

RAVINE RESTORATION & STORM SEWER IMPROVEMENTS



PROJECT LOCATION

PORTER COUNTY
VICINITY MAP
SCALE: NONE



PORTER
COUNTY

STATE LOCATION MAP
SCALE: NONE



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NORTHWEST INDIANA
379 E 84th Drive
Merrillville, Indiana 46410
Phone: (219) 238-6732
www.wesslerengineering.com

PROJECT NO. 277824-04-001

FOR THE PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT. SHOREWOOD FOREST SUBDIVISION

DRAWINGS PREPARED FOR:

PORTER COUNTY STORM WATER MANAGEMENT BOARD

JIM BIGGS, COUNTY COMMISSIONER
BARB REGNITZ, COUNTY COMMISSIONER
LAURA BLANEY, COUNTY COMMISSIONER
KEVIN BREITZKE, COUNTY SURVEYOR
SCOTT MCCLURE, ATTORNEY

PORTER COUNTY DEPARTMENT OF DEVELOPMENT AND STORM WATER
MANAGEMENT

W. MICHAEL JABO, DIRECTOR
CHELSEY GORDON, P.E. STORM WATER PROGRAM MANAGER

NOVEMBER 2024



MICHAEL E. NOVOTNEY, P.E.
REGISTERED ENGINEER STATE OF INDIANA NO. PE11600602



HORIZONTAL AND VERTICAL CONTROL INFORMATION

NOTES:

1. A FIELD SURVEY WAS PERFORMED IN (JUNE 2024).
2. GRID COORDINATES (INDIANA STATE PLANE, WEST ZONE, NAD 83) INCORP BASE POINT RTCM0042, GEOD18.
3. ELEVATIONS (NAVD 88) ARE GPS TRANSFERRED FROM INDOT "BM" L0689 TO TBM NO. 3.
4. UNITS ARE U.S. SURVEY FEET.
5. CONTROL POINTS WERE SET USING GPS.
6. A LEVEL LOOP WAS PERFORMED ON THE CONTROL POINTS AND TBMS.

BENCHMARK DESCRIPTION:

1. TBM NO. 3 - CUT X SOUTHWEST BONNET BOLT ON THE FIRE HYDRANT IN THE NORTHWEST CORNER OF PICKWICK PLACE AND SHOREWOOD DRIVE. EL 750.38
2. INDOT "BM" - L0689 - BRONZE DISK SET IN THE MIDDLE OF NW WINGWALL AT THE SW END OF BRIDGE STRUCTURE 2-64-6833 OVER SIEVERS DITCH (HALL CREEK). SECTION 4, T 34N, R 6W, PORTER TOWNSHIP, PORTER COUNTY, INDIANA. EL 730.88

CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP 1	2264586.55	2935042.78	755.36	5/8" REBAR
CP 2	2264857.10	2935303.60	751.94	5/8" REBAR

DRAWING INDEX	
SHEET NO.	DESCRIPTION
GENERAL	
01	TITLE SHEET
02	DRAWING INDEX, AND LOCATION AND SCOPE OF WORK PLAN
03	GENERAL SHEET
PLAN AND PROFILE, DETAILS AND TABLES	
04	EXISTING CONDITIONS - DEMOLITION
05	RAVINE - STEP POOL STORMWATER CONVEYANCE SYSTEM PLAN
06 - 07	RAVINE - STEP POOL STORMWATER CONVEYANCE SYSTEM DETAILS
08	RAVINE - SITE RESTORATION PLAN
09	LINE A - PLAN AND PROFILE
10	LINES B AND C - PLAN AND PROFILE
11	ROAD REPAIR PLAN
12	STRUCTURE DATA TABLE
13 - 14	MISCELLANEOUS DETAILS
15 - 16	EROSION CONTROL DETAILS

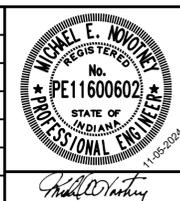
2023 IMAGERY FROM INDIANA STATE MAP.

LOCATION AND SCOPE OF WORK PLAN



Drawing: X:\Porter County\277824-Porter Co. Restore and Storm Sewer\DWG\Sheets\277824-04-001.dwg | Layout: 102 | Plotter: 110524.ctb | Date: 11/05/24 | 07:54:32 | LastSavedBy: jasonw

SCALE VERIFICATION	DRAWN BY	JRW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING 	CHECKED BY	WBH				
	APPROVED BY	MEN				
	ISSUE DATE	NOVEMBER 2024				
	PROJECT NUMBER	277824-04-001				



RAVINE RESTORATION & STORM SEWER IMPROVEMENTS PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT SHOREWOOD FOREST SUBDIVISION
DRAWING INDEX, AND LOCATION AND SCOPE OF WORK PLAN

SHEET NO.	02
TOTAL SHEETS	16

EXISTING FEATURES LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BENCH MARK		CISTERN		EASEMENT - CONSTRUCTION/PERMANENT
	TEMPORARY BENCH MARK		ELECTRIC METER		LOT BOUNDARY
	SOIL BORING LOCATION		AIR CONDITIONING UNIT		PROPERTY BOUNDARY
	SECTION CORNER		UTILITY RISER (DEFINED BY UTILITY)		RIGHT-OF-WAY - TEMPORARY/PERMANENT
	DRILL HOLE IN CONCRETE/HARRISON MONUMENT		UTILITY PEDESTAL (DEFINED BY UTILITY)		SECTION BOUNDARY
	CONTROL POINT (SET/FOUND)		UTILITY MARKER (DEFINED BY UTILITY)		WETLANDS
	MAGNETIC NAIL (SET/FOUND)		JOINT POWER/TELEPHONE POLE		CONTOUR - INTERMEDIATE ELEVATION
	BOAT SPIKE (SET/FOUND)		LIGHT POLE		CONTOUR - INDEX ELEVATION
	PK NAIL (SET/FOUND)		LIGHT ON POWER POLE		OVERHEAD ELECTRIC
	RAILROAD SPIKE (SET/FOUND)		LIGHT ON JOINT POLE		OVERHEAD CABLE TV
	R/W MARKER - CONCRETE/GRANITE/STONE		POWER POLE		OVERHEAD TELEPHONE
	IRON PIPE/IRON PIN/REBAR (WITH DIAMETER)		TELEPHONE POLE		UNDERGROUND CABLE TV
	BRASS PLUG		LAMP POST		UNDERGROUND ELECTRIC
	CABLE TV MANHOLE		GUY ANCHOR		UNDERGROUND FIBER OPTIC
	ELECTRIC MANHOLE		GUY POLE OR STUB		GAS MAIN
	GAS MANHOLE		CONTROLLER CABINET		DIGESTER GAS
	OTHER MANHOLE		FLAG POLE		PETROLEUM MAIN
	TELEPHONE MANHOLE		POST		UNDERGROUND TELEPHONE
	TELEPHONE VAULT		GROUND LIGHT		WATER MAIN
	TRAFFIC MANHOLE		MAILBOX		WATER SERVICE
	TRAFFIC HANDHOLE		DOUBLE/MULTIPLE MAILBOX		FORCEMAIN
	WATER MANHOLE		MAST ARM POLE		GRAVITY SEWER PIPE
	AIR RELEASE VALVE		TRAFFIC SIGNAL STRAIN POLE		PLANT CHLORINE PIPE
	SANITARY SEWER MANHOLE		SIGNAL LOOP DETECTOR BOX		TOP OF BANK/TOE OF SLOPE
	DRAINAGE/STORM SEWER MANHOLE		SIGNAL LOOP DETECTOR LOOP		CENTERLINE OF DITCH/SWALE/STREAM
	SANITARY SEWER CLEANOUT		SIGN - SINGLE POST		FENCE - FIELD
	SEPTIC TANK		SIGN - DOUBLE POST		FENCE - METAL
	VALVE VAULT		SIGN - RAILROAD SIGNAL		FENCE - WOOD
	BEEHIVE INLET		SIGN - RAILROAD CROSSING		GUARDRAIL
	CURB INLET		BUSH		STREAM
	DROP INLET		STUMP		TREE/BRUSH LINE
	CATCH BASIN		TREE - CONIFEROUS		
	DOWNSPOUT		TREE - DECIDUOUS		
	GAS METER		ROCK OUTCROP		
	GAS VALVE		SATELLITE		
	GAS SERVICE VALVE		SPRINKLER CONTROL VALVE		
	PETROLEUM VALVE		WATER METER		
	PETROLEUM SHUTOFF VALVE		WATER VALVE		
	GAS STATION MONITORING WELL		WATER SERVICE VALVE		
	GAS STATION FILL CAP		WATER WELL		
	NATURAL GAS WELL/STORAGE WELL		WET WELL		
	SPRINKLER HEAD		FIRE HYDRANT		
	YARD HYDRANT		PROCESS VALVE		

TABLE OF ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	IPS	IRON PIPE SIZE
ALUM	ALUMINUM	ISPC	INDIANA STATE PLANE COORDINATE
APP	APPARENT	LB	POUND(S)
APPROX	APPROXIMATE(LY)	LF	LINEAR FEET
ASPH	ASPHALT	LN	LANE
ASSOC	ASSOCIATES	LS	LIFT STATION
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	MA EX	MATCH EXISTING
AVE	AVENUE	MJ	MECHANICAL JOINT
AVG	AVERAGE	MATL	MATERIAL
BLDG	BUILDING	MAX	MAXIMUM
BLVD	BOULEVARD	MH	MANHOLE
BM	BENCHMARK	MIN	MINIMUM
CO	CLEANOUT	MISC	MISCELLANEOUS
CI	CAST IRON	MNFR	MANUFACTURER
CL	CENTER LINE	N	NORTHING, NORTH
CMA	COLD MIX ASPHALT	NGS	NATIONAL GEODETIC SURVEY
CMP	CORRUGATED METAL PIPE	NO.	NUMBER
CMU	CONCRETE MASONRY UNIT	OC	ON CENTER
CONC	CONCRETE	OD	OUTSIDE DIAMETER
CONT	CONTINUOUS	PC	POINT OF CURVE (BEGIN CURVE)
CNR	CORNER	POLY	POLYETHYLENE
CP	CONTROL POINT	PI	POINT OF INTERSECTION
CPP	CORRUGATED PLASTIC PIPE	POT	POINT ON TANGENT
CR STN	CRUSHED STONE	PT	POINT OF TANGENT (END CURVE)
CYD	CUBIC YARD	PSI	POUNDS PER SQUARE INCH
D	DEPTH	PT	POINT
DI	DUCTILE IRON	PVC	POLYVINYL CHLORIDE
DI MJ	DUCTILE IRON MECHANICAL JOINT	R	RADIUS
DBL	DOUBLE	ROW	RIGHT-OF-WAY
DIA	DIAMETER	RCP	REINFORCED CONCRETE PIPE
DIP	DUCTILE IRON PIPE	RD	ROAD
DIPS	DUCTILE IRON PIPE SIZE	S	SOUTH
DR	DRIVE	SR	STATE ROUTE
E	EASTING, EAST	SST	STAINLESS STEEL
EF	EACH FACE	SVA	SERVICE VALVE ASSEMBLY
EW	EACH WAY	SB	SOIL BORING
EA	EACH	SCHED	SCHEDULE
EJ	EAST JORDAN IRON WORKS	SDR	STANDARD DIMENSION RATIO
EL	ELEVATION	SECT	SECTION
EX	EXISTING	SF	SQUARE FEET
EXP	EXPANSION	SHT	SHEET
FFE	FINISH FLOOR ELEVATION	SPECS	SPECIFICATION(S)
FM	FORCE MAIN	SQ	SQUARE
FND	FOUND	SRF	STATE REVOLVING FUND
FT	FEET	ST	STREET
FTG	FOOTING	STA	STATION
GALV	GALVANIZED	SYD	SQUARE YARD
GPS	GLOBAL POSITIONING SYSTEM	TBM	TEMPORARY BENCHMARK
HMA	HOT MIX ASPHALT	TC	TOP OF CASTING
HDPE	HIGH DENSITY POLYETHYLENE	TYP	TYPICAL
HORIZ	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
ID	INSIDE DIAMETER	USGS	US GEOLOGICAL SURVEY
IE	INVERT ELEVATION	VERT	VERTICAL
INC	INCORPORATED	VLV	VALVE
INDOT	INDIANA DEPARTMENT OF TRANSPORTATION	W	WIDTH, WEST
INSTR	INSTRUMENT	WSE	WATER SURFACE ELEVATION
INV	INVERT	YR	YEAR

*NOTE: THIS TABLE IS A LISTING OF TYPICAL ABBREVIATIONS AND MAY NOT INCLUDE ALL ABBREVIATIONS FOUND WITHIN THIS PLAN SET. IF A QUESTION ARISES ON THE MEANING OF AN ABBREVIATION NOT LISTED IN THIS TABLE, PLEASE CONTACT THE ENGINEER FOR CLARIFICATION.

GENERAL NOTES:

- NOTIFY THE ENGINEER IF ANY CONFLICTING INFORMATION BECOMES APPARENT IN THE CONTRACT DOCUMENTS AS SOON AS POSSIBLE AND PRIOR TO THE COMMENCEMENT OF ANY WORK IN THE VICINITY OF OR RELATIVE TO THE APPARENT CONFLICT SO THAT CLARIFICATION MAY OCCUR PRIOR TO CONSTRUCTION.
- ANY ALTERATIONS TO THESE DRAWINGS NOT AUTHORIZED BY WESSLER ENGINEERING AND NOT IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS AND RECORDS ON FILE AT WESSLER ENGINEERING SHALL RELIEVE WESSLER ENGINEERING OF ANY RESPONSIBILITY FOR THE ACCURACY OF THE DRAWINGS.
- USE CAUTION DURING THE EXECUTION OF WORK TO PREVENT DAMAGE TO STATE, COUNTY, MUNICIPAL, AND PRIVATE PROPERTY. REPAIR ALL DAMAGES AS A RESULT OF OPERATIONS, INCLUDING DAMAGE TO DRAINAGE STRUCTURES, FIELD TILES, PUBLIC/PRIVATE ROADS, AND LANDSCAPING (INCLUDING FENCING). REPAIR AND REPLACE DAMAGED ITEMS AT NO ADDITIONAL COST TO THE OWNER. PERFORM ALL REPAIR AND REPLACEMENT WORK TO THE SATISFACTION OF THE PERMITTING AGENCY, THE OWNER AND THE ENGINEER.
- TAKE CARE TO AVOID DAMAGE TO PAVED AREAS WHICH ARE NOT SPECIFICALLY CALLED OUT FOR REPAIR OR REPLACEMENT. REPAIR, OR REPLACE ALL SUCH PAVEMENTS WHICH ARE DAMAGED BY CONSTRUCTION ACTIVITIES AND CONSTRUCTION TRAFFIC AT NO ADDITIONAL COST TO THE OWNER.
- OBTAIN ALL TEMPORARY EASEMENTS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
- COMPLY WITH ALL APPLICABLE PERMITS AND REGULATIONS. APPLICABLE PERMITS ISSUED TO THE OWNER WILL BE MADE AVAILABLE TO THE CONTRACTOR. CONTACT ALL APPLICABLE PERMITTING AGENCIES WITHIN THE TIME PERIOD SPECIFIED BY THAT AGENCY PRIOR TO BEGINNING CONSTRUCTION.
- ALL PRIVATE WELL LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. FIELD VERIFY AND DETERMINE EXACT LOCATIONS OF ALL PRIVATE WELLS IN THE PROJECT AREA.
- ALL EXISTING AND NEW UTILITY INFORMATION, INCLUDING BUT NOT LIMITED TO LOCATION, SIZE AND INVERT ELEVATION, IS SHOWN BASED UPON AVAILABLE INFORMATION. THE ENGINEER DOES NOT GUARANTEE OR ASSUME SUCH INFORMATION TO BE TRUE, ACCURATE, ALL INCLUSIVE OR EVEN APPROXIMATE. CONTACT THE INDIANA UNDERGROUND PLANT PROTECTION SERVICE (IUPPS) AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY. CONTACT NON-MEMBER UTILITIES DIRECTLY.
- DETERMINE WHICH UTILITIES MAY CONFLICT WITH WORK AND VERIFY THEIR LOCATION, SIZE AND ELEVATION PRIOR TO CONSTRUCTION AND DETERMINE IF THERE ARE ANY DISCREPANCIES OR CONFLICTS. IF ANY DISCREPANCIES OR CONFLICTS ARE DISCOVERED, NOTIFY THE ENGINEER AS SOON AS POSSIBLE.
- EXISTING UTILITY SERVICE LINES TO INDIVIDUAL CUSTOMERS MAY NOT BE SHOWN ON THE DRAWINGS. ASSUME THAT UNDERGROUND SERVICE LINES FOR ALL UTILITIES EXIST TO EACH PROPERTY ALONG THE ROUTE OF THE PLANNED IMPROVEMENTS.
- COORDINATE ALL WORK WITH THE RESPECTIVE UTILITIES. SCHEDULE WORK ACCORDINGLY, AND NOTIFY ALL UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY.
- COORDINATE PLANNED UTILITY SERVICE INTERRUPTIONS WITH THE RESPECTIVE UTILITIES AND THE UTILITIES' AFFECTED CUSTOMERS. SERVICE INTERRUPTIONS SHOULD NOT LAST MORE THAN FOUR (4) HOURS. GIVE WRITTEN NOTICE TO ALL AFFECTED UTILITY CUSTOMERS AND PROPERTY OWNERS AT LEAST TWENTY-FOUR (24) HOURS BUT NOT MORE THAN SEVENTY-TWO (72) HOURS PRIOR TO ANY PLANNED INTERRUPTION OF UTILITY SERVICE.
- USE CAUTION DURING THE EXECUTION OF WORK TO PREVENT DAMAGE TO EXISTING UTILITIES. REPAIR OR REPLACE ALL PUBLIC AND PRIVATE FACILITIES DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS. BRACE AND PROTECT ALL UTILITY POLES AND EXISTING STRUCTURES ADJACENT TO NEW EXCAVATIONS. UTILITY POLE BRACING SHALL BE AS DIRECTED BY THE GOVERNING UTILITY.
- MAINTAIN EXISTING STORMWATER DRAINAGE FOR THE ENTIRE DURATION OF THE PROJECT.
- DO NOT DISTURB EXISTING MANHOLES OR INLETS, UNLESS NOTED OTHERWISE.
- ALL EQUIPMENT, APPURTENANCES AND PIPING REMOVED AS PART OF THE DEMOLITION SHALL FIRST BE OFFERED TO THE OWNER FOR SALVAGE. DELIVER SALVAGED ITEMS SELECTED BY OWNER TO A LOCATION DESIGNATED BY THE OWNER OR ENGINEER. IN THE EVENT THE OWNER DOES NOT ELECT TO KEEP THE REMOVED ITEMS, REMOVE SUCH ITEMS FROM THE SITE AND DISPOSE OF AT A LOCATION APPROVED FOR SUCH DISPOSAL AT THE CONTRACTOR'S EXPENSE.
- COORDINATE STAGING AREA LOCATIONS WITH THE OWNER.
- ALL CONSTRUCTION TRAFFIC SHALL USE MAJOR ROADS. NO CONSTRUCTION TRAFFIC SHALL USE LOCAL STREETS FOR INDIRECT ACCESS.
- TO CONTROL DUST, REMOVE SOIL FROM STREETS USED BY CONSTRUCTION TRAFFIC DAILY. VACUUM AND WATER AS NECESSARY AND/OR AS DIRECTED BY THE OWNER.
- LENGTHS OF SEWERS AS SHOWN ON THE DRAWINGS AND INDICATED AS LINEAR FEET (LF) ARE FROM CENTER TO CENTER OF STRUCTURES.
- NORTHING AND EASTING INFORMATION IS GIVEN AT CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
- PLACE NO. 8 CRUSHED AGGREGATE BETWEEN PIPES AT ALL PIPE CROSSINGS TO PREVENT PIPE SETTLEMENT UNLESS SHOWN OTHERWISE.
- VERIFY EXISTING SEWER INVERTS AND LOCATIONS PRIOR TO CONSTRUCTION AND DETERMINE IF THERE ARE ANY DISCREPANCIES OR CONFLICTS.
- RESET ALL MAILBOXES AND SIGNS DISTURBED BY CONSTRUCTION ACTIVITIES.
- IF REQUIRED, PLACE TEMPORARY OVERNIGHT AGGREGATE WEDGES AT DRIVEWAYS TO ALLOW PROPERTY OWNER ACCESS.

UTILITY CONTACTS

ELECTRIC
NIPSCO ELECTRIC (VALPARAISO)
22 S. SR 49
VALPARAISO, IN 46383
ATTN: ROBERT CHARLTON
C: 219-789-3559
E: RCHARLTON@NISOURCE.COM

SEWER
SHOREWOOD FOREST UTILITIES
425 UTILITY DR.
VALPARAISO, IN
ATTN: LINDA WALLA
C: 219-531-0706
E: SFUOFFICE@GMAIL.COM

GAS
NIPSCO GAS (VALPARAISO)
22 S. SR 49
VALPARAISO, IN 46383
ATTN: MELISSA LYONS
P: 219-384-6405
E: MCOWAN@NISOURCE.COM

CABLE
COMCAST (NORTH)
16 W. 84TH DR.
MERRILLVILLE, IN 46410
ATTN: LARRY SMITH
P: 574-320-8203
E: LARRY_SMITH3@COMCAST.COM

TELECOMMUNICATIONS
FRONTIER
2401 CHICAGO ST.
VALPARAISO, IN 46383
ATTN: CHUCK MCKEAN
P: 219-531-6947
E: CHUCK.MCKEAN@FTR.COM

WATER
INDIANA AMERICAN WATER
(NORTHWEST)
650 MADISON ST.
GARY, IN 46404
ATTN: RACHEL ALFARO
P: 219-290-7327
E: RACHEL.ALFARO@AMWATER.COM



*NOTE: THIS TABLE IS A LISTING OF TYPICAL EXISTING SYMBOLS AND MAY NOT INCLUDE ALL EXISTING SYMBOLS FOUND WITHIN THIS PLAN SET. ALL PROPOSED ITEMS WILL BE CALLED OUT ON THEIR PLAN SHEETS. IF A QUESTION ARISES ON THE MEANING OF ANY SYMBOL NOT LISTED IN THIS TABLE, PLEASE CONTACT THE ENGINEER FOR CLARIFICATION. THE SYMBOLS ARE NOT TO SCALE.

Drawing: X:\Porter County\277824-Porter Co. Restora and Storm Sewer\DWG\Sheets\277824-SS-A04.dwg | Layout: GS | Plotter: 110524.ctb | Date: 11/05/24 | 07:54:42 | LastSavedBy: jasonw

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RAVINE RESTORATION & STORM SEWER IMPROVEMENTS

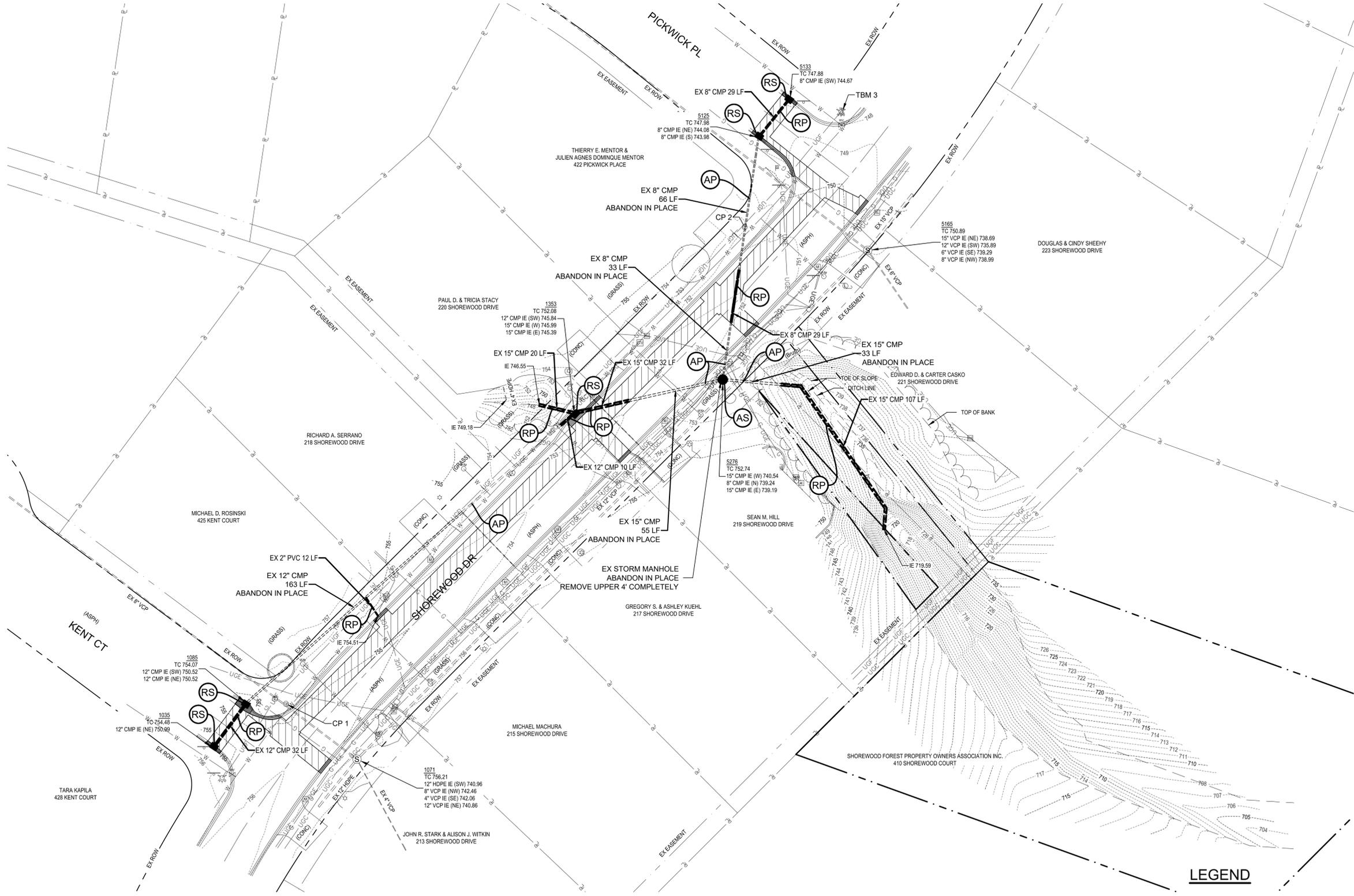
PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT
SHOREWOOD FOREST SUBDIVISION

GENERAL SHEET

SHEET NO.	03
TOTAL SHEETS	16



0 15 30 60 FT
1" = 30'



LEGEND

-  PAVEMENT REMOVAL
-  CURB AND GUTTER REMOVAL
-  REMOVE PIPE COMPLETELY
-  REMOVE STRUCTURE COMPLETELY
-  REMOVE PIPE COMPLETELY
-  ABANDON PIPE WITH FLOWABLE FILL
-  ABANDON STRUCTURE WITH FLOWABLE FILL

EXISTING CONDITIONS - DEMOLITION

SCALE: 1" = 30'

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 SHOREWOOD FOREST SUBDIVISION

EXISTING CONDITIONS - DEMOLITION

SHEET NO.
04
 TOTAL SHEETS
16



0 10 20 40 FT
1" = 20'

GENERAL NOTES:

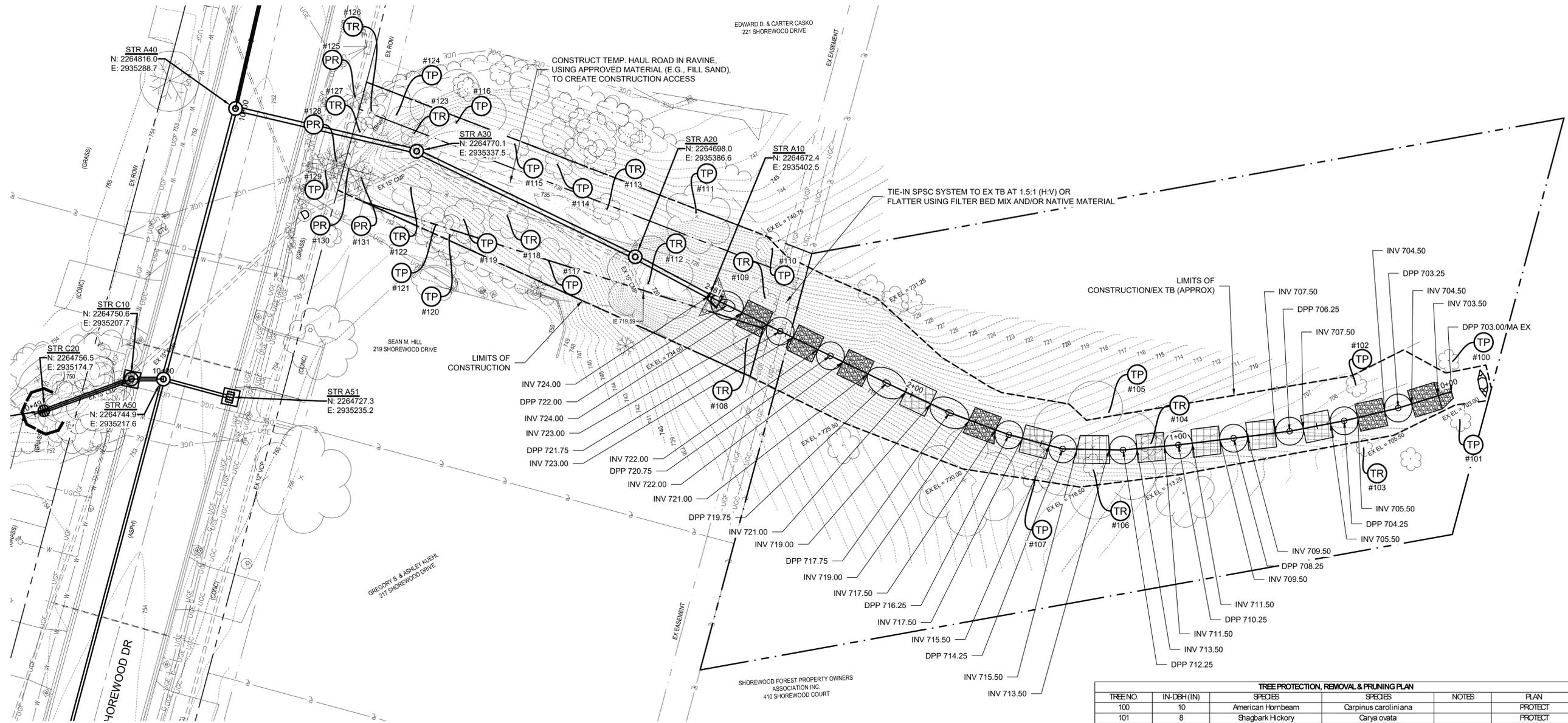
1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN OR AS DETERMINED NECESSARY BY CONTRACTOR TO PROVIDE ADEQUATE CONTROL FOR THE LIMITS OF CONSTRUCTION. INCLUDE TEMPORARY STONE CONSTRUCTION ENTRANCE AS PART OF TEMPORARY HAUL ROAD TO MINIMIZE TRACKING ON TO SHOREWOOD DR.
2. WITH APPROVAL, WOODY DEBRIS (E.G. TRUNKS, LIMBS, ROOTBALLS, WOODCHIPS) RESULTING FROM CLEARING & GRUBBING OPERATIONS MAY BE RE-USED IN THE STEP POOL STORMWATER CONVEYANCE SYSTEM.

KEYED NOTES

- (TP) TREE PROTECTION
- (TR) TREE REMOVAL
- (PR) PRUNING

LEGEND

- RIP RAP CHECK DAM
- RIFFLE WEIR
- CASCADE WEIR
- POOL
- DPP DEEPEST POINT IN POOL
- INV INVERT ELEVATION
- MA EX MATCH EXISTING
- EX EL EXISTING ELEVATION
- #XXX TREE NUMBER

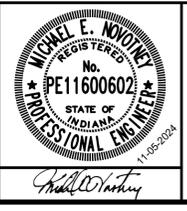


RAVINE - STEP POOL STORMWATER CONVEYANCE SYSTEM PLAN
SCALE: 1" = 20'

TREENO	IN-DBH (IN)	SPECIES	SPECIES	NOTES	PLAN
100	10	American Hornbeam	Carpinus caroliniana		PROTECT
101	8	Shagbark Hickory	Carya ovata		PROTECT
102	7	Black Cherry	Prunus serotina		PROTECT
103	10	American Hornbeam	Carpinus caroliniana		REMOVE
104	6	American Hornbeam	Carpinus caroliniana		REMOVE
105	48	Bur Oak	Quercus macrocarpa		PROTECT
106	6	American Hornbeam	Carpinus caroliniana		REMOVE
107	10	American Hornbeam	Carpinus caroliniana		PROTECT
108	10	Pignut Hickory	Carya glabra	LEANING	REMOVE
109	6	Pignut Hickory	Carya glabra	LEANING	REMOVE
110	8	Shagbark Hickory	Carya ovata		PROTECT
111	30	Pignut Hickory	Carya glabra		PROTECT
112	42	Bur Oak	Quercus macrocarpa	DOWN	REMOVE
113	7	Black Cherry	Prunus serotina		REMOVE
114	9	Shagbark Hickory	Carya ovata		PROTECT
115	15	Bur Oak	Quercus macrocarpa		PROTECT
116	42	Bur Oak	Quercus macrocarpa		PROTECT
117	18	American Hornbeam	Carpinus caroliniana		PROTECT
118	12	American Hornbeam	Carpinus caroliniana		REMOVE
119	20	American Hornbeam	Carpinus caroliniana		PROTECT
120	18	Pignut Hickory	Carya glabra		PROTECT
121	16	Pignut Hickory	Carya glabra		PROTECT
122	15	American Hornbeam	Carpinus caroliniana		REMOVE
123	6	Black Cherry	Prunus serotina		REMOVE
124	17	Pignut Hickory	Carya glabra		PROTECT
125	9	Blue Spruce	Picea pungens		PRUNE (AS NEEDED)
126	7	Blue Spruce	Picea pungens	DEAD	REMOVE
127	7	Blue Spruce	Picea pungens	DEAD	REMOVE
128	14	Norway Spruce	Picea abies		PRUNE (AS NEEDED)
129	15	Norway Spruce	Picea abies		PROTECT
130	11	Norway Spruce	Picea abies		PRUNE (AS NEEDED)
131	11	Norway Spruce	Picea abies		PRUNE (AS NEEDED)

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SHOREWOOD FOREST SUBDIVISION

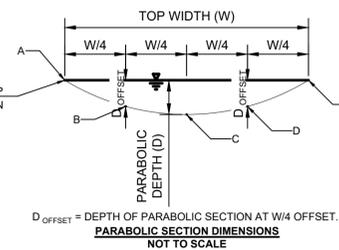
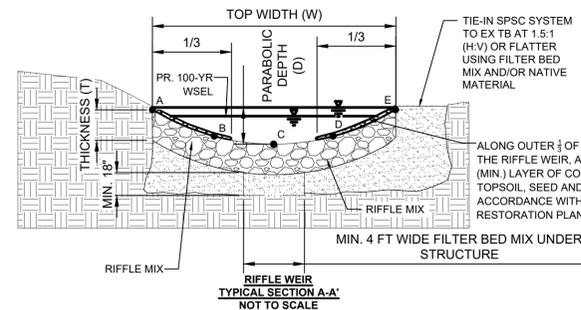
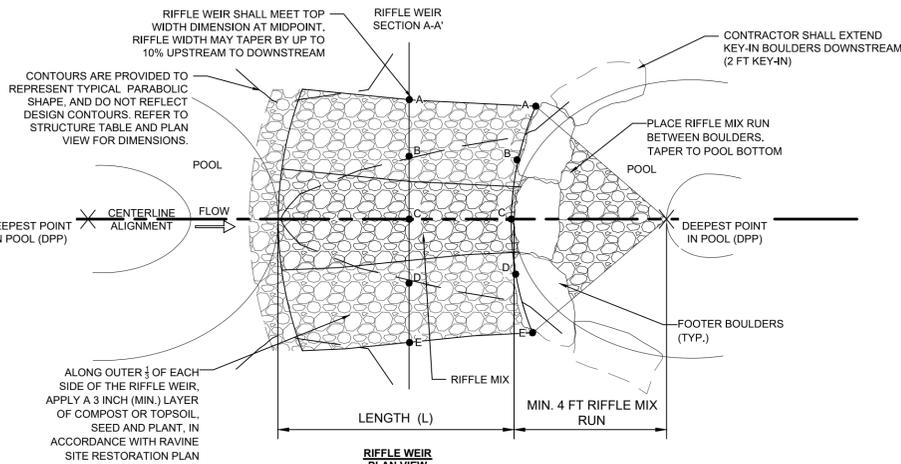
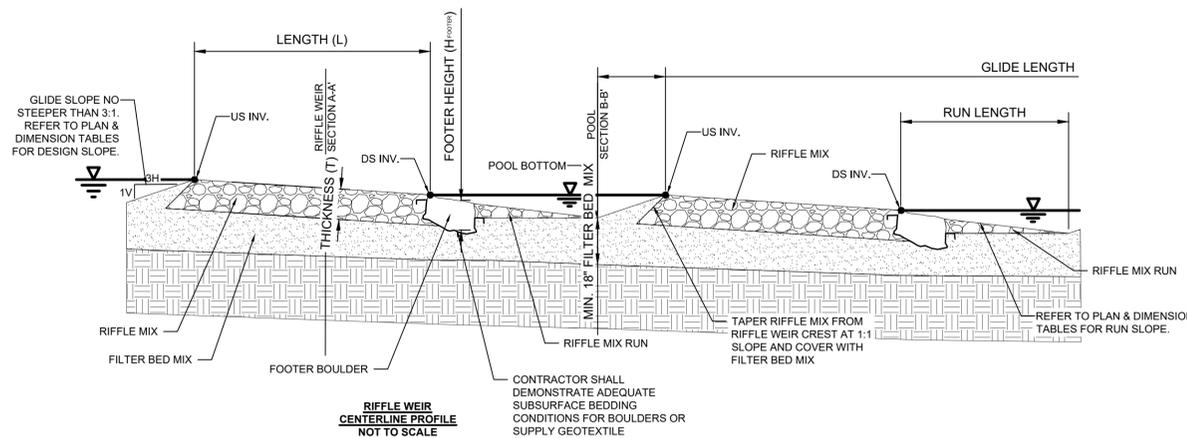
RAVINE - STEP POOL STORMWATER CONVEYANCE SYSTEM PLAN

SHEET NO.
05

TOTAL SHEETS
16

RIFFLE WEIR DIMENSION TABLE											
USSTA	DSSTA	USINV	DSINV	L(FT)	W(FT)	H(FT)	H _{FOOTER} (FT)	D(FT)	D _{OFFSET} (FT)	D ₅₀ (IN)	T(IN)
0+15	0+05	704.50	703.50	10	10	1	1.5	1	0.75	6	18
0+35	0+25	705.50	704.50	10	10	1	1.5	1	0.75	6	18
1+75	1+65	719.00	717.50	10	10	1.5	1.5	1	0.75	6	18
2+25	2+15	722.00	721.00	10	10	1	1.5	1	0.75	6	18
2+45	2+35	723.00	722.00	10	10	1	1.5	1	0.75	6	18
2+65	2+55	724.00	723.00	10	10	1	1.5	1	0.75	6	18

*RIFFLE WEIR HEIGHT (H) IS EQUAL TO THE UPSTREAM INVERT MINUS THE DOWNSTREAM INVERT



RIFFLE WEIR NOTES:

- THE CROSS SECTION SHALL BE CONSTRUCTED IN A PARABOLIC SHAPE BETWEEN GIVEN NODES.
- NATIVE MATERIAL MAY BE HARVESTED ON-SITE PRIOR TO INSTALLATION OF RIFFLE WEIR IF IT MEETS THE SPECIFICATIONS FOR USE AS WASH-IN OR RIFFLE MIX.
- THE NUMBER OF BOULDERS VARIES DEPENDING ON TYPICAL SECTION WIDTH AND BOULDER DIMENSIONS.
- THE BOULDERS SHALL BE TILTED DOWNSTREAM AS SHOWN ON THE DETAIL AND NOT STACKED.
- FOOTER BOULDERS SHALL EXTEND PAST THE DOWNSTREAM CORNER NODES A & E A MIN. OF ONE BOULDER LENGTH (B-AXIS) INTO EXISTING BANK (I.E. MIN. 2 FT KEY-IN) WHERE THIS CONFLICTS WITH EXISTING TREE ROOTS OR BEDROCK. FOOTER BOULDER MAY BE ELIMINATED OR ADJUSTED AT DIRECTION OF ENGINEER.
- WASH-IN MATERIAL SHALL BE REPEATEDLY WORKED INTO FULL DEPTH OF THE RIFFLE MIX TO FILL VOIDS.
- TRIM ALL GEOTEXTILE AT OR BELOW FINISHED GRADE, IF USED.
- ONCE RIFFLE WEIR IS CONSTRUCTED, STABILIZE ALL DISTURBED LOCATIONS AS SPECIFIED.
- CONTOURS ARE PROVIDED TO REPRESENT TYPICAL PARABOLIC SHAPE, AND DO NOT REFLECT DESIGN CONTOURS. REFER TO PLAN & DIMENSION TABLES FOR DIMENSIONS.

RIFFLE MIX GRADATION TABLE			
D50 MEDIAN STONE SIZE (INCHES)	% OF MATERIAL SMALLER THAN TYPICAL STONE	TYPICAL STONE EQUIVALENT DIAMETER (INCHES)	TYPICAL STONE WEIGHT (POUNDS)*
6	70 - 100	12	85
	50 - 70	9	35
	35 - 50	6	10
	2 - 10	2	0.4
9	70 - 100	15	160
	50 - 70	12	85
	35 - 50	9	35
	2 - 10	3	1.3
12	70 - 100	21	440
	50 - 70	18	275
	35 - 50	12	85
	2 - 10	4	3
18	100	30	1280
	50 - 70	24	650
	35 - 50	18	275
	2 - 10	6	10
24	100	42	3500
	50 - 70	33	1700
	35 - 50	24	650
	2 - 10	9	35

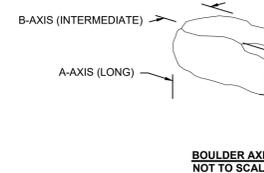
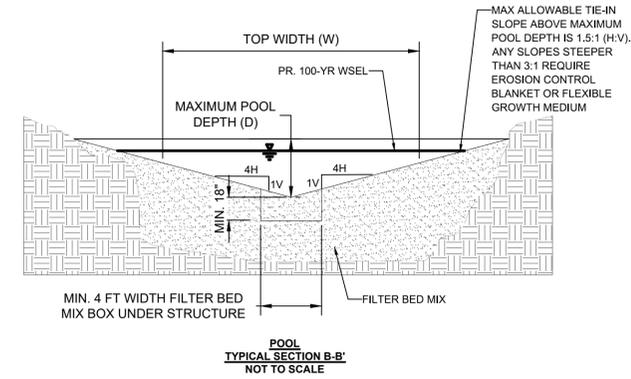
*ASSUMED UNIT WEIGHT OF 165 LBS/FT³

FILTER BED MIX (BY VOLUME)	
FILL SAND	80%
WOODCHIPS	20%

NOTES:

- RIFFLE MIX SHALL BE CRUSHED STONE, CRUSHED DOLOMITE, COBBLE, OR GRAVEL COBBLE RANGING FROM ROUNDED TO SUB-ANGULAR SHAPE.
- ALL RIFFLE MIX SHALL BE WASHED WITH PEA GRAVEL (INDOT NO. 93PG, NO. 8, NO. 9, OR NO. 11 COARSE AGGREGATE) AND FILL SAND TO CHOKO VOIDS PRIOR TO FINAL STABILIZATION. THE PEA GRAVEL AND SAND ARE AN INCIDENTAL SUPPLEMENT TO THE RIFFLE MIX FOR NATURALIZATION AND ARE NOT CONSIDERED PART OF THE MIX WHEN CALCULATING D50.

POOL DIMENSION TABLE											
USSTA	DSSTA	USINV	DSINV	L(FT)	W(FT)	D(FT)	DDP (EL)	RUN LENGTH(FT)	RUN SLOPE	GUIDE LENGTH(FT)	GUIDE SLOPE
0+25	0+15	704.50	704.50	10	10	1.25	703.25	5	4:1	5	4:1
0+45	0+35	705.50	705.50	10	10	1.25	704.25	5	4:1	5	4:1
0+65	0+55	707.50	707.50	10	10	1.25	706.25	5	4:1	5	4:1
0+85	0+75	709.50	709.50	10	10	1.25	708.25	5	4:1	5	4:1
1+05	0+95	711.50	711.50	10	10	1.25	710.25	5	4:1	5	4:1
1+25	1+15	713.50	713.50	10	10	1.25	712.25	5	4:1	5	4:1
1+45	1+35	715.50	715.50	10	10	1.25	714.25	5	4:1	5	4:1
1+65	1+55	717.50	717.50	10	10	1.25	716.25	5	4:1	5	4:1
1+90	1+75	719.00	719.00	15	10	1.25	717.75	7.5	6:1	7.5	6:1
2+15	2+00	721.00	721.00	15	10	1.25	719.75	7.5	6:1	7.5	6:1
2+35	2+25	722.00	722.00	10	10	1.25	720.75	5	4:1	5	4:1
2+55	2+45	723.00	723.00	10	10	1.25	721.75	5	4:1	5	4:1
2+77	2+65	724.00	724.00	12	10	2.00	722.00	6	3:1	6	3:1



BOULDER DIMENSIONS (IN)				
	A-AXIS	B-AXIS	C-AXIS	UNIT WEIGHT, LBS/FT ³ **
CASCADE BOULDERS	24-36"	24-36"	12-24"	145
FOOTER BOULDERS	24-36"	24-36"	12-24"	145

**DESIGNER TO PROVIDE ALLOWABLE UNIT WEIGHT. TYPICAL UNIT WEIGHT FOR GRANITE IS 165 LBS/FT³, AND SANDSTONE IS 145 LBS/FT³

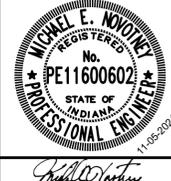
- NOTES:**
- THE MEDIAN A-AXIS DIMENSION AVERAGED ACROSS THE FULL STRUCTURE SHALL EQUAL A MINIMUM OF 30".
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SELECT MATERIAL THAT IS APPROPRIATELY SIZED TO ALLOW FOR ECONOMICAL CONSTRUCTION OF CASCADE WEIR STRUCTURES MEETING THE DESIGN DIMENSIONS DESCRIBED IN THIS PLAN.
 - MATERIAL MEETING THE DESIGN DIMENSIONS DESCRIBED IN THIS PLAN MAY BE DESCRIBED AS OUTCROPPING STONE OR THICK OUTCROPPING STONE.

STANDARD SPSC SYSTEM STABILIZATION NOTES

STABILIZATION OF THOSE AREAS DISTURBED DURING THE CONSTRUCTION OF A SPSC SYSTEM SHALL BE CONSIDERED ACHIEVED WHEN THOSE AREAS HAVE BEEN COVERED WITH 2 INCHES (MIN.) OF TOPSOIL OR COMPOST, THE PLANTING PLAN HAS BEEN COMPLETED, AND EROSION CONTROL BLANKET OR FLEXIBLE GROWTH MEDIUM HAS BEEN INSTALLED.

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	APPROVED BY	MEN				
	ISSUE DATE	NOVEMBER 2024				
	PROJECT NUMBER	277824-04-001				





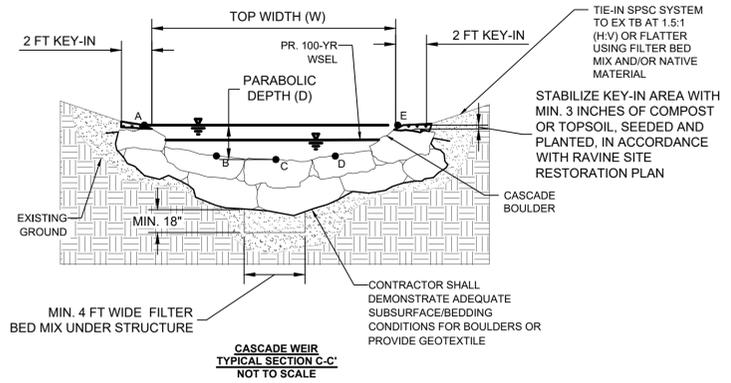
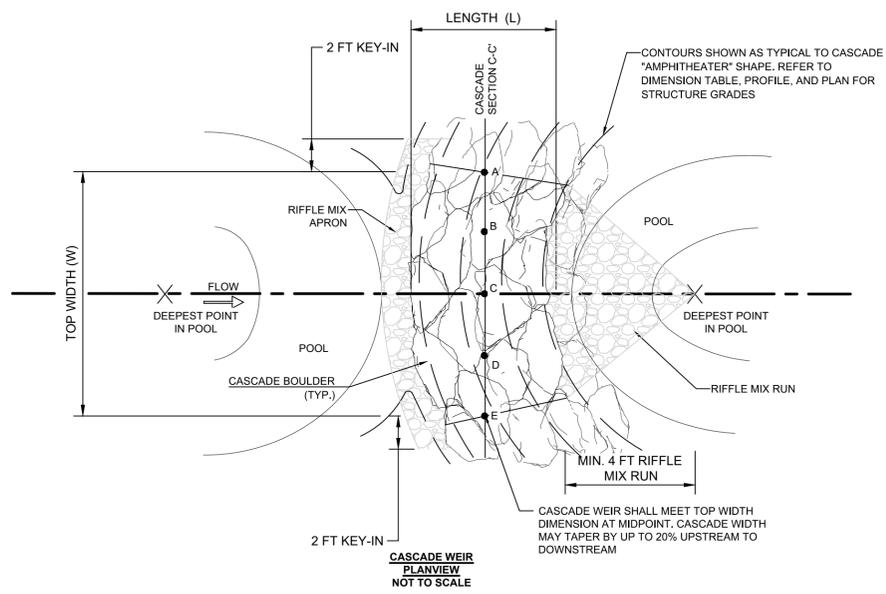
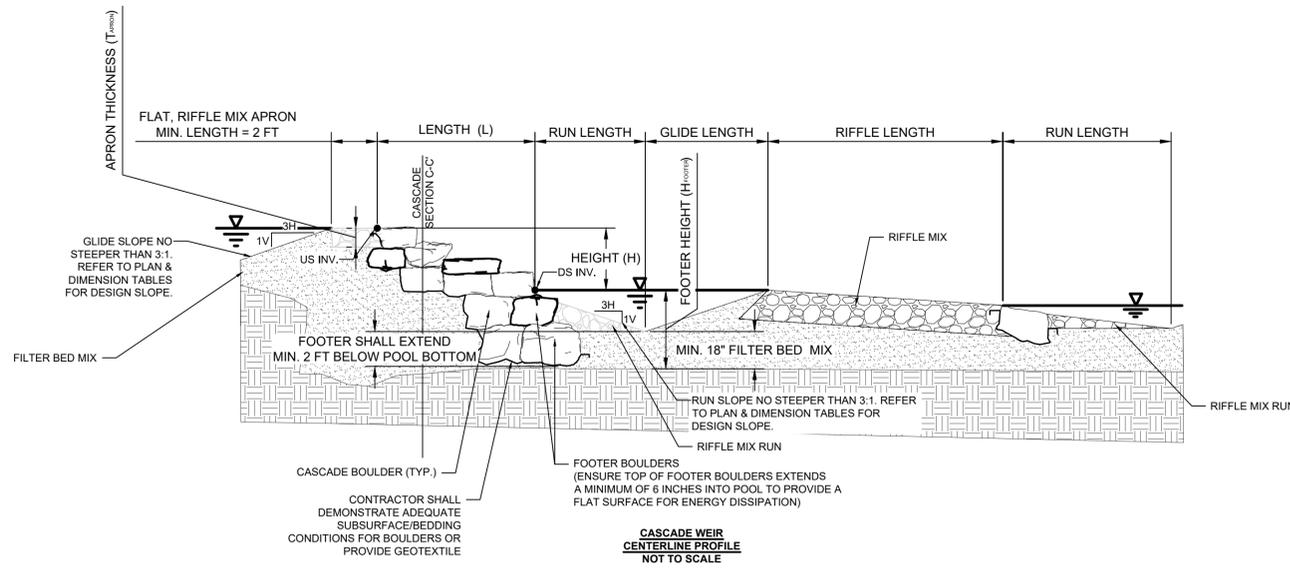
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RAVINE RESTORATION & STORM SEWER IMPROVEMENTS

PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT
SHOREWOOD FOREST SUBDIVISION

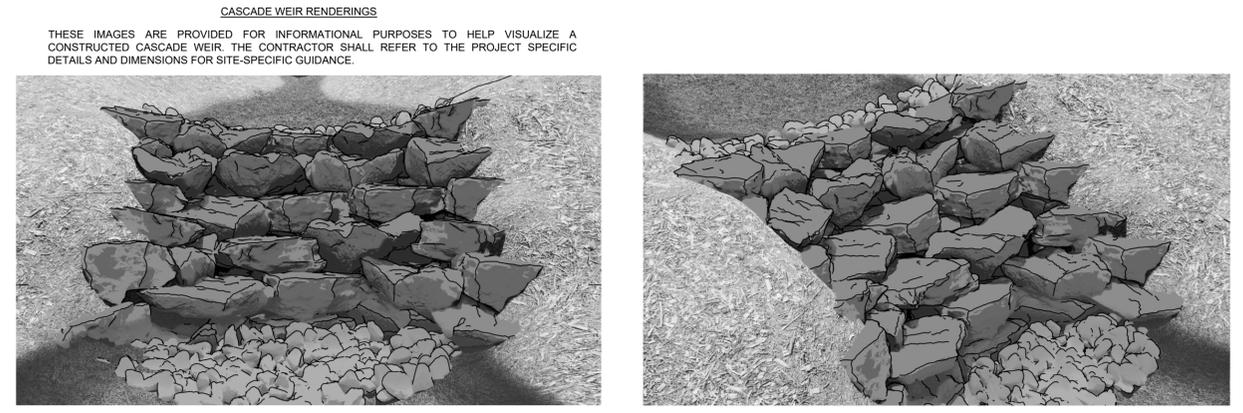
RAVINE - STEP POOL STORMWATER CONVEYANCE SYSTEM DETAILS

SHEET NO.
06
TOTAL SHEETS
16



US STA	DS STA	US INV	DS INV	L (FT)	W (FT)	H (FT)	H _{FOOTER} (FT)	D (FT)	D _{OFFSET} (FT)
0+53	0+45	707.50	705.50	8	10	2	3.25	1	0.75
0+73	0+65	709.50	707.50	8	10	2	3.25	1	0.75
0+93	0+85	711.50	709.50	8	10	2	3.25	1	0.75
1+13	1+05	713.50	711.50	8	10	2	3.25	1	0.75
1+33	1+25	715.50	713.50	8	10	2	3.25	1	0.75
1+53	1+45	717.50	715.50	8	10	2	3.25	1	0.75
1+98	1+90	721.00	719.00	8	10	2	3.25	1	0.75

- CASCADWEIR NOTES:
- BOULDERS AS DISPLAYED REFLECT VARIABILITY IN STONE DIMENSION WITHIN THE MINIMUM SIZE REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR SELECTING APPROPRIATE MATERIAL TO MEET THE LENGTH, WIDTH, DEPTH, AND SLOPE REQUIREMENTS AS OUTLINED ON THIS SHEET. THE NUMBER OF BOULDERS AND THEIR CONFIGURATION MAY VARY FROM THIS PLAN.
 - ALL BOULDERS SHALL BE PLACED WITH EDGES ALIGNED TIGHTLY TO MINIMIZE VOID SPACE.



US STA	DS STA	US INV	DS INV	L (FT)	W (FT)	T _{APRON} (FT)
0+55	0+53	707.50	707.50	2	10	1.5
0+75	0+73	709.50	709.50	2	10	1.5
0+95	0+93	711.50	711.50	2	10	1.5
1+15	1+13	713.50	713.50	2	10	1.5
1+35	1+33	715.50	715.50	2	10	1.5
1+55	1+53	717.50	717.50	2	10	1.5
2+00	1+98	721.00	721.00	2	10	1.5

US STA	DS STA	USEX GRADE	DSEX GRADE	L (FT)	W _{BOTTOM} (FT)	W _{TOP} (FT)	D _{AUG} (FT)	AREA _{AVG} (SF/FT)
0+55	0+00	705.51	703.00	55	7	10	1.5	12.75
0+80	0+55	706.51	705.50	25	4	12	4	32
1+20	0+80	708.10	706.51	40	4	16	6	60
1+60	1+20	709.70	708.10	40	5	26	8	124
2+00	1+60	710.90	709.70	40	4	38	10	210
2+40	2+00	714.60	710.90	40	4	47	14	357
2+81	2+40	717.10	714.60	41	4	47	17	433.5

STA	EX GRADE	PR GRADE	D _{SPSC} SYS MIN (FT)	FILL (FT)	CUT (FT)	L (FT)	CUT _{AVG} (FT)	CUT (CY)	FILL _{AVG} (FT)	FILL (CY)	FILL _{TOTAL} (CY)
0+00	703.00	703.00	3.0	0.00	3.00	--	--	--	--	--	--
0+25	703.75	705.50	3.0	1.75	1.25	25	2.13	13.8	0.88	6.4	20.2
0+55	705.50	707.50	3.0	2.00	1.00	30	1.13	8.75	1.88	18.5	27.3
0+67.25	706.00	709.50	3.0	3.50	0.00	12.25	0.50	1.6	2.75	8.4	10.0
1+00	707.30	711.50	3.0	4.20	0.00	32.75	0.00	0.0	3.85	36.6	36.6
1+40	708.90	715.50	3.0	6.60	0.00	40	0.00	0.0	5.40	96.7	96.7
1+80	710.50	719.00	3.0	8.50	0.00	40	0.00	0.0	7.55	188.3	188.3
2+20	711.30	720.75	3.0	9.45	0.00	40	0.00	0.0	8.98	236.4	236.4
2+25	713.65	721.00	3.0	7.35	0.00	5	0.00	0.0	8.40	26.3	26.3
2+40	714.60	723.00	3.0	8.40	0.00	15	0.00	0.0	7.88	70.4	70.4
2+81	717.10	724.00	3.0	6.90	0.00	41	0.00	0.0	7.65	158.9	158.9
TOTALS								24.2		846.9	871.1
TOTAL W/ 10% CONTINGENCY											958.2

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	ISSUE DATE	NOVEMBER 2024				
	PROJECT NUMBER	277824-04-001				



RAVINE RESTORATION & STORM SEWER IMPROVEMENTS
 PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT
 SHOREWOOD FOREST SUBDIVISION

RAVINE - STEP POOL STORMWATER CONVEYANCE SYSTEM DETAILS

SHEET NO.	07
TOTAL SHEETS	16



0 10 20 40 FT
1" = 20'

GENERAL NOTES:

1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN OR AS DETERMINED NECESSARY BY CONTRACTOR TO PROVIDE ADEQUATE CONTROL FOR THE LIMITS OF CONSTRUCTION.

SITE RESTORATION NOTES:

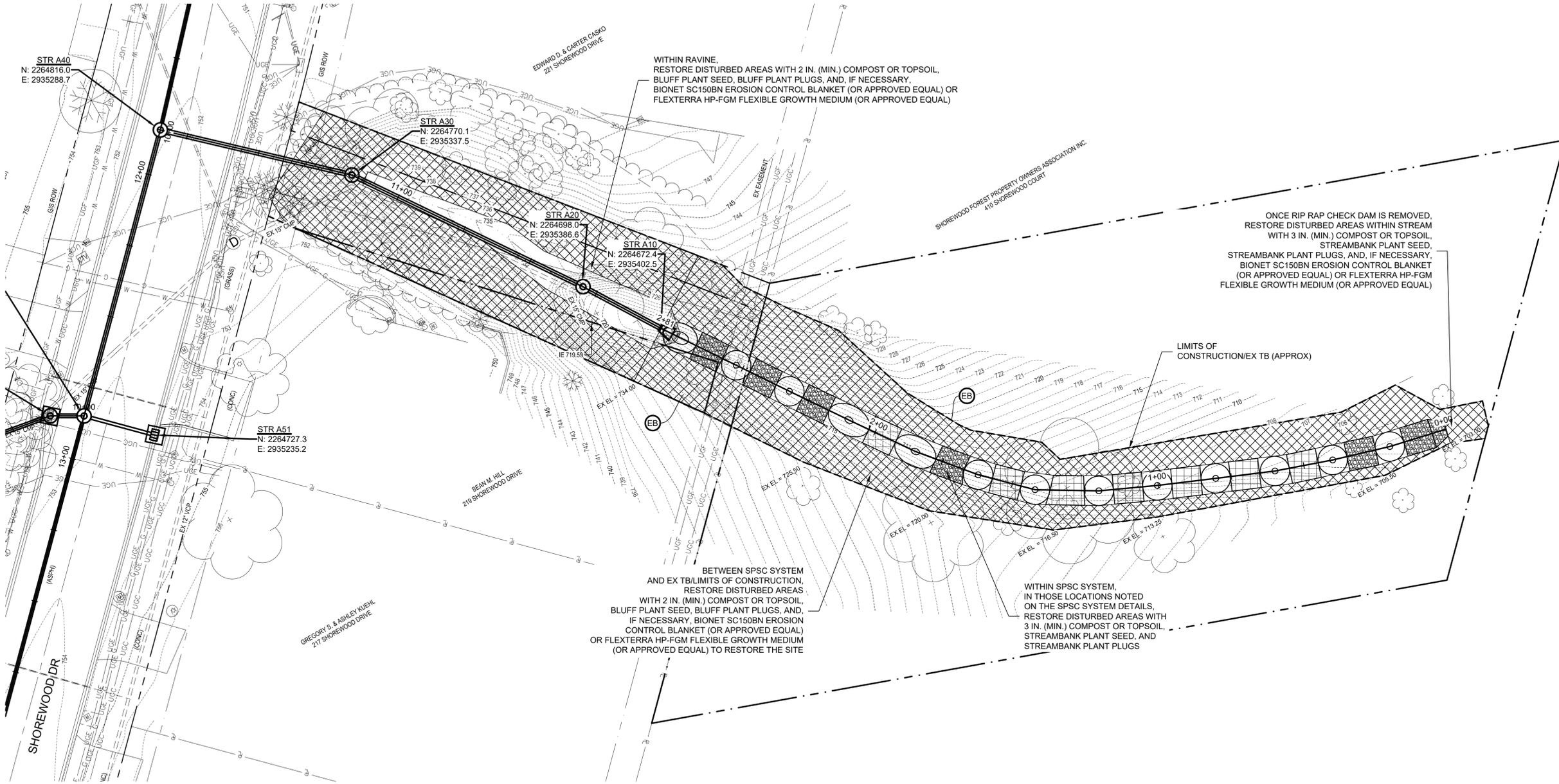
1. WITHIN RAVINE, RESTORE DISTURBED AREAS AS NOTED.
2. ONCE SPSC SYSTEM IS CONSTRUCTED, AND FOLLOWING TIE-IN OF SPSC SYSTEM TO EX TB AT 1.5:1 (H:V) OR FLATTER USING FILTER BED MIX AND/OR NATIVE MATERIAL, STABILIZE SITE WITH 2 IN. (MIN.) COMPOST OR TOPSOIL, SPECIFIED PLANT SEED AND PLUGS, AND, IF NECESSARY, EROSION CONTROL BLANKET OR FLEXIBLE GROWTH MEDIUM.
3. ALL SLOPES STEEPER THAN 3:1 (H:V) REQUIRE EROSION CONTROL BLANKET OR FLEXIBLE GROWTH MEDIUM.

KEYED NOTES ○

EB EROSION CONTROL BLANKET

LEGEND

-  EROSION CONTROL BLANKET
-  RIFFLE WEIR
-  CASCADE WEIR
-  POOL



RAVINE - SITE RESTORATION PLAN

SCALE: 1" = 20'

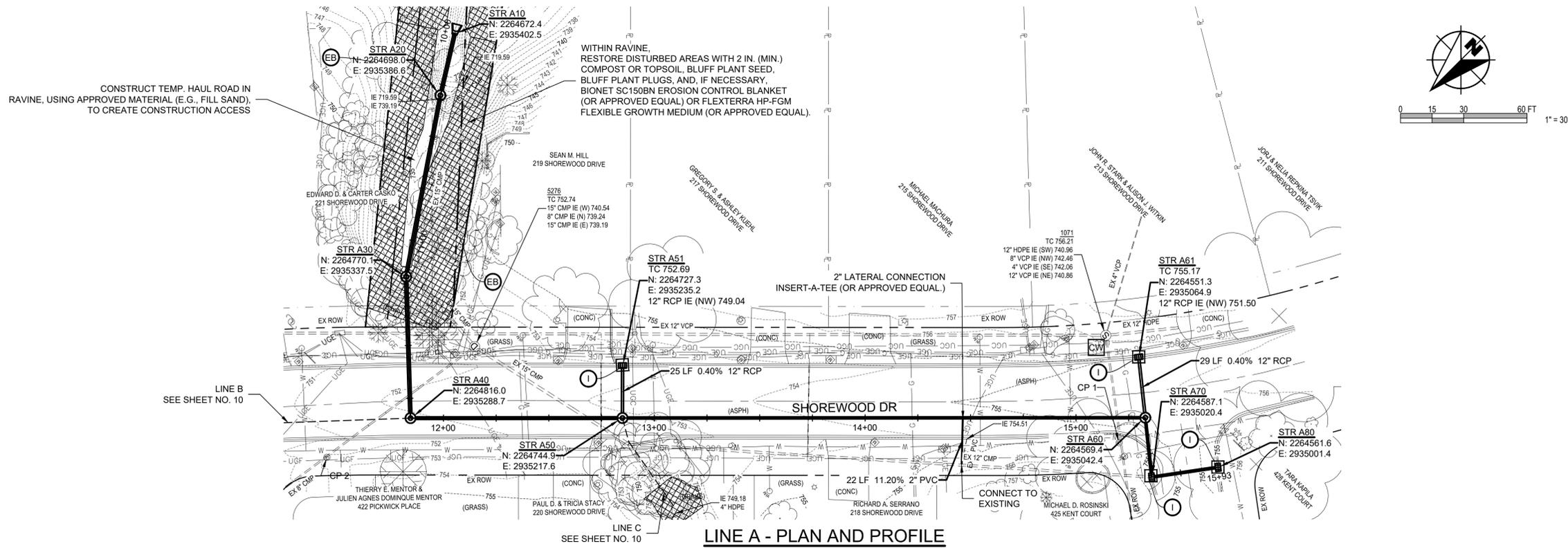
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RAVINE RESTORATION & STORM SEWER IMPROVEMENTS
PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT SHOREWOOD FOREST SUBDIVISION
RAVINE - SITE RESTORATION PLAN

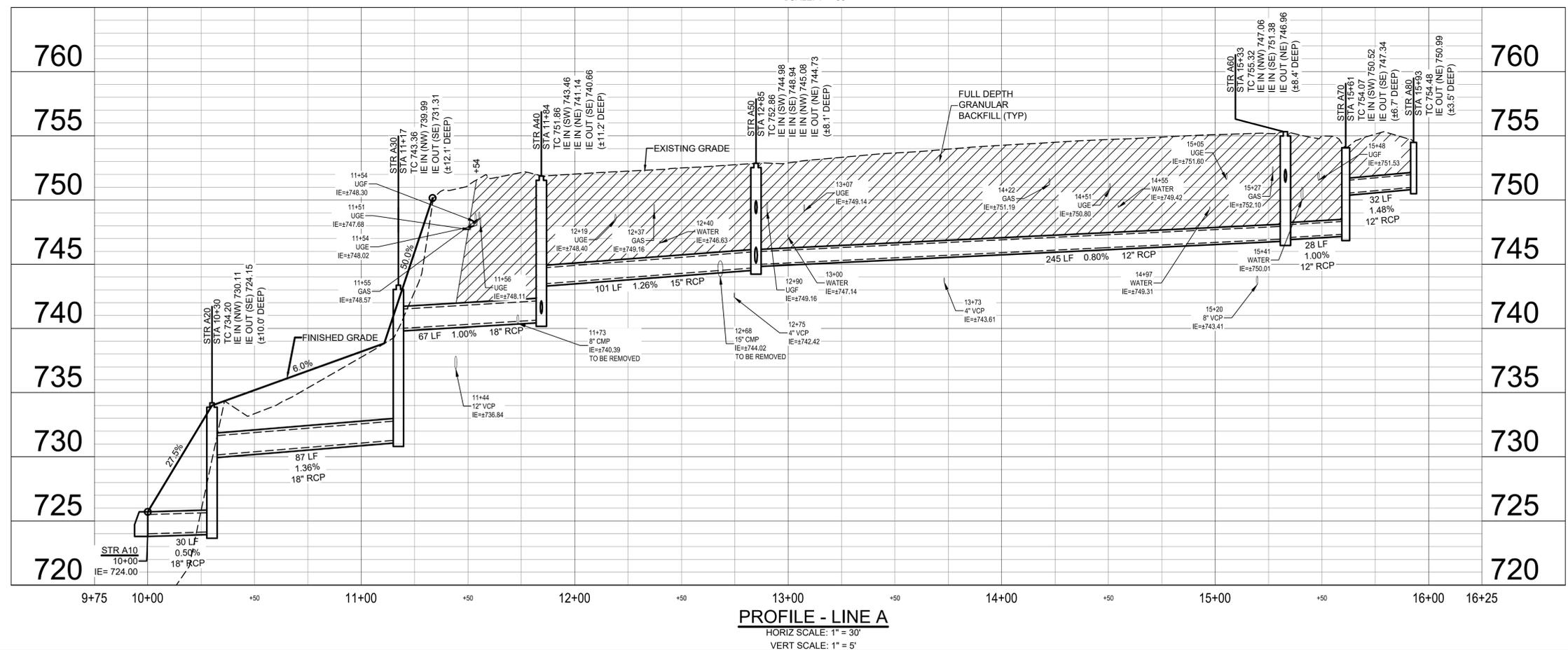
SHEET NO.	08
TOTAL SHEETS	16

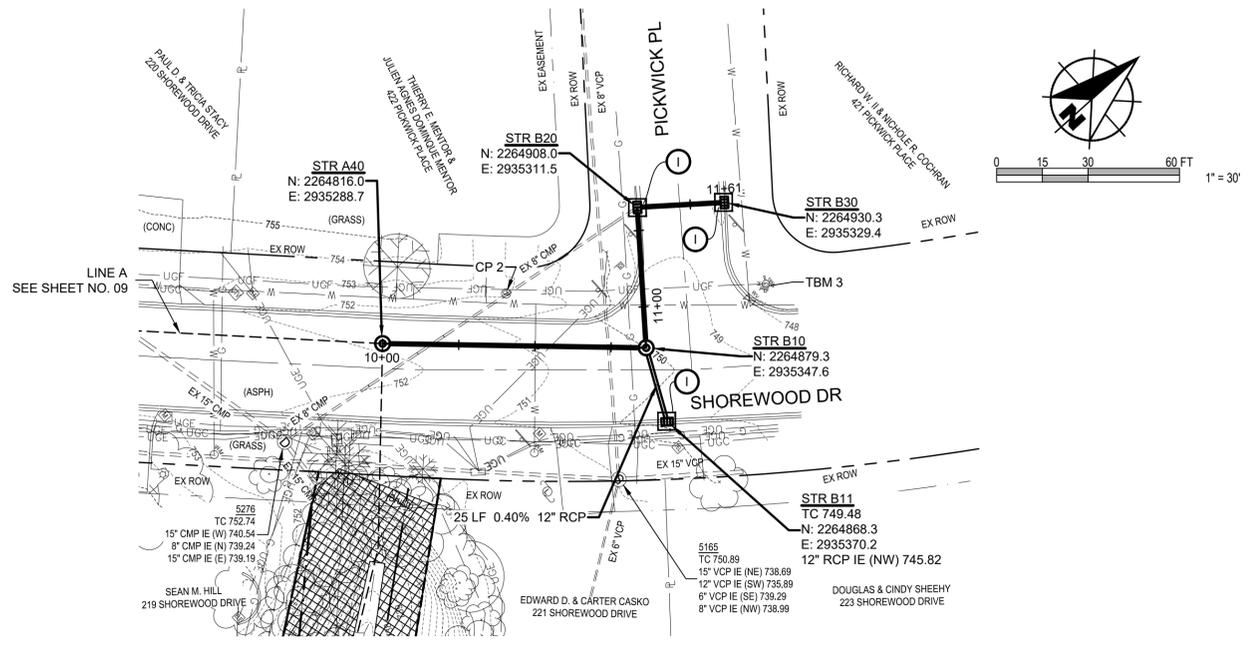


- GENERAL NOTES:**
- INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN OR AS DETERMINED NECESSARY BY CONTRACTOR TO PROVIDE ADEQUATE CONTROL FOR THE LIMITS OF CONSTRUCTION.
 - INSTALL INLET PROTECTION IN INLETS IMMEDIATELY DOWNSTREAM (QTY. 2 EA) OF THE INTERSECTION OF SHOREWOOD DR. & PICKWICK PL.
- SITE RESTORATION NOTES:**
- WITHIN RAVINE, RESTORE DISTURBED AREAS AS NOTED.
 - OUTSIDE OF RAVINE, RESTORE DISTURBED AREAS WITH 6 IN. (MIN.) TOPSOIL, LAWN & HIGH MAINTENANCE AREAS GRASS SEED, AND IF NECESSARY, BIONET SC150BN EROSION CONTROL BLANKET (OR APPROVED EQUAL) OR FLEXTERRA HP-FGM FLEXIBLE GROWTH MEDIUM (OR APPROVED EQUAL).
 - ALL SLOPES STEEPER THAN 3:1 (H:V) REQUIRE EROSION CONTROL BLANKET OR FLEXIBLE GROWTH MEDIUM.

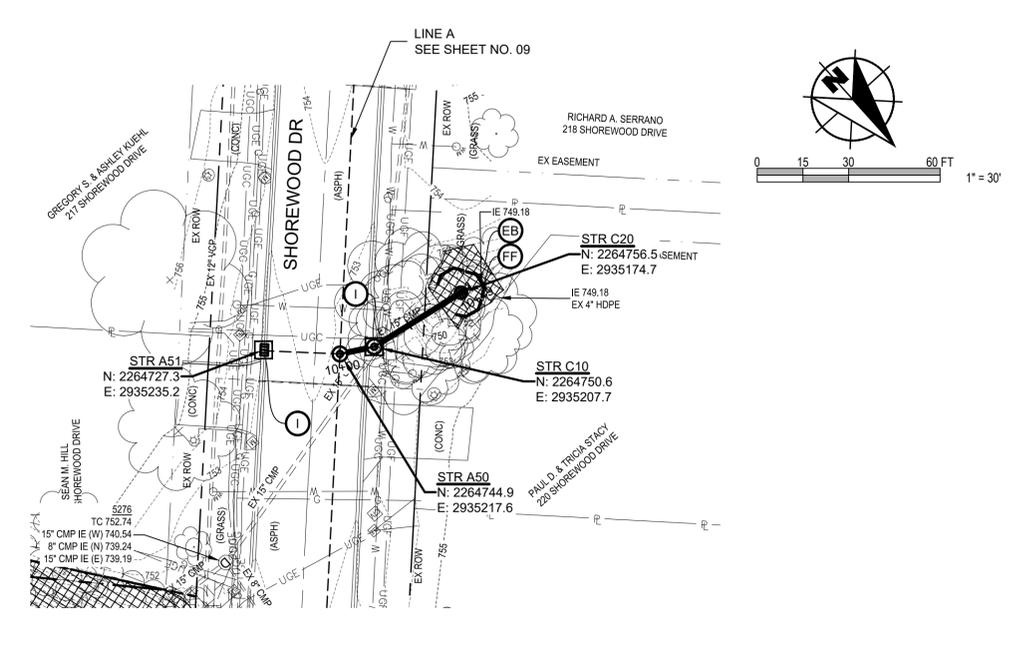
- KEYED NOTES**
- EB EROSION CONTROL BLANKET
 - FF FIBER FILTRATION TUBE PROTECTION
 - I INLET PROTECTION

- LEGEND**
- [Symbol] INLET PROTECTION
 - [Symbol] CONCRETE WASHOUT
 - [Symbol] EROSION CONTROL BLANKET
 - [Symbol] FIBER FILTRATION TUBE





LINE B - PLAN
SCALE: 1" = 30'



LINE C - PLAN
SCALE: 1" = 30'

GENERAL NOTES:

1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN OR AS DETERMINED NECESSARY BY CONTRACTOR TO PROVIDE ADEQUATE CONTROL FOR THE LIMITS OF CONSTRUCTION.
2. INSTALL INLET PROTECTION IN INLETS IMMEDIATELY DOWNSTREAM (QTY. 2 EA) OF THE INTERSECTION OF SHOREWOOD DR. & PICKWICK PL.

SITE RESTORATION NOTES:

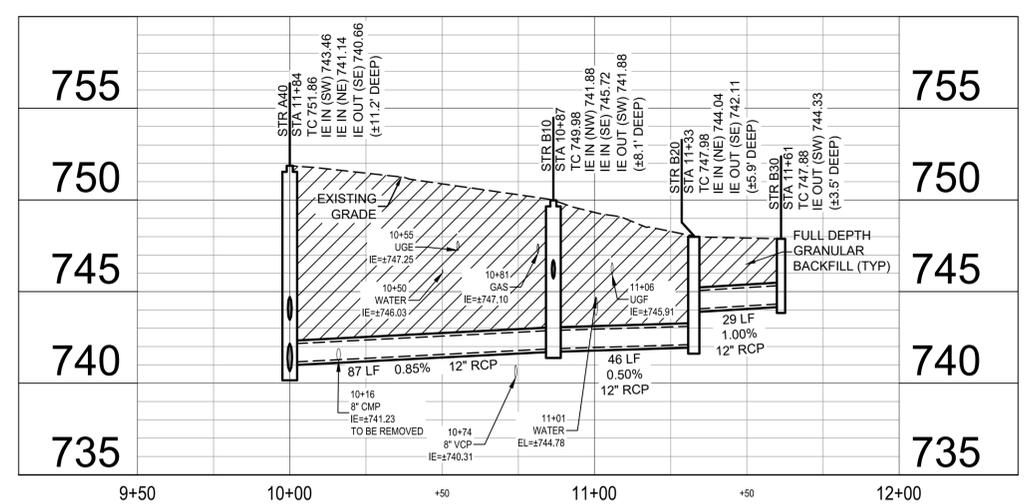
1. WITHIN RAVINE, RESTORE DISTURBED AREAS AS NOTED.
2. OUTSIDE OF RAVINE, RESTORE DISTURBED AREAS WITH 6 IN. (MIN.) TOPSOIL, LAWN & HIGH MAINTENANCE AREAS GRASS SEED, AND IF NECESSARY, BIONET SC150BN EROSION CONTROL BLANKET (OR APPROVED EQUAL) OR FLEXITERRA HP-FGM FLEXIBLE GROWTH MEDIUM (OR APPROVED EQUAL).
3. ALL SLOPES STEEPER THAN 3:1 (H:V) REQUIRE EROSION CONTROL BLANKET OR FLEXIBLE GROWTH MEDIUM.

KEYED NOTES

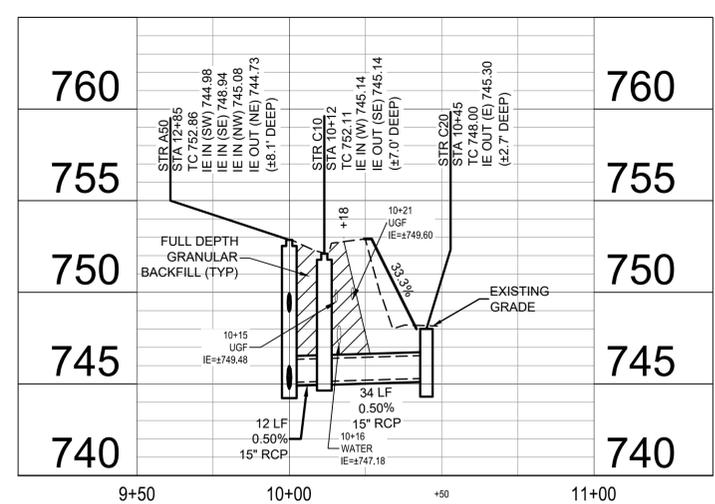
- EB EROSION CONTROL BLANKET
- FF FIBER FILTRATION TUBE PROTECTION
- I INLET PROTECTION

LEGEND

- INLET PROTECTION
- CONCRETE WASHOUT
- EROSION CONTROL BLANKET
- FIBER FILTRATION TUBE



PROFILE - LINE B
HORIZ SCALE: 1" = 30'
VERT SCALE: 1" = 5'



PROFILE - LINE C
HORIZ SCALE: 1" = 30'
VERT SCALE: 1" = 5'

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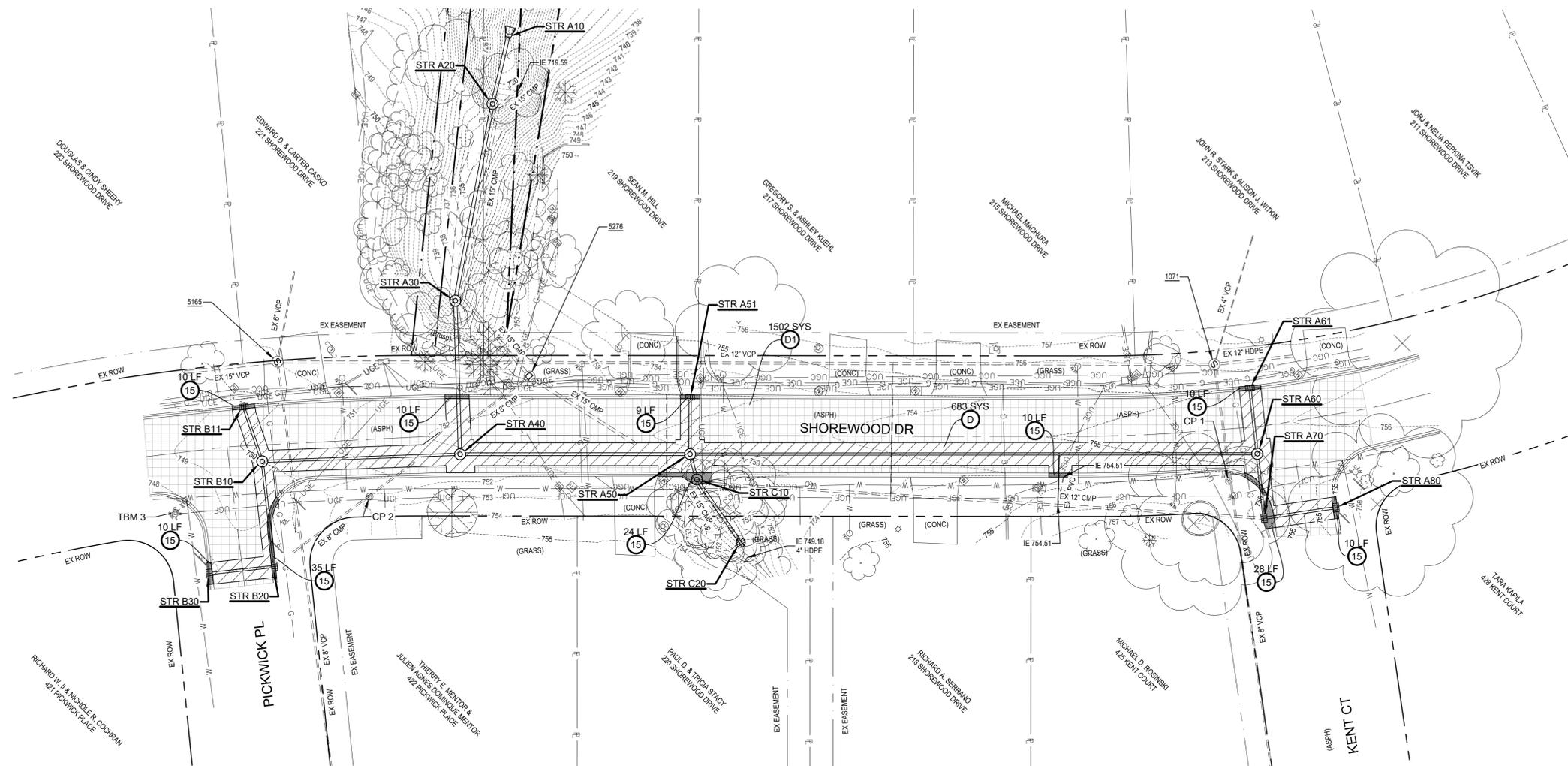
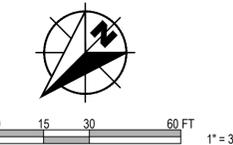
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	ISSUE DATE: NOVEMBER 2024				
	PROJECT NUMBER: 277824-04-001				



RAVINE RESTORATION & STORM SEWER IMPROVEMENTS
 PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT
 SHOREWOOD FOREST SUBDIVISION

LINES B AND C - PLAN AND PROFILE

SHEET NO.	10
TOTAL SHEETS	16



KEYED NOTES

- D FULL DEPTH PAVEMENT REPAIR (LOCAL STREET) OVER CLASS I BACKFILL
- D1 ASPHALT MILL AND RESURFACE PAVEMENT
- 15 CONCRETE CURB AND GUTTER REPAIR OVER CLASS I BACKFILL

LEGEND

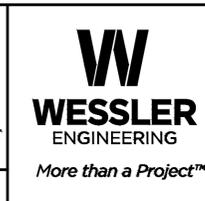
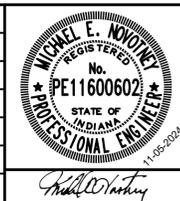
- FULL DEPTH PAVEMENT REPAIR
- MILL AND RESURFACE PAVEMENT
- CONCRETE CURB AND GUTTER REPAIR

ROAD REPAIR PLAN

SCALE: 1" = 30'

Drawing: X:\Porter County\277824-Porter Co. Restora and Storm Sewer\DWG\Sheets\277824-PA-A01.dwg | Layout: 11 | Plotter: 110624 @ 07:59:00 | LastSavedBy: jasonw

SCALE VERIFICATION BAR IS ONE INCH LONG ON ORIGINAL DRAWING 	DRAWN BY	JRW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
	CHECKED BY	WBH				
	APPROVED BY	MEN				
	ISSUE DATE	NOVEMBER 2024				
	PROJECT NUMBER	277824-04-001				



RAVINE RESTORATION & STORM SEWER IMPROVEMENTS

PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT
SHOREWOOD FOREST SUBDIVISION

ROAD REPAIR PLAN

SHEET NO.	11
TOTAL SHEETS	16

Drawing: X:\Porter County\277824-Porter Co. Restora and Storm Sewer\DWG\Sheets\277824-SD.dwg | Layout: 12 | Plotted: 11/05/24 @ 07:59:16 | LastSavedBy: jasonw

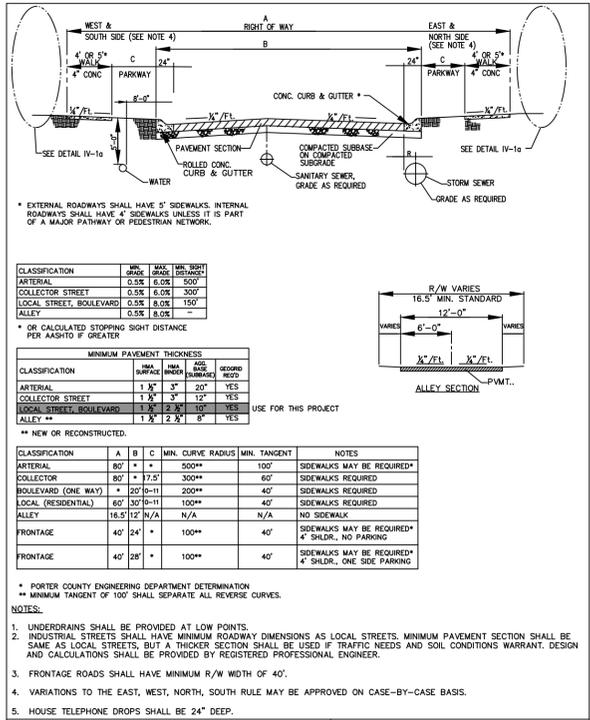
STRUCTURE TABLE						
STRUCTURE NAME:	STATION	OFFSET	CASTINGS MODEL NO.	STRUCTURE DETAIL	PIPES IN:	PIPES OUT
A10	10+00	0.00		CONCRETE END SECTION	FROM A20, 18" RCP INV IN: 724.00, 30 LF @ 0.50%	
A20	10+30	0.00	NEENAH R-1642 RIM: 734.20	48 INCH FLAT TOP TYPE 1 MANHOLE	FROM A30, 18" RCP INV IN: 730.11, 87 LF @ 1.36%	TO A10, 18" RCP INV OUT: 724.15, 30 LF @ 0.50%
A30	11+17	0.00	NEENAH R-1642 RIM: 743.36	48 INCH FLAT TOP TYPE 1 MANHOLE	FROM A40, 18" RCP INV IN: 739.99, 67 LF @ 1.00%	TO A20, 18" RCP INV OUT: 731.31, 87 LF @ 1.36%
A40	11+84	0.00	NEENAH R-1642 RIM: 751.86	48 INCH FLAT TOP TYPE 1 MANHOLE	FROM A50, 15" RCP INV IN: 743.46, 101 LF @ 1.26% FROM B10, 12" RCP INV IN: 741.14, 87 LF @ 0.85%	TO A30, 18" RCP INV OUT: 740.66, 67 LF @ 1.00%
A50	12+85	0.00	NEENAH R-1642 RIM: 752.86	48 INCH FLAT TOP TYPE 1 MANHOLE	FROM A60, 12" RCP INV IN: 745.00, 158 LF @ .80% FROM A51, 12" RCP INV IN: 748.94, 25 LF @ 0.40% FROM C10, 15" RCP INV IN: 745.08, 12 LF @ 0.50%	TO A40, 15" RCP INV OUT: 744.73, 101 LF @ 1.26%
A51	12+85	24.84 L	NEENAH R-3246 RIM: 752.69	36 X 24 INCH INLET TYPE 3		TO A50, 12" RCP INV OUT: 749.04, 25 LF @ 0.40%
A60	15+33	0.00	NEENAH R-1642 RIM: 755.32	48 INCH FLAT TOP TYPE 1 MANHOLE	FROM A70, 12" RCP INV IN: 747.06, 28 LF @ 1.00% FROM A61, 12" RCP INV IN: 751.38, 29 LF @ 0.40%	TO A50, 12" RCP INV OUT: 746.96 87 LF @ 0.80%
A61	15+30	28.74 L	NEENAH R-3246 RIM: 755.17	36 X 24 INCH INLET TYPE 3		TO A60, 12" RCP INV OUT: 751.50, 29 LF @ 0.40%
A70	15+61	0.00	NEENAH R-3246 RIM: 754.07	36 X 24 INCH INLET TYPE 3	FROM A80, 12" RCP INV IN: 750.52, 32 LF @ 1.48%	TO A60, 12" RCP INV OUT: 747.34, 28 LF @ 1.00%
A80	15+93	0.00	NEENAH R-3246 RIM: 754.48	36 X 24 INCH INLET TYPE 3		TO A70, 12" RCP INV OUT: 750.99, 32 LF @ 1.48%
B10	10+87	0.00	NEENAH R-1642 RIM: 749.98	48 INCH FLAT TOP TYPE 1 MANHOLE	FROM B20, 12" RCP INV IN: 741.88, 46 LF @ 0.50% FROM B11, 12" RCP INV IN: 745.72, 25 LF @ 0.40%	TO A40, 12" RCP INV OUT: 741.88, 87 LF @ 0.85%
B11	10+87	25.16 R	NEENAH R-3246 RIM: 749.48	36 X 24 INCH INLET TYPE 3		TO B10, 12" RCP INV OUT: 745.82, 25 LF @ 0.40%
B20	11+33	0.00	NEENAH R-3246 RIM: 747.98	36 X 24 INCH INLET TYPE 3	FROM B30, 12" RCP INV IN: 744.04, 29 LF @ 1.00%	TO B10, 12" RCP INV OUT: 742.11, 46 LF @ 0.50%
B30	11+61	0.00	NEENAH R-3246 RIM: 747.88	36 X 24 INCH INLET TYPE 3		TO B20, 12" RCP INV OUT: 744.33, 29 LF @ 1.00%
C10	10+12	0.00	NEENAH R-3246 RIM: 752.11	48 INCH FLAT TOP TYPE 1 MANHOLE	FROM C20, 15" RCP INV IN: 745.14, 34 LF @ 0.50%	TO A50, 15" RCP INV OUT: 745.14, 12 LF @ 0.50%
C20	10+45	0.00	HAALA CG30TM RIM: 748.00	30 INCH INLET TYPE 1		TO C10, 15" RCP INV OUT: 745.30, 34 LF @ 0.50%

SCALE VERIFICATION BAR IS ONE INCH LONG ON ORIGINAL DRAWING ██████████	DRAWN BY	JRW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
	CHECKED BY	WBH				
	APPROVED BY	MEN				
	ISSUE DATE	NOVEMBER 2024				
	PROJECT NUMBER	277824-04-001				

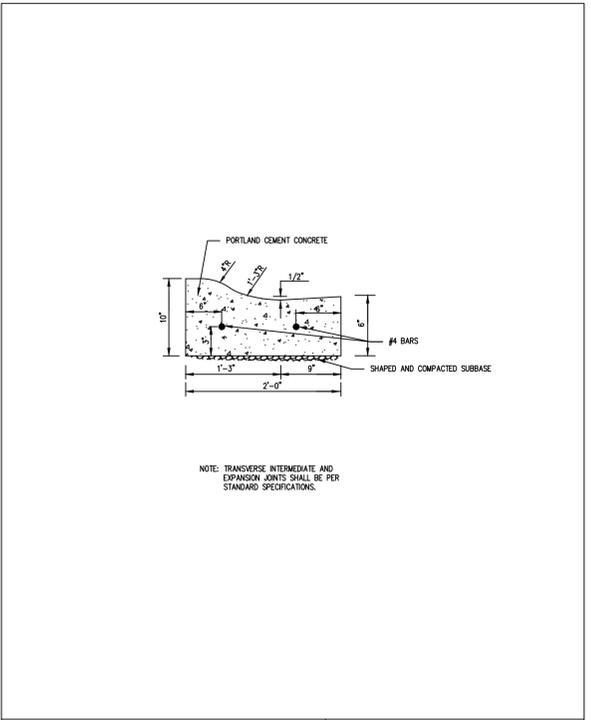


RAVINE RESTORATION & STORM SEWER IMPROVEMENTS	
PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT SHOREWOOD FOREST SUBDIVISION	
STRUCTURE DATA TABLE	

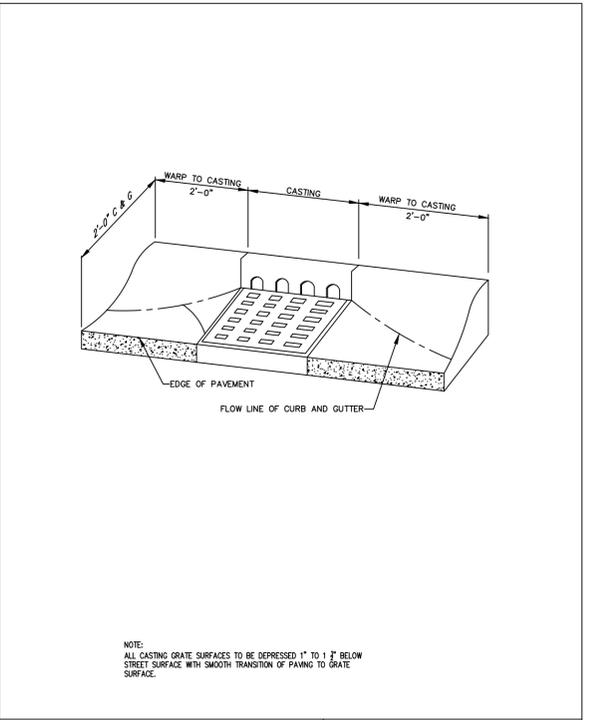
SHEET NO.	12
TOTAL SHEETS	16



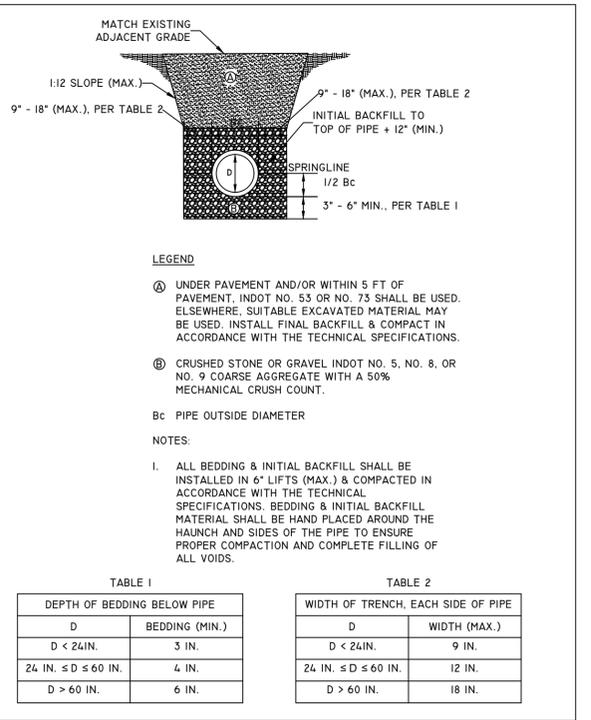
ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			TYPICAL SECTIONS - NEW SUBDIVISION IV-1



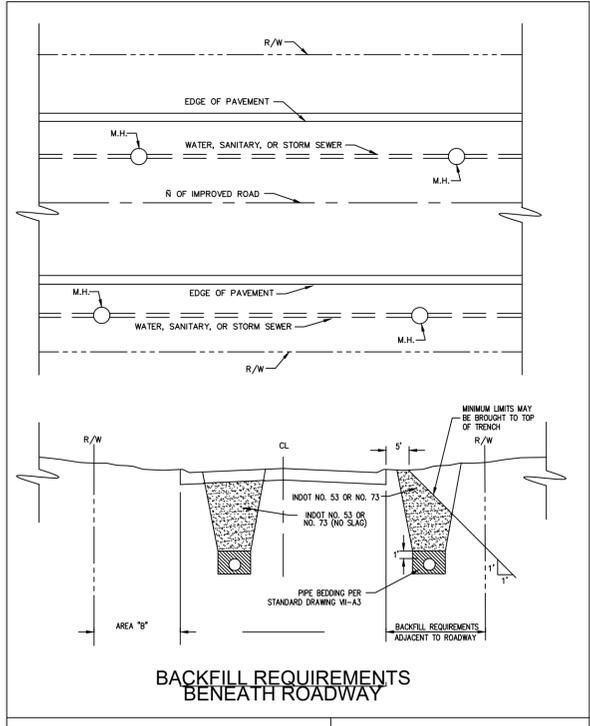
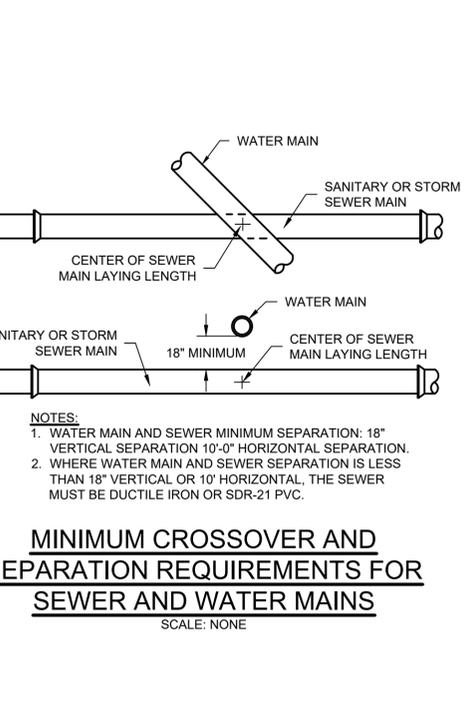
ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			ROLLED CURB AND GUTTER IV-6



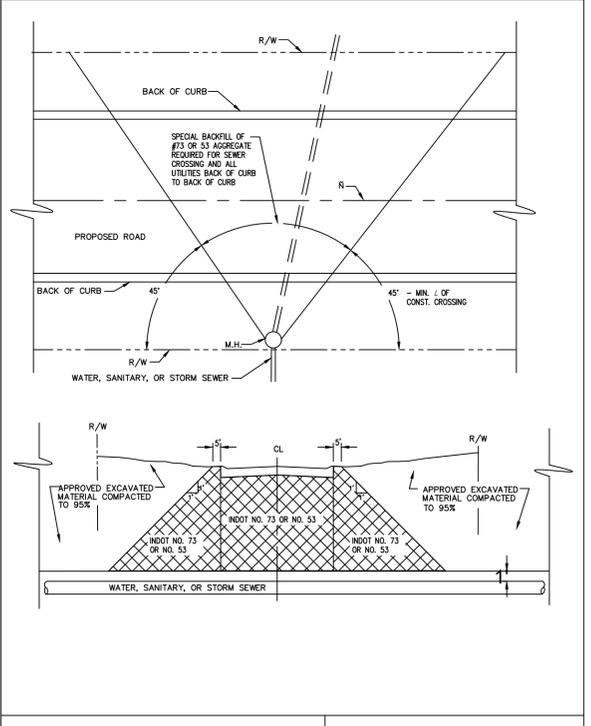
ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			WARP PATTERN CURB AND GUTTER INTO CASTING IV-7



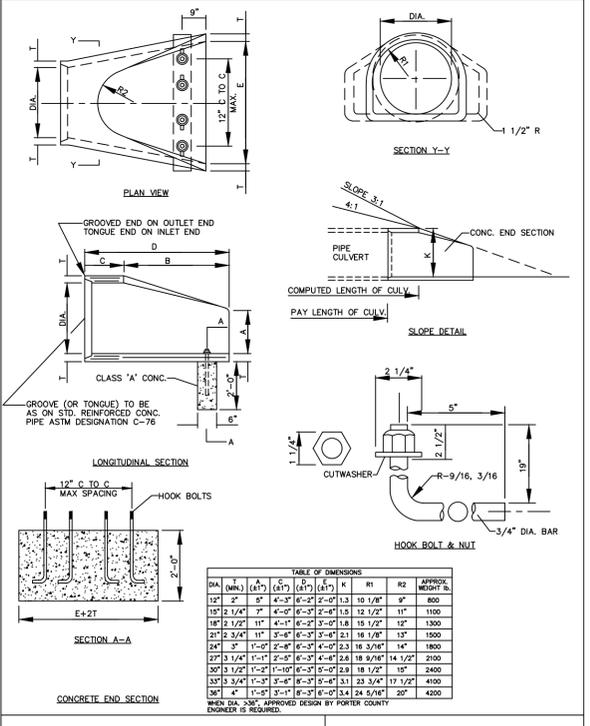
ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			STORM SEWER & CULVERT BEDDING AND BACKFILL IV-7

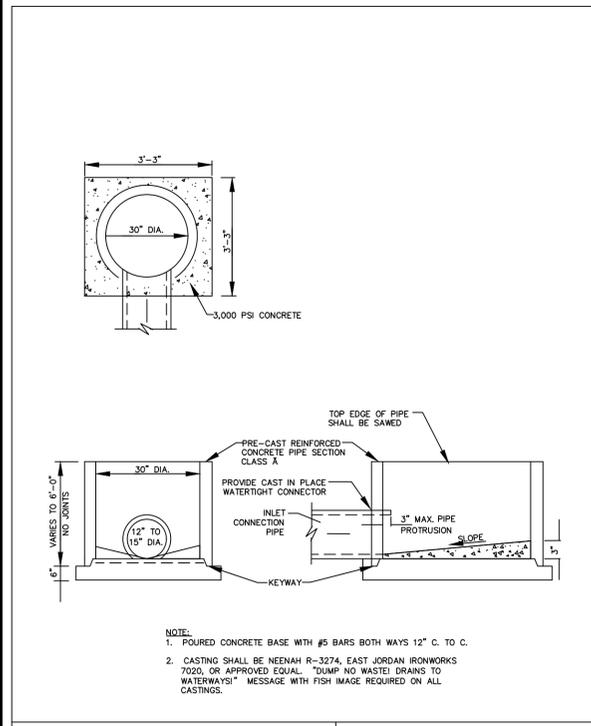


ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			BACKFILL REQUIREMENTS VII-A4



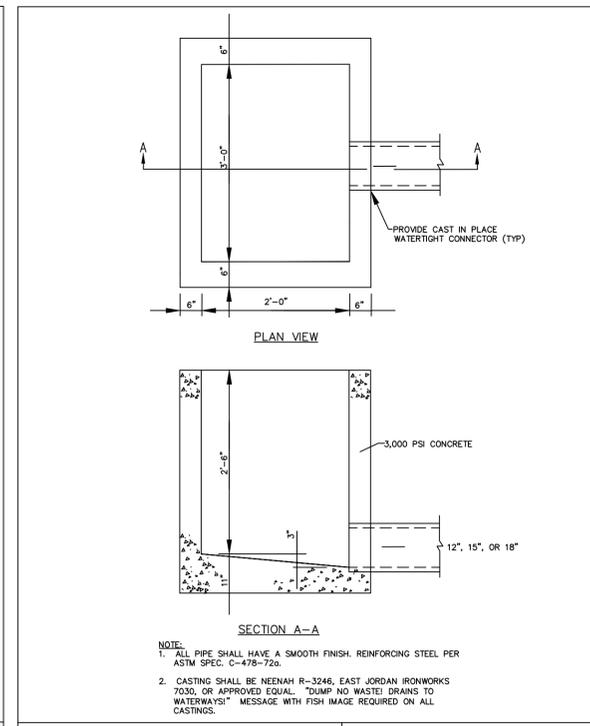
ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			BACKFILL REQUIREMENTS (CONTINUED) VII-A5





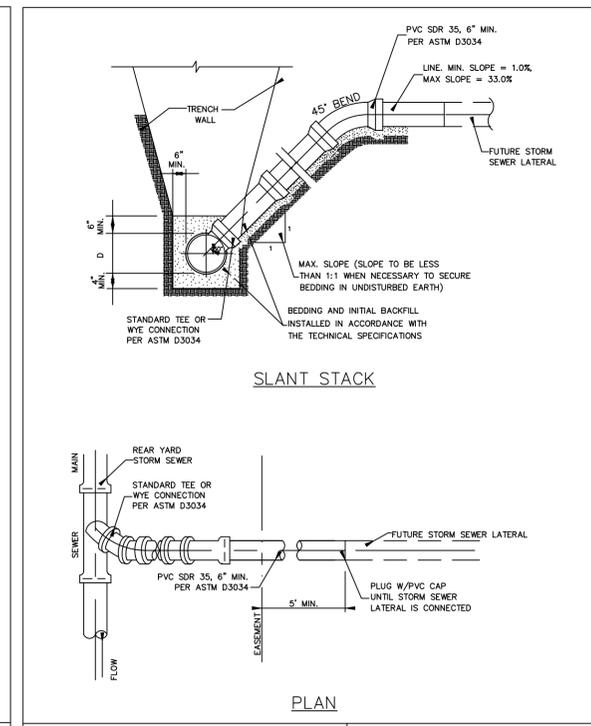
- NOTE:
- POURED CONCRETE BASE WITH #5 BARS BOTH WAYS 12" C. TO C.
 - CASTING SHALL BE NENAH R-3274, EAST JORDAN IRONWORKS 7020, OR APPROVED EQUAL. "DUMP NO WASTE" DRAINS TO WATERWAYS MESSAGE WITH FISH IMAGE REQUIRED ON ALL CASTINGS.

ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS



- NOTE:
- ALL PIPE SHALL HAVE A SMOOTH FINISH. REINFORCING STEEL PER ASTM SPEC. C-478-72a
 - CASTING SHALL BE NENAH R-3246, EAST JORDAN IRONWORKS 7030, OR APPROVED EQUAL. "DUMP NO WASTE" DRAINS TO WATERWAYS MESSAGE WITH FISH IMAGE REQUIRED ON ALL CASTINGS.

ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS



ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS

STREAMBANK PLANT PLUGS (PLANT AT 3 FT/O.C.)		
Wildflowers		
Botanical Name	Common Name	% of mix
<i>Caltha palustris</i>	Marsh Marigold	10.00%
<i>Eutrochium purpureum</i>	Sweet Joe Pye Weed	10.00%
<i>Rudbeckia laciniata</i>	Wild Golden Glow	10.00%
<i>Symphytichum lateriflorum</i>	Calico Aster	10.00%
Total of WILDFLOWERS:		40.00%
Grasses, Sedges & Rushes		
Botanical Name	Common Name	% of mix
<i>Carex crinita</i>	Fringed Sedge	10.00%
<i>Carex davisi</i>	Awmed Graceful Sedge	10.00%
<i>Carex sprengeii</i>	Long-Beaked Sedge	5.00%
<i>Carex thyphina</i>	Common Cattail Sedge	5.00%
<i>Blymus hystrix</i>	Bottlebrush Grass	10.00%
<i>Blymus riparius</i>	Riverbank Wild Rye	10.00%
<i>Blymus virginicus</i>	Virginia Wild Rye	5.00%
<i>Juncus effusus</i>	Common Rush	5.00%
Total of GRASSES, SEDGES & RUSHES:		60.00%
TOTAL OF NATIVE PLANT PLUGS:		100.00%

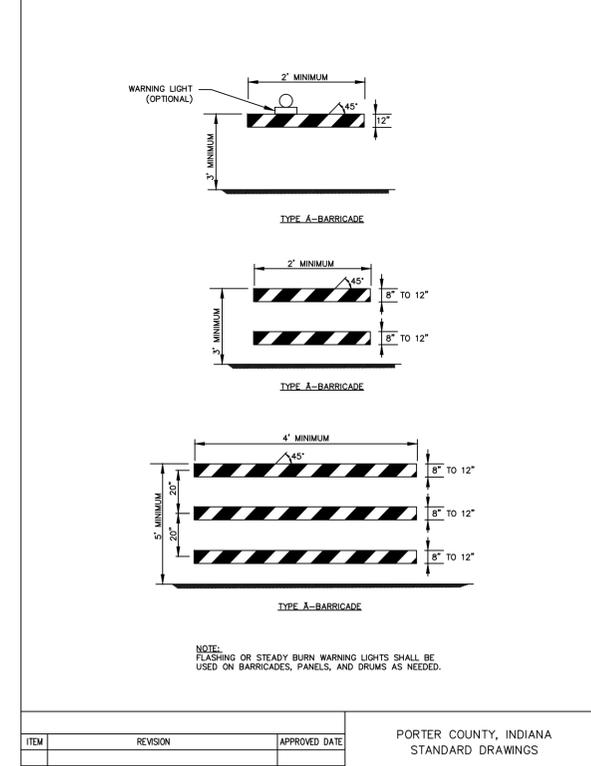
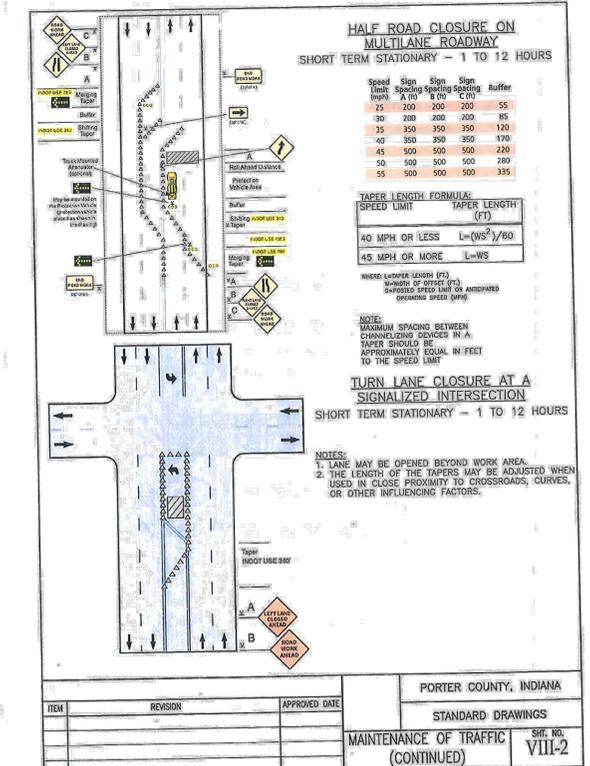
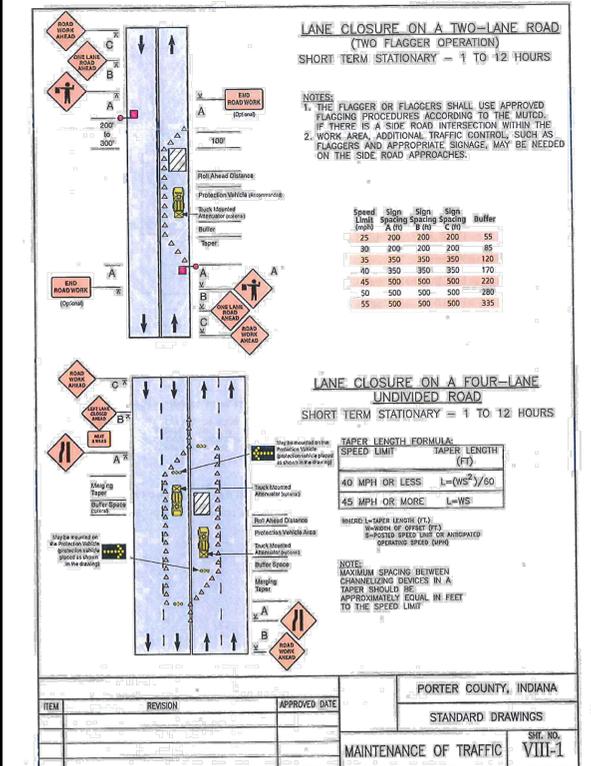
BLUFF PLANT PLUGS (PLANT AT 3 FT/O.C.)		
Wildflowers		
Botanical Name	Common Name	% of mix
<i>Aquilegia canadensis</i>	Columbine	5.0%
<i>Eutrochium purpureum</i>	Sweet Joe Pye Weed	10.0%
<i>Helianthus divaricatus</i>	Woodland Sunflower	10.0%
<i>Rudbeckia laciniata</i>	Wild Golden Glow	5.0%
<i>Solidago ulmifolia</i>	Bm-Leaved Goldenrod	10.0%
<i>Symphytichum lateriflorum</i>	Calico Aster	5.0%
<i>Zizia aurea</i>	Golden Alexanders	5.0%
Total of WILDFLOWERS:		50.0%
Grasses, Sedges & Rushes		
Botanical Name	Common Name	% of mix
<i>Onna arundinacea</i>	Common Wood Reed	10.0%
<i>Blymus canadensis</i>	Canada Wild Rye	5.0%
<i>Blymus hystrix</i>	Bottlebrush Grass	10.0%
<i>Blymus riparius</i>	Riverbank Wild Rye	10.0%
<i>Blymus virginicus</i>	Virginia Wild Rye	5.0%
<i>Schizachyrium scoparium</i>	Little Bluestem	10.0%
Total of GRASSES, SEDGES & RUSHES:		50.0%
TOTAL OF NATIVE PLANT PLUGS:		100.0%

BLUFF PLANT SEED					
Wildflowers					
Botanical Name	Common Name	% by wt.	oz./AC	LB/AC	
<i>Actaea rubra</i>	Red Baneberry	1.16%	3.0	0.19	
<i>Agastache nepetoides</i>	Yellow Giant Hyssop	0.77%	2.0	0.13	
<i>Agastache scrophulariifolia</i>	Purple Giant Hyssop	0.77%	2.0	0.13	
<i>Allium tricoccum</i>	Wild Leek	3.08%	8.0	0.50	
<i>Aquilegia canadensis</i>	Columbine	0.77%	2.0	0.13	
<i>Blephilia hirsuta</i>	Hairy Wood Mint	1.16%	3.0	0.19	
<i>Campanula americana</i>	Tall Bellflower	1.16%	3.0	0.19	
<i>Dodecatheon meadia</i>	Midland Shooting Star	0.77%	2.0	0.13	
<i>Eutrochium purpureum</i>	Sweet Joe Pye Weed	1.58%	4.0	0.25	
<i>Eurybia macrophylla</i>	Bg-leaved Aster	0.77%	2.0	0.13	
<i>Helianthus divaricatus</i>	Woodland Sunflower	0.58%	1.5	0.09	
<i>Mertensia virginica</i>	Virginia Bluebells	0.77%	2.0	0.13	
<i>Polemonium reptans</i>	Jacob's Ladder	1.16%	3.0	0.19	
<i>Rudbeckia laciniata</i>	Wild Golden Glow	0.77%	2.0	0.13	
<i>Solidago flexicaulis</i>	Zig Zag Goldenrod	0.58%	1.5	0.09	
<i>Solidago patula</i>	Bm-Leaved Goldenrod	0.58%	1.5	0.09	
<i>Symphytichum lateriflorum</i>	Calico Aster	0.77%	2.0	0.13	
<i>Symphytichum shortii</i>	Short's Aster	1.16%	3.0	0.19	
<i>Thalictrum dioicum</i>	Early Meadow Rue	1.54%	4.0	0.25	
<i>Thaspium trifoliatum flavum</i>	Meadow Parsnip	1.16%	3.0	0.19	
<i>Zizia aurea</i>	Golden Alexanders	0.77%	2.0	0.13	
Total of WILDFLOWERS:		20.77%	54.0	3.38	
Grasses, Sedges & Rushes					
Botanical Name	Common Name	% by wt.	oz./AC	LB/AC	
<i>Bromus pubescens</i>	Hairy Wood Chess	3.08%	8.0	0.50	
<i>Bouteloua curtipendula</i>	Side-Oats Grama	6.15%	16.0	1.00	
<i>Carex blanda</i>	Common Wood Sedge	1.54%	4.0	0.25	
<i>Carex davisi</i>	Awmed Graceful Sedge	0.77%	2.0	0.13	
<i>Carex grisea</i>	Wood Gray Sedge	1.54%	4.0	0.25	
<i>Carex sprengeii</i>	Long-beaked Sedge	1.54%	4.0	0.25	
<i>Onna arundinacea</i>	Common Wood Reed	1.54%	4.0	0.25	
<i>Diarrhena obovata</i>	Beak Grass	4.62%	12.0	0.75	
<i>Blymus canadensis</i>	Canada Wild Rye	12.31%	32.0	2.00	
<i>Blymus hystrix</i>	Bottlebrush Grass	4.62%	12.0	0.75	
<i>Blymus riparius</i>	Riverbank Wild Rye	1.54%	4.0	0.25	
<i>Blymus villosus</i>	Silky Wild Rye	1.54%	4.0	0.25	
<i>Blymus virginicus</i>	Virginia Wild Rye	12.31%	32.0	2.00	
<i>Festuca subverticillata</i>	Nodding Fescue	3.08%	8.0	0.50	
<i>Panicum virgatum</i>	Switch Grass	4.62%	12.0	0.75	
<i>Schizachyrium scoparium</i>	Little Bluestem	6.15%	16.0	1.00	
<i>Sorghastrum nutans</i>	Indian Grass	12.31%	32.0	2.00	
Total of GRASSES, SEDGES & RUSHES:		79.23%	206.0	12.88	
TOTAL OF NATIVE PLANT SEED:		100.00%	260.0	16.25	

BLUFF PLANT SEED (CONTINUED)					
Cover Crop					
<i>Avena sativa</i>	Common Oat	33.33%	256	16.0	
N/A	Regreen™ (or approved equal)	66.67%	512	32.0	
Total of COVER CROP:		100.00%	768.0	48.0	

STREAMBANK PLANT SEED					
Wildflowers					
Botanical Name	Common Name	% by wt.	oz./AC	LB/AC	
<i>Actaea rubra</i>	Red Baneberry	0.73%	1.5	0.09	
<i>Ageratina altissima</i>	White Snakeroot	0.73%	1.5	0.09	
<i>Allium tricoccum</i>	Wild Leek	3.88%	8.0	0.50	
<i>Asclepias exaltata</i>	Poke Milkweed	2.91%	6.0	0.38	
<i>Bidens frondosa</i>	Common Beggarticks	1.21%	2.5	0.16	
<i>Caltha palustris</i>	Marsh Marigold	0.97%	2.0	0.13	
<i>Campnanulastrum americanum</i>	Tall Bellflower	1.94%	4.0	0.25	
<i>Caulophyllum thalictroides</i>	Blue Cohosh	1.46%	3.0	0.19	
<i>Cryptotaenia canadensis</i>	Honewort	0.97%	2.0	0.13	
<i>Eurybia macrophylla</i>	Bg-leaved Aster	0.97%	2.0	0.13	
<i>Eutrochium purpureum</i>	Sweet Joe Pye Weed	0.97%	2.0	0.13	
<i>Geum canadense</i>	White Avens	2.91%	6.0	0.38	
<i>Hydrophyllum virginianum</i>	Virginia Waterleaf	0.97%	2.0	0.13	
<i>Impatiens pallida</i>	Yellow Jewelweed	1.46%	3.0	0.19	
<i>Impatiens capensis</i>	Orange Jewelweed	1.46%	3.0	0.19	
<i>Lobelia inflata</i>	Indian Tobacco	0.73%	1.5	0.09	
<i>Maianthemum racemosum</i>	Solomon's Plume	3.88%	8.0	0.50	
<i>Mertensia virginica</i>	Virginia Bluebells	0.73%	1.5	0.09	
<i>Osorhiza claytonii</i>	Sweet Cicely	2.91%	6.0	0.38	
<i>Osorhiza longistylis</i>	Aniseroot	1.94%	4.0	0.25	
<i>Packera aurea</i>	Golden Ragwort	0.97%	2.0	0.13	
<i>Penstemon hirsutus</i>	Hairy Beardtongue	1.46%	3.0	0.19	
<i>Persicaria virginiana</i>	Woodland Knotweed	0.97%	2.0	0.13	
<i>Polemonium reptans</i>	Jacob's Ladder	0.73%	1.5	0.09	
<i>Polygonatum biflorum</i>	Solomon's Seal	1.94%	4.0	0.25	
<i>Rudbeckia laciniata</i>	Wild Golden Glow	0.97%	2.0	0.13	
<i>Solidago flexicaulis</i>	Zig Zag Goldenrod	0.73%	1.5	0.09	
<i>Solidago patula</i>	Round-Leaved Goldenrod	0.73%	1.5	0.09	
<i>Symphytichum drummondii</i>	Drummond's Aster	1.46%	3.0	0.19	
<i>Symphytichum lateriflorum</i>	Calico Aster	0.97%	2.0	0.13	
<i>Thalictrum dioicum</i>	Early Meadow Rue	1.94%	4.0	0.25	
<i>Ullularia grandiflora</i>	Beltwort	2.91%	6.0	0.38	
<i>Verbesina alternifolia</i>	Wingstem	1.94%	4.0	0.25	
Total of WILDFLOWERS:		51.46%	106.0	6.63	
Grasses, Sedges & Rushes					
Botanical Name	Common Name	% by wt.	oz./AC	LB/AC	
<i>Bromus pubescens</i>	Hairy Wood Chess	2.91%	6.0	0.38	
<i>Carex blanda</i>	Common Wood Sedge	2.91%	6.0	0.38	
<i>Carex crinita</i>	Fringed Sedge	0.97%	2.0	0.13	
<i>Carex cristatella</i>	Orested Oval Sedge	0.73%	1.5	0.09	
<i>Carex davisi</i>	Awmed Graceful Sedge	0.97%	2.0	0.13	
<i>Carex frankii</i>	Bristly Cattail Sedge	0.73%	1.5	0.09	
<i>Carex grayi</i>	Common Bur Sedge	0.97%	2.0	0.13	
<i>Carex grisea</i>	Wood Gray Sedge	1.94%	4.0	0.25	
<i>Carex lupulina</i>	Common Hop Sedge	0.97%	2.0	0.13	
<i>Carex lurida</i>	Silow Sedge	0.97%	2.0	0.13	
<i>Carex sparganoides</i>	Bur-reed Sedge	0.73%	1.5	0.09	
<i>Carex sprengeii</i>	Long-Beaked Sedge	1.46%	3.0	0.19	
<i>Carex squarrosa</i>	Narrow-Leaved Cattail Sedge	0.97%	2.0	0.13	
<i>Carex thyphina</i>	Common Cattail Sedge	1.46%	3.0	0.19	
<i>Onna arundinacea</i>	Common Wood Reed	1.94%	4.0	0.25	
<i>Diarrhena obovata</i>	Beak Grass	5.83%	12.0	0.75	
<i>Blymus hystrix</i>	Bottlebrush Grass	3.88%	8.0	0.50	
<i>Blymus riparius</i>	Riverbank Wild Rye	3.88%	8.0	0.50	
<i>Blymus virginicus</i>	Virginia Wild Rye	5.83%	12.0	0.75	
<i>Festuca subverticillata</i>	Nodding Fescue	3.88%	8.0	0.50	
<i>Glyceria striata</i>	Fowl Mann Grass	3.88%	8.0	0.50	
<i>Juncus effusus</i>	Common Rush	0.73%	1.5	0.09	
Total of GRASSES, SEDGES & RUSHES:		48.54%	100.0	6.25	
TOTAL OF NATIVE PLANT SEED:		100.00%	206.0	12.88	

COVER CROP					
<i>Avena sativa</i>	Common Oat	33.33%	256	16.0	
N/A	Regreen™ (or approved equal)	66.67%	512	32.0	
Total of COVER CROP:		100.00%	768.0	48.0	

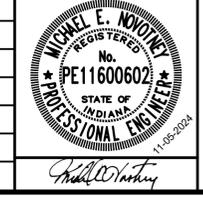


ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS

ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS

ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS

SCALE VERIFICATION	DRAWN BY	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	JRW				
	WBH				
	MEN				
	ISSUE DATE				
	NOVEMBER 2024				
	PROJECT NUMBER				
	277824-04-001				



RAVINE RESTORATION & STORM SEWER IMPROVEMENTS

PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT
SHOREWOOD FOREST SUBDIVISION

MISCELLANEOUS DETAILS

SHEET NO.
14
TOTAL SHEETS
16

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ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			EROSION CONTROL- CONSTRUCTION SEQUENCE
			II-1

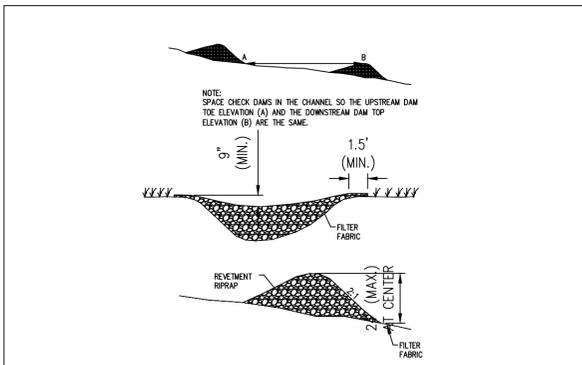
ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			TEMPORARY STONE CONSTRUCTION ENTRANCE
			II-4

ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			CATCH BASIN INSERT INLET PROTECTION
			II-11

ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			ROCK CHECK DAM
			II-6

ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			SEEDING TABLES TEMPORARY SEEDING
			II-14

ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			SEEDING TABLES PERMANENT SEEDING
			II-15



LIMITATIONS:

- MAXIMUM 2 ACRES DRAINAGE AREA.
- CHANNEL GEOMETRY MUST BE LINEAR TO CREATE CONTINUOUS CONTACT BETWEEN THE SOIL SURFACE AND THE BOTTOM OF THE BERM. THERE MUST BE NO CUPS BETWEEN THE SOIL SURFACE AND THE BERM.
- EROSION CONTROL BLANKET MUST BE USED IN CONJUNCTION WITH THE BERM.
- MAXIMUM CHANNEL SLOPE=3%.

INSTALLATION:

- LAYOUT THE LOCATION OF THE DAM.
- EXCAVATE A CUTTER TRENCH INTO THE CHANNEL BOTTOM AND DITCH BANKS, EXTENDING IT A MINIMUM OF 18 INCHES BEYOND THE TOP OF THE DITCH BANK.
- INSTALL AND ANCHOR FILTER FABRIC IN THE CHANNEL AND CUTTER TRENCH.
- PLACE RIPRAP IN THE CUTTER TRENCH AND CHANNEL TO THE LINES AND DIMENSIONS SHOWN IN THE CONSTRUCTION PLANS. THE CENTER OF EACH DAM MUST BE AT LEAST THREE INCHES LOWER THAN THE UPSTREAM POINTS OF CONTACT BETWEEN THE RIPRAP DAM AND CHANNEL BANKS.
- EXTEND RIPRAP AT LEAST 18 INCHES BEYOND THE TOP OF CHANNEL BANKS TO KEEP OVERFLOW WATER FROM ERODING AREAS ADJACENT TO THE CHANNEL BANKS BEFORE IT RE-ENTERS THE CHANNEL.
- PLACE FILTER MEDIUM (INDOT CA NO. 5 AGGREGATE) ON THE UP-SLOPE SIDE OF THE DAM. PLACE FILTER MEDIUM OVER THE ENTIRE FACE OF THE DAM UP TO THE BASE OF THE OVERFLOW WEIR NOTCH.
- STABILIZE THE CHANNEL ABOVE THE UPSTREAM DAM.
- INSTALL AN EROSION-RESISTANT LINING IN THE CHANNEL BELOW THE LOWERMOST DAM. THE LINING SHOULD EXTEND A MINIMUM DISTANCE OF SIX FEET BELOW THE DAM.
- ADDITIONAL SEDIMENT STORAGE CAN BE PROVIDED BY EXCAVATING A SMALL SEDIMENT TRAP ON THE UPSTREAM SIDE OF THE CHECK DAM.
- SEE SPECIFIC PRODUCT INFORMATION FOR INSTALLATION OF MANUFACTURED CHECK DAM.

MAINTENANCE:

- INSPECT WITHIN 24 HOURS EACH RAIN EVENT AND AT LEAST EVERY SEVEN CALENDAR DAYS.
- IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, INSTALL AN EROSION-RESISTANT LINER IN THAT PORTION OF THE CHANNEL.
- REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE-HALF THE HEIGHT OF THE DAM TO MAINTAIN CHANNEL CAPACITY. ALLOW DRAINAGE THROUGH THE DAM, AND PREVENT LARGE FLOW FROM DISPLACING SEDIMENT.
- ADD RIPRAP AND AGGREGATE AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION OF THE DAMS.
- WHEN DAMS ARE NO LONGER NEEDED, REMOVE THE RIPRAP AND AGGREGATE AND STABILIZE THE CHANNEL USING AN EROSION-RESISTANT LINING AS NECESSARY. RIPRAP AND AGGREGATE FROM THE DAM MAY BE REUSED OR UTILIZED TO STABILIZE THE CHANNELS.
- PERFORM NECESSARY MAINTENANCE TO PREVENT FREEZING OF DAM DURING WINTER MONTHS.

SEED SPECIES	RATE PER ACRE	PLANTING DEPTH	OPTIMUM DATES
WHEAT OR RYE	150 LBS	1 TO 1 1/2 INCHES	SEPT 15 - OCT 30
SPRING OATS	100 LBS	1 INCH	MARCH 1 - APRIL 15
ANNUAL Ryegrass	40 LBS	1/2 INCH	MARCH 1 - MAY 1
GERMAN MILLET	40 LBS	1 TO 2 INCHES	MAY 1 - JUNE 1
SUDANGRASS	35 LBS	1 TO 2 INCHES	MAY 1 - JULY 30
BUCKWHEAT	60 LBS	1 TO 2 INCHES	APRIL 15 - JUNE 1
CORN (BROADCAST)	300 LBS	1 TO 2 INCHES	MAY 11 - AUG 10
SORGHUM	35 LBS	1 TO 2 INCHES	MAY 1 - JULY 15

INSTALLATION:

SEEDING PREPARATION:

- TEST SOIL TO DETERMINE PH AND NUTRIENT LEVELS.
- APPLY SOIL AMENDMENTS AS RECOMMENDED BY THE SOIL TEST. IF TESTING IS NOT DONE, APPLY 400 TO 600 POUNDS PER ACRE OF 12-12-12 ANALYSIS FERTILIZER, OR EQUIVALENT.
- WORK THE SOIL AMENDMENTS INTO THE UPPER TWO TO FOUR INCHES OF THE SOIL WITH A DISK OR RAKE OPERATED ACROSS THE SLOPE.

SEEDING:

- SELECT A SEED SPECIES OR AN APPROPRIATE SEED MIXTURE AND APPLICATION RATE FROM TABLE 1.
- APPLY SEED UNIFORMLY WITH A DRILL OR OUTDRAPPER SEEDER OR BY BROADCASTING. PLANT OR COVER SEED TO THE DEPTH SHOWN IN TABLE 1.
 - IF DRILLING OR BROADCASTING THE SEED, ENSURE GOOD SEED-TO-SOIL CONTACT BY FIRING THE SEEDER WITH A ROLLER OR OUTDRAPPER AFTER COMPLETING SEEDING OPERATIONS.
 - DAILY SEEDING WHEN THE SOIL IS MOST USUALLY MOST EFFICIENT.
 - IF SEEDING IS DONE WITH A HORIZONTAL, FERTILIZER AND MULCH CAN BE APPLIED WITH THE SEED IN A SLURRY MIXTURE.
 - APPLY MULCH AND ANCHOR IT IN PLACE.

MAINTENANCE:

- INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST EVERY SEVEN CALENDAR DAYS.
- CHECK FOR EROSION OR MOVEMENT OF MULCH AND REPAIR IMMEDIATELY.
- MONITOR FOR EROSION DAMAGE AND ADEQUATE COVER (90 PERCENT DENSITY). RESEED, FERTILIZE, AND APPLY MULCH WHERE NECESSARY.
- IF WITHDRAWN FERTILIZER IS APPLICABLE, TOP-DRESS FALLOW SEEDING WITH 50 POUNDS PER ACRE OF PHOSPHORUS IN FEBRUARY OR MARCH.

LIMITATIONS:

- HIGH SLOPES AND AREAS OF CONCENTRATED RUNOFF FLOW SHOULD BE ADDRESSED WITH MORE ROBUST SURFACE STABILIZATION PRACTICES SUCH AS EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS.

SEED MIXTURES	RATE PER ACRE PURE LIVE SEED	OPTIMUM SOIL PH
1. PERENNIAL Ryegrass - WHITE CLOVER	70 LBS 2 LBS	5.5 TO 7.0
2. PERENNIAL Ryegrass - TALL FESCUE	70 LBS 70 LBS	5.5 TO 7.5
3. TALL FESCUE - WHITE CLOVER	70 LBS 2 LBS	5.5 TO 7.5

SEED MIXTURES	RATE PER ACRE PURE LIVE SEED	OPTIMUM SOIL PH
1. SMOOTH BROME GRASS - RED CLOVER	35 LBS 20 LBS	5.5 TO 7.0
2. TALL FESCUE - WHITE CLOVER	50 LBS 2 LBS	5.5 TO 7.5
3. TALL FESCUE - RED CLOVER	50 LBS 20 LBS	5.5 TO 7.5
4. ORCHARD GRASS - RED CLOVER - WHITE CLOVER	30 LBS 20 LBS 2 LBS	5.5 TO 7.0
5. CROWNWHEAT - BLUE GRASS	12 LBS 30 LBS	5.6 TO 7.0

SEED MIXTURES	RATE PER ACRE PURE LIVE SEED	OPTIMUM SOIL PH
1. BLUEGRASS	140 LBS	5.5 TO 7.0
2. PERENNIAL Ryegrass (TURF TYPE)	60 LBS 90 LBS	5.6 TO 7.0
3. TALL FESCUE - TURF TYPE - BLUEGRASS	170 LBS 30 LBS	5.6 TO 7.5

SEED MIXTURES	RATE PER ACRE PURE LIVE SEED	OPTIMUM SOIL PH
1. PERENNIAL Ryegrass - WHITE	150 LBS 2 LBS	5.5 TO 7.0
2. KENTUCKY BLUEGRASS - SMOOTH BROMEGRASS - TURF TYPE - PERENNIAL Ryegrass - WHITE CLOVER	20 LBS 15 LBS 4 LBS 10 LBS 2 LBS	5.5 TO 7.5
3. TALL FESCUE - WHITE CLOVER	150 LBS 2 LBS	5.5 TO 7.5
4. TALL FESCUE - PERENNIAL Ryegrass - KENTUCKY BLUEGRASS	150 LBS 20 LBS 20 LBS	5.5 TO 7.5

INSTALLATION:

- GRADE THE SITE TO ACHIEVE POSITIVE DRAINAGE.
- ADD TOPSOIL OR COMPOST MULCH (SEE COMPOST MULCHING) TO ACHIEVE NEEDED DEPTH FOR ESTABLISHMENT OF VEGETATION. (COMPOST MULCH MAY BE ADDED TO IMPROVE SOIL MOISTURE HOLDING CAPACITY, SOIL FERTILITY AND NUTRIENT AVAILABILITY.)
- TEST SOIL TO DETERMINE PH AND NUTRIENT LEVELS.
- APPLY SOIL AMENDMENTS AS RECOMMENDED BY THE SOIL TEST AND WORK INTO THE UPPER TWO TO FOUR INCHES OF SOIL. IF TESTING IS NOT DONE, APPLY 400 TO 600 POUNDS PER ACRE OF 12-12-12 ANALYSIS FERTILIZER, OR EQUIVALENT.
- TILL THE SOIL TO OBTAIN A UNIFORM SEEDBED. USE A DISK OR RAKE OPERATED ACROSS THE SLOPE TO WORK THE SOIL AMENDMENTS INTO THE UPPER TWO TO FOUR INCHES OF THE SOIL.

SEEDING:

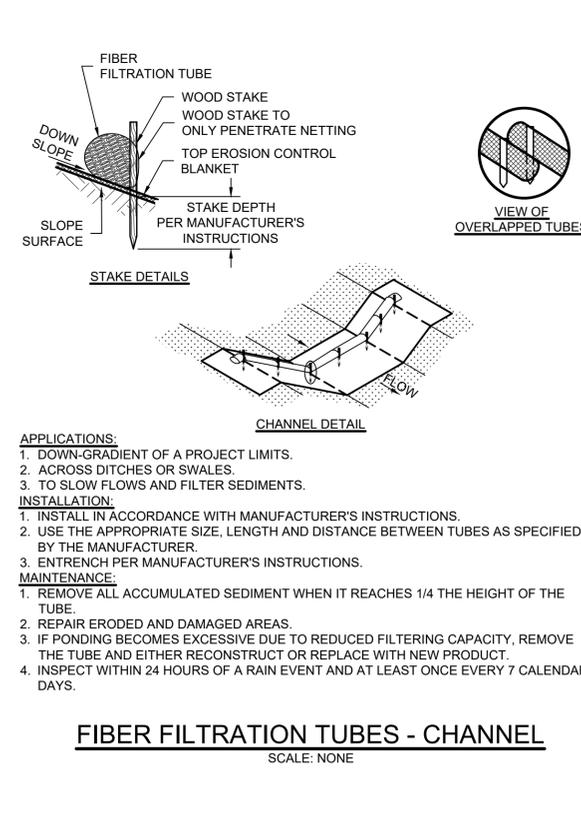
- OPTIMUM SEEDING DATES ARE MARCH 1 TO MAY 10 AND AUGUST 10 TO SEPTEMBER 30. PERMANENT SEEDING DONE BETWEEN MAY 10 AND AUGUST 10 MAY NEED TO BE BROADCAST. SEEDING OUTSIDE OF BEYOND OPTIMUM SEEDING DATES IS STILL PERMITTED. THE UNDERSTANDING THAT RESEEDING OR OVERSEEDING MAY BE REQUIRED IF ADEQUATE SURFACE SOIL SURFACE REMAINS WELL PROTECTED WITH MULCH.
- SELECT A SEEDING MIXTURE AND RATE FROM TABLE 1 THROUGH TABLE 4. SELECT SEED MIXTURE BASED ON SITE CONDITIONS, SOIL PH, INTENDED LAND USE, AND EXPECTED LEVEL OF MAINTENANCE.
- APPLY SEED UNIFORMLY WITH A DRILL OR OUTDRAPPER SEEDER OR BY BROADCASTING. PLANT OR COVER THE SEED TO A DEPTH OF ONE-FOURTH TO ONE-HALF INCH. IF DRILLING OR BROADCASTING THE SEED, ENSURE GOOD SEED-TO-SOIL CONTACT BY FIRING THE SEEDER WITH A ROLLER OR OUTDRAPPER AFTER COMPLETING SEEDING OPERATIONS. (IF SEEDING IS DONE WITH A HORIZONTAL, FERTILIZER AND MULCH CAN BE APPLIED WITH THE SEED IN A SLURRY MIXTURE.)

MAINTENANCE:

- INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST EVERY SEVEN CALENDAR DAYS UNTIL THE VEGETATION IS FULLY ESTABLISHED.
- CHARACTERISTICS OF A SUCCESSFUL STAND INCLUDE VIGOROUS DARK GREEN OR BUSHY GREEN SEEDLINGS WITH A UNIFORM VEGETATIVE COVER DENSITY OF 90 PERCENT OR MORE.
- CHECK FOR EROSION OR MOVEMENT OF MULCH.
- REPAIR DAMAGED, BASE, GULLED OR SPARSELY VEGETATED AREAS AND THEN FERTILIZE, RESEED, AND APPLY AND ANCHOR MULCH.
- IF PLANT COVER IS SPARSE OR PATCHY, EVALUATE THE PLANT MATERIALS CHOSEN, SOIL FERTILITY, MOISTURE CONDITION, AND MULCH APPLICATION. REPAIR AFFECTED AREAS BY OVERSEEDING OR PREPARING A NEW SEEDBED AND RESEEDING. APPLY AND ANCHOR MULCH ON THE NEWLY SEEDED AREAS.
- IF VEGETATION FAILS TO GROW, CONSIDER SOIL TESTING TO DETERMINE SOIL PH OR NUTRIENT DEFICIENCY PROBLEMS. CONTACT YOUR SOIL AND WATER CONSERVATION DISTRICT OR COOPERATIVE EXTENSION OFFICE FOR ASSISTANCE.)
- IF ADDITIONAL FERTILIZATION IS NEEDED TO GET A SATISFACTORY STAND, DO SO ACCORDING TO SOIL TEST RECOMMENDATIONS.
- ADD FERTILIZER THE FOLLOWING SPRING. FERTILIZE ACCORDING TO SOIL TEST RECOMMENDATIONS.
- FERTILIZE TURF AREAS ANNUALLY. APPLY FERTILIZER IN A SPLIT APPLICATION. IN LATE SPRING AND ONE HALF IN EARLY FALL. FOR WINTER-SEASON GRASSES, APPLY ONE HALF IN EARLY FALL, ONE-HALF IN LATE SPRING, AND THE REMAINING ONE-THIRD IN WINTER. THIRD IN LATE SPRING, AND THE REMAINING ONE-THIRD IN WINTER. THIRD IN LATE SPRING, AND THE REMAINING ONE-THIRD IN WINTER. THIRD IN LATE SPRING, AND THE REMAINING ONE-THIRD IN WINTER. THIRD IN LATE SPRING, AND THE REMAINING ONE-THIRD IN WINTER.

LIMITATIONS:

SEEDING SURFACES MUST NOT BE SUBJECT TO EROSION FLOWS.



APPLICATIONS:

- DOWN-GRADE OF A PROJECT LIMITS.
- ACROSS DITCHES OR SWALES.
- TO SLOW FLOWS AND FILTER SEDIMENTS.

INSTALLATION:

- INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- USE THE APPROPRIATE SIZE, LENGTH AND DISTANCE BETWEEN TUBES AS SPECIFIED BY THE MANUFACTURER.
- ENTRENCH PER MANUFACTURER'S INSTRUCTIONS.

MAINTENANCE:

- REMOVE ALL ACCUMULATED SEDIMENT WHEN IT REACHES 1/4 THE HEIGHT OF THE TUBE.
- REPAIR ERODED AND DAMAGED AREAS.
- IF PONDING BECOMES EXCESSIVE DUE TO REDUCED FILTERING CAPACITY, REMOVE THE TUBE AND EITHER RECONSTRUCT OR REPLACE WITH NEW PRODUCT.
- INSPECT WITHIN 24 HOURS OF A RAIN EVENT AND AT LEAST ONE EVERY 7 CALENDAR DAYS.

SCALE VERIFICATION	DRAWN BY	JRW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	WBH				
	APPROVED BY	MEN				
	ISSUE DATE	NOVEMBER 2024				
	PROJECT NUMBER	277824-04-001				

SCALE VERIFICATION	DRAWN BY	JRW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
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	ISSUE DATE	NOVEMBER 2024				
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WESSLER ENGINEERING
More than a Project™

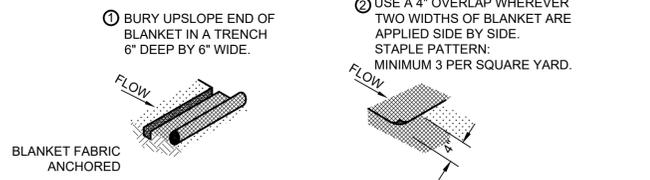
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No. PE11600602
STATE OF INDIANA
1-15-2024

RAVINE RESTORATION & STORM SEWER IMPROVEMENTS

PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT
SHOREWOOD FOREST SUBDIVISION

EROSION CONTROL DETAILS

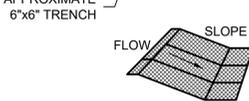
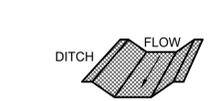
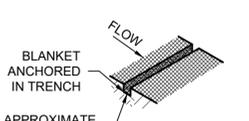
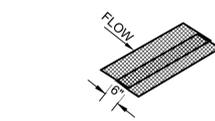
SHEET NO.	15
TOTAL SHEETS	16



② USE A 4" OVERLAP WHEREVER TWO WIDTHS OF BLANKET ARE APPLIED SIDE BY SIDE. STAPLE PATTERN: MINIMUM 3 PER SQUARE YARD.

③ USE A 6" OVERLAP WHEREVER ONE ROLL OF BLANKET ENDS AND ANOTHER BEGINS.

④ CHECK SLOTS SHOULD BE MADE EVERY 18". INSERT A FOLD OF THE BLANKET INTO A TRENCH 6" WIDE BY 6" DEEP AND TAMP FIRMLY. LAY THE BLANKET SMOOTHLY ON THE SURFACE OF THE SOIL. DO NOT STRETCH THE BLANKET, AND DO NOT ALLOW WRINKLES. INSTALL STAPLE 20" ON CENTER IN TRENCH.



PLACE BLANKET PARALLEL TO THE DIRECTION OF FLOW. DO NOT JOIN STRIPS IN THE CENTER OF THE DITCH. USE CHECK SLOTS AS REQUIRED.

PLACE BLANKET PARALLEL TO THE DIRECTION OF FLOW AND ANCHOR SECURELY. BRING BLANKET TO A LEVEL AREA BEFORE TERMINATING THE INSTALLATION.

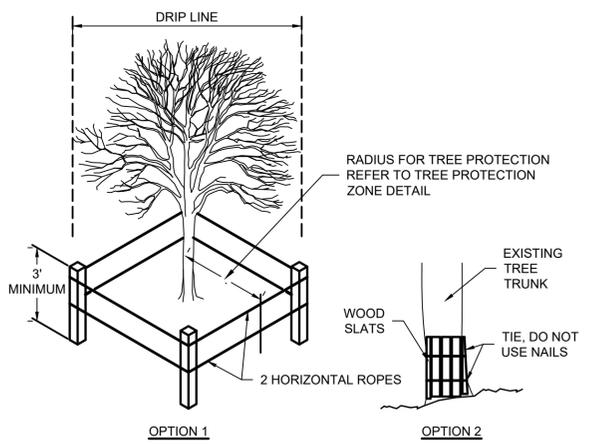
PRODUCT:
1. NORTH AMERICAN GREEN BIONET SC150BN, OR EQUAL.

NOTES:
1. PROTECT THE SLOPES WITH AN EROSION CONTROL BLANKET WHERE CONSTRUCTION DISTURBS SLOPES EQUAL OR STEEPER THAN 3:1.

MAINTENANCE:
1. INSPECT FOR EROSION AFTER EACH STORM EVENT DURING VEGETATION ESTABLISHMENT, AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.
2. IF ANY AREAS SHOW EROSION, PULL BACK THAT PORTION OF THE BLANKET, ADD SOIL, RESEED, RELAY AND STAPLE THE BLANKET.
3. CHECK AREAS PERIODICALLY AFTER VEGETATION ESTABLISHMENT.

EROSION CONTROL BLANKET

SCALE: NONE

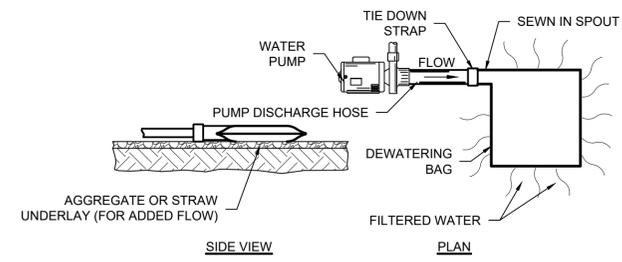


NOTES:
1. PROTECT TREES WHERE NOTED ON THE DRAWINGS DURING EXCAVATION TO PROTECT TREE ROOTS.
2. OPTION 1 SHALL BE THE STANDARD TREE PROTECTION METHOD. MULTIPLE TREES MAY BE PROTECTED BY A SINGLE SET OF PERIMETER ROPES PROVIDED THE APPROPRIATE TREE PROTECTION ZONE IS MAINTAINED FOR EACH TREE.
3. OPTION 2 TREE PROTECTION METHOD MAY BE USED TO PREVENT BARK REMOVAL OR DAMAGE TO THE TRUNK OF THE TREE.

MAINTENANCE:
1. INSPECT AT LEAST ONCE EVERY 7 CALENDAR DAYS.
2. REPAIR PERIMETER BARRIERS IF DAMAGED.
3. INSPECT FOR DAMAGE FROM CONSTRUCTION ACTIVITIES. REPAIR WOUNDS SIMPLY BY REMOVING DAMAGED BARK AND WOOD TISSUE. DO NOT USE TREE PAINT.
4. CABLE AND BRACE ANY TRUNK SPLITS, WEAK FORKS, AND LARGE LIMBS.

TREE PROTECTION METHODS

SCALE: NONE



MECHANICAL PROPERTIES	TEST METHOD	UNITS	INDUSTRY STANDARD
GRAB TENSILE STRENGTH	ASTM D4632	kN (LB)	0.9 (205) X 0.9 (205)
GRAB TENSILE ELONGATION	ASTM D4632	%	50 X 50
PUNCTURE STRENGTH	ASTM D4833	kN (LB)	0.58 (130)
MULLEN BURST STRENGTH	ASTM D3786	kPa (PSI)	2618 (380)
TRAPEZOID TEAR STRENGTH	ASTM D4533	kN (LB)	0.36 (80) X 0.36 (80)
UV RESISTANCE	ASTM D4355	%	70
APPARENT OPENING SIZE	ASTM D4751	Mm (US STD SIEVE)	0.180 (80)
FLOW RATE	ASTM D4491	1/MIN/M ² (GAL/MIN/FT ²)	3866 (95)
PERMITTIVITY	ASTM D4491	S ⁻¹	1.2

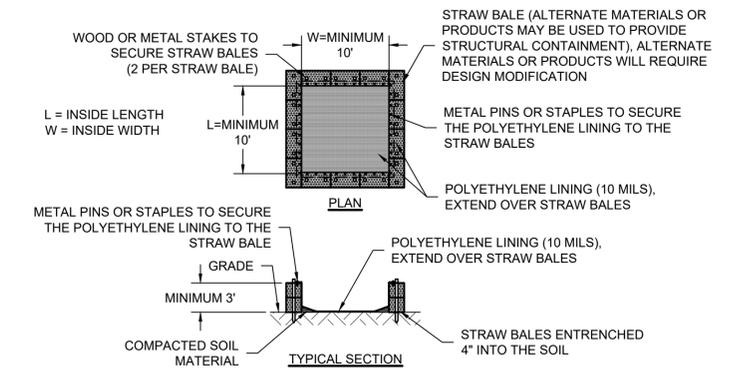
MAINTENANCE:
1. DURING THE ACTIVE DEWATERING PROCESS, INSPECTION OF THE PUMPING BAG SHOULD BE REVIEWED FREQUENTLY. SPECIAL ATTENTION SHOULD BE PAID TO THE BUFFER AREA FOR ANY SIGN OF EROSION AND CONCENTRATION OF FLOW. OBSERVE WHERE POSSIBLE THE VISUAL QUALITY OF THE EFFLUENT AND DETERMINE IF ADDITIONAL TREATMENT CAN BE PROVIDED.
2. DISPOSE OF ACCUMULATED SEDIMENT REMOVED DURING PUMPING OPERATIONS IN CONFORMANCE WITH THE SPECIFICATIONS.
3. REPLACE THE BAG OR DISPOSE OF SILT WHEN HALF FULL OF SEDIMENT OR WHEN SEDIMENT HAS REDUCED THE FLOW RATE TO AN IMPRACTICAL RATE.

SOURCE:
KRISTAR
DANDY DEWATERING BAG
SEDCATCH

PUMPING BAG

SCALE: NONE

DEWATERING SYSTEM REQUIREMENTS AND COMMON PRACTICES FOR MATERIAL MANAGEMENT			
1. DESCRIPTION	DEWATERING MAY BE USED IN A VARIETY OF CONSTRUCTION OPERATIONS SUCH AS TO REMOVE WATER FROM STRUCTURE FOUNDATION EXCAVATIONS, DRAINAGE STRUCTURE INSTALLATIONS, OR FROM FILL AREAS PRIOR TO PLACEMENT OF THE BORROW MATERIALS. PROPER OUTFLOW OF THE DRAINAGE ACTIVITY SHOULD BE REVIEWED AND PLANNED FOR IN THE DESIGN OF THE SYSTEM. THE COMPONENTS OF THE DEWATERING PROCESS SHOULD INCLUDE THE USE OF WATER PUMP AND STAPLED FILTERS. THE FILTERING OPERATION HELPS TO SIGNIFICANTLY REDUCE SEDIMENT TRANSPORTATION THAT IS ASSOCIATED WITH THE DEWATERING OPERATION. CONSIDER A FINE GRADE FILTER SYSTEM OR SECONDARY CONTAINMENT TO EXTEND SETTLEMENT TIME.	4. INSPECTION NOTES	INSPECT DAILY DURING DEWATERING OPERATIONS. INSPECT THE FILTER LOCATION AND CONDITION FOR NECESSARY REPAIR. REVIEW THE PUMPING SYSTEM FOR LEAKAGE, KINKS, AND CONDITIONS FOR NEEDED REPAIR. INSPECT THE FILTER BAG FOR TEARS AND CAPACITY FOR SEDIMENT AND WATER. LOOK FOR EROSION BETWEEN THE FILTER BAG AND WATERWAY AND/OR DISCHARGE AREA. IF TREATED DISCHARGE APPEARS SEDIMENT-LADEN AFTER FILTRATION, CONSIDER A FINE GRADE FILTER SYSTEM OR SECONDARY CONTAINMENT TO EXTEND SETTLEMENT TIME.
2. REQUIREMENTS FOR DEWATERING SYSTEM	FILTER BAGS MUST BE PLACED ON A FLAT SURFACE AWAY FROM ENVIRONMENTALLY SENSITIVE AREAS, INCLUDING BUT NOT LIMITED TO, DOWNSTREAM INFRASTRUCTURE, OPEN DITCHES, WATERBODIES, AND WETLANDS. FILTER BAGS SHOULD NOT BE PLACED IN WATERWAYS TO AVOID RISK OF EROSION DISCHARGE IF THE SYSTEM IS DAMAGED. FILTER BAGS MUST BE PLACED WITHIN THE PROJECT LIMITS.	5. MAINTENANCE	REPAIR OR REPLACE FILTERS THAT EXHIBIT LEAKAGE OR FAILURE. REPAIR ANY PUMPS DAMAGED OR NOT OPERATING PROPERLY. FILTERS MAY NEED TO BE REPLACED WHEN THEY BECOME LOADED WITH SEDIMENT. REPAIR OR REPLACE LEAKING OR DAMAGED PIPING. REPAIR AND STABILIZE ERODED AREAS.
3. INSTALLATION NOTES	LOCATE THE DESIRED OUTFLOW LOCATION FOR THE DEWATERING SYSTEM AND COORDINATE THE FILTER AND STRIBULATION METHOD TO BE USED WITH THE INSTALLER. DESIGN THE PUMP CAPACITY AND PUMPING COMPONENTS TO BE USED WITH THE INSTALLER. REVIEW THE LAYOUT OF THE SYSTEM PRIOR TO PLACEMENT AND HAVE ANY DEFICIENCIES CORRECTED PRIOR TO OPERATION ACTIVATION. WHEN NEAR A WATERWAY OR ENVIRONMENTALLY SENSITIVE AREAS, CONSTRUCT A SECONDARY CONTAINMENT BARRIERS AS A ROCK FILTER BERM OR SEDIMENT TRAP FOR ADDITIONAL FILTRATION. PLACE FILTER BAG ON A FLAT STABLE SURFACE OUTSIDE OF THE WATERWAY OR ENVIRONMENTALLY SENSITIVE AREA BEHIND THE SECONDARY CONTAINMENT. SELECT DEWATERING BAGS OR OPERATION TYPE TO REMOVE SEDIMENT FROM DISCHARGE BASED ON PROJECT SITE SOIL TYPES. DISCUSS WITH INSTALLER FOR BEST FILTRATION RESULTS. PLACE FILTER BAG IN A LOCATION WHERE IT CAN BE REMOVED EFFICIENTLY WITHOUT CAUSING DAMAGE OR LOSING SEDIMENT.		
ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			DEWATERING SYSTEM REQUIREMENTS
			II-16



NOTES:
1. LOCATE WASHOUTS AT LEAST 50' FROM ANY CREEKS, WETLANDS, DITCHES, KARST FEATURES, OR STORM DRAIN/CONVEYANCES.

WASHOUT PROCEDURES:
1. DO NOT LEAVE EXCESS MUD IN THE CHUTES OR HOPPER AFTER POURING CONCRETE. MAKE EVERY EFFORT TO EMPTY THE CHUTE AND HOPPER AT THE POUR. THE LESS MATERIAL LEFT IN THE CHUTES AND HOPPER, THE QUICKER AND EASIER THE CLEANOUT. SMALL AMOUNTS OF EXCESS CONCRETE (NOT WASHOUT WATER) MAY BE DISPOSED OF IN AREAS THAT WILL NOT FLOW TO AN AREA THAT IS TO BE PROTECTED.
2. SCRAPE AS MUCH MATERIAL FROM THE CHUTES AS POSSIBLE BEFORE WASHING THEM. USE NON-WATER CLEANING METHODS TO MINIMIZE THE CHANCE FOR WASTE TO FLOW OFF SITE.
3. STOP WASHING OUT IN AN AREA IF YOU OBSERVE WATER RUNNING OFF THE DESIGNATED AREA OR IF THE WATER IS NOT BEING CONTAINED WITHIN THE WASHOUT AREA.
4. DO NOT BACK FLUSH EQUIPMENT AT THE PROJECT SITE.
5. DO NOT USE ADDITIVES WITH WASH WATER.
6. DO NOT WASH OUT OR DRAIN WASTE WATERS TO STORM DRAINS, WETLANDS, STREAMS, RIVERS, CREEKS, DITCHES OR STREETS.

MAINTENANCE:
1. MAINTENANCE REQUIREMENTS PROVIDED IN SPECIFICATIONS.

CONCRETE WASHOUT

SCALE: NONE

CONCRETE WASHOUT SYSTEM REQUIREMENTS AND COMMON PRACTICES FOR MATERIAL MANAGEMENT			
1. UNDERSTANDING SUBSTANCE RISK	CONCRETE IS A MIXTURE OF CEMENT, LIME, SAND, AND AGGREGATE. IT IS CALIC AND CORROSIVE WITH A PH OF 12. SAFE PH RANGES FOR AQUATIC LIFE ARE 6.5-9 FOR FRESH WATER. CAUSTIC WASH WATER CAN HARM FISH GILLS, EYES, AND INTERFERE WITH REPRODUCTION. RAINWATER POLLUTED WITH WASH WATER CAN ALTER SOIL CHEMISTRY, HARM PLANT GROWTH, AND CONTAMINATE GROUND WATER.	7. INSTALLATION NOTES	CONCRETE WASHOUT BASE MUST BE CONSTRUCTED ON A FLAT SURFACE THAT IS FREE OF ROCKS AND OTHER DEBRIS THAT MAY CAUSE TEARS/PUNCTURES IN THE POLYETHYLENE LINER. LINER MUST EXTEND OVER THE ENTIRE STRUCTURE, SECURED WITH PINS, STAPLES, OR OTHER FASTENERS. THE LINER MUST BE CONTINUOUS TO BE LEAK PROOF. OVERLAPPING LINES IS NOT PERMITTED. INSTALL SAFETY FENCING, FLAGS, OR EQUIVALENT TO PROVIDE A BARRIER FROM CONSTRUCTION ACTIVITY. SIGNAGE MUST BE CONSPICUOUS AND IDENTIFY CONCRETE WASHOUT LOCATIONS TO DIRECT CONTRACTORS AND SUPERVISORS. WHEN APPLICABLE, PROVIDE A STABLE CONSTRUCTION STONE ACCESS PAD FOR CONCRETE WASHOUT SYSTEMS.
2. REQUIREMENTS FOR CONCRETE WASHOUT SYSTEM	CONCRETE WASHOUT SYSTEMS MUST BE ENTIRELY LEAK-PROOF. WASH WATER MUST BE DIRECTED INTO LEAK-PROOF CONTAINERS OR LEAK-PROOF CONTAINMENT AREAS WHICH ARE DESIGNED TO ELIMINATE SPILLAGE AND SEED TO PREVENT THE DISCHARGE AND/OR OVERFLOW OF WASH WATER. ANY DAMAGE CAUSING THE SYSTEM TO FAIL THESE REQUIREMENTS MUST BE REPAIRED IMMEDIATELY OR REPLACED WITH A NEW SYSTEM.	8. MAINTENANCE	CONCRETE WASHOUT SYSTEM INSPECTIONS MUST BE CONDUCTED DAILY AND AFTER RAIN EVENTS. INSPECT THE SYSTEM FOR LEAKS, SPILLS, AND ANY DAMAGE TO THE POLYETHYLENE LINING FOR FAILURE, SUCH AS TEARS AND PUNCTURES. IF DAMAGED, REPAIR IMMEDIATELY TO AVOID AND PREVENT SPILLS. ONCE THE CONCRETE WASTE HAVING BEEN RECYCLED AND/OR DISPOSAL OF THE MATERIAL ACCORDING TO APPLICABLE STATE AND FEDERAL REGULATIONS. WHEN THE WASHOUT CONTAINER IS FILLED TO 75% TO 80% OF ITS CAPACITY, THE WASH WATER MUST BE VACUATED OUT OR ALLOWED TO EVAPORATE TO AVOID OVERFLOW. WHEN THE REMAINING CONCRETE SOLIDS HAVE HARDENED, THEY MUST BE REMOVED AND PROPERLY DISPOSED/RECYCLED. LINER MAY REQUIRE REPAIR/REPLACEMENT AFTER CLEANING. REPAIR THE STRUCTURE AS NEEDED OR CONSTRUCT A NEW SYSTEM IF DAMAGED. WASHOUT SYSTEMS SHOULD ALLOW CONTINUED TO HARDEN BEFORE REMOVAL. IF THE CONTAINER FAILS TO EVAPORATE IN A TIMELY MANNER, WASH WATER MUST BE DISPOSED OF OFF-SITE AT A TREATMENT FACILITY OR AN EQUIVALENT STATE APPROVED DISPOSAL SITE. A SECONDARY CONTAINMENT SYSTEM MAY BE REQUIRED FOR OTHER DEWATERING. INSPECT THE CONSTRUCTION SITE AND ENSURE THAT ALL SUPPLIERS, CONTRACTORS AND OTHERS ARE UTILIZING THE DESIGNATED WASHOUT AREAS.
3. APPROVED MATERIALS	CONCRETE WASHOUTS MAY BE CONSTRUCTED WITH WOOD, SAND BAGS, OR OTHER STRUCTURAL MATERIAL THAT CREATES A ROOF STRUCTURE FOR CONTAINMENT.		
4. PROHIBITED MATERIALS	CONCRETE WASHOUTS SHALL NOT BE CONSTRUCTED WITH STRAW BALES OR AS IN-GROUND PITS TO ELIMINATE THE FOLLOWING RISKS: STRAW BALES CREATE RISK OF STRUCTURAL FAILURE, CAUSING SPILL OF WASH MATERIAL. LINER FAILURES SUCH AS PUNCTURE OR TEARS ASSOCIATED WITH IN-GROUND PITS CAUSE AN INCREASED RISK OF GROUND WATER CONTAMINATION.		
5. EVALUATE THE SITE	BEFORE CONCRETE POURING, A CONCRETE WASHOUT SYSTEM MUST BE INSTALLED UNDER OR ATTACHED TO THE CONCRETE TRUCK. CHECK SITE PLAN FOR PROPOSED CONCRETE WASHOUT LOCATION (CWS).		
6. PROTECT STORMWATER INFRASTRUCTURE AND SENSITIVE AREAS	CONCRETE WASHOUT CANNOT BE INSTALLED WITHIN 50 FEET OF A STORM ALLET WHEN PRACTICABLE OR AN ENVIRONMENTALLY SENSITIVE AREA, INCLUDING BUT NOT LIMITED TO OPEN DITCHES, WATERBODIES, AND WETLANDS. CONCRETE WASHOUT MUST BE INSTALLED ON A FLAT GROUND SURFACE TO REDUCE RISK OF SPILLS.		
ITEM	REVISION	APPROVED DATE	PORTER COUNTY, INDIANA STANDARD DRAWINGS
			CONCRETE WASHOUT SYSTEM REQUIREMENTS
			II-17

Drawing: X:\Porter County\277824-04-001.dwg | Layout: 16 EROSION CONTROL DETAILS | Printed: 11/05/24 @ 08:00:01 | LastSavedBy: jstrow



RAVINE RESTORATION & STORM SEWER IMPROVEMENTS
PORTER CO. DEPT. OF DEVELOPMENT & STORMWATER MGMT
SHOREWOOD FOREST SUBDIVISION

EROSION CONTROL DETAILS

SHEET NO.
16
TOTAL SHEETS
16