

EROSION CONTROL NARRATIVE

EROSION/SEDIMENTATION CONTROL DEVICES

The following erosion and sediment control devices will be implemented as part of the site development. These devices shall be installed as indicated on the plans or as described within this report. For further reference, see the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices.

- Siltation fence will be installed downgradient of disturbed areas to trap runoff-borne sediments until the site is revegetated. The silt fence shall be installed per the detail provided in the plan set and inspected immediately after each rainfall and at least daily during prolonged rainfall. Repairs shall be made immediately by the Contractor if there are any signs of erosion or sedimentation below the fence line. Proper placement of stakes and fabric into the ground is critical to the fence's effectiveness. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind the fence, the barrier shall be replaced with a stone check dam.
- Hay bales are intended to trap sediments and reduce runoff velocities. Installation details are provided within the plan set.
- Straw or hay mulch is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed on slopes of less than 10 percent shall be anchored by applying water; mulch placed on slopes steeper than 10 percent shall be covered with a fabric netting and anchored with staples in accordance with the manufacturer's recommendations. Slopes steeper than 3:1, which are to be revegetated, shall receive Curlex blankets by American Excelsior. Mulch application rates are provided in Appendix A of this report. Hay mulch shall be available on site at all times in order to provide immediate temporary stabilization when necessary.
- Stone sediment traps or SiltSacks® as distributed by A. H. Harris Company, Portland, Maine, will be installed at each catch basin inlet to prevent silt from entering the storm drain system. Installation details are provided in the plan set on the erosion control detail sheets.
- Loam and seed is intended to serve as the primary permanent revegetative measure for all denuded areas not provided with other permanent erosion control measures, such as pavement or impervious area. Application rates are provided in Appendix A of this report.

TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES

The following are planned as temporary erosion/sedimentation control measures during construction:

- Siltation fence shall be installed along the downgradient side of the disturbed areas, and all fill sections. The siltation fence will remain in place and properly maintained until the site is acceptably revegetated.
- Hay bales will be installed at key locations to supplement the silt fence.
- Temporary stockpiles of grubbing and common excavation will be protected as follows:
 - Stockpiles shall be stabilized within 7 days by either temporarily seeding the stockpile with a hydrosed method containing an emulsified mulch tackifier or by covering the stockpile with mulch.
 - Siltation fence shall be installed along the downgradient edge of the stockpile.
 - Soil stockpile sideslopes shall not exceed 2:1.
- All denuded areas that have been rough graded and are not located within the building or pavement subbase areas shall receive mulch or erosion control mesh fabric within 7 days of initial disturbance of soil.
- All soils disturbed between November 1 and April 15 will be covered with mulch within 15 days of disturbance, prior to any predicted storm event of the equivalent of 1/2" of rainfall in a 24-hour period, or prior to any work shutdown lasting more than 35 hours (including weekends and holidays). The mulch rate shall be double the normal rate.
- For work that is conducted between November 1 and April 15 of any calendar year, all denuded areas will be covered with hay mulch, applied at twice the normal application rate and anchored with a fabric netting. The time period for applying mulch shall be limited to 5 days for all areas or immediately in advance of a predicted rainfall event, whichever is less.
- Silt fencing with minimum stake spacing of 6 feet should be used, unless the fence is supported by wire fence reinforcement of minimum 14 gauge and with a maximum mesh spacing of 6 inches, in which case stakes may be spaced a maximum of 10 feet apart. The bottom of the fence should be properly anchored a minimum of 6" per the plan detail and backfilled. Any silt fence identified by the owner or reviewing agencies as not being properly installed during construction shall be immediately repaired in accordance with the installation details.
- Sediment traps will be installed at each catch basin inlet to prevent silt from entering the storm drain system. Installation details are provided in the plan set. The barriers shall be inspected after each rainfall event and repairs made as necessary. Sediment shall be removed and the barrier restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the barrier. The barrier shall be removed when the tributary drainage area has been stabilized.
- Temporary erosion control measures shall be removed once the site has been stabilized to 90% growth or in areas where permanent erosion control measures have been installed.

PERMANENT EROSION CONTROL MEASURES

The following permanent erosion control measures have been designed as part of the Erosion/Sedimentation Control Plan:

- All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.) will be loamed, limed, fertilized, mulched, and seeded. Fabric netting, anchored with staples, shall be placed over the mulch in areas where the finish grade slope is greater than 10 percent. All areas shall receive protection within 7 days. Native topsoil shall be stockpiled and reused for final restoration when it is of sufficient quality.
- Catch basins will be provided with sediment sumps and inlet hoods for all outlet pipes that are 15" in diameter and smaller.

TIMING AND SEQUENCE OF EROSION/SEDIMENTATION CONTROL MEASURES

The following construction sequence will be required to ensure the effectiveness of the erosion/sediment control measures is optimized.

- Install perimeter siltation fence as indicated on the plans.
- Clear work area using caution not to overexpose the site.
- Perform earthwork operations to rough grade the site to subgrade.
- Complete installation of underground utilities.
- Install subbase and base gravels within the roadway and walkway areas.
- Install permanent impervious surface treatments as detailed in the plan set.
- Loam, lime, fertilize, seed and mulch disturbed areas.
- Remove accumulated sediment from ahead of any silt barriers (as necessary).
- Once the site is stable and a 90% catch of vegetation has been obtained, remove all temporary erosion control measures.
- Touch up loam and seed.

Note: All denuded areas not subject to final paving, riprap or gravel shall be revegetated.

It will be necessary to schedule certain portions of the sitework to ensure erosion and sedimentation control measures are sequenced for optimum effectiveness.

The project will be constructed by a General Contractor under The Inn at Diamond Cove, LLC. The Contractor shall submit a schedule for the completion of the work which will satisfy the following criteria:

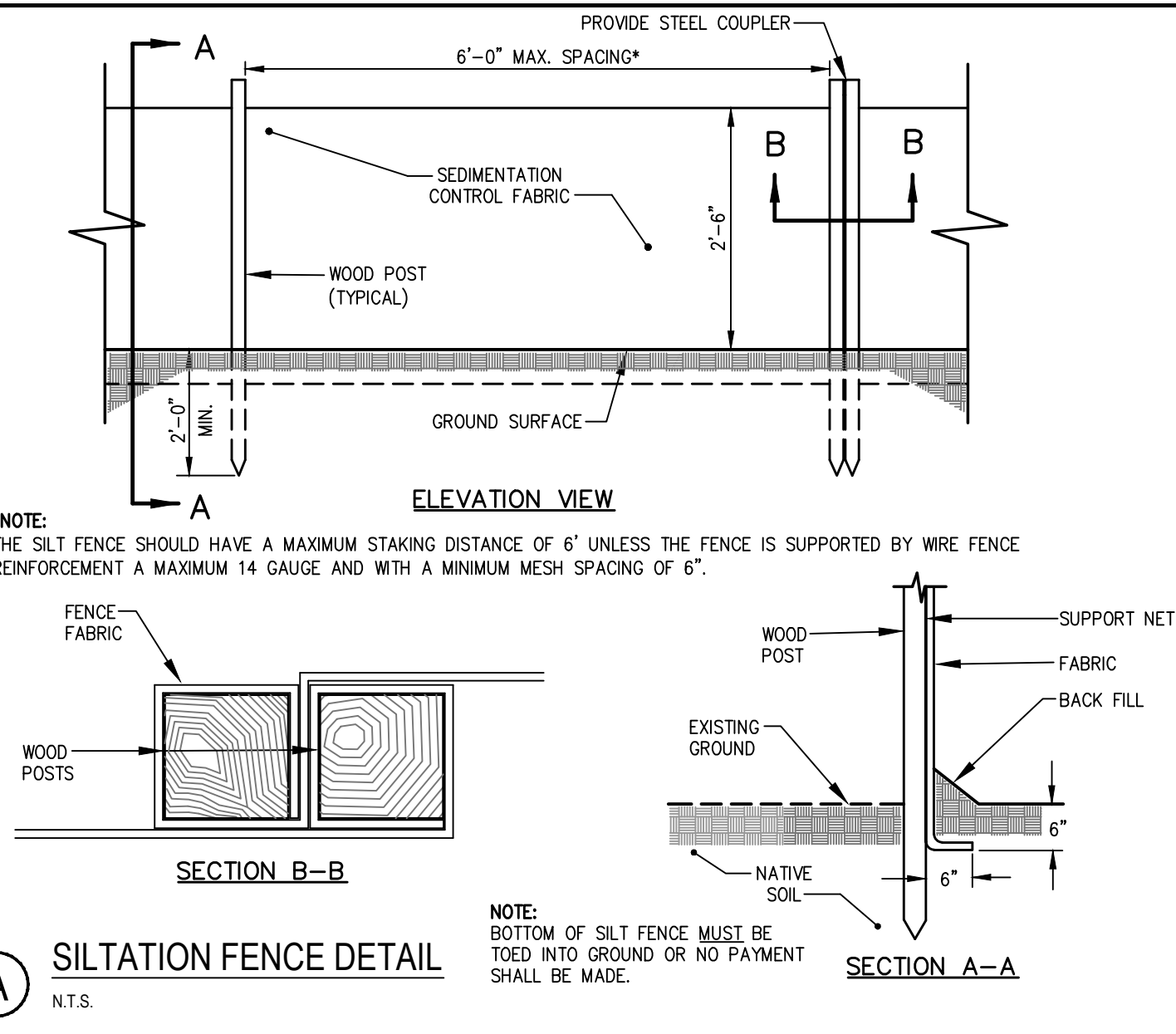
- The above construction sequence should generally be completed in the specified order; however, several items may be constructed simultaneously. Work must also be scheduled or phased to limit the extent of the exposed areas as specified below. The intent of this sequence is to provide for erosion control and to have structural measures such as silt fence and construction entrances in place before large areas of land are denuded.
- The work shall be conducted in sections which will:
 - Limit the amount of exposed area to those areas in which work is expected to be undertaken during the preceding 30 days.
 - Revegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading; or temporarily stabilized within 15 days of initial disturbance of soil or within 7 days after completing the rough grading operations.
 - Incorporate planned inlets and drainage systems as early as possible into the construction phase. The swales shall be immediately lined or revegetated as soon as their installation is complete.

If the spring through fall construction schedule is not possible, and construction is planned between November 1 and April 15 of any calendar year, then the General Contractor shall submit a schedule which will satisfy the following criteria:

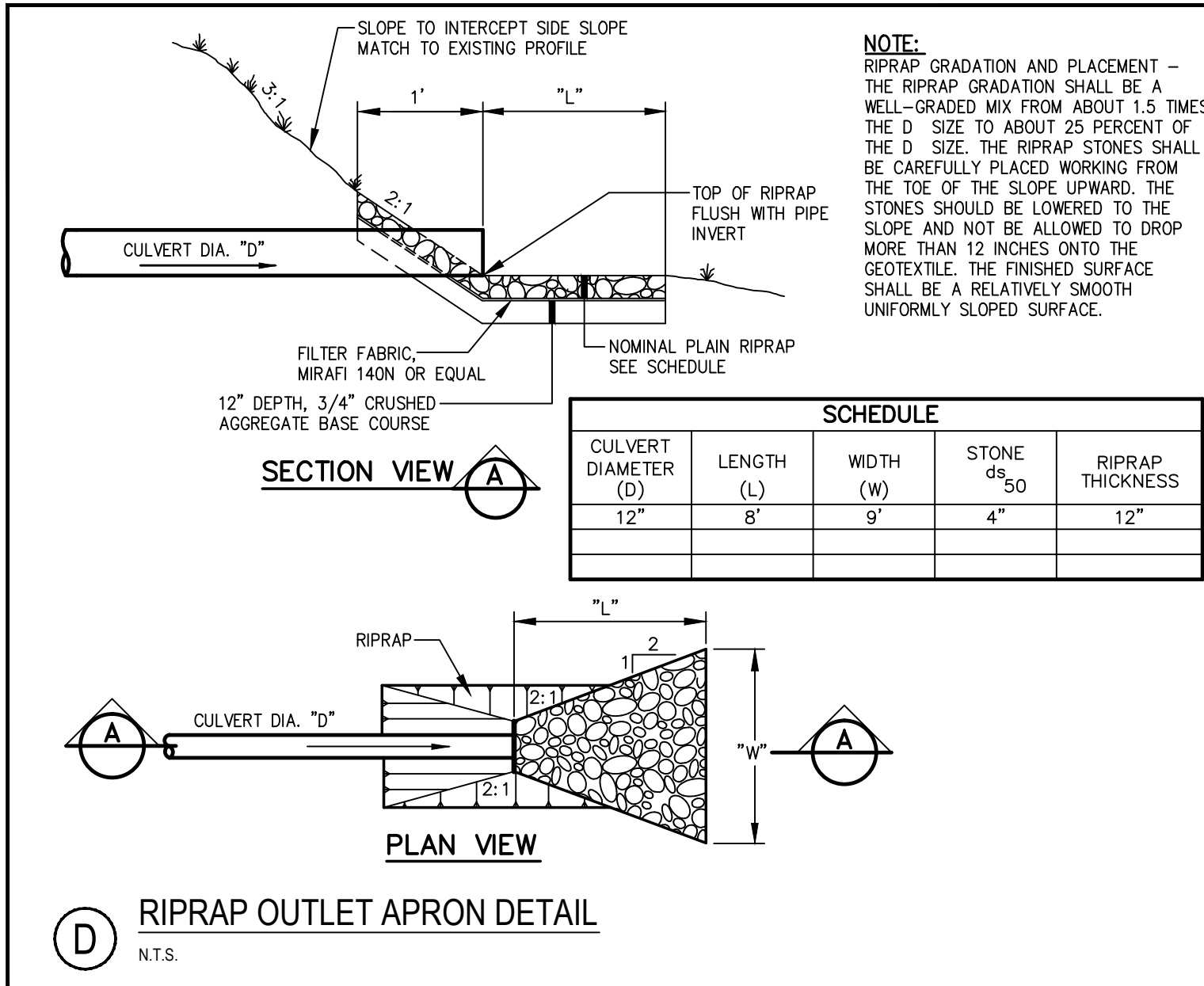
- Limit the amount of exposed area to those areas in which work is expected to be undertaken during the preceding 15 days.
- During the construction process, all disturbed areas and stockpiles shall be covered with mulch within 24 hours of final grading.
- Once final grade has been established, the contractor may choose to dormant seed the disturbed areas prior to placement of mulch and placement of fabric netting anchored with staples.
 - If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs. per 1,000 s.f. All areas seeded during the winter months will be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75 percent catch) shall be revegetated by replacing loam, seed and mulch.
 - If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.
- The area of denuded non-stabilized construction shall be limited to the minimum area practicable. An area shall be considered to be denuded until the subbase gravel is installed in pavement areas, the base slab gravel is installed in building areas, or the areas of future loam and seed have been loamed, seeded, and mulched. The mulch rate shall be twice the rate specified in the seeding plan [115 lbs. per 1,000 s.f. x 2 = 230 lbs. per 1,000 s.f.].
- The schedule shall be subject to the approval of The Inn at Diamond Cove, LLC.

The Contractor must install any added measures which may be necessary to control erosion/sedimentation from the site dependent upon the actual site and weather conditions.

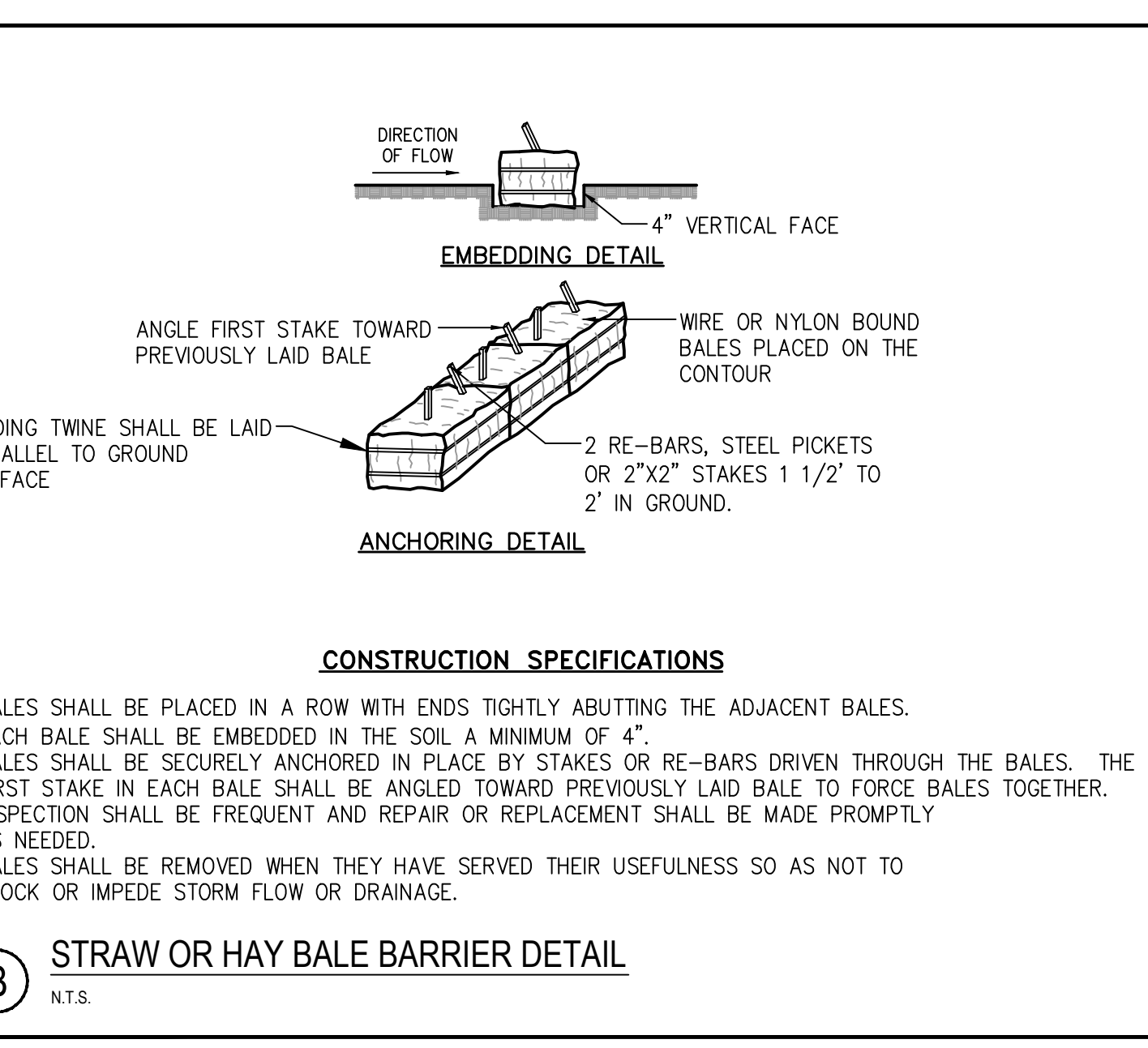
The Contractor shall note that no area shall remain denuded for a period of over 15 days before it is temporarily stabilized. Temporary stabilization shall be the installation of gravel or mulching.



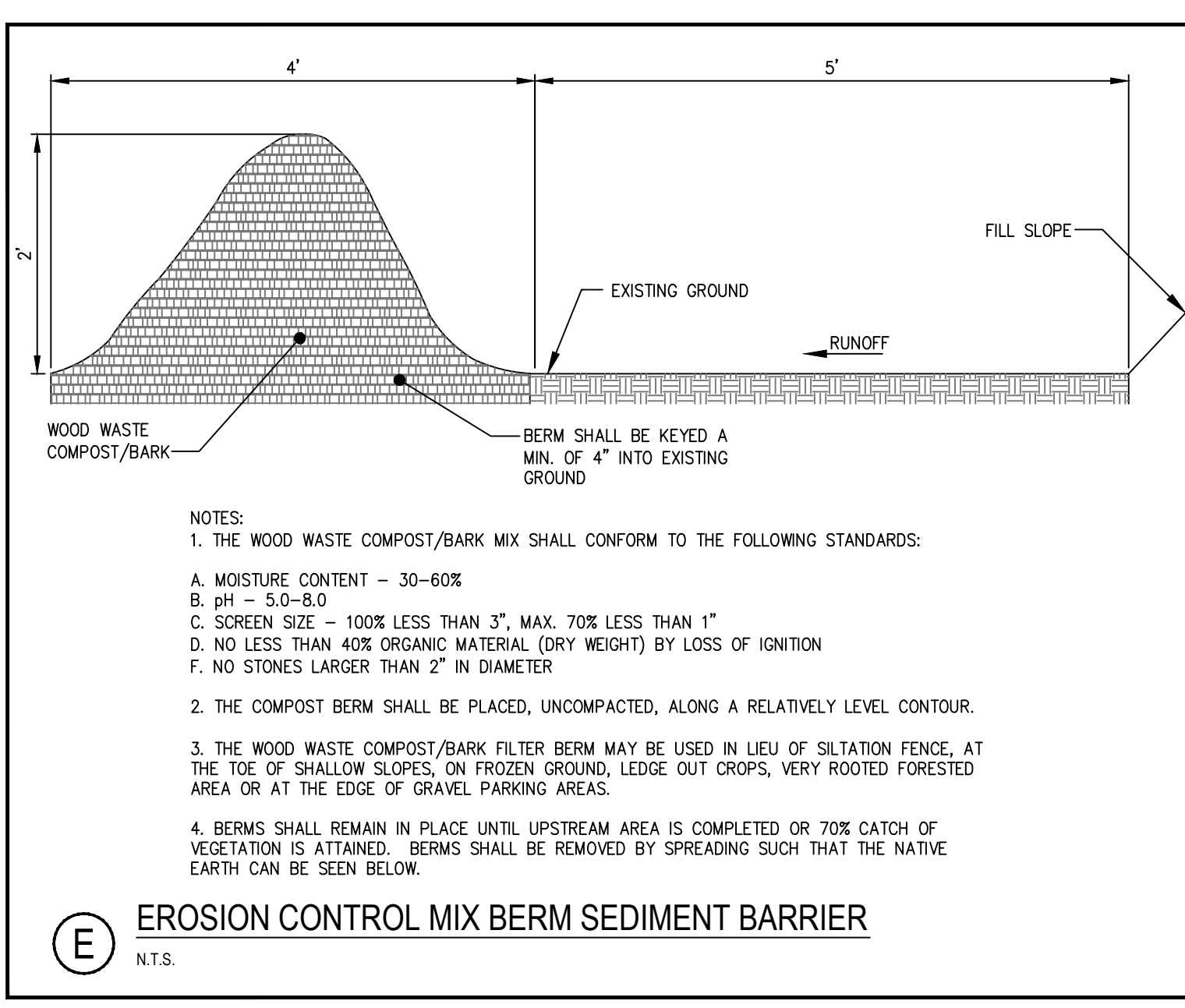
(A) SILTATION FENCE DETAIL
N.T.S.



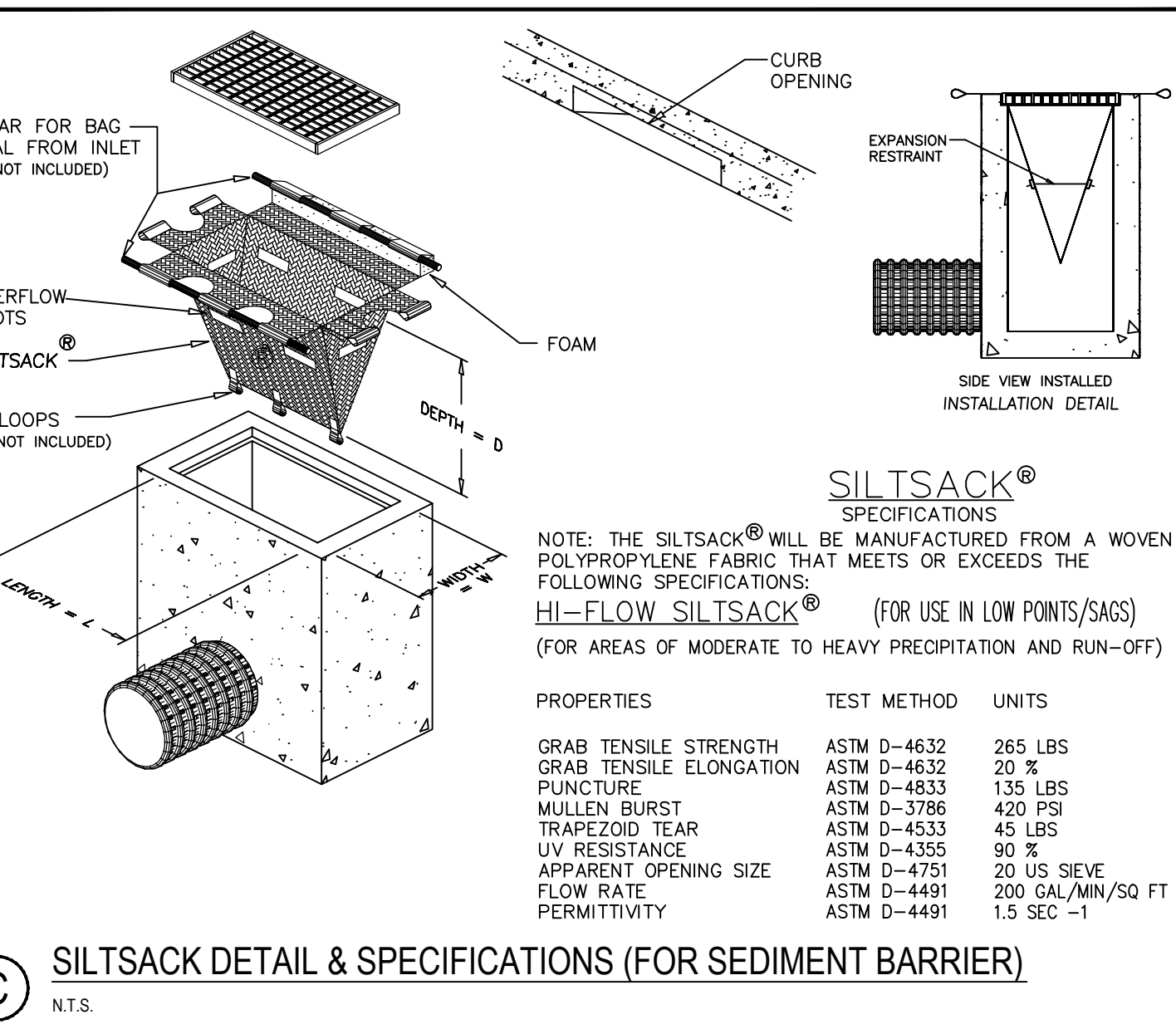
(D) RIPRAP OUTLET APRON DETAIL
N.T.S.



(B) STRAW OR HAY BALE BARRIER DETAIL
N.T.S.



(E) EROSION CONTROL MIX BERM SEDIMENT BARRIER
N.T.S.



(C) SILTSACK DETAIL & SPECIFICATIONS (FOR SEDIMENT BARRIER)
N.T.S.

PROVISIONS FOR MAINTENANCE OF THE EROSION/SEDIMENTATION CONTROL FEATURES

This project is subject to the requirements and conditions of a MoDEP Site Location of Development Permit Amendment through delegated review by the City of Portland. This permit requires the General Contractor to prepare a list and designate by name, address and telephone number all individuals who will be responsible for implementation, inspection and maintenance of all erosion control measures identified within this report and as contained in the Grading and Drainage Plan of the contract drawings. Specific responsibilities of the inspector(s) will include:

- Execution of the Contractor/Subcontractor Certification contained in Appendix B by any and all parties responsible for erosion control measures on the site.
 - Assuring and certifying the project's construction sequence is in conformance with the specified schedule of this report. A weekly certification stating compliance, any deviations, and corrective measures necessary to comply with the erosion control requirements of this report shall be prepared and signed by the inspector(s).
 - In addition to the weekly certifications, the inspector(s) shall maintain written reports recording construction activities on the site which include:
 - Dates when major grading activities occur in a particular area.
 - Dates when major construction activities cease in a particular area, either temporarily or permanently.
 - Dates when an area is stabilized.
 - Inspection of the project work site on a weekly basis and after each significant rainfall event (0.5 inches or more within any consecutive 24-hour period) during construction until permanent erosion control measures have been properly installed and the site has been stabilized. Inspection of the project work site shall include:
 - Identification of proper erosion control measure installation in accordance with the erosion control detail sheet or as specified in this report.
 - Determine whether each erosion control measure is operating properly. If not, identify damage to the control device and determine remedial measures.
 - Identify areas which appear vulnerable to erosion and determine additional erosion control measures which should be used to improve conditions.
 - Inspect areas of recent seeding to determine percent catch of grass. A minimum catch of 90 percent is required prior to removal of erosion control measures.
- Accumulated silt/sediment should be removed when the depth of sediment reaches 50 percent of the barrier height. Accumulated silt/sediment should be removed from behind silt fencing when the depth of the sediment reaches 6 inches.
- If inspection of the site indicates a change should be made to the erosion control plan, either to improve effectiveness or correct a site-specific deficiency, the inspector shall immediately implement the corrective measure and notify the Owner of the change.
- Once construction has been completed, long-term maintenance of the facilities will be the responsibility of The Inn at Diamond Cove, LLC. The catch basin sumps shall be inspected in April and October of each year. Sediment shall be removed when the depth of sediment reaches one-half the depth of the sump. All certifications, inspection forms, and written reports prepared by the inspector(s) shall be filed with the Owner and the City of Portland Planning Department. All written inspection forms and written reports must be filed within one (1) week of the inspection date.

SEEDING PLAN

Project: The Inn at Diamond Cove

Site Location: Great Diamond Island, Portland, Maine

	X	Permanent Seeding	Temporary Seeding
1. Area to be seeded:	+/-0.12 Acres, OR	5	M Sq. Ft.
2. Instructions on preparation of soil:	Prepare a good seed bed for planting method used.		
3. Apply lime as follows:	#/acres, OR	138 #/M Sq. Ft.	or per soil test
4. Fertilize with	20	pounds of	10-20-20 N-P-K/M Sq. Ft. or per soil test
5. Method of applying lime and fertilizer:	Spread and work into the soil before seeding.		
6. Seed with the following mixture:	35% Kentucky Bluegrass 35% Creeping Red Fescue 20% Chewings Fescue 10% Perennial Ryegrass		
7. Mulching instructions:	Apply at the rate of	115	pounds per M. Sq. Ft.
8. TOTAL LIME:	138	#/1000 sq. ft.	
9. TOTAL FERTILIZER:	20	#/1000 sq. ft.	
10. TOTAL SEED:	5.0	#/1000 sq. ft.	
11. TOTAL MULCH:	115	#/1000 sq. ft.	
12. TOTAL other materials, seeds, etc.:			
13. REMARKS			

- Recommended seeding dates April 15 to June 16 and August 15 until October 15. Permanent seeding should be made prior to October 15 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.
- Fertilizer requirements shall be subject to actual test results of the topsoil used for the project. The Contractor shall be responsible for providing topsoil test results for pH and recommended fertilizer application rates to the Owner. pH should be between 5.5 and 8.0.
- Seed mixture shall be fresh, clean, new crop seed. Seed may be mixed by an appropriate method on the site or may be mixed by the dealer. If seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis. If seed is mixed by the dealer, the Seeding Contractor shall furnish to the Owner the dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety.
- Seed shall be purchased from a recognized distributor and shall test to a minimum percentage of 95% for purity and 85% for germination.
- All loam shall have compost or peat admixtures to raise the organic content to 8%.

SEEDING PLAN

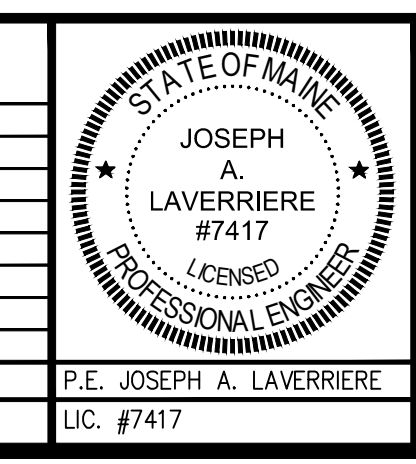
Project: The Inn at Diamond Cove

Site Location: Great Diamond Island, Portland, Maine

	X	Permanent Seeding	Temporary Seeding
1. Area to be seeded:	+/-0.07 Acres, OR	3	M Sq. Ft.
• For use in shaded, semi-shaded, or woodland edge areas.			
2. Instructions on preparation of soil:	Prepare a good seed bed for planting method used.		
3. Apply lime as follows:	#/acres, OR	138 #/M Sq. Ft.	or per soil test
4. Fertilize with	20	pounds of	10-20-20 N-P-K/M Sq. Ft. or per soil test
5. Method of applying lime and fertilizer:	Spread and work into the soil before seeding.		
6. Seed with the following mixture:	50% Creeping Red Fescue 25% Chewings Fescue 25% Perennial Ryegrass		
7. Mulching instructions:	Apply at the rate of	115	pounds per M. Sq. Ft.
8. TOTAL LIME:	138	#/1000 sq. ft.	
9. TOTAL FERTILIZER:	20	#/1000 sq. ft.	
10. TOTAL SEED:	4.0	#/1000 sq. ft.	
11. TOTAL MULCH:	115	#/1000 sq. ft.	
12. TOTAL other materials, seeds, etc.:			
13. REMARKS			

- Recommended seeding dates April 15 to June 16 and August 15 until October 15. Permanent seeding should be made prior to October 15 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.
- Fertilizer requirements shall be subject to actual test results of the topsoil used for the project. The Contractor shall be responsible for providing topsoil test results for pH and recommended fertilizer application rates to the Owner. pH should be between 5.5 and 8.0.
- Seed mixture shall be fresh, clean, new crop seed. Seed may be mixed by an appropriate method on the site or may be mixed by the dealer. If seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis. If seed is mixed by the dealer, the Seeding Contractor shall furnish to the Owner the dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety.
- Seed shall be purchased from a recognized distributor and shall test to a minimum percentage of 95% for purity and 85% for germination.
- All loam shall have compost or peat admixtures to raise the organic content to 8%.

REV	DATE	DESCRIPTION
8	03.13	ISSUED 100% CD SET
7	11.30.12	GMP SET
6	04.18.12	RESUBMITTED TO CITY OF PORTLAND
5	03.05.12	RESUBMITTED TO CITY OF PORTLAND
4	01.02.12	RESUBMITTED TO CITY OF PORTLAND
3	11.11.09	SUBMITTED TO CITY OF PORTLAND FOR REVIEW
2	03.12.09	SUBMITTED TO MODEP
1	12.05.08	SUBMITTED TO CITY OF PORTLAND FOR REVIEW



PROJECT	THE INN AT DIAMOND COVE
SHEET TITLE	EROSION CONTROL DETAILS & NARRATIVE
CLIENT	THE INN AT DIAMOND COVE LLC

DRAWN:	CDJ	DATE:	DEC. 2008
DESIGNED:	JAL	SCALE:	AS NOTED
CHECKED:	JAL	JOB NO.	2769
FILE NAME:	2769-DET		
SHEET	C-8		

