

**PART A: STREAM DAYLIGHTING**  
**PART B: GRADING IMPROVEMENTS**  
**CUYAHOGA COUNTY, OHIO**



A map of Ohio divided into its 88 counties. A five-pointed star is located in the center of the state, within Lucas County. A black callout box with a pointer is located in the northeast corner of the state, pointing to Cuyahoga County.

## AA C

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ISSUED FOR:	REVIEW	NO	REVISION	DATE
ISSUE DATE:	FEB 2025			
SCALE:	AS SHOWN			
DESIGNED BY:	AAC			
DRAWN BY:	AAC			
CHECKED BY:	sm			

**EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS**  
- VILLAGE OF CHAGRIN FALLS, OHIO -

# COVER SHEET

PROJECT NO.	
<b>22025505</b>	
DISCIPLINE	
<b>CIVIL</b>	
SHEET NAME	
<b>CVR</b>	
SHEET	OF
<b>1</b>	<b>19</b>



GENERAL		EXCAVATION, BACKFILL, AND SEWER REPLACEMENT		UTILITIES		EROSION AND DUST CONTROL			
<div><div>1.</div><div>A PRE-CONSTRUCTION CONFERENCE SCHEDULED BY THE ENGINEER SHALL BE HELD PRIOR TO ANY WORK STARTING. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE ENGINEER, WATER SUPERINTENDENT, AND THE VILLAGE ENGINEER PRIOR TO BEGINNING WORK TO ARRANGE FOR INSPECTION.</div></div> <div><div>2.</div><div>THE STANDARD SPECIFICATIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION, LATEST EDITION, INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS AND STANDARD DRAWINGS, SHALL GOVERN ALL WORK NOT COVERED BY THE SPECIFICATIONS. ALL WORK CONTEMPLATED SHALL BE GOVERNED BY THE RULES, REGULATIONS AND SPECIFICATIONS OF THE VILLAGE OF CHAGRIN FALLS.</div></div> <div><div>3.</div><div>ALL WORK COMPLETED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.</div></div> <div><div>4.</div><div>ANY DEFECT IN MATERIAL OR WORKMANSHIP REVEALED BY INSPECTION MUST BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE VILLAGE AND TO THE FULL SATISFACTION OF THE VILLAGE AND ENGINEER BEFORE ACCEPTANCE OF THE WORK AND RELEASE OF FINAL ESTIMATE AND PAYMENT THEREOF.</div></div> <div><div>5.</div><div>THE CONTRACTOR SHALL PROVIDE A PRE-CONSTRUCTION VIDEO SURVEY OF THE ENTIRE PROJECT AREA. ANY DAMAGE DEEMED TO BE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT HIS OWN EXPENSE.</div></div> <div><div>6.</div><div>BEFORE THE VILLAGE WILL APPROVE AND ACCEPT THE WORK AND RELEASE THE GUARANTY RETAINER, THE CONTRACTOR SHALL FURNISH THE VILLAGE A WRITTEN REPORT INDICATING THE RESOLUTION OF ANY AND ALL PROPERTY DAMAGE CLAIMS FILED WITH THE CONTRACTOR BY ANY PARTY DURING THE CONSTRUCTION PERIOD. THE INFORMATION TO BE SUPPLIED SHALL INCLUDE, BUT NOT BE LIMITED TO, NAME OF CLAIMANT, DATE FILED WITH CONTRACTOR, NAME OF INSURANCE COMPANY AND/OR ADJUSTER HANDLING CLAIM, HOW CLAIM WAS RESOLVED AND IF CLAIM WAS NOT RESOLVED FOR THE FULL AMOUNT, A STATEMENT INDICATING THE REASON FOR SUCH ACTION.</div></div> <div><div>7.</div><div>MATERIAL SPECIFICATIONS CALLED FOR ON THE PLANS REPRESENT THE MINIMUM REQUIRED FOR EACH APPLICATION. THE OWNER MAY REQUEST OR THE CONTRACTOR MAY DESIRE TO SUBSTITUTE ALTERNATE MATERIALS. ANY SUCH SUBSTITUTIONS MUST BE EQUIVALENT IN QUALITY TO THE MATERIAL CALLED FOR AND MUST BE APPROVED IN WRITING BY THE ENGINEER.</div></div> <div><div>8.</div><div>ALL SEDIMENT AND EROSION CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.</div></div> <div><div>9.</div><div>ANY DISTURBED AREAS WHICH ARE NOT SCHEDULED FOR CONSTRUCTION ACTIVITIES WITHIN FOURTEEN (14) DAYS OF DISTURBANCE SHALL BE TEMPORARILY STABILIZED.</div></div> <div><div>10.</div><div>ALL POLLUTANTS OTHER THAN SEDIMENT THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND LEGALLY DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM OR SURFACE WATERS. POLLUTANTS OF CONCERN INCLUDE, BUT ARE NOT LIMITED TO, FUELS, LUBRICANTS, SOLVENTS, CONCRETE BI-PRODUCTS AND CONSTRUCTION MATERIALS.</div></div> <div><div>11.</div><div>THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SECURITY OF ALL STORED MATERIALS.</div></div> <div><div>12.</div><div>CONTRACTOR IS RESPONSIBLE FOR THE PRESERVATION OF ALL EXISTING BARNs, SHEDs, STRUCTURES, FENCES, RETAINING WALLS, STEPS, UTILITY POLES, MONUMENTS, UTILITY APPURTENANCES, SIGNAGE AND LANDSCAPE BEDS. IF DAMAGED, THE CONTRACTOR IS RESPONSIBLE FOR THE REPLACEMENT OF THESE ITEMS AT NO ADDITIONAL COST TO THE OWNER.</div></div> <div><div>13.</div><div>TREE CLEARING AS A PART OF CONSTRUCTION SHALL BE RESTRICTED TO THE PERIOD IN BETWEEN OCTOBER 1ST TO MARCH 1ST FOR THE PROTECTION OF OHIO'S STATE AND FEDERALLY LISTED ENDANGERED AND THREATENED BAT SPECIES. NO TREE CLEARING SHALL HAPPEN BETWEEN APRIL 1ST AND SEPTEMBER 30TH.</div></div> <div><div>14.</div><div>AS BUILT RECORDS - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A SET OF PROJECT RECORD DOCUMENTS. THESE DOCUMENTS SHALL INCLUDE REVIEWED SHOP DRAWINGS, CHANGE ORDERS, EQUIPMENT OPERATING INSTRUCTIONS, FIELD TEST RECORDS, AND AS BUILT DRAWINGS. THE AS BUILT DRAWINGS SHALL BE MARKED LEGIBLY IN RED WITH THE ACTUAL LOCATION OF EQUIPMENT AND CONDUITS AS CONSTRUCTED. ALL EQUIPMENT AND UNDERGROUND CONDUITS INSTALLED SHALL HAVE LOCATIONS MARKED IN DISTANCE OFF A LANDMARK AT LEAST EVERY 25 FEET AND AS NECESSARY AT BENDS FOR LOCATING AT A LATER DATE. FINAL DOCUMENTS AND PLANS SHALL BE DELIVERED TO THE OWNER.</div></div>		<div><div>1.</div><div>BACKFILL FOR ALL UNDERGROUND UTILITIES INSTALLED UNDER PAVEMENT, SIDEWALK, AND STRUCTURES OR WITHIN A 1:1 ZONE OF INFLUENCE PARALLEL OR TRANSVERSE TO PAVEMENT, SIDEWALK OR STRUCTURES SHALL BE " COMPACTED BACKFILL" OR "COMPACTED GRANULAR BACKFILL" AS DESCRIBED IN SPECIFICATIONS, IF DIRECTED BY THE ENGINEER. ON-SITE SOILS MAY BE USED FOR "COMPACTED BACKFILL" MATERIALS, IF APPROVED BY THE ENGINEER. NO SLAG OR RECYCLED CONCRETE PRODUCTS WILL BE PERMITTED FOR BEDDING OR BACKFILL MATERIAL.</div></div> <div><div>2.</div><div>BACKFILL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 9" IN DEPTH. BACKFILL MATERIAL SHALL BE PLACED WITH 2% OF THE OPTIMUM MOISTURE. THE ENGINEER MAY ORDER THE REMOVAL, REFILLING, RE-COMPACTION AND RETESTING OF ALL BACKFILL NOT MEETING THE REQUIREMENTS OF THE CONTRACT.</div></div> <div><div>3.</div><div>BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED USING MACHINE MOUNTED COMPACTION EQUIPMENT IN LAYERS SUFFICIENT TO MEET THE COMPACTION REQUIREMENT ODOT 203.</div></div> <div><div>4.</div><div>NO BACKFILLING OF ANY TRENCHES OR EXCAVATIONS WILL BE PERMITTED WITHOUT TAMPING EQUIPMENT BEING USED. FLOODING, JETTING OR PUDDLING OF BACKFILL WILL NOT BE PERMITTED.</div></div> <div><div>5.</div><div>ALL EXCAVATION SHALL BE CONSIDERED UNCLASSIFIED. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR ROCK OR SHALE EXCAVATION.</div></div> <div><div>6.</div><div>THE OWNER AND THE ENGINEER DO NOT GUARANTEE THE SUITABILITY OR SUGGEST THAT THE EXISTING EXCAVATED MATERIAL IN ITS PRESENT STATE WILL CONSIST OF THE PROPER MOISTURE CONTENT TO ACHIEVE THE REQUIRED COMPACTION WITHOUT DRYING OR ADDING WATER TO THE MATERIAL. UPON REQUEST, THE OWNER WILL PROVIDE ACCESS TO THE SITE FOR THE CONTRACTOR TO CONDUCT SUCH INVESTIGATIONS AND TESTS DEEMED NECESSARY TO MAKE HIS DETERMINATION.</div></div> <div><div>7.</div><div>THE CONTRACTOR SHALL REPLACE ANY PAVEMENT MARKINGS, SUCH AS CROSS WALKS, STOP LINES, EDGE LINES, CENTER LINES, ETC. ANY PAVEMENT REMOVED CONTAINING BRICKS SHALL BE TRUCKED TO THE VILLAGE SERVICE DEPARTMENT.</div></div>		<div><div>VEGETATION/TREE PROTECTION</div><div><div>1.</div><div>ANY EXTENSIVE LANDSCAPING DISTURBED BY CONSTRUCTION WORK SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE VILLAGE.</div></div><div><div>2.</div><div>TREE REMOVAL SHALL BE LIMITED TO THAT NECESSARY FOR CONSTRUCTION AND WILL BE LIMITED TO THE ROAD RIGHT-OF-WAY AND EASEMENTS.</div></div><div><div>3.</div><div>NO TREE REMOVAL WILL BE PERMITTED WITHOUT PERMISSION OF THE ENGINEER AND THE PROPERTY OWNER.</div></div><div><div>4.</div><div>TREES WHICH ARE NOT REMOVED WILL BE PROTECTED BY ENSURING THAT TREES TO BE REMOVED ARE FELLED SO AS NOT TO INJURE THE REMAINING TREES.</div></div><div><div>5.</div><div>AT NO TIME SHALL SOIL, CONSTRUCTION EQUIPMENT OR OTHER MATERIAL BE STORED NEXT TO OR WITHIN THE DRIP-LINE OF TREES.</div></div><div><div>6.</div><div>TREES SHOULD BE CUT SEASONALLY, BETWEEN OCTOBER 1 TO MARCH 30 TO AVOID IMPACTING BAT SPECIES USING TREE HABITAT.</div></div></div>		<div><div><div><div>VILLAGE OF CHAGRIN FALLS 21 W. WASHINGTON STREET CHAGRIN FALLS, OHIO 44022 (440) 247-5051</div><div>THE ILLUMINATING COMPANY 7755 AUBURN RD. PAINESVILLE, OH 44077 ATTN.:FRED RANDOLPH (440) 358-4991</div></div><div><div>CHARTER COMMUNICATIONS 14300 S. INDUSTRIAL AVENUE MAPLE HEIGHTS, OH 44137 ATTN.: LOUIE RUBERTINO (216) 581-3262</div><div>AT&amp;T 13630 LORAIN AVE., 2ND FLOOR CLEVELAND, OH 44111 ATTN.: JAMES JANIS (216) 476-6142</div></div></div><div><div>PROPERTY PINS AND MONUMENTS</div><div><div>1.</div><div>PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EMPLOY A REGISTERED SURVEYOR TO LOCATE, RECORD, AND MARK ALL EXISTING MONUMENTS AND PROPERTY CORNERS WITHIN THE CONSTRUCTION LIMITS OF THE PROPOSED WORK AREA. A LISTING OF THE PINS AND MONUMENTS SHALL BE SUPPLIED TO THE VILLAGE ENGINEER PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL PINS AND MONUMENTS DURING CONSTRUCTION. IF PINS AND MONUMENTS ARE DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHALL HAVE THEM REPLACED BY THE REGISTERED SURVEYOR AT NO ADDITIONAL COST TO THE VILLAGE.</div></div><div><div>AIR/NOISE CONTROL</div><div><div>1.</div><div>CONSTRUCTION ACTIVITIES WILL BE LIMITED FROM 7 AM TO 7 PM, UNLESS APPROVED IN ADVANCE BY THE VILLAGE.</div></div><div><div>PROJECT SPECIFIC NOTES</div><div><div>1.</div><div>NO WORK SHALL BE PERFORMED OVER LABOR DAY WEEKEND. THE WORK SITE SHALL BE LEFT IN A SAFE AND NEAT MANNER OVER THE HOLIDAY WEEKEND.</div></div><div><div>2.</div><div>THE CONSTRUCTION ENTRANCE SHALL BE AT THE SOUTH SIDE OF THE CEMETERY, ENTERING AT 506 S. FRANKLIN STREET. CONSTRUCTION TRAFFIC ENTERING AND EXITING THROUGH THE NORTH SIDE OF THE CEMETERY SHALL COORDINATE WITH THE CEMETERY SEXTON TO ENSURE MINIMAL DISTURBANCE TO CEMETERY ACTIVITIES.</div></div></div></div></div></div>		<div><div>1.</div><div>SEDIMENT CONTROL SHALL BE ACCOMPLISHED BY SODDING AND MULCHING IMMEDIATELY UPON COMPLETION OF EXCAVATION OR FILL AND FINISH GRADING IN ACCORDANCE WITH ODOT ITEM 659 OR AS DIRECTED BY THE ENGINEER.</div></div> <div><div>2.</div><div>ALL MATERIALS TO BE DISPOSED OF OFF-SITE MUST BE DISPOSED OF IN AN ENVIRONMENTALLY SOUND MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. NO EXCESS MATERIALS ARE TO BE DISPOSED OF IN ANY WETLAND, FLOOD PLAIN OR OTHER ENVIRONMENTALLY SENSITIVE AREA.</div></div> <div><div>3.</div><div>EROSION CONTROL MEASURES AT THE DISPOSAL SITE MUST BE INSTALLED AND MAINTAINED UNTIL DISPOSAL IS COMPLETE AND THE DISPOSAL SITE IS PERMANENTLY STABILIZED.</div></div> <div><div>4.</div><div>ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY AFTER THE COMPLETION OF THE GRADING ACTIVITIES. AREAS REQUIRING COCONUT FIBER MATTING SHALL BE SEEDED AND MULCHED FOR STABILIZATION PRIOR TO MATTING INSTALLATION.</div></div> <div><div>5.</div><div>PERMANENT SEEDING FOR CHANNEL SLOPES SHALL BE A WETLAND MIX WITH BOTH NATIVE GRASSES AND FLOWERING FORBS.</div></div> <div><div>6.</div><div>OVERLAPPING OF THE MATTING EDGES SHOULD BE DONE SO THAT THE MATTING ON TOP IS ON THE UPSTREAM SIDE. OVERLAP EDGES APPROXIMATELY 1 FT.</div></div> <div><div>7.</div><div>TWO ROWS OF MATTING SHALL BE INSTALLED ON EACH STREAM BANK FOR A TOTAL OF FOUR ROWS OF MATTING COMMITTED TO THE CHANNEL.</div></div> <div><div>8.</div><div>USE WOODEN 1FT LONG BIOSTAKES AT A STAGGERED 2 FT SPACING TO SECURE MATTING. USE 2"x2", 2 FT LONG WOODEN STAKES AT 2 FT SPACING TO SECURE THE MATTING ALONG THE TOE OF THE BANKS.</div></div>	
						PROHIBITED CONSTRUCTION ACTIVITIES			
						<div><div>1.</div><div>DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.</div></div> <div><div>2.</div><div>DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.</div></div> <div><div>3.</div><div>DISPOSING OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS OR AT UNSPECIFIED LOCATIONS.</div></div> <div><div>4.</div><div>THE USE OF EXPLOSIVES WITHIN MUNICIPAL LIMITS, UNLESS A PERMIT IS ISSUED BY THE OWNER.</div></div> <div><div>5.</div><div>PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS DIRECTLY INTO ANY SURFACE WATERS, STREAM CORRIDORS, OR STORM SEWERS; ALL SUCH WATER WILL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO RELEASE.</div></div> <div><div>6.</div><div>DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE, OR ANY OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.</div></div> <div><div>7.</div><div>NO SURFACE, GROUND OR TRENCH WATER SHALL BE ALLOWED TO FLOW INTO EXISTING SANITARY SEWERS.</div></div> <div><div>8.</div><div>OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT.</div></div> <div><div>9.</div><div>STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED ON THE PLANS BY THE ENGINEER FOR SUCH PURPOSES.</div></div> <div><div>10.</div><div>RUNNING WELL POINT OR PUMP DISCHARGE LINES THROUGH PRIVATE OR PUBLIC PROPERTY AND RIGHTS-OF-WAY WITHOUT PERMISSION OF THE PROPERTY OWNER AND THE CONSENT OF OWNER.</div></div> <div><div>11.</div><div>OPERATION ENTAILING THE USE OF VIBRATORY HAMMERS OR COMPACTORS OUTSIDE THE HOURS OF 8:00 AM TO 5:00 PM OR OUTSIDE THE HOURS ALLOWED BY LOCAL ORDINANCES OR REGULATIONS.</div></div> <div><div>12.</div><div>CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE OR BOULEVARD WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS AND THE ENGINEER, AND CLOSING CLEAR ACCESS:</div></div> <div><div>12.1.</div><div>BY FIRE PROTECTION AND EMERGENCY VEHICLES;</div></div> <div><div>12.2.</div><div>BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, QUASI-PUBLIC OR PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE; OR</div></div> <div><div>12.3.</div><div>BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.</div></div> <div><div>12.4.</div><div>CONSTRUCTION STAGING OF VEHICLES, SOIL, OR CONSTRUCTION MATERIALS SHOULD NOT BE ON OR NEAR THE RIVERBANK AS WELL.</div></div>			

PROHIBITED CONSTRUCTION ACTIVITIES

1.

DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.

2.

DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.

3.

DISPOSING OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS OR AT UNSPECIFIED LOCATIONS.

4.

THE USE OF EXPLOSIVES WITHIN MUNICIPAL LIMITS, UNLESS A PERMIT IS ISSUED BY THE OWNER.

5.

PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS DIRECTLY INTO ANY SURFACE WATERS, STREAM CORRIDORS, OR STORM SEWERS; ALL SUCH WATER WILL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO RELEASE.

6.

DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE, OR ANY OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.

7.

NO SURFACE, GROUND OR TRENCH WATER SHALL BE ALLOWED TO FLOW INTO EXISTING SANITARY SEWERS.

8.

OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT.

9.

STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED ON THE PLANS BY THE ENGINEER FOR SUCH PURPOSES.

10.

RUNNING WELL POINT OR PUMP DISCHARGE LINES THROUGH PRIVATE OR PUBLIC PROPERTY AND RIGHTS-OF-WAY WITHOUT PERMISSION OF THE PROPERTY OWNER AND THE CONSENT OF OWNER.

11.

OPERATION ENTAILING THE USE OF VIBRATORY HAMMERS OR COMPACTORS OUTSIDE THE HOURS OF 8:00 AM TO 5:00 PM OR OUTSIDE THE HOURS ALLOWED BY LOCAL ORDINANCES OR REGULATIONS.

12.

CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE OR BOULEVARD WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS AND THE ENGINEER, AND CLOSING CLEAR ACCESS:

12.1.

BY FIRE PROTECTION AND EMERGENCY VEHICLES;

12.2.

BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, QUASI-PUBLIC OR PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE; OR

12.3.

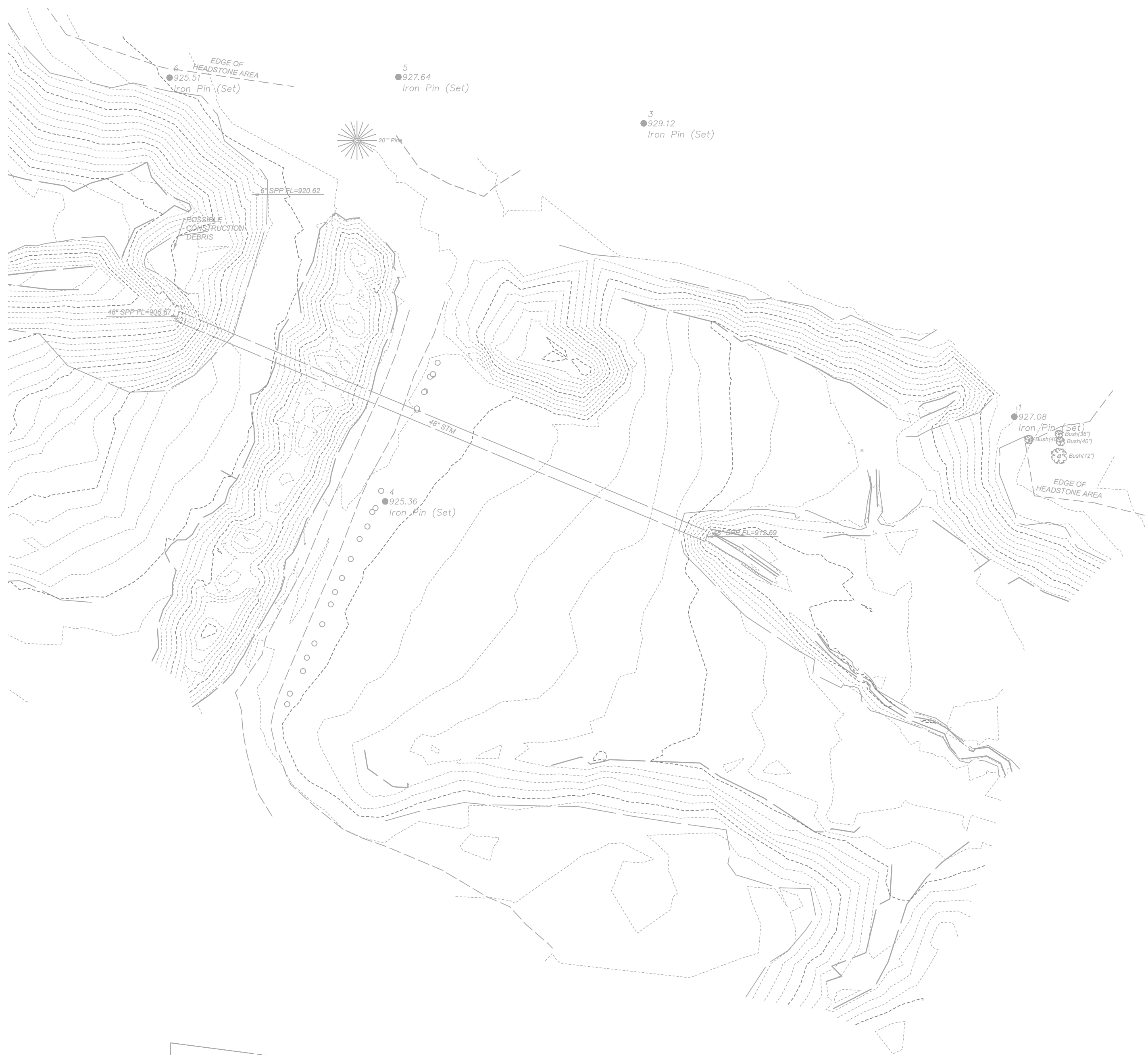
BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.

12.4.

CONSTRUCTION STAGING OF VEHICLES, SOIL, OR CONSTRUCTION MATERIALS SHOULD NOT BE ON OR NEAR THE RIVERBANK AS WELL.



CONTROL MAP

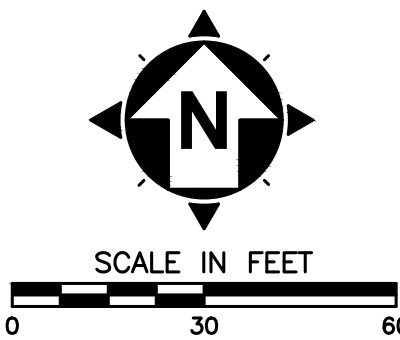


THE VILLAGE OF CHAGRIN FALLS  
PPN 932-27-002  
39.00 ACRES ±

THE VILLAGE OF CHAGRIN FALLS  
PPN 932-27-003  
3.294 ACRES ±

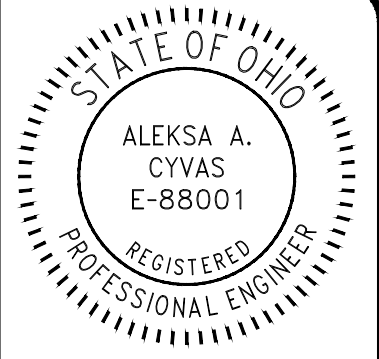
NOTES:

- THE PROJECT CONTROL COORDINATE SYSTEM IS BASED UPON THE FOLLOWING:
  - HORIZONTAL DATUM - OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, ON THE NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT. ESTABLISHED BY GNSS/RTK OBSERVATIONS UTILIZING THE OHIO DEPARTMENT OF TRANSPORTATION'S CONTINUOUSLY OPERATING REFERENCE STATION NETWORK.
  - VERTICAL DATUM - NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). ESTABLISHED BY GNSS/RTK OBSERVATIONS UTILIZING THE OHIO DEPARTMENT OF TRANSPORTATION'S CONTINUOUSLY OPERATING REFERENCE STATION NETWORK.
- ALL DIMENSIONS GIVEN ARE EXPRESSED IN US SURVEY FEET AND DECIMAL PARTS THERE OF. BEARINGS ARE USED TO DENOTE ANGLES ONLY.
- HORIZONTAL AND VERTICAL CONTROL WAS SET IN FEBRUARY AND JUNE OF 2022. PRIOR TO USE OF THE CONTROL SHALL BE CONFIRMED BY THE CONTRACTOR



BASIS OF BEARINGS  
BEARINGS ARE BASED ON DATA ACQUIRED BY  
GPS OBSERVATIONS AS PER NAD 83 (2011 ADJ) -  
OHIO STATE PLANE COORDINATE SYSTEM -  
NORTH ZONE 3401

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	639709.8600	2272143.9390	927.08	Iron Pin (Set)
2	639686.0390	2272419.7320	928.87	Iron Pin (Set)
3	639823.5221	2272000.3180	929.12	Iron Pin (Set)
4	639677.0267	2271900.1310	925.36	Iron Pin (Set)
5	639841.4589	2271905.2700	927.64	Iron Pin (Set)
6	639841.2162	2271816.6080	925.51	Iron Pin (Set)



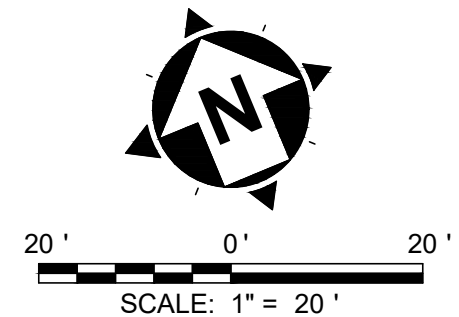
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EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

SURVEY CONTROL

PROJECT NO.	
22025505	
DISCIPLINE	
SURVEY	
SHEET NAME	
CONTROL	
SHEET	OF
3	19



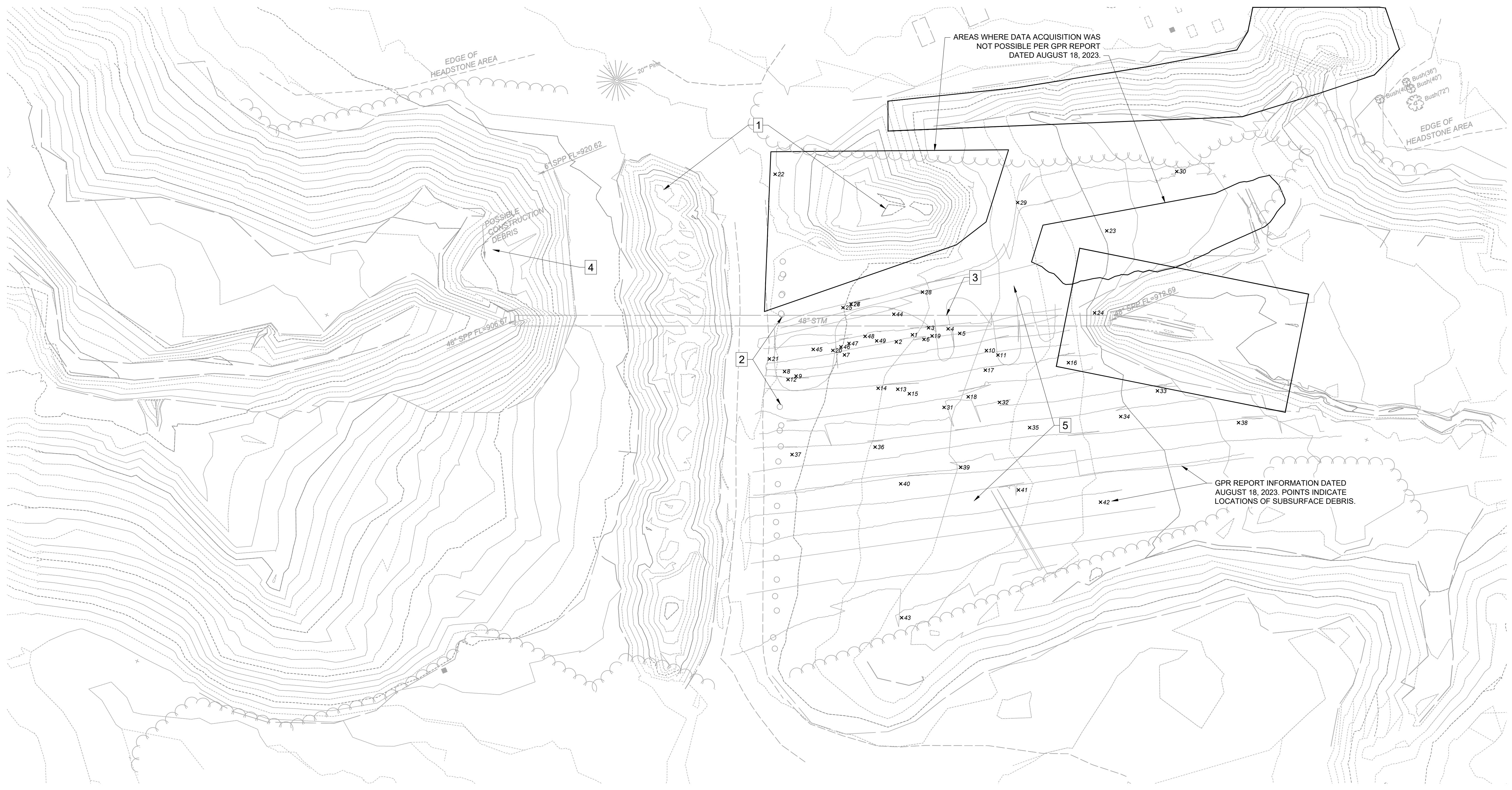


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DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

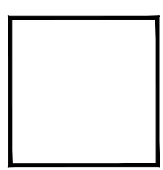
EXISTING CONDITIONS  
AND DEMOLITION PLAN

PROJECT NO. <b>22025505</b>	
DISCIPLINE <b>CIVIL</b>	
SHEET NAME	
SHEET <b>4</b>	OF <b>19</b>



**CODED NOTES:**

- RELOCATE EXISTING SOIL STOCKPILES AND STORE IN LOCATION INDICATED ON EROSION AND SEDIMENT CONTROL SHEET.
- REMOVE AND STORE BOLLARDS AS NECESSARY.
- REMOVE AND PROPERLY DISPOSE OF EXISTING 48" CMP IN ENTIRETY. CONTRACTOR SHALL ADD SUITABLE SOIL TO EXISTING SOIL STOCKPILE AND REMOVE AND PROPERLY DISPOSE OF CONSTRUCTION DEBRIS.
- REMOVE AND PROPERLY DISPOSE OF CONSTRUCTION DEBRIS LOCATED NEAR EXISTING PIPE OUTLET.
- REMOVE AND PROPERLY DISPOSE OF CONSTRUCTION DEBRIS LOCATED WITHIN PROJECT SITE AS INDICATED BY GROUND PENETRATING RADAR SURVEY REPORT.



CLEARING AND  
GRUBBING AREA

**EXCAVATION NOTES:**

CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE TO STREETS AND SERVICE DEPARTMENT (440-247-1169) AND UTILITIES DEPARTMENT (440-247-5051) SUPERINTENDENTS TO COORDINATE POSSIBLE EARTHWORK STOCKPILING AT LOCATIONS WITHIN EVERGREEN CEMETERY, 16800 SOUTH FRANKLIN STREET, AND OTHER POSSIBLE LOCATIONS.

CONSTRUCTION DEMOLITION DEBRIS, REMAINING EARTHWORK, AND ANY OTHER SPOILS SHALL BE DISPOSED OF PROPERLY.



Stream Channel Design Parameters

Input Values		
	Value	Unit
Drainage Area	0.0778	SQ MI
Mean Channel Slope	121	FT/MI
Main-Channel Elevation Index	902	FT
Design Flood-Prone Width	27.58	FT
Design Stream Length	267	FT
Design Valley Length	261.5	FT
Channel Slope	0.04	
Pool Spacing	40	FT
Pool Depth	2	FT
Riffle Slope	0.072	FT/FT
Riffle Length	10	

Rosgen Design Parameters

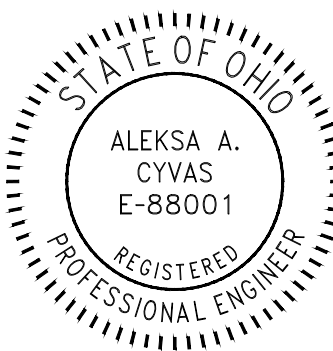
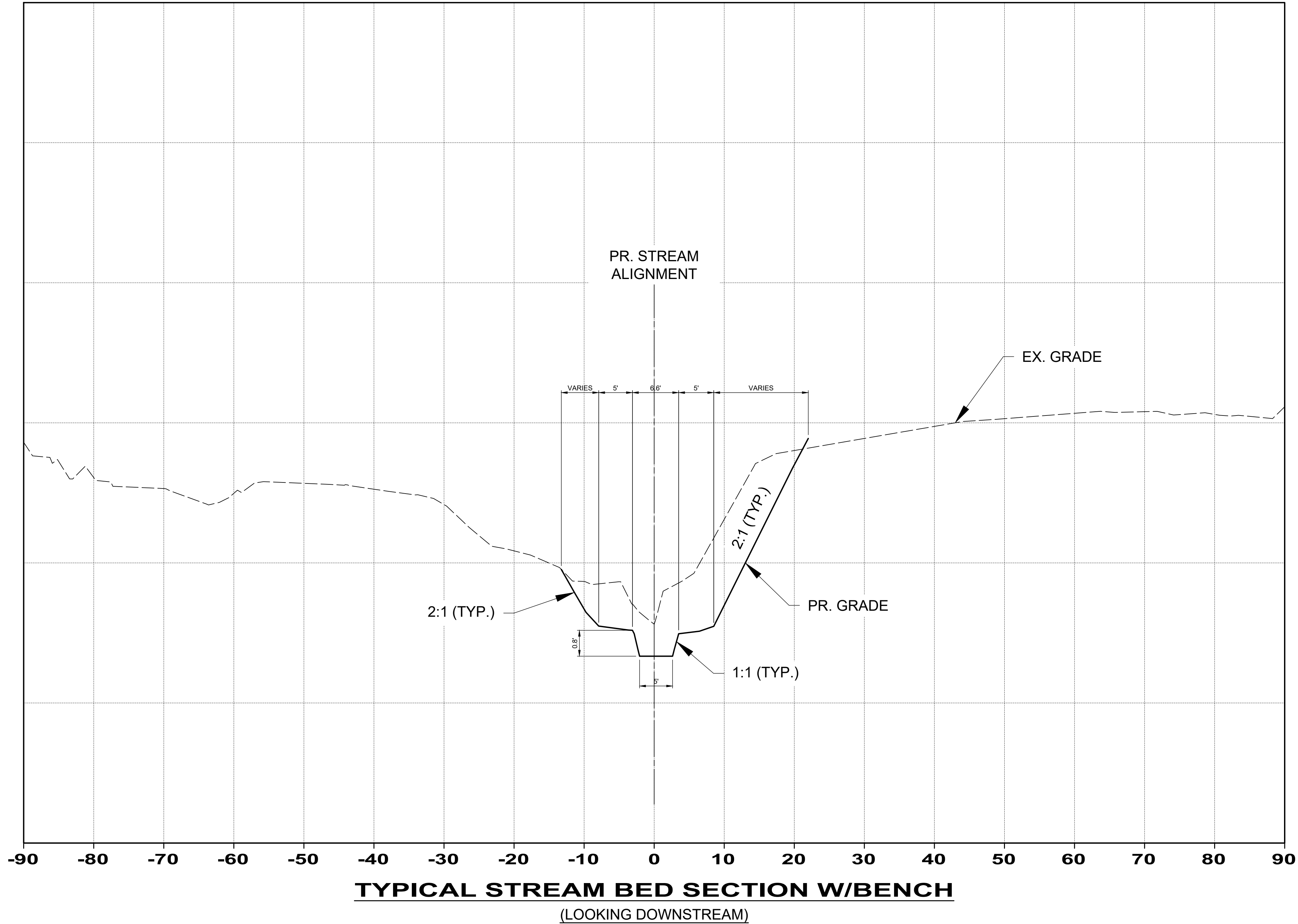
Design Stream Type	8
Entrenchment Ratio	1.4-2.2
Channel Width/Depth Ratio	<12
Channel Sinuosity	>1.2

Calculated Values

	Value	Unit
Bankfull Width	6.6	FT
Bankfull Depth	0.8	FT
Bankfull Cross-Sectional Area	4.91	SF
Stream Bottom Width	5.84	FT
Bankfull Discharge	11.78	CFS
Design Flood-Prone Height	1.58	FT
Entrenchment Ratio		
Channel Width/Depth Ratio	8	
Channel Sinuosity	1.0	
Pool-Pool Spacing Ratio	1.5	
Pool Max Depth Ratio	2.53	
Riffle Slope Ratio	1.79	

SHEET NOTES

- SCALP THE EXISTING SLOPE ACCORDING TO ITEM 201.
- CUT HORIZONTAL BENCHES IN THE EXISTING SLOPE TO A SUFFICIENT WIDTH TO BLEND THE NEW EMBANKMENT WITH THE EXISTING EMBANKMENT AND TO ACCOMMODATE THE PLACEMENT, AND COMPACTION OPERATIONS AND EQUIPMENT.
- BENCH THE SLOPE AS THE EMBANKMENT IS PLACED AND COMPACT INTO LAYERS.
- BEGIN EACH BENCH AT THE INTERSECTION OF THE EXISTING SLOPE AND THE VERTICAL CUT OF THE PREVIOUS BENCH. RECOMPACT THE CUT MATERIALS ALONG WITH THE NEW EMBANKMENT.



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EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

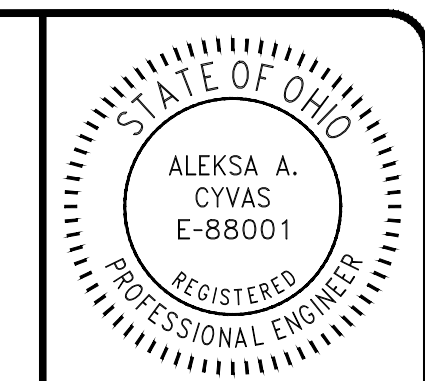
TYPICAL SECTIONS

PROJECT NO.	
22025505	
DISCIPLINE	
CIVIL	
SHEET NAME	
SHEET	OF
5	19

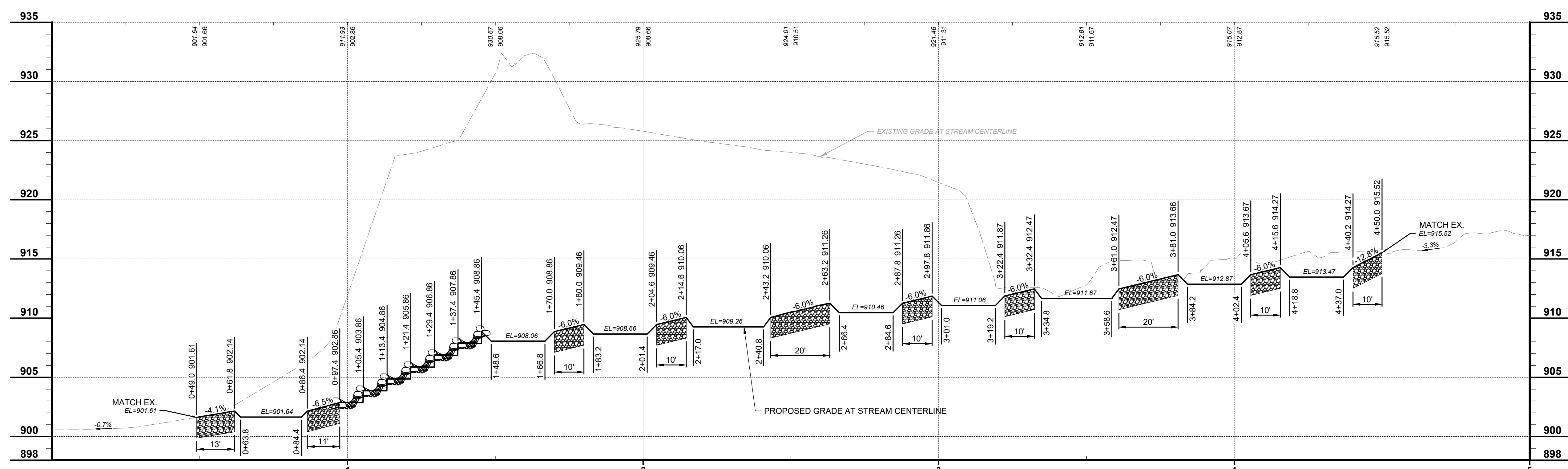




- CONSTRUCTION KEY NOTES
- 1 TIE INTO EXISTING STREAM FLOWLINE
  - 2 SEE LANDSCAPE PLANS FOR MORE INFORMATION
  - 3 STREAM RESTORATION PER SHEET 7
- EARTHWORK QUANTITIES
- CUT = 8663 CY  
FILL = 42 CY  
NET = 8621 CY CUT



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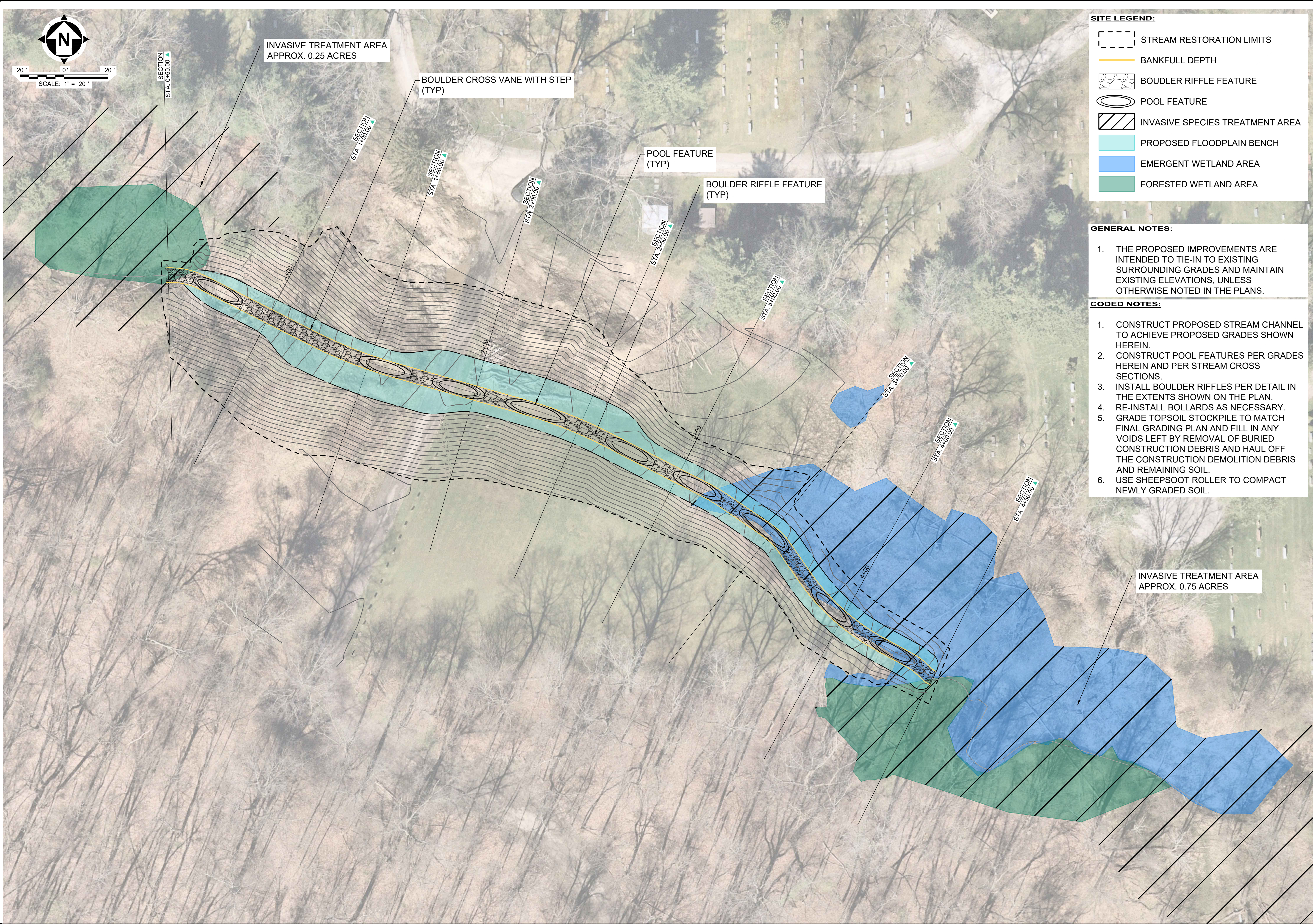


**EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS**  
- VILLAGE OF CHAGRIN FALLS, OHIO -

**PLAN AND PROFILE**

PROJECT NO. <b>22025505</b>	
DISCIPLINE <b>CIVIL</b>	
SHEET NAME	
SHEET <b>6</b>	OF <b>19</b>





**SITE LEGEND:**

- STREAM RESTORATION LIMITS
- BANKFULL DEPTH
- BOUDLER RIFFLE FEATURE
- POOL FEATURE
- INVASIVE SPECIES TREATMENT AREA
- PROPOSED FLOODPLAIN BENCH
- EMERGENT WETLAND AREA
- FORESTED WETLAND AREA

- GENERAL NOTES:**
- THE PROPOSED IMPROVEMENTS ARE INTENDED TO TIE-IN TO EXISTING SURROUNDING GRADES AND MAINTAIN EXISTING ELEVATIONS, UNLESS OTHERWISE NOTED IN THE PLANS.

- CODED NOTES:**
- CONSTRUCT PROPOSED STREAM CHANNEL TO ACHIEVE PROPOSED GRADES SHOWN HEREIN.
  - CONSTRUCT POOL FEATURES PER GRADES HEREIN AND PER STREAM CROSS SECTIONS.
  - INSTALL BOULDER RIFFLES PER DETAIL IN THE EXTENTS SHOWN ON THE PLAN.
  - RE-INSTALL BOLLARDS AS NECESSARY.
  - GRADE TOPSOIL STOCKPILE TO MATCH FINAL GRADING PLAN AND FILL IN ANY VOIDS LEFT BY REMOVAL OF BURIED CONSTRUCTION DEBRIS AND HAUL OFF THE CONSTRUCTION DEMOLITION DEBRIS AND REMAINING SOIL.
  - USE SHEEPSOOT ROLLER TO COMPACT NEWLY GRADED SOIL.

STATE OF OHIO  
ALEKSA A. CYVAS  
E-88001  
REGISTERED  
PROFESSIONAL ENGINEER

**verdantas**

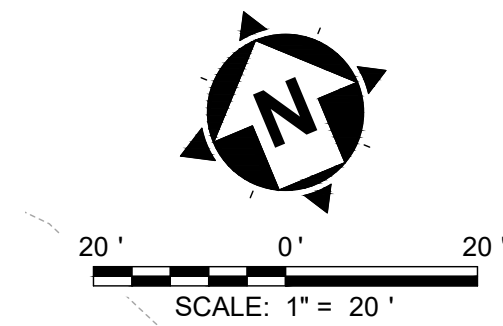
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EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

STREAM DESIGN

PROJECT NO. <b>22025505</b>	
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CONSTRUCTION KEY NOTES

- 1 PHASE A STREAM RESTORATION PER SHEET 7
- 2 PHASE B: GRADE AREA FOR FUTURE CEMETERY USE

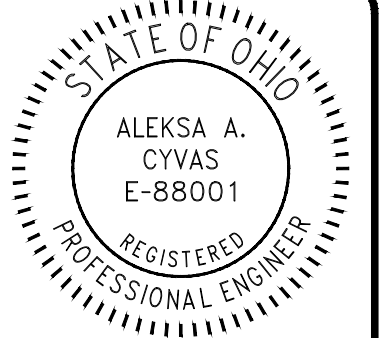
EARTHWORK QUANTITIES

CUT = 1 CY  
FILL = 1007 CY  
NET = 1006 CY FILL

PHASE B PROJECT AREA

GRADING NOTES:

- GRADE TOPSOIL STOCKPILE TO MATCH FINAL GRADING PLAN AND FILL IN ANY VOIDS LEFT BY REMOVAL OF BURIED CONSTRUCTION DEBRIS AND HAUL OFF THE CONSTRUCTION DEMOLITION DEBRIS.
- USE SHEEPSOOT ROLLER TO COMPACT NEWLY GRADED SOIL.
- SUITABLE STOCKPILED SOIL MAY BE REGRADED AT THE DIRECTION OF THE ENGINEER. REMAINING SOIL SHALL BE STOCKPILED NEATLY ON THE SOUTH SIDE OF THE CEMETERY.



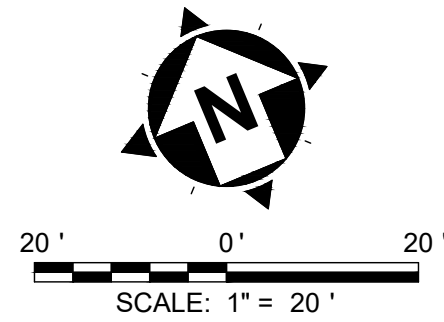
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EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

PHASE B GRADING PLAN

PROJECT NO.	22025505
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SHEET	OF
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- CONSTRUCTION KEY NOTES
- 1 PHASE A STREAM RESTORATION PER SHEET 7
  - 2 PHASE B: GRADE AREA FOR FUTURE CEMETERY USE
- EARTHWORK QUANTITIES
- NET = 2177 CY FILL

PHASE B PROJECT AREA

- GRADING NOTES:
1. GRADE TOPSOIL STOCKPILE TO MATCH FINAL GRADING PLAN AND FILL IN ANY VOIDS LEFT BY REMOVAL OF BURIED CONSTRUCTION DEBRIS AND HAUL OFF THE CONSTRUCTION DEMOLITION DEBRIS.
  2. USE SHEEPSOOT ROLLER TO COMPACT NEWLY GRADED SOIL.
  3. SUITABLE STOCKPILED SOIL MAY BE REGRADED AT THE DIRECTION OF THE ENGINEER. REMAINING SOIL SHALL BE STOCKPILED NEATLY ON THE SOUTH SIDE OF THE CEMETERY.



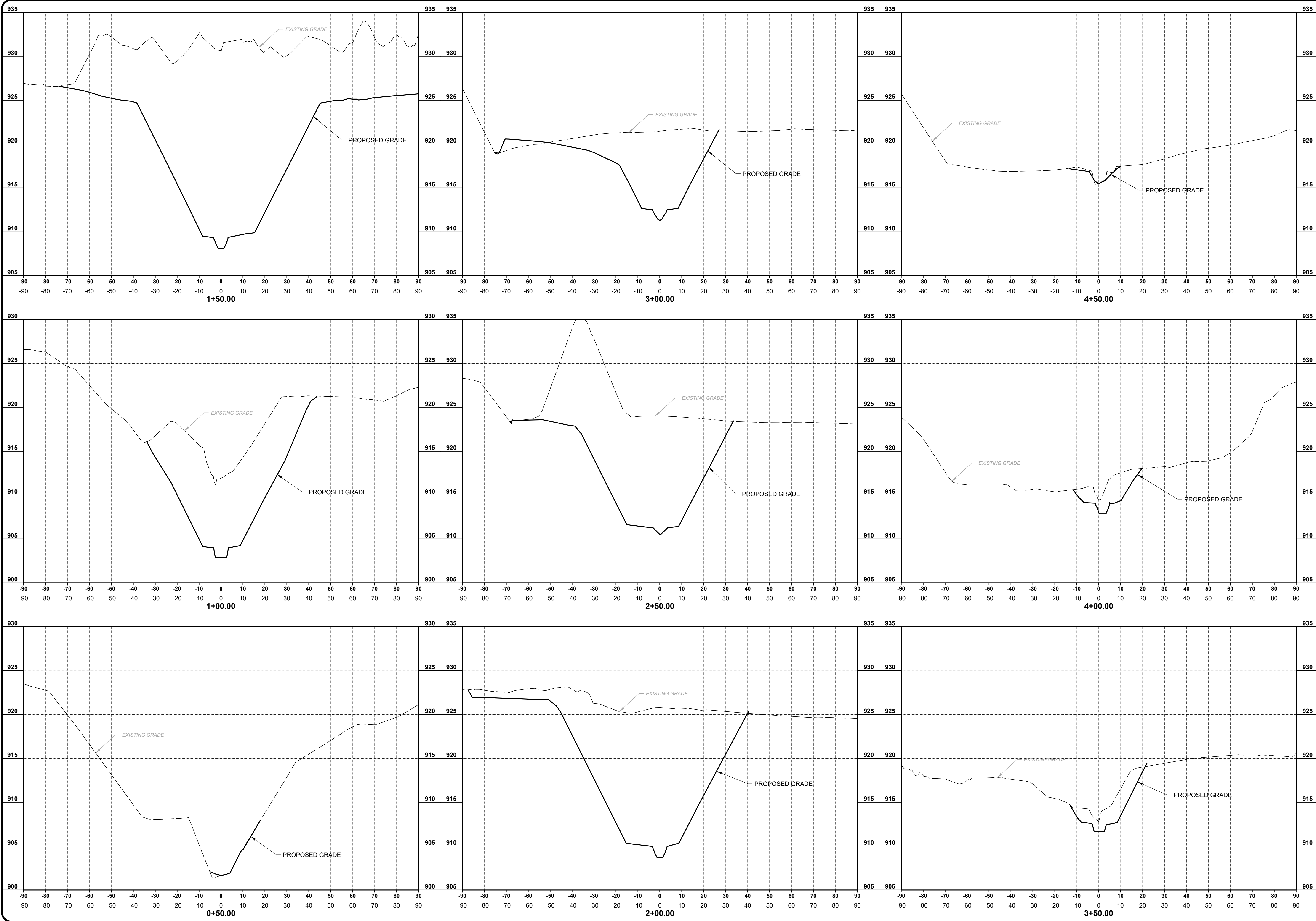
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EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

PHASE B GRADING PLAN  
ALTERNATE A

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SHEET	OF
9	19





STATE OF OHIO

ALEKSA A. CYVAS

E-88001

REGISTERED PROFESSIONAL ENGINEER

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EVERGREEN CEMETERY STREAM

DAYLIGHTING AND IMPROVEMENTS

- VILLAGE OF CHAGRIN FALLS, OHIO -

PROJECT NO.

22025505

DISCIPLINE

CIVIL

SHEET NAME

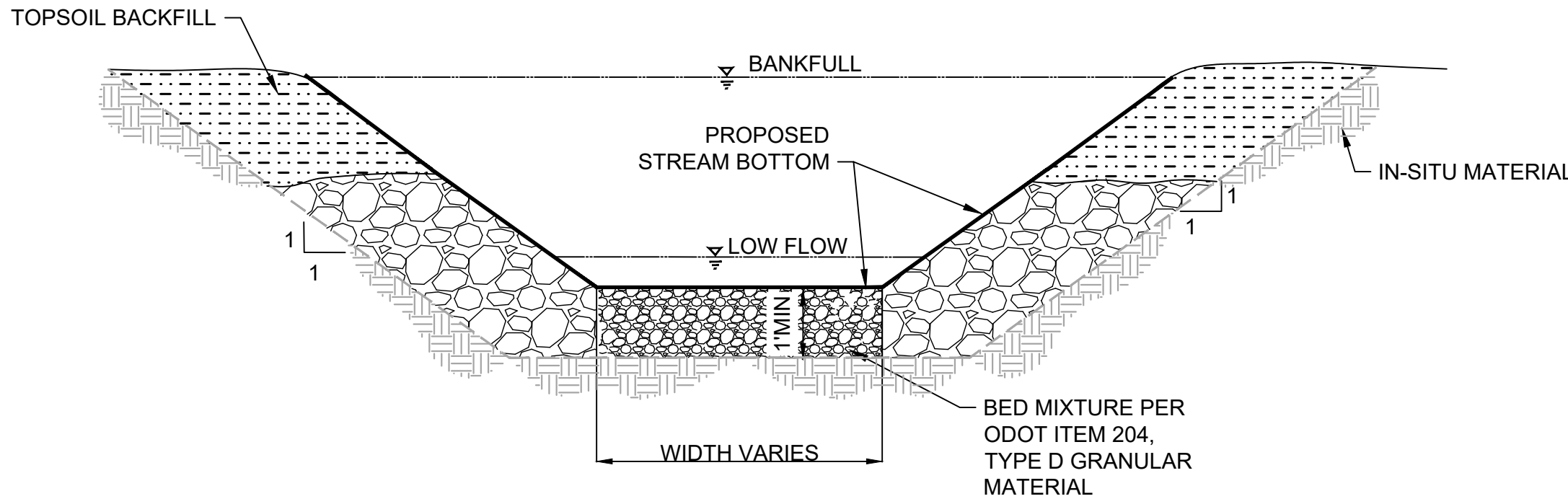
SHEET

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OF

19





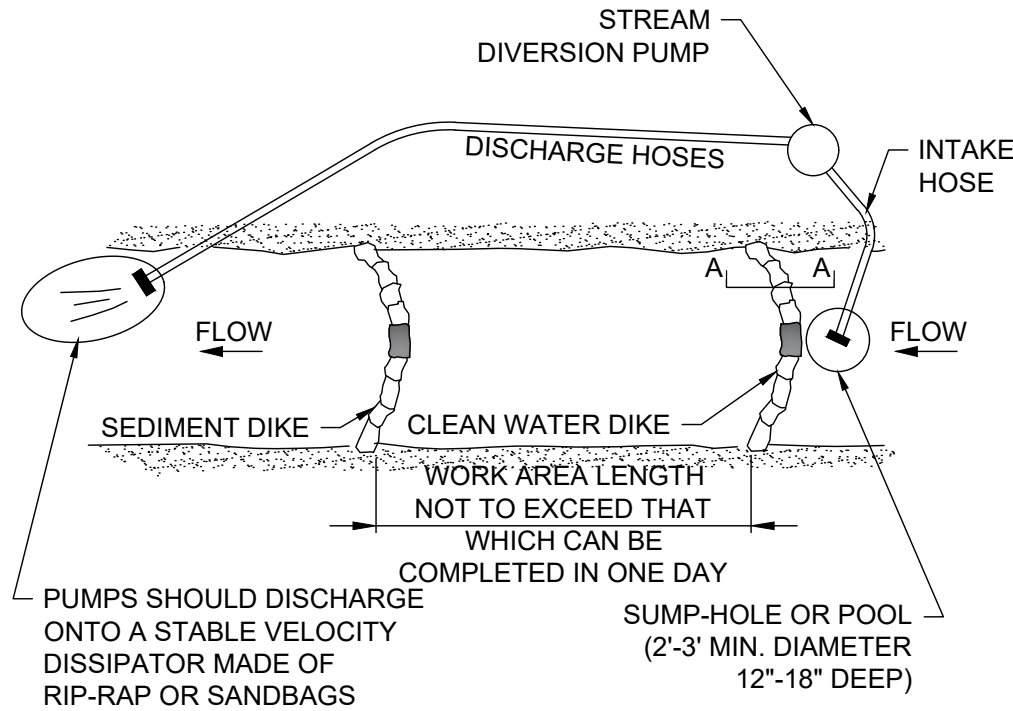
**TYPICAL CHANNEL BED MATERIAL SECTION DETAIL**

NOT TO SCALE

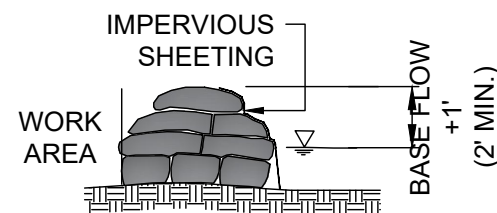
THE THICKNESS OF THE GRAVEL SHOULD GENERALLY BE LESS THAN ONE FOOT AND NOT MORE THAN THE DEPTH OF THE WATER AT NORMAL STAGE FLOW SO THAT IT DOESN'T EXTEND OUT OF THE WATER AND BACK UP A SIGNIFICANT POOL OR OTHERWISE ACT AS A DAM. TO CONCENTRATE LOWER STREAM FLOWS, THE GRAVEL SHOULD BE PLACED SO THAT IT IS SLIGHTLY LOWER IN THE MIDDLE OF THE CHANNEL AND HIGHER ALONG THE STREAMBANKS. GRAVEL SIZE IS BEST DETERMINED BY EXAMINING THE SUBSTRATE AND ANY GRAVEL BARS IN THE EXISTING STREAM CHANNEL. GRAVEL SHOULD BE SIZED SO THAT IT IS STABLE AT LOW AND MEDIUM FLOWS BUT ERODIBLE AT HIGH OR BANKFULL FLOWS. THIS TYPICALLY RANGES FROM ONE TO FOUR INCHES IN DIAMETER.

**NOTE:**

- BED MIXTURE SHALL CONFORM TO ODOT TYPE D WASHED GRANULAR MATERIAL FOR GRADATION PER ODOT ITEM 703. CONTRACTOR SHALL SUBMIT SHOP DRAWING OF INTENDED BED MIXTURE AGGREGATE MATERIAL FOR REVIEW BY ENGINEER PRIOR TO ORDERING MATERIAL.
- FOR BED MIXTURE, THE THICKNESS OF THE GRAVEL SHOULD GENERALLY BE ONE FOOT. MATERIAL SHALL NOT EXTEND OUT OF THE WATER AND BACK UP A SIGNIFICANT POOL OR OTHERWISE ACT AS A DAM. TO CONCENTRATE LOWER STREAM FLOWS, THE GRAVEL SHOULD BE PLACED SO THAT IT IS SLIGHTLY LOWER IN THE MIDDLE OF THE CHANNEL AND HIGHER ALONG THE STREAMBANK. GRAVEL SIZE IS BEST DETERMINED BY EXAMINING THE SUBSTRATE AND ANY GRAVEL BARS IN THE EXISTING STREAM CHANNEL. GRAVEL SHOULD BE SIZED SO THAT IT IS STABLE AT LOW AND MEDIUM FLOWS BUT ERODIBLE AT HIGH OR BANKFULL FLOWS. ALL MATERIAL SHOULD BE WASHED PRIOR TO INSTALLATION TO ENSURE DOWNSTREAM WATER QUALITY AND REDUCE SEDIMENT TRANSPORT.



**PLAN VIEW**



**SECTION A-A**

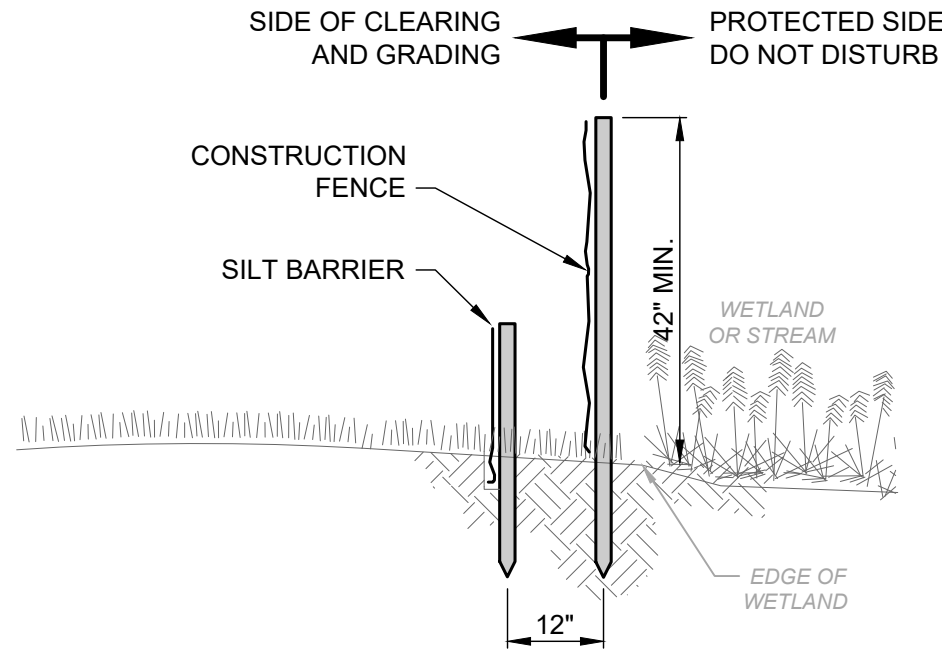
**PUMP AROUND DIVERSION**

SCALE: NONE

TYPE D - NONWOVEN GEOTEXTILE FABRIC SPECIFICATIONS  
WEIGHT-TYPICAL 8 OZ/SY (ASTM D-5261)  
APPARENT OPENING SIZE MAX. (MM) 0.212 (ASTM D-4751)  
GRAB TENSILE STRENGTH MIN (LBS) 120 (ASTM D-4632)  
PUNCTURE STRENGTH (LBS) 65 (ASTM D-4833)

**SOIL STABILIZATION MATTING SPECIFICATIONS**

- |   |  |
|---|--|
| <b>A. GRADED SLOPES &amp; STREAM BANKS</b><br>1. MATTING SHALL BE WOVEN MACHINE SPUN BRISTLE COIR TWINE MADE OF COIR FIBER OBTAINED FROM FRESH WATER CURED COCONUT HUSKS.<br><br>2. SOIL STABILIZATION MATTING SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:<br>WEIGHT: 29 OZ/SY (ASTM D 3776)<br>THICKNESS: 0.35 IN. (ASTM D 1777)<br>DRY TENSILE STRENGTH:<br>MACHINE DIRECTION - 2024 LBS/SF<br>CROSS DIRECTION - 1160 LBS/SF (ASTM D 4595)<br>WET TENSILE STRENGTH:<br>MACHINE DIRECTION - 1776 LBS/SF<br>CROSS DIRECTION - 936 LBS/SF (ASTM D 4595)<br>OPEN AREA: 38% | <b>B. SOIL LIFTS</b><br>1. MATTING SHALL BE A DOUBLE LAYERED BIODEGRADABLE EROSION CONTROL FABRIC MADE UP OF AN OUTER LAYER OF HIGH STRENGTH COIR FABRIC AND AN INNER LAYER OF LIGHTWEIGHT JUTE FABRIC TIED TOGETHER.<br><br>2. SOIL STABILIZATION MATTING SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:<br>WEIGHT: 33.3 OZ/SY (ASTM D 5261)<br>THICKNESS: 0.35 IN. (ASTM D 5199)<br>WIDE WIDTH TENSILE STRENGTH (OUTER LAYER):<br>1008 X 936 LBS/FT (ASTM D 4595)<br>WIDE WIDTH TENSILE STRENGTH (INNER LAYER):<br>612 X 468 LBS/FT (ASTM D 4595)<br>SHEAR STRESS: 4.5 PSF |
|---|--|



**NOTES:**

- THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY BARRIERS AROUND NON-IMPACTED WETLANDS AND STREAMS TO PREVENT DISTURBANCE OR CONSTRUCTION ACTIVITIES WITHIN THE PROTECTED AREAS AND, UPON COMPLETION OF THE PROJECT, BE REMOVED.
- CONSTRUCTION FENCE SHALL BE HIGH VISIBILITY, ORANGE COLOR, HIGH DENSITY POLYETHYLENE GRID SECURED TO STEEL POSTS LOCATED ON MAXIMUM 10' CENTERS.
- THE FOLLOWING ACTIVITIES ARE PROHIBITED WITHIN OR THROUGH NON-IMPACTED WETLANDS AND STREAMS:
  - EXCAVATION OR OTHER DIGGING
  - IMPOUNDMENT OF WATER
  - STORAGE OF CONSTRUCTION MATERIALS, DEBRIS OR EXCAVATED MATERIAL
  - OPERATING OR PARKING VEHICLES OR EQUIPMENT
  - FOOT TRAFFIC
  - ATTACHMENT OF SIGNS TO OR WRAPPING MATERIALS AROUND TREES
  - ANYTHING THAT WOULD DISTURB THE GROUND

**WETLAND BARRIER DETAIL**

SCALE: NONE



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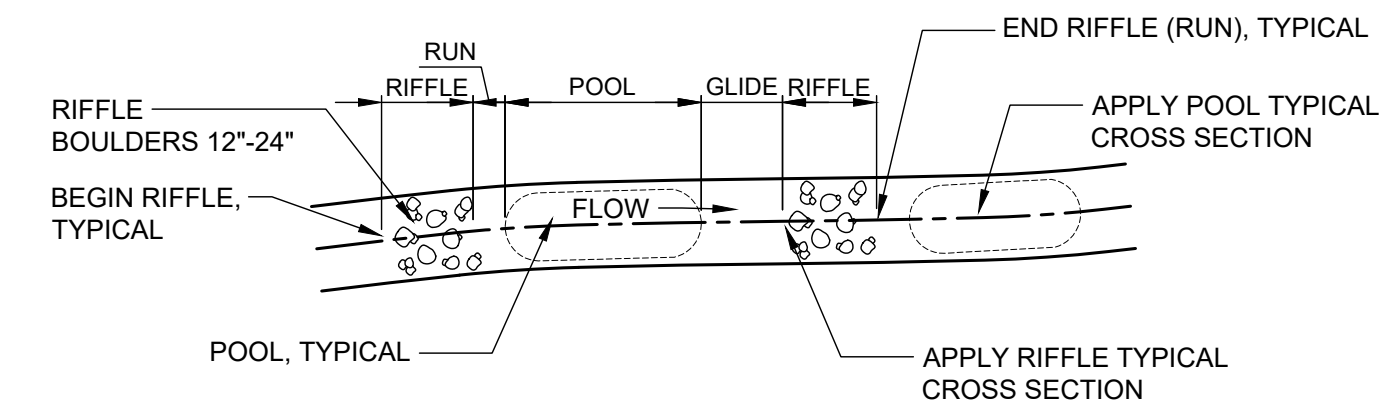
**EVERGREEN CEMETERY STREAM DAYLIGHTING AND IMPROVEMENTS**  
- VILLAGE OF CHAGRIN FALLS, OHIO -

**CONSTRUCTION DETAILS**

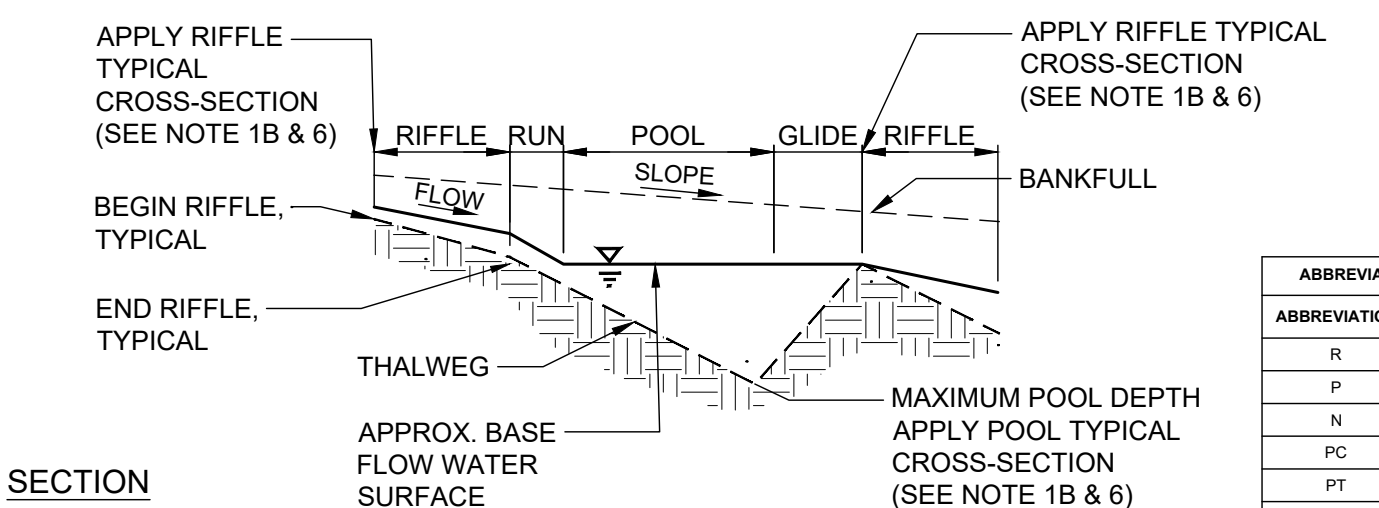
PROJECT NO. <b>22025505</b>	
DISCIPLINE <b>CIVIL</b>	
SHEET NAME	
SHEET <b>11</b>	OF <b>19</b>



HIGH GRADIENT  
STREAM TYPE



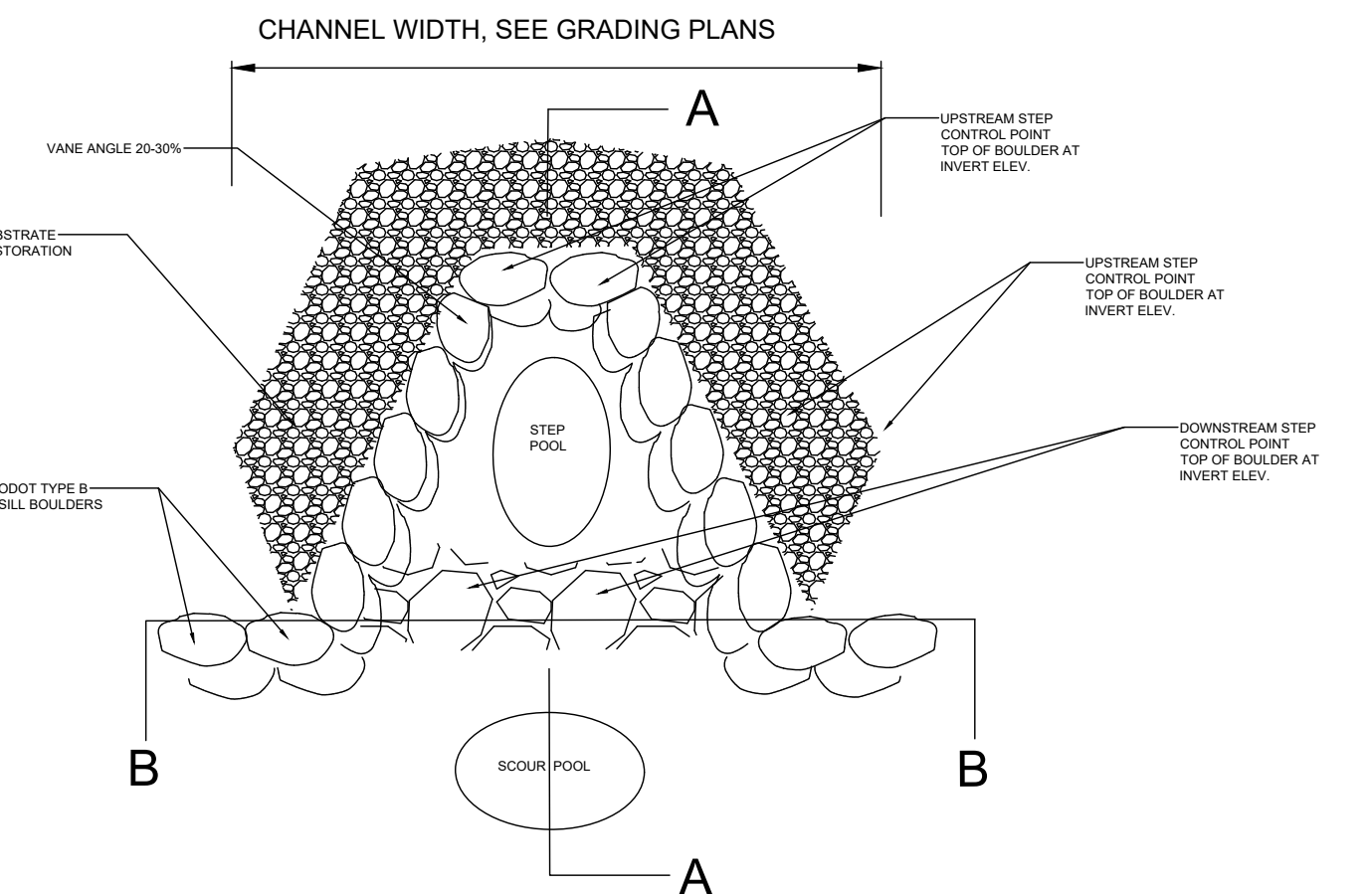
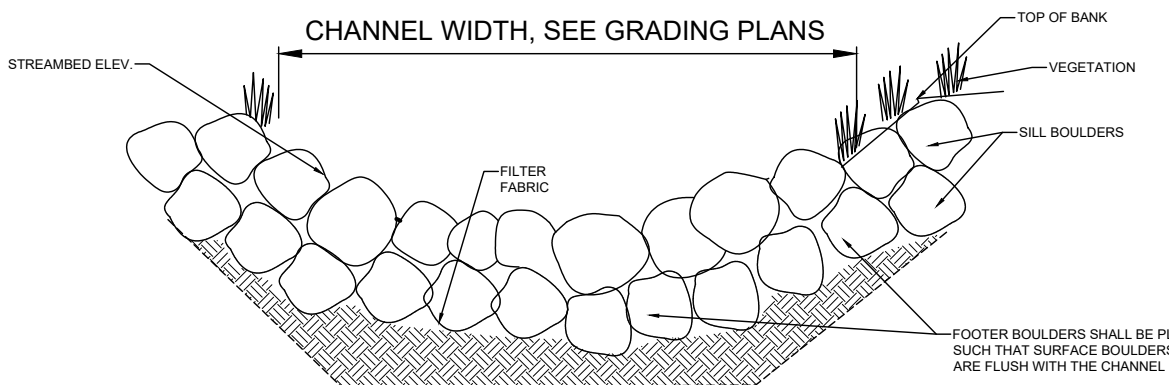
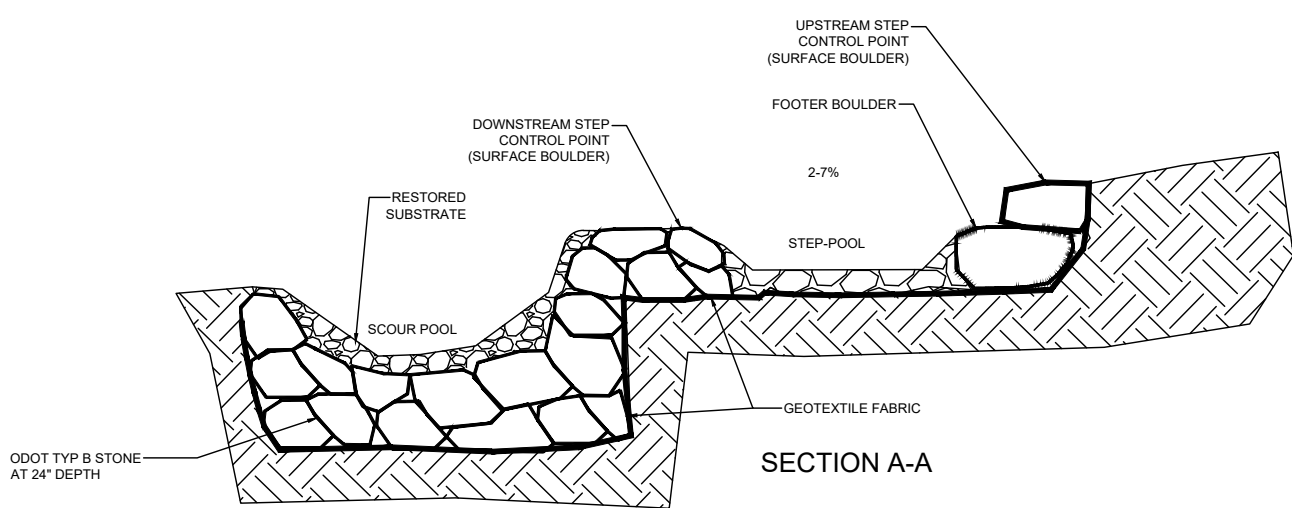
PLAN VIEW



SECTION

RIFFLE TO POOL DETAIL

SCALE: NONE

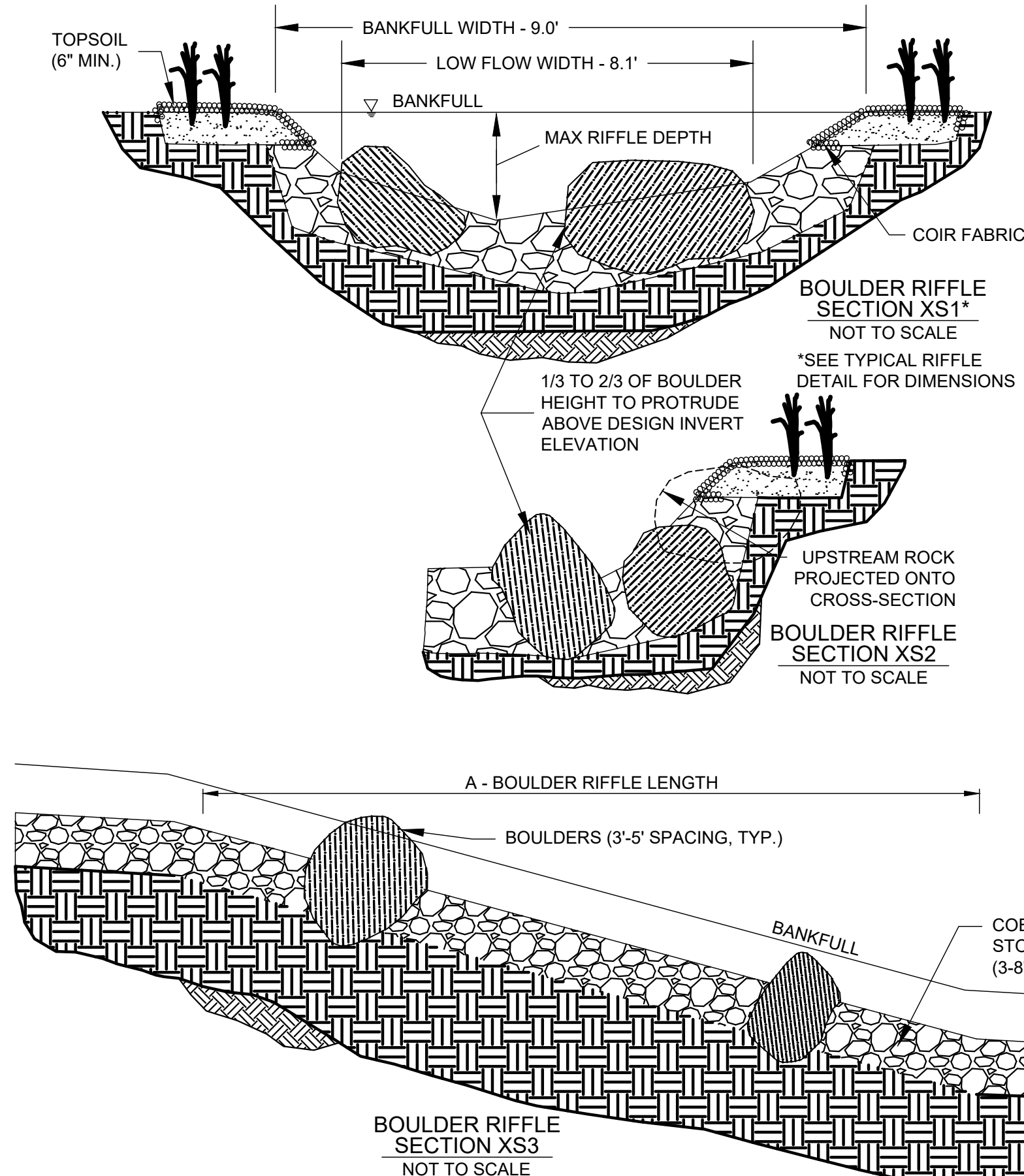
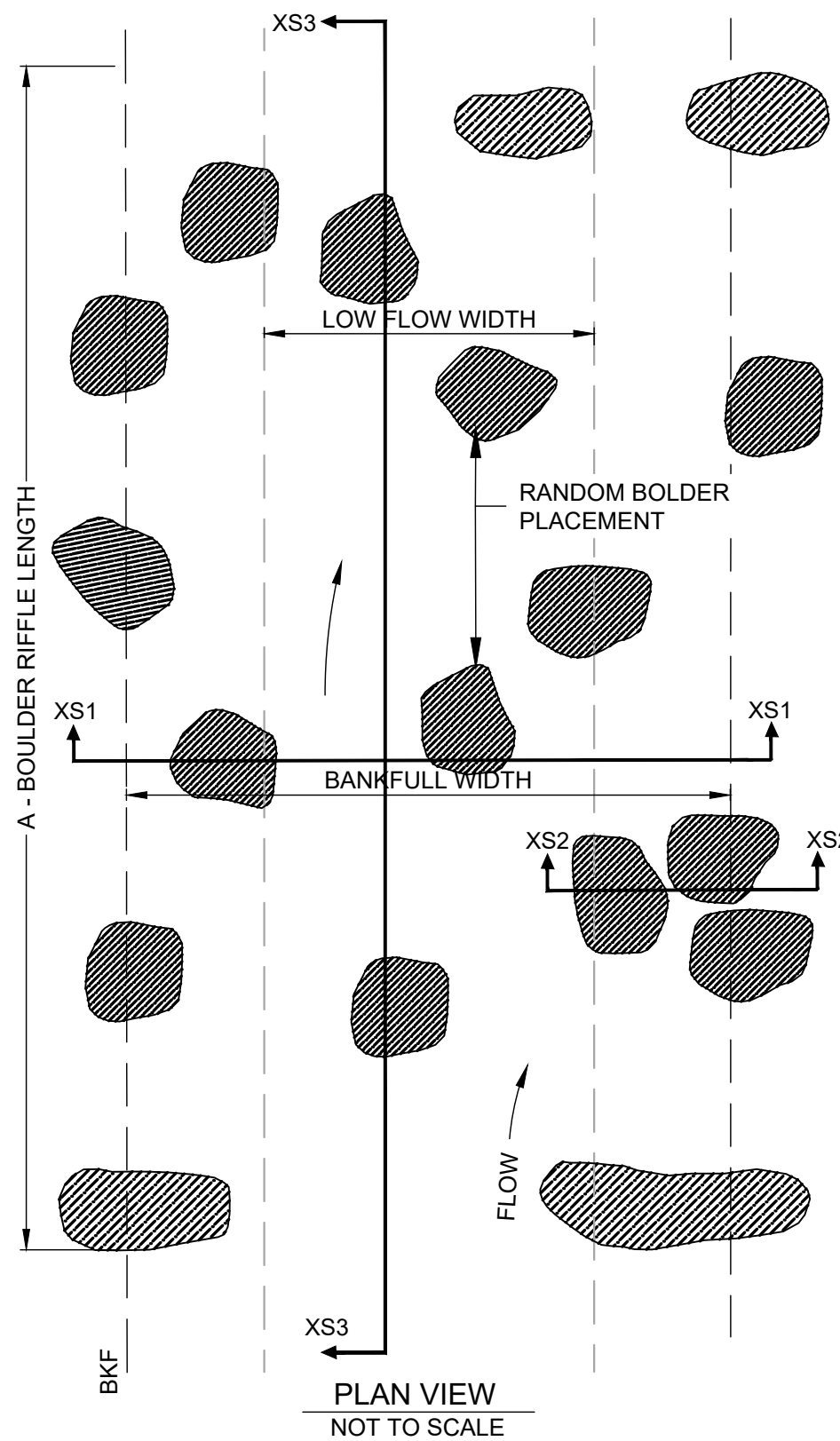


BOULDER CROSS VANE WITH STEP

SCALE: NONE

NOTES:

- THE RIFFLE-TO-POOL TRANSITION DETAIL IS A SCHEMATIC (GENERALIZED) DRAWING OF:
  - THE RELATIONSHIP BETWEEN THE STREAM CHANNEL HORIZONTAL ALIGNMENT (MEANDER GEOMETRY) AND VERTICAL ALIGNMENT (PROFILE).
  - THE PLACEMENT OF THE POOL AND RIFFLE TYPICAL CROSS SECTIONS WITH RESPECT TO THE STREAM CHANNEL HORIZONTAL ALIGNMENTS (MEANDER GEOMETRY) AND VERTICAL ALIGNMENT (PROFILE).
- THE VERTICAL CONTROL POINTS SHOWN ARE THE ELEVATIONS USED TO ESTABLISH THE VERTICAL ALIGNMENT (PROFILE). THEY INCLUDE:
  - R - RIFFLE CONTROL POINTS
    - HEAD OF (BEGIN) RIFFLE
    - TAIL OF (END) RIFFLE
  - P - MAXIMUM POOL DEPTH
- THE HORIZONTAL CONTROL POINTS SHOWN ARE THE BEGINNING AND ENDING LOCATIONS OF THE STRAIGHT SEGMENTS AND CURVES USED TO ESTABLISH THE HORIZONTAL ALIGNMENT (MEANDER GEOMETRY). THEY INCLUDE:
  - HIGH-GRADIENT STREAM GEOMETRY (RELATIVELY STRAIGHT ROSEN B-STREAM TYPES) INCLUDES PC'S AND PT'S AS DESCRIBED ABOVE AND ALSO:
    - PI - POINT OF INTERSECTION - TRANSITION BETWEEN STRAIGHT SEGMENTS WITH LITTLE CHANGE IN DIRECTION (BEARING)
- CONSTRUCTION OF THE CHANNEL (ALIGNMENT, PROFILE AND CROSS SECTION) SHALL BE DONE IN A MANNER TO CREATE SMOOTH TRANSITIONS BETWEEN THE CONTROL POINTS AND TYPICAL RIFFLE AND POOL CROSS SECTIONS.
- THE DESIGNER SHALL SPECIFY HORIZONTAL AND VERTICAL TOLERANCES FOR ALL CONTROL POINTS. REGARDLESS, THE DOWNSTREAM HEAD OF (BEGIN) RIFFLE ELEVATION SHALL NOT EXCEED THE UPSTREAM TAIL OF (END) RIFFLE ELEVATION (CREATING AN ADVERSE BANKFULL SLOPE).
- THE RIFFLE TYPICAL CROSS SECTION SHALL BE APPLIED IN STRAIGHT (TANGENT) SEGMENTS. THE POOL TYPICAL CROSS SECTION SHALL BE APPLIED IN CURVES (MEANDER BENDS). THE STREAM CROSS SECTION SHALL SMOOTHLY TRANSITION DIMENSIONS FROM THE UPSTREAM RIFFLE TYPICAL CROSS SECTION TO THE NEXT (DOWNSTREAM) POOL TYPICAL CROSS SECTION TO THE NEXT (DOWNSTREAM) RIFFLE TYPICAL CROSS SECTION, ETC.
- IF SITE CONDITIONS (E.G. - BEDROCK, LARGE TREES, ETC.) DO NOT ALLOW FOR CONSTRUCTION OF THE FULL RIFFLE OR POOL TYPICAL CROSS SECTION AND/OR SMOOTH TRANSITIONS BETWEEN TYPICAL SECTIONS, THE TYPICAL SECTION AND/OR TRANSITION SHALL BE ADJUSTED TO INCORPORATE THE NATURAL VARIATION. THE DESIGNER SHALL BE NOTIFIED OF SUCH SITE CONDITIONS AND DETERMINE THE APPROPRIATE MEANS OF ADJUSTMENT/INCORPORATION.



BOULDER RIFFLE NOTES:

- BOULDER RIFFLE SHALL BE CONSTRUCTED BETWEEN STATIONS IDENTIFIED ON THE PLAN.
- THE GENERAL CHANNEL SHAPE WILL STILL CONFORM TO THE TYPICAL RIFFLE CROSS-SECTION OF THE REACH. BED MATERIAL SHALL BE PLACED (SIZE AND DEPTH) ACCORDING TO SPECIFICATIONS ON THE PROFILE. REFER TO REINFORCED BED MIX DETAIL FOR MATERIAL SPECIFICATIONS. PROTRUDING BOULDER ROCKS WILL BE ADDED TO REDIRECT FLOW TO DISSIPATE ENERGY IN ACCORDANCE WITH THIS DETAIL.
- BOULDERS SHALL BE INSTALLED AT A SPACING THAT MEETS THE FOLLOWING RANGE DEPENDING ON THE STREAM SIZE:
  - FOR STREAMS WITH BANKFULL WIDTH EQUAL TO OR LESS THAN 10 FEET WIDE, PLACE 1 BOULDER FOR EVERY 25-50 SF OF BED AREA (TOE OF BANK SLOPE TO TOE OF BANK SLOPE)
  - FOR STREAMS WITH BANKFULL WIDTH GREATER THAN 10 FEET WIDE, PLACE 1 BOULDER FOR EVERY 50-100 SF OF BED AREA (TOE OF BANK SLOPE TO TOE OF BANK SLOPE)
- WHILE CONFORMING TO THE SPACING REQUIREMENTS ABOVE, PLACEMENT OF BOULDERS WITHIN THE LIMITS OF THE BOULDER RIFFLE SHALL BE RANDOM TO CREATE VARYING FLOW PATTERN AND A MORE NATURAL APPEARANCE. CONTRACTOR SHALL AVOID PLACING BOULDERS DIRECTLY IN LINE WITH EACH OTHER EITHER PERPENDICULAR OR PARALLEL WITH ALIGNMENT.
- BOULDERS SHALL BE PLACED PRIOR TO INSTALLING BED MATERIAL. APPROPRIATE BED MATERIAL SHALL BE INSTALLED AND BACKFILLED AROUND BOULDERS TO MEET SPECIFIED GRADE OF RIFFLE AND SPECIFICATIONS OF BOULDER PROTRUSION HEIGHT AND EMBEDDED DEPTH SPECIFIED BELOW.
- BOULDERS SHALL BE ODOT TYPE A SIZED STONE.
- BOULDERS SHALL PROTRUDE ABOVE THE TYPICAL BED INVERT SUCH THAT PROTRUSION HEIGHT FALLS BETWEEN 0.25 - 0.75 BANKFULL HEIGHT.
- BOULDERS SHALL BE EMBEDDED BELOW STREAM INVERT AT LEAST 1/3 THE HEIGHT (Z-AXIS) OF THE ROCK USED. ROCK Z-AXIS DIMENSION MUST CONFORM TO RANGE SPECIFIED IN THE STRUCTURE ROCK SIZE TABLE.
- CONTRACTOR SHALL AVOID PLACING A BOULDER WITHIN 2 FEET FROM THE TOE OF BANK SLOPE THAT WOULD DIRECT OR DEFLECT FLOW INTO THE BANK. BOULDER PLACEMENT WITHIN 2 FEET FROM THE TOE OF SLOPE SHALL BE INSPECTED BY ENGINEER FOR APPROVAL PRIOR TO ACCEPTANCE.

BOULDER RIFFLE

NOT TO SCALE



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EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

CONSTRUCTION DETAILS

PROJECT NO.	220225505
DISCIPLINE	CIVIL
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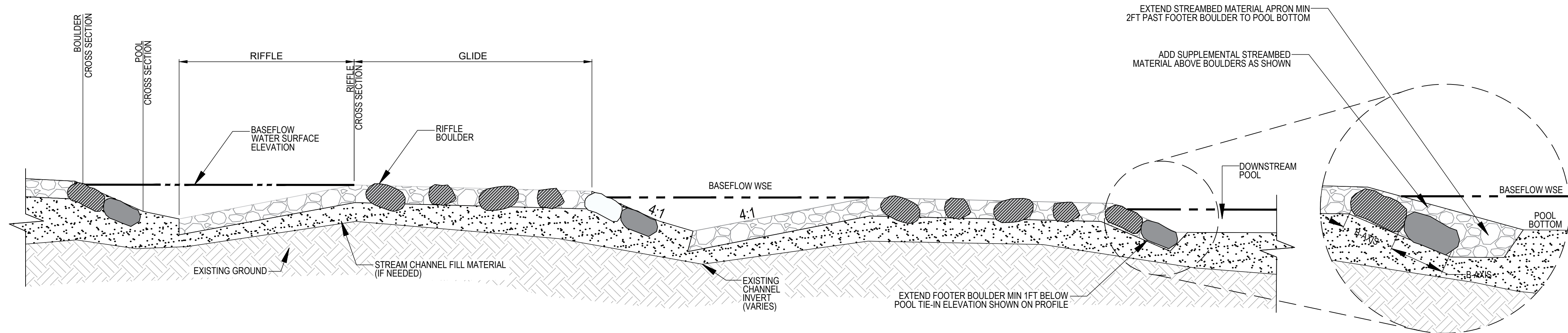


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EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

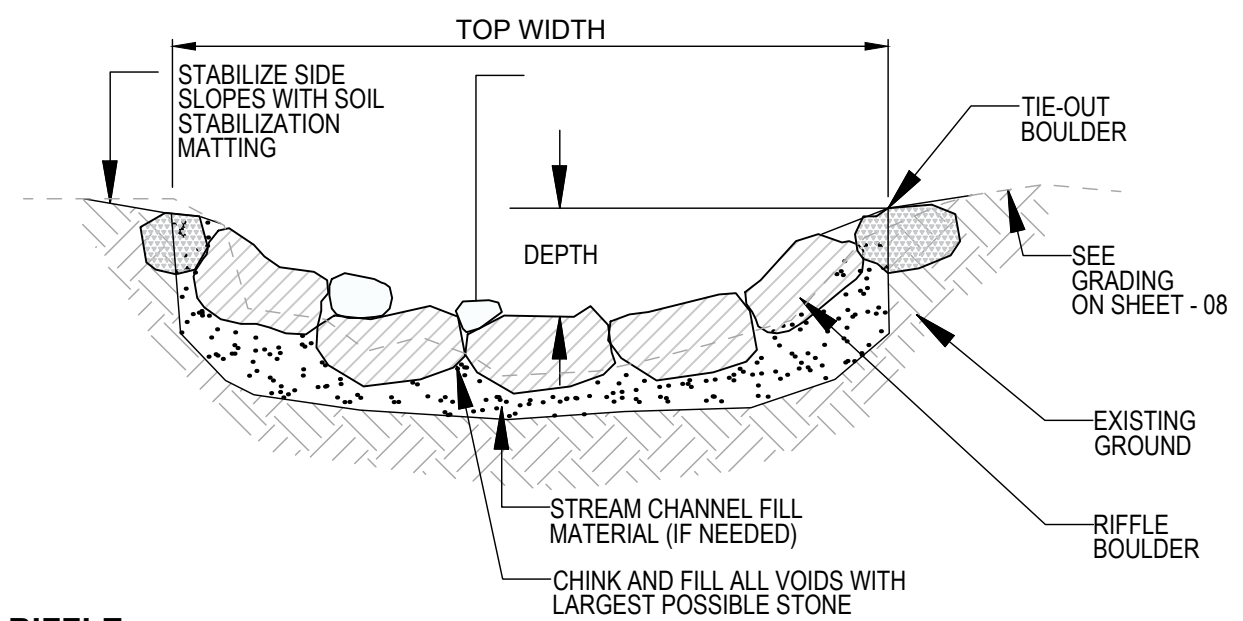
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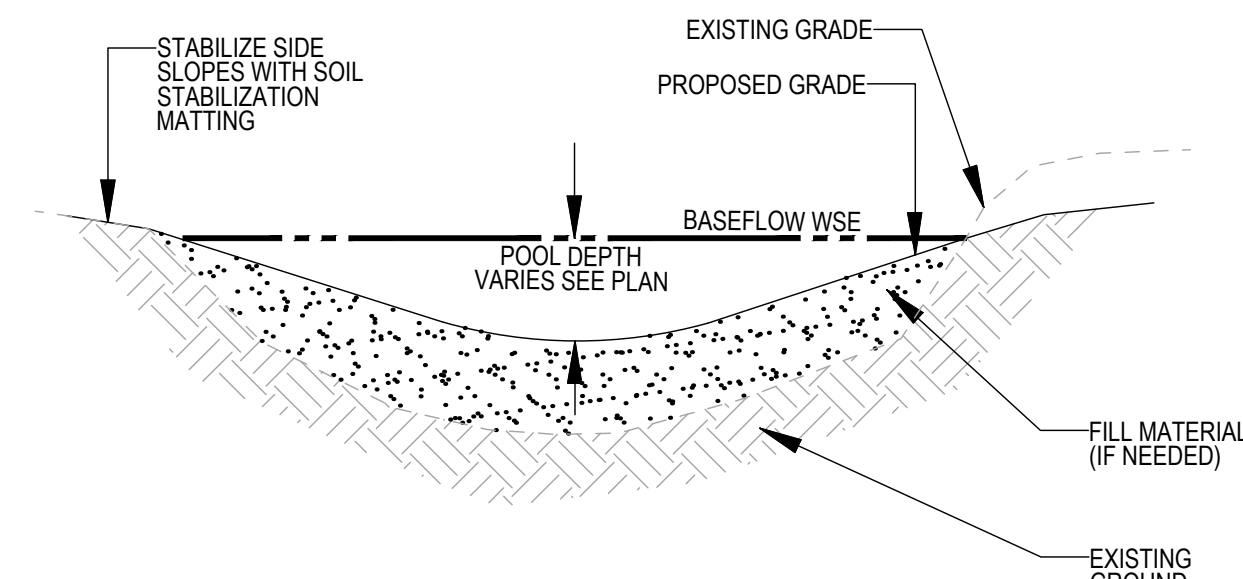
RIFFLE  
PROFILE INDEX

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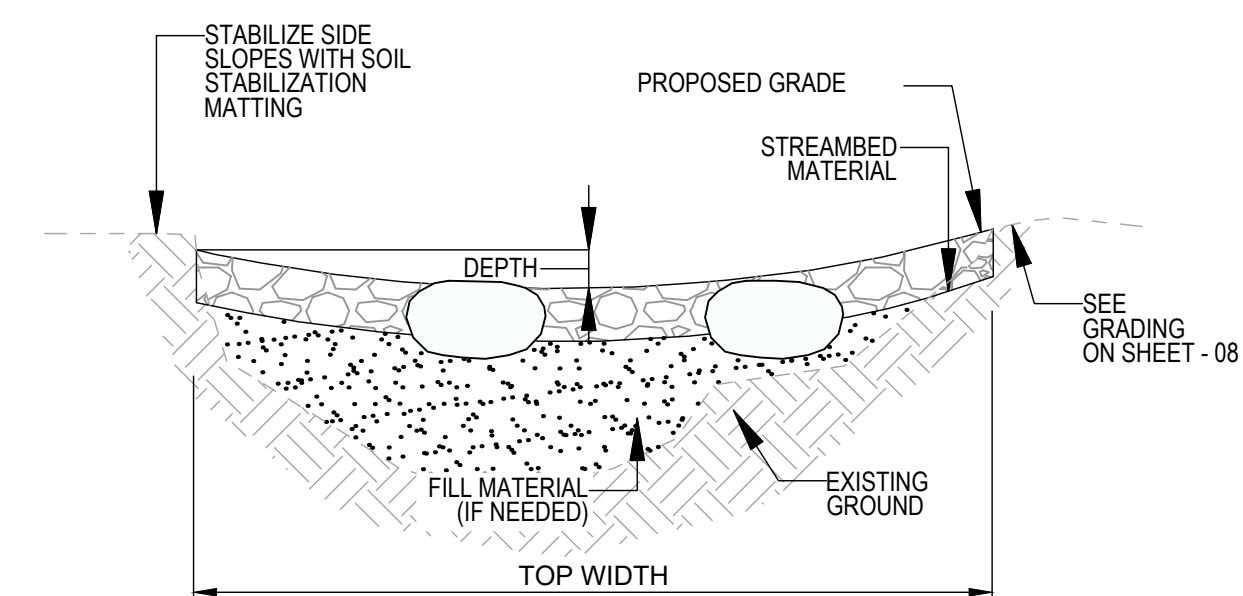
RIFFLE  
BOULDER CROSS SECTION

NOT TO SCALE



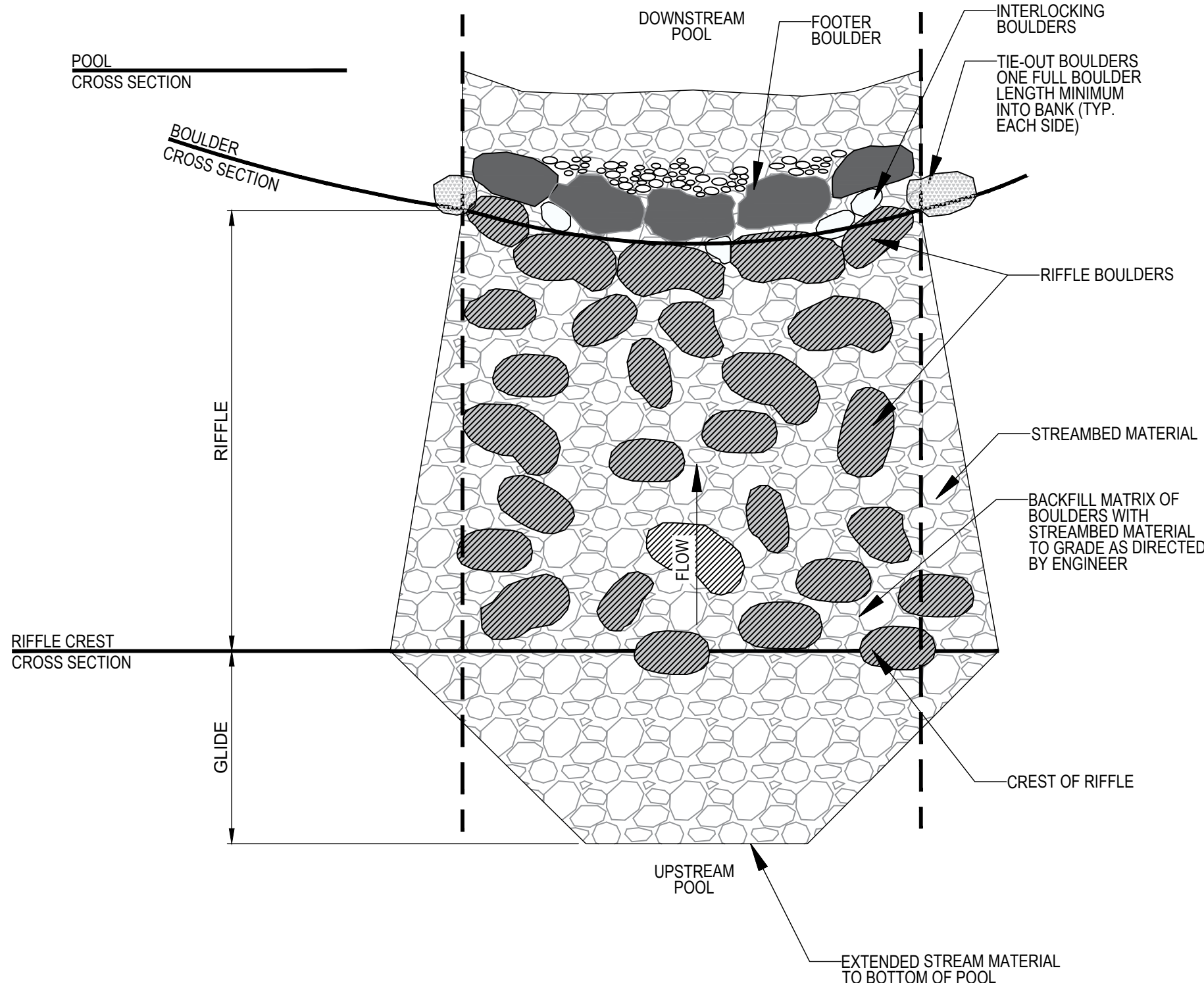
RIFFLE  
POOL CROSS SECTION

NOT TO SCALE



RIFFLE  
RIFFLE CREST CROSS SECTION

NOT TO SCALE



RIFFLE  
PLAN VIEW

NOT TO SCALE

BOULDER DIMENSIONS (ALL UNITS: FEET)			
	A-AXIS	B-AXIS	C-AXIS
INTERLOCKING BOULDER	2	1.5	1
ALL OTHER BOULDER TYPES	2.5	2	1.5

STREAMBED MATERIAL SIZING		
	COBBLE (75% OF TOTAL STREAMBED MATERIAL)	GRAVEL (25% OF TOTAL STREAMBED MATERIAL)
CUMULATIVE % FINER	SIZE (IN)	
10	7	0.25
50	16	1
100	25	3

RIFFLE NOTES

1. IN AREAS OF CUT, STREAM CHANNEL FILL MATERIAL UNDER RIFFLE IS NOT NEEDED. IN AREAS OF FILL, FILL EXISTING STREAM CHANNEL IN 8-INCH LIFTS TO ELEVATION NECESSARY TO CONSTRUCT RIFFLE AS SPECIFIED ON PROFILE. FOR STREAM CHANNEL FILL MATERIAL USE CLEAN FILL MATERIAL FROM ON-SITE EXCAVATION.
2. EXTEND TIE-OUT BOULDER ONE BOULDER LENGTH MINIMUM (B-AXIS) INTO EXISTING BANK. WHERE THIS CONFLICTS WITH EXISTING TREE ROOTS, BEDROCK OR UTILITIES, ELIMINATE AND OR ADJUST TIE-OUT BOULDER AT DIRECTION OF THE VILLAGE OF CHAGRIN FALLS.
3. SEE TABLE ABOVE FOR STREAMBED MATERIAL SIZING.
4. W.S.E. = WATER SURFACE ELEVATION.
5. CONSTRUCT RIFFLE CROSS SECTION IN PARABOLIC SHAPE.
6. USE EXISTING CHANNEL SUBSTRATE FOR COBBLE AND GRAVEL PORTIONS OF RIFFLE STREAMBED MATERIAL, IF SIZE APPROXIMATELY MATCHES SPECIFICATION. SEEK APPROVAL FOR SUBSTITUTION FROM THE VILLAGE OF CHAGRIN FALLS.
7. GRADING AT EACH RIFFLE WILL VARY DEPENDING ON SITE CONDITIONS



VICINITY MAP

SITE INFORMATION

PROJECT INFORMATION:

EVERGREEN CEMETERY  
VILLAGE OF CHAGRIN FALLS, CUYAHOGA COUNTY, OHIO 44022  
LATITUDE: .41.417177      LONGITUDE: -81.393614

OWNER INFORMATION:

VILLAGE OF CHAGRIN FALLS  
21 W. WASHINGTON STREET, CHAGRIN FALLS, OHIO 44022  
CONTACT: ROB JAMIESON, CAO  
PHONE: 440-247-5050

SITE-CIVIL ENGINEER INFORMATION:

VERDANTAS  
8150 STERLING COURT, MENTOR, OHIO 44060  
CONTACT: ALEKSA CYVAS, P.E.  
PHONE: 440-530-2381  
EMAIL: ACYVAS@VERDANTAS.COM

TYPE OF CONSTRUCTION:

☐ NEW      ☒ MAINTENANCE      ☐ REDEVELOPMENT

TYPE OF PROJECT:

☐ RETAIL      ☒ COMMUNITY      ☐ MIXED USE

☐ OFFICE      ☐ RECREATION      ☐ RESIDENTIAL

☐ MEDICAL      ☐ PUBLIC SAFETY      ☐ RESTAURANT

☐ UTILITY      ☐ EDUCATION      ☐ APARTMENT

☐ ROAD      ☐ INDUSTRIAL      ☐ MANUFACTURING

DESCRIPTION OF PROJECT:

STREAM DAYLIGHTING AND RESTORATION.

SOIL DISTURBING ACTIVITIES INCLUDE:

EROSION AND SEDIMENT CONTROL INSTALLATION; REMOVAL OF TREES, VEGETATION, TOPSOIL, EARTHWORK GRADING.

DESCRIPTION OF PRIOR LAND USE:

SMALL STREAM TRAVELLING THROUGH CULVERT IN EXISTING CEMETERY.

SITE AREA INFORMATION:

TOTAL PROPERTY AREA:

1.22 AC.

PROJECT LIMIT/CONSTRUCTION AREA:

1.22 AC.

AREA OF SOIL DISTURBANCE:

1.22 AC.

EXISTING IMPERVIOUS AREA:

0.0 AC.

PROPOSED IMPERVIOUS AREA:

0.0 AC.

INCREASE/DECREASE OF IMPERVIOUS AREA:

0.0 %

PRE-CONSTRUCTION RUNOFF COEFFICIENT:

0.20

POST-CONSTRUCTION RUNOFF COEFFICIENT:

0.20

NAME OF RECEIVING STREAM, SURFACE WATER OR MS4:

UNNAMED TRIBUTARY WITHIN THE BEAVER CREEK SUBWATERSHED WITHIN THE CHAGRIN RIVER WATERSHED

QUALITY OF STORM WATER DISCHARGE FROM SITE:

UNKNOWN

ESTIMATED CONSTRUCTION START DATE:

05/01/2025

ESTIMATED CONSTRUCTION COMPLETION DATE:

06/15/2026

EROSION CONTROL TIMETABLE

STABILIZATION TYPE	YEAR											
	J	F	M	A	M	J	J	A	S	O	N	D
TEMPORARY SEEDING				○	○	○	○	○	○	○	○	
PERMANENT SEEDING					○	○	○	○	○	○	○	
SODDING				○	○	○	○	○	○	○	○	
MULCHING	○	○	○	○	○	○	○	○	○	○	○	○
PAVING						○	○	○	○	○	○	

○ IRRIGATION NEEDED

SOIL TYPES

NAME	DESCRIPTION	
EIC	ELLSWORTH SILT LOAM, 6 TO 12 PERCENT SLOPES	67.0%
FcA	FITCHVILLE SILT LOAM, 0 TO 2 PERCENT SLOPES	33.0%

GENERAL NOTES

1.

THE CONTRACTOR SHALL REVIEW AND FOLLOW THE PRACTICES AND REQUIREMENTS PROVIDED IN THE CURRENT, ACTIVE OHIO EPA NPDES PERMIT NO. 3IN00000\*HD.

2.

THIS SWP3 HAS BEEN PREPARED SHOWING THE ITEMS LISTED BELOW, BUT THE CONTRACTOR MAY NEED TO MOVE OR ADD ITEMS AS CONSTRUCTION PROGRESSES OR DURING THE VARIOUS STAGES OF CONSTRUCTION. \_\_\_\_\_ OR \_\_\_\_\_ THE CONTRACTOR IS REQUIRED TO DEVELOP THE SWP3 FOR THIS PROJECT AND SUBMIT FOR APPROVAL TO THE SWCD SHOWING THE ITEMS LISTED BELOW. SOME ITEMS MAY ALREADY BE SHOWN ON THE SWP3, BUT MOVED TO BETTER SUIT THE CONTRACTOR'S MEANS AND METHODS.

LIMITS OF EARTH DISTURBING ACTIVITY

CONSTRUCTION ENTRANCE(S)

EROSION AND SEDIMENT CONTROL MEASURES

INLET PROTECTIONS

CONCRETE WASHOUT PIT(S)

EQUIPMENT STAGING

FUEL STORAGE AND VEHICLE FUELING AREA

CONSTRUCTION TRAILER(S)

SANITATION FACILITY

MATERIAL STOCKPILE LOCATION(S)

CHEMICAL COMPOUND MIXING AND STORAGE AREA

ANY OTHER EROSION CONTROL REQUIRED

2.

ALL WORK REQUIRED TO IMPLEMENT THE SW3P INCLUDING INSPECTION FEES, MAINTENANCE AND REPAIRS SHALL BE DONE BY AND AT THE EXPENSE OF THE CONTRACTOR.

3.

THE CONTRACTOR SHALL AMEND THE SW3P WHEN THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION OR MAINTENANCE THAT REQUIRES INSTALLATION OF BMPS OR MODIFICATION TO EXISTING BMPS.

4.

ADDITIONAL OR DIFFERENT BMPS MAY BE NEEDED AS CONSTRUCTION PROGRESSES OR AS REQUIRED BY THE OWNER, SWCD OR OHIO EPA.

5.

PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE LAND DISTURBED AT ANY ONE TIME AND LEAVE EXISTING VEGETATION IN PLACE AS LONG AS POSSIBLE.

ADMINISTRATIVE NOTES

1.

A NOI IS REQUIRED AND HAS BEEN ATTAINED FOR THIS PROJECT BECAUSE THE TOTAL LAND DISTURBANCE IS MORE THAN 1 ACRE AND IS NOT PART OF A LARGER COMMON DEVELOPMENT.

2.

THE CONTRACTOR SHALL FOLLOW THE PRACTICES AND REQUIREMENTS PROVIDED IN THE OHIO EPA NPDES CONSTRUCTION SITE STORMWATER GENERAL PERMIT OH000006 AND THE ODNR RAINWATER AND LAND DEVELOPMENT MANUAL, AND BE RESPONSIBLE FOR ALL NPDES TERMS AND CONDITIONS UNTIL A NOT IS FILED.

3.

NO CONSTRUCTION ACTIVITIES MAY BEGIN UNTIL ALL OF THE FOLLOWING OCCUR:

OHIO EPA NPDES AUTHORIZATION LETTER RECEIVED

THE CONTRACTOR FILES A CO-PERMITTEE APPLICATION TO THE OHIO EPA

THE CONTRACTOR ATTENDS A PRE-CONSTRUCTION MEETING WITH THE SWCD TO DISCUSS OHIO EPA NPDES PERMIT REQUIREMENTS

4.

OHIO EPA APPLICATION FORMS (I.E. NOI, NOT, CO-PERMITTEE NOI/NOT, INDIVIDUAL LOT NOI/NOT AND PERMIT TRANSFER) ARE ONLY ACCESSIBLE ELECTRONICALLY VIA THE OHIO EPA STREAMS APPLICATION SUBMITTAL SYSTEM USING AN INDIVIDUAL EBUSINESS CENTER ACCOUNT. VISIT THE OHIO EPA'S ELECTRONIC BUSINESS SERVICES WEBSITE FOR MORE INFORMATION, GUIDANCE AND REPORTING QUESTIONS.

5.

THE CONTRACTOR SHALL SELECT INDIVIDUALS TO BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND COMPLETING INSPECTION AND MAINTENANCE REPORTS. THE CONTRACTOR SHALL COMPLETE A "DELEGATION OF AUTHORITY FOR STORMWATER POLLUTION PREVENTION PLAN" AND PROVIDE A COPY TO THE OWNER AND SWCD.

6.

ALL PROCEDURES AND REQUIREMENTS CONTAINED IN THIS SW3P APPLY TO ALL GENERAL AND SUBCONTRACTORS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT, INFORM, REQUIRE AND ENFORCE ALL ASPECTS AND PROCEDURES OF THE SW3P. THE CONTRACTOR SHALL HAVE ALL SUBCONTRACTORS THAT ARE OR MAY BE ENGAGED IN ACTIVITIES THAT COULD IMPACT STORMWATER COMPLETE A "SUBCONTRACTOR AGREEMENT FOR EROSION AND SEDIMENT CONTROL", AND PROVIDE A COPY TO THE OWNER AND SWCD. EACH CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR ALL FINES, DAMAGES AND LIABILITY RESULTING FROM FAILURE TO PROVIDE THE REQUIRED POLLUTION CONTROL.

7.

THE CONTRACTOR SHALL KEEP ON-SITE COPIES OF THE NPDES, SW3P AND INSPECTION LOGS/REPORTS.

8.

ALL EROSION AND SEDIMENT CONTROL WORK SHALL BE SUBJECT TO INSPECTION BY THE SWCD AND OHIO EPA.

EROSION CONTROL NOTES

1.

SPECIAL MEASURES SHALL BE TAKEN TO STABILIZE DRAINAGE CHANNELS AND STORM WATER OUTFALLS.

2.

DIVERT SURFACE RUNOFF AWAY FROM DISTURBED AREAS AND STEEP SLOPES WHEREVER PRACTICABLE.

3.

STABILIZATION OF DISTURBED AREAS SHALL BE INITIATED WITHIN THE TIME FRAMES IN THE FOLLOWING TABLES:

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY CONTROLS
AREA WITHIN 50 FEET OF A SURFACE WATER, NOT AT FINAL GRADE AND TO REMAIN IDLE MORE THAN 14 DAYS	WITHIN 2 DAYS OF MOST RECENT DISTURBANCE
ANY OTHER AREA TO BE DORMANT MORE THAN 14 DAYS, BUT LESS THAN 1 YEAR	WITHIN 7 DAYS OF MOST RECENT DISTURBANCE
AREA TO REMAIN IDLE OVER WINTER	PRIOR TO ONSET OF WINTER WEATHER
AREA TO BE PAVED	STABILIZE WITH STONE SUBBASE UNTIL PAVED

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY CONTROLS
AREA TO BE DORMANT FOR 1 YEAR OR MORE	WITHIN 7 DAYS OF MOST RECENT DISTURBANCE
AREA WITHIN 50 FEET OF A SURFACE WATER AND AT FINAL GRADE	WITHIN 2 DAYS OF REACHING FINAL GRADE
ANY OTHER AREA AT FINAL GRADE	WITHIN 7 DAYS OF REACHING FINAL GRADE

SEDIMENT CONTROL NOTES

1.

INLET PROTECTION AND SEDIMENT BARRIERS MUST BE INSTALLED PRIOR TO CLEARING AND GRUBBING.

2.

SEDIMENT PONDS, TEMPORARILY MODIFIED PERMANENT PONDS AND PERIMETER SEDIMENT BARRIERS MUST BE INSTALLED AS THE FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF CLEARING AND GRUBBING, AND CONTINUE TO FUNCTION UNTIL ALL DISTURBED UPLAND AREAS ARE STABILIZED.

3.

SEDIMENT CONTROLS MUST POND RUNOFF TO BE CONSIDERED FUNCTIONAL.

4.

SEDIMENT-LADEN TRENCH OR GROUND WATER MUST PASS THROUGH A SEDIMENT-SETTLING POND OR BE DEWATERED IN-PLACE USING A SUMP PIT, FILTER BAG OR OTHER COMPARABLE METHOD, PRIOR TO DISCHARGE FROM THE SITE.

5.

TRENCH AND GROUND WATER FREE FROM SEDIMENT OR OTHER POLLUTANTS MAY BE DISCHARGED WITHOUT TREATMENT, PROVIDED THIS WATER DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.

6.

SETTLED MATERIAL SHALL BE DISPOSED OF IN A STABILIZED LOCATION WHERE IT WILL NOT BE CARRIED OFF-SITE OR INTO A STORM SEWER BY RAINFALL.

OTHER WASTE CONTROL NOTES

1.

SOIL STOCKPILES SHALL BE RINGED WITH SILT FENCE ALONG THE BOTTOM FOOTPRINT. IF THE STOCKPILE WILL BE INACTIVE FOR 14 DAYS OR MORE, THE SURFACE SHALL BE SEEDED OR STABILIZED WITHIN 7 DAYS OF LAST DISTURBANCE.

2.

CONCRETE TRUCKS ARE NOT PERMITTED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONTO THE GROUND OR INTO STORM INLETS, DITCHES, STREAMS, WETLANDS OR ANY OTHER SURFACE WATERS. ALL EXCESS CONCRETE AND CONCRETE WASHOUT, INCLUDING FROM HAND MIXERS AND LIGHT EQUIPMENT, MUST BE DISPOSED OF IN A CONCRETE WASHOUT AREA TO COLLECT AND HARDEN.

3.

OFF-SITE TRACKING OF SEDIMENT BY CONSTRUCTION VEHICLES MUST BE MINIMIZED. THE CONTRACTOR SHALL SWEEP ALL ADJACENT ROADS TO REMOVE MUD, DIRT OR ROCK TRACKED FROM THE SITE AT THE END OF EACH WORK DAY OR AS REQUIRED DURING THE DAY. DUMP TRUCKS HAULING MATERIAL FROM THE SITE SHALL BE COVERED WITH A TARPULIN.

4.

IT IS PROHIBITED TO BURN, BURY OR POUR ONTO THE GROUND OR INTO STORM INLETS, DITCHES, STREAMS, WETLANDS OR ANY OTHER SURFACE WATERS SOLID OR LIQUID WASTE INCLUDING TRASH, CONSTRUCTION DEBRIS, SOLVENTS, PAINT, DIESEL FUEL, GASOLINE, MOTOR OIL, HYDRAULIC FLUID, CEMENT CURING COMPOUND, ANTIFREEZE OR OTHER TOXIC OR HAZARDOUS WASTE. WASTE MATERIALS SHALL BE COLLECTED IN A SECURELY LIDDED DUMPSTER, DISPOSED OF IN AN APPROVED LANDFILL AND EMPTIED AS NECESSARY.

5.

FUEL TANKS, DRUMS AND OTHER CONTAINERS HOLDING CHEMICALS MUST BE STORED WITHIN A DIKED AREA WITH A VOLUME OF AT LEAST 110% OF THE LARGEST TANK. A DIKED AREA IS NOT NECESSARY IF A SELF-CONTAINED SPILL PROOF TANK IS USED.

6.

THE CONTRACTOR SHALL PROVIDE TEMPORARY SANITARY FACILITIES AT THE SITE. SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS 1 TIME PER WEEK, OR MORE OFTEN IF NECESSARY.

7.

ANY TOXIC OR HAZARDOUS MATERIAL SPILL, REGARDLESS OF SIZE, MUST BE REPORTED WITHIN 30 MINUTES TO THE LOCAL FIRE DEPARTMENT AND OHIO EPA.

8.

CONTAMINATED SOIL, SOIL WHERE CONSTRUCTION CHEMICALS HAVE BEEN SPILLED OR HAZARDOUS WASTE MATERIALS MUST BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

9.

STORM WATER THAT COMES IN CONTACT WITH CONTAMINATED SOIL OR HAS A VISIBLE SHEEN MUST BE COLLECTED BY A VACUUM TRUCK AND DISPOSED OF AS A WASTE WATER.

TMDLS AND BMPS SELECTED

1.

APPLICABLE TMDLS FOR THE SITE:

(X) PHOSPHORUS      ( ) AMMONIA      (X) HABITAT

(X) NITROGEN      (X) BACTERIA      ( ) FLOW

( ) SEDIMENT/TOTAL SUSPEND SOLIDS

(X) DISSOLVED OXYGEN/ORGANIC ENRICHMENT

2.

THE FOLLOWING BMPS ARE SELECTED TO ADDRESS APPLICABLE TMDLS FOR THE PROJECT:

CONSTRUCTION SITE:

( ) DEMARCATÉ PROTECTED AREA BEFORE CONSTRUCTION

(X) MAINTAIN PORTABLE TOILET AND EMPTY W/OUT SPILL

(X) PROPER STORAGE OF LANDSCAPE FERTILIZER

(X) MS4 MONTHLY INSPECTIONS DURING CONSTRUCTION

(X) RESOLVE NON-COMPLIANCE SW3P INSPECTION ITEMS

( ) FINAL INSPECTION TO ENSURE BMP IMPLEMENTATION

TEMPORARY EROSION CONTROL:

( ) CHECK DAMS      (X) TEMPORARY DIVERSION

( ) SLOPE DRAIN      ( ) STREAM UTILITY CROSSING

( ) DEWATERING      ( ) STREAM CROSSING

TEMPORARY SEDIMENT CONTROL:

( ) SEDIMENT BASIN      ( ) SEDIMENT TRAP

(X) SILT FENCE      ( ) INLET PROTECTION

(X) FILTER SOCK      ( ) FILTER BERM

SOIL STABILIZATION:

(X) DUST CONTROL      (X) AMMOS DISTURBANCE

(X) MULCHING      (X) CLEARING AND GRUBBING

( ) SODDING      (X) TEMPORARY SEEDING

(X) TOPSOILING      (X) PERMANENT SEEDING

( ) GRADE TREATMENT      (X) CONSTRUCTION ENTRANCE

( ) TEMPORARY ROLLED EROSION CONTROL PRODUCTS

(X) TURF REINFORCEMENT MATTING

(X) TREE AND NATURAL AREA PRESERVATION

PERMANENT EROSION CONTROL:

( ) GRASSED SWALE      ( ) ROCK LINED CHANNEL

( ) LEVEL SPREADER      ( ) ROCK OUTLET PROTECTION

( ) DIVERSION      ( ) SUBSURFACE DRAIN

POLLUTION PREVENTION AND GOOD HOUSEKEEPING:

(X) ROUTINE FACILITY INSPECTIONS

(X) VISUAL ASSESSMENT OF STORM WATER DISCHARGE

( ) ANNUAL COMPREHENSIVE SITE INSPECTION

( ) SWEEP PARKING LOT AND DRIVE LANES

( ) CLEAN CATCH BASINS

( ) STORE WASTE IN LIDDED CONTAINERS

( ) LOCATE SNOW DISPOSAL AREAS AWAY FROM BMPS

( ) ESTABLISH "PICK-UP PET WASTE" STATION

POST-CONSTRUCTION:

( ) WETLAND SETBACK      ( ) STREAM SETBACK

( ) WATER QUALITY POND      ( ) PERMEABLE PAVEMENT

( ) GRASS FILTER STRIP      ( ) INFILTRATION TRENCH

( ) TREE BOX FILTER      ( ) SAND FILTER

( ) GREEN ROOF      ( ) LTMA

( ) BIORETENTION AREA      ( ) CISTERN

( ) BIORETENTION WITH INTERNAL WATER STORAGE

( ) OPEN CHANNEL SWALES

( ) AS-BUILT POST-BMPS

( ) SUBMIT LTMA ANNUAL MAINTENANCE REPORT TO MS4

( ) REDUCE IMPERVIOUS SURFACES

( ) LOW IMPACT DEVELOPMENT

( ) CONSERVATION DEVELOPMENT

( ) DISCONNECT DOWNSPOUT AND REDIRECT TO BMP

( ) VEGETATE MAINTENANCE/STORAGE YARD OPEN AREAS

(X) IMPLEMENT LOW-MOW OR NO-MOW PRACTICES

PERMIT CLOSURE REQUIREMENTS

1.

FINAL STABILIZATION REQUIRES THE CONTRACTOR TO REMOVE ALL TEMPORARY SEDIMENT AND EROSION CONTROLS FROM THE SITE AND ALL SEDIMENT TRAPPED BY THOSE CONTROLS BE PERMANENTLY STABILIZED.

2.

THE CONTRACTOR SHALL COMPLETE A "FINAL CERTIFICATION AND NOTIFICATION FOR EROSION AND SEDIMENT CONTROL" UPON PROJECT COMPLETION AND PROVIDE A COPY TO THE OWNER AND SWCD.

3.

ONCE CONSTRUCTION ACTIVITIES HAVE CEASED AND THE SITE REACHES FINAL STABILIZATION, THE CONTRACTOR MUST TERMINATE THE NPDES PERMIT COVERAGE BY FILING A NOT WITH THE OHIO EPA WITHIN 45 DAYS OF FINAL STABILIZATION. FINAL STABILIZATION IS DEFINED AS AN ESTABLISHED VEGETATIVE GROUND COVER OF AT LEAST 70% GROWTH DENSITY, OR OTHER MEANS OF PERMANENT STABILIZATION, OVER ALL AREAS DISTURBED DURING CONSTRUCTION.

4.

THE CONTRACTOR MUST MAINTAIN ALL REPORTS FOR 3 YEARS AFTER THE NOT IS FILED, AND PROVIDE DIGITAL COPIES TO THE OWNER AND SWCD.

MAINTENANCE REQUIREMENTS

1.

BMPS SHALL BE MAINTAINED IN GOOD WORKING ORDER UNTIL UPSLOPE AREAS THEY CONTROL ARE STABILIZED.

2.

THE CONTRACTOR SHALL PROVIDE A QUALIFIED PERSON KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROLS, POSSESS THE TECHNICAL SKILLS TO ASSESS SITE CONDITIONS THAT COULD IMPACT STORM WATER QUALITY, AND CAN ASSESS THE EFFECTIVENESS OF ANY BMP SELECTED.

3.

A QUALIFIED PERSON MUST INSPECT BMPS AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL IN A 24-HOUR PERIOD TO DETERMINE IF THE SWP3 WAS PROPERLY IMPLEMENTED.

4.

THE QUALIFIED PERSON MUST PREPARE A WRITTEN REPORT AFTER EACH INSPECTION SUMMARIZING INSPECTION RESULTS INCLUDING THE FOLLOWING:

DATE OF INSPECTION

NAME AND QUALIFICATION OF THE INSPECTOR

WEATHER CONDITIONS

LOCATIONS WHERE IN-STREAM OR OFF-SITE SEDIMENTATION OR OTHER POLLUTANTS WERE OBSERVED.

LOCATIONS OF BMPS NEEDING MAINTENANCE.

LOCATIONS OF BMPS FAILING TO OPERATE CORRECTLY OR PROVIDE ADEQUATE PROTECTION.

LOCATION OF AREAS IN NEED OF ADDITIONAL BMPS NOT IN PLACE AT THE TIME OF INSPECTION.

CORRECTIVE ACTIONS REQUIRED, CHANGES TO THE SW3P AND IMPLEMENTATION DATES.

GRADING AND STABILIZATION ACTIVITY LOG

EROSION AND SEDIMENT CONTROL AMENDMENT LOG

5.

ALL INCIDENCES OF NON-COMPLIANCE MUST BE IDENTIFIED IN THE REPORT. IF A REPORT DOES NOT IDENTIFY INCIDENCES OF NON-COMPLIANCE, IT MUST CONTAIN A CERTIFICATION THE SITE IS IN COMPLIANCE AT THE TIME OF INSPECTION.

6.

BMP MAINTENANCE OR REPAIR MUST BE COMPLETED WITHIN 3 DAYS, AND SEDIMENT POND MAINTENANCE OR REPAIR WITHIN 10 DAYS, OF THE INSPECTION THAT REVEALED A DEFICIENCY.

7.

WHEN AN INSPECTION REVEALS A BMP IS NOT EFFECTIVE AND A MORE APPROPRIATE BMP IS REQUIRED, THE SW3P SHALL BE AMENDED, THE NEW BMP INSTALLED WITHIN 10 DAYS OF THE INSPECTION THAT REVEALED THE DEFICIENCY, AND THE "STORMWATER POLLUTION PREVENTION PLAN AMENDMENT LOG" FORM COMPLETED.

8.

WHEN AN INSPECTION REVEALS A BMP HAS NOT BEEN INSTALLED, BUT IS REQUIRED TO PROVIDE ADEQUATE CONTROL, IT MUST BE INSTALLED PRIOR TO THE NEXT STORM EVENT WHICH PRODUCES RUNOFF, BUT IN NO CASE LATER THAN 10 DAYS FROM THE INSPECTION THAT REVEALED THE DEFICIENCY.

9.

THE INSPECTION FREQUENCY MAY BE REDUCED TO 1 TIME PER MONTH IF THE ENTIRE SITE IS TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WINTER WEATHER (I.E. SUSTAINED SNOW COVER OR FROZEN GROUND CONDITIONS). A WAIVER OF INSPECTION REQUIREMENTS IS AVAILABLE UNTIL 1 MONTH BEFORE THAWING CONDITIONS ARE EXPECTED IF ALL THE FOLLOWING CONDITIONS ARE MET:

10.

FROZEN CONDITIONS ARE ANTICIPATED TO CONTINUE FOR EXTENDED PERIODS OF TIME (I.E. MORE THAN 1 MONTH).

11.

SOIL DISTURBANCE ACTIVITIES HAVE BEEN SUSPENDED.

12.

THE BEGINNING AND ENDING DATES OF THE WAIVER PERIOD ARE DOCUMENTED IN THE SW3P.

13.

ONCE A DEFINABLE AREA HAS BEEN FULLY STABILIZED, IT MAY BE MARKED ON THE SW3P AND NO FURTHER INSPECTION REQUIREMENTS ARE REQUIRED FOR THAT AREA OF THE SITE.

14.

INSPECTIONS SHALL BE PERFORMED UNTIL A NOT IS FILED WITH THE OHIO EPA.

SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES

1.

HOLD A PRE-CONSTRUCTION MEETING TO DISCUSS OHIO EPA NPDES PERMIT REQUIREMENTS.

2.

CONTRACTOR SUBMITS CONSTRUCTION SCHEDULE FOR CONSTRUCTION ACTIVITIES.

3.

BEGIN INSPECTION, MAINTENANCE, RECORD KEEPING AND SITE POSTING OF BMPS.

4.

ESTABLISH STAGING AREA AND NON-SEDIMENT BMPS.

5.

INSTALL SILT FENCE, INLET PROTECTION AND CONSTRUCTION ENTRANCE.

6.

INSTALL OTHER TEMPORARY EROSION AND SEDIMENT CONTROL ITEMS AS SOON AS POSSIBLE, BUT NO LATER THAN 7 DAYS AFTER FIRST SOIL DISTURBANCE. INSPECT AND MAINTAIN BMPS FOR THE PROJECT DURATION UNTIL UPSLOPE AREAS ARE PERMANENTLY STABILIZED.

7.

BEGIN SITE DEMOLITION AND CONSTRUCTION.

8.

BEGIN EARTHWORK OPERATIONS.

9.

APPLY TEMPORARY SEED.

10.

APPLY PERMANENT SEED.

11.

INSTALL LANDSCAPING.

12.

CONTINUE INSPECTIONS, MAINTENANCE, RECORD KEEPING, AND SITE POSTING UNTIL FINAL STABILIZATION ACHIEVED.

13.

REMOVE TEMPORARY BMPS FROM STORM SEWER AND INLETS, AND OPEN GUTTERS AND DITCHES TO OBTAIN FREE DRAINAGE.

14.

DISPOSE OF ALL DEBRIS AND WASTE MATERIAL.

STATE OF OHIO  
ALEKSA A. CYVAS  
E-88001  
REGISTERED  
PROFESSIONAL ENGINEER

verdantas

EVERGREEN CEMETERY STREAM DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

SWPPP

PROJECT NO.  
22025505

DISCIPLINE  
CIVIL

SHEET NAME

SHEET  
14

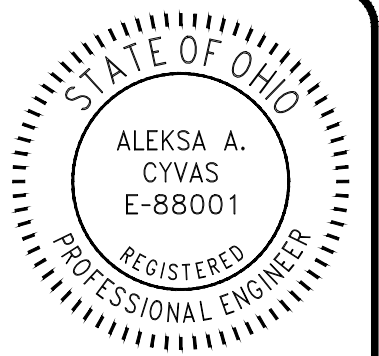
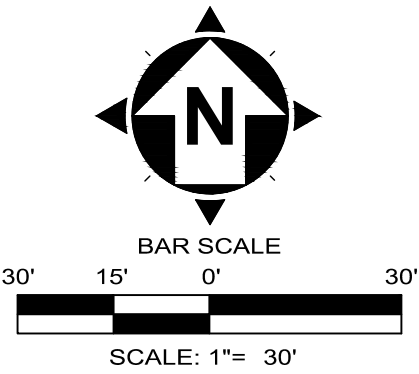
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LEGEND

- (CWL) CONSTRUCTION WORK LIMIT
- (SDL) SOIL DISTURBANCE LIMIT
- (ES) EQUIPMENT STAGING
- (MS) MATERIAL STOCKPILE LOCATION
- (SF) — SILTY FENCE
- (CF) — WETLAND BARRIER FENCE
- (PS) PERMANENT SEEDING

ISSUED FOR:	REVIEW	NO	REVISION	DATE
ISSUE DATE:	FEB 2025			
SCALE:	AS SHOWN			
DESIGNED BY:	AAC			
DRAWN BY:	AAC			
CHECKED BY:	TRL			

EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

SWPPP

PROJECT NO.	
22025505	
DISCIPLINE	
CIVIL	
SHEET NAME	
SHEET	OF
16	19

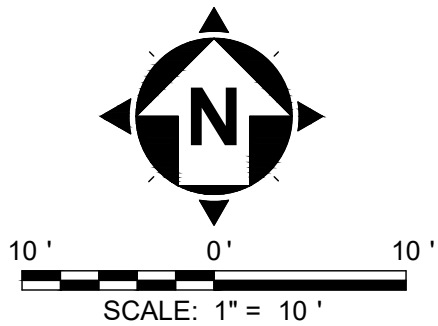




**EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS**  
- VILLAGE OF CHAGRIN FALLS, OHIO -

# LANDSCAPE PLAN

PROJECT NO.	
<b>22025505</b>	
DISCIPLINE	
<b>CIVIL</b>	
SHEET NAME	
<b>L-1</b>	
SHEET	OF
<b>17</b>	<b>19</b>



QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
<b>ORNAMENTAL GRASS</b>					
12	D-C	DESCHAMPSIA CAESPITOSA	SCHOTTLAND TUFTED HAIRGRASS	CLUMP	#2 CONT.
12	P-V	PANICUM VIRGATUM	HEAVY METAL SWITCHGRASS	CLUMP	#2 CONT.
12	S-S	SCHIZACHYRIUM SCOPARIUM	STANDING OVATION LITTLE BLUESTEM	CLUMP	#2 CONT.
<b>PERENNIALS</b>					
50	A-C	ACORUS CALAMUS	SWEET FLAG	CLUMP	#2 CONT.
20	H-H	HIBISCUS 'LORD BALTIMORE'	LORD BALTIMORE HIBISCUS	CLUMP	#2 CONT.
30	I-V	IRIS VERSICOLOR	BLUE FLAG IRIS	CLUMP	#2 CONT.

PERENNIALS				
50	A-C	ACORUS CALAMUS	SWEET FLAG	CLUMP #2 CONT.
20	H-H	HIBISCUS 'LORD BALTIMORE'	LORD BALTIMORE HIBISCUS	CLUMP #2 CONT.
30	I-V	IRIS VERSICOLOR	BLUE FLAG IRIS	CLUMP #2 CONT.

EMERGENT WETLAND

FORESTED WETLAND

OHIO FLOOD PLAIN NATIVE MIX

WET WILDFLOWERS NATIVE MIX



SITE PREPARATION FOR NATIVE PLANTING

1. PRIOR TO SITE GRADING ERADICATE EXISTING VEGETATION:

A. MOW AND REMOVE FROM THE SITE ALL HEAVY GRASS, WEEDS, AND OTHER VEGETATION BEFORE STRIPPING TOPSOIL FROM THE EXCAVATION AREAS PER ODOT 659.05.

B. GRADING OPERATIONS MAY BEGIN. REFER TO CIVIL DRAWINGS FOR GRADING.

2. AFTER ALL SITE GRADING IS COMPLETE:

A. PLACE STOCKPILED WETLAND TOPSOIL PER ODOT ITEM 659.11 THAT PROVIDES A 12" DEPTH OR TO A DEPTH AS ON SITE WETLAND SOIL QUANTITIES ALLOW.

B. ALLOW SITE TO SIT UNDISTURBED FOR 2-3 WEEKS. DO NOT DISTURB TOPSOIL ONCE SITE GRADING IS COMPLETE AND THE SPRAYING PROGRAM BEGINS. ANY AREAS DISTURBED AFTER SPRAYING MUST BE RETREATED WITH THE HERBICIDE.

C. ALLOW WEEDS TO GROW. SPRAY WITH HERBICIDE WHEN 6 TO 12 INCHES TALL. WAIT 14 DAYS, MOW AND REMOVE CUT PLANT MATERIAL FROM THE SITE.

D. ALLOW WEEDS TO RE-GROW ONE MORE TIME, AND SPRAY IN LATE AUGUST OR EARLY SEPTEMBER WITH ROUNDUP ONLY. WAIT 14 DAYS, MOW AND REMOVE CUT PLANT MATERIAL FROM THE SITE.

E. ALLOW SITE TO SITE UNDISTURBED FOR 14 DAYS. IF WEED REGROWTH IS PREDOMINANT, REPEAT HERBICIDE TREATMENT ONE MORE TIME. WAIT 14 DAYS, MOW AND REMOVE CUT ANY PLANT MATERIAL FROM THE SITE.

F. AFTER WAITING 14 DAYS FROM LAST HERBICIDE TREATMENT, THE SITE IS READY FOR SEEDING AND PLANTINGS OPERATIONS.

3. HERBICIDES:

A. SELECT HERBICIDES BASED ON LOCATION AND EXISTING VEGETATION TO BE ELIMINATED.

B. GLYPHOSATE (RODEO, AQUAMASTER, AND AQUANEAT) OR OTHER AQUATIC HERBICIDE FORMULATION.

C. HAVE A LICENSED SPRAY TECHNICIAN APPLY HERBICIDES.

D. ROUNDUP MAY BE USED IN NON AQUATIC APPLICATIONS.

4. SEEDING

A. WILDFLOWER SEEDING SHALL BE PER ODOT ITEM 659.12.

B. BEFORE PLACING TOPSOIL OR SEED REMOVE ROCK OR OTHER FOREIGN MATERIAL OF 3 INCHES OR GREATER IN ANY DIMENSION, FROM ALL AREAS.

C. WILDFLOWER SEEDING MAY OCCUR LATE FALL AFTER SOIL TEMPERATURES ARE BELOW 50°. TYPICALLY NOVEMBER 1. UNLESS THE SEED MANUFACTURER ALLOWS SEEDING FROM MARCH 1 TO MAY 31. IF FEASIBLE, THE SEED CAN BE SOWN THROUGHOUT THE WINTER IF SOIL TEMPS STAY BELOW 50F.

D. SEEDING SHALL BE DONE DRY AND SHALL NOT BE PERFORMED WHEN THERE IS STANDING WATER. SEEDING MAY BE DONE WHEN THE GROUND IS FROZEN IF THE AREA WILL NOT BECOME INUNDATED WITH WATER.

E. APPLY THE SPECIFIED NURSE/COVER CROP IF A TEMPORARY COVER CROP IF SEEDING IS UNABLE TO BE PERFORMED DURING THE RECOMMENDED TIME PERIOD.

F. USE SPECIFIED NURSE/COVER CROP WITH THE SEED APPLICATION TO REDUCE SOIL EROSION.

G. REFER TO SEEDING AND PLANTING SCHEDULES FOR SPECIES ON PLANS.

H. BROADCASTING: FOR SMALL (TYPICALLY TWO ACRES OR LESS) OR IRREGULARLY SHAPED AREAS, SEED CAN BE PLANTED BY HAND BROADCASTING. TO AID SEED DISTRIBUTION, COMBINE THE SEED MIX WITH FILLER MATERIALS, SUCH AS SAWDUST, PEAT MOSS, OR VERMICULITE. MIX THE MATERIAL EVENLY INTO THE FILLER MATERIAL, WHICH SHOULD BE SLIGHTLY DAMP SO THAT THE SEED STICKS TO IT. PLANT A TEMPORARY NURSE CROP ALONG WITH THE SEED, TO STABILIZE THE SOIL.

I. SEED SHALL BE SOWN IN TWO DIRECTIONS, RIGHT ANGLE TO EACH OTHER BY HAND THEN LIGHTLY RAKE THE SEED INTO THE SOIL 1/8" TO 1/4" IN DEPTH. DO NOT COVER SEED MORE THAN 1/4-INCH DEEP. AFTER BROADCASTING IS COMPLETE, THEN USE A ROLLER AND ROLL ONE WAY AND THEN AT 90° TO THE FIRST ROLLING.

J. APPLY 1/8" LAYER OF WEED FREE STRAW MULCH APPLIED TO SEEDED AREAS PER ODOT ITEM 659.06 AND APPLIED PER SECTION 659.09.

K. APPLY EROSION MATTING ON STREAM BANK SLOPES PER THE SWPPP DOCUMENTS.

L. MAINTAIN PER ODOT ITEM 659. MAINTAIN ALL SEEDED AND MULCHED AREAS UNTIL FINAL INSPECTION. REPAIR DAMAGED AREAS TO THE ORIGINAL CONDITION AND GRADE. REPAIR SEEDING AND MULCHING. REPAIR ALL DAMAGE OR EROSION OF THE SEEDED AND MULCHED AREAS BEFORE THE COMPLETION OF THE PROJECT.

M. ANY AREAS THAT DO NOT SHOW A SATISFACTORY GERMINATION OF GRASS SHALL BE RESEDED UNTIL A DENSE MEADOW, FREE OF BARE SPOTS, AREAS OF WASHOUT OR EROSION DAMAGE HAS BEEN ESTABLISHED.

N. REFERTILIZING: RESEDED AREAS SHALL BE REFERTILIZED PER SPECIFICATIONS.

5. PLANTS: TREES, SHRUBS, AND HERBACEOUS PLANTS:

A. PLANTINGS SHALL BE PER ODOT ITEM 661.

B. ALL TREES, SHRUBS AND HERBACEOUS PLANTS, DECIDUOUS PLANTS OR EVERGREENS SHALL BE SOUND, HEALTHY, VIGOROUS, FIRST-CLASS, FRESHLY DUG, NURSERY GROWN IN A CLIMATE SIMILAR TO OR MORE SEVERE THAN OHIO.
- C. ALL PLANT MATERIAL SHALL BE FREE OF INSECTS, THEIR EGGS, AND LARVAE.

D. PLANTS SHALL BE FREE OF MECHANICAL OR CULTURAL INJURY BY RODENTS, AND FREE OF NOTICEABLE AFTER EFFECTS OF INSECTS (BORERS).

E. PLANTS SHALL BE TRUE TO SCIENTIFIC NAMES. THE NAMES USED ARE THOSE OF 'STANDARDIZED PLANT NAMES'.

6. GEESE DETERRENTS IN AREAS WITH STANDING WATER IF APPLICABLE:

A. GEESE BARRIER/WILDLIFE DETERRING STRINGS SHALL BE REQUIRED FOR A PERIOD OF ONE YEAR

B. INSTALL FISHLINE STRUNG BETWEEN STEEL POSTS. INSTALL 3 SETS OF STRINGS SPACED 15' APART IN THE WETLAND POOL WITH CLOTH TIED ON STRINGS 15' APART.

7. DEER DETERRENTS IN AREAS WITH TREES AND NATIVE SHRUBS IF APPLICABLE:

A. INSTALL CORRUGATED TREE TUBES OR APPROVED EQUAL ON ALL NEW TREE PLANTINGS.

8. CLEAN-UP

A. UPON COMPLETION OF THE PLANTING, ALL EXCESS SOIL, STONES AND DEBRIS, WHICH HAS NOT PREVIOUSLY BEEN CLEANED UP SHALL BE REMOVED FROM THE SITE OR DISPOSED OF AS DIRECTED BY THE OWNER.

B. ANY SOIL, PEAT, OR SIMILAR MATERIAL WHICH HAS BEEN BROUGHT ONTO PAVED AREAS BY HAULING OPERATIONS OR OTHERWISE SHALL BE REMOVED PROMPTLY, KEEPING THESE AREAS CLEAN AT ALL TIMES.

C. PROTECT LANDSCAPE WORK AND MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, CONTRACTORS AND TRADES AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR OR REPLACE DAMAGED LANDSCAPE WORK AS DIRECTED.

9. MAINTENANCE

A. AFTER PROJECT COMPLETION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR 2 YEARS OF CONTINUED MAINTENANCE OF THE WETLAND AND UPLAND SEEDED AREAS TO ESTABLISH OVER THE ENTIRE MEADOW AREAS A UNIFORM STAND OF GRASSES AND WILDFLOWERS AS SPECIFIED, FREE OF WEEDS AND UNDESIRABLE WEEDS DURING THE PERIOD WHEN THE SEEDING IS BECOMING ESTABLISHED. AFTER THE REQUIRED MAINTENANCE PERIOD AND UPON ACCEPTANCE BY THE OWNER, THE OWNER WILL ASSUME MAINTENANCE RESPONSIBILITY.

B. MOWING AND WEED CONTROL: REFER TO GENERAL NATIVE SEEDING MAINTENANCE NOTES.

C. THE PERIOD OF MAINTENANCE SHALL EXTEND FOR TWO GROWING SEASONS OR AS LONG AS NECESSARY .

10. ACCEPTANCE

SUBSTANTIAL COMPLETION INSPECTION:

A. INSPECTION: AT THE CONCLUSION OF THE CONTRACT WORK, (EXCLUSIVE OF MAINTENANCE AND REPLACEMENT) ONE INSPECTION WILL BE MADE BY THE OWNER. WRITTEN NOTICE TO THE OWNER REQUESTING SUCH AN INSPECTION SHALL BE SUBMITTED BY THE CONTRACTOR AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED DATE.

B. THE PURPOSE OF THIS INSPECTION WILL BE TO DETERMINE WHETHER OR NOT THE CONTRACTOR HAS COMPLETED ALL THE WORK OF THE CONTRACT.

C. THE CONDITION OF THE SEEDED AREAS, TREES, AND SHRUBS WILL BE NOTED AND DETERMINATION MADE BY THE OWNER WHETHER MAINTENANCE SHALL CONTINUE IN ANY PART AS SPECIFIED UNDER GENERAL NATIVE SEEDING MAINTENANCE NOTES.

ACCEPTANCE INSPECTION:

A. AT THE CONCLUSION OF THE MAINTENANCE PERIOD, AN INSPECTION WILL BE MADE BY THE OWNER. WRITTEN NOTICE REQUESTING THE INSPECTION SHALL BE SUBMITTED BY THE CONTRACTOR AT LEAST 10 WORKING DAYS PRIOR TO THE ANTICIPATED DATE.

B. THE PURPOSE OF THE INSPECTION SHALL BE FOR THE ACCEPTANCE OF THE CONTRACT WORK INCLUDING MAINTENANCE, BUT EXCLUSIVE OF REPLACEMENTS.

C. AFTER THE INSPECTION BY THE OWNER, THE CONTRACTOR SHALL BE NOTIFIED IN WRITING OF ACCEPTANCE OF ALL THE WORK. IF THERE ARE ANY DEFICIENCIES IN THE MAINTENANCE, THE CONTRACTOR WILL BE NOTIFIED OF THESE DEFICIENCIES IN WRITING BY THE OWNER, AND THE WORK SHALL BE SUBJECT TO RE-INSPECTION BEFORE ACCEPTANCE.

10. GUARANTEE PERIOD:

A. GUARANTEE PERIOD SHALL BEGIN AT THE ISSUANCE OF THE CERTIFICATE OF COMPLETION AND SHALL END EXACTLY TWO YEARS FROM THAT DATE.

B. AT THE CONCLUSION OF THE GUARANTEE PERIOD, A FINAL INSPECTION OF THE WORK WILL BE MADE TO DETERMINE THE CONDITION OF THE PLANT MATERIAL. ALL PLANT MATERIAL NOT IN A HEALTHY OR 40% DEFOLIATED GROWING CONDITION WILL BE NOTED.

C. REMOVE THE MATERIAL SO NOTED FROM THE SITE AT THE DIRECTION OF THE OWNER AND REPLACE DURING THE FOLLOWING PLANTING SEASON WITH THE MATERIALS OF LIKE KIND AND SIZE AND IN A MANNER SPECIFIED FOR THE ORIGINAL PLANTING AT NO EXTRA COST.

D. GUARANTEE PERIOD ALSO APPLIES TO REPLACED MATERIAL.

NATIVE SEEDING MAINTENANCE NOTES

1. MEADOW MAINTENANCE AND WEED CONTROL SHALL BE APPLIED BY AN ENVIRONMENTAL LANDSCAPE MANAGEMENT COMPANY FAMILIAR WITH MEADOW PLANTINGS. PROVIDE OWNER WITH PROJECT EXAMPLES AND A LIST OF REFERENCES AND CONTACT INFORMATION. OWNER TO MAKE SELECTION OF MANAGEMENT COMPANY BASED ON POSITIVE REFERENCES.

2. THE CONTRACTOR IS RESPONSIBLE FOR SITE NATIVE SEEDING AND PLANTING MAINTENANCE FOR 2 YEARS.

3. DURING THE FIRST GROWING SEASON IF THERE IS LESS THAN 5% OF MEADOW GERMINATION AND PREDOMINANTLY WEED GROWTH, THE NATIVE SEEDED AREAS SHOULD BE MOWED TWO TO FOUR TIMES, TO A HEIGHT OF APPROXIMATELY 8", WHEN THE GROWTH HAS REACHED A HEIGHT OF ABOUT 12". IF A MOWER CANNOT BE SET TO THE APPROPRIATE HEIGHT, A FLAIL MOWER OR BRUSH HOG MAY BE USED. IF A STRING TRIMMER IS USED, ALL THATCH MUST BE RAKED-OFF AND BE REMOVED FROM THE SITE. DO NOT REMOVE MORE THAN 30% OF THE PLANT IN ONE MOWING EVENT. MOWING SHOULD CEASE BY MID-SEPTEMBER. ALL CUTTING SHALL BE REMOVED FROM THE SITE.

4. SELECTIVE HERBICIDE APPLICATIONS, OR HAND-PULLING, MAY BE REQUIRED TO CONTROL UNWANTED WEED POPULATIONS. REFER TO OHIO INVASIVE PLANTS WWW.OIPC.INFO/INVASIVE-PLANTS-OF-OHIO.HTML FOR INVASIVE PLANT LIST. HAND-PULLED MATERIAL SHALL BE REMOVED FROM THE SITE.

5. DURING THE SECOND GROWING SEASON, THE NATIVE SEEDED AREAS SHOULD BE MOWED A FEW TIMES TO A HEIGHT OF APPROXIMATELY 8", WHEN THE GROWTH HAS REACHED A HEIGHT OF ABOUT 12". NOTES #3 AND #4, ABOVE, APPLY.

6. LONG-TERM MANAGEMENT OF THE NATIVE SEEDED AREAS MAY INCLUDE PRESCRIBED BURNING, MOWING, HAND-PULLING, AND SELECTIVE HERBICIDE APPLICATIONS. IF BURNING IS NOT FEASIBLE, THE PLANTING MAY BE MOWED TO A SHORT HEIGHT (NO SHORTER THAN 8", NOR MORE THAN 30% OF THE PLANT REMOVED) AND THE CLIPPINGS REMOVED. THIS SHOULD BE DONE IN EARLY SPRING, BEFORE GROUND-NESTING BIRDS BEGIN NESTING. REFER TO OHIO INVASIVE PLANTS WWW.OIPC.INFO/INVASIVE-PLANTS-OF-OHIO.HTML FOR INVASIVE PLANT LIST.

5. BY THE END OF THE SECOND GROWING SEASON, IT SHOULD BE EVIDENT IF AREAS NEED TO BE RE-SEEDED. RE-SEED OR OVERSEED AS NEEDED.

6. PROBLEM WEEDS SHOULD BE SPOT SPRAYED WITH AN APPROVED HERBICIDE (SUCH AS AQUANEAT, RODEO OR GARLON 3A), OR A SIMILAR AQUATIC HERBICIDE FORMULATION OR HAND PULLED.

7. SECOND & SUBSEQUENT GROWING SEASON MAINTENANCE.

PROBLEM WEEDS, SUCH AS PHRAGMITES, REED CANARYGRASS AND PURPLE LOOSESTRIFE, SHOULD BE SPOT SPRAYED WITH AN APPROVED HERBICIDE (SUCH AS AQUANEAT, RODEO OR GARLON 3A), A SIMILAR AQUATIC HERBICIDE FORMULATION OR HAND PULLED. REFER TO OHIO INVASIVE PLANTS WEBSITE FOR INVASIVE PLANT LIST.

8. WILDFLOWER AREAS: REMOVE WEEDS AND INVASIVE PLANT MATERIALS BY HAND PULLING OR BY SELECTIVE HERBICIDE GLOVE APPLICATION. RESEED AREAS AS DISTURBED BY WEED REMOVAL WITH THE SAME SEED MIX. TAMP SEED MIX IN PLACE.

GENERAL NOTES:

1. SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE PREPARATION.

2. ALL EXISTING AREAS OUTSIDE OF THE CONSTRUCTION AREA SHALL REMAIN UNDISTURBED.

3. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED AND SEEDED.

4. ANY TEMPORARY CONSTRUCTION ROADS OR INGRESS/EXGRESS POINTS SHALL HAVE ANY GRAVEL REMOVED, TOPSOIL PLACED TO A 2" MINIMUM DEPTH AND SEEDED.

5. SEED SUPPLIER SHALL BE OHIO PRAIRIE NURSERY (866) 569-3380 OR APPROVED EQUAL.

6. SEED INSTALLERS SHALL BE EXPERIENCED IN MEADOW INSTALLATION AND SHALL PROVIDE WRITTEN EXPERIENCE OF SIMILAR PROJECT IN SIZE AND SCOPE AND REFERENCES FOR OWNER TO CONTACT.

7. REFER TO MANUFACTURER FOR ALL SEED AND FERTILIZER APPLICATION RATES.

8. NURSE CROP: FOR RAPID ESTABLISHMENT AND EROSION CONTROL, MIX IN WITH SEED MIX REGREEN™ AS A NURSE CROP FOR ALL SEED MIXES. SEED SEED MIXES ON THIS SHEET.

9. ALL TOPSOIL RESPREADING AND SEEDING SHALL BE INCLUDED IN BID.

10. THESE DOCUMENTS ARE MEANT TO SERVE AS A GUIDE FOR CONSTRUCTION; MODIFICATIONS TO THE DESIGNS MAY BE REQUIRED TO ACCOMMODATE VARYING FIELD CONDITIONS OR MODIFIED PLANT ARRANGEMENTS.

11. QUALITY AND SIZES OF PLANTS TO MEET AMERICAN ASSOCIATION OF NURSERYMAN STANDARDS.

12. ALL SUBSTITUTIONS OF SIZES OR VARIETIES SUBJECT TO APPROVAL OF OWNER.

13. IF QUANTITIES LISTED IN PLANT MATERIAL LIST DO NOT CORRELATE WITH PLANTINGS INDICATED ON PLAN, THE QUANTITIES INDICATED ON THE PLAN SHALL GOVERN.

14. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL SEED QUANTITIES.

OHIO PRAIRIE NURSERY  
NATIVE SEED MIX

OHIO FLOOD PLAIN NATIVE SEED MIX

GRASS AND GRASSLIKE:

ELYMUS VIRGINICUS - VIRGINIA WILD RYE  
ELYMUS CANADENSIS - NODDING WILD RYE  
ANDROPOGON GERARDII - BIG BLUESTEM  
PANICUM (DICHANTHELIUM) CLANDESTINUM - DEER-TONGUE GRASS  
ELYMUS RIPARIUS - RIVERBANK WILD RYE  
CAREX GRAYI - GRAY'S SEDGE  
CAREX FRANKII - FRANK'S SEDGE  
SCIRPUS ATROVIRENS - DARK GREEN BULRUSH  
GLYCERIA GRANDIS - REED MANNA GRASS / AMERICAN MANNA GRASS  
SCIRPUS CYPERINUS - WOOLGRASS

WILDFLOWERS:

VERBENA HASTATA - BLUE VERVAIN  
SENNA HEBECARPA - WILD SENNA  
BIDENS ARISTOSA - TICKSEED SUNFLOWER  
ASCLEPIAS INCARNATA - SWAMP MILKWEED  
RUDBECKIA LACINIATA - GREEN-HEADED CONEFLOWER  
VERBENA STRICTA - HOARY VERVAIN  
EUPATORIUM FISTULOSUM - HOLLOW JOE PYE  
VERNONIA FASCICULATA - PRAIRIE IRONWEED  
ACTINOMERIS ALTERNIFOLIA - WINGSTEM  
SOLIDAGO ULMFOLIA - ELMLEAF GOLDENROD  
MIMULUS RINGENS - MONKEY FLOWER  
LOBELIA CARDINALIS - CARDINAL FLOWER  
PYCNANTHEMUM TENUIFOLIUM - NARROW LEAVED MOUNTAIN MINT  
THALICTRUM DASYCARPUM - PURPLE MEADOW RUE  
ASTER NOVAE-ANGLIAE - NEW ENGLAND ASTER

WET WILDFLOWERS NATIVE SEED MIX

WILDFLOWERS

ASCLEPIAS INCARNATA - SWAMP MILKWEED  
VERBENA HASTATA - BLUE VERVAIN  
IRIS VERSICOLOR - NOTHERN BLUE FLAG  
ECHINACEA PURPUREA - PURPLE CONEFLOWER  
PHYSOSTEGIA VIRGINIANA - OBEDIENT PLANT - PURPLE  
EUPATORIUM PERFOLIATUM - COMMON BONESET  
RUDBECKIA SUBTOMENTOSA - SWEET BLACK-EYED SUSAN  
LOBELIA CARDINALIS - CARDINAL FLOWER  
LOBELIA SIPHILITICA - GREAT LOBELIA  
HIBISCUS LAEVIS - HALBERDLEAF ROSE MALLOW  
ACTINOMERIS ALTERNIFOLIA - WINGSTEM  
SOLIDAGO PATULA - SWAMP GOLDENROD  
MIMULUS RINGENS - MONKEY FLOWER  
ASTER NOVAE-ANGLIAE - NEW ENGLAND ASTER

NOTES:

1. 355 SY OF OHIO FLOOD PLAIN NATIVE SEED MIX NEEDED

2. 344 SY OF WET WILDFLOWERS NATIVE SEED MIX NEEDED

verdantas

ISSUED FOR:	XX% REVIEW	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	NO	REVISION	DATE
		01/30/25	AS SHOWN	RDS	RDS	RRW			

EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

SEEDING NOTES

PROJECT NO.	
22025505	
DISCIPLINE	
CIVIL	
SHEET NAME	
SN-1	
SHEET	OF
18	19

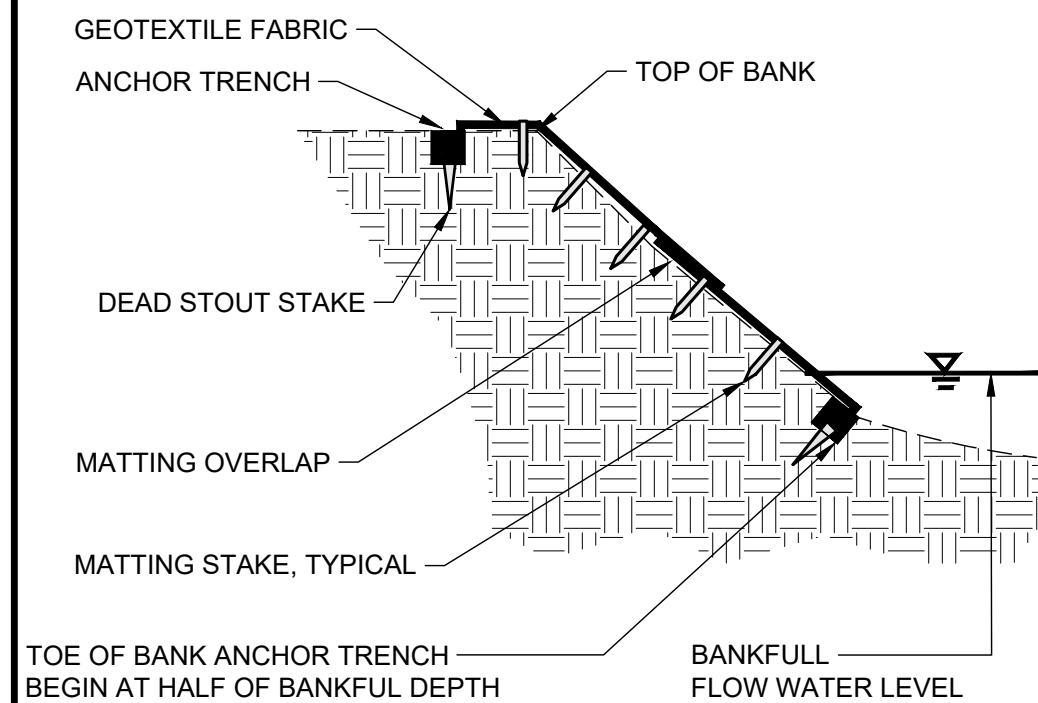


1. SUBSOILING SHALL OCCUR WHEN SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING IS NOT PERMITTED ON SLIP-PRONE AREAS.
2. THE SEED BED SHALL BE PREPARED BY APPLYING AGRICULTURAL GROUND LIMESTONE OR FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS. LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL TO A DEPTH OF 3".
3. APPLY SEED UNIFORMLY ON FIRM, MOIST SEED BED BETWEEN MARCH 1 AND MAY 31 OR AUGUST 1 AND SEPTEMBER 30. TILLAGE FOR SEEDBED PREPARATION SHALL OCCUR WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. SEEDING SHOULD NOT BE APPLIED BETWEEN OCTOBER 1 AND NOVEMBER 20 BECAUSE SEEDS MAY GERMINATE, BUT WILL NOT SURVIVE THE WINTER. IF SEEDING MUST OCCUR, INCREASE THE SEEDING RATE BY 50% AND ANCHOR. APPLY ADDITIONAL MULCH AND IRRIGATION AS REQUIRED TO ENSURE GERMINATION.
4. MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
5. SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS.
6. SEEDING SHALL NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YEAR FROM THE TIME OF SEEDING. DURING THIS PERIOD INSPECT FOR SOIL EROSION OR VEGETATION LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED AND RE-MULCH AS NEEDED.
7. ADEQUATE PERMANENT VEGETATION SHALL BE GROUND COVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE BASED ON VISUAL INSPECTION.

PERMANENT SEEDING FERTILIZATION AND MOWING CHART				
MIXTURE	FORMULA	LB/ AC.	TIME	MOW
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	10-10-10	500	FALL, YEARLY, OR AS NEEDED	≥3"
TALL FESCUE	10-10-10	500		≥4"
TURF-TYPE FESCUE	10-10-10	500		
CROWN VETCH FESCUE	0-20-20	400	SPRING, AND YEARLY AFTER ESTABLISHED	DO NOT MOW
FLAT PEA FESCUE	0-20-20	400		

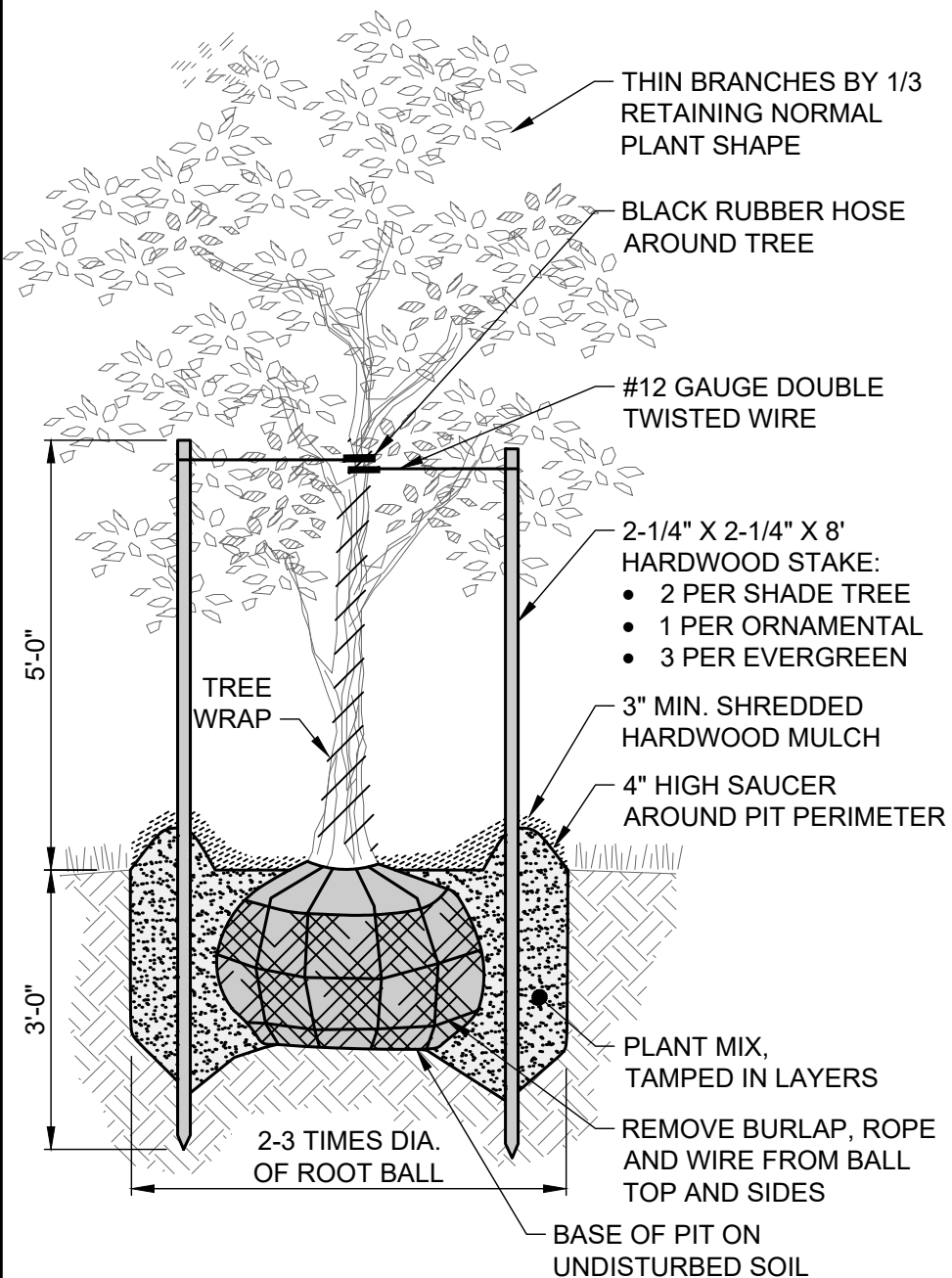
PERMANENT SEEDING SPECIES SELECTION		
SEED MIX	SEED RATE LB/AC.	NOTES:
GENERAL USE		
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20 - 40 10 - 20 20 - 40	FOR CLOSE MOWING AND WATERWAYS WITH ≤2.0 FT./SEC. VELOCITY
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE	90	
STEEP BANKS OR CUT SLOPES		
TALL FESCUE	40 - 50	
CROWN VETCH TALL FESCUE	10 - 20 20 - 30	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20 - 25 20 - 30	DO NOT SEED LATER THAN AUGUST
ROAD DITCHES AND SWALES		
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE KENTUCKY BLUEGRASS	90 5	
LAWN		
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100 - 120 100 - 120	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100 - 120 100 - 120	FOR SHADED AREAS

#### PERMANENT SEEDING NOTES



#### EROSION MATTING DETAIL

SCALE: NONE

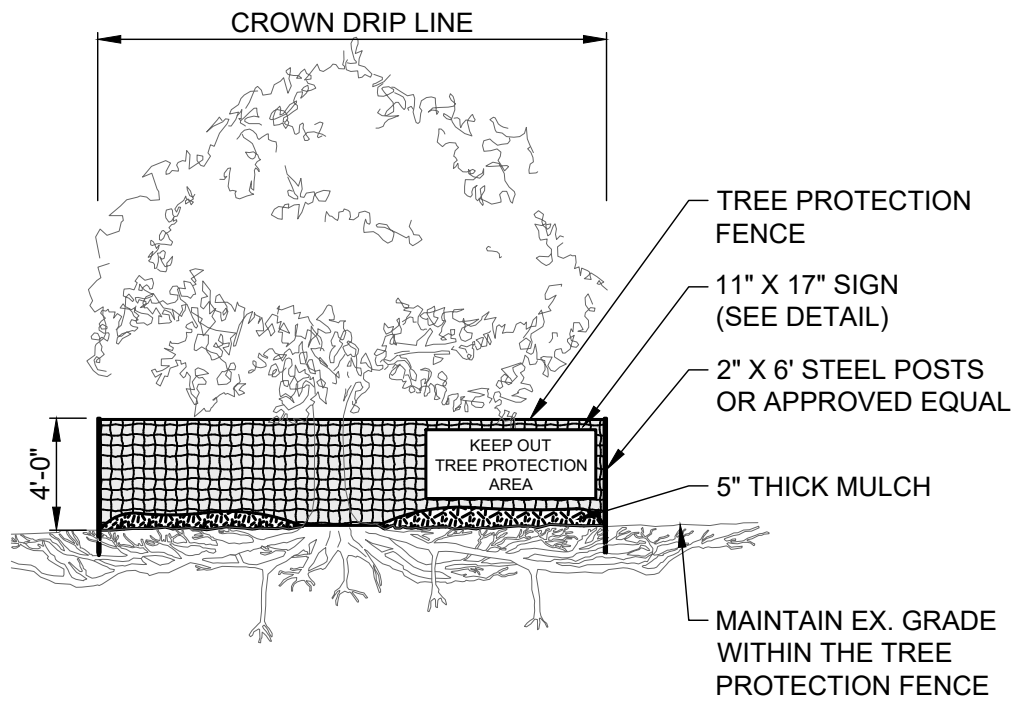


#### NOTES:

- CROWN OF ROOT BALL TO BEAR THE SAME RELATION TO FINISH GRADE WHICH IT WAS GROWN AT THE NURSERY.
- DO NOT DAMAGE ROOTS OR DESTROY ROOT BALL WHEN INSTALLING TREE STAKES.
- REMOVE TREE RINGS, TREE WRAP AND STAKES 1 YEAR AFTER INSTALLATION. NOTIFY OWNER PRIOR TO REMOVAL.

#### TREE PLANTING DETAIL

SCALE: NONE

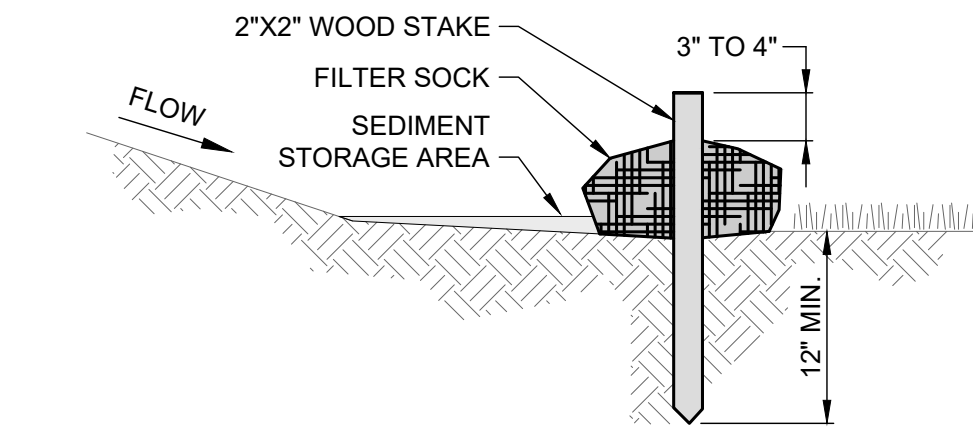


#### NOTES:

- TREE PROTECTION FENCE MUST BE INSTALLED PRIOR TO BEGINNING CLEARING OPERATIONS AND REMAIN UNTIL FINAL GRADING HAS BEEN COMPLETED.
- FENCE MUST BE PLACED BEYOND THE DRIP LINE OR CANOPY OF TREES (SEE PLANS FOR GENERAL FENCE ALIGNMENT).
- FENCE SHALL BE ORANGE COLOR, HIGH DENSITY POLYETHYLENE FENCING WITH 3.5\"/>

#### TREE PROTECTION DETAIL

SCALE: NONE



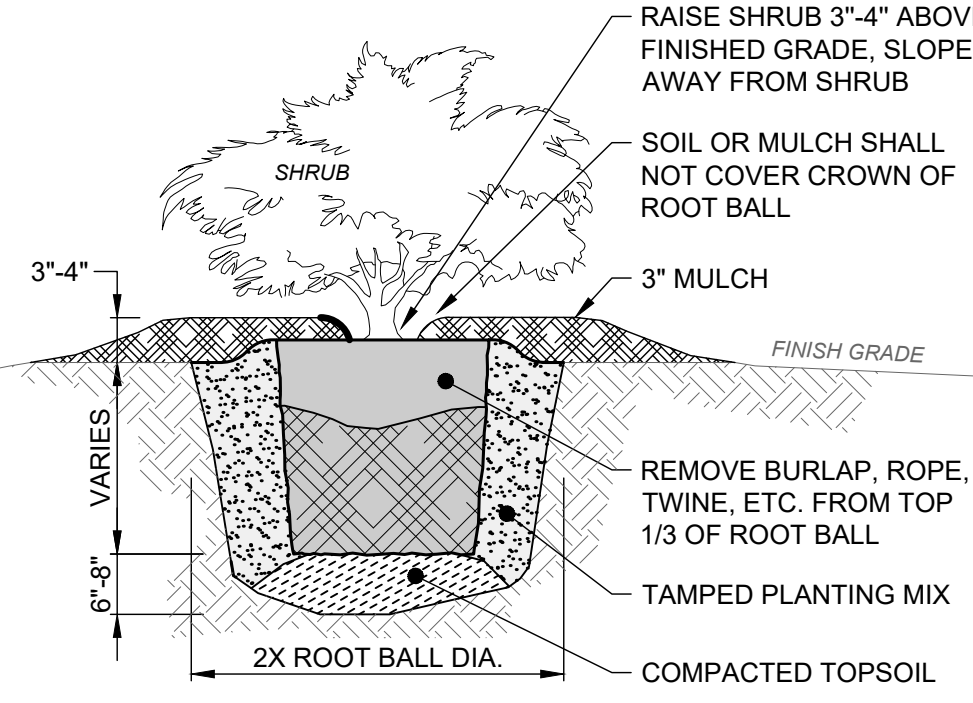
#### NOTES:

- FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8\"/>
- COMPOST SHALL BE WEED, PATHOGEN AND INSECT FREE, FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH, BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER, AND CONSIST OF PARTICLES RANGING FROM 3/8\"/>
- FILTER SOCKS SHALL BE PLACED ON A LEVEL LINE ACROSS SLOPES PARALLEL TO THE BASE OF THE SLOPE. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND MID-SLOPE.
- FILTER SOCKS SHALL BE PLACED AT LEAST 5' FROM THE TOE OF SLOPE FOR SEDIMENT DEPOSIT.
- BUILT UP SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED 1/3 THE FILTER SOCK HEIGHT.
- WHEN A FILTER SOCK IS NO LONGER REQUIRED, IT SHALL BE DISPERSED ON-SITE.
- THE MAXIMUM DRAINAGE AREA PER 100 FEET OF FILTER SOCK IS 1/2 ACRE AND IS DEPENDENT ON THE SLOPE FOLLOWING THE GUIDANCE CHART BELOW:

MAX. SLOPE LENGTH ABOVE FILTER SOCK					
SLOPE	RATIO (H:V)	8"	12"	18"	24"
0% - 2%	0 - 50:1	125'	250'	300'	350'
2% - 10%	50:1 - 10:1	100'	125'	200'	250'
10% - 20%	10:1 - 5:1	75'	100'	150'	200'
20% - 50%	5:1 - 2:1	N/A	50'	75'	100'
≥ 50%	≥ 2:1	N/A	25'	50'	75'

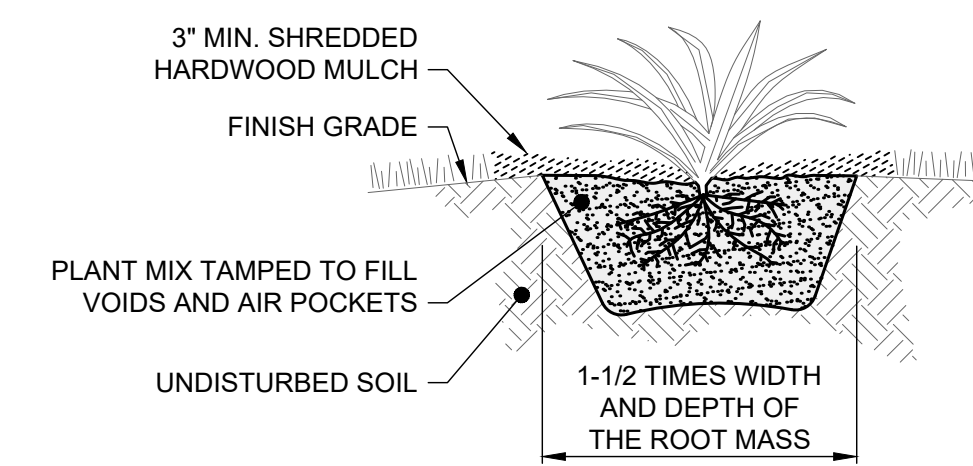
#### FILTER SOCK DETAIL

SCALE: NONE



#### SHRUB PLANTING DETAIL

SCALE: NONE



#### ANNUAL AND PERENNIAL PLANTING DETAIL

SCALE: NONE

#### LANDSCAPE NOTES

- GRAPHICAL SCREENING AND SHADING IS USED TO DE- EMPHASIZE EXISTING CONDITION ITEMS AND SOME NEW IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK.
- PROPOSED DEMOLITION PLAN ITEMS ARE NOT SHOWN FOR CLARITY PURPOSES. SEE OTHER PLAN SHEETS.
- ALL DISTURBED AREAS SHALL BE SEEDED PER PLAN.
- ALL TREE AND PLANT INSTALLATION SHALL BE PERFORMED BY A FIRM SPECIALIZING IN LANDSCAPE WORK.
- THE CONTRACTOR MUST DETERMINE THE LOCATION OF ALL EXISTING AND NEW UNDERGROUND UTILITIES AND THEIR EASEMENTS AND PERFORM WORK IN A MANNER THAT WILL AVOID DAMAGE OF UTILITIES. HAND EXCAVATE, AS REQUIRED.
- THE CONTRACTOR SHALL PROTECT EXISTING TREES AND PLANTS NOT DESIGNATED FOR REMOVAL. ANY TREE OR PLANT, INCLUDING ROOTS, DAMAGED BY CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR WITH LIKE SPECIES AND SIZE WITH NO ADDITIONAL COMPENSATION.
- ALL TREES AND PLANTS SHALL CONFORM TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK", AND BE LABELED WITH A WATERPROOF TAG INDICATING SPECIES AND SIZE. SPECIFIED TREE AND PLANT SIZES ARE MINIMUM SIZES TO BE INSTALLED. ANY PLANT SUBSTITUTION MUST BE APPROVED BY THE ARCHITECT. IF QUANTITIES LISTED IN PLANT MATERIAL LIST DO NOT CORRELATE WITH PLANTINGS INDICATED ON PLAN, THE QUANTITIES SHOWN ON THE PLAN SHALL GOVERN.
- TREE TRUNKS SHALL BE WRAPPED PRIOR TO LEAVING THE NURSERY TO PROTECT FROM INJURY DURING TRANSPORT. WRAPPING SHALL BE REMOVED, BUT ONLY AFTER PLANTED. PLANT MATERIALS SHALL BE PROVIDED WITH PROTECTIVE COVERINGS DURING TRANSPORT TO REDUCE DESICCATION.
- THE CONTRACTOR SHALL HAVE SOIL TESTS PERFORMED AT HIS EXPENSE BY A TESTING LABORATORY TO DETERMINE AMENDMENTS, IF ANY, TO EXISTING SOILS.
- PLANT MIX SHALL CONSIST OF EXISTING SOIL FREE OF DEBRIS, STICKS AND STONES GREATER THAN 1/2", AND CONTAIN TWENTY PERCENT (20%) ORGANIC MATTER BY VOLUME. 95% OF TOPSOIL SHALL PASS A 2.0 MIL SIEVE. ADD SOIL AMENDMENTS TO THE EXISTING SOIL AS REQUIRED BY THE SOIL TEST. ORGANIC MATTER SHALL CONSIST OF COMPOSTED LEAVES, COMPOSTED SLUDGE OR OTHER APPROVED MATERIAL. PEAT MOSS IS NOT AN ACCEPTABLE MATERIAL. ADD GRANULAR 'SOIL MOIST' TO TOPSOIL MIX, APPLIED PER MANUFACTURER'S RECOMMENDED RATES FOR THE SIZE AND TYPE OF PLANT MATERIAL SPECIFIED, IF NO IRRIGATION IS APPLIED.
- TREES AND PLANTS SHALL BE DELIVERED AFTER PREPARATION FOR PLANTING HAS BEEN COMPLETED, BUT NOT STORED MORE THAN 2 WEEKS. PLANT IMMEDIATELY UPON DELIVERY, OR PROTECT FROM WEATHER AND MECHANICAL DAMAGE AND KEEP ROOTS MOIST.
- LAYOUT OF TREES AND PLANT MATERIALS MUST BE ACCEPTED BY THE ARCHITECT PRIOR TO PLANTING. NO PLANT, EXCEPT GROUND COVERS, SHALL BE PLANTED LESS THAN 24" FROM A BUILDING, CURB, PAVEMENT OR SIDEWALK.
- ALL NYLON ROPING, TWINE, SHALL BE REMOVED, PRIOR TO PLANTING. ALL NON-TREATED BURLAP AND/OR NON-ROT PROOF BURLAP TO BE REMOVED FROM TOP HALF OF ROOTBALL. ALL TREATED BURLAP OR POLYPROPYLENE BURLAP TO BE COMPLETELY REMOVED FROM PLANTING PIT.
- FERTILIZER: EACH TREE AND SHRUB PLANTING TO RECEIVE GRANULAR NITROFORM (18-6-12) FERTILIZER OR EQUAL.
- WATER SHALL BE FURNISHED FOR WATERING TREES AND PLANTS ON A WEEKLY BASIS IN ABSENCE OF 1-1/2" RAINFALL. TREES AND PLANTS SHALL BE THOROUGHLY WATERED THROUGHOUT THE PERIOD OF ESTABLISHMENT. SATURATE THE ROOT ZONE AND MULCHED AREA OF EACH TREE OR PLANT WITHOUT CAUSING RUN-OFF. DRIP IRRIGATION BAGS MAY BE USED ON INDIVIDUAL TREES.
- TAGS, STRINGS, ROPES AND WIRES SHALL BE REMOVED FROM TREES AND PLANTS ABOVE AND BELOW GRADE.
- BEFORE FINAL INSPECTION BY THE ARCHITECT, ALL TREES AND PLANTS SHALL BE IN PLACE AND UNDER THE CARE OF THE CONTRACTOR FOR A PERIOD OF ESTABLISHMENT. THIS PERIOD SHALL BEGIN UPON COMPLETION OF PLANTING OPERATIONS AND CONTINUE UNTIL OCTOBER 1ST, BUT IN NO CASE BE LESS THAN ONE (1) GROWING SEASON FROM JUNE 1ST TO OCTOBER 1ST. DURING THIS PERIOD, HORTICULTURAL PRACTICES SHALL BE FOLLOWED THAT WILL ENSURE THE VIGOR AND GROWTH OF TRANSPLANTED MATERIAL INCLUDING WATERING, MULCHING, STAKING, GUYING, WEEDING, CULTIVATING AND PRUNING.
- ALL TREES AND PLANTS SHALL BE GUARANTEED AND COVERED BY A MAINTENANCE BOND FOR A PERIOD OF ONE (1) YEAR BEGINNING ON THE DATE OF ACCEPTANCE BY THE ARCHITECT. ANY TREE OR PLANT WHICH DIES, TURNS BROWN OR DEFOLIATES PRIOR TO ACCEPTANCE SHALL BE REMOVED AND REPLACED WITH THE SAME SPECIES, QUANTITY AND SIZE AND MEET ALL SPECIFICATIONS BEFORE OR AT THE END OF THE GUARANTEE PERIOD AT NO ADDITIONAL COST TO THE OWNER. TREES OR PLANTS REPLACED IN THE FALL THAT DIE BEFORE OR DURING THE SPRING PLANTING SEASON SHALL BE REPLACED IMMEDIATELY.
- BOTH STOCKPILED AND FURNISHED TOPSOIL SHALL BE SCREENED FROM CLAY LUMPS, BRUSH, WEEDS, LITTER, ROOTS, STONES LARGER THAN 1/2", AND OTHER EXTRANEIOUS MATTER BEFORE PLACEMENT. TOPSOIL SHALL BE LOAMY, NOT CONSIST OF MORE THAN 38% CLAY AND CONFORM TO THE U.S. DEPARTMENT OF AGRICULTURE SOIL TEXTURING TRIANGLE. ANY TOPSOIL LEFT OVER AFTER PROJECT COMPLETION SHALL BE DISPOSED OF OFF-SITE.
- IF THERE IS NOT ENOUGH TOPSOIL FROM THE INITIAL STRIPPING OPERATIONS, THE CONTRACTOR SHALL FURNISH ADDITIONAL TOPSOIL AS NEEDED.
- DO NOT SEED UNTIL ACCEPTANCE OF FINISH GRADE BY THE ARCHITECT.
- THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL CLEAN-UP ASSOCIATED WITH THEIR CONSTRUCTION PROCEDURES.



verdantas

DATE	REVISION	NO	ISSUED FOR:	XX% REVIEW	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
					01/30/25	AS SHOWN	RDS	RDS	RRW

EVERGREEN CEMETERY STREAM  
DAYLIGHTING AND IMPROVEMENTS  
- VILLAGE OF CHAGRIN FALLS, OHIO -

LANDSCAPE NOTES

PROJECT NO. <b>22025505</b>	
DISCIPLINE <b>CIVIL</b>	
SHEET NAME <b>LN-1</b>	
SHEET <b>19</b>	OF <b>19</b>