

# RESTORING RIPARIAN HABITAT AND FOSTERING COMMUNITY RIVER ACCESS IN HACKETTSTOWN, NJ

132 WILLOW GROVE STREET, HACKETTSTOWN  
NEW JERSEY 07840  
03/27/2025

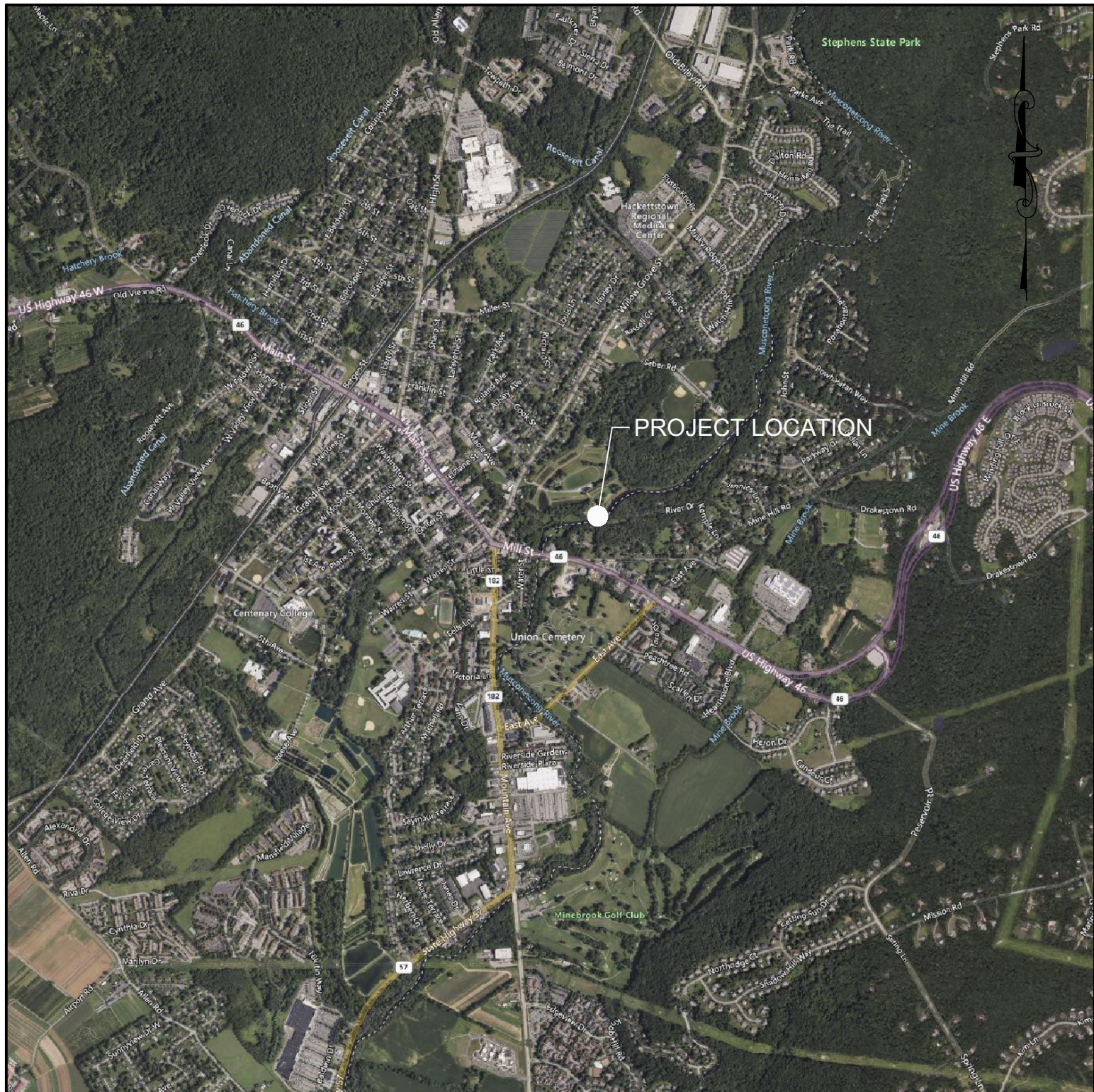
LIST OF DRAWINGS

T-1	TITLE SHEET
ES-1	EXISTING CONDITION, EROSION AND SEDIMENT CONTROL, AND DEMOLITION PLAN
L-1	LANDSCAPING AND SITE PLAN
ESD-1	EROSION AND SEDIMENT CONTROL DETAILS AND NOTES
ESD-2	EROSION AND SEDIMENT CONTROL DETAILS AND NOTES
LD-1	LANDSCAPING DETAILS
LD-2	LANDSCAPING DETAILS
LD-3	LANDSCAPING DETAILS

- NOTES
1.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88 VERTICAL DATUM. THE CONVERSION FACTOR FROM NAVD88 TO NGVD29 IS +0.70 FEET.
2.

THE ENTIRE PROJECT SITE LIES WITHIN THE FHA. THE FHA BOUNDARIES ARE OUTSIDE OF THE SITE.



LOCATION PLAN  
1" = 2000'

akrf

One Washington Square  
530 Walnut Street, Suite 998  
Philadelphia, PA 19106  
(267) 585-4839  
www.akrf.com

OWNER:  
BLOCK 119, LOT 109  
HACKETTSTOWN PUBLIC SCHOOL  
DISTRICT  
315 WASHINGTON ST  
HACKETTSTOWN, NJ 07840

BLOCK 119, LOT 81  
STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION  
FISH AND WILDLIFE  
501 E. STATE ST  
TRENTON, NJ 08625-0420

APPLICANT:  
PEACE NJ  
PO BOX 614  
HACKETTSTOWN, NJ 07840

Project  
Restoring Riparian Habitat  
and Fostering Community  
River Access in  
Hackettstown, NJ  
Town of Hackettstown  
Warren County, New Jersey

Milestone  
90% Design Submission

Rev.	Description	Date

Design Professional

Edward Confair, P.E.  
NJ Professional Engineer No. 24GE05187900

Project #:	240830
Date:	03/27/2025
Scale:	
Format:	24" x 36" (ARCH D)
Drawn By:	FJ, SB, BC
Checked By:	LC

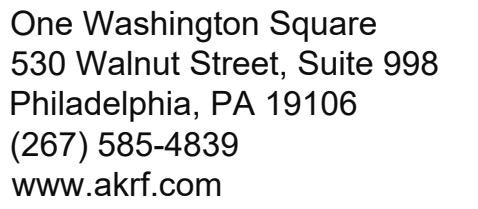
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TITLE SHEET

Sheet Number:

T-1  
1 of 8





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Town of Hackettstown  
Warren County, New Jersey

## Milestone

### 90% Design Submission

Rev.	Description	Date

Design Professional

Edward Confair, P.E.  
NJ Professional Engineer No. 24GE0518790

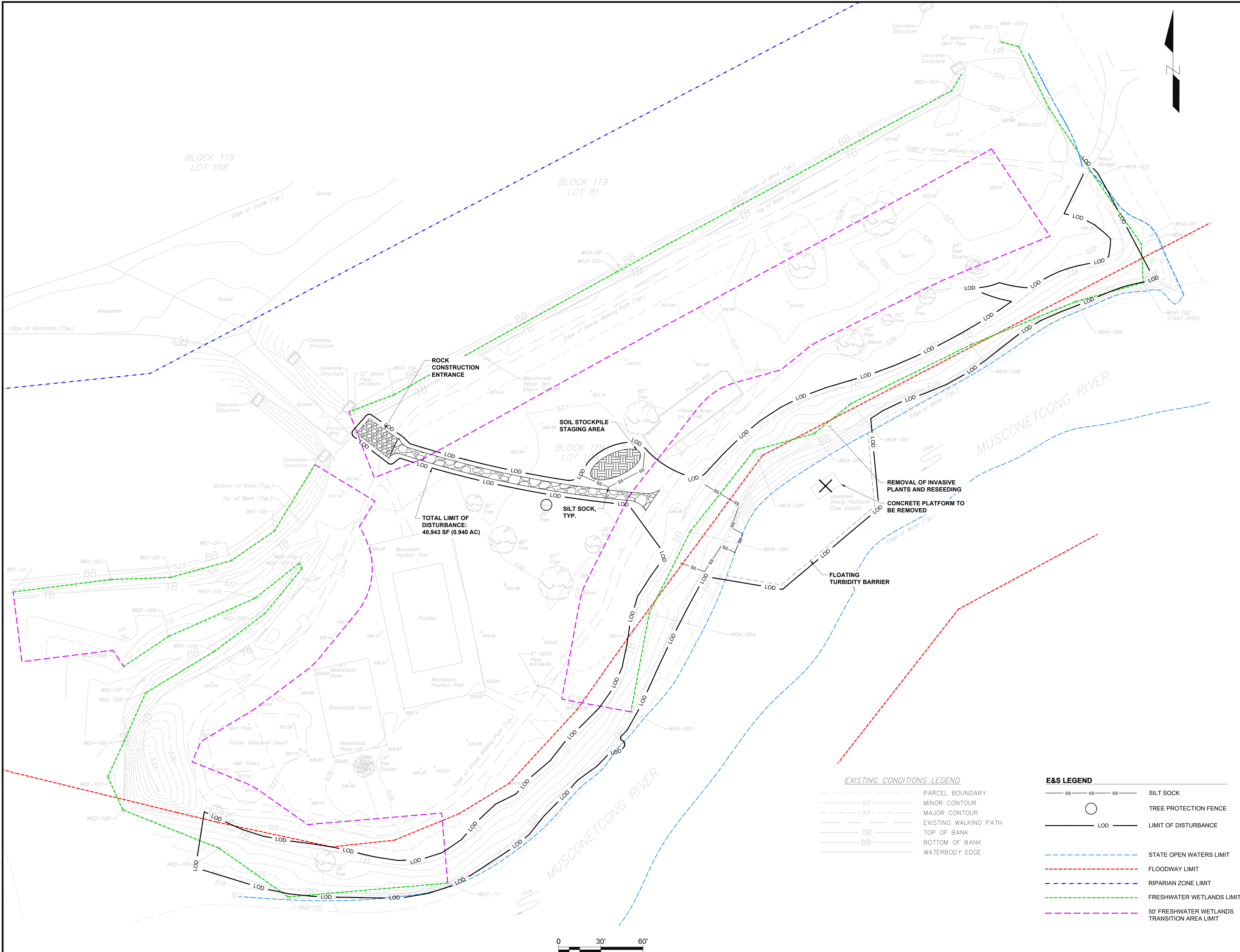
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Date:	03/27/2025
Scale:	<b>1" = 30'</b>
Format:	24" x 36" (ARCH D)
Drawn By:	FJ, SB, BC
Checked By:	LC

Sheet Title: **EXISTING  
CONDITIONS,  
EROSION &  
SEDIMENT CONTROL  
AND DEMOLITION  
PLAN**

Sheet Number:

# ES-1

2 of 8





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NJ Professional Engineer No. 24GE05187900

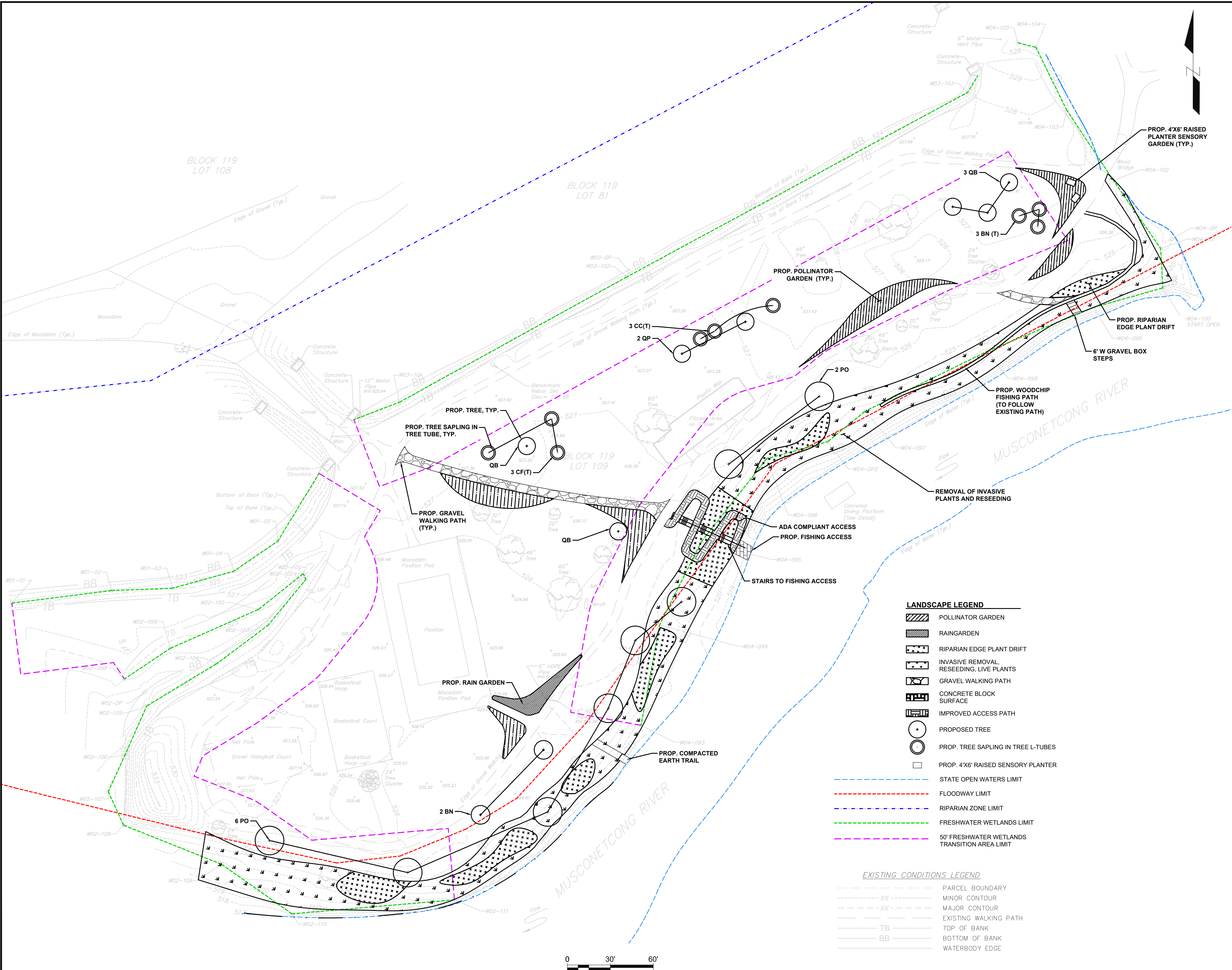
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Sheet Title:

LANDSCAPE PLAN

Sheet Number:

L-1





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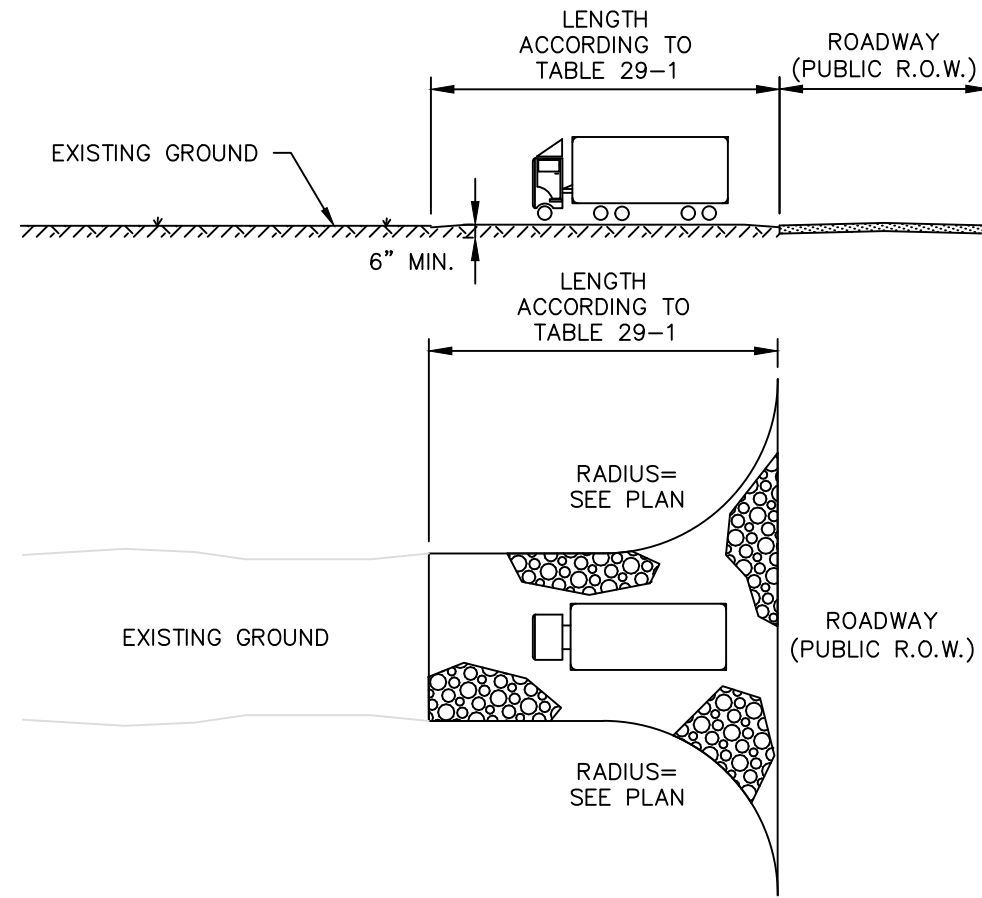
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Sheet Title:  
**EROSION &  
SEDIMENTATION  
CONTROL AND  
DEMOLITION DETAILS  
& NOTES**

Sheet Number:

**ESD-1**



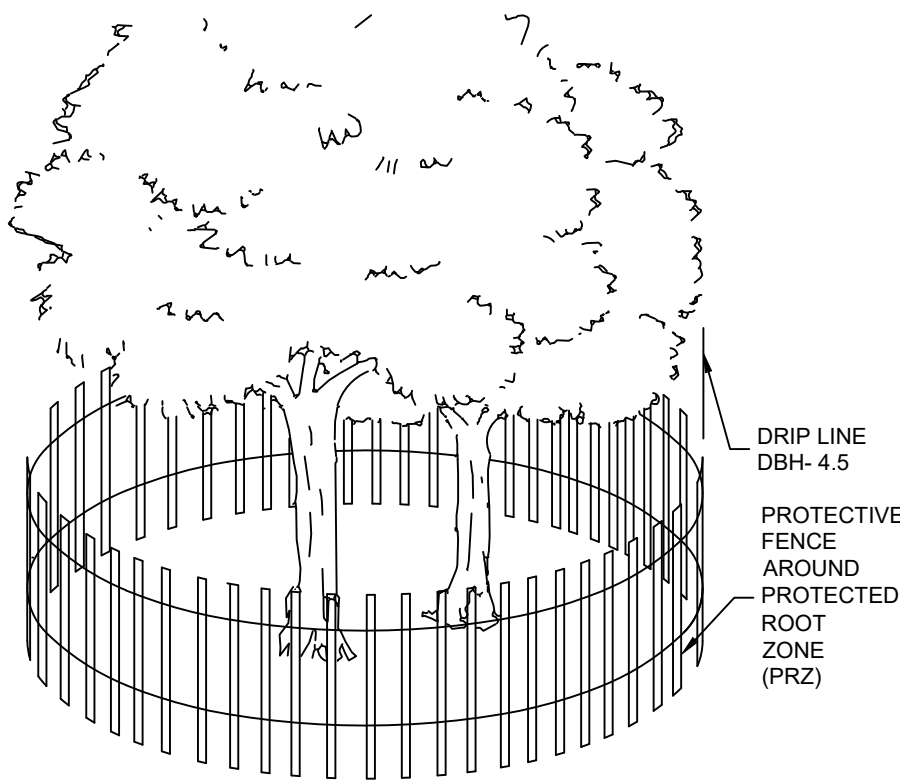
Percent Slope of Roadway	Length of Stone Required	
	Coarse Grained Soils	Fine Grained Soils
0 to 2%	50 Feet	100 Feet
2 to 5%	100 Feet	200 Feet
> 5%	Entire surface stabilized with FABC base course <sup>1</sup>	

1. As prescribed by local ordinance or other governing authority.

**GENERAL NOTES**

- ADDITIONAL LENGTH OR TOP DRESSING MAY BE REQUIRED BY THE DISTRICT AS CONDITIONS DEMAND.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
- PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND ROADWAY.
- STONE SIZE: NO. 3 STONE (D=1" TO 2")  
PAD THICKNESS: 12" (6" MIN.).

**ES-1 ROCK CONSTRUCTION ENTRANCE**  
N.T.S.

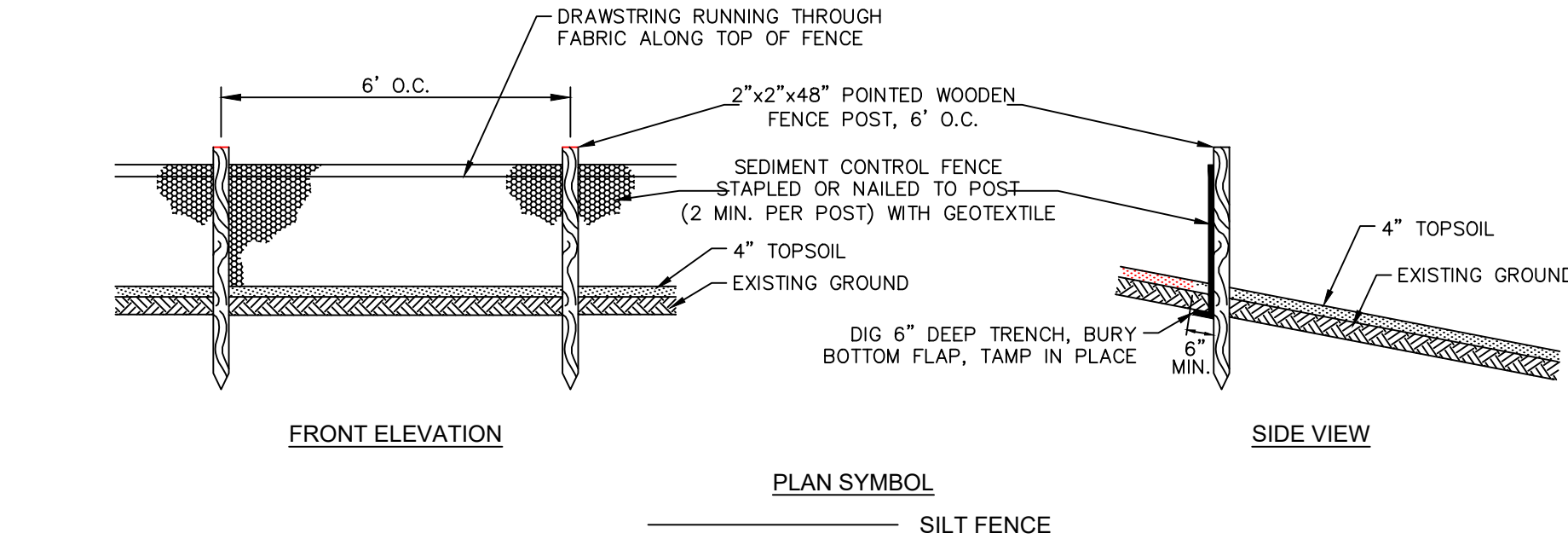


ESTIMATE A TREE'S PROTECTED ROOT ZONE (PRZ) BY CALCULATING THE CRITICAL ROOT RADIUS (CRR)

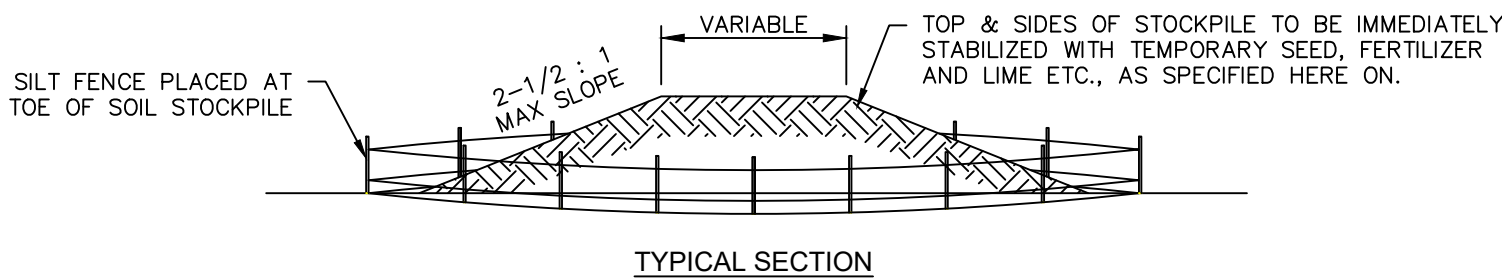
- MEASURE THE DBH (DIAMETER OF TREE AT BREAST HEIGHT, 4.5 FEET ABOVE GROUND ON THE UPHILL SIDE OF TREE IN INCHES)
- MULTIPLY MEASURED DBH BY 1.5 OR 1.0. EXPRESS THE RESULT IN FEET.

-DBH X 1.5: CRITICAL ROOT RADIUS FOR OLDER, UNHEALTHY OR SENSITIVE SPECIES.  
-DBH X 1.0: CRITICAL ROOT RADIUS FOR YOUNGER, HEALTHY OR TOLERANT SPECIES.

**ES-4 CONSTRUCTION TREE PROTECTION FENCE**  
N.T.S.

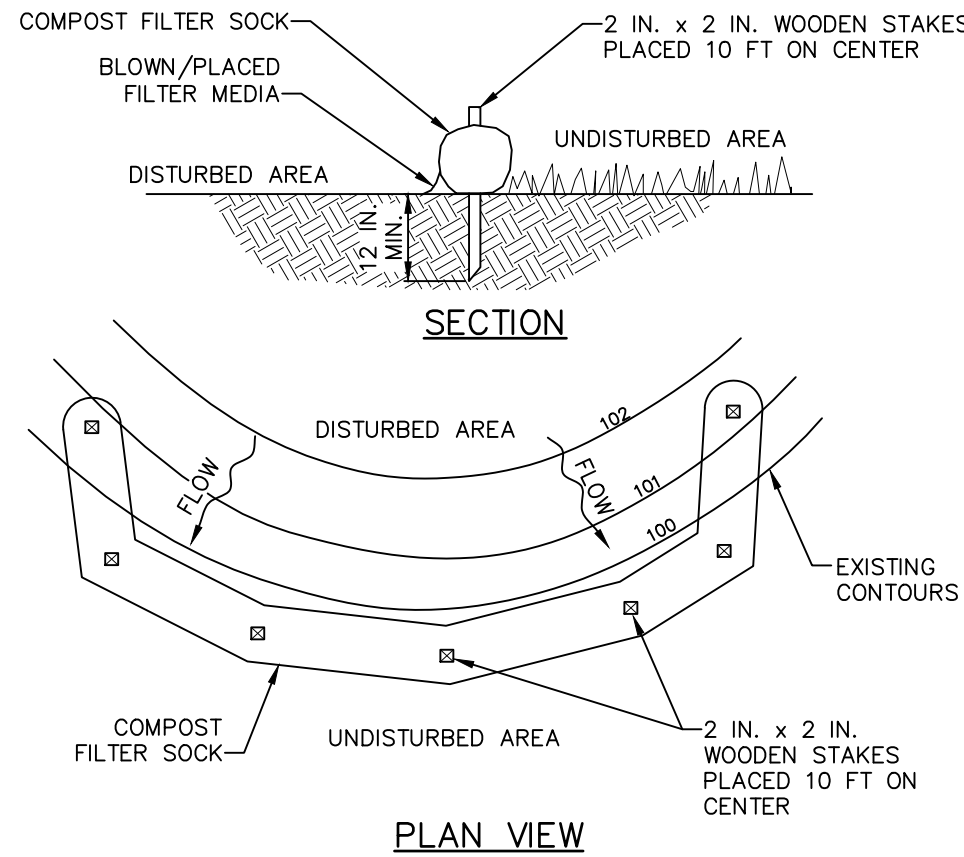


**ES-2 SILT FENCE**  
N.T.S.



NOTE:  
STOCKPILES TO BE SITE IN FIELD

**ES-2 SOIL STOCKPILE**  
N.T.S.



**NOTES:**

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, SECTION 23-1 TO 23-3 AS STATED IN TECHNICAL BULLETIN 2014-1.0.

CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 ACRE AND THE LENGTH OF SLOPE ABOVE THE BARRIER IS LESS THAN 150 FEET.

THE SLOPE OF THE CONTRIBUTING DRAINAGE AREA FOR AT LEAST 30 FEET ADJACENT TO THE BARRIER SHALL NOT EXCEED 5%.

THE BARRIER SHALL BE CONSTRUCTED SO WATER CANNOT BYPASS THE BARRIER AROUND THE ENDS.

INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

THE BARRIER SHALL BE REMOVED WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

**ES-3 COMPOST FILTER SOCK**  
N.T.S.



SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
3. N.J.S.A 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL. IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS. PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
4. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO THE STANDARD FOR STABILIZATION WITH MULCH ONLY.
5. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. SOIL STOCKPILES, STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.
6. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
7. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ACCESS CONSISTING OF ONE INCH TO TWO INCH (1" - 2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
8. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
9. PERMANENT VEGETATION IS TO BE SEEDDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
10. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
11. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/1,000 SQ FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12" OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24" WHERE TREES OR SHRUBS ARE TO BE PLANTED.
12. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
13. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
14. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
15. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
16. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
17. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

TEMPORARY SEEDING

1. SITE PREPARATION
- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, PG. 19-1.
- B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
- C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. **THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).**
2. SEEDBED PREPARATION
- A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. TESTING FOR LIMESTONE RATES SHALL BE CONDUCTED ON SITE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.
- B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
- C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE WITH THE ABOVE.
- D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG. 1-1.
3. SEEDING
- TEMPORARY SEEDING IS TO BE USED ON ALL DISTURBED AREAS WHERE PERMANENT STABILIZATION WILL NOT BE ACCOMPLISHED FOR A PERIOD OF UP TO 6 MONTHS.

PRODUCT	RATE	RECOMMENDED OPTIMUM SEEDING DATES
PERENNIAL RYEGRASS	100 LBS./ACRE	3/01-5/15 & 8/15-10/01
SPRING OATS	86 LBS./ACRE	3/01-5/15 & 8/15-10/01
WINTER CEREAL RYE	112 LBS./ACRE	8/1-11/15
WINTER BARLEY	96 LBS./ACRE	8/15-10/1
PEARL MILLET	20 LBS/ ACRE	5/15-8/15
GERMAN OR HUNGARIAN MILLET	30 LBS/ ACRE	5/15-8/15

- A. CONVENTIONAL SEEDING. APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDDED OR CULTPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.
- B. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. **MULCH SHALL NOT BE INCLUDED** IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION IV MULCHING) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
- C. AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

PERMANENT SEEDING

1. SITE PREPARATION
- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
- B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
- C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
- D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
2. SEEDBED PREPARATION
- A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NAES.RUTGERS.EDU/COUNTY/). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
- B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
- C. HIGH ACID PRODUCING SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12" OF MULCH OR LIME. AFTER INITIATING SEEDBED PREPARATION, SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.
3. SEEDING
- A. SELECT A MIXTURE FROM TABLE BELOW OR USE A MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.

PERMANENT VEGETATIVE MIXTURES, PLANTING RATES AND PLANTING DATES				
SEED MIXTURE	RATES		RECOMMENDED OPTIMUM PLANTING PERIOD	
	LBS / AC.	LBS / 1000 S.F.		
TURF-TYPE TALL FESCUE (BLEND OF 3 LOCAL CULTIVARS)	350	8	08/15 - 10/15	
DEERTONGUE	20	45		
REDTOP	02	05		
WILD RYE (ELYMUS)	15	35	03/01 - 04/30	
SWITCHGRASS	25	60		

- SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDDED AREA AND MOWED ONCE.
  - WARM-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 85 F AND ABOVE. SEE TABLE 4-3 MIXTURES 1 TO 7. PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
  - COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85 F. MANY GRASSES BECOME ACTIVE AT 65 F. SEE TABLE 4-3, MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL SEASON GRASSES.
- B. **CONVENTIONAL SEEDING** IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDDED OR CULTPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE-TEXTURED SOIL.
- C. AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
- D. **HYDROSEEDING** IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. **MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED.** SHORT-FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER. (ALSO SEE SECTION IV MULCHING) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.

MULCHING

- MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
- A. STRAW OR HAY UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.
- APPLICATION - SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST 85% OF THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.
- ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WIND. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.
- PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
  - MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
  - CRIMPER (MULCH ANCHORING COULTER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OR SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
  - LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR SALT HAY, HAY OR STRAW MULCH.
- a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
- b. USE ONE OF THE FOLLOWING:
- ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER-BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPED E GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE. SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
  - SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND, FOLLOWING APPLICATION OF MULCH, DRYING AND CURING, SHALL BE NON-SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

- B. WOOD-FIBER OR PAPER-FIBER MULCH - SHALL BE MADE FROM WOOD PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS. USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. **M**
- C. PELLETIZED MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS, AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS. SEEDDED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED, OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE, APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE. **ULCH SHALL NOT BE MIXED IN THE TANK WITH SEED.** USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

UPPER DELAWARE CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL GENERAL NOTES

- THE DISTRICT SHALL BE REPRESENTED AT THE PROJECT PRECONSTRUCTION MEETING WITH THE TOWNSHIP ENGINEER, CONTRACTORS, AND UTILITY REPRESENTATIVES. IF THE TOWNSHIP ENGINEER DOES NOT SCHEDULE A PRECONSTRUCTION MEETING, IT IS THE RESPONSIBILITY OF THE OWNER/APPLICANT TO SCHEDULE ONE BEFORE ANY LAND DISTURBANCE. TWO WEEKS NOTICE MUST BE GIVEN FOR SCHEDULING PRECONSTRUCTION MEETINGS.
- FAILURE OF THE AFOREMENTIONED PLAN SHALL NOT RELIEVE THE APPLICANT OF ANY OF ITS RESPONSIBILITIES RELEVANT TO THE APPROPRIATE STATUTES. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY THE DISTRICT IN THE EVENT OF ANY UNFORESEEN PROBLEMS INCURRED DURING CONSTRUCTION.
- ANY CHANGES OF APPROVED PLANS SHALL REQUIRE AN ADDITIONAL SUBMITTAL TO THE DISTRICT INCLUDING APPROPRIATE RE-REVIEW FEES.
- A 48 HOUR START OF LAND DISTURBANCE NOTIFICATION SHALL BE GIVEN.
- IN THAT *N.J.S.A. 4-24-39 ET SEQ* REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BY THE MUNICIPALITY BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK RELATIVE TO APPROVED PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS WILL BE COMPLETED BEFORE THE DISTRICT ISSUES A CERTIFICATE OF COMPLIANCE. TWO WEEKS NOTICE MUST BE GIVEN TO THE DISTRICT TO SCHEDULE INSPECTION FOR CERTIFICATE OF COMPLIANCE RELEASE.
- FINAL STABILIZATION OF ALL LAND DISTURBANCES ASSOCIATED WITH UNDERGROUND UTILITIES, IRRESPECTIVE OF PHASING, IS THE ULTIMATE RESPONSIBILITY OF THE OWNER.
- A CASH BOND OF NOT LESS THAN \$2,500. (PER DISTURBED ACRE OR PART THEREOF, OR A LOT) WILL BE POSTED WITH THE UPPER DELAWARE CONSERVATION DISTRICT DURING THE NONGROWING SEASON IF A CERTIFICATE OF COMPLIANCE IS NEEDED AND SOIL EROSION AND SEDIMENT CONTROL MEASURES FOR PERMANENT STABILIZATION ARE NOT COMPLETED.
- SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS SHALL BE SWEEPED AT THE END OF EACH WORKING DAY.
- NO BUILDING PERMITS WILL BE RELEASED UNTIL ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON APPROVED PLANS ARE INSTALLED.
- DUST TO BE CONTROLLED WITH WATER, CALCIUM CHLORIDE OR OTHER METHOD APPROVED BY THE SOIL CONSERVATION DISTRICT.
- TRACKING PAD TO BE KEPT CLEAN AND REPAIRED AS NECESSARY.
- SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH *STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, FEBRUARY 2014.*
- SEE DETAIL SHEETS FOR ADDITIONAL SOIL AND SEDIMENT CONTROL DETAILS

CONSTRUCTION SEQUENCE

- INSTALL ROCK CONSTRUCTION ENTRANCE AT EXISTING PARK ENTRANCE ROAD AND STAGING AREA WITH RELATED SOIL EROSION AND SEDIMENT CONTROL DEVICES.
- INSTALL FLOATING TURBIDITY BARRIER PRIOR TO ANY IN-STREAM WORK AS SHOWN ON EXISTING CONDITIONS, EROSION & SEDIMENT CONTROL, AND DEMOLITION PLAN.
- EQUIPMENT ACCESS TO STREAM SHALL BE VIA THE EXISTING PARK ENTRANCE ROAD AND ALIGNMENT OF THE PROPOSED GRAVEL WALKING PATH AND DIRECT ACCESS TO THE CHANNEL AT THE LOCATION OF THE PROPOSED ADA COMPLIANT ACCESS AND FISHING ACCESS.
- ACCESS TO BE ENHANCED/MODIFIED AS NEEDED TO ENSURE PROPER AND SAFE CONSTRUCTION VEHICLE USE THROUGHOUT PROJECT DURATION.
- CARE SHALL BE TAKEN TO PROTECT ALL EXISTING TREES AND PATHS WITHIN THE PARK.
- CONCRETE SWIMMING PLATFORM SHALL BE MECHANICALLY REMOVED TO A DEPTH OF 3 FEET MINIMUM BELOW THE ADJACENT RIVERBED.
- ALL CONCRETE AND REBAR TO BE TRANSPORTED OFFSITE TO BE DISPOSED OF IN A LEGAL MANNER.
- THE FLOATING TURBIDITY BARRIER AND ANY MATERIAL IMPORTED TO CREATE A STABLE ACCESS POINT TO THE STREAM SHALL BE REMOVED FOLLOWING DEMOLITION.
- INSTALL SOIL EROSION AND SEDIMENT CONTROL DEVICES FOR CONSTRUCTION OF ADA ACCESS AND GRAVEL BOX STEPS.
- CONSTRUCT ADA COMPLIANT ACCESS, FISHING ACCESS, AND GRAVEL BOX STEPS.
- INSTALL WOODCHIP AND COMPACTED EARTH TRAILS.
- INSTALL TREES AND PLANTINGS, INCLUDING RAISED BED SENSORY GARDEN, DURING APPROPRIATE PLANTING SEASON.
- REPLACE THE ACCESS ROAD WITH THE PROPOSED GRAVEL WALKING PATH AND SEED AND STABILIZE ADJACENT AREAS AS NEEDED.
- DE-MOBILIZE STAGING AREAS & FINAL CLEANUP.



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OWNER:

**BLOCK 119, LOT 109  
HACKETTSTOWN PUBLIC SCHOOL  
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315 WASHINGTON ST  
HACKETTSTOWN, NJ 07840**

**BLOCK 119, LOT 81  
STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION  
FISH AND WILDLIFE  
501 E. STATE ST  
TRENTON, NJ 08625-0420**

APPLICANT:

**PEACE NJ  
PO BOX 614  
HACKETTSTOWN, NJ 07840**

Project

**Restoring Riparian Habitat  
and Fostering Community  
River Access in  
Hackettstown, NJ**  
Town of Hackettstown  
Warren County, New Jersey

Milestone

**90% Design Submission**

Rev.	Description	Date

Design Professional

Edward Confair, P.E.  
NJ Professional Engineer No. 24GE05187900

Project #:	240830
Date:	03/27/2025
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Drawn By:	FJ, SB, BC
Checked By:	LC

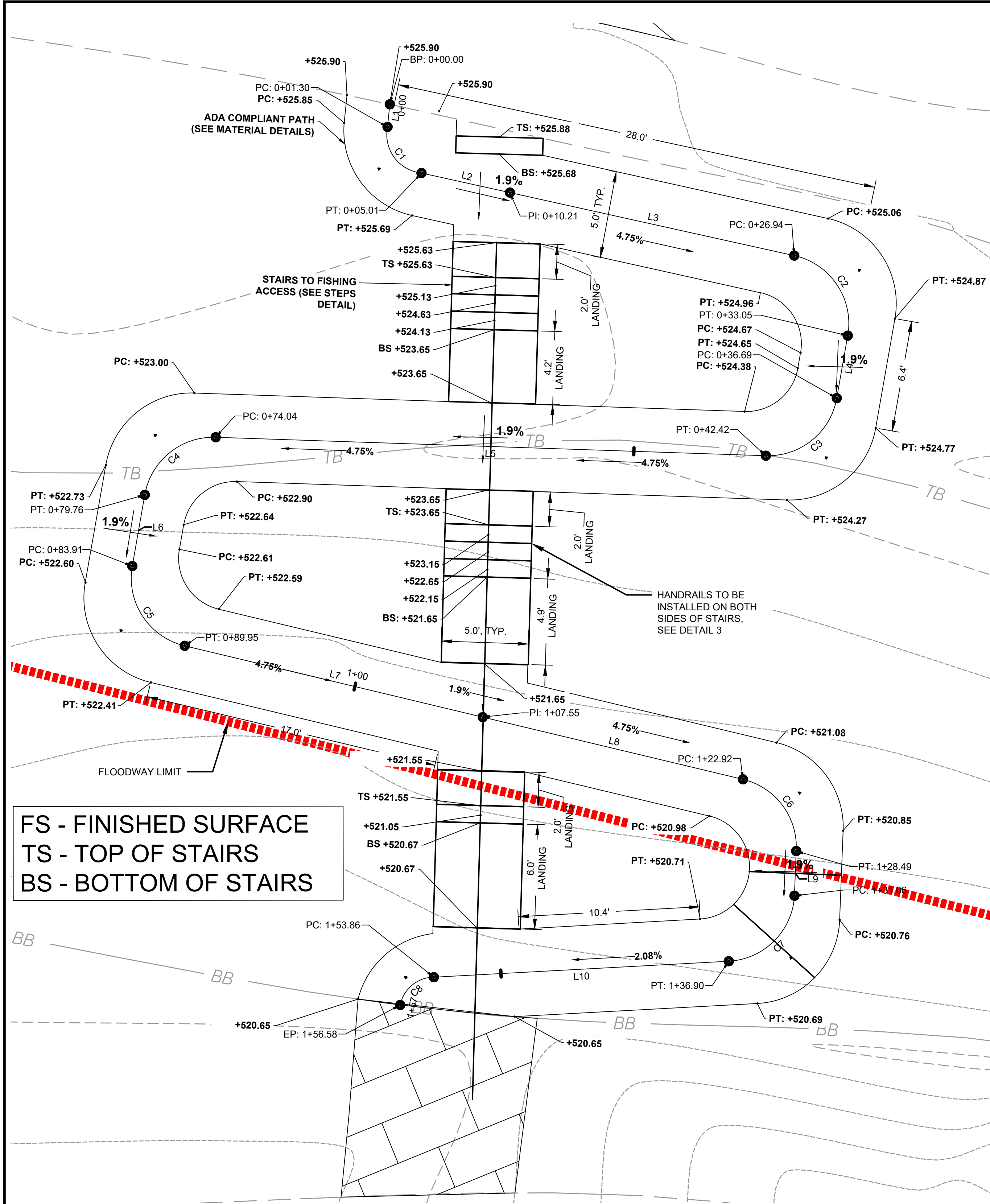
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**EROSION &  
SEDIMENTATION  
CONTROL AND  
DEMOLITION DETAILS  
& NOTES**

Sheet Number:

**ESD-2**

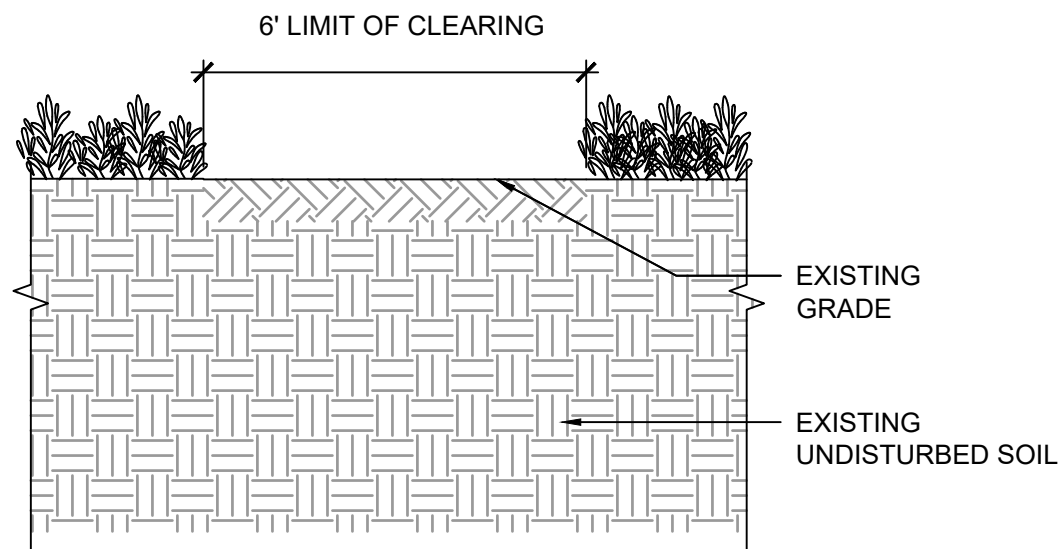




ADA COMPLIANT ACCESS PATH ENLARGEMENT  
SCALE: 1" = 4'

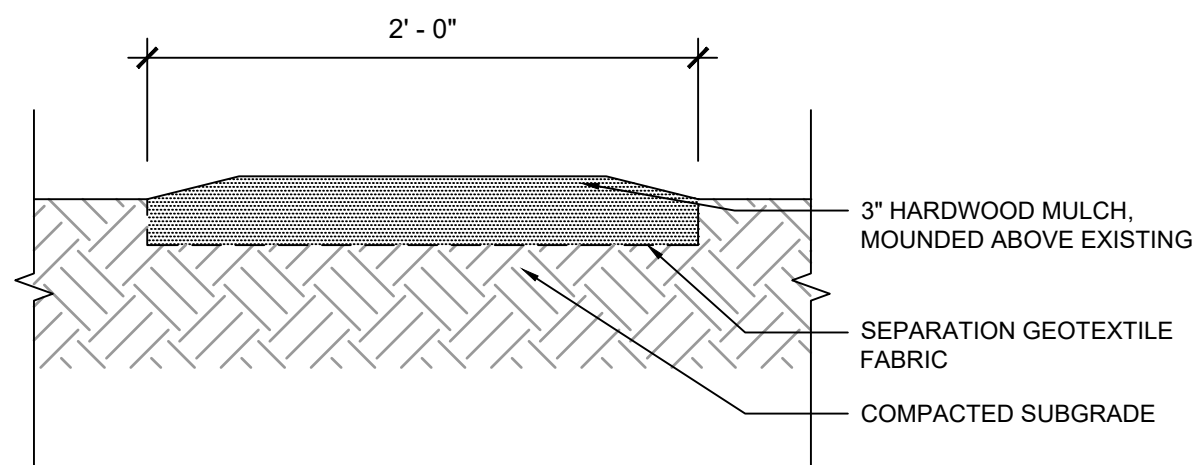
Curve Table: Alignments					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	2.21	3.71	N75° 47' 35.85"E	(404114.64,734941.91)	(404117.82,734942.72)
C2	4.00	6.11	N78° 24' 51.85"E	(404130.30,734960.75)	(404135.72,734961.86)
C3	4.00	5.72	S16° 52' 32.15"E	(404138.81,734959.92)	(404140.33,734954.90)
C4	4.00	5.72	S16° 53' 25.30"E	(404127.42,734926.04)	(404128.94,734921.02)
C5	4.00	6.04	N78° 52' 36.48"E	(404132.46,734918.81)	(404137.84,734919.87)
C6	4.00	5.57	N75° 34' 25.47"E	(404157.05,734946.67)	(404162.02,734947.94)
C7	4.00	5.83	S22° 44' 12.66"E	(404164.36,734946.88)	(404166.42,734941.97)
C8	2.00	2.71	S17° 24' 01.84"E	(404160.87,734925.93)	(404161.62,734923.54)

Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L1	1.30	S62° 01' 53.89"E	(404113.48,734942.52)	(404114.64,734941.91)
L2	5.20	N34° 40' 45.28"E	(404117.82,734942.72)	(404120.78,734947.00)
L3	16.73	N34° 40' 45.28"E	(404120.78,734947.00)	(404130.30,734960.75)
L4	3.65	S57° 51' 01.57"E	(404135.72,734961.86)	(404138.81,734959.92)
L5	31.62	S24° 05' 57.27"W	(404140.33,734954.90)	(404127.42,734926.04)
L6	4.15	S57° 52' 47.86"E	(404128.94,734921.02)	(404132.46,734918.81)
L7	17.61	N35° 38' 00.81"E	(404137.84,734919.87)	(404148.09,734934.18)
L8	15.37	N35° 38' 00.81"E	(404148.09,734934.18)	(404157.05,734946.67)
L9	2.57	S65° 35' 56.76"E	(404162.02,734947.94)	(404164.36,734946.88)
L10	16.97	S19° 05' 34.32"W	(404166.42,734941.97)	(404160.87,734925.93)

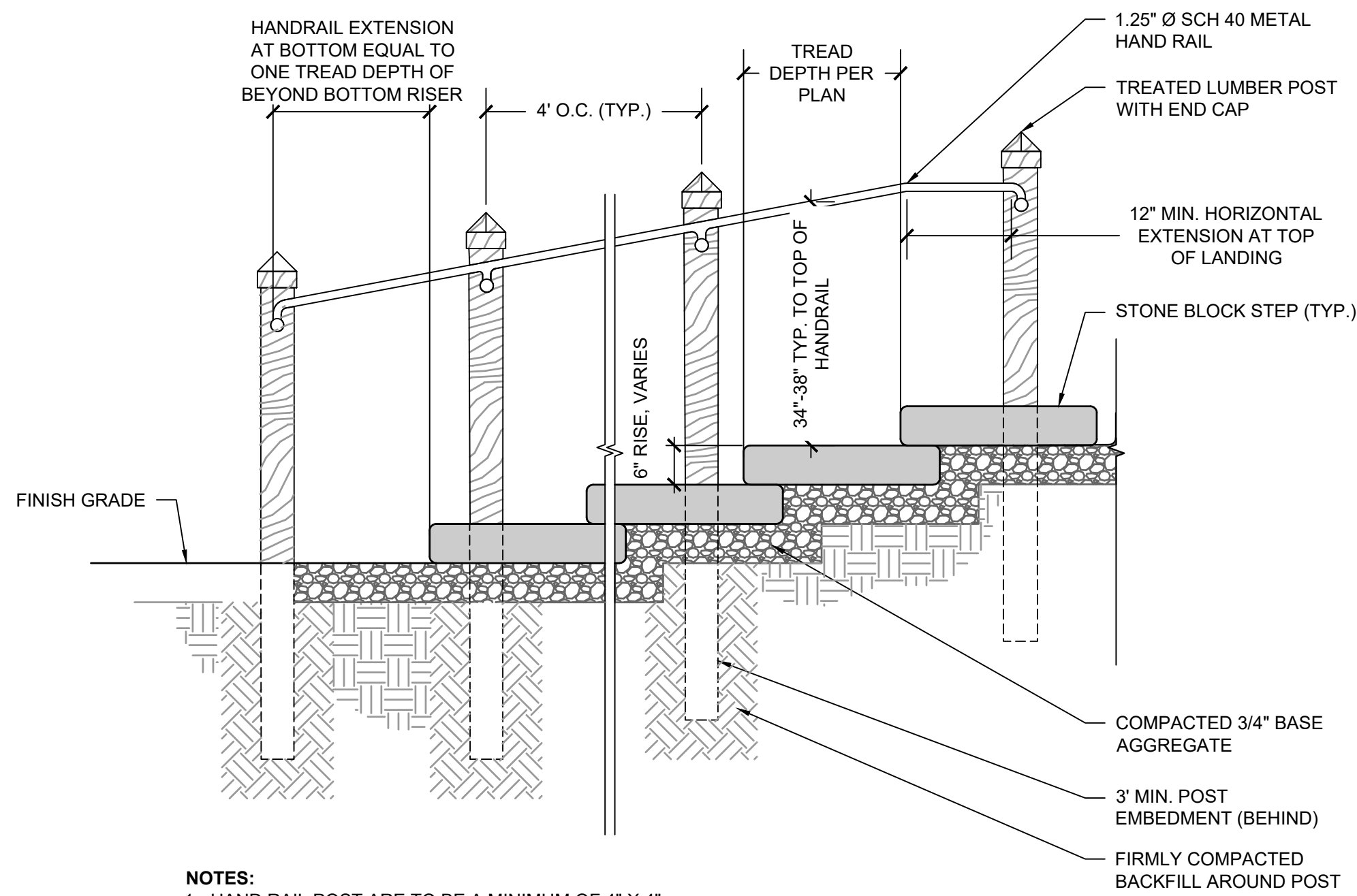


- NOTES:
1. THE PROPOSED EARTHEN TRAILS WILL BE CREATED THROUGH CLEARING 6 FEET OF EXISTING UNDERBRUSH WITH A BRUSH MOWER.
  2. TRAIL ALIGNMENTS WILL BE FLAGGED IN THE FIELD AND REALIGNED AS NECESSARY TO AVOID REMOVAL OF TREES OVER 8 INCHES IN DIAMETER.
  3. TRAIL MAINTENANCE WILL INCLUDE BRUSH MOWING DURING WINTER MONTHS.

1 COMPACTED EARTHEN TRAIL  
N.T.S.

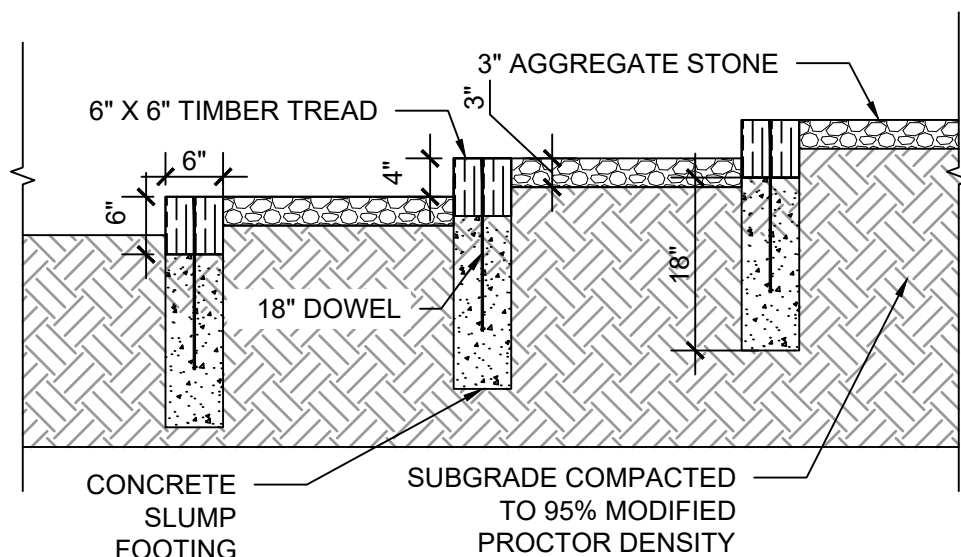


2 MULCH PATHWAY  
N.T.S.

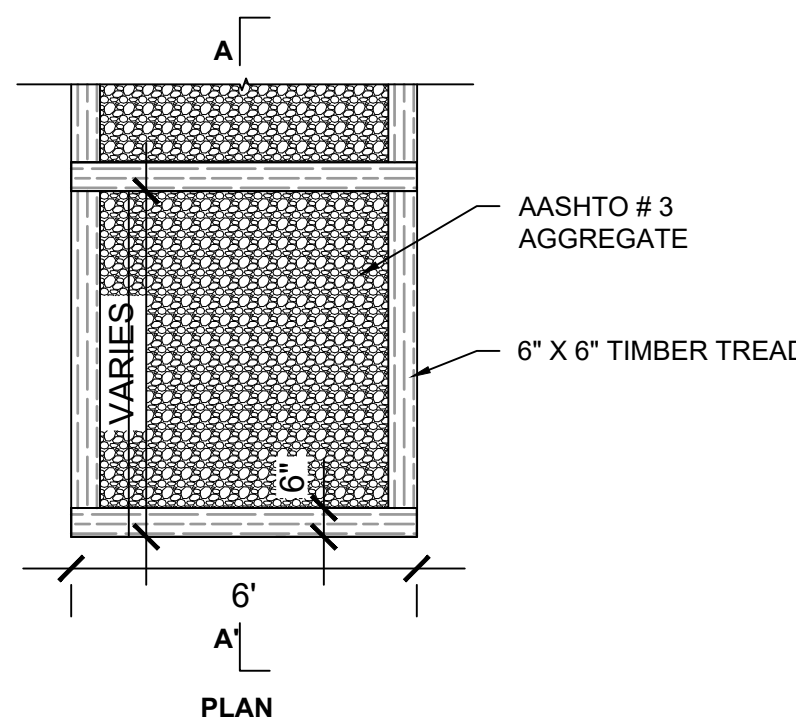


- NOTES:
1. HAND RAIL POST ARE TO BE A MINIMUM OF 4" X 4"
  2. HAND RAIL SHOULD COMPLY WITH ADA ACCESSIBILITY STANDARD §505
  3. A MINIMUM OF 8" OF CRUSHED STONE SHOULD BE PLACED BELOW STONE BLOCK STEPS
  4. REFER TO IMPROVED ACCESS GRADING INSET FOR VARYING DIMENSIONS
  5. STONE STEPS ABUTTING THE PROPOSED ADA COMPLIANT PATH LANDING ARE TO SIT FLUSH WITH THE PATH.

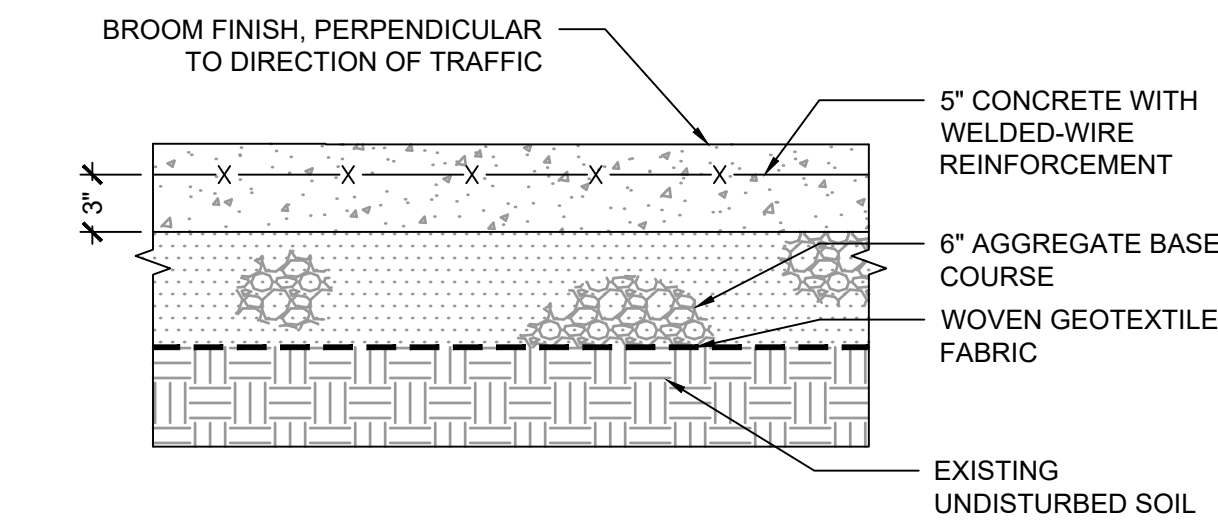
3 STEP WITH HAND RAIL DETAIL  
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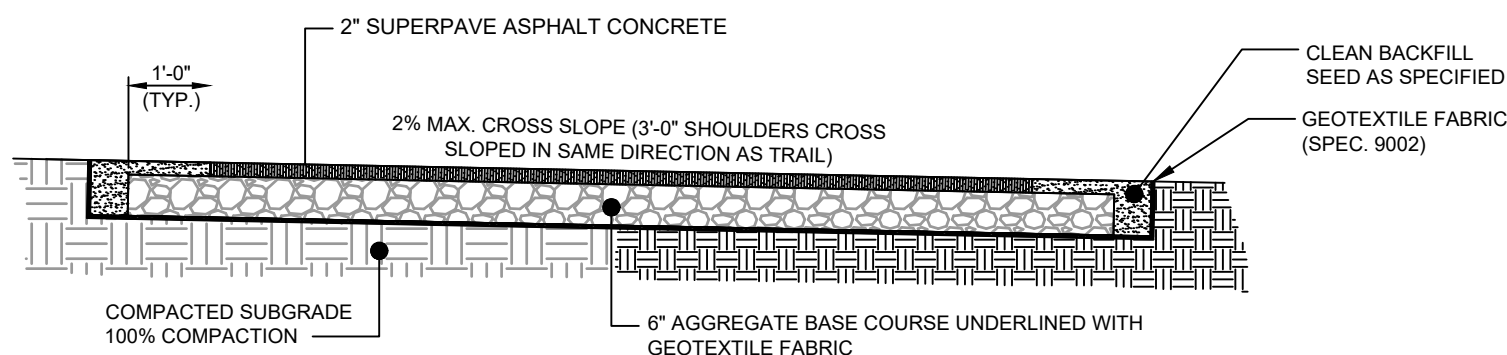
SECTION A-A'



PLAN



4 CONCRETE PAVEMENT TRAIL - PEDESTRIAN  
N.T.S.



- NOTES:
1. TRAIL SHALL BE CONSTRUCTED AT WIDTH INDICATED ON SITE LAYOUT SHEETS.
  2. CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING ALL SLOPES DISTURBED BY CONSTRUCTION.
  3. NO ABOVE GROUND UTILITIES OR UTILITY SURFACE COVERS/PLATES/MANHOLES SHALL BE LOCATED WITHIN TRAIL AND SHALL BE MINIMUM 2 FEET FROM THE EDGE OF TRAIL. RAISED MANHOLES SHALL BE MINIMUM 4 FEET FROM TRAIL EDGE.
  4. SIDE SLOPES SHALL NOT EXCEED 3:1. CUT & FILL SLOPES SHALL TIE INTO EXISTING SLOPES TO CREATE AN EVEN TRANSITION.
  5. CROSS SLOPE TYPICALLY TO LOW SIDE BUT CROSS SLOPE TO INSIDE OF DOWNHILL CURVES, WITH GRADUAL TRANSITIONS BETWEEN ANY CROSS SLOPE DIRECTION CHANGES.

5 ASPHALT PAVEMENT TRAIL ALTERNATIVE PEDESTRIAN  
N.T.S.

6 GRAVEL BOX STEPS  
N.T.S.

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APPLICANT:  
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PO BOX 614  
HACKETTSTOWN, NJ 07840**

Project  
**Restoring Riparian Habitat  
and Fostering Community  
River Access in  
Hackettstown, NJ**  
Town of Hackettstown  
Warren County, New Jersey

Milestone  
**90% Design Submission**

Rev.	Description	Date

Design Professional

Edward Confair, P.E.  
NJ Professional Engineer No. 24GE05187900

Project #:	240830
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Scale:	
Format:	24" x 36" (ARCH D)
Drawn By:	FJ, SB, BC
Checked By:	LC

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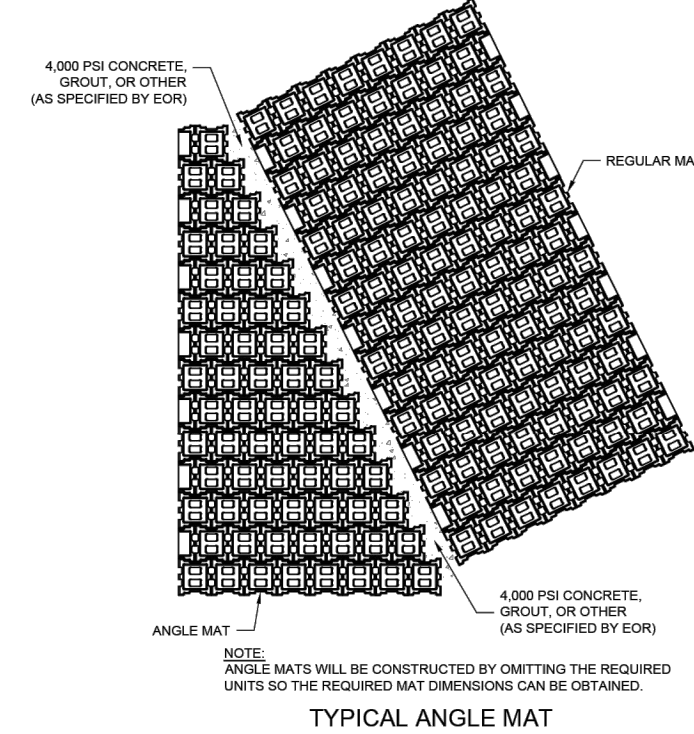
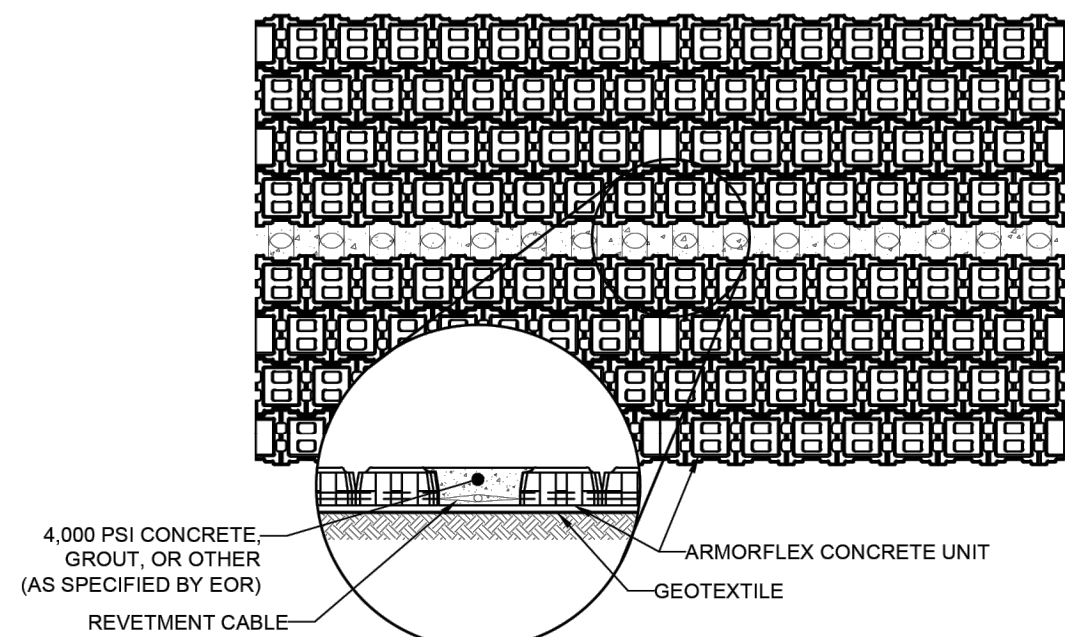
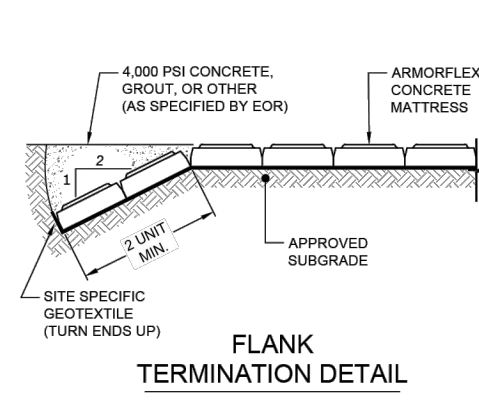
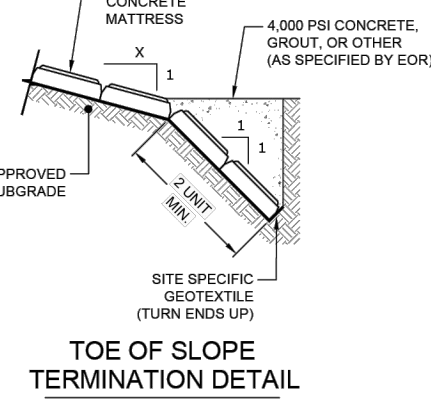
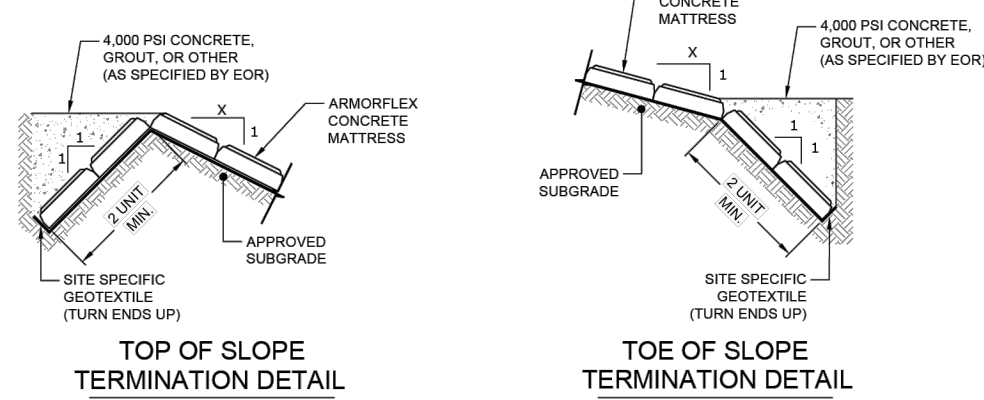
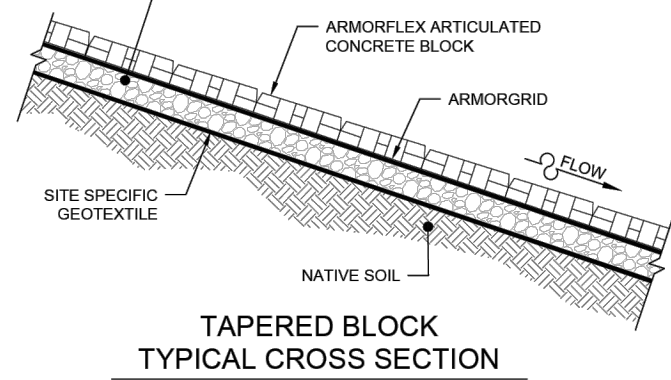
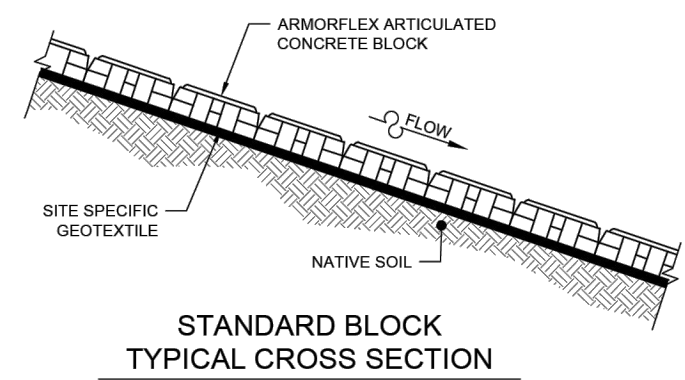
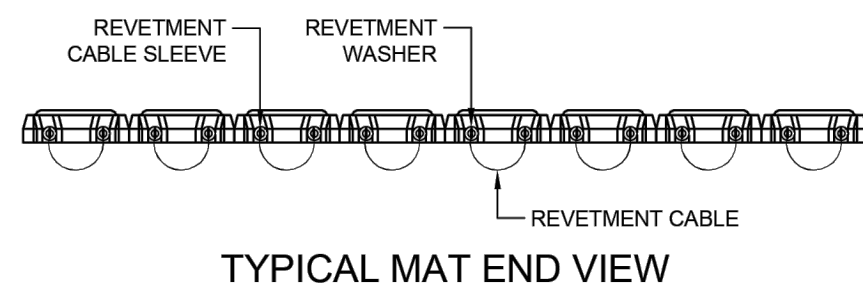
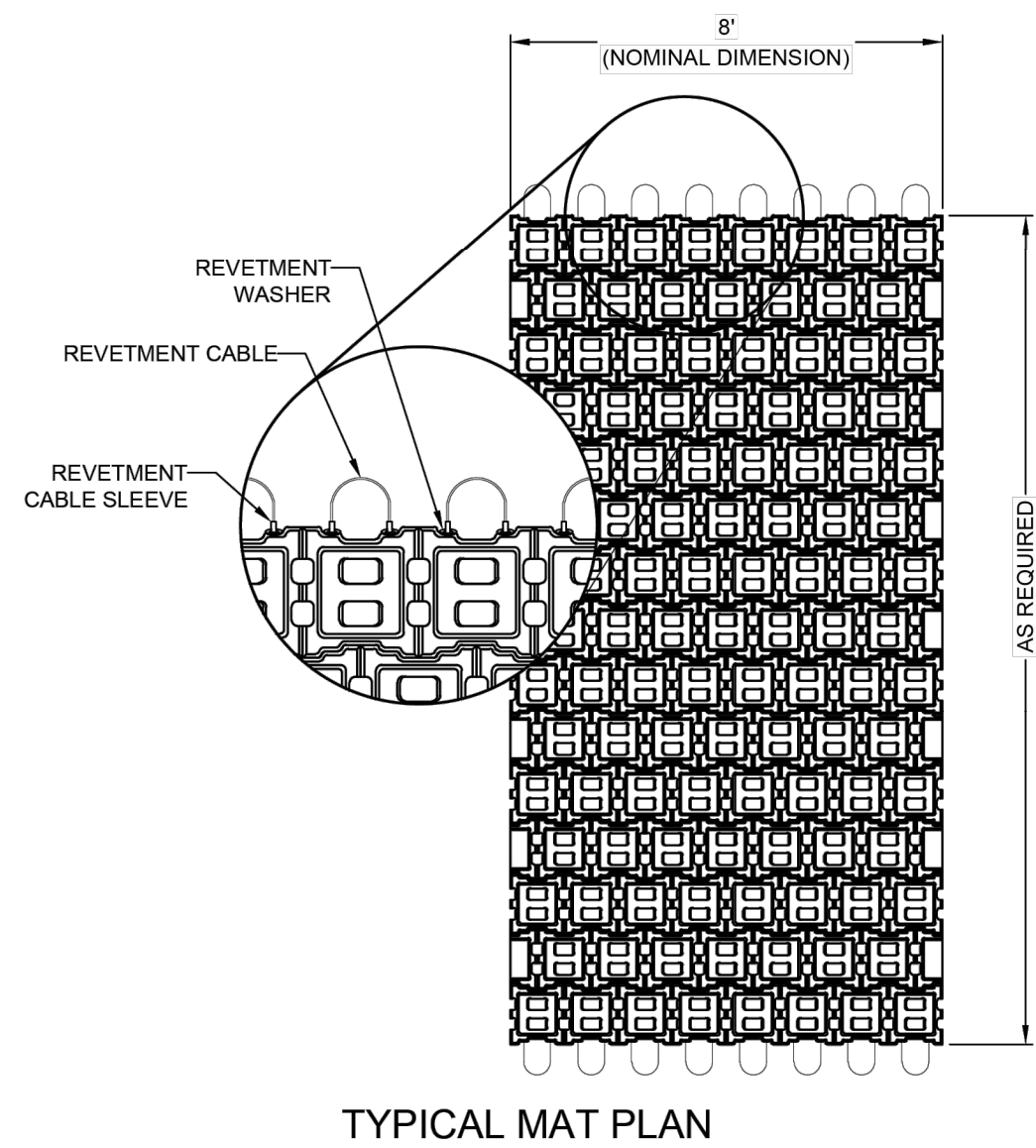
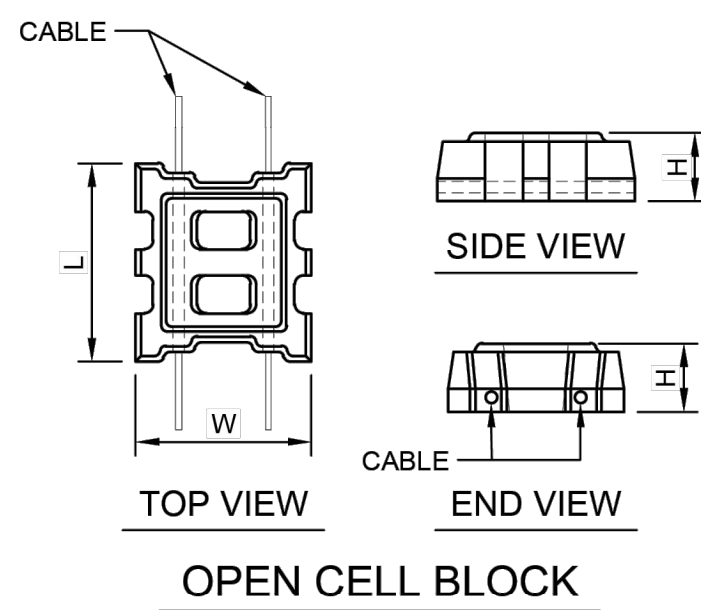
**LANDSCAPE DETAILS**

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**LD-1**

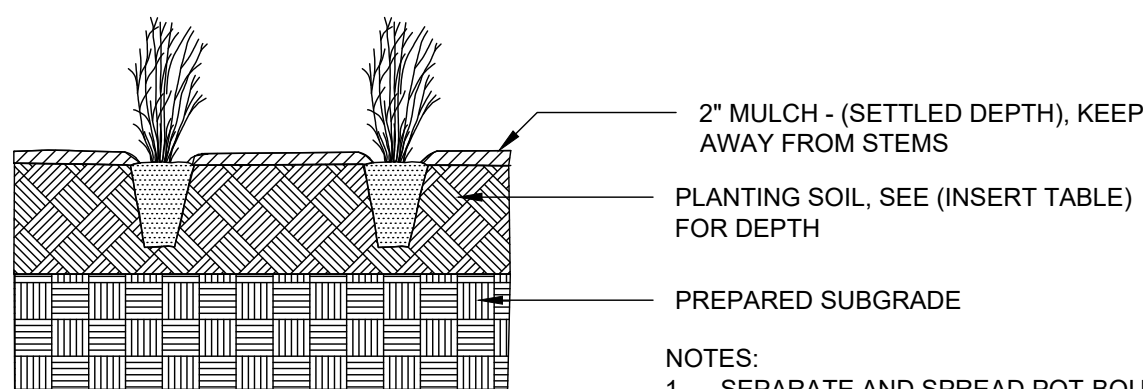


ArmorFlex® (not to scale)



## 7 ARTICULATED CONCRETE FISHING ACCESS

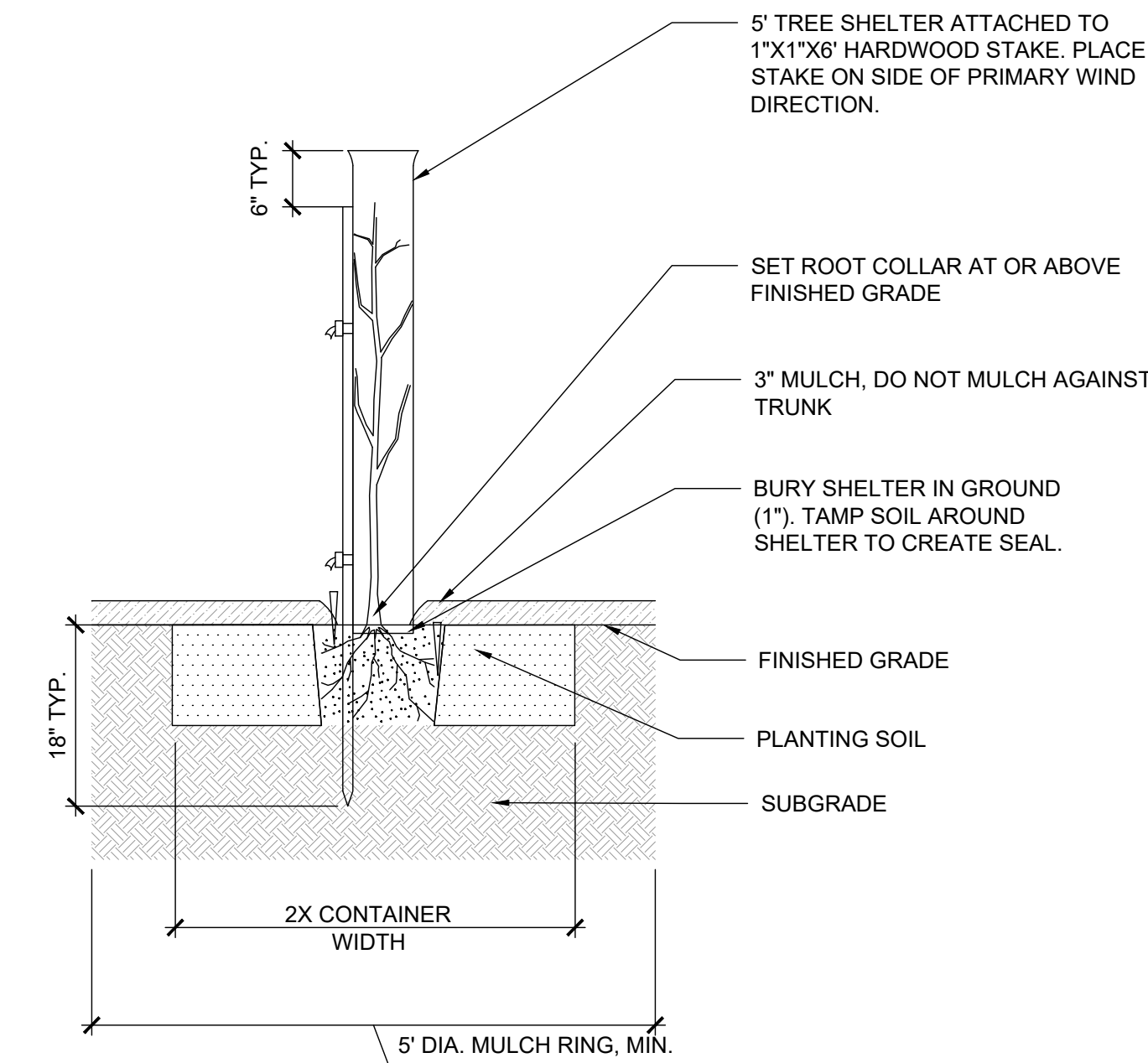
N.T.S.



- NOTES:
1. SEPARATE AND SPREAD POT-BOUND ROOTS. DIP ROOT BALLS INTO SOLUTION OF ROOT DIP BEFORE PLANTING.

## 12 PLUG PLANTING DETAIL

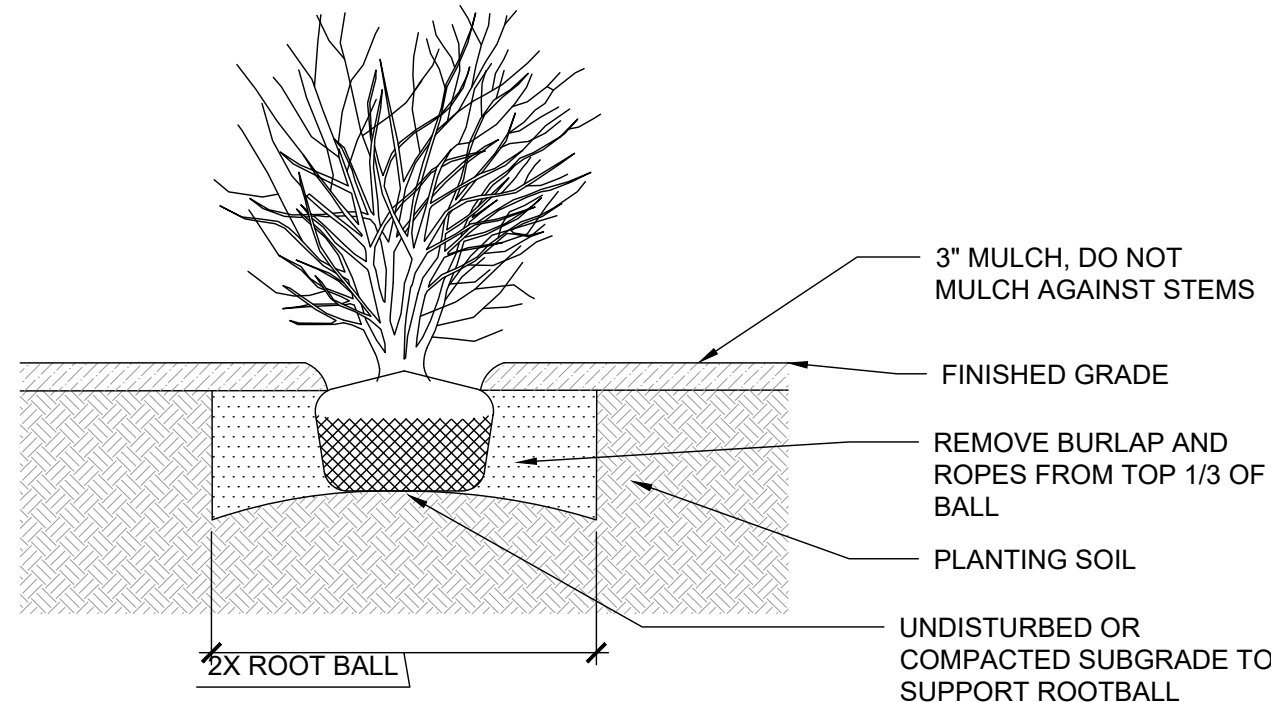
N.T.S.



- NOTES:
1. REMOVE CONTAINER BEFORE PLANTING.
  2. SCARIFY EDGES OF TREE PIT.

## 8 TREE SAPLING IN TREE SHELTER

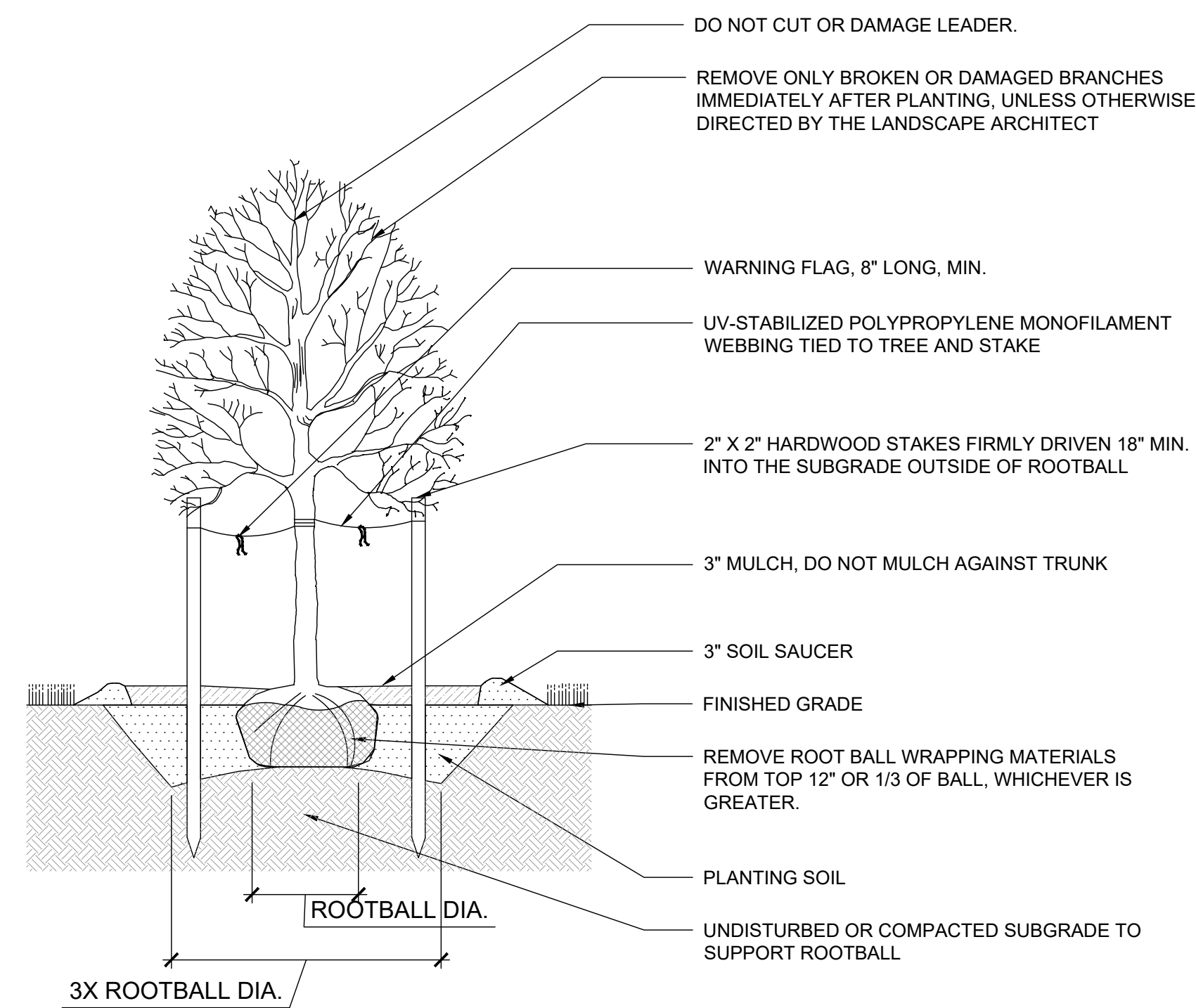
N.T.S.



- NOTES:
1. REMOVE ROOT BALL CONTAINER. SET TOP OF BALL 3" ABOVE FINISHED GRADE.
  2. FOR B&B SHRUBS, REMOVE ROOT BALL WRAPPING MATERIALS (BURLAP, TWINE, WIRE BASKET, ETC) AFTER SHRUB IS SET IN PLACE. REMOVE SYNTHETIC WRAPPING COMPLETELY.
  3. SCARIFY EDGES OF PLANTING PIT.

## 10 SHRUB PLANTING

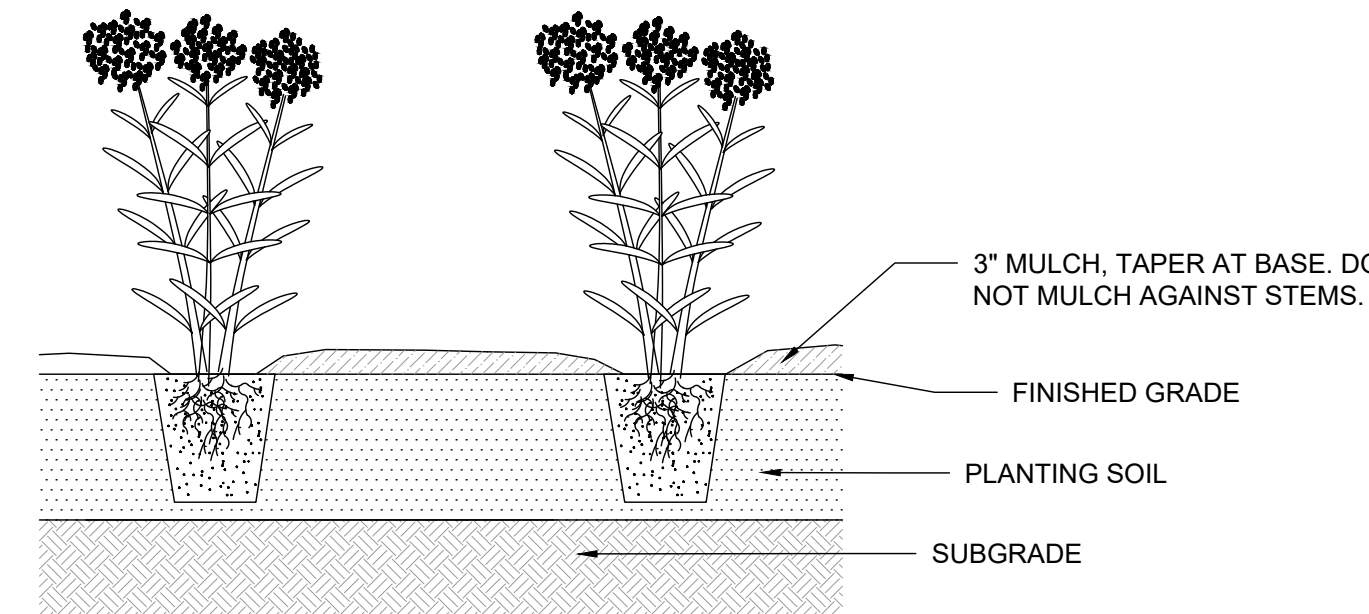
N.T.S.



- NOTES:
1. STAKE TREES ONLY WHEN CONDITIONS REQUIRE ADDITIONAL STABILIZATION, AS DESCRIBED IN SPECIFICATIONS.
  2. EXCAVATE TREE PIT AND SCARIFY EDGES TO ASSIST ROOT DEVELOPMENT.
  3. SET TOP OF ROOT BALL 2 - 3" ABOVE FINISH GRADE. DO NOT BACKFILL OVER TOP OF BALL.
  4. REMOVE ROOT BALL WRAPPING MATERIALS (BURLAP, TWINE, WIRE BASKET, ETC) AFTER TREE IS SET IN PLACE. REMOVE SYNTHETIC WRAPPING COMPLETELY.
  5. LEAVE MONOFILAMENT WEBBING SLIGHTLY SLACK TO ALLOW TREE TO SWAY IN THE WIND.

## 9 DECIDUOUS TREE PLANTING

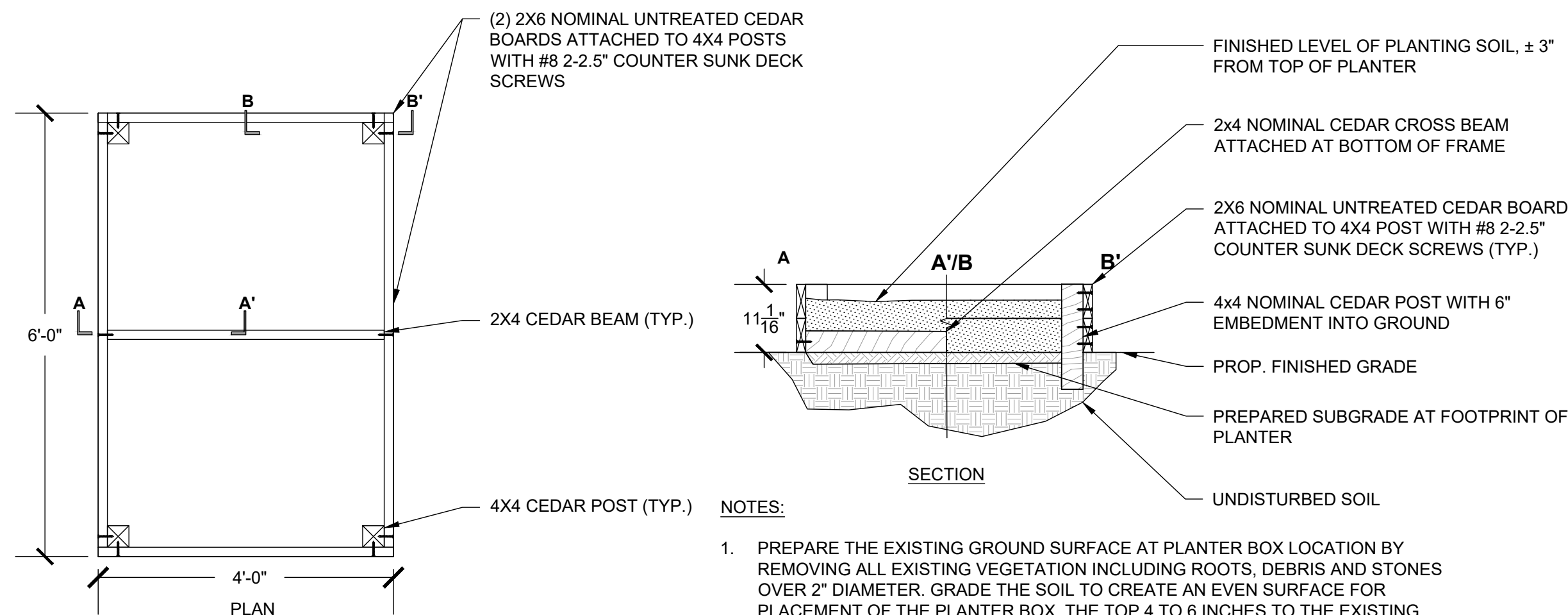
N.T.S.



- NOTES:
1. PLANT SPACING AS PER PLANTING PLAN AND PLANT SCHEDULE.
  2. REMOVE CONTAINER BEFORE PLANTING.

## 11 CONTAINER PERENNIAL PLANTING

N.T.S.



NOTES:

1. PREPARE THE EXISTING GROUND SURFACE AT PLANTER BOX LOCATION BY REMOVING ALL EXISTING VEGETATION INCLUDING ROOTS, DEBRIS AND STONES OVER 2" DIAMETER. GRADE THE SOIL TO CREATE AN EVEN SURFACE FOR PLACEMENT OF THE PLANTER BOX. THE TOP 4 TO 6 INCHES TO THE EXISTING GROUND MAY BE CULTIVATED WITH THE TOP SURFACE SCARIFIED TO CRETE GOOD CONTACT WITH PLACED PLANTING SOIL.

## 13 RAISED PLANTER BOX

N.T.S.

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Project

**Restoring Riparian Habitat**  
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Milestone

**90% Design Submission**

Rev.	Description	Date

Design Professional

Edward Confair, P.E.  
NJ Professional Engineer No. 24GE05187900

Project #:	240830
Date:	03/27/2025
Scale:	
Format:	24" x 36" (ARCH D)
Drawn By:	FJ, SB, BC
Checked By:	LC

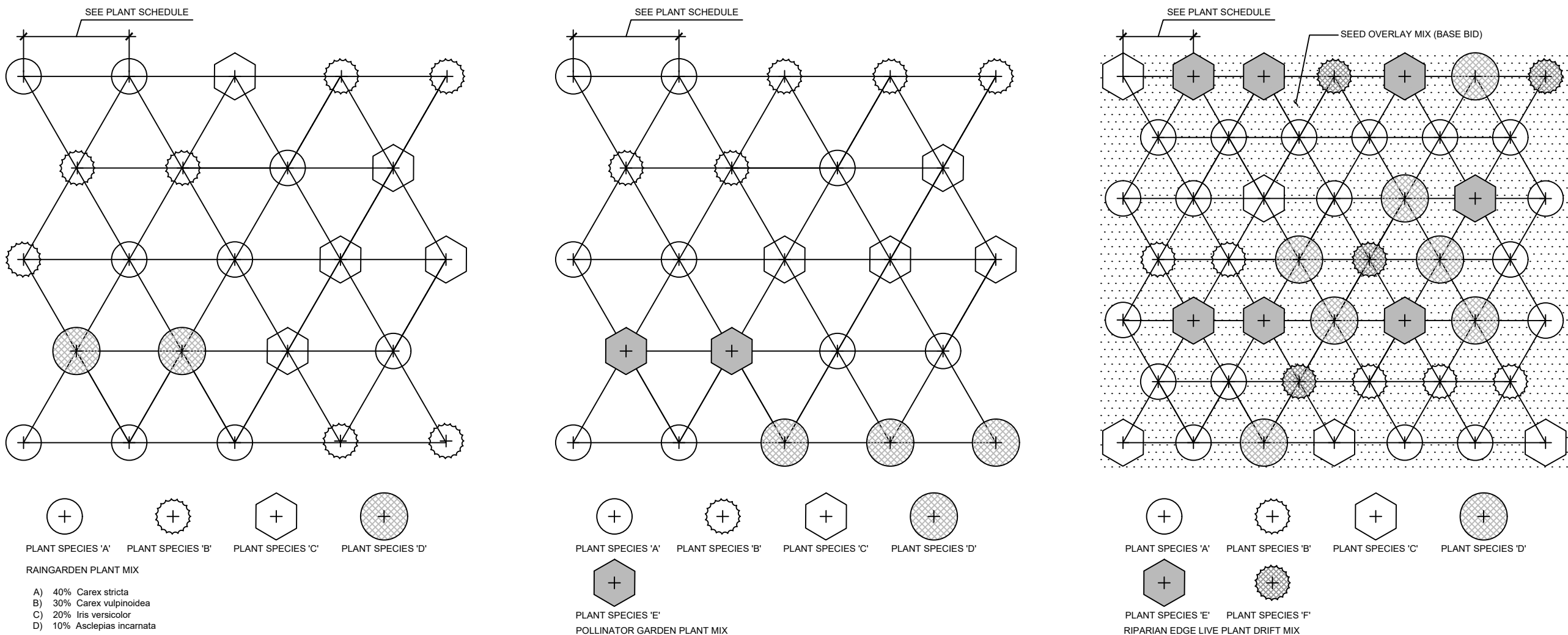
Sheet Title:

**LANDSCAPE DETAILS**

Sheet Number:

**LD-2**



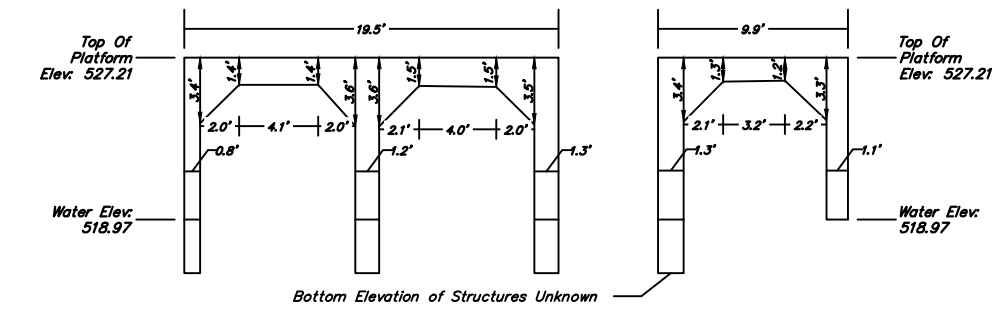


## 14 PLANTING MIXES

N.T.S.

PLANT SCHEDULES								
KEY	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	QUANTITY			
					RAIN GARDEN	POLLINATOR	RIPIARIAN EDGE PLANT DRIFT	GENERAL SITE
Trees								
BN	<i>Betula nigra</i>	Riverbirch	2-2.5" caliper, balled and burlaped	As shown				2
BN(t)	<i>Betula nigra</i>	Riverbirch	#5 container , min. 1" caliper	As shown				3
CC(t)	<i>Cercis canadensis</i>	Eastern Redbud	#5 container , min. 1" caliper	As shown				3
PO	<i>Platanus occidentalis</i>	American Sycamore	2-2.5" caliper, balled and burlaped	As shown				8
QB	<i>Quercus bicolor</i>	Swamp White Oak	2-2.5" caliper, balled and burlaped	As shown				5
QP	<i>Quercus palustris</i>	Pin Oak	2-2.5" caliper, balled and burlaped	As shown				2
CF(t)	<i>Corus florida</i>	Flowering Dogwood	#5 container , min. 1" caliper	As shown				3
Shrubs								
CS	<i>Cornus sericea</i>	Red-osier dogwood	#3 container	As shown			516	
SL	<i>Spiraea latifolia</i>	Meadowsweet	#3 container	As shown			516	
Forbs								
	<i>Asclepias incarnata</i>	Swamp milkweed	2" landscape plug	12" o.c.	55		774	
	<i>Asclepias syriaca</i>	Common milkweek	2" landscape plug	12" o.c.		555		
	<i>Coreopsis lanceolata</i>	Lanceleaf coreopsis	2" landscape plug	12" o.c.		555		
	<i>Eupatorium perfoliatum</i>	Boneset	2" landscape plug	12" o.c.			774	
	<i>Iris versicolor</i>	Blue flag iris	2" landscape plug	12" o.c.	109		516	
	<i>Monarda fistulosa</i>	Eastern beebalm	2" landscape plug	12" o.c.		370		
Grasses								
	<i>Carex stricta</i>	Tussock sedge	2" landscape plug	12" o.c.	219			
	<i>Carex vulpinoidea</i>	Fox sedge	2" landscape plug	12" o.c.	109		2065	
	<i>Deschampsia cespitosa</i>	Tufted hair grass	2" landscape plug	12" o.c.		740		
	<i>Schizacharium scoparium</i>	Little bluestem	2" landscape plug	12" o.c.		1480		

SENSORY PLANTER 1					
QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE, ROOT	SPACING	NOTES
1	<i>Rosa virginiana</i>	Virginia rose	#3 container	As shown	early to mid-summer blooming, fragrant
5	<i>Echinacea purpurea</i>	Purple coneflower	#1 container	As shown	early to mid-summer blooming, fragrant
5	<i>Phlox paniculata</i>	Garden phlox	#1 container	As shown	mid-summer blooming, fragrant
6	<i>Phlox subulata</i>	Creeping phlox	#1 container	As shown	early-spring blooming, fragrant
7	<i>Viola sororia</i>	Common blue violet	#1 container	As shown	mid-spring to early summer
SENSORY PLANTER 2					
QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE, ROOT	SPACING	NOTES
1	<i>Clethra alnifolia</i>	Summersweet	#3 container	As shown	late summer - fall blooming, fragrant racemens
5	<i>Agastache foeniculum</i>	Anise hyssop	#1 container	As shown	late summer to fall blooming
7	<i>Liatris spicata</i>	Dense blazing star	#1 container	As shown	late summer -July to September
6	<i>Monarda didyma</i>	Scalet beebalm	#1 container	As shown	mid-summer to early fall bloomg, fragrant, colorful flowers
5	<i>Symphotrichum oblongifolium</i>	Aromatic aster	#1 container	As shown	late summer to fall blooming

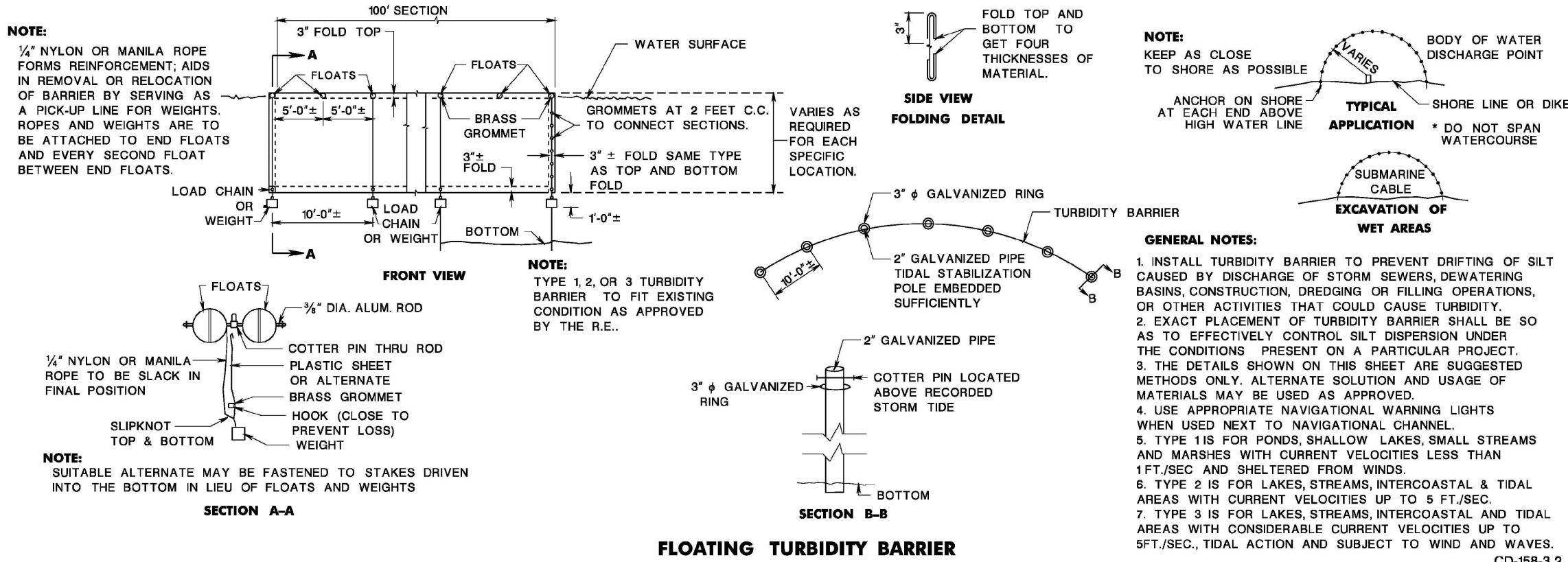


## 15 EXISTING DIVING PLATFORM TO BE REMOVED

N.T.S.

### CONSTRUCTION SEQUENCE - REMOVAL OF SWIMMING PLATFORM

- FLOATING TURBIDITY BARRIER TO BE INSTALLED PRIOR TO ANY IN-STREAM WORK AS SHOWN IN THE IMAGE BELOW
- EQUIPMENT ACCESS TO STREAM SHALL BE VIA THE EXISTING PARK ENTRANCE ROAD AND ALIGNMENT OF THE PROPOSED GRAVEL WALKING PATH, WITH DIRECT ACCESS TO THE CHANNEL AT THE LOCATION OF THE PROPOSED ADA COMPLIANT ACCESS AND FISHING ACCESS
- ACCESS TO BE ENHANCED/MODIFIED AS NEEDED TO ENSURE PROPER AND SAFE CONSTRUCTION VEHICLE USE THROUGHOUT PROJECT DURATION.
- CARE SHALL BE TAKEN TO PROTECT ALL EXISTING TREES AND PATHS WITHIN THE PARK.
- CONCRETE SWIMMING PLATFORM SHALL BE MECHANICALLY REMOVED TO A DEPTH OF 3 FEET MINIMUM BELOW THE ADJACENT RIVERBED.
- ALL CONCRETE AND REBAR TO BE TRANSPORTED OFFSITE TO BE DISPOSED OF IN A LEGAL MANNER.
- THE FLOATING TURBIDITY BARRIER AND ANY MATERIAL IMPORTED TO CREATE A STABLE ACCESS POINT SHALL BE REMOVED FOLLOWING DEMOLITION.
- THE ACCESS ROAD WILL BE REPLACED WITH THE PROPOSED GRAVEL WALKING PATH AND ADJACENT AREAS WILL BE SEEDED AND STABILIZED AS NEEDED.



## 16 FLOATING TURBIDITY BARRIER

N.T.S.

### MEADOW RESTORATION GENERAL NOTES

#### 1. GENERAL SITE PREPARATION NOTES

- MINIMUM EIGHT WEEKS BEFORE SEEDING:
  - BEFORE COMMENCING WORK, THE CONTRACTOR IS TO MARK OUT THE AREAS FOR SITE IMPROVEMENTS INCLUDING THE LIMITS OF RIPARIAN RESTORATION AND POLLINATOR GARDENS.
  - EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED BEFORE THE START OF CONSTRUCTION ACTIVITIES.
  - THE CONTRACTOR IS TO VERIFY EXISTING FEATURES TO REMAIN. TREES AND SHRUBS TO REMAIN SHALL BE TAGGED.
  - STAKEOUT LOCATIONS AND VEGETATION TO REMAIN SHALL BE APPROVED BY THE ENGINEER AND PROJECT OWNER.
  - IN AREAS WHERE RIPARIAN RESTORATION SEEDING AND/OR OVERSEEDING IS PROPOSED, THE CONTRACTOR SHALL PREPARE THE SITE BY SELECTIVELY REMOVING INVASIVE AND UNDESIRABLE SPECIES USING CHEMICAL AND MECHANICAL MEANS AND METHODS. AS IT IS THE INTENT TO PRESERVE GRAMINOID VEGETATION TO PREVENT SOIL EROSION, HERBICIDES SHALL BE APPLIED SELECTIVELY AND BE TARGETED TO CONTROL BROADLEAF PLANT SPECIES. THE RESTORATION AREA MAY BE BRUSH-CLEARED INITIALLY TO REMOVE THE MAJORITY OF BIOMASS BEFORE THE APPLICATION OF CHEMICAL CONTROLS AS WARRANTED. IF VEGETATION IS INITIALLY BRUSH-CLEARED, FOLLOW-UP CHEMICAL CONTROLS SHALL BE TIMED TO ALLOW SUFFICIENT REGROWTH FOR THE EFFECTIVENESS OF CHEMICAL CONTROLS.
  - ISOLATED STANDS OF INVASIVE GRASSES SUCH AS MISCANTHUS AND INVASIVE AND UNDESIRABLE SHRUBS LIKE AUTUMN OLIVES SHALL BE ERADICATED BY SPOT TREATMENT WITH A BROAD-SPECTRUM HERBICIDE. THE PROJECT ENGINEER SHALL IDENTIFY ADDITIONAL SPECIES FOR TARGETED CONTROL.
  - ALL VEGETATION WITHIN THE FOOTPRINTS OF THE POLLINATOR GARDEN AREAS SHALL BE ERADICATED.
  - ALL INVASIVE CLIMBING VINES SHALL BE REMOVED.
  - ALL HERBICIDES SHALL BE USED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. WHILE HERBICIDING IS NOT ANTICIPATED IN AQUATIC AREAS, HERBICIDES FOR WETLAND AREAS SHALL BE AQUATIC-SAFE.
  - EXCAVATED EARTH MATERIAL INTENDED FOR ON-SITE REUSE SHALL BE STOCKPILED AT AN APPROVED LOCATION AND BE TREATED TO REMOVE INVASIVES.
- SIX WEEKS BEFORE SEEDING:
  - INSPECT ALL AREAS WHERE VEGETATION ERADICATION IS INDICATED TO ENSURE THAT ALL TARGET VEGETATION IS DEAD.
  - IF ANY TARGET VEGETATION IS STILL ALIVE, RETREAT WITH A SECOND ROUND OF HERBICIDE.
- REMOVE RESIDUAL VEGETATION ONLY AS DIRECTED. DEAD ROOTS AND CROWNS MAY BE LEFT IN PLACE TO KEEP SOIL INTACT.
  - TWO TO THREE (2-3) DAYS BEFORE SEEDING:
    - INSPECT THE SITE TO ENSURE THAT NO FURTHER HERBICIDE TREATMENTS ARE NECESSARY.
    - IF EXISTING GROWTH IS COMPLETELY DEAD, MOW AS LOW TO THE GROUND AS POSSIBLE (APPROXIMATELY 1-2").
    - IF EXISTING GROWTH IS NOT COMPLETELY DEAD, THE PROJECT ENGINEER WILL PROVIDE RECOMMENDATIONS.
  - RAKE OFF EXCESS CUT PLANT REFUSE IF NEEDED AND ONLY AS DIRECTED BY THE PROJECT ENGINEER, LEAVING DEAD ROOTS AND CROWNS TO HELP STABILIZE THE SOIL BEFORE SEED GERMINATION.

#### 2. GENERAL SEEDING NOTES

- SEED MIXTURES - ALL SEED MIXTURES SHALL BE PER THE SPECIFIED SCHEDULES AND INSTALLED ACCORDING TO THE APPROPRIATE SEEDING SEASON.
- ALL SEEDS SHALL BE A NEW CROP THAT IS 98% PURE LIVE SEED OR BETTER (IF SPECIES HAS BEEN TESTED). IN NO CASE SHALL WEED SEED CONTENT EXCEED 1% BY WEIGHT. ALL SEEDS SHALL COMPLY WITH FEDERAL AND STATE SEED LAWS. SEED SHALL NOT BE COATED WITH HERBICIDES AND/OR FUNGICIDES.
- SEED MIXTURES SHALL BE DELIVERED IN INDIVIDUAL BAGS LABELED BY MIX AND THEN BY SEED SIZE.
- ONLY APPROVED BULKING AGENTS MAY BE USED TO FACILITATE SEEDING INSTALLATION.
- RECOMMENDED WINDOWS FOR SSEEDING ARE 03/01-06/15 ND 10/01-12/01. WATERING SHOULD BE PROVIDED IN THE EVENT OF A SUMMER SEEDING.

#### PLANTING NOTES:

- ALL PLANT MATERIALS SHALL BE OF NURSERY STOCK AND SHALL BE OF SYMMETRICAL GROWTH, FREE OF INSECTS, PESTS AND DISEASE. THE OWNER OR ITS REPRESENTATIVE RESERVES THE RIGHT TO INSPECT AND APPROVE ALL PLANT MATERIALS AND REJECT ANY PLANTS FOUND TO BE UNACCEPTABLE.
- DAMAGE TO EXISTING OR NEW WORK BY PLANTING CONTRACTOR SHALL BE REPAIRED AT HIS EXPENSE AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL VERIFY PLANT LIST QUANTITIES INDICATED ON PLANS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN QUANTITIES PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY WITH REGARDS TO THE CARTING, STORING AND PLANTING OF MATERIALS TO PROTECT ADJACENT FINISHED WORK.
- PLANT MATERIALS SHALL BE MAINTAINED BEFORE, DURING AND AFTER IN THE BEST HORTICULTURAL CONDITION. CONTRACTOR SHALL PRUNE ALL DEAD OR DISEASED LIMBS, BRANCHES AND CANES FROM EXISTING TREES. METHODS SHALL REFLECT BEST HORTICULTURAL PRACTICES AS OUTLINED IN THE AMERICAN NURSERYMEN ASSOCIATION CERTIFICATION AND STANDARDS, LATEST EDITION.
- THE CONTRACTOR SHALL ENSURE THAT ALL PLANT MATERIALS SHALL ARRIVE AT THE SITE WITH ROOT BALL AND BURLAP INTACT. THE CONTRACTOR SHALL REMOVE ALL DEAD AND BROKEN CANES AND BRANCHES.
- ALL PLANTING SOIL SHALL BE PER SPECIFICATIONS.
- THE CONTRACTOR SHALL INSTALL ALL PLANT MATERIALS PER THE PLANTING DETAILS, NOTES AND SPECIFICATIONS.
- THE CONTRACTOR SHALL REPLACE ANY PLANT MATERIALS WITHIN ONE GROWING SEASON FOR PLANT MATERIALS THAT ARE NO LONGER VIABLE.
- ALL PLANT MATERIAL SHALL CONFORM TO THE HORTICULTURAL STANDARDS AS SET FORTH BY THE AMERICAN NURSERYMEN AND LANDSCAPING ASSOCIATION (ANLA 2000).
- CONTRACTOR SHALL REMOVE ALL NON-BIODEGRADABLE ROOT WRAPPING PRIOR TO PLANTING.

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NJ Professional Engineer No. 24GE05187900

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Drawn By:	FJ, SB, BC
Checked By:	LC

#### Sheet Title:

## LANDSCAPE

## DETAILS

#### Sheet Number:

# LD-3

8 of 8