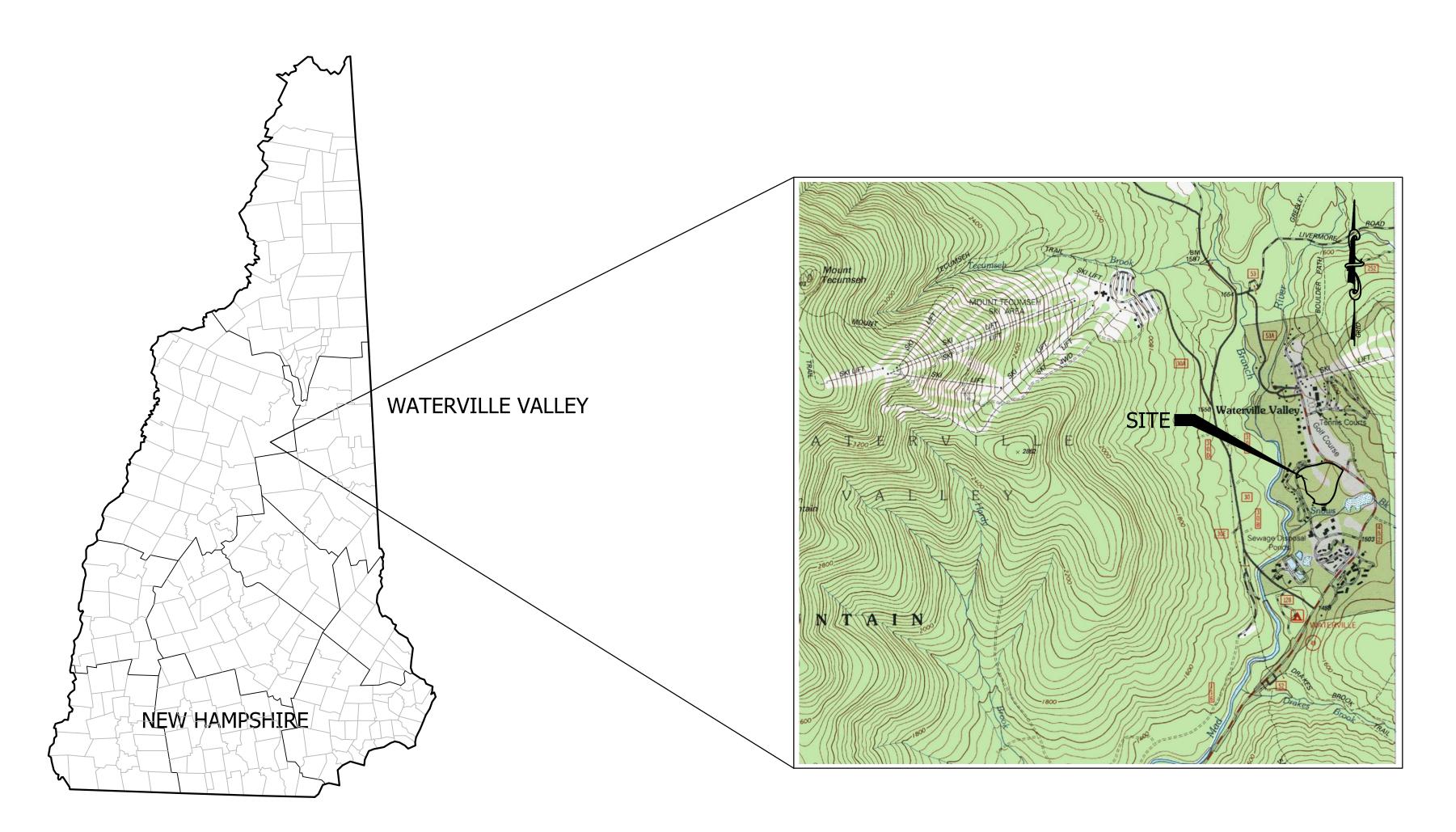
TYRELL DEVELOPMENT COMPANY, LLC GREEN PEAK II, A CONDOMINIUM

WATERVILLE VALLEY, NEW HAMPSHIRE
JULY 2021



SCALE: 1" = 2000'

OWNER:

TYRELL DEVELOPMENT COMPANY, LLC 11 COURT STREET, SUITE 230 PO BOX 1001, EXETER, NH 03833

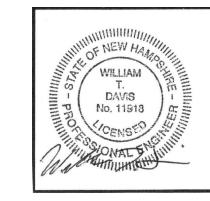
ENGINEER:



34 SCHOOL STREET LITTLETON, NH 03561 (603) 444-4111

SHEET INDEX:

- C-1 COVER SHEET, LOCATION PLAN & SHEET INDEX
- C-2 EXISTING CONDITIONS
- C-3 GRADING, DRAINAGE, UTILITIES AND EROSION CONTROL PLAN
- C-4 ROADWAY PLAN, TYPICAL SECTIONS, AND PROFILES
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- C-7 STANDARD SANITARY SEWER NOTES AND DETAILS
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- S-1 GREEN PEAK CONDOMINIUM PLAN
- S-2 GREEN PEAK CONDOMINIUM PLAN
- 1 FLOOR PLANS
- 2 ELEVATIONS

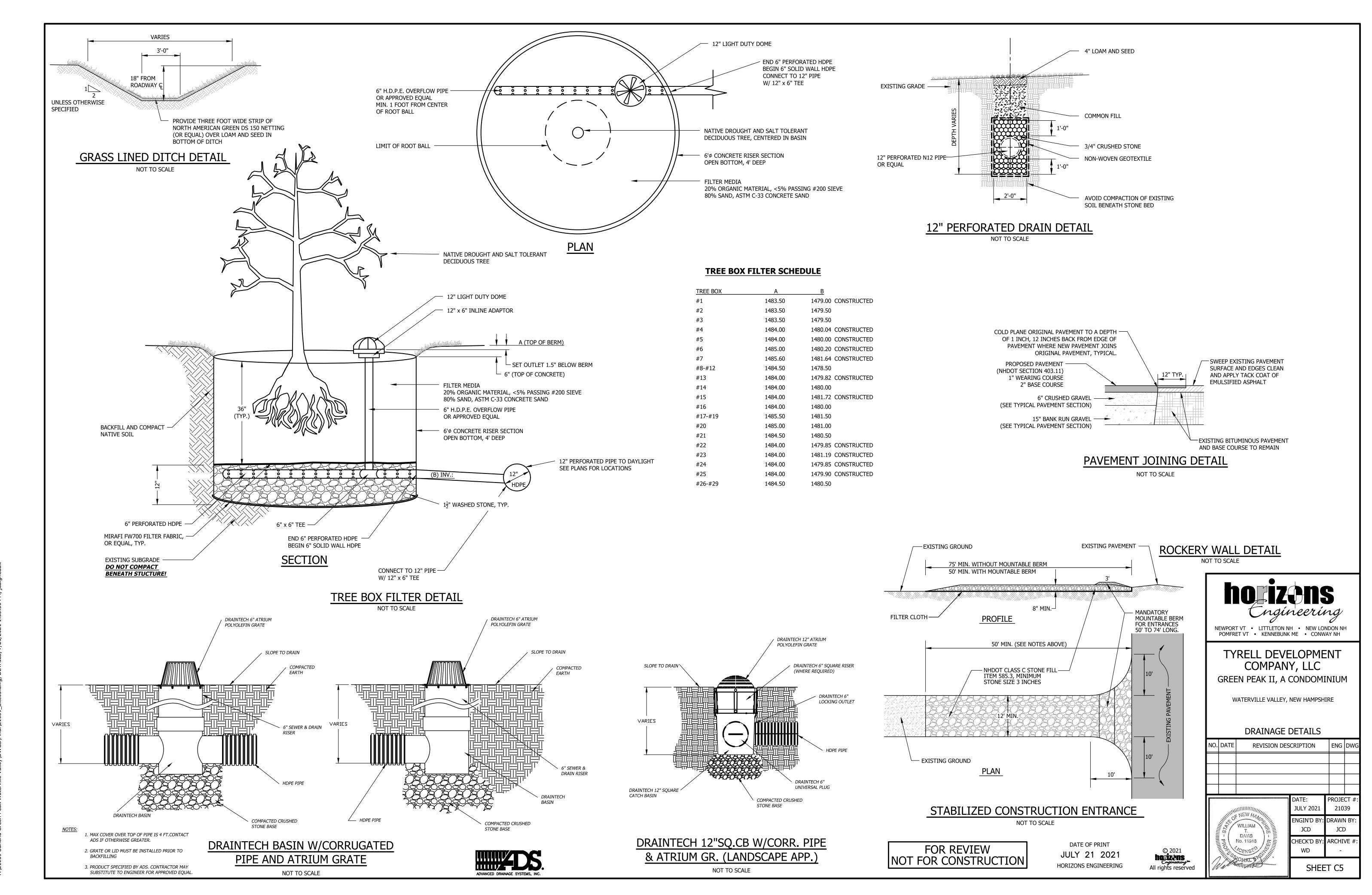


DATE OF PRINT

JULY 21 2021

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STANDARD TRENCH NOTES - WATER

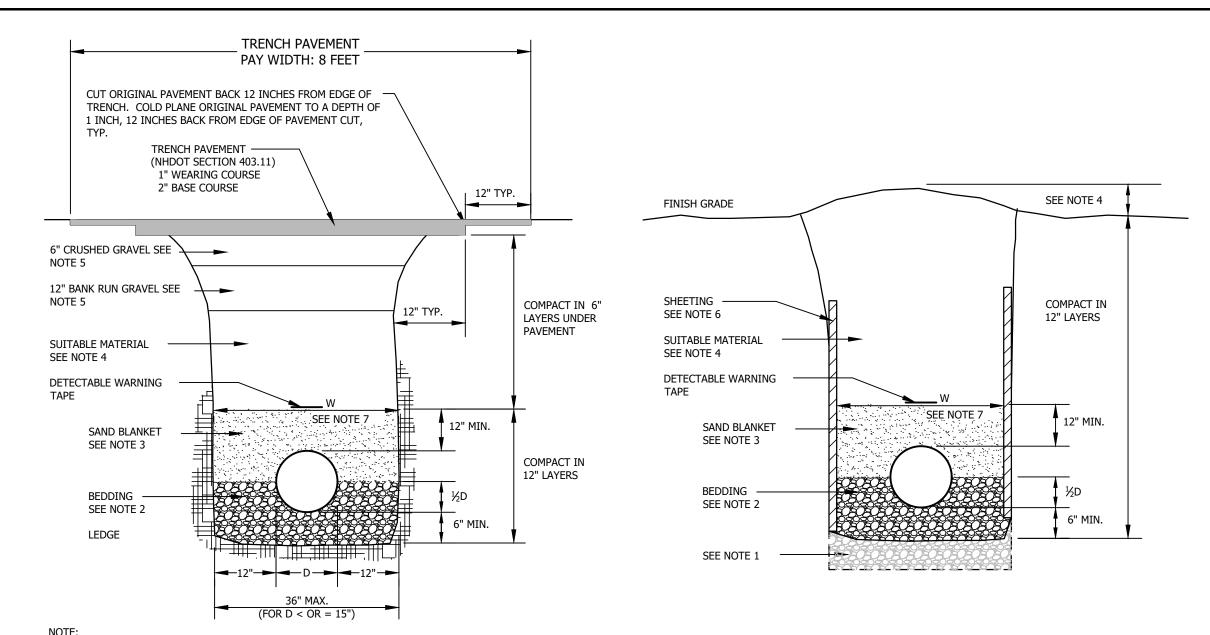
- 1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE SHALL BE REPLACED WITH BEDDING MATERIAL. SEE ALSO NOTE 4.
- 2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67.

1 INCH SCREEN 100% PASSING 90-100% PASSING ¾ INCH SCREEN 3/4 INCH SCREEN 20-55% PASSING 0-10% PASSING #4 SIEVE 0-5% PASSING #8 SIEVE

- 3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 100% PASSES A ½ INCH SIEVE AND NOT MORE THAN 15% PASSES A #200 SIEVE.
- 4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED FROM THE TRENCH DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE MATERIAL AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL NOT APPROVED BY THE ENGINEER.

TRENCH BACKFILL IN CROSS-COUNTRY LOCATIONS SHALL BE SUITABLE MATERIAL AS DESCRIBED ABOVE, EXCEPT THAT TOP SOIL, LOAM, MUCK, OR PEAT MAY BE USED PROVIDED THAT THE COMPLETED CONSTRUCTION WILL BE STABLE AND ACCESS TO THE PIPE FOR MAINTENANCE AND RECONSTRUCTION IS PRESERVED. BACKFILL SHALL BE MOUNDED TO A HEIGHT OF SIX INCHES ABOVE THE ORIGINAL GROUND SURFACE

- 5. BASE COURSE FOR TRENCH REPAIR SHALL MEET THE REQUIREMENTS OF SECTION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.
- 6. SHEETING: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN ONE FOOT ABOVE THE TOP OF
- 7. TRENCH DIMENSIONS: W = MAXIMUM ALLOWABLE TRENCH WIDTH MEASURED 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER (D) OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS THE PIPE OUTSIDE DIAMETER. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. THE MAXIMUM ALLOWABLE TRENCH PAVEMENT PAYMENT WIDTH SHALL BE 8 FEET CENTERED OVER PIPE.
- 8. WATER/SEWER SEPARATION: WATER MAINS SHALL BE SEPARATED FROM SANITARY SEWER BY A MINIMUM OF 10 FEET HORIZONTALLY AND A MINIMUM OF 18 INCHES VERTICALLY, WITH THE WATER MAIN ABOVE THE SEWER.
- COVER OVER WATER SHALL BE 6 FEET MINIMUM IN ALL LOCATIONS.



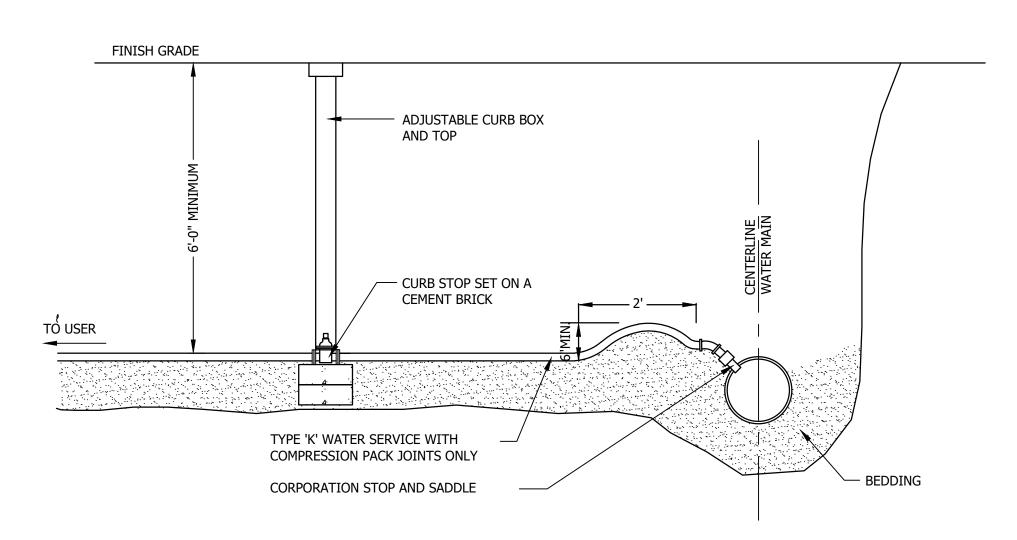
PAYMENT LIMIT FOR LEDGE EXCAVATION = $\frac{1}{4}$ D LEDGE/SUB PAVEMENT CONSTRUCTION

MINIMUM BEDDING DEPTH AND MAXIMUM

EARTH CONSTRUCTION WITH OR WITHOUT SHEETING

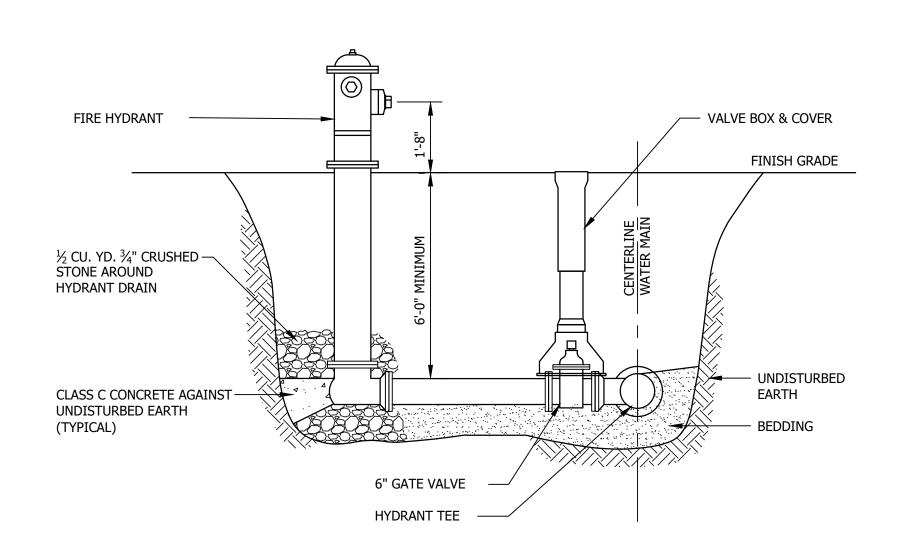
STANDARD TRENCH SECTIONS

NOT TO SCALE



WATER SERVICE CONNECTION

NOT TO SCALE



FIRE HYDRANT DETAIL

NOT TO SCALE

- BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL
- THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE. - CONCRETE SHOULD BE CURED FOR AT LEAST 5 DAYS AND SHOULD
- HAVE A COMPRESSION STRENGTH OF 3,000 LBS. AT 28 DAYS.

- BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE. RESTRAINED JOINTS MAY BE USED FOR RESISTING THRUST FORCES

WHERE THERE IS A SHORTAGE OF SPACE OR WHERE THE SOIL BEHIND A FITTING WILL NOT PROVIDE ADEQUATE SUPPORT. THIS RESTRAINING METHOD INVOLVES PLACEMENT OF THESE SPECIAL JOINTS AT APPROPRIATE FITTINGS AND FOR A PREDETERMINED NUMBER OF PIPE LENGTHS ON EACH SIDE, (MINIMUM 15 FEET).

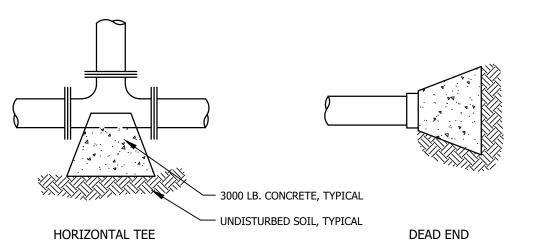
RESULTANT THRUST AT FITTINGS AT 100 PSI WATER PRESSURE						
NOMINAL		TOTAL THRUST (POUNDS)				
PIPE DIA.	DEAD					
(INCHES)	END	90° BEND	45° BEND	22½° BEND	11 ¹ / ₄ ° BEND	
4	1,810	2,559	1,385	706	355	
6	3,739	5,288	2,862	1,459	733	
8	6,433	9,097	4,923	2,510	1,261	
10	9,677	13,685	7,406	3,776	1,897	
12	13,685	19,353	10,474	5,340	2,683	
14	18,385	26,001	14,072	7,174	3,604	
16	23,779	33,628	18,199	9,278	4,661	
18	29,865	42,235	22,858	11,653	5,855	
20	36,644	51,822	28,046	14,298	7,183	
24	52,279	73,934	40,013	20,398	10,249	

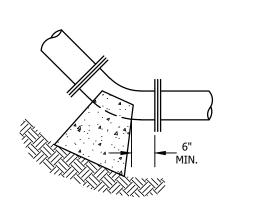
TO DETERMINE THRUST AT PRESSURES OTHER THAN 100 PSI, MULTIPLY THE THRUST OBTAINED IN THE TABLE BY THE RATIO OF THE PRESSURE TO 100. FOR EXAMPLE, THE THRUST ON A 12 INCH, 90° BEND AT 125 PSI IS:

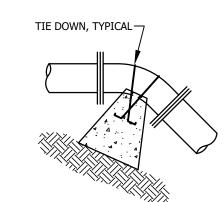
 $19,353 \times 125 = 24,191 \text{ POUNDS}$

TO DETERMINE THE SIZE OF A CONCRETE THRUST BLOCK, DIVIDE THE TOTAL FORCE BY THE BEARING VALUE OF THE SOIL. THE QUOTIENT WILL BE THE SIZE OF THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET. APPROXIMATE VALUES FOR VARIOUS TYPES OF SOIL ARE LISTED

SOIL	BEARING LOAD (LBS./SQ. FT.)
MUCK	(LB3./3Q. F1.)
SOFT CLAY	1,000
SILT	1,500
SANDY SILT	3,000
SAND	4,000
SANDY CLAY	6.000







HORIZONTAL BEND

VERTICAL BEND

THRUST BLOCK NOTES & DETAILS



NEWPORT VT • LITTLETON NH • NEW LONDON NH POMFRET VT • KENNEBUNK ME • CONWAY NH

TYRELL DEVELOPMENT COMPANY, LLC

GREEN PEAK II, A CONDOMINIUM

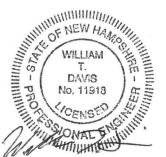
WATERVILLE VALLEY, NEW HAMPSHIRE

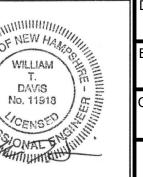
STANDARD WATER SYSTEM **DETAILS AND NOTES**

NO.	DATE	REVISION DESCRIPTION	ENG	D۷

21039

SHEET C6





DATE OF PRINT JULY 21 2021

FOR REVIEW

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HORIZONS ENGINEERING

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JULY 2021 ENGIN'D BY: DRAWN BY JCD CHECK'D BY: ARCHIVE # WD

TYPES OF SEWERS

A. THERE SHALL BE NO CONNECTION BETWEEN SANITARY SEWERS AND STORM SEWERS. B. RUNOFF FROM ROOFS, STREETS, AND OTHER AREAS AND GROUNDWATER FROM FOUNDATION DRAINS, SUMP PUMPS, OR OTHER SUBSURFACE DRAINS SHALL BE EXCLUDED FROM SANITARY SEWERS.

SEWER SIZE AND COVER

A. MINIMUM PIPE SIZE FOR GRAVITY SEWER MAINS SHALL BE 8 INCHES. B. MINIMUM PIPE SIZE FOR GRAVITY SEWER SERVICES SHALL BE 4 INCHES.

- C. MINIMUM PIPE SIZE FOR FORCE MAIN SEWER SERVICES SHALL BE 2 INCHES.
- D. SANITARY SEWERS SHALL HAVE 6 FEET MINIMUM COVER IN ALL ROADWAY LOCATIONS AND 4 FEET MINIMUM COVER IN ALL CROSS-COUNTRY LOCATIONS.

PIPE AND FITTING MATERIALS:

A. DUCTILE IRON PIPE

- DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION:
- (1) AWWA C151 FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL OR SAND LINED MOLDS, FOR WATER OR OTHER LIQUIDS:
- (2) AWWA C150 FOR THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A 536 IRON CASTINGS; AND
- (3) JOINTS SHALL BE MECHANICAL TYPE, PUSH-ON TYPE, OR BALL-AND-SOCKET TYPE;

B. PVC (POLY VINYL CHLORIDE) PIPE

- PVC PIPE AND FITTINGS SHALL BE APPROVED FOR SEWAGE SERVICE AND CONFORM TO THE FOLLOWING:
- (1) PVC PIPE USED FOR GRAVITY SEWERS SHALL BE TYPE SDR 35 CONFORMING TO ASTM D3034 (2) PVC PIPE USED FOR FORCE MAINS SHALL BE TYPE SDR 26 CONFORMING TO ASTM D2241 OR
- (3) JOINTS SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE HAVING OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3212.

BEDDING

PIPE BEDDING SHALL BE SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM ORGANIC MATTER, CLAY, AND/OR LOAM MEETING ASTM C33 STONE SIZE NO. 67. BEDDING SHALL EXTEND FROM THE SPRING LINE OF THE PIPE TO A MINIMUM DEPTH OF 6" BELOW THE BOTTOM OF THE PIPE OUTSIDE SURFACE.

100% PASSING 1 INCH SCREEN 4 INCH SCREEN 90-100% PASSING 3/8 INCH SCREEN 20-55% PASSING 0-10% PASSING #4 SIEVE #8 SIEVE 0-5% PASSING

6. MANHOLES

- A. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO ASTM C478.
- B. MANHOLES SHALL BE DESIGNED FOR H-20 LOADING.
- C. HORIZONTAL JOINTS BETWEEN BARREL SECTIONS SHALL BE OF AN OVERLAPPING TYPE WHICH SHALL DEPEND UPON A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT FOR WATER TIGHTNESS. D. PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
- (1) ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
- (2) CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS; (3) ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE
- SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
- (4) NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN
- E. MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.

PROTECTION OF WATER SUPPLIES

- A. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE WATER SUPPLY SYSTEM AND A SEWER OR SEWER APPURTENANCE WHICH WOULD PERMIT THE PASSAGE OF SEWAGE OR POLLUTED WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.
- B. NO SEWER SHALL BE LOCATED WITHIN THE WELL PROTECTIVE RADII ESTABLISHED IN ENV-WS 300 FOR ANY PUBLIC WATER SUPPLY WELLS OR WITHIN 100 FEET OF ANY PRIVATE WATER SUPPLY WELL.
- C. SEWERS SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
- D. A DEVIATION FROM THE SEPARATION REQUIREMENTS OF (B) OR (C) ABOVE SHALL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURES, UTILITY CHAMBERS, AND BUILDING FOUNDATIONS, PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENTS SPECIFIED IN ENV-WQ 704.06.
- E. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS: (1) VERTICAL SEPARATION OF THE SEWER AND WATER MAIN SHALL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER; AND
- (2) SEWER PIPE JOINTS SHALL BE LOCATED AT LEASE 6 FEET HORIZONTALLY FROM THE WATER MAIN.

STANDARD TRENCH NOTES - SEWER

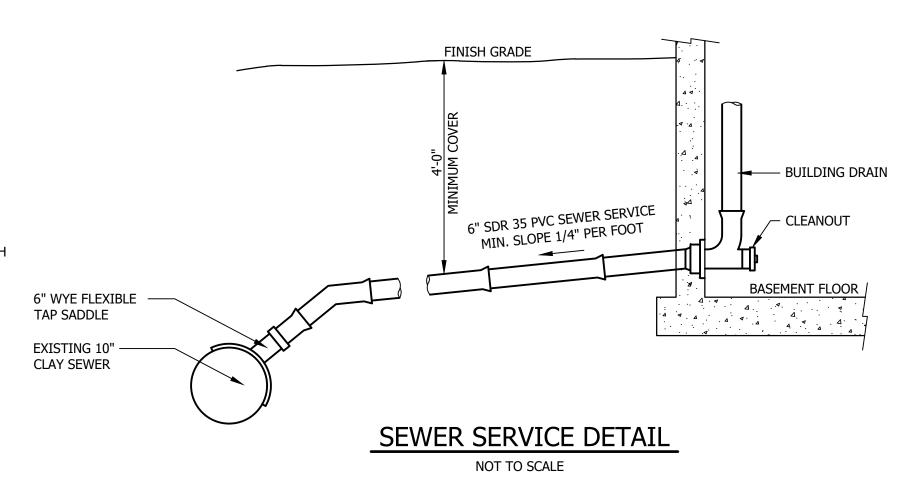
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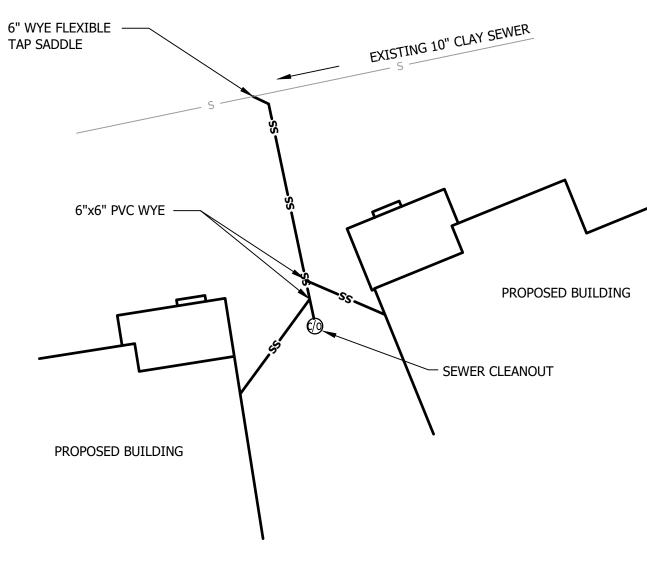
100% PASSING 1 INCH SCREEN 90-100% PASSING ¾ INCH SCREEN ^⅓ INCH SCREEN 20-55% PASSING 0-10% PASSING #4 SIEVE 0-5% PASSING #8 SIEVE

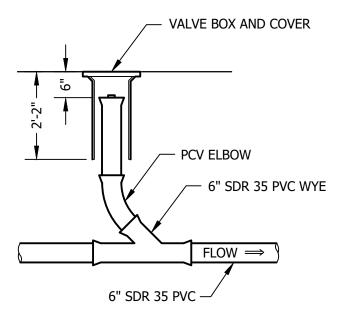
- 3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 100% PASSES A $\frac{1}{2}$ INCH SIEVE AND NOT MORE THAN 15% PASSES A #200 SIEVE.
- 4. <u>SUITABLE MATERIAL</u>: IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED FROM THE TRENCH DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE MATERIAL AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL NOT APPROVED BY THE ENGINEER.

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- 6. <u>SHEETING</u>: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE.
- 7. TRENCH DIMENSIONS: W = MAXIMUM ALLOWABLE TRENCH WIDTH MEASURED 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER (D) OR LESS, W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS THE PIPE OUTSIDE DIAMETER. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. THE MAXIMUM ALLOWABLE TRENCH PAVEMENT PAYMENT WIDTH SHALL BE 8 FEET CENTERED OVER PIPE.
- 8. PIPE INSULATION AT STORM DRAIN CROSSING: INSTALL 2" THICK RIGID FOAM INSULATION OVER SEWER AT STORM DRAIN CROSSINGS, EXTEND INSULATION 4 FEET EITHER SIDE OF STORM DRAIN ALONG SEWER.



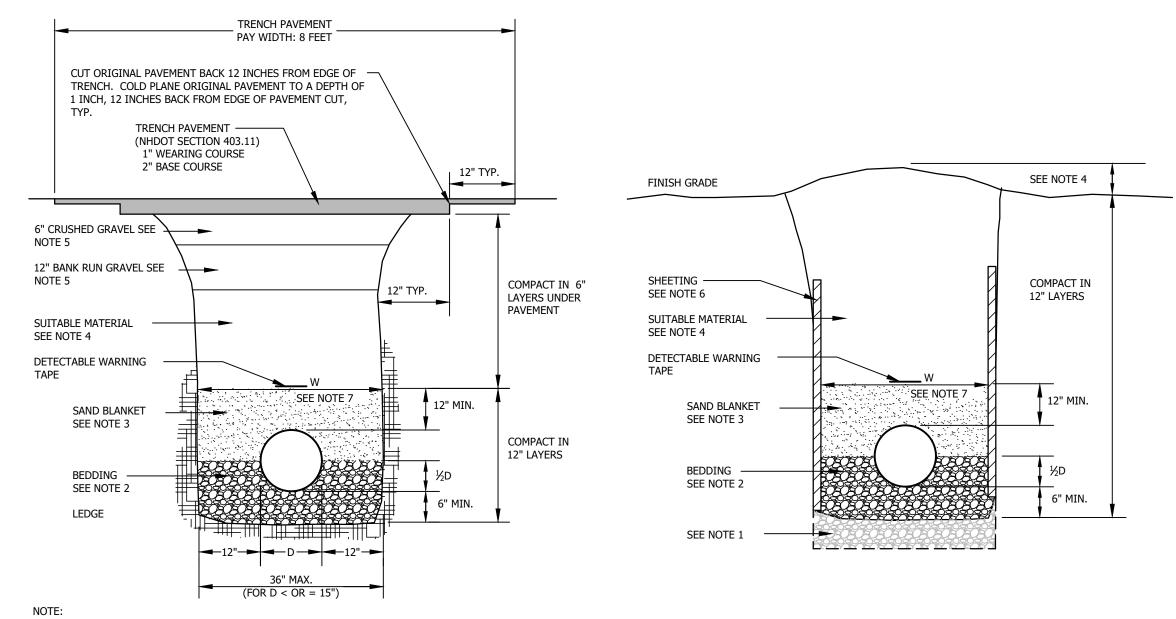




SEWER SERVICE LAYOUT DETAIL NOT TO SCALE

SEWER CLEANOUT DETAIL

NOT TO SCALE



MINIMUM BEDDING DEPTH AND MAXIMUM PAYMENT LIMIT FOR LEDGE EXCAVATION = $\frac{1}{4}$ D

LEDGE/SUB PAVEMENT CONSTRUCTION

EARTH CONSTRUCTION WITH OR WITHOUT SHEETING

STANDARD TRENCH SECTIONS

NOT TO SCALE



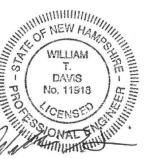
COMPANY, LLC GREEN PEAK II, A CONDOMINIUM

TYRELL DEVELOPMENT

WATERVILLE VALLEY, NEW HAMPSHIRE

STANDARD SANITARY SEWER NOTES AND DETAILS

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DATE OF PRINT

JULY 21 2021

HORIZONS ENGINEERING

JULY 2021 ENGIN'D BY JCD CHECK'D B WD

SHEET C7

PROJECT #

21039

JCD

ARCHIVE 4

DRAWN B

- A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
- B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE AMENDED WITH ORGANIC MATTER AND TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME THOROUGHLY INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER

A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:

-AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ. FT. -NITROGEN (N), 50 LBS., PER ACRE OR 1.1 LBS. PER 1,000 SQ. FT. -PHOSPHATE (P2O5), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT. -POTASH (K₂0), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ. FT.

(NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF

B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.

C. SEEDING GUIDE:						
		SEEDING	SOIL TYPE			
	USE	MIXTURE (SEE 3D)	DROUGHTY	WELL DRAINED	MOD. WELL DRAINED	POORLY DRAINED
	STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	BORROW AND DISPOSAL AREAS	B C	POOR FAIR	GOOD EXCELLENT	FAIR EXCELLENT	FAIR POOR
			FAIR	EXCELLENT	EXCELLENT	POUR
	WATERWAYS, EMERGENCY SPILL- WAYS, AND OTHER CHANNELS WITH FLOWING WATER	А	GOOD	GOOD	GOOD	FAIR
	LIGHTLY USED PARKING LOTS, ODD	Α	GOOD	GOOD	GOOD	FAIR
AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES		В	GOOD	GOOD	FAIR	POOR

D. SEEDING RATES:

υ	. JL	LDING NATES.	ı	ı
			POUNDS	POUNDS PER
		MIXTURE	PER ACRE	1,000 SQ. FT.
				,
	Α	TALL FESCUE	20	0.45
		CREEPING RED FESCUE	20	0.45
		REDTOP	2	0.05
		TOTAL:	42	0.95
•				
	В	TALL FESCUE	15	0.35
		CREEPING RED FESCUE	10	0.25
		CROWN VETCH OR	15 OR	0.35 OR
		FLATPEA	30	0.75
		TOTAL:	40 OR 55	0.95 OR 1.35
•	_	TALL FESCUE	20	0.45
	C			
		FLATPEA	30	0.75
		TOTAL:	50	1.20
			I	

E. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO SEPTEMBER 15. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.

F. TEMPORARY SEEDING RATES:

•	1. Tell old Willer					
	SPECIES	POUNDS PER ACRE	POUNDS PER 1,000 SQ. FT.	REMARKS		
-	WINTER RYE	112	2.5	BEST FOR FALL SEEDING. SEED FROM AUGUST TO SEPTEMBER 5TH FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.		
	OATS	80	2.0	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15TH FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.		
	ANNUAL RYEGRASS	40	1.0	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE NOT IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. COVER SEED WITH NO MORE THAN 0.25 INCH OF SOIL.		
	PERENNIAL RYEGRASS	30	0.7	GOOD COVER WHICH IS LONGER LASTING THAN ANNUAL RYEGRASS. SEED BETWEEN APRIL 1ST AND JUNE 1ST AND/OR BETWEEN AUGUST 15TH AND SEPTEMBER 15TH. MULCHING WILL ALLOW SEEDING THROUGHOUT THE GROWING SEASON. SEED TO A DEPTH OF APPROXIMATELY 0.5 INCH.		

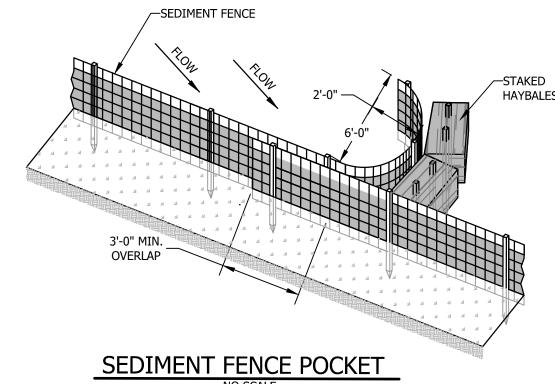
. MULCH A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.

B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE

MAINTENANCE TO ESTABLISH A STAND

FOR MULCHING.

- B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ON SITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE



EROSION CONTROL GENERAL NOTES

A. KEEP SITE MODIFICATION TO A MINIMUM

- 1. CONSIDER FITTING THE BUILDINGS AND STREETS TO THE NATURAL TOPOGRAPHY. THIS REDUCES THE NEED FOR CUTS AND FILLS. AVOID EXTENSIVE GRADING THAT WOULD ALTER DRAINAGE PATTERNS OR CREATE VERY STEEP
- 2. EXPOSE AREAS OF BARE SOIL TO EROSIVE ELEMENTS FOR THE SHORTEST TIME POSSIBLE.
- 3. SAVE AND PROTECT DESIRABLE EXISTING VEGETATION WHERE POSSIBLE. ERECT BARRIERS TO PREVENT DAMAGE
- 4. LIMIT THE GRADES OF SLOPES SO VEGETATION CAN BE EASILY ESTABLISHED AND MAINTAINED.
- 5. AVOID SUBSTANTIAL INCREASE IN RUNOFF LEAVING THE SITE.
- **B. MINIMIZE POLLUTION OF WATER DURING CONSTRUCTION ACTIVITIES** 1. STOCKPILE TOPSOIL REMOVED FROM CONSTRUCTION AREA AND SPREAD OVER ANY DISTURBED AREAS PRIOR TO REVEGETATION. TOPSOIL STOCKPILES MUST BE PROTECTED FROM EROSION.
- 2. PROTECT BARE SOIL AREAS EXPOSED BY GRADING ACTIVITIES WITH TEMPORARY VEGETATION OR MULCHES.
- 3. USE SEDIMENT BASINS TO TRAP DEBRIS AND SEDIMENT WHICH WILL PREVENT THESE MATERIALS FROM MOVING
- 4. USE DIVERSIONS TO DIRECT WATER AROUND THE CONSTRUCTION AREA AND AWAY FROM EROSION PRONE AREAS TO POINTS OF SAFE DISPOSAL.
- 5. USE TEMPORARY CULVERTS OR BRIDGES WHEN CROSSING STREAMS WITH EQUIPMENT.
- 6. PLACE CONSTRUCTION FACILITIES, MATERIALS, AND EQUIPMENT STORAGE AND MAINTENANCE AREAS AWAY FROM DRAINAGE WAYS.

C. PROTECT AREA AFTER CONSTRUCTION

- 1. ESTABLISH GRASS OR OTHER SUITABLE VEGETATION ON ALL DISTURBED AREAS. SELECT SPECIES ADAPTED TO THE SITE CONDITIONS AND THE FUTURE USE OF THE AREA. FINAL GRADES SHALL BE SEEDED WITHIN 72 HOURS. STABILIZATION SHALL BE DEFINED AS 85% VEGETATIVE COVER.
- 2. MAINTAIN VEGETATED AREAS USING PROPER VEGETATIVE 'BEST MANAGEMENT PRACTICES' DURING THE
- 3. MAINTAIN NEEDED STRUCTURAL 'BEST MANAGEMENT PRACTICES' AND REMOVE SEDIMENT FROM DETENTION PONDS
- 4. DETERMINE RESPONSIBILITY FOR LONG TERM MAINTENANCE OF PERMANENT 'BEST MANAGEMENT PRACTICES'. 5. IF CONSTRUCTION IS ANTICIPATED DURING WINTER MONTHS, REFER TO 'COLD WEATHER SITE STABILIZATION

D. INVASIVE SPECIES AND FUGITIVE DUST

BLANKETS SHOULD BE INSTALLED

VERTICALLY DOWNSLOPE.

- 1. THE PROJECT SHALL NOT CONTRIBUTE TO THE SPREAD OF INVASIVE SPECIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EVALUATE WORK AREAS FOR THE PRESENCE OF INVASIVE SPECIES, AND IF FOUND SHALL TAKE NECESSARY MEASURES TO PREVENT THEIR SPREAD IN ACCORDANCE WITH RSA 430:51-57 AND AGR 3800. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT THE INTRODUCTION OF INVASIVE SPECIES BY INSPECTING AND CLEANING ALL EQUIPMENT ARRIVING ON SITE.
- 2. FUGITIVE DUST SHALL BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000.

ISOMETRIC VIEW

MANUFACTURER'S SPECIFICATIONS.

SHALL HAVE GOOD SOIL CONTACT.

THE SOIL. DO NOT STRETCH.

PLACING BLANKETS.

3. APPLY PERMANENT SEEDING BEFORE

4. LAY BLANKETS LOOSELY AND STAKE OR

STAPLE TO MAINTAIN DIRECT CONTACT WITH

1. DIMENSION GIVEN IN THE DRAWINGS ARE

EXAMPLES; DEVICE SHOULD BE INSTALLED PER

2. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS

COLD WEATHER SITE STABILIZATION REQUIREMENTS

TO ADEQUATELY PROTECT WATER QUALITY DURING COLD WEATHER AND DURING SPRING RUNOFF, THE FOLLOWING ADDITIONAL STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 1

- . THE AREA OF EXPOSED, UNSTABILIZED SOIL SHALL BE LIMITED TO 1 ACRE AND SHALL BE PROTECTED AGAINST EROSION BY THE METHODS DESCRIBED IN THIS SECTION PRIOR TO ANY THAW OR SPRING MELT EVENT. THE ALLOWABLE AREA OF EXPOSED SOIL MAY BE INCREASED IF A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY NHDES.
- 2. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MUI CH PER ACRE. SECURED WITH ANCHORED NETTING OR TACKIFIER, OR 2 INCHES OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
- 3. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDED AND COVERED WITH PROPERLY INSTALLED AND ANCHORED EROSION CONTROL MATTING OR WITH A MINIMUM 4 INCH HICKNESS OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
- 4. INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX, MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H), SHALL NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.
- 5. INSTALLATION OF EROSION CONTROL MATTING SHALL NOT OCCUR OVER SNOW OF GREATER THAN ONE INCH IN DEPTH OR ON FROZEN GROUND.
- 6. ALL PROPOSED STABILIZATION IN ACCORDANCE WITH NOTES 2 OR 3 ABOVE, SHALL BE COMPLETED WITHIN 1 DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.
- . ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS, AS DETERMINED BY THE OWNER'S ENGINEERING CONSULTANT
- 8. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF BASE COURSE GRAVELS MEETING THE GRADATION REOUIREMENTS OF NHDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM NO. 304.1 OR 304.2.

✓ MINIMUM

DISTURBED AREAS.

SOIL STOCKPILING IS TO BE USED WHERE TOPSOIL

IS NECESSARY FOR REGRADING AND VEGETATING

TEMPORARY STOCKPILE STABILIZATION MEASURES

STABILIZATION MEASURE(S) SELECTED SHOULD BE

INCLUDE VEGETATIVE COVERS, MULCH,

SEDIMENT TRAPPING BARRIERS. THE

NON-VEGETATIVE COVERS, AND PERIPHERAL

APPROPRIATE FOR THE TIME OF YEAR, SITE

CONDITIONS, AND REQUIRED PERIOD OF USE.

✓ SLOPE

CONSTRUCTION SEQUENCE

- 1. PREPARE AN EROSION CONTROL PLAN OR A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- 2. INSTALL CONSTRUCTION ENTRANCE, SEE DETAIL.
- 3. CUT AND CLEAR TREES WITHIN THE CLEARING LIMITS.
- 4. INSTALL SEDIMENT FENCES, ROCK CHECK DAMS, AND OTHER APPROPRIATE EROSION CONTROL MEASURES AT LOCATIONS SHOWN ON THE PLANS AND AS NEEDED.
- 5. GRUB SITE WITHIN GRADING LIMITS.
- 6. STRIP AND STOCKPILE TOPSOIL AND INSTALL EROSION CONTROL MEASURES.
- 7. INSTALL/ADJUST SEDIMENT FENCE, CHECK DAMS, AND HAYBALES, AS REQUIRED. 8. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMP'S
- AREA STABILIZED. 8. CONSTRUCT PERMANENT STORMWATER CONTROLS AS SOON AS PRACTICAL. DO NOT
- DIRECT STORMWATER TOWARD TREATMENT BASINS, PONDS, SWALES, DITCHES AND LEVEL SPREADERS UNTIL THEY HAVE BEEN STABILIZED. 9. PROCEED WITH WORK, LIMITING THE DURATION OF DISTURBANCE. THE MAXIMUM OF

DISTURBED EARTH AT ANY ONE TIME IS FIVE ACRES. THE MAXIMUM LENGTH OF TIME

10. BEGIN SEEDING AND MULCHING IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED WITH APPROVED METHODS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

THAT DISTURBED EARTH MAY BE LEFT UNSTABILIZED IS 45 DAYS.

- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED: A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED: B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED; C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR
- 11. INSPECT ALL EROSION CONTROL MEASURES ON A DAILY BASIS AND AFTER EVERY 0.5 INCHES OF PRECIPITATION. MAINTAIN SEDIMENT FENCE, SEDIMENT TRAPS, HAY
- 12. PAVE ROADWAYS AND/OR PARKING AREAS.

RIPRAP HAS BEEN INSTALLED; OR

13. PLACE TOPSOIL, SEED AND MULCH.

BALES, ETC., AS NECESSARY

14. COMPLETE ALL REMAINING PERMANENT EROSION CONTROL STRUCTURES.

minimum '

1. AREA CHOSEN FOR STOCKPILING OPERATIONS

2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.

FENCING OR STRAWBALES AND THEN

3. UPON COMPLETION OF SOIL STOCKPILING, EACH

PILE SHALL BE SURROUNDED WITH EITHER SILT

DRAINAGE

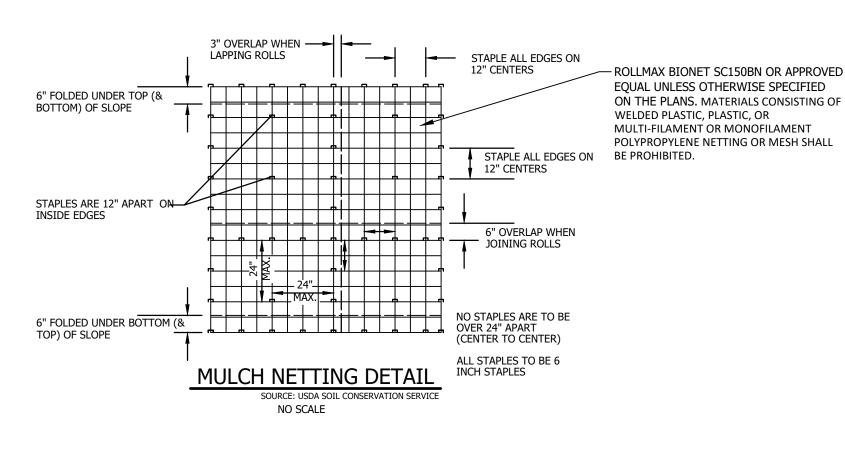
STRUCTURE

SLOPE

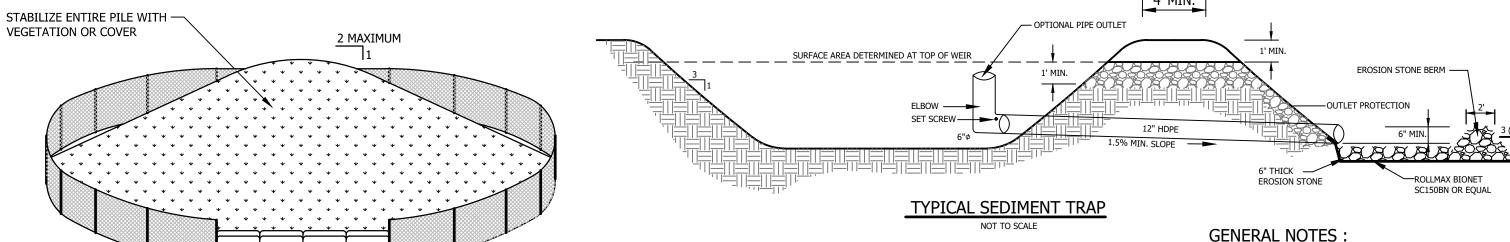
INSTALLATION NOTES:

SHALL BE DRY AND STABLE.

15. MONITOR THE SITE AND MAINTAIN STRUCTURES AS NEEDED UNTIL FULL VEGETATION IS ESTABLISHED.



FOR REVIEW



SEDIMENT TRAP DRAIN NOTES :

1. LOOSEN SET SCREW AND SLOWLY ROTATE ELBOW DOWNWARD

LOWER STORED VOLUME BETWEEN STORMS 2. DO NOT LOWER WATER LEVEL ALL AT ONCE (SUGGEST NOT

MORE THAN 1 FOOT DROP IN 24 HOURS) 3. RETURN ELBOW TO VERTICAL POSITION IN ADVANCE OF

4. SEDIMENTS TRAPS SHALL BE CONSTRUCTED AS NECESSARY TO CAPTURE RUNOFF DURING CONSTRUCTION, BASINS SHALL BE ELIMINATED/ BACKFILLED ONCE CONTRIBUTING DRAINAGE AREAS A STABILE, THE INFILTRATION BASIN IS CONSTRUCTED, AND PROPOSED

-BUILT IN OVERFLOW

WATER FLOW

PORTS (2) FOR HIGH

- NON-WOVEN GEOTEXTILE

GRADES AREA ACHIEVED.

CATCH BASIN PROTECTION

INSERT TYPE

NO SCALE

1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED

2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN 5 ACRES.

3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA

4 THE SIDESI OPES SHALL BE 3:1 OR FLATTER, AND SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION.

5. THE OUTLET OF THE TRAP SHALL BE A MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP AND SHALL DISCHARGE TO A

STABILIZED AREA. 6. THE TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE

ORIGINAL VOLUME IS FILLED

THE MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED AND STABILIZED.

> DATE OF PRINT JULY 21 2021 **horizons** All rights reserved HORIZONS ENGINEERING

Engineering

POMFRET VT • KENNEBUNK ME • CONWAY NH TYRELL DEVELOPMENT

COMPANY, LLC

NEWPORT VT • LITTLETON NH • NEW LONDON NH

GREEN PEAK II, A CONDOMINIUM

WATERVILLE VALLEY, NEW HAMPSHIRE

CONSTRUCTION SEQUENCE, EROSION CONTROL NOTES AND DETAILS

REVISION DESCRIPTION

PROJECT JULY 2021 21039 engin'd b DRAWN B JCD JCD ARCHIVE CHECK'D B WD SHEET C8

STABILIZED WITH VEGETATION OR COVERED. SOIL STOCKPILING DETAIL

STRAWBALES -

SEDIMENT FENCE

EROSION CONTROL BLANKET INSTALLATION DETAIL

STAPLES

NOT TO SCALE

CONSTRUCTION NOTES FOR SEDIMENT FENCE

> 1. WOVEN WIRE FENCE, IF REQUIRED, TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES 2. FILTER CLOTH TO BE FASTENED

SECURELY TO WOVEN WIRE FENCE

DETAIL DIGITIZED FROM NEW HAMPSHIRE

STORMWATER MANUAL, VOLUME 3, NHDES 2008

WITH TIES SPACED EVERY 24" AT TOP, MID SECTION, AND BOTTOM 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6

EROSION CONTROL BLANKET SHALL BE

EQUAL UNLESS OTHERWISE SPECIFIED

POLYPROPYLENE NETTING OR MESH SHALL

MULTI-FILAMENT OR MONOFILAMENT

WELDED PLASTIC, PLASTIC, OR

BE PROHIBITED

ROLLMAX BIONET SC150BN OR APPROVED

ON THE PLANS. MATERIALS CONSISTING OF

INCHES, FOLDED AND STAPLED. 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SEDIMENT FENCE, OR 50% OF CAPACITY IS USED.

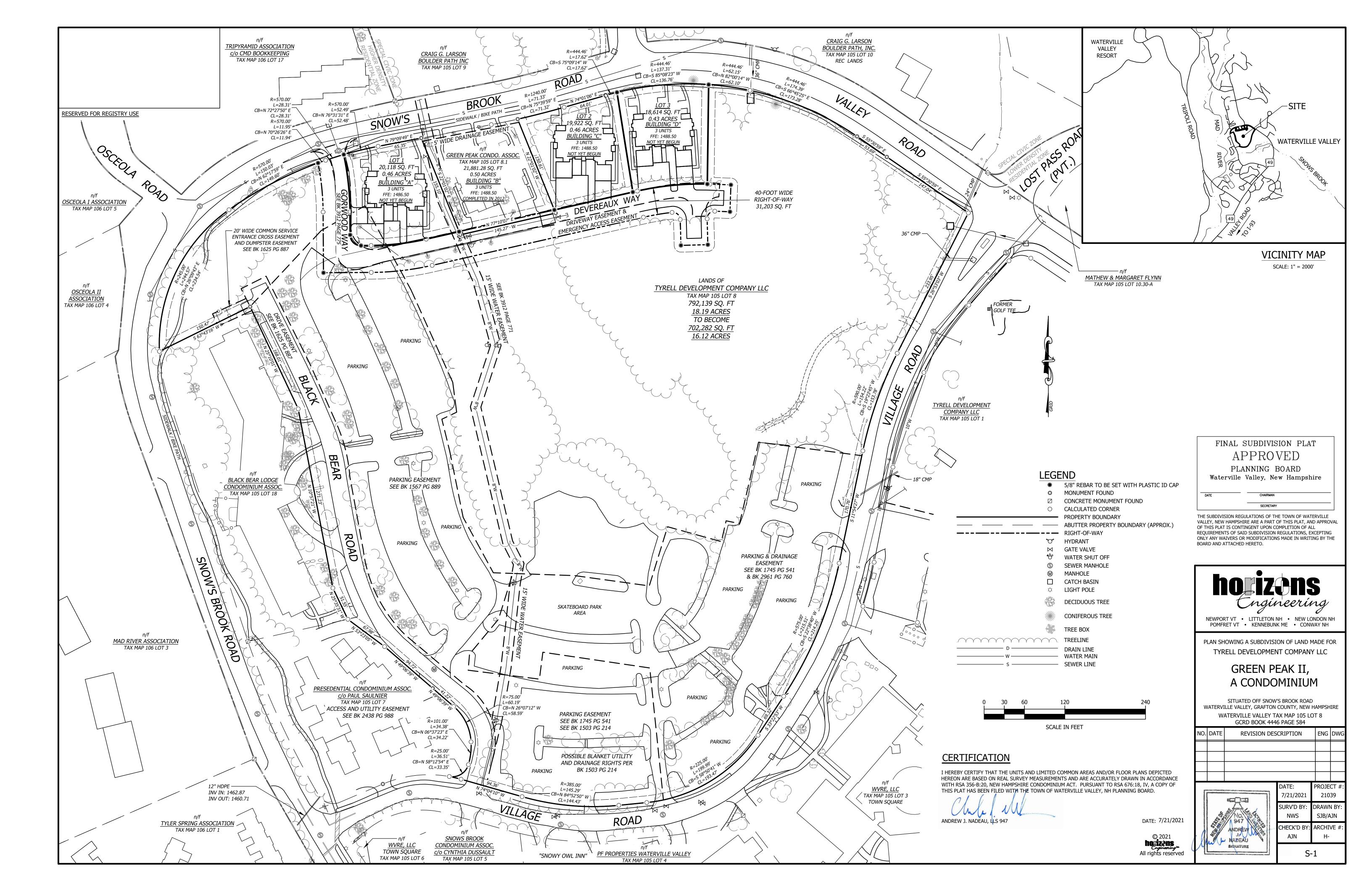
5. 12" DIAMETER FILTREXX SILTSOXX SHALL BE CONSIDERED AN ACCEPTABLE EQUAL TO SEDIMENT FENCE IF INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

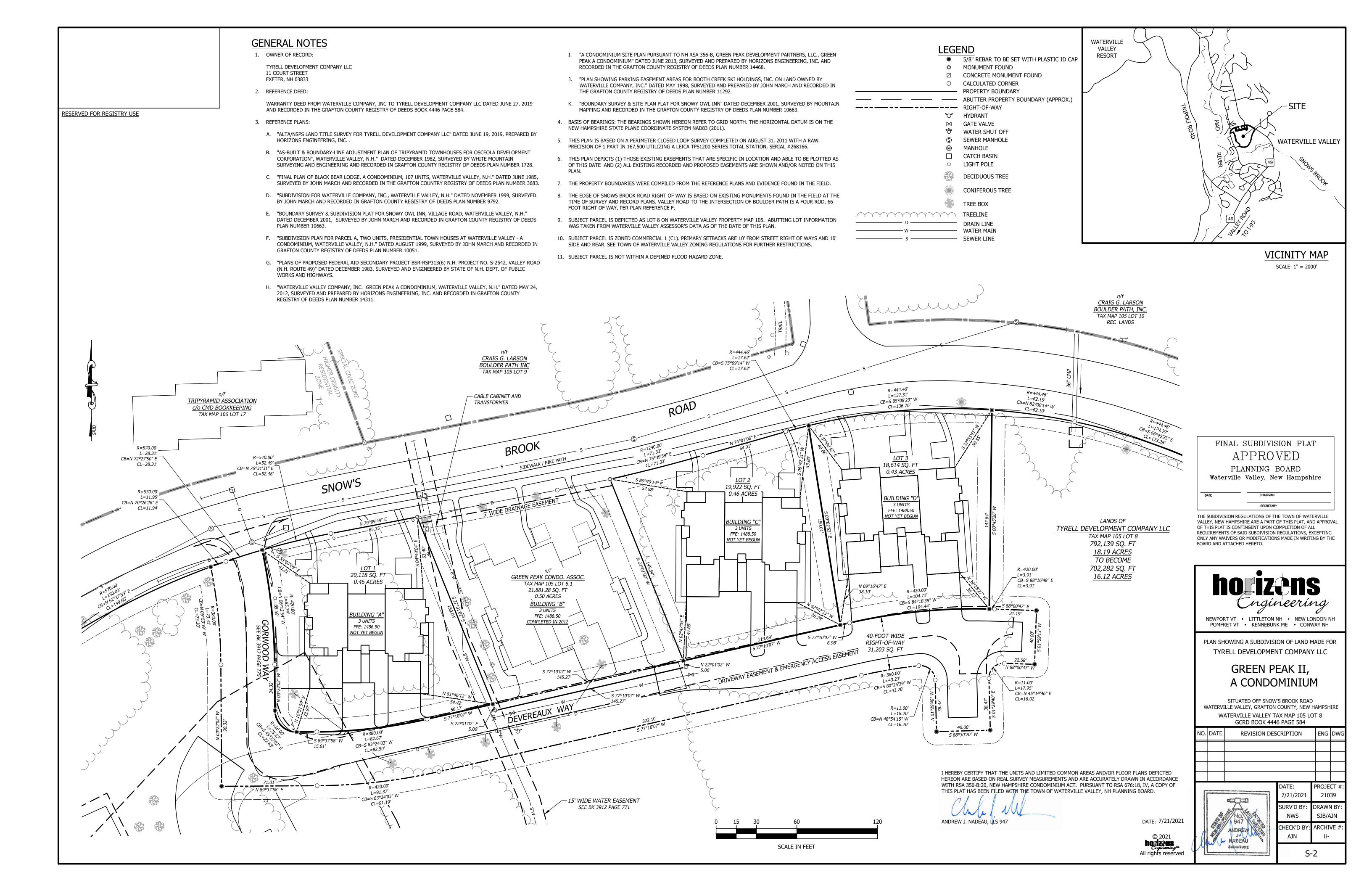
36" MIN. FENCE POSTS, DRIVEN MIN. 16" INTO GROUND WOVEN WIRE FENCE -(14-1/2 GA. MIN., MAX. 6" MESH SPACING) WITH FILTER CLOTH OVER UNDISTURBED GROUND -EMBED FILTER CLOTH -MIN. 8" INTO GROUND

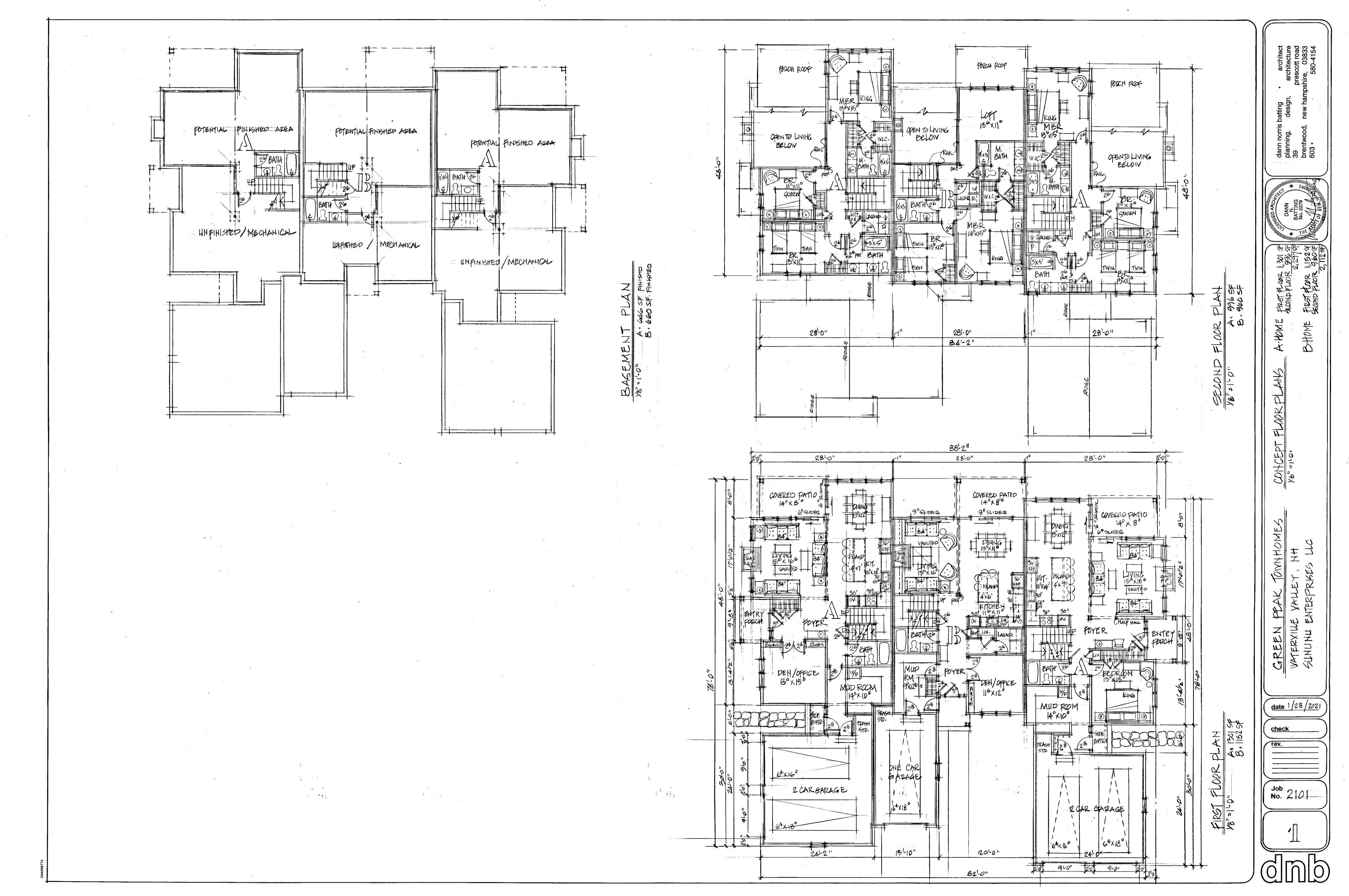
SEDIMENT FENCE

A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED

C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.









GREEN PEAK TOWNHOMES WATERVILLE YALLEY, NH SUNUNY ENTERPRISES LLC

date 1/28/2021

Job No. 2101