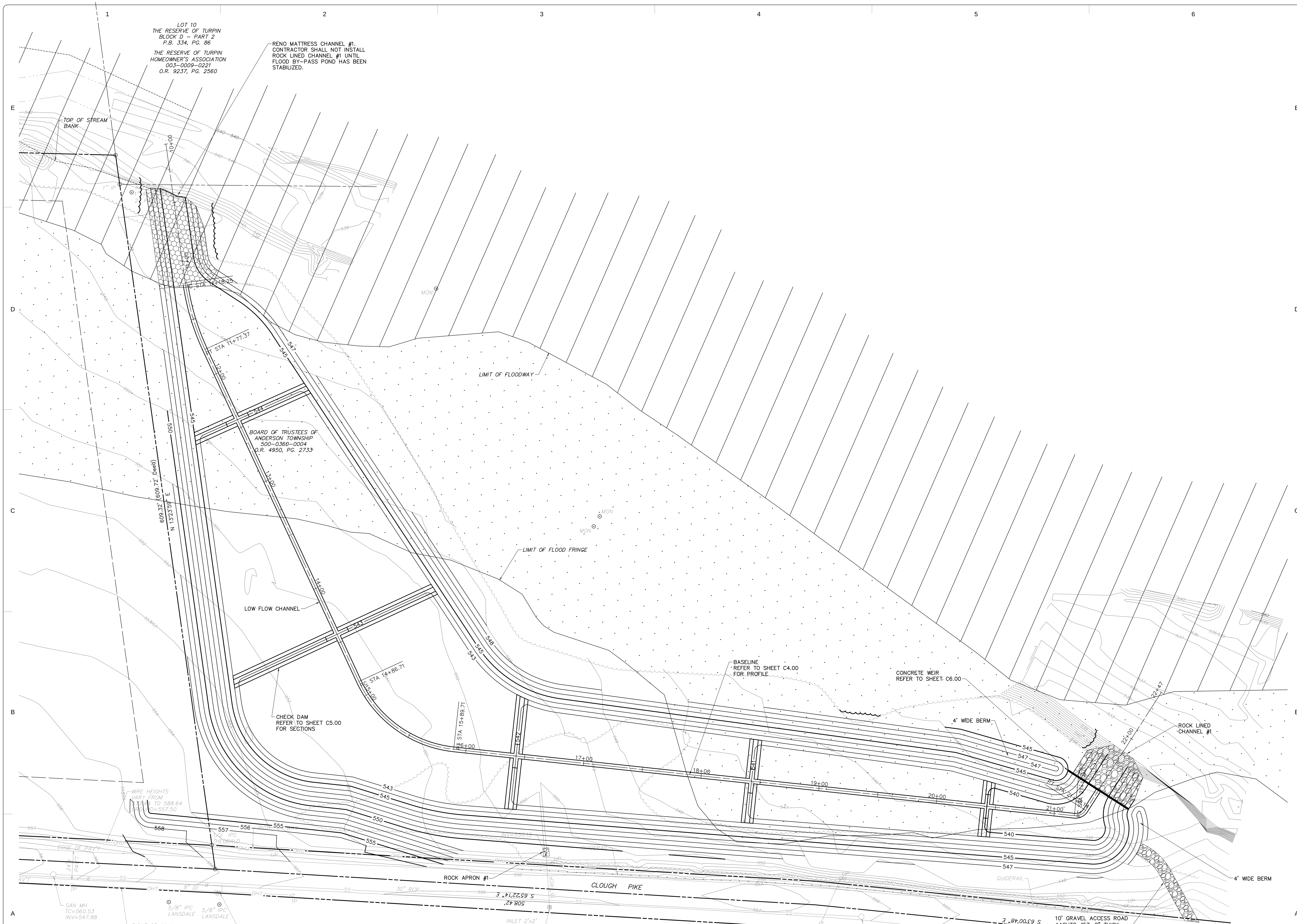
No.:	Date:	Description:

Sheet Title:
EXISTING CONDITIONS PLAN

Project No.:	2018-0034.02
Cadd Drawing File:	C2.00.dwg
Drawn By:	RDL
Checked By:	JRBe
Date:	08/30/2019
Copyright:	© 2019 H.F. LENZ COMPANY

Drawing Number
C2.00
Sheet 3 of 13

I:\Projects\2018\180000\180034x02\CADD\Design Files\Civil\Dwgs\C2.00.dwg 8/28/2019 1:50 PM



NOTES:

- SEE SHEET C1.00 FOR LEGEND, SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
- SEE SHEET C4.00 FOR PROFILE
- SEE SHEET C5.00 FOR CROSS SECTIONS
- SEE SHEET C6.00 FOR FLOOD BY-PASS POND DETAILS

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON

ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

FINAL DEVELOPMENT PLAN

No.:	Date:	Description:

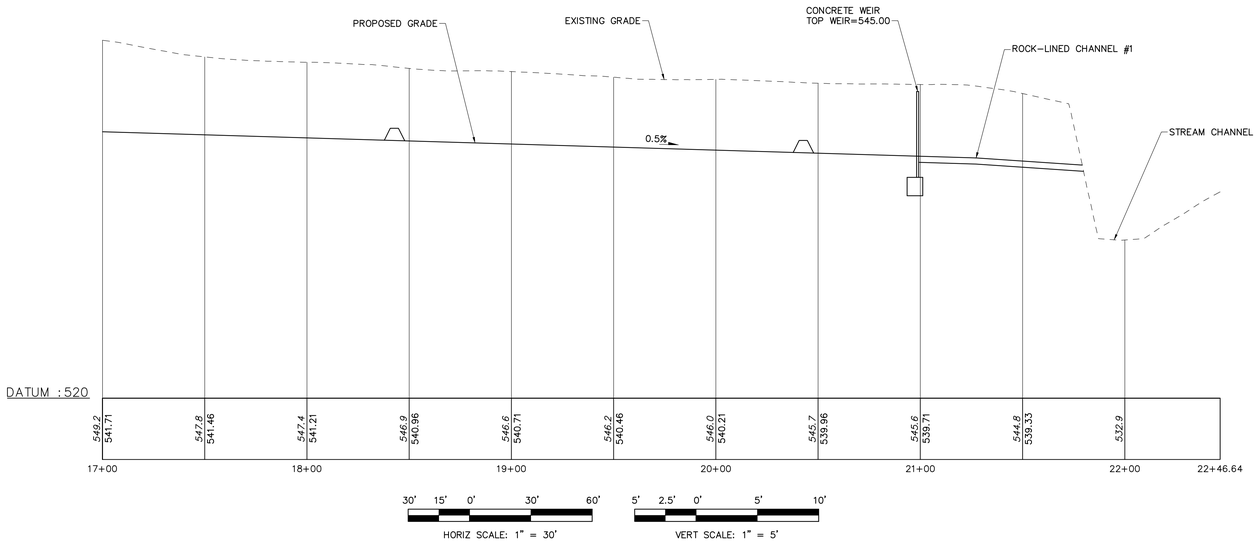
Sheet Title:

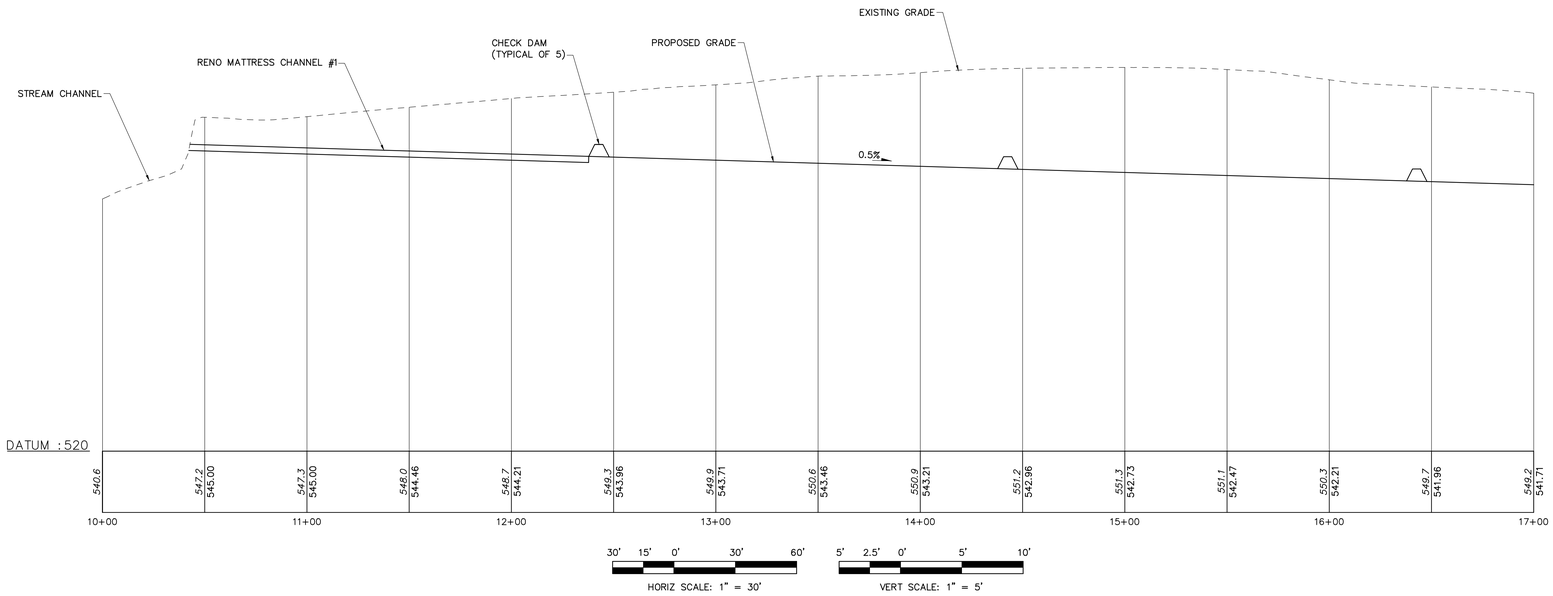
SITE/GRADING PLAN

Project No.:	2018-0034.02
Cadd Drawing File:	C3.00.dwg
Drawn By:	RDL
Checked By:	JRBe
Date:	08/30/2019

Drawing Number

C3.00





NOTES:

- SEE SHEET C1.00 FOR LEGEND, SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
- SEE SHEET C3.00 FOR SITE/GRADING PLAN

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON
ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

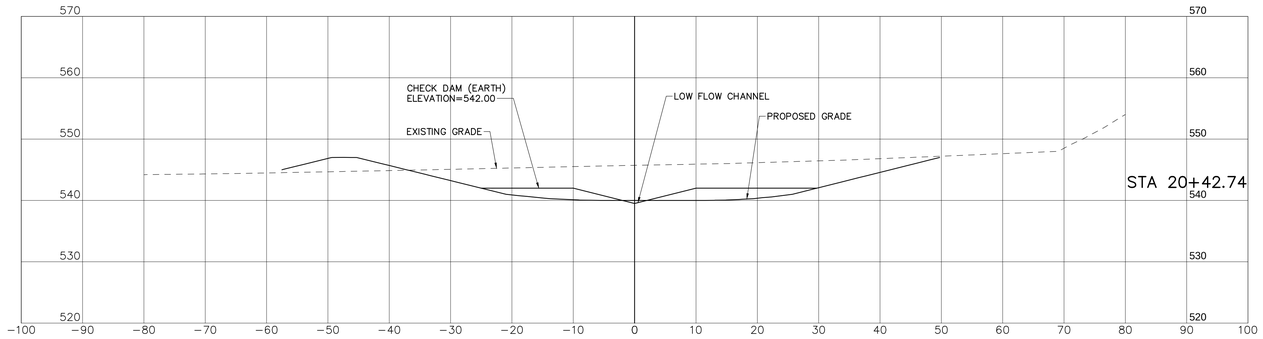
FINAL DEVELOPMENT PLAN

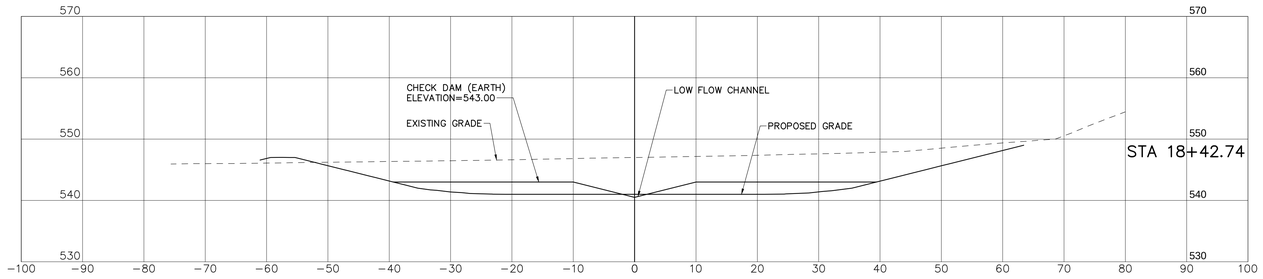
No.:	Date:	Description:

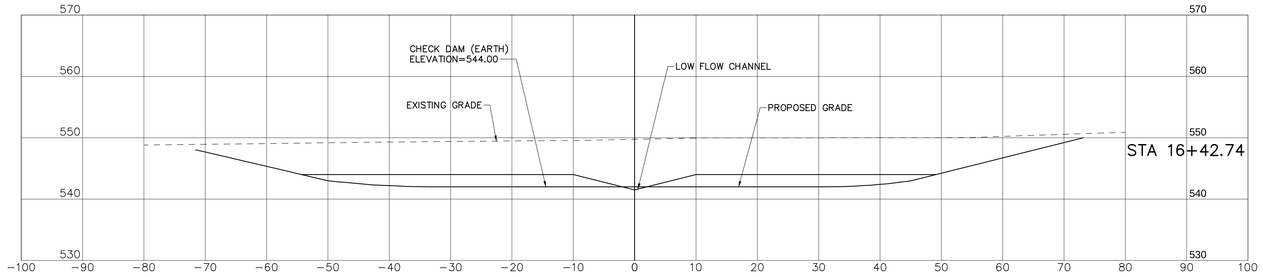
Sheet Title:
BASELINE PROFILE

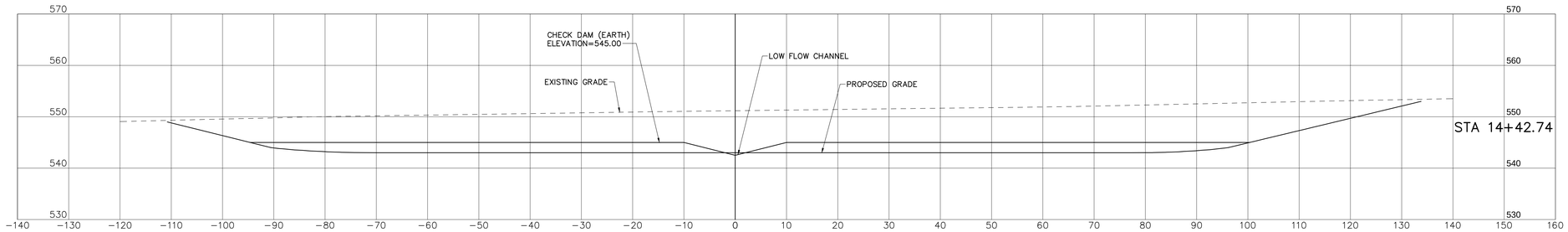
Project No.:	2018-0034.02
Cadd Drawing File:	C4.00.dwg
Drawn By:	RDL
Checked By:	JRBe
Date:	08/30/2019

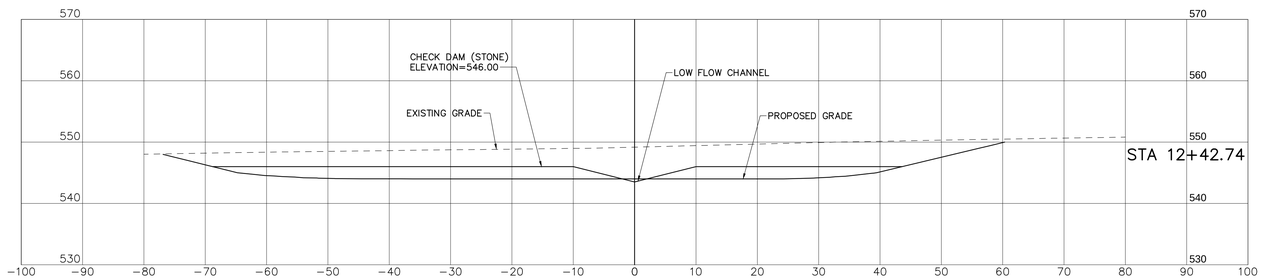
Drawing Number
C4.00
Sheet 3 of 13











NOTES:

- SEE SHEET C1.00 FOR LEGEND, SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
- SEE SHEET C3.00 FOR SITE/GRADING PLAN
- SEE SHEET C4.00 FOR BASELINE PROFILE

10' 5' 0' 10' 20'

SCALE: 1" = 10'

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON
ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

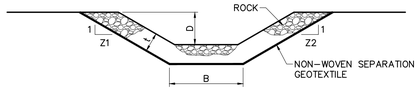
FINAL DEVELOPMENT PLAN

No.:	Date:	Description:

Sheet Title:
CHECK DAM SECTIONS

Project No.:	2018-0034.02
Cadd Drawing File:	C5.00.dwg
Drawn By:	RDL
Checked By:	JRBe
Date:	08/30/2019

Drawing Number
C5.00
Sheet 3 of 13

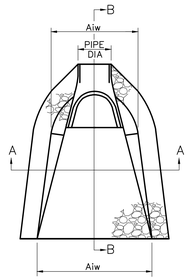


CHANNEL CROSS-SECTION

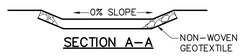
CHANNEL No.	STATIONS	BOTTOM WIDTH B (FT)	DEPTH D (FT)	Z1 (FT)	Z2 (FT)	ROCK	
						ROCK TYPE	THICK t (IN)
1	21+49.12	20	4	4	4	B	36

ROCK-LINED CHANNEL

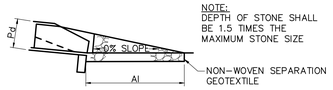
NOT TO SCALE



PLAN VIEW



SECTION A-A



NOTE:
DEPTH OF STONE SHALL BE 1.5 TIMES THE MAXIMUM STONE SIZE

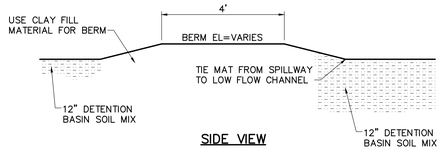
SECTION B-B

NOTE:
SEE PLAN FOR DIMENSIONS

ROCK APRON DETAIL

NOT TO SCALE

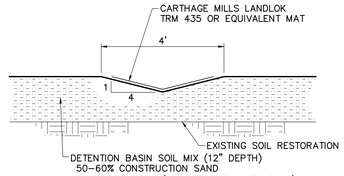
OUTLET No.	PIPE DIA Pd (IN)	ROCK		APRON	
		ROCK TYPE	THICK Rt (IN)	LENGTH Al (FT)	WIDTH Aiw (FT)
1	15	C	18	7	5



SIDE VIEW

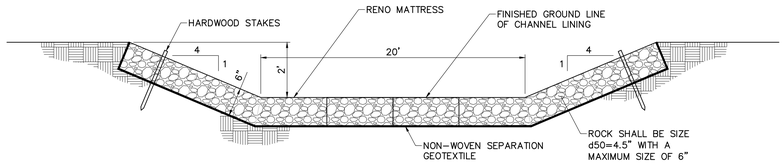
CHECK DAM DETAIL

NOT TO SCALE



LOW FLOW CHANNEL

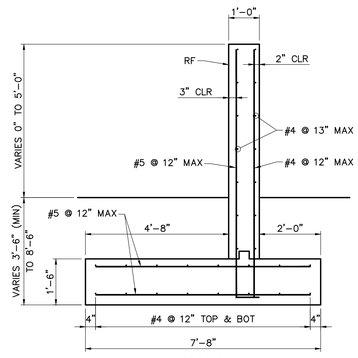
NOT TO SCALE



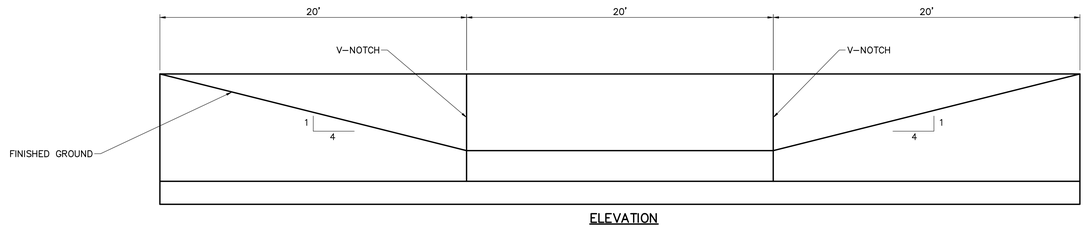
NOTES:
1. INSTALL RENO MATTRESS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. HARDWOOD STAKES SHALL BE DRIVEN THROUGH THE MATTRESS, ALONG THE TOP EDGE, TO ANCHOR THE INSTALLATION. EMBED STAKES 18" MINIMUM BELOW RENO MATTRESS BOTTOM.
3. INSTALL GEOTEXTILE MATERIAL ALONG ALL INTERFACE AREAS WITH GROUND CONTACT.

RENO MATTRESS CHANNEL #1

NOT TO SCALE



SECTION



ELEVATION

CONCRETE WEIR DETAIL

NOT TO SCALE

DETENTION / BIORETENTION BASIN NOTES:

BIORETENTION SOIL SHALL CONSIST OF A HOMOGENOUS MIX OF 50-60% CONSTRUCTION SAND, 20-30% TOP SOIL WITH LESS THAN 5% MAXIMUM CLAY CONTENT, AND 20-30% ORGANIC LEAF COMPOST. THIS MIX WILL PROVIDE A SOIL MEDIUM WITH A HIGH INFILTRATION/FILTRATION CAPACITY. THE SOIL SHALL MEET THE FOLLOWING CRITERIA:

pH RANGE	5.2-7.0
ORGANIC MATTER	1.5-4%(BY WEIGHT)
MAGNESIUM	35 LB/AC
PHOSPHORUS (PHOSPHATE-P2O5)	75 LB/AC
POTASSIUM (POTASH-K2O)	85 LB/AC
SOLUBLE SALTS	NOT TO EXCEED 500 ppm

WITHIN THE RAIN GARDEN AND BIORETENTION BASIN: 1'-6" MINIMUM DEPTH OF BIORETENTION SOIL (EXCEPT IN AREAS AROUND UNDERDRAIN PIPING, REFER TO SECTIONS)

SIDE SLOPES AND ALL GRADED AREAS THAT ARE NOT SPECIFIED WITHIN THE BIORETENTION AREA: 6" LAYER OF BIORETENTION SOIL

BERMED AREAS AND SPILLWAYS LOCATED WITHIN THE BIORETENTION AREAS SHALL RECEIVE COMPACTED TOPSOIL TO MAINTAIN STRUCTURAL INTEGRITY AND REDUCE POSSIBILITY OF EROSION IN THESE AREAS. SEED MIXES WITHIN THESE AREAS SHALL BE BROADCAST WITH SMALL QUANTITY OF BIORETENTION SOIL MIX TO ENHANCE SEED GROWTH WITHOUT COMPROMISING STRUCTURAL STABILITY OF ENGINEERING DESIGN.

COMPACTION IN RAIN GARDEN AND BIORETENTION AREA:

- MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL
- HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND, HOWEVER SHOULD NOT BE USED WITHIN THE BIORETENTION BASIN SINCE IT CAN RESULT IN EXCESSIVE COMPACTION REDUCING INFILTRATION RATES AND STORAGE VOLUMES
- COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE

BACKFILLING THE RAIN GARDEN AND BIORETENTION FACILITY SHOULD BE DONE BY PLACING SOIL IN LIFTS 12" OR GREATER

TO MAINTAIN SOIL PERMEABILITY, GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS AND OVERFILL TO ALLOW FOR NATURAL SETTLEMENT

BIORETENTION SOILS SHALL HAVE INFILTRATION RATES GREATER THAN 0.25 INCHES PER HOUR

STRAW MULCH SHOULD BE USED TO CONTROL EROSION AND PROTECT SEEDLINGS AND PLANTINGS FROM EXTREME TEMPERATURES AND DRYING OUT. MULCH APPLICATION SHOULD BE SPARSE TO ALLOW SUNLIGHT TO REACH THE GROUND.

TEMPORARY IRRIGATION OF SEEDED AND PLANTED AREAS MAY BE NECESSARY UNTIL VEGETATION BECOMES ESTABLISHED.

DETENTION / BIORETENTION BASIN SEED MIX

ERNMX-180 (RAIN GARDEN GRASS MIX)

38%	RIVER OATS (CHASMANTHIUM LATIFOLIUM (UNIOLA LATIFOLIA))
20%	VIRGINIA WILDRYE (ELYMUS VIRGINICUS)
10%	FOX SEDGE, PA ECOTYPE (CAREX VULPINOIDEA)
4%	PURPLE CONEFLOWER (ECHINACEA PURPUREA)
3%	TALL WHITE BEARDTONGUE (PENSTEMON DIGITALIS)
3%	BLACKEYED SUSAN (RUDBECKIA HIRTA)
3%	LANCELEAF COREOPSIS (COREOPSIS LANCEOLATA)
2%	OHIO SPIDERWORT (TRADESCANTIA OHIENSIS)
2%	OXEYE SUNFLOWER (HELIOPSIS HELIANTHOIDES)
2%	AUTUMN BENTGRASS (AGROSTIS PERENNANS)
2%	PARTRIDGE PEA (CHAMAECRISTA FASCICULATA (CASSIA F.))
2%	MARSH (DENSE) BLAZING STAR (SPIKED GAYFEATHER) (LIATRIS SPICATA)
1.5%	SMOOTH BLUE ASTER (ASTER LAEVIS (SYMPHYOTRICHUM LAEVE))
1%	WLD SENNA (SENNA HEBECARPA (CASSIA H.))
1%	NEW ENGLAND ASTER (ASTER NOVAE-ANGLIAE (SYMPHYOTRICHUM N.))
1%	SWAMP MILKWEED (ASCLEPIAS INCARNATA)
1%	PATH RUSH (JUNCUS TENUIS)
1%	SOFT RUSH (JUNCUS EFFUSUS)
0.8%	WLD BERGAMOT (MONARDA FISTULOSA)
0.5%	MISTFLOWER (EUPATORIUM COELESTINUM (CONOCLINIUM C.))
0.5%	BLUE FALSE INDIGO(BAPTISIA AUSTRALIS)
0.5%	EARLY GOLDENROD (SOLIDAGO JUNCEA)
0.2%	SLENDER MOUNTAIN MINT (PYCNANTHEMUM TENUIFOLIUM)

Seeding rate: 20 lb per acre with a cover crop of grain rye at 30 lb per acre

DETENTION / BIORETENTION SOIL MIX

MATERIAL	CONTENT PERCENT
CONSTRUCTION SAND	50%-60%
TOP SOIL (W/LESS THAN 5% CLAY)	20%-30%
ORGANIC LEAF COMPOST	20%-30%

NOTES:

- CONTRACTOR SHALL PROVIDE A MATERIAL CLASSIFICATION CERTIFICATION OF THE SOIL MIX MATERIAL.
- THE CONTRACTOR SHALL PERFORM INFILTRATION TESTING ON SITE OF INSTALLED SOIL MIX. SOIL MIX SHALL HAVE A MINIMUM INFILTRATION RATE OF 0.30 IN/HR.

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

STATE OF OHIO
BRYANT JOSHUA GREENE
E-80489
REGISTERED PROFESSIONAL ENGINEER

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON

ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

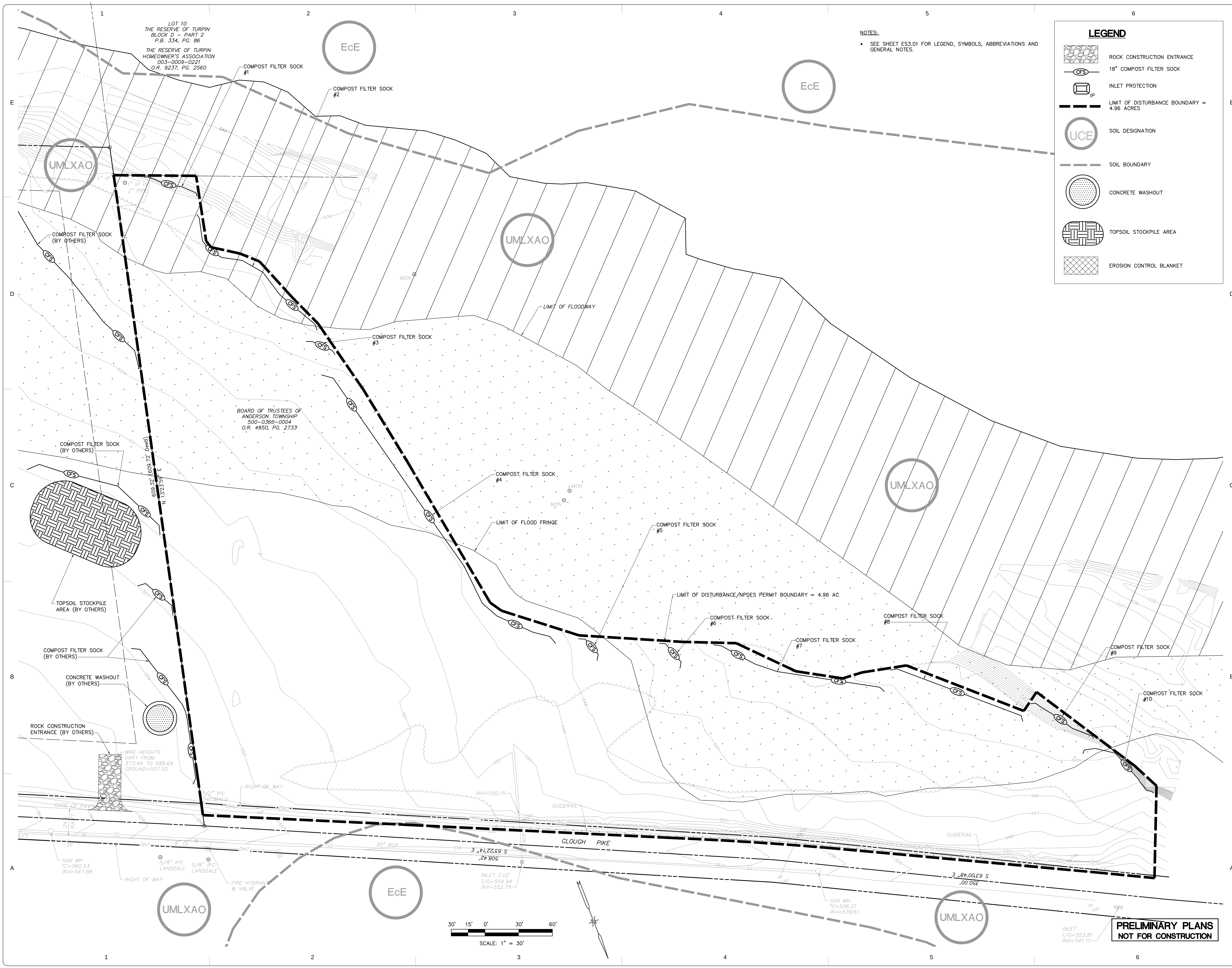
FINAL DEVELOPMENT PLAN

No.:	Date:	Description:

Sheet Title:
SITE DETAILS

Project No.:	2018-0034.02
Cadd Drawing File:	C6.00.dwg
Drawn By:	RDL
Checked By:	JRBe
Date:	08/30/2019

Drawing Number
C6.00
Sheet 7 of 13



NOTES:

- SEE SHEET ES3.01 FOR LEGEND, SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.

LEGEND

- ROCK CONSTRUCTION ENTRANCE
- 18" COMPOST FILTER SOCK
- INLET PROTECTION
- LIMIT OF DISTURBANCE BOUNDARY = 4.96 ACRES
- SOIL DESIGNATION
- SOIL BOUNDARY
- CONCRETE WASHOUT
- TOPSOIL STOCKPILE AREA
- EROSION CONTROL BLANKET

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON

ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

FINAL DEVELOPMENT PLAN

No.:	Date:	Description:

Sheet Title:

EROSION & SEDIMENTATION CONTROL PLAN - PREDEVELOPMENT

Project No.: 2018-0034.02

Cadd Drawing File: ES1.00.dwg

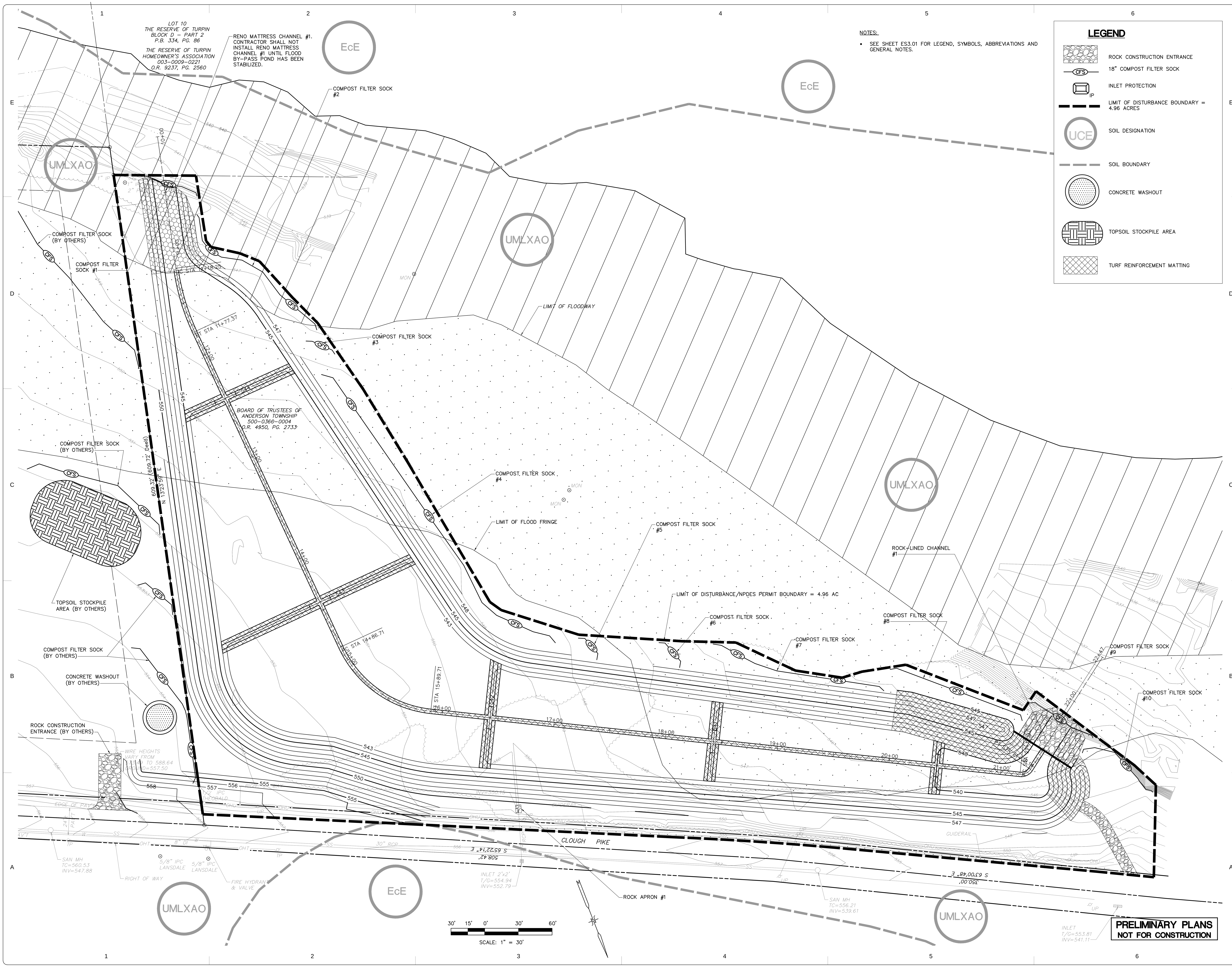
Drawn By: RDL

Checked By: JRBe

Date: 08/30/2019

Drawing Number

ES1.00



NOTES:
• SEE SHEET ES3.01 FOR LEGEND, SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
LEGEND
ROCK CONSTRUCTION ENTRANCE
18" COMPOST FILTER SOCK
INLET PROTECTION
LIMIT OF DISTURBANCE BOUNDARY = 4.96 ACRES
SOIL DESIGNATION
SOIL BOUNDARY
CONCRETE WASHOUT
TOPSOIL STOCKPILE AREA
TURF REINFORCEMENT MATTING
LOT 10
THE RESERVE OF TURPIN
BLOCK D - PART 2
P.B. 334, PG. 86
THE RESERVE OF TURPIN
HOMEOWNER'S ASSOCIATION
003-0009-0221
O.R. 9237, PG. 2560
RENO MATTRESS CHANNEL #1. CONTRACTOR SHALL NOT INSTALL RENO MATTRESS CHANNEL #1 UNTIL FLOOD BY-PASS POND HAS BEEN STABILIZED.
COMPOST FILTER SOCK #2
EcE
UMLXAO
COMPOST FILTER SOCK (BY OTHERS)
COMPOST FILTER SOCK #1
STA 12+18.25
LIMIT OF FLOODWAY
STA 11+77.37
COMPOST FILTER SOCK #3
BOARD OF TRUSTEES OF ANDERSON TOWNSHIP
500-0360-0004
O.R. 4950, PG. 2733
COMPOST FILTER SOCK (BY OTHERS)
N 13°23'59" E
609.32' (609.72' Deed)
COMPOST FILTER SOCK #4
LIMIT OF FLOOD FRINGE
COMPOST FILTER SOCK #5
ROCK-LINED CHANNEL #1
TOPSOIL STOCKPILE AREA (BY OTHERS)
LIMIT OF DISTURBANCE/NPDES PERMIT BOUNDARY = 4.96 AC
COMPOST FILTER SOCK #6
COMPOST FILTER SOCK #8
COMPOST FILTER SOCK #7
COMPOST FILTER SOCK #9
COMPOST FILTER SOCK (BY OTHERS)
STA 14+86.71
CONCRETE WASHOUT (BY OTHERS)
STA 15+89.71
COMPOST FILTER SOCK #10
ROCK CONSTRUCTION ENTRANCE (BY OTHERS)
WIRE HEIGHTS VARY FROM
CLOUGH PIKE
S 65°22'14" E
508.42'
S 63°00'48" E
350.00'
SAN MH
TC=560.53
INV=547.88
RIGHT OF WAY
5/8" IPC LANSDALE
5/8" IPC LANSDALE
FIRE HYDRANT & VALVE
INLET 2'x2'
T/G=554.94
INV=552.79
ROCK APRON #1
SAN MH
TC=556.21
INV=539.61
INLET
T/G=553.81
INV=541.11
GUIDERAIL
30' 15' 0' 30' 60'
SCALE: 1" = 30'
PRELIMINARY PLANS
NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON

ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

FINAL DEVELOPMENT PLAN

No.:	Date:	Description:

Sheet Title:

EROSION & SEDIMENTATION CONTROL PLAN - POSTDEVELOPMENT

Project No.:	2018-0034.02
Cadd Drawing File:	ES2.00.dwg
Drawn By:	RDL
Checked By:	JRBe
Date:	08/30/2019

Drawing Number

ES2.00

DOCUMENTATION OF BMP INSPECTION, REPAIR & REPLACEMENT

THE CONTRACTOR SHALL KEEP WRITTEN RECORDS DOCUMENTING THE INSPECTION, REPAIR AND REPLACEMENT OF ALL BMP'S.

RECYCLING AND/OR DISPOSAL OF PROJECT WASTE

PROJECT CONSTRUCTION WASTES SHALL CONSIST OF UNSUITABLE MATERIAL FOR USE AS A FILL OR BACKFILL MATERIAL. SUCH MATERIAL SHALL CONSIST OF CLAY, ROCK, EXCESS MATERIAL, TRASH AND DEBRIS. ALL WASTE MATERIAL SHALL BE STOCKPILED AND PROPERLY STABILIZED UNTIL THE WASTE CAN BE PROPERLY RECYCLED OR DISPOSED OF OFF SITE AT A WASTE DISPOSAL SITE THAT HAS BEEN APPROVED BY THE OHIO DEPARTMENT OF ENVIRONMENTAL PROTECTION. OTHER WASTE ITEMS SUCH AS GLASS, PLASTIC, OR METALS MUST BE DISPOSED OF IN ACCORDANCE WITH ANY LOCAL RECYCLING PROGRAM. A CONCRETE WASHOUT FACILITY SHALL BE PROVIDED FOR THE CLEANING OF CHUTES, MIXERS AND HOPPERS OF DELIVERY TRUCKS.

CONTRACTOR'S RESPONSIBILITIES

1. CONTRACTOR SHALL IMPLEMENT THE EROSION AND SEDIMENT POLLUTION CONTROL PLAN IN ACCORDANCE WITH THE DRAWINGS.
2. ALL FACILITIES WILL BE INSPECTED AND REPAIRED, IF NECESSARY, AFTER EACH STORM EVENT OR AT A PERIOD NOT TO EXCEED ONE WEEK. SEDIMENT COLLECTED FROM THE EROSION CONTROL STRUCTURES WILL BE PLACED UPSTREAM OF THOSE CONTROLS AND STABILIZED WITH GRAVEL OR RESEEDING.
3. AT NO TIME WILL SEDIMENT BE ALLOWED TO LEAVE THE SITE AND ENTER SURFACE WATERS.
4. ANY PERMANENTLY SEEDED AREAS THAT BECOME ERODED WILL HAVE THE TOPSOIL REPLACED, THE EROSION CONTROL MATTING REPLACED (IF APPLICABLE), THE GRASS RESOWN, AND MULCH REAPPLIED.
5. A COPY OF THIS PLAN MUST BE KEPT AVAILABLE FOR INSPECTION ON THE CONSTRUCTION SITE AT ALL TIMES THROUGHOUT THE TERM OF THE PROJECT.
6. THE INTENT OF THIS PLAN/NARRATIVE IS TO INDICATE GENERAL MEANS OF COMPLIANCE WITH THE REQUIREMENTS OF THE RULES AND REGULATIONS OF THE OHIO EPA. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT THESE METHODS. PLUS ADDITIONAL PROCEDURES IN ORDER TO ASSURE COMPLIANCE WITH APPLICABLE LAW. IT WILL FURTHER BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL EROSION AND SEDIMENT CONTROL FACILITIES SO THAT THEY PERFORM AS REQUIRED BY APPLICABLE LAW.
7. FINES AND RELATED COSTS RESULTING FROM THE CONTRACTOR'S FAILURE TO PROVIDE ADEQUATE PROTECTION AGAINST SOIL EROSION AND FOR ANY VIOLATIONS OF THE CLEAN STREAMS LAW AND THE RULES AND REGULATIONS PROMULGATED THEREUNDER SHALL BE BORNE BY THE CONTRACTOR.

MAINTENANCE/OWNER'S RESPONSIBILITIES

1. MAINTENANCE OF ALL PERMANENT STORM WATER AND E&SC FACILITIES BECOMES THE RESPONSIBILITY OF THE OWNER IN PERPETUITY UPON COMPLETION OF CONSTRUCTION AND ACCEPTANCE BY OWNER, SUBJECT TO THE TERMS OF THE WARRANTY PERIOD SPECIFIED IN THE CONTRACT DOCUMENTS.

CONSTRUCTION NOTES:

1. AT LEAST (7) DAYS BEFORE STARTING CONSTRUCTION ANY EARTH DISTURBANCE ACTIVITIES, THE OWNER AND OR THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENTATION CONTROL PLAN PREPARER, AND ANY REPRESENTATIVES OF THE OHIO EPA TO AN ON-SITE PRECONSTRUCTION MEETING.
2. AT LEAST (3) DAYS BEFORE STARTING ANY EARTH DISTURBING ACTIVITIES ALL CONTRACTORS INVOLVED WITH THOSE ACTIVITIES SHALL NOTIFY THE OHIO811 (OHIO UTILITY PROTECTION SERVICE) AT 1-800-362-2764 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
3. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED AND IMMEDIATELY STABILIZED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING AND TOPSOIL STRIPPING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
4. IMMEDIATELY AFTER DISCOVERING UNFORESEEN CONDITIONS POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENTATION POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
5. TEMPORARY STABILIZATION MUST BE APPLIED TO ANY DISTURBED AREA WHICH WILL BE LEFT UNTOUCHED FOR 4+ DAYS.
6. FAILURE TO CORRECTLY INSTALL E&S BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FORM 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 OHIO EPA.

REMOVAL OF TEMPORARY BMP'S

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY DISPOSE OF ALL MATERIALS ENCOUNTERED DURING CONSTRUCTION THAT ARE NOT TO BE RECYCLED OR REUSED ON THE PROJECT. THESE MATERIALS INCLUDE, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, TEMPORARY BMP'S, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, AND ANY OTHER MATERIALS THAT COULD ADVERSELY IMPACT WATER QUALITY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR IMPLEMENTING A PROCEDURE FOR LITTER CONTROL DURING THE PROJECT. WHEREVER POSSIBLE, RECYCLING OF MATERIALS SUCH AS PAPER, PLASTIC, GLASS, AND ALUMINUM SHALL BE IN ACCORDANCE WITH THE LOCAL MUNICIPAL RECYCLING PROGRAM.
2. THE BMP'S MAY NOT BE REMOVED UNTIL A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER IS WELL ESTABLISHED ACROSS THE ENTIRE UPSLOPE ACROSS THE ENTIRE UPSLOPE PROJECT DRAINAGE AREA. ALL PARKING LOTS DRIVEWAYS, AND STREETS MUST BE PAVED OR HAVE A COMPACTED STONE BASE IN PLACE.
3. PERMANENT STABILIZATION IS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.

RECYCLING/DISPOSING OF CONSTRUCTION WASTES AND DISPOSAL OF SEDIMENT REMOVED FROM BMP'S

1. ANY SEDIMENT REMOVED FROM BMP'S DURING CONSTRUCTION WILL BE RETURNED TO UPLAND AREAS ON SITE AND INCORPORATED INTO THE SITE GRADING.
2. ALL BUILDING MATERIALS AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE OHIO EPA'S SOLID WASTE MANAGEMENT REGULATIONS. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED OR DISCHARGED AT THE SITE.
3. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF ANY EXCESS MATERIAL AND MAKE SURE THE SITE RECEIVING THE EXCESS HAS AN APPROVED EROSION AND SEDIMENTATION CONTROL PLAN THAT MEETS THE CONDITIONS OF THE STATE AND FEDERAL REGULATIONS.

GENERAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENTATION CONTROL

- SOIL EROSION AND SEDIMENTATION CONTROL SHALL BE IMPLEMENTED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. COMPOST FILTER SOCK SHALL BE INSTALLED TO A MINIMUM AS SHOWN ON THESE DRAWINGS.
- EARTH MOVING OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE ACCELERATED SOIL EROSION, IN ACCORDANCE WITH THE OHIO EPA, AND AS SHOWN ON THESE DRAWINGS.
- COMPOST FILTER SOCK SHALL BE INSTALLED DOWNSTREAM OF CONSTRUCTION AND STOCKPILE AREAS TO CONFINE SEDIMENT THAT MAY BE WASHED FROM NEW FILL OR CUT SLOPES.
- COMPOST FILTER SOCK MUST BE INSTALLED AT LEVEL GRADE. BOTH ENDS OF EACH FENCE SECTION MUST EXTEND AT LEAST 10 FEET UPSLOPE AT 45° TO THE MAIN FENCE ALIGNMENT.
- COMPOST FILTER SOCK SHALL BE INSPECTED ONCE A WEEK AND AFTER EACH RUNOFF EVENT. DAMAGE SHALL BE REPAIRED IMMEDIATELY. SEDIMENT ACCUMULATIONS SHALL BE REMOVED AND PLACED IN THE TOPSOIL STOCKPILE.
- COMPOST FILTER SOCK SHALL BE MAINTAINED UNTIL FINAL PROTECTIVE VEGETATION HAS BEEN ESTABLISHED, OR OTHER GROUND COVER MATERIALS HAVE BEEN PLACED.
- THE CONTRACTOR SHALL PLACE SEEDING, SOIL SUPPLEMENTS, AND MULCHING IN ALL DISTURBED AREAS IN ACCORDANCE WITH OHDOT SPECIFICATIONS.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROL AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY.

SPECIFIC BMP MAINTENANCE INSTRUCTIONS

TEMPORARY VEGETATIVE COVER

A. SOW ANNUAL RYE GRASS AT THE RATE OF 43 POUNDS PER ACRE, ONE POUND PER 1000 SQFT. BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION; PLUS A STRAW MULCH ANCHORED TO PREVENT LOSS.

B. COVER GRASS SEED WITH 1/4" (6MM) OF SOIL USING SUITABLE EQUIPMENT FOR THAT PURPOSE. ADD LIME AND FERTILIZER (LIME=1 TON/AC, FERTILIZER = 5:5:5 MIX).

C. MULCHING, WITHOUT SEEDING, IS TO BE USED AS AN INTERIM STABILIZATION CONTROL DURING NON-GROWING SEASONS OF THE YEAR.

ROCK CONSTRUCTION ENTRANCE

A. ROCK CONSTRUCTION ENTRANCE WILL BE PLACED AT THE LOCATION SHOWN ON THE PLAN AND CONSTRUCTED TO THE MINIMUM DIMENSIONS AS SHOWN ON THE DETAIL.

B. THE ROCK CONSTRUCTION ENTRANCE THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSION BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL WILL BE MAINTAINED ON SITE FOR THIS PURPOSE.

C. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC AND PRIVATE ROADWAYS WILL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE. WASHING OF THE ROADWAYS IS NOT PERMITTED.

COMPOST FILTER SOCKS

A. COMPOST FILTER SOCKS WILL BE PLACED AS SHOWN ON THE PLAN TO INTERCEPT THE STORM WATER, AND FILTER THE RUNOFF BEFORE IT LEAVES THE CONSTRUCTION SITE.

B. COMPOST FILTER SOCKS ARE NOT PERMITTED IN ANY AREA OF CONCENTRATED FLOW SUCH AS DITCHES, SWALES, OR CHANNELS.

C. ADD SECTION OF COMPOST FILTER SOCK FROM POST TO POST WHEN UNDERCUTTING OF COMPOST FILTER SOCK OCCURS.

D. INSTALL COMPOST FILTER SOCKS IN ACCORDANCE WITH DETAILS AS SHOWN ON THE DRAWINGS.

E. INSPECT COMPOST FILTER SOCKS AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL EVENT. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.

F. ACCUMULATED SEDIMENT WILL BE REMOVED AS REQUIRED TO KEEP THE COMPOST FILTER SOCKS FUNCTIONAL. IN ALL CASES REMOVE DEPOSITS WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE COMPOST FILTER SOCK.

G. THE REMOVED SEDIMENT IS TO BE USED FOR ON SITE GRADING, SEEDED, AND MULCHED.

H. ANY COMPOST FILTER SOCK SECTION WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A NEW COMPOST FILTER SOCK.

I. ADHERE TO MANUFACTURERS RECOMMENDATIONS FOR REPLACING COMPOST FILTER SOCKS DUE TO WEATHERING.

J. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, REMOVE ALL COMPOST FILTER SOCKS AND UNSTABLE SEDIMENT DEPOSITS. BRING THE DISTURBED AREA TO GRADE AND STABILIZE.

INLET PROTECTION

A. INLET PROTECTION WILL BE PLACED IN EXISTING AND NEW INLETS AS DEPICTED ON THE PLANS.

B. INSTALL INLET PROTECTION IN ACCORDANCE WITH THE DETAIL ON THE DRAWING.

C. INSPECT INLET PROTECTION AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL EVENT. MAKE ANY REQUIRED REPAIRS OR REPLACE IMMEDIATELY.

D. IN ALL CASES, REMOVE DEPOSITS AFTER EACH RAINFALL EVENT.

E. THE REMOVED SEDIMENT IS TO BE USED FOR ON SITE GRADING, SEEDED, AND MULCH.

F. ADHERE TO MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION OF INLET PROTECTION.

G. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, REMOVE INLET PROTECTION.

PUMPED WATER FILTER BAG

A. PUMPED WATER FILTER BAGS SHALL BE PLACED IN WELL VEGETATED AREA AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS NEAR EXCAVATIONS.

B. A REPLACEMENT FILTER BAG SHALL BE AVAILABLE AT ALL TIMES.

C. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. DISPOSED OF SEDIMENT IN A LAWFUL MANNER.

D. REFER TO MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION AND USE.

CONCRETE WASHOUT

A. CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED DAILY.

B. DAMAGED OR LEAKING CONCRETE WASHOUTS SHALL BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.

C. REMOVE MATERIALS, AND DISPOSE OF IN A LAWFUL MANNER, FROM THE CONCRETE WASHOUT WHEN 75% CAPACITY IS REACHED.

D. REPLACE THE PLASTIC LINER DURING EACH CLEANING OF THE CONCRETE WASHOUT.

INTERIM STABILIZATION

INTERIM STABILIZATION IN THE EVENT OF PLANNED OR UNPLANNED PROJECT SUSPENSION WILL CONSIST OF MULCHING OF DISTURBED AREAS DURING WINTER OR NON-GROWING SEASONS. INTERIM STABILIZATION MUST BE IMPLEMENTED IMMEDIATELY TO ANY DISTURBED AREA ON WHICH EARTH MOVING ACTIVITIES HAVE CEASED. GROWING SEASON STABILIZATION WILL CONSIST OF TEMPORARY SEEDING ACCORDING TO PROVIDED SPECIFICATIONS AND MULCHING OF THE DISTURBED AREAS. FALL CUTOFF FOR SEEDING WILL BE APPROXIMATELY THE END OF OCTOBER DEPENDING UPON LOCAL WEATHER CONDITIONS. DISTURBED AREAS, WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN ONE (1) YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY SEEDING SPECIFICATIONS. DISTURBED AREAS, WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE RE-DISTURBED WITHIN ONE (1) YEAR, MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATIONS.

TEMPORARY SEEDING SPECIFICATIONS

MULCH – MULCH MATERIALS CONSIST OF STRAW AND WOOD FIBER FOR 3:1 OR FLATTER SLOPES. THE CONTRACTOR MAY SPECIFY WHICH MULCH TO USE, IF IT IS NOT SHOWN ON THE PLANS. USE MULCH THAT IS REASONABLY FREE OF WEED SEED, FOREIGN MATERIALS, OR OTHER MATERIALS THAT WOULD PROHIBIT SEED GERMINATION. DO NOT MULCH DURING HIGH WINDS. FOR SLOPES SUBJECT TO WINDY CONDITIONS MULCH USING HYDRAULIC METHODS ONLY. WITHIN 24 HOURS AFTER SEEDING AN AREA, EVENLY PLACE MULCH. IMMEDIATELY REPLACE MULCH THAT BECOMES DISPLACED.

SEED MIXTURE – SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS AND SHALL BE COMPOSED OF THE FOLLOWING VARIETIES AND MIXED IN THE PROPORTIONS SPECIFIED.

TEMPORARY SEED MIXTURE	% BY WEIGHT	MINIMUM % PURITY	MINIMUM % GERMINATION	MAXIMUM % WEED SEED	SEEDING RATE LBS/1000 SF
CLASS 7– TEMPORARY EROSION CONTROL MIXTURE					
ANNUAL RYEGRASS	100	95	90	0.10	2.02

TEMPORARY SEEDING APPLICATION SHALL BE IN ACCORDANCE WITH OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, MOST RECENT VERSION.

ALL AREAS TO BE SEEDED SHALL BE LOOSENED TO A DEPTH OF AT LEAST THREE INCHES BY MECHANICAL MEANS.

MULCH AND LIME SEEDED AREAS IMMEDIATELY AFTER SEEDING.

FERTILIZER – USE DRY OR LIQUID FORMULATIONS OF 10-20-10 ANALYSIS FOR SEEDED AND SODDED AREAS AND SHALL BE APPLIED AT A RATE OF 20 POUNDS PER 1000 SQUARE FEET. FERTILIZER TO CONFORM TO REQUIREMENTS OF OHDOT SPECIFICATIONS, MOST RECENT VERSION.

PERMANENT SEEDING SPECIFICATIONS

- SEED – UNLESS OTHERWISE SPECIFIED ON DRAWINGS, THE CONTRACTOR SHALL PROVIDE OHDOT CLASS 1 SEED MIXTURE FOR ALL LAWN AREAS. ALL SLOPES STEEPER THAN 3:1 SHALL RECEIVE OHDOT CLASS 2 SEED MIXTURE. SEEDING QUALITY REQUIREMENTS TO BE IN ACCORDANCE WITH ITEM 659 SEED AND MULCHING OHDOT SPECIFICATIONS, MOST RECENT VERSION.
- MULCH – MULCH MATERIALS CONSIST OF STRAW AND WOOD FIBER FOR 3:1 OR FLATTER SLOPES. THE CONTRACTOR MAY SPECIFY WHICH MULCH TO USE, IF IT IS NOT SHOWN ON THE PLANS. USE MULCH THAT IS REASONABLY FREE OF WEED SEED, FOREIGN MATERIALS, OR OTHER MATERIALS THAT WOULD PROHIBIT SEED GERMINATION. DO NOT MULCH DURING HIGH WINDS. FOR SLOPES SUBJECT TO WINDY CONDITIONS MULCH USING HYDRAULIC METHODS ONLY. WITHIN 24 HOURS AFTER SEEDING AN AREA, EVENLY PLACE MULCH. IMMEDIATELY REPLACE MULCH THAT BECOMES DISPLACED.
- SEED MIXTURE – SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS AND SHALL BE COMPOSED OF THE VARIETIES FOLLOWING AND MIXED IN THE PROPORTIONS SPECIFIED.

- TOPSOIL MUST BE PLACED A MINIMUM OF 6" ON ALL AREAS TO RECEIVE VEGETAL STABILIZATION IN ORDER TO ENSURE PROPER GROWTH. TOPSOIL SHALL CONFORM TO REQUIREMENTS OF OHDOT SPECIFICATIONS, MOST RECENT VERSION.

PERMANENT SEED MIXTURE	% BY WEIGHT	PURITY	MINIMUM % GERMINATION	MAXIMUM % WEED SEED	SEEDING RATE LBS/1000 SY
CLASS 1					10.0 TOTAL
PERENNIAL RYEGRASS, TURF TYPE (LOLIUM PERENNE)	20	97	90	0.10	2.0
CREEPING RED FESCUE (FESTUCA CUBA)	30	97	90	0.10	3.0
KENTUCKY BLUEGRASS (POA PRATENSIS)	30	97	85	0.15	3.0
ANNUAL RYEGRASS (LOLIUM MULTFORM)	20	97	90	0.10	2.0
SLOPES STEEPER THAN 3:1					
CLASS 2 – ROADSIDE MIXTURE					5.0 TOTAL
KENTUCKY BLUEGRASS (POA PRATENSIS)	30	97	85	0.15	1.5
KENTUCKY 31 FESCUE (FESTUCA ARUNDINACEA VAR. KY31)	40	97	85	0.15	2.0
PERENNIAL RYEGRASS (LOLIUM PERENNE)	30	95	90	0.10	1.5

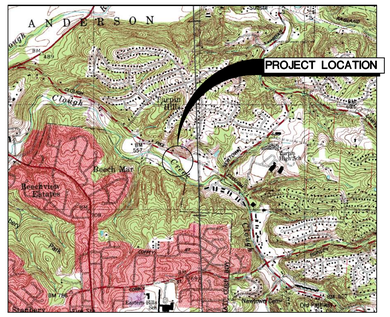
SOIL SUPPLEMENTS (GRANULAR OR LIQUID LIME) SHALL BE APPLIED AT A RATE OF 92 POUNDS PER 1000 SQUARE FEET OVER ALL SEEDED AREAS.

* ALL AREAS TO BE SEEDED SHALL BE LOOSENED TO A DEPTH OF AT LEAST THREE INCHES BY MECHANICAL MEANS.
* MULCH AND LIME SEEDED AREAS IMMEDIATELY AFTER SEEDING.

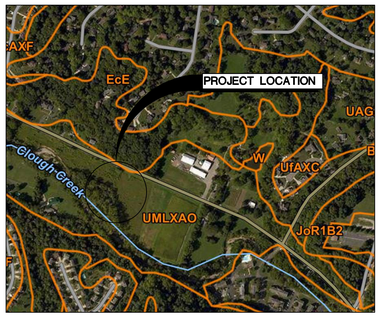
FERTILIZER – USE DRY OR LIQUID FORMULATIONS OF 10-20-10 ANALYSIS FOR SEEDED AND SODDED AREAS AND SHALL BE APPLIED AT A RATE OF 20 POUNDS PER 1000 SQUARE FEET. FERTILIZER TO CONFORM TO REQUIREMENTS OF OHDOT SPECIFICATIONS, MOST RECENT VERSION.

CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE

THE NPDES PERMIT FOR THIS PROJECT, OF WHICH THIS EROSION AND SEDIMENTATION POLLUTION CONTROL PLAN IS A PART, COVERS THE "MOVING, DEPOSITING, STOCKPILING, OR STORING OF SOIL ROCK OR EARTH MATERIALS". IF THIS PROJECT WILL NEED FILL IMPORTED FROM AN OFF SITE LOCATION, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND THE DETERMINATION OF CLEAN FILL WILL RESIDE WITH THE CONTRACTOR. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF OHIO UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE.) FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE OHIO EPA REGULATIONS. AS ALL CUT AND FILL MATERIALS FOR THIS PROJECT WILL BE USED ON SITE, A CLEAN FILL DETERMINATION IS NOT REQUIRED BY THE CONTRACTOR UNLESS THERE IS A BELIEF THAT A SPILL OR RELEASE OF A REGULATED SUBSTANCE HAS OCCURRED.



USGS QUADRANGLE MAP
SCALE: 1" = 2000'



SOILS MAP
SCALE: 1" = 500'

PRELIMINARY PLANS NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON
ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

FINAL DEVELOPMENT PLAN

No.:	Date:	Description:

Sheet Title:
EROSION AND SEDIMENTATION CONTROL NOTES

Project No.:	2018-0034.02
Cadd Drawing File:	ES3.00.dwg
Drawn By:	JJS
Checked By:	JRBe
Date:	08/30/2019
Copyright:	© 2019 H.F. LENZ COMPANY

Drawing Number
ES3.00
Sheet 10 of 13

A SEQUENCE OF BMP INSTALLATION AND REMOVAL IN RELATION TO THE SCHEDULING OF EARTH DISTURBANCE ACTIVITIES PRIOR TO, DURING, AND AFTER EARTH DISTURBANCE ACTIVITIES

ANTICIPATED CONSTRUCTION BEGIN DATE: SPRING 2020

1. CONTRACTOR AND/OR DEVELOPER SHALL NOTIFY THE OHIO EPA 7 TO 10 DAYS PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR SHALL UTILIZE EXISTING ROCK CONSTRUCTION ENTRANCE, CONCRETE WASHOUT, AND COMPOST FILTER SOCKS FROM ADJOINING PROPERTY. SMITH/PACKETT AND THE BOARD OF TRUSTEES OF ANDERSON TOWNSHIP HAVE AN AGREEMENT IN PLACE.
3. INSTALL COMPOST FILTER SOCKS DOWNSLOPE OF THE PROPOSED WORK AREA. REFER TO THE PLANS FOR THE LOCATION OF THE COMPOST FILTER SOCKS. NO EARTHMOVING OPERATIONS SHALL BEGIN UNTIL ALL COMPOST FILTER SOCKS HAVE BEEN PROPERLY INSTALLED. NO COMPOST FILTER SOCKS SHALL BE REMOVED UNTIL THE CONTRIBUTORY AREA DRAINING TO A SECTION OF COMPOST FILTER SOCK IS STABILIZED. THE AREA SHALL BE CONSIDERED STABILIZED AS OUTLINED BELOW.
4. CESSATION OF CONSTRUCTION ACTIVITY FOR FOUR (4) OR MORE DAYS REQUIRES TEMPORARY STABILIZATION.
5. CLEAR AND GRUB PROJECT AREA. STRIP ALL THE TOPSOIL AND PLACE IN DESIGNATED TOPSOIL STOCKPILE AREA. COMPOST FILTER SOCK SHALL BE PLACED ON THE DOWNSLOPE SIDE OF THE TOPSOIL STOCKPILE AS SHOWN ON THE PLAN. TEMPORARY SEEDING SHALL BE PLACED ON THE TOPSOIL STOCKPILE (REFER TO TEMPORARY SEEDING SPECIFICATIONS). MINIMIZE MOVING AND REPLACING COMPOST FILTER SOCK TO LIMIT DAMAGE TO THE SOCK.
6. BEGIN FLOOD BY-PASS POND GRADING TO BRING THE SITE TO REQUIRED ELEVATIONS. AFTER FINISHED GRADE IS ACHIEVED, THE AREA SHALL RECEIVE SEEDING IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATIONS. CONTRACTOR SHALL NOT GRADE RENO MATTRESS CHANNEL #1 UNTIL THE FLOOD BY-PASS POND IS PERMANENTLY STABILIZED.
7. CONSTRUCT GRAVEL ACCESS ROAD.
8. STARTING AT THE DOWNSTREAM END, INSTALL ROCK-LINED CHANNEL #1, CONCRETE WEIR, LOW FLOW CHANNEL, AND CHECK DAMS.
9. SPREAD TOPSOIL OVER ALL DISTURBED AREAS NOT TO BE PAVED. SEED IN ACCORDANCE WITH PERMANENT SEEDING SPECIFICATIONS.
10. STARTING AT THE DOWNSTREAM END, CONSTRUCT RENO MATTRESS CHANNEL #1.
11. REMOVE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ONCE PERMANENT MEASURES ARE ESTABLISHED. PERMANENT CONTROL IS CONSIDERED ACHIEVED WHEN ROADWAYS ARE PAVED AND A 70% UNIFORM PERENNIAL VEGETATIVE COVER IS ESTABLISHED ON ALL SEEDED AREAS. ALL TEMPORARY EROSION AND SEDIMENTATION PLAN CONTROLS ARE TO BE ASSESSED/INSPECTED BY A LICENSED PROFESSIONAL TO VERIFY THAT SUFFICIENT VEGETAL COVER HAS BEEN ATTAINED PRIOR TO THE REMOVAL OR CONVERSION OF EROSION AND SEDIMENTATION PLAN CONTROLS. ANY AREAS DISTURBED DURING THE REMOVAL OF THE TEMPORARY CONTROLS SHALL BE REPAIRED WITHIN 8 HOURS.
12. FINAL CLEANUP OF PROJECT SITE – THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL OFF SITE IN A LAWFUL MANNER.

ANTICIPATED CONSTRUCTION COMPLETION DATE: SUMMER 2021

THE TYPES, DEPTH, SLOPE, LOCATIONS, AND LIMITATIONS OF THE SOILS

SOIL TYPES

THE SOILS ON THE SITE AS DETERMINED BY THE USDA-SCS SOIL SURVEY OF HAMILTON COUNTY, OHIO, CONSIST OF THE FOLLOWING TYPES.

SOIL TYPE SOIL DESCRIPTION

ECE EDEN SILTY CLAY LOAM, 25 TO 40 PERCENT SLOPES. THE SOIL IS ON HILLS. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS VERY LOW. DEPTH TO A ROOT RESTRICTIVE LAYER, BEDROCK, PARALITHIC, IS 20 TO 40 INCHES. THIS SOIL HAS A MODERATE HAZARD OF EROSION AND SURFACE RUNOFF IS VERY HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES (OR RESTRICTED DEPTH) IS LOW. SHRINK SWELL POTENTIAL IS MODERATE. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO ZONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. THIS SOIL BELONGS TO HYDROLOGIC GROUP D. THIS SOIL DOES NOT MEET HYDRIC CRITERIA.

LIMITATIONS INCLUDE THE POTENTIAL OF CAVE-IN OF CUTBANKS, CORROSIVE TO STEEL, FLOODING, SLOW PERCOLATION RATES, SOIL PIPING, FROST ACTION POTENTIAL, POOR SOURCE OF TOPSOIL, AND SOIL WETNESS.

CONSTRUCTION TECHNIQUES INCLUDE THE USE OF LADDERS IN EXCAVATION, TRENCH BOXES, AND EXCAVATIONS WITH SLOPES NOT CONDUCIVE TO CAVE-INS. PROTECTION SHALL BE USED AROUND STEEL TO PREVENT CORROSION. CARE SHOULD BE TAKEN TO STABILIZE SOILS AND PROVIDE SUFFICIENT EROSION AND SEDIMENTATION MEASURES. SLOW PERCOLATION RATES MAY CAUSE WET SATURATED SOILS AND SOIL PIPING, USE CAUTION WHILE MOVING EQUIPMENT AROUND IN SATURATED SOILS. SOIL SHALL BE PROTECTED FROM THE ELEMENTS TO PREVENT FROST ACTION POTENTIAL. TOPSOIL SHOULD BE IMPORTED INTO THE SITE. CARE SHOULD BE TAKEN TO ENSURE SOIL IS AT PROPER MOISTURE CONTENT FOR COMPACTION.

UMLXAO URBAN LAND – MOLLIC UDARENTS – LANIER COMPLEX, 0 TO 2 PERCENT SLOPES. THE SOIL IS ON FLOODPLAINS ON RIVER VALLEYS. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS LOW. DEPTH TO A ROOT RESTRICTIVE LAYER IS GREATER THAN 60 INCHES. THIS SOIL HAS A SLIGHT HAZARD OF EROSION AND SURFACE RUNOFF IS MEDIUM. AVAILABLE WATER TO A DEPTH OF 60 INCHES (OR RESTRICTED DEPTH) IS VERY LOW. SHRINK SWELL POTENTIAL IS LOW. THIS SOIL IS OCCASIONALLY FLOODED. IT IS NOT PONDED. THERE IS NO ZONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. THIS SOIL BELONGS TO HYDROLOGIC GROUP D. THIS SOIL DOES NOT MEET HYDRIC CRITERIA.

LIMITATIONS INCLUDE THE POTENTIAL OF CAVE-IN OF CUTBANKS, CORROSIVE TO STEEL, FLOODING, SLOW PERCOLATION RATES, SOIL PIPING, FROST ACTION POTENTIAL, POOR SOURCE OF TOPSOIL, AND SOIL WETNESS.

CONSTRUCTION TECHNIQUES INCLUDE THE USE OF LADDERS IN EXCAVATION, TRENCH BOXES, AND EXCAVATIONS WITH SLOPES NOT CONDUCIVE TO CAVE-INS. PROTECTION SHALL BE USED AROUND STEEL TO PREVENT CORROSION. CARE SHOULD BE TAKEN TO STABILIZE SOILS AND PROVIDE SUFFICIENT EROSION AND SEDIMENTATION MEASURES. SLOW PERCOLATION RATES MAY CAUSE WET SATURATED SOILS AND SOIL PIPING, USE CAUTION WHILE MOVING EQUIPMENT AROUND IN SATURATED SOILS. SOIL SHALL BE PROTECTED FROM THE ELEMENTS TO PREVENT FROST ACTION POTENTIAL. TOPSOIL SHOULD BE IMPORTED INTO THE SITE. CARE SHOULD BE TAKEN TO ENSURE SOIL IS AT PROPER MOISTURE CONTENT FOR COMPACTION.

SOIL TYPES SUMMARY

LABEL	DESCRIPTION	SLOPE
ECE	EDEN SILTY CLAY LOAM	25 TO 40 PERCENT
UMLXAO	URBAN LAND – MOLLIC UDARENTS – LANIER COMPLEX	0 TO 2 PERCENT

PROCEDURES FOR TRENCHING OF UNDERGROUND UTILITIES

- CONTRACTOR SHALL MINIMIZE THE AMOUNT OF EARTH DISTURBANCE REQUIRED FOR TRENCHING ACTIVITIES.
- CONTRACTOR SHALL ONLY EXCAVATE THE AMOUNT OF TRENCHES THAT CAN BE BACKFILLED AND STABILIZED IN A DAY.
- TRENCHES SHALL NOT BE EXPOSED OVERNIGHT.
- PLACE SPOIL MATERIAL ON THE HIGH SIDE OF THE TRENCH.
- ANY EXCESS SPOIL MATERIAL NOT USED FOR BACKFILL SHALL BE REMOVED FROM THE SITE AND DISPOSED IN A LEGAL MANNER OR PLACED IN A STOCKPILE AREA WITH FILTER FABRIC FENCE AND TEMPORARY SEED AND MULCH.
- AFTER BACKFILLING IMMEDIATELY STABILIZE TRENCH WITH SEED AND MULCH.
- REFER TO STREAM,/WETLAND UTILITY CROSSING DETAIL FOR EXCAVATING THROUGH WETLANDS OR UNDER STREAMS.

1. ALL UTILITY LINES UNDER STREAMBEDS OR WETLANDS SHALL BE LOCATED SUCH THAT THERE WILL BE A MINIMUM OF THREE (3) FEET OF COVER BETWEEN THE TOP OF THE UTILITY LINE OR ENCASEMENT AND THE LOWEST POINT IN THE NATURAL CONTOUR OF THE STREAMBED, UNLESS THE UTILITY LINE IS IN ROCK, WHERE A MINIMUM COVER OF ONE (1) FOOT SHALL BE PROVIDED.
2. TRENCHES EXCAVATED FOR THE INSTALLATION OF UTILITY LINES SHALL BE THE MINIMUM WIDTH NECESSARY. AS SOON AS THE UTILITY LINE IS INSTALLED AND TESTED TO ASCERTAIN NO LEAKAGE, APPROPRIATE NEW OR PREVIOUSLY EXCAVATED BACKFILL MATERIAL SHALL BE PLACED IN THE TRENCH AND THE AREA RESTORED TO ITS ORIGINAL CONDITION AND ELEVATION AND STABILIZATED. BACKFILL MATERIAL STORED IN CONNECTION WITH THE INSTALLATION MUST BE PROPERLY RETAINED OUT OF THE FLOODWAY SO AS TO PREVENT ITS DISCHARGE, WASHINGS OR RUNOFF FROM ENTERING THE WATERWAY PRIOR TO ITS PLACEMENT AS BACKFILL.
3. ADEQUATE MEASURES SHALL BE USED TO PREVENT SEDIMENTATION FROM THE TRENCH FROM ENTERING THE STREAM.
4. THE BACKFILLING OF THE TRENCH IN WHICH THE PIPE WILL BE LAID SHALL BE DONE SO AS TO ELIMINATE THE FORMATION OF A PERMANENT RIDGE IN THE STREAMBED.
5. MATS, PADS, OR OTHER SIMILAR DEVICES SHALL BE USED WHERE CROSSINGS OF WETLAND AREAS BY CONSTRUCTION EQUIPMENT CANNOT BE AVOIDED. ORIGINAL GRADES THROUGH WETLANDS MUST BE RESTORED AFTER TRENCHING AND BACKFILLING. ANY EXCESS FILL MATERIAL MUST BE REMOVED FROM THE WETLAND AND NOT SPREAD ON-SITE. MOUNDING OF FILL MATERIAL TO ALLOW FOR SETTLEMENT IN THE TRENCH WILL BE PERMITTED IN ACCORDANCE WITH BEST CONSTRUCTION METHODS.
6. DEPOSITION OF DREDGED OR EXCAVATED MATERIALS AND ALL EARTHWORK OPERATIONS WILL BE CARRIED OUT IN SUCH A WAY AS TO MINIMIZE EROSION OF THE MATERIAL AND PRECLUDE ITS ENTERING INTO ANY WETLAND ADJACENT TO THE UTILITY LINE CROSSING.
7. UTILITY LINE CROSSINGS OF STREAMS SHOULD BE ACCOMPLISHED SO THAT THE LINE IS AT A RIGHT ANGLE TO THE STREAM WHERE POSSIBLE, UNLESS THE CROSSING IS INSTALLED ON AN EXISTING BRIDGE.
8. WHENEVER POSSIBLE, IN ACCORDANCE WITH BEST CONSTRUCTION METHODS UTILITY LINE CROSSINGS ARE TO BE MADE "IN THE DRY" BY INSTALLING SANDBAG AND PLASTIC DAMS AND PIPING STREAM FLOW THROUGH THE AFFECTED AREA. REFER TO DETAIL.
9. TRENCH PLUGS SHALL BE PLACED ON EACH SIDE OF STREAM AT A MAXIMUM DISTANCE OF 4'. IN WETLAND AREAS PLUGS SHALL BE PLACED ON OUTSIDE OF WETLAND AT A MAXIMUM DISTANCE OF 1'.

MAINTENANCE SCHEDULE

CONTROL MEASURE	PROBLEMS TO LOOK FOR	POSSIBLE CORRECTIONS
VEGETATIVE COVER	RILLS OR GULLIES FORMING	REGRADE AND RESEED, ADD ADDITIONAL CONTROLS
	BARE SOIL PATCHES	RESEED
	SEDIMENT AT TOE OF SLOPE	REGRADE, ADD SILT FENCE, SLOPE DRAINS OR FILTER DIKE IF NEXT TO A BODY OF WATER
ROCK CONSTRUCTION ENTRANCE	SINK HOLES OR RUTS	ADD ROCK TO BRING TO SPECIFIED DIMENSIONS
	SEDIMENT ON PUBLIC HIGHWAY	SWEEP MATERIAL BACK TO PROJECT SITE. DO NOT WASH ROADWAY WITH WATER
COMPOST FILTER SOCK	UNDERCUTTING OF THE FILTER SOCK	ADD ADDITIONAL PIECE OF COMPOST FILTER SOCK BELOW UNDERCUT AREA
	FILTER SOCK COLLAPSING	REPLACE WITH CONTINUOUS PIECE OF COMPOST FILTER SOCK FROM POST TO POST, SECURELY ANCHOR WITH PROPER STAKES
	TORN FABRIC	REPLACE WITH ROCK FILTER OUTLETS
	RUNOFF ESCAPING AROUND BARRIER	EXTEND COMPOST FILTER SOCK
	SEDIMENT LEVEL NEAR TOP OF FILTER SOCK	REMOVE SEDIMENT WHEN LEVEL REACHES HALF OF COMPOST FILTER SOCK HEIGHT
PUMPED WATER FILTER BAG	TORN BAG	REPLACE WITH A NEW PUMPED WATER FILTER BAG
	RILLS AND GULLIES FORMING DOWNSLOPE OF FILTER BAG	MOVE PUMPED WATER FILTER BAG TO STABILIZED AREA
TURF REINFORCEMENT MATTING	TORN OR COMPROMISED MATTING	REPLACE WITH A NEW PIECE OF TURF REINFORCEMENT MATTING AND RESEED AND MULCH IF NEEDED
	RILLS AND GULLIES FORMING UNDER MATTING	FILL RILLS AND REGRADE GULLIED SLOPES. REPLACE TURF REINFORCEMENT MATTING AFTER CORRECTION
CONCRETE WASHOUT	DAMAGED OR LEAKING WASHOUT	CONCRETE WASHOUT SHALL BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY
	CONCRETE WASHOUT FULL OF MATERIAL	MATERIALS INSIDE CONCRETE WASHOUT SHALL BE REMOVED WHEN 75% OF CAPACITY IS REACHED
	PLASTIC LINER TORN	PLASTIC LINERS SHALL BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY
DITCHES	LOOSE SOIL	REGRADE, RECOMPACT
	EROSION OF DITCH	REGRADE, ADD ADDITIONAL CONTROLS SUCH AS DITCH CHECKS/SEDIMENT TRAPS
	NO OUTLET CONTROLS	ADD BASINS OR TRAPS
	GULLY ON SLOPE BELOW DITCH	REGRADE, ADD SLOPE DRAINS, ADD ROCK
	PONDING IN THE DITCH	REGRADE, MAKE INTO TEMPORARY NATURAL BASIN
	SEDIMENT OR DEBRIS IN DITCH	CLEAN OUT, REGRADE AND ADD DITCH CHECKS AND/OR SEDIMENT BASINS
	EROSION OF UNLINED DITCH SURFACE	LINE WITH ROCK, PLACE DITCH CHECKS TO SLOW THE WATER
	EROSION OF DITCH BLANKETS	STRAIGHTEN, REGRADE AND RELINE, REPIN MORE SECURELY, ADD DITCH CHECKS TO SLOW WATER DOWN
EMBANKMENT OR CUT SLOPE	BARE AREAS	REGRADE OR RESEED
	EROSION OF SLOPES: 1) SHEET OR RILL 2) GULLY 2"-6" OR >6"	SEED OR REGRADE REGRADE AND ADD SLOPE DRAINS, ROCK OR TACK FILTER FABRIC ON THE GUARD RAIL
OUTLET PROTECTION	EROSION BELOW OUTLET	ADD ROCK, ADD DITCH CHECKS TO SLOW THE WATER
	SEDIMENT LEAVING PROJECT	ADD SEDIMENT BASINS, DITCH CHECKS, SILT FENCE, ETC.
	DISLODGED ROCK	ADD OR REARRANGE ROCK
DIKES	GULLY ON SLOPE BELOW DIKE BREACH; WHEEL TRACK OR LOW SPOT IN DIKE	REGRADE, ADD ROCK
	LOOSE SOIL	REGRADE AND COMPACT
	EROSION OF DIKE FACE	REGRADE AND RECOMPACT
ROCK LINED DITCH	SCOUR BENEATH ROCK	ADD ROCK OR FABRIC, ADD DITCH CHECKS TO SLOW WATER ABOVE THE ROCK
	DISLODGED ROCK	ADD ROCK OR FABRIC, REGRADE

LEGEND

EXISTING		PROPOSED	
W	WATERLINE	W	WATERLINE
G	GAS LINE	G	GAS LINE
SS	SANITARY SEWER	SS	SANITARY SEWER
ST	STORM SEWER	ST	STORM SEWER
STE	STEAM LINE	STE	STEAM LINE
EU	UNDERGROUND ELEC TELE CABLE	EU	UNDERGROUND ELEC TELE CABLE
TU	UNDERGROUND TELEPHONE	TU	UNDERGROUND TELEPHONE
CTVU	UNDERGROUND CABLE	CTVU	UNDERGROUND CABLE
E	OVERHEAD ELECTRIC	FO/COM	FIBER OPTICS/COMMUNICATIONS
T	OVERHEAD TELEPHONE	E	OVERHEAD ELECTRIC
CTV	OVERHEAD CABLE	T	OVERHEAD TELEPHONE
OHW	OVERHEAD WIRES	CTV	OVERHEAD CABLE
C	CONDUIT	C	CONDUIT
FO/COM	FIBER OPTICS / COMMUNICATIONS	FH	FIRE HYDRANT
FH	FIRE HYDRANT	PP	POWER POLE
PP	POWER POLE	SL	STREET LIGHT
	SIGN (EXISTING)		SIGN
		X	FENCE
		00	NUMBER OF PARKING SPACES

EROSION & SEDIMENTATION CONTROL

- CFS — COMPOST FILTER SOCK
- LIMIT OF DISTURBANCE/NPDES PERMIT BOUNDARY
- UeD — SOIL DESIGNATION
- SOIL BOUNDARY
- ROCK CONSTRUCTION ENTRANCE
- IP — INLET PROTECTION

SYMBOL AND ABBREVIATION SCHEDULE

AC	ACRE
AC	AIR CONDITIONER
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAYS AND TRANSPORTATION OFFICIALS
ACI	AMERICAN CONCRETE TRANSPORTATION OFFICIALS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
@	AT
℄	BASELINE
BC	BOTTOM OF CURB
BW	BOTTOM OF WALL
BY/4"	BROKEN YELLOW PAVEMENT LINE/WIDTH
BLDG	BUILDING
℄	CENTERLINE
CC C/C	CENTER TO CENTER
CLR	CLEAR
CONC	CONCRETE
CONSTR	CONSTRUCTION
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
DIA	DIAMETER
DI	DUCTILE IRON
EOB	EDGE OF BERM
EOP	EDGE OF PAVEMENT
ELEC	ELECTRIC
EMH	ELECTRIC MANHOLE
EM	ELECTRIC METER
EL/ELEV	ELEVATION
EQ	EQUAL
EXP	EXPANSION
EX	EXISTING
FFE	FINISH FLOOR ELEVATION
FH	FIRE HYDRANT
GM	GAS METER
GV	GAS VALVE
HP	HIGH POINT
HORIZ	HORIZONTAL
INC	INCORPORATED
INV	INVERT
LP	LIGHT POLE
MH	MANHOLE
MAX	MAXIMUM
MIN	MINIMUM
MPH	MILES PER HOUR
N	NORTH
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
No/#	NUMBER
PM	PARKING METER
OC	ON CENTER
ODOT	OHIO DEPARTMENT OF TRANSPORTATION
PERF	PERFORATED
PE	POLYETHYLENE
PUB	PUBLICATION
PSI	POUNDS PER SQUARE INCH
PP	POWER POLE
PVC	POLYVINYL CHLORIDE
℄	PROPERTY LINE
R	RADIUS
REINF	REINFORCEMENT
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT-OF-WAY
SCH	SCHEDULE
SEC	SECTION
SEG	SEGMENT
SLCPP	SMOOTH LINED CORRUGATED PLASTIC PIPE
STA	STATION
SR	STATE ROUTE
ST	STREET
SRL	SKID RESISTANCE LEVEL
S	SOUTH
SF	SQUARE FEET
SY	SQUARE YARD
TC	TOP OF CURB
TW	TOP OF WALL
XF	TRANSFORMER
TYP	TYPICAL
WM	WATER METER
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
W/4"	WHITE PAVEMENT LINE/WIDTH

PRELIMINARY PLANS NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON

ANDERSON TWP., HAMILTON COUNTY CINCINNATI, OHIO

FINAL DEVELOPMENT PLAN

No.:	Date:	Description:

Sheet Title:

EROSION AND SEDIMENTATION CONTROL NOTES

Project No.: 2018-0034.02

Cadd Drawing File: ES3.00.dwg

Drawn By: JJS

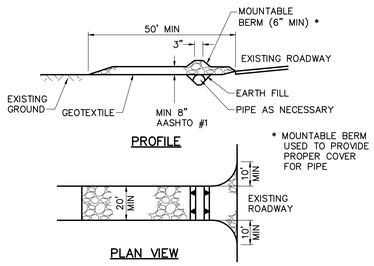
Checked By: JRBe

Date: 08/30/2019

Drawing Number

ES3.01

Sheet 11 of 13



PROFILE

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

PLAN VIEW

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

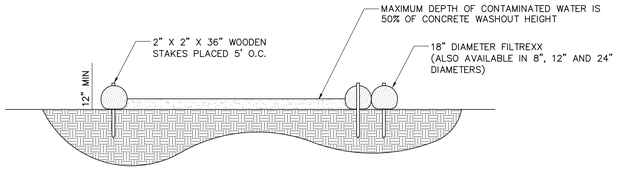
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHERE 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 ROADWAY SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

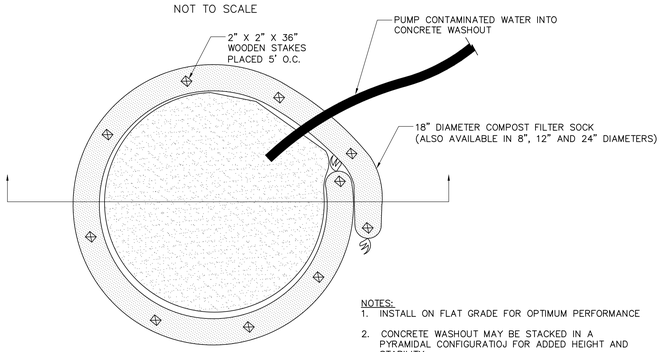
ROCK CONSTRUCTION ENTRANCE/EXIT (BY OTHERS)

NOT TO SCALE



SECTION

NOT TO SCALE



PLAN

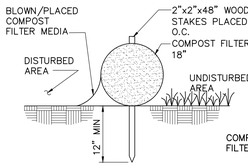
NOT TO SCALE

NOTES:

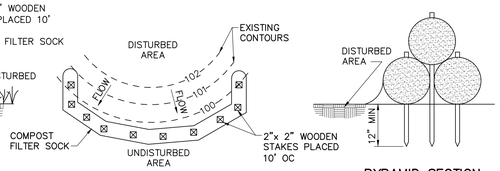
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. CONCRETE WASHOUT MAY BE STACKED IN A PYRAMIDAL CONFIGURATIOJ FOR ADDED HEIGHT AND STABILITY
3. CONCRETE WASHOUT MAY BE DIRECT SEEDED AT THE TIME OF INSTALLATION

COMPOST FILTER SOCK CONCRETE WASHOUT (BY OTHERS)

NOT TO SCALE



SECTION



PLAN

PYRAMID SECTION

NOTES:

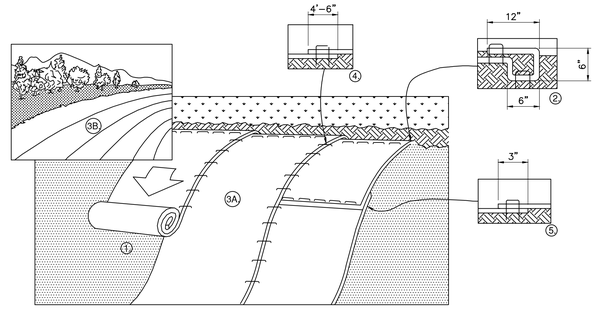
- SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2.
- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF FILTER SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
- TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN
- 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 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 AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.
- STAKES SPACED AT 10' MAXIMUM. USE 2"x 2" WOOD OR EQUIVALENT STEEL STAKES.

COMPOST FILTER SOCK

NOT TO SCALE

TABLE 4.1					
COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS					
MATERIAL TYPE	3 mil HOPE	5 mil HOPE	5 mil HOPE	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	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 psi	26 psi	44 psi	202 psi
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G–155)	23% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS
TWO–PLY SYSTEMS					
INNER CONTAINMENT NETTING	HOPE BIAXIAL NET				
	CONTINUOUSLY WOUND				
	FUSION–WELDED JUNCTURES				
	3/4" X 3/4" MAX. APERTURE SIZE				
OUTER FILTRATION MESH	COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON–WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)				
	3/16" MAX. APERTURE SIZE				
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS L ASTING 6 MONTHS OR LESS.					

TABLE 4.2	
COMPOST STANDARDS	
ORGANIC MATTER CONTENT	25% – 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 – 8.5
MOISTURE CONTENT	30% – 60%
PARTICLE SIZE	30%–50% PASS THROUGH 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM



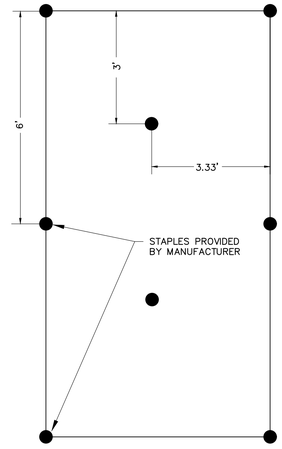
1. PREPARE SOIL BEFORE INSTALLING MATTING, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE MATTING IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF MATTING EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE MATTING WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF MATTING BACK OVER SEED AND COMPACTED SOIL. SECURE MATTING OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE MATTING.
3. ROLL THE MATTING (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. MATTING WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL MATTING MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURERS RECOMMENDATION.
4. THE EDGES OF PARALLEL MATTING MUST BE STAPLED WITH MINIMUM 6" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING MATTING (MATTING BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE PREVIOUSLY INSTALLED MATTING.
5. CONSECUTIVE MATTING SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE MATTING WIDTH.
6. PLACE STAPLES/STAKES PER MANUFACTURERS RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.

NOTES:

1. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE MATTING.
2. FOLLOW EROSION CONTROL TECHNOLOGY COUNCIL SPECIFICATION FOR PRODUCT SELECTION.
3. SEED FILL SLOPES IN 15 FOOT INCREMENTS AS EMBANKMENT HEIGHT INCREASES. PROVIDE TURF REINFORCEMENT MATTING ON ALL SLOPES GREATER THAN 3:1.
4. THE TURF REINFORCEMENT MATTING SHALL BE S75 AS MANUFACTURES BY NORTH AMERICAN GREEN OR APPROVED EQUAL.

TURF REINFORCEMENT MATTING DETAIL (SLOPE INSTALLATION)

NOT TO SCALE

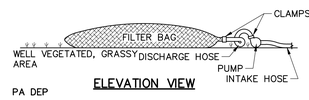


0.7 STAPLES PER SQ. YD.

TURF REINFORCEMENT MATTING STAPLE PATTERN

NOT TO SCALE

PLAN VIEW



ELEVATION VIEW

PA DEP

LOW VOLUME FILTER BAGS SHALL BE MADE FORM NON–WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D–4884	60 LB/IN
GRAB TENSILE	ASTM D–4632	205 LB
PUNCTURE	ASTM D–4833	110 LB
MULLEN BURST	ASTM D–3786	350 PSI
UV RESISTANCE	ASTM D–4355	70%
AOS % RETAINED	ASTM D–4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME ¼ FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL–VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON–ERODIBLE AND NON–POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

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

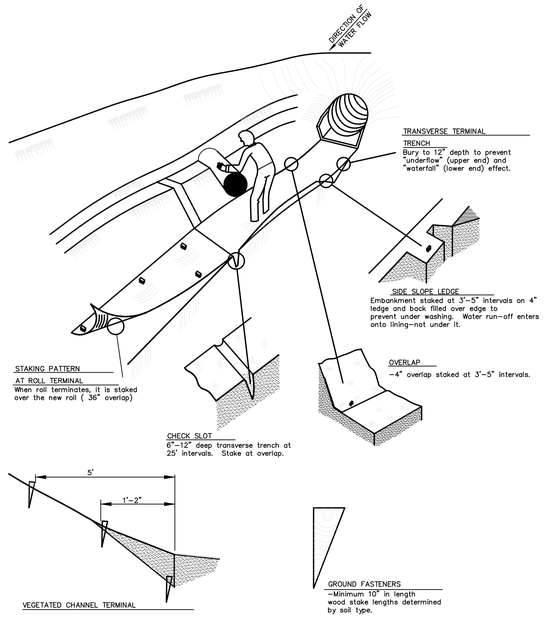
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR ½ THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

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

FILTER BAG DETAIL FOR PUMPED WATER

NOT TO SCALE



NOTE:
REFER TO VEGETATED CHANNEL DETAIL FOR CHANNEL LINING.

TURF REINFORCEMENT MATTING - CHANNEL INSTALLATION DETAIL

NOT TO SCALE

PRELIMINARY PLANS NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON

ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

FINAL DEVELOPMENT PLAN

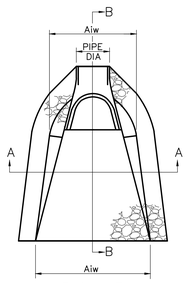
No.:	Date:	Description:

Sheet Title:
EROSION AND SEDIMENTATION CONTROL DETAILS

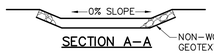
Project No.:	2018-0034.02
Cadd Drawing File:	ES3.00.dwg
Drawn By:	JJS
Checked By:	JRBe
Date:	08/30/2019
Copyright:	© 2019 H.F. LENZ COMPANY

Drawing Number

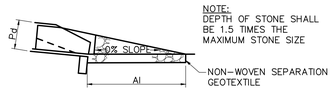
ES3.02



PLAN VIEW



SECTION A–A



NOTE:
DEPTH OF STONE SHALL BE 1.5 TIMES THE MAXIMUM STONE SIZE

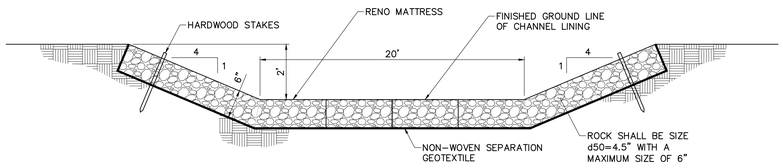
SECTION B–B

NOTE:
SEE PLAN FOR DIMENSIONS

ROCK APRON DETAIL

NOT TO SCALE

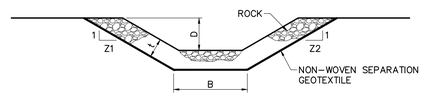
OUTLET No.	PIPE DIA Pd (IN)	ROCK		APRON	
		ROCK TYPE	THICK Rt (IN)	LENGTH Al (FT)	WIDTH Aiw (FT)
1	15	C	18	7	5



NOTES:
1. INSTALL RENO MATTRESS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. HARDWOOD STAKES SHALL BE DRIVEN THROUGH THE MATTRESS, ALONG THE TOP EDGE, TO ANCHOR THE INSTALLATION. EMBED STAKES 18" MINIMUM BELOW RENO MATTRESS BOTTOM.
3. INSTALL GEOTEXTILE MATERIAL ALONG ALL INTERFACE AREAS WITH GROUND CONTACT.

RENO MATTRESS CHANNEL #1

NOT TO SCALE



CHANNEL CROSS–SECTION

CHANNEL No.	STATIONS	BOTTOM WIDTH B (FT)	DEPTH D (FT)	Z1 (FT)	Z2 (FT)	ROCK	
						ROCK TYPE	THICK t (IN)
1	21+49.12	20	4	4	4	B	36

ROCK-LINED CHANNEL

NOT TO SCALE

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

H.F. LENZ COMPANY
Engineering
1407 Scalp Avenue
Johnstown, PA 15904
Phone: 814-269-9300
FAX: 814-269-9301
www.hflenz.com

Consultants:

Seal:

Seal:

Project Identification:

SMITH PACKETT HARMONY SENIOR LIVING AT ANDERSON
ANDERSON TWP., HAMILTON COUNTY
CINCINNATI, OHIO

FINAL DEVELOPMENT PLAN

No.:	Date:	Description:

Sheet Title:
EROSION AND SEDIMENTATION CONTROL DETAILS

Project No.: 2018-0034.02

Cadd Drawing File: ES3.00.dwg

Drawn By: JJS

Checked By: JRBe

Date: 08/30/2019

Drawing Number
ES3.03
Sheet 13 of 13