

SCOPE OF WORK
Construction Contract No. (To Be Determined)

PERFORM SURFACE REPAIRS ON MULTI USE PATH TRAIL - SAHO
GATEWAY NATIONAL RECREATION AREA – PMIS #256574

1.0 BACKGROUND

This project rehabilitates the surface of the multi-use path (MUP) trail on Sandy Hook Unit of the Gateway National Recreation Area.

The MUP at Sandy Hook consists of approximately seven miles of asphalt trails, and most of the trails are twelve feet wide. Exact lengths are in the drawings. The trails that that compose the MUP were built in several stages, with most of them constructed in the early 2000s and again in the early 2010s. Several locations on the MUP have already been patched and crack filled as part of its regular maintenance. As with all asphalt surfaces, the MUP needs periodic maintenance.

This project will replace sections of degraded asphalt, fill cracks, remove paint, re-surface, and re-stripe the MUP.

1.1 GOAL

The goal of this project is to provide a pleasant and safe bicycling and walking surface.

2.0 PERIOD OF PERFORMANCE AND WORK SCHEDULING

The period of performance for this project shall last 270 days from the notice to proceed.

No on-site construction work shall take place between Memorial Day weekend (May 26th) and Labor Day weekend (September 2nd).

Schedule work such that the following considerations are met

- For the cracks filled with patching material according to specification section 32 01 19.62, do not allow to sit in sun un-slurry-sealed for longer than 30 days.
- Asphaltic slurry seal coating and hot mix asphalt repairs shall be allowed to cure at least 30 days prior to applying paint.

3.0 MATERIALS AND EXECUTION

3.1 Contractor shall walk the MUP with COR to verify patch and special crack fill locations with temporary marking paint prior to patching and crack filling. Contractor shall provide the temporary marking paint for this task.

3.2 After completion of patching and crack filling, contractor shall walk the MUP with COR to verify quality of work prior to slurry seal.

3.3 Perform work as indicated in attached drawings C1-C7 (C8 contract option) according to the following attached specifications:

31 13 16 – SELECTIVE TREE AND SHRUB TRIMMING

32 01 19.62 – PATCHING OF RIGID PAVING

32 12 16 – HOT MIX ASPHALT (HMA) COURSES

32 12 36 – SLURRY SEAL

4.0 STIPULATIONS

4.1 Submit Safety Plan prior to beginning work. Safety Plan shall show all work complies with OSHA regulations. Safety plan shall include a bicycle path traffic control plan, which includes signage, method for limiting bicycle traffic to work areas, and alternate routes. Allow 10 business days for National Park Service (NPS) review.

4.2 Wildlife must be protected including nesting, breeding, or other activities. Work between March 15 and May 26 will require an NPS verification of wildlife nesting activities. If nest building begins, birds must not be harassed in any manner to deter nesting activity. NPS approval is required prior to placement of any structures to deter osprey nesting and any such structure may only be put in place between September 2 and March 14.

4.3 Staging areas, when possible, must be located on hard surfaces to minimize landscape disturbances.

4.4 It is anticipated that only slight ground disturbance will need to occur adjacent to the Mortar Battery for two patches. One patch is sized 8 feet by 2 feet and the other is sized 8-1/2 feet by 2 feet. The extent of anticipated ground disturbance is several inches below existing asphalt layer. This does not require archaeological monitoring. If extent of ground disturbance in this area exceeds this expectation, then contractor shall provide a schedule to NPS 30 business days ahead of planned work in this area. Schedule shall provide a two-week window to coordinate with NPS such that NPS is able to provide archeological monitoring during the construction of these patches.

4.5 If any inadvertent discoveries are made of cultural material, architectural debris or foundations, or human remain, Contractor shall notify Contracting Officer's Representative (COR) immediately.

4.6 Intact native topsoil from the project area shall be retained whenever feasible. Should additional

fill be needed, submit to COR a submittal that includes source and verification that it is free from contaminants and exotic seeds and spores.

4.7 Any wheel ruts, holes, or divots in lawn areas caused by the work shall be repaired by the contractor. Any bare soil areas created by the work shall be seeded with annual ryegrass and a native grass seed mix designed for the Northeast US region. Seed shall be applied at a rate of ½ pound per 1,000 square feet. Submit plant/seed selections to NPS for approval.

4.8 Prevent construction material, debris, and sediment from entering the waterways. Where necessary, use seed-free straw bales for sediment and erosion control.

4.9 All machinery containing fuels and oils shall have a spill kit available to immediately use in the event of a spill. In the event of a fuel or oil leak or spill, the work shall cease immediately, spill containment deployed, and Gateway NRA Dispatch (718) 354-4700 shall be called immediately. Law Enforcement Park Rangers will respond.

4.10 Nighttime paving operations are only allowed between September 2 and March 14. Nighttime paving operations must comply with NPS night sky rules.

4.11 Unless otherwise specified by the COR, all demolition removed material is to be disposed of outside the park at an approved landfill, recycled, or disposed of at other locations in accordance with federal, state, and local regulations.

4.12 Seabeach amaranth (*Amaranthus pumilus*) is an annual plant and threatened species, protected under the Endangered Species Act. Germination of seeds can be as early as April, and plants may die as late as December. If seabeach amaranth is detected within the project action area, the park's Resource Stewardship Division Manager must be contacted immediately through the COR.

5.0 CONTRACT PRICE SCHEDULE

When submitting bids for the work break down costs into contracting line items and option listed below. Use template provided with contract documents.

CLIN 1	Hot Mix Asphalt Repair
CLIN 2	Crack Filling and Crack Patching
CLIN 3	Tack Coat and Asphaltic Slurry Seal Application
CLIN 4	Remove and Replace Paint
CLIN 5	Tree and Root Pruning
CLIN 6	Bollard Installation

OPTION 1 Remove 2,800 SY pavement and repave same 2,800 SY footprint of MUP around North Beach Access according to typical repair detail and notes. See sheet C8 for outline of area designated for contract option 1.

6.0 REQUIRED SUBMITTALS

- Safety Plan (Includes Bicycle Path Traffic Control Plan)
- Pre-construction Physical Survey of Tree Roots
- Paving Plan for Hot Mix Asphalt
- Slurry Seal Plan
- Bollard
- Threaded Inserts and Bolts for Bollard Connection
- Root Barrier
- Paint

31 13 16 – SELECTIVE TREE AND SHRUB TRIMMING

1.1 DESCRIPTION

The work under this Section shall include all labor, on-site materials, equipment and all else necessary for full compliance with the applicable drawings, specifications, and other Contract requirements, or as directed by the Contracting Officer. This section describes the requirements for pruning tree limbs to create space for the paving equipment and to remove roots pushing up the pavement.

1.2 QUALITY ASSURANCE

Tree identification, limb trimming, and root trimming work shall be performed by or supervised by an arborist with an active certification by the International Society of Arboriculture (ISA).

All work shall be performed in accordance with the most current revision of the American National Standards (ANSI) for Tree Care Operations: Tree, Shrub, and Other Woody Plant Maintenance and Standard Practices, A-300.

2.0 EXECUTION

Pruning tools shall be sharp to avoid unnecessarily damaging tissue.

2.1 Pruning Tree Limbs

Prune tree limbs that will interfere with the paving equipment. Only minimum length of limbs required to create space for paving equipment shall be removed.

A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent branch with cutting into the branch bark ridge or branch collar or leaving a stub. A pruning cut that reduces the length of a branch or parent stem shall be made at a slight downward angle relative to the remaining stem and not damage the remaining stem. When pruning to a lateral, the remaining lateral branch shall be large enough to assume the terminal role. A cut that removes a branch with a narrow angle of attachment shall be made from the outside of the branch to prevent damage to the parent branch. The final cut shall result in a flat surface with the adjacent bark firmly attached. When removing a dead branch, the final cut shall be made just outside the collar of the living tissue. Wound treatment shall not be used to cover wounds or pruning cuts, except when necessary for disease, insect, mistletoe, or sprout control, or for cosmetic reasons. Wound treatments that are damaging to tree tissue shall not be used. When tracing wounds, only loose, damaged tissue shall be removed.

2.2 Pruning Tree Roots

ISA certified arborist shall conduct a pre-construction physical survey to identify the roots proposed to be cut. Contractor shall submit a brief report of this survey to Contracting Officer's Representative. The report shall include tree species, size, location, and possible amount of trimming involved. Roots size shall not be included in this report because they will be hidden beneath the pavement. Contractor shall allow National Park Service 15 working days to review it prior to trimming.

Prune tree roots in locations indicated in the drawings.

- Use the selective pruning method described in ANSI A300 Part 8 Section 86.3 to remove roots that are causing or likely to cause infrastructure damage
- Protect exposed roots that shall be retained with wet burlap in accordance with ANSI A300 Part 8 Section 86.1.5.
- After pruning, place root barriers as indicated in contract drawings to manage root growth direction.

2.3 Waste Removal

Pruned material shall be chipped and removed from the work site within 24 hours and disposed of according to New Jersey state regulations unless otherwise directed by the COR.

32 01 19.62 – PATCHING OF RIGID PAVING

1.1 DESCRIPTION

The work under this Section shall include all labor, on-site materials, equipment and all else necessary for full compliance with the applicable drawings, specifications, and other Contract requirements, or as directed by the Contracting Officer. This section describes the requirements for filling cracks in asphalt pavement larger than 1-3/4 inches with patching compound material as designated on contract drawings.

1.2 QUALITY ASSURANCE

Manufacturer shall have minimum 10 years documented experience in productions of polymer patching products. Polymer patching compound kit shall be ISO 9001 compliant.

2.1 MATERIALS

A. Patching Compound Kit:

1. Patching compound kit shall be a three-component polyurethane composition. Components shall include glass aggregate, resin, isocyanate. In addition, kit shall include black and white topping sand, safety gloves, mixing stick, and black dye for mixing to match asphalt.
2. Performance characteristics:
 - a. Volatile organic compound (VOC) content: 0, tested to ASTM D2369.
 - b. Shore A hardness: 90, tested to ASTM D2240.
 - c. Adhesion to concrete: 800 PSI, tested to ASTM D4541. 100% substrate failure
 - d. Evaluated by AASHTO according to Laboratory and Horizontal Field Evaluations of Rapid Setting Patching Material for Portland Cement Concrete.
 - e. Glass aggregate is dust-free, recycled glass with no sharp shards
 - f. Content of kit is from > 5% recycled materials
3. Requirements
 - a. Materials shall be mixed in accordance with manufacturer's instructions.
 - b. Discard mixes not used within manufacturer's stated time.

B. Accessories (if specified or required)

1. Accelerator, if required in cold conditions (< 40° F)

2.2 EXECUTION

A. PREPARATION

1. Clean surfaces to remove loose and foreign matter such as soil, weeds, and loose asphalt that could interfere with adhesion or performance of patching compound. Soil shall be removed from crack to a depth of 3 inches, which is the depth of the existing asphalt surface.
2. Blow out surfaces using compressed air or a leaf blower.
3. Leave surfaces clean to requirements of ASTM E 1907.
4. Surfaces shall be dry prior to application.

B. APPLICATION

1. Mix and apply 3 component patching compound in accordance with manufacturer's instructions.
2. Dispense polymer patching material on the walls and entire floor of large crack area.
3. Use a plastic trowel to level Polymer Resin, if necessary 0.25 inch (0.60 cm) below surrounding surface until it cures. Do not overfill spall area.
4. Add the topping sand as necessary when the material has gelled to the repair surface to refusal.
5. Return to full traffic service within 1 hour.

32 12 16 – HOT MIX ASPHALT (HMA) COURSES

1.1 DESCRIPTION

The work under this Section shall include all labor, on-site materials, equipment and all else necessary for full compliance with the applicable drawings, specifications, and other Contract requirements, or as directed by the Contracting Officer. This section describes the requirements for furnishing and applying hot mix asphalt courses.

1.2 QUALITY ASSURANCE

Referenced Standards:

NJDOT SSRBC – New Jersey Department of Transportation Standard Specification for Road and Bridge Construction 2019.

1.3 JOB CONDITIONS

A. Protection:

Provide the necessary barricades, signs, lights, etc. to prevent accidents, to avoid all hazards, to protect the public, the work and property at all times, including Saturday, Sunday and holidays.

B. Parking and Storage:

Parking of vehicles and storage of materials shall be confined to designated areas as approved by the Contracting Officer.

2.1 MATERIALS

Provide materials as specified:

Tack Coat 64-22, PG 64-22	NJDOT SSRBC 902.01.01
Prime Coat, Grade CSS-1	NJDOT SSRBC 902.01.02
Tack Coat: Emulsified Asphalt, Grade RS-1, RS-1h, CRS-1, or CRS 1h	NJDOT SSRBC 902.01.02
Polymer Modified Tack Coat: Polymer Modified Emulsified Asphalt	NJDOT SSRBC 902.01.03
Hot Mix Asphalt (HMA)	NJDOT SSRBC 902.02
HMA HIGH RAP	NJDOT SSRBC 902.13
Joint Sealer, Hot-Poured	NJDOT SSRBC 914.02
Polymerized Joint Adhesive	NJDOT SSRBC 914.03

Use HMA specified for the roadway surface as material for HMA pavement repair.

2.2 EQUIPMENT

Provide equipment as specified:

Materials Transfer Vehicle	NJDOT SSRBC 1003.01
HMA Paver	NJDOT SSRBC 1003.03
HMA Compactor	NJDOT SSRBC 1003.05
Vibratory Drum Compactor	NJDOT SSRBC 1003.06
Bituminous Material Distributor	NJDOT SSRBC 1003.07
Sealer Application System	NJDOT SSRBC 1003.08
Milling Machine	NJDOT SSRBC 1008.01
Mechanical Sweeper	NJDOT SSRBC 1008.03
Hot-Air Lance	NJDOT SSRBC 1008.06
HMA Plant	NJDOT SSRBC 1009.01
HMA Trucks	NJDOT SSRBC 1009.02

2.3 CONSTRUCTION

A. HMA Milling

Mill HMA to the specified depth, profile, and cross slope. Operate milling machine to produce milled material that passes a 3 inch sieve. Use automatic grade controls to control the line and grade of the milling machine. Use either a stringline or ski reference system. Replace teeth in the milling drum that become dislodged, broken, or unevenly worn. Perform milling operation, including removal of the milled material, in a manner that prevents dust and other particulate matter from escaping into the air. Ensure that the milled area is free from gouges, continuous grooves, ridges, and delaminated areas and has a uniform texture consisting of discontinuous longitudinal striations. Ensure that the striations do not deviate more than 1 inch in 200 feet from a line parallel to the center of the traveled way and do not exceed 3/8 inch in depth. Check at least every 25 feet to ensure that the depth of milling is within 1/4 inch of the indicated depth. Mill HMA to the depth specified without damaging underlying HMA. Sawcut at the limit of paving in driveways and at other limits requiring a neat edge between new and existing HMA. Using a mechanical sweeper, clean the milled area before opening to traffic and before subsequent construction or resurfacing. At transverse edges of milled areas, provide a smooth transition from the milled surface to the remaining pavement. In areas inaccessible to the milling machine, remove HMA with other equipment.

B. Filling Cracks in Existing Surface Course

Fill cracks that are between 1/4 inch wide and 1-3/4 inches wide. Clean cracks to a depth of 1 inch using a random crack saw, carbide-tipped, rotary-impact router, commercial power-driven wire brush, or by other COR approved means. Provide acceptable protective screening if the cleaning operation causes damage to or interference with traffic in adjacent lanes. Immediately before applying sealant, clean cracks and dry further with a hot-air lance. At least 10 days before beginning the work, submit to the COR a copy of the manufacturer's recommendations for heating and applying the sealant. Seal cracks with hot-poured joint sealant according to the manufacturer's recommendations. Cut sealant into small pieces to facilitate slow and uniform melting with constant stirring. Ensure that the temperature of the sealant in the field application equipment does not exceed the recommended safe heating temperature. Do not heat sealant material at the pouring temperature for more than 6 hours and do not reheat. Pour sealant into the cracks so that, upon completion of the work, the surface of the sealant is flush with or not more than 1/4 inch lower than the surface of the adjacent HMA surface course. If the sealant subsides to a lower level, perform another pouring.

When more than 1 pour is required to fill the cracks, perform succeeding pours immediately after shrinkage of the previous pouring. If spilling or overfilling occurs, immediately squeegee the crack. If the COR determines that the overfilled crack or spilled sealant creates a slippery, hazardous, or otherwise undesirable condition, initially correct the area by sprinkling a light application of abrasive (sand or grit material) to absorb the excess material, restore skid-resistance, and abate the condition caused by the overpour. After the excess material has been absorbed, hand sweep the area clean, and restore to its original condition or texture to the COR's satisfaction. Do not allow traffic or construction equipment over the poured cracks until the sealant has hardened sufficiently to resist pickup. The COR may direct sprinkling of dry sand over poured areas to provide additional pickup resistance.

For cracks wider than 1-3/4 inches designated on contract drawings for filling with three-component patching composition, follow directions written in specification 32 01 19.62 *Patching of Rigid Paving*.

C. HMA Pavement Repair

Arrange a project site meeting with the COR to establish the limits of HMA pavement repair. Perform HMA repairs as a separate operation before other surface treatments. Sawcut lines parallel and perpendicular to the roadway baseline and 3 inches away, at the closest point, from the damaged area to be repaired. Remove damaged and loose material within the boundary of the sawcuts to form rectangular openings with vertical sides to repair depths indicated in the contract drawings. A milling machine may be used to remove damaged pavement to form the repair areas if approved by the COR. If the base of the repair area is unbound material, then shape and compact the unbound material to produce a firm and level base. Place geotextile, then place and compact dense graded base material as shown in drawings. Compact dense graded base material as specified in NJDOT SSRBC 203.03.02.B.3. If the base of the repair is HMA or concrete pavement, then ensure that the remaining pavement is cleaned and dry prior to applying tack coat. Apply tack coat at an application rate of 0.15 gallons per square yard to the vertical surfaces and base of the opening. Spread and grade HMA surface course mix in the opening as specified in the drawings. Ensure that the temperature of the HMA when placed is at least 250 °F, and compact as specified in Section G. Compact areas not accessible to rollers with a flat face compactor. Compact until the top of the patch is flush with, or 1/8 inch higher than, the adjacent pavement surface.

D. Polymerized Joint Adhesive

Construct polymerized joint adhesive as specified in Section G.

E. Tack Coat

Clean the surface of foreign and loose material. Immediately before beginning paving operations, ensure that the surface is dry. Do not place tack coat unless the weather restrictions, as specified in Section G, are met. Do not apply tack coat to asphalt-stabilized drainage course. For curbs, gutters, manholes, railroad tracks, and other similar structures, do not apply tack coat. Clean the exposed surfaces of these structures and apply a uniform coating of polymerized joint adhesive to contact surfaces before paving. When using a spray paver, apply tack coat at a rate of 0.10 to 0.15 gallons per square yard and at a temperature as specified in NJDOT SSRBC Table 401.03.05-1. In areas

inaccessible to distributor spray bars, use hand spraying equipment for tack coat. Do not allow traffic on tack coated surfaces. Treat surfaces as follows:

1. Tack Coat. Uniformly spray tack coat when placing HMA on paved surfaces. Apply tack coat only to areas to be paved in the same day. Apply tack coat as specified in NJDOT SSRBC Table 401.03.05-1:

Table 401.03.05-1 Tack Coat Application			
Material	Spraying Temp, °F	Gallons per Sq. Yard	Season
Emulsified Asphalt:			
RS-1, RS-1h	125 to 185	0.05 to 0.15	All year
CRS-1, CRS-1h	125 to 185	0.05 to 0.15	All year

Correct uncoated or lightly coated areas. Blot areas showing an excess of tack coat with sand or other similar material. Remove blotting material before paving. Ensure that the material is not streaked or ribboned. Before paving, allow tack coat to cure to a condition that is tacky to the touch.

2. Tack Coat 64-22. When precipitation has occurred within 24 hours before application, the COR will determine whether to allow the work to proceed, or to wait until the surface is completely dry. Only apply tack coat that can be paved over in the same day. Apply tack coat 64-22 at a rate of 0.06 to 0.14 gallons per square yard and at a spraying temperature of 325 °F. Adjust the spraying temperature and application rate to produce a uniform coating, with no excess material.

Correct uncoated or lightly coated areas and remove excess tack coat from affected areas. Ensure that the material is not streaked or ribboned.

3. Polymer Modified Tack Coat. When paving polymer modified HMA, apply polymer modified tack coat with a spray paver at a temperature of 140 to 185 °F. Continuously monitor rate of spray, ensuring a uniform application rate over entire width to be overlaid. Apply at the rate of 0.10 to 0.15 gallons per square yard. For ultra-thin friction course, modified open-graded friction course and asphalt-rubber open-graded friction course, apply at a rate of 0.20 to 0.25 gallons per square yard. For bridge deck waterproof surface course, apply at a rate of 0.15 to 0.20 gallons per square yard. Do not allow traffic, equipment, tools, or any other disturbance to the polymer modified tack coat before placing the HMA material.

Clean and remove any tack coat material displaced or tracked in any areas as directed by the COR.

F. Prime Coat

Clean the surface of foreign and loose material where the HMA is to be placed. Immediately before beginning paving operations, ensure that the surface is dry. Do not place prime coat unless the weather restrictions, as specified in section G, are met. Do not apply prime coat to asphalt-stabilized drainage course. For curbs, gutters, manholes, railroad tracks, and other similar structures, do not apply prime coat. Clean the exposed surfaces of these structures and apply a uniform coating of polymerized joint adhesive to contact surfaces before paving. In areas inaccessible to distributor spray bars, use hand spraying equipment for prime coat. Do not allow traffic on prime coated surfaces. Treat surfaces as follows: Apply prime coat of emulsified asphalt on unpaved surfaces as follows:

Table 401.03.06-1 Prime Coat Application			
Material	Spraying Temp, °F	Gallons per Sq. Yard	Season
Emulsified Asphalt:			
CSS-1	70 to 140	0.1 to 0.50	All year

Apply prime coat at least 12 hours before placement of the HMA and when the base courses are not saturated or frozen. Unless the prime coat is under asphalt-stabilized drainage course, the COR may waive the application of prime coat if more than 5 inches of HMA is placed on the unbound aggregate course before the roadway is opened to traffic. Take measures to prevent prime coat from entering into the drainage system or extending beyond the area to be paved. Clean and remove any prime coat material displaced or tracked in any areas as directed by the COR.

G. HMA Courses

Paving Plan. At least 20 days before beginning placing HMA, submit a detailed plan of operation to the COR for approval that includes the following:

1. Asphalt paving construction technologist (APCT), certified by the Society of Asphalt Technologists of New Jersey, Inc. The Department will accept the equivalent certification by the Mid-Atlantic Regional Technician Certification Program.
2. Size and description of crew.
3. Number, type, and model of equipment. Innovative equipment features to be utilized such as but not limited to intelligent compaction rollers, paver mounted infrared thermal profile system, and other Global Position System (GPS) located construction equipment.
4. If planning nighttime operations, submit lighting plan compliant with NPS night sky rules.
5. Longitudinal joint layout plan, quality control, and construction practices.
6. Manufacturer's recommendations for heating and applying joint sealant.
7. Paving procedures for maintaining continuous operation as specified in this section.
8. Manufacturer's recommended laydown temperature for modified binders.
9. Paving sequence and paver automation use plan. Ensure that the HMA surface course is constructed for the full width of the traveled way, shoulder, and auxiliary lanes as a single paving operation.
10. Schedule, hours of operation, and production rates for the Project.
11. Plant locations.
12. Method of maintaining HMA temperature during transportation.
13. Method of constructing and compacting joints as specified in this section.
14. Quality control plan outlining the control of the compaction process.
15. Mix design
16. If applicable, the warm mix asphalt additive or process being used.

Do not begin paving until the COR approves this plan. Submit an adjusted pavement plan before making adjustments to the paving operation.

Weather Limitations. Do not place HMA if it is precipitating. Do not allow trucks to leave the plant when precipitation is imminent. The Contractor may resume operations when the precipitation has stopped and the surface is free of water. When placing HMA, ensure that the base temperature meets the minimum temperature requirements specified in Table 401.03.07-1.

Table 401.03.07-1 Minimum Base Temperature	
Lift Thickness, inches (t)	Minimum Base Temperature, °F
$t \leq 1$	50
$1 \leq t \leq 2$	41
$t \geq 2$	32

Transportation and Delivery of HMA. Deliver HMA using HMA trucks in sufficient quantities and at such intervals to allow continuous placement of the material. Do not allow trucks to leave the plant within 1 hour of sunset unless nighttime lighting is provided as specified in NJDOT SSRBC 108.06. The COR will reject HMA if the HMA trucks do not meet the requirements specified in NJDOT SSRBC 1009.02. The COR will suspend construction operations if the Contractor fails to maintain a continuous paving operation. Before the truck leaves the plant, obtain a weigh ticket from a fully automatic scale. Before unloading, submit for each truckload a legible weigh ticket that includes the following:

1. Name and location of the HMA plant.
- 2 Contractor.
3. Project title.
4. Load time and date.
5. Truck number.
6. Mix designation.
7. Item and Item number.
8. Plant lot number.
9. Tare, gross, and net weight.

Ensure that weigh tickets are signed and sealed by a certified weighmaster. In the event of breakdown of an automatic printer system, the COR will accept weigh tickets showing the tare, gross, and net weight of each truck, as entered and certified by a weighmaster for a period not exceeding the necessary repair time as certified by a licensed repairman. When using an automated batching plant, obtain weigh tickets from the printer used in conjunction with an automated batching and mixing system. Ensure the printed ticket shows the individual weights of the various components of the HMA in a batch, the total weight of each batch, and the sum of all batch weights in the truckload. At the completion of each day's work, provide certification from the weighmaster that the total net weight supplied was correct.

Spreading and Grading. Use a stringline or other linear reference system to ensure proper line and grade when spreading material. Ensure that the system is in place and approved by the COR before placing HMA. Ensure that the underlying surface meets line and grade as specified in NJDOT SSRBC 202.03.03.D. Before placing HMA, ensure that the tack coat or prime coat has been placed as specified to the full width of the HMA. Obtain COR approval of the underlying surface far enough in advance of spreading HMA to allow 1 day's paving operations. Ensure that the certified APCT is present during paving operations. Ensure that a Materials Transfer Vehicle (MTV)

independently delivers HMA from the HMA trucks to the HMA paver. Before beginning, ensure that the temperature of the screed on the HMA paver is heated to at least the laydown temperature of the HMA. Using the MTVs and HMA pavers, construct paving courses in lifts of at least 4 times the nominal maximum aggregate size of the HMA being constructed. Ensure the paver vibratory screed is on when paving and that the paver automation is used as per the paving plan. Ensure the paver and auger speed are coordinated and operated at the proper speed to allow for a uniform head of material across the entire width of the paver. Ensure that the proper paver and auger speed are maintained. Ensure that the grade and profile are maintained. Use HMA having a nominal maximum aggregate size of 3/8 inch or less in transition (run out) areas. On areas where irregularities or unavoidable obstacles make use of a paver impractical, spread, rake, and lute HMA with hand tools. For these areas, dump, spread, and screed the HMA to obtain the required compacted thickness. When paving HMA HIGH RAP record the laydown temperature (temperature immediately behind the paver) at least once per hour during paving. Submit the temperatures to the COR and the HMA Plant producing the HMA HIGH RAP. Construct joints as follows:

1. Longitudinal Joints. Perform paving with the spring-loaded end plates of the paver in the “down” position and ensure that they are firmly seated on the pavement surface. Ensure augers and tunnels are extended to within 12 to 18 inches of the end plates and that a continual supply of hot material flows out to the end plates and the material is not segregating. Ensure the longitudinal joint in 1 lift offsets that in the lift immediately below by approximately 6 inches. Offset the joint in the surface course from the lane lines by 6 inches. When constructing a joint between lanes of opposing traffic, offset the joint by 6 inches into either lane.

Cold Joint Paving. If echelon paving is not possible, construct the pavement using cold longitudinal joints. When constructing the first lane, compact so the line and grade of the edges of the HMA are not displaced. Construct longitudinal joints parallel to the centerlines within a tolerance of ± 1 inch per 100 linear feet. If this tolerance is not met, trim or mill the edge of the HMA mat as necessary. Before paving the abutting lane, ensure longitudinal joints are straight and free from dust and debris. For surface course only, uniformly apply polymerized joint adhesive to longitudinal cold joint. Apply a 1/8 inch thick coating of polymerized joint adhesive over the entire joint face. Apply slowly to ensure an even coating thickness. Apply polymerized joint adhesive to the vertical faces, curb, and utility structures. When maintaining traffic with a lift thickness greater than 2 inches, construct a wedge joint. The COR will permit a butt joint for lift thickness 2 inches or less when maintaining traffic, or for lift thickness greater than 2 inches when maintaining traffic is not required. Maintain a uniform width and depth of overlapped material at all times. Position the paver so that the HMA overlaps the edge of the lane previously placed by 1/2 to 1 inch. Leave the material sufficiently high to allow for compaction. Do not lute the HMA material. Do not broadcast HMA material at the joint across the new HMA mat. When compacted, ensure that the new mat at the joint is even or slightly higher (maximum 1/8 inch) than the previously placed adjoining mat. If the newly compacted mat results in a depression at the joint of more than 1/8 inch, suspend paving operations until corrective action is taken to prevent reoccurrence.

Transverse Joints. Construct transverse joints to provide a smooth riding surface. When using a bulkhead to form the joint, ensure that the bulkhead forms a straight line and vertical face. If a bulkhead is not used to form the joint, make the joint by sawing the compacted HMA for a sufficient distance behind the end of the placement to ensure full thickness and a smooth surface at the joint. Remove the full lift thickness of HMA ahead of the sawed joint. Paint the joint face with

polymerized joint adhesive before the fresh material is placed against it. Unless prohibited by field conditions, cross roll to obtain thorough compaction of these joints.

Compacting. Compact with the minimum number of rollers as specified in the Table 401.03.07-2.

Table 401.03.07-02 Compaction Requirements	
Laydown Rate (r), yd ² /day	Minimum Number of Rollers
$r \leq 2,000$	1
$2,000 < r < 4,000$	2
$r \geq 4,000$	3

Orient the drive axles of the roller towards the paver during compaction operation. Operate rollers at a slow, uniform speed not exceeding 2 1/2 miles per hour. If necessary to prevent adhesion of the HMA to the rollers, keep the wheels moistened with water mixed with very small quantities of detergent. Begin compacting at the sides and progress gradually to the center. On superelevated curves, compact from the lower to the upper edge parallel to the centerline and uniformly overlap each preceding track until the entire surface has been compacted. Continue rolling until roller marks are eliminated and the air voids conform to the specified requirements. Along forms, curbs, headers, walls, and other places not accessible to the rollers, compact the HMA by a vibratory drum compactor. Remove and replace HMA that becomes loose, broken, or otherwise defective or that shows an excess or deficiency of asphalt binder material. When paving in echelon, keep the rollers for the first lane approximately 6 inches from the unconfined edge adjacent to the second paving operation. After HMA from the second paver is placed against the uncompacted edge of the mat from the first paver, compact the HMA on both sides of the joint. Prevent lateral or vertical displacement of the unconfined edge during the compaction operation. Ensure that the edge of the drums of the rollers extends over the free edge of the mat by at least 6 inches. When compacting the butt or wedge joint, while paving the adjacent lane, place the roller on the newly placed HMA and overlap the joint by approximately 6 inches.

H. Opening to Traffic.

Remove loose material from the traveled way, shoulder, and auxiliary lanes before opening to traffic. Open HMA courses to traffic or construction equipment, including paving equipment, only after the surface temperature has cooled to less than 140 °F. When using Warm Mix Asphalt, do not allow traffic or construction equipment on the HMA course until the surface temperature is less than 120 °F.

32 12 36 – SLURRY SEAL

1.1 DESCRIPTION

The work under this Section shall include all labor, on-site materials, equipment and all else necessary for full compliance with the applicable drawings, specifications, and other Contract requirements, or as directed by the Contracting Officer. This section describes the requirements for furnishing and applying slurry seal.

1.2 QUALITY ASSURANCE

Referenced Standards:

NJDOT SSRBC – New Jersey Department of Transportation Standard Specification for Road and Bridge Construction 2019.

1.3 JOB CONDITIONS

C. Protection:

Provide the necessary barricades, signs, lights, etc. to prevent accidents, to avoid all hazards, to protect the public, the work and property at all times, including Saturday, Sunday and holidays.

D. Parking and Storage:

Parking of vehicles and storage of materials shall be confined to designated areas as approved by the Contracting Officer.

2.2 MATERIALS

Provide materials as specified:

Tack Coat:	NJDOT SSRBC 902.01.02
Emulsified Asphalt, Grade RS-1, RS-1h, CRS-1, or CRS 1h	
Slurry Seal	NJDOT SSRBC 902.10

2.3 EQUIPMENT

Provide equipment as specified:

Pneumatic-Tired Compactor	NJDOT SSRBC 1002.01
Bituminous Material Distributor	NJDOT SSRBC 1003.07
Mechanical Sweeper	NJDOT SSRBC 1008.03
Micro Surfacing and Slurry Seal Paver	NJDOT SSRBC 1012.01

Provide hand squeegees, shovels, and other equipment necessary to perform the work. Provide cleaning equipment such as power brooms, air compressors, water flushing equipment, and hand brooms adequate for surface preparation.

2.4 CONSTRUCTION

A. **Slurry Seal Plan.** At least 20 days before beginning placement of material, submit a detailed plan of operation to the COR for approval that includes the following:

1. Paving contractor's superintendent qualifications with a list of at least 5 successful projects, including project owner contact information.
2. Size and description of crew.
3. Number, type, model of equipment and material control/metering devices along with the current calibration documentation.
4. If planning nighttime operations, submit lighting plan compliant with NPS night sky rules.
5. Method of locating, protecting and maintaining manholes, inlets, other utilities, concrete, stone walkways, and railroad tracks.
6. Paving procedures for maintaining continuous operation as specified.
7. Paving sequence. Indicate that the surface is to be constructed for the full lane width as a single paving operation.
8. Schedule, hours of operation, and production rates for the Project.
9. Plant and stockpile locations for aggregate, emulsion, mineral filler and additives.
10. Method of maintaining modified emulsion temperature during transportation.
11. Method of constructing joints.
12. Quality control plan outlining the material testing, number and frequency planned in order to ensure compliance.
13. Mix design of the mixture, the AASHTO accredited laboratory used, and the test results of the mixture.

Do not begin paving until the COR approves this plan. Submit an adjusted plan before making adjustments to the paving operation.

B. **Weather Limitations.** Do not place material if the surface temperature of the underlying pavement is below 50 °F or if the National Weather Service is forecasting temperatures below 50 °F during installation or within 3 hours after installation. Do not place material if the existing surface is wet. Do not place material if it is precipitating and when precipitation is imminent. If within the 3 hours of placement, the National Weather Service locally forecasts a 50 percent chance, or greater, of precipitation during the scheduled placement, then postpone the placement of material. The Contractor may resume operations when the chance of precipitation is less than 50 percent, and the surface is dry.

C. **Test Strip.** Construct a test strip of at least 500 feet in length on the roadway before initial placement commences. Ensure that the mixing unit has been calibrated according to the International Slurry Surfacing Association Inspector's Manual or as recommended by the manufacturer. Ensure that the tack coat has been placed as specified in 401.03.05. Ensure the test strip is performed during weather and sunlight conditions which represent project production placement of the material. While constructing the test strip, record the following information and submit to the COR:

1. **Ambient Temperature.** Measure the ambient temperature at the beginning and end of each day's operation.

2. **Base Temperature.** Measure the surface temperature of the existing pavement at the beginning and end of each day's operation.
3. **Weather Conditions.** Document the wind speed, weather conditions, time of day, and humidity at the time of placement.
4. **Tack Coat.** Measure to verify the proper application rate, coverage, and temperature of tack coat for compliance.
5. **Material Quantities.** Measure to verify the proper proportions of emulsion, cement, aggregate, additives (if any), and temperature of the mixture during placement. Measure to verify the proper application rate of the mixture for compliance.
6. **Roller Pattern.** Provide details on the number of rollers, type, and number of passes used on the test strip.
7. **Initial Set Time.** Record the initial time of placement. Verify that the mixture has achieved initial set within 30 minutes of placement.
8. **Performance Under Traffic.** Verify that the surface shows no visual signs of distress when exposed to traffic after curing for 1 hour.
9. **Calibration.** Measure to verify that the gate opening is what was determined during calibration.

Submit test strip results to the COR. The COR will analyze the test strip results in conjunction with the approved mix design to approve the test strip. Do not proceed with production placement until receiving written permission from the COR. If the test strip does not meet requirements, make adjustments and construct a second test strip. If the second test strip does not meet requirements, suspend operations until written approval to proceed is received from the COR. Before making adjustments to the operations, notify the COR in writing. The COR may require a new test strip to verify the performance of the adjusted operations.

- D. **Surface Preparation.** Ensure repairs are completed prior to beginning installation. Ensure rut filling and micropave joints have cured for at least 24 hours prior to applying material. Ensure that manholes, inlets, utilities, curbs, structures, concrete bollard foundations, stone walkways, railroad tracks, and rumble strips to remain are protected by methods approved by the COR. Do not proceed with placement until the COR approves the prepared surface. Clean the surface of the pavement to remove all dust, debris, oil, and any other materials that may prevent bonding of the treatment to the existing surface. Ensure that the surface is clean and dry. Apply tack coat prior to application of the treatment as specified in NJDOT SSRBC 401.03.05.
- E. **Slurry Seal Application.** Apply the mixture over the full lane width as specified in Table 421.03.04-1.

Table 421.03.04-1 Job Mix Types and Application		
Aggregate Type (See NJDOT SSRBC Table 902.10.03-1)	Location	Application Rate (lbs./yd²)
Type I	Surface Course	10-14
	Intermediate Course	
Type II	Surface Course	16-20
	Intermediate Course	
1. International Slurry Surfacing Association (ISSA)		

Operate equipment to prevent the loss of the mixture on super-elevated curves. Spread the mixture to fill cracks and minor surface irregularities and leave a uniform high-skid resistant application of aggregate and asphalt on the surface. Operate spreader box so a uniform consistency is achieved without causing skips, lumps, or tears in the finished surface.

Carry a sufficient amount of material, at all times, in all parts of the spreader box, so complete coverage is obtained. Water may be sprayed into spreader box to facilitate spreading without harming the mix. No lumping, balling, or unmixed aggregate is permitted in the finished surface.

Adjustments to the additive may be required for slow setting where hand spreading is needed. Use squeegees and lutes to spread the mixture in areas inaccessible to the spreader box and areas requiring hand spreading. When hand spreading, pour the mixture in a small windrow along one edge of the surface to be covered and then spread uniformly by a hand squeegee or lute. Make a neat appearing seam where two passes join. Ensure transverse joints of micro surfacing are made straight, clean, and perpendicular to the direction of travel. The maximum overlap of longitudinal lane line joints is 3 inches. Ensure micro surfacing longitudinal joints are parallel to, and not offset by more than 3 inches maximum from the final traffic striping. Immediately remove excess material from ends of each run.

Do not leave streaks in the finished surface. If streaking develops, stop the operation and submit a corrective action plan to the COR. Do not resume operations until the COR approves the plan.

- F. **Compaction.** Do not roll until the material has cured sufficiently to avoid damage by the roller. Use a pneumatic-tired compactor as specified in NJDOT SSRBC 1002.01, except ensure the roller is equipped with a water-spray system. Roll the material with a minimum of at least 2 passes of the pneumatic-tired compactor. Roll the material until roller marks are eliminated.
- G. **Opening to Traffic.** Allow the material sufficient curing time before opening to traffic. Remove loose material from the traveled way before opening to traffic. If the material becomes damaged replace the damaged area.
- H. **Applying Striping and Traffic Markings.** Allow material to cure for at least 14 days before applying permanent traffic striping and traffic markings.
- I. **Surface Quality Requirements.** Ensure that there is no excess buildup, uncovered areas, or rough areas on the pavement surface including the longitudinal and transverse joints. The COR will visually inspect the pavement for approval. The COR may reject areas of pavement that are unsatisfactory based on visual inspection. Correct areas of the pavement that the COR rejects. Visual inspection by the COR is considered sufficient grounds for such rejection. The COR may use a 10-foot straightedge to verify transverse profiles of finished surfaces. Correct areas that have more than 1/4-inch deviation between any 2 contact points of the straightedge in a manner approved by the COR. Following correction, retest the area to verify conformance with this requirement.



ASPHALT NOTES

1. MULTI-USE PATH INDICATED WITH RED LINES.
2. PATCH LOCATIONS ARE APPROXIMATE. CONTRACTING OFFICERS REPRESENTATIVE AND CONTRACTOR SHALL MEET ON SITE TO CONFIRM QUANTITIES AND MARK OUT LOCATIONS WITH PAINT AHEAD OF CONSTRUCTION.
3. USE HMA 12.5L64 MIX FOR ASPHALT REPAIR.
4. SAWCUT EDGES OF EXISTING ASPHALT FOR HMA REPAIRS.
5. SEE DETAIL SHEET C2 FOR DETAILS CALLED OUT.

TOTAL HMA ASPHALT REPAIR
(SEE QUANTITIES FOR EACH
DETAIL & DEPTH SHEET C2)

699 SY



SHEET

C1

DRAWING

PERFORM SURFACE REPAIRS
ON MULTI USE PATH TRAIL -
SAHO

Asphalt Locations

PARK
GATE

PMIS
256574

DATE
NOV 2022

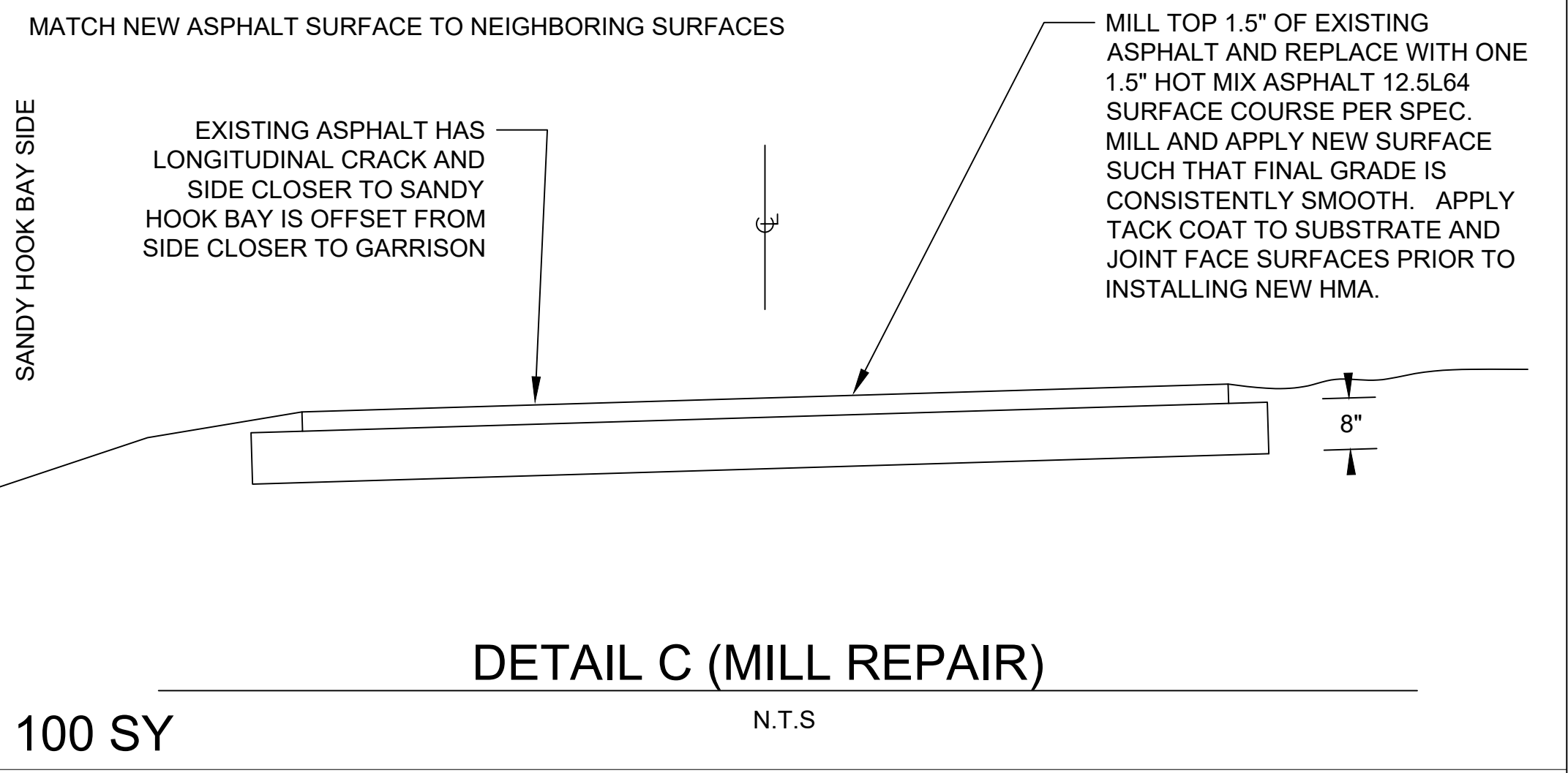
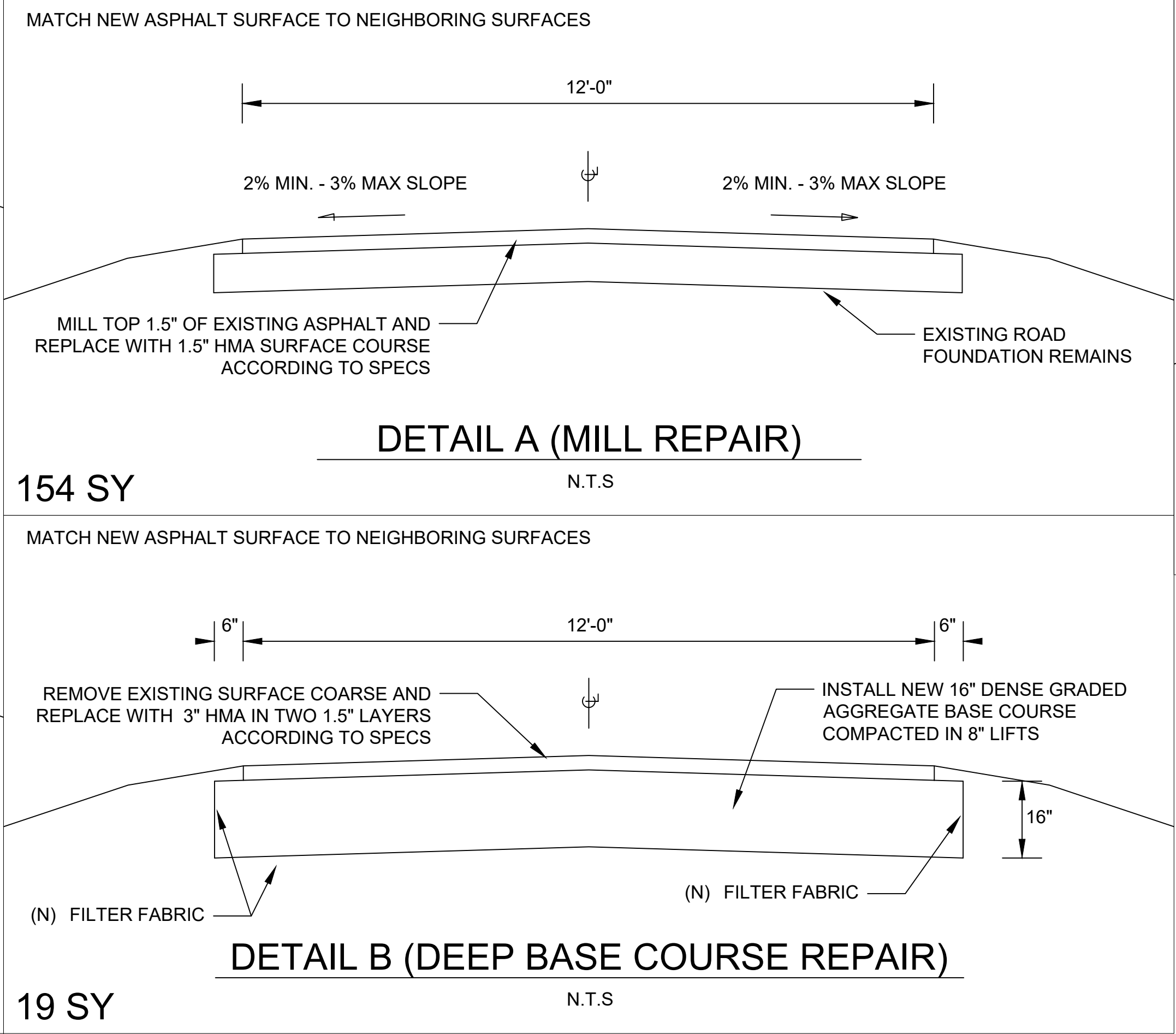
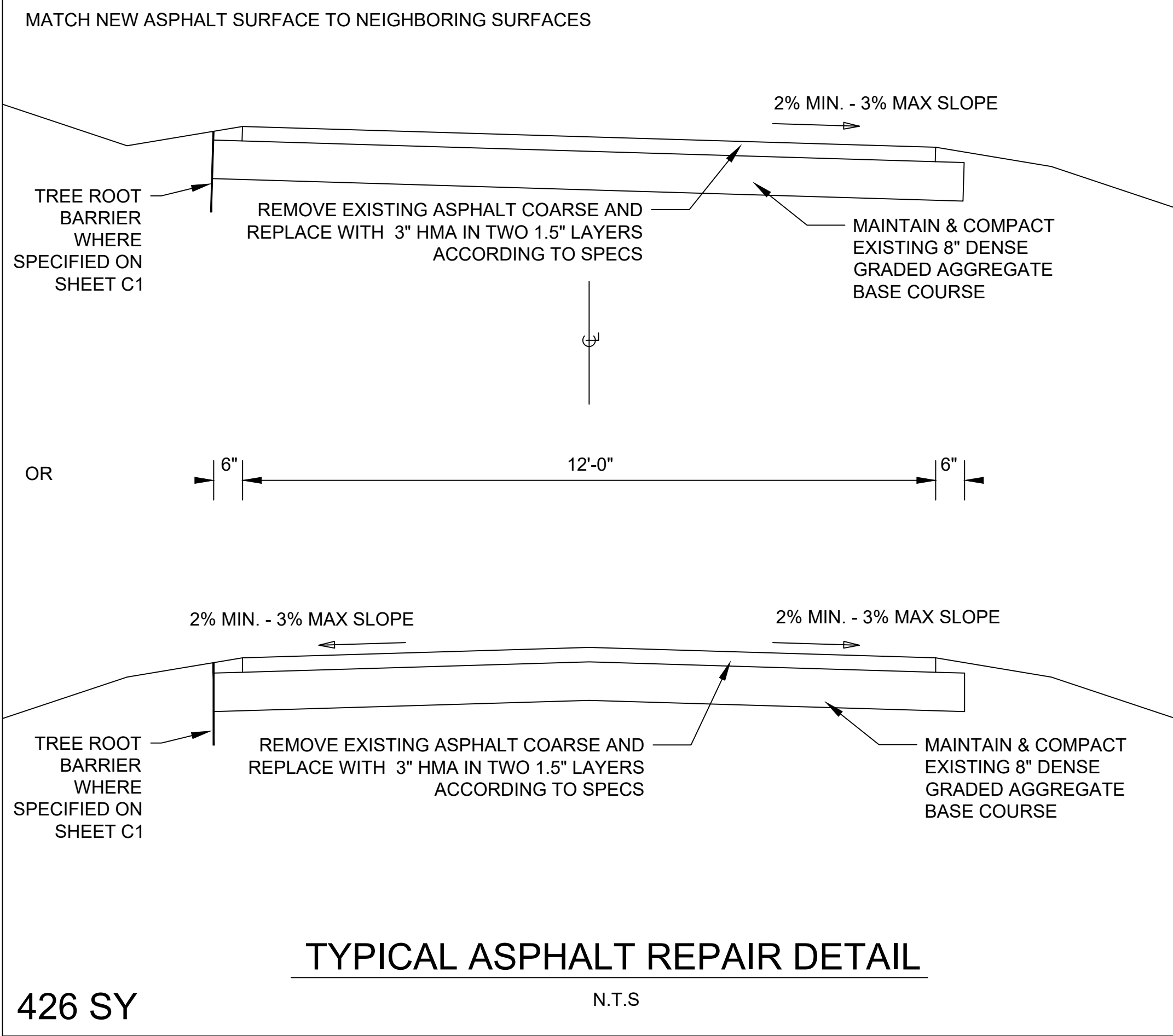



PHOTO OF DETAIL C (MILL REPAIR) EXISTING COND.

N.T.S

NOTES

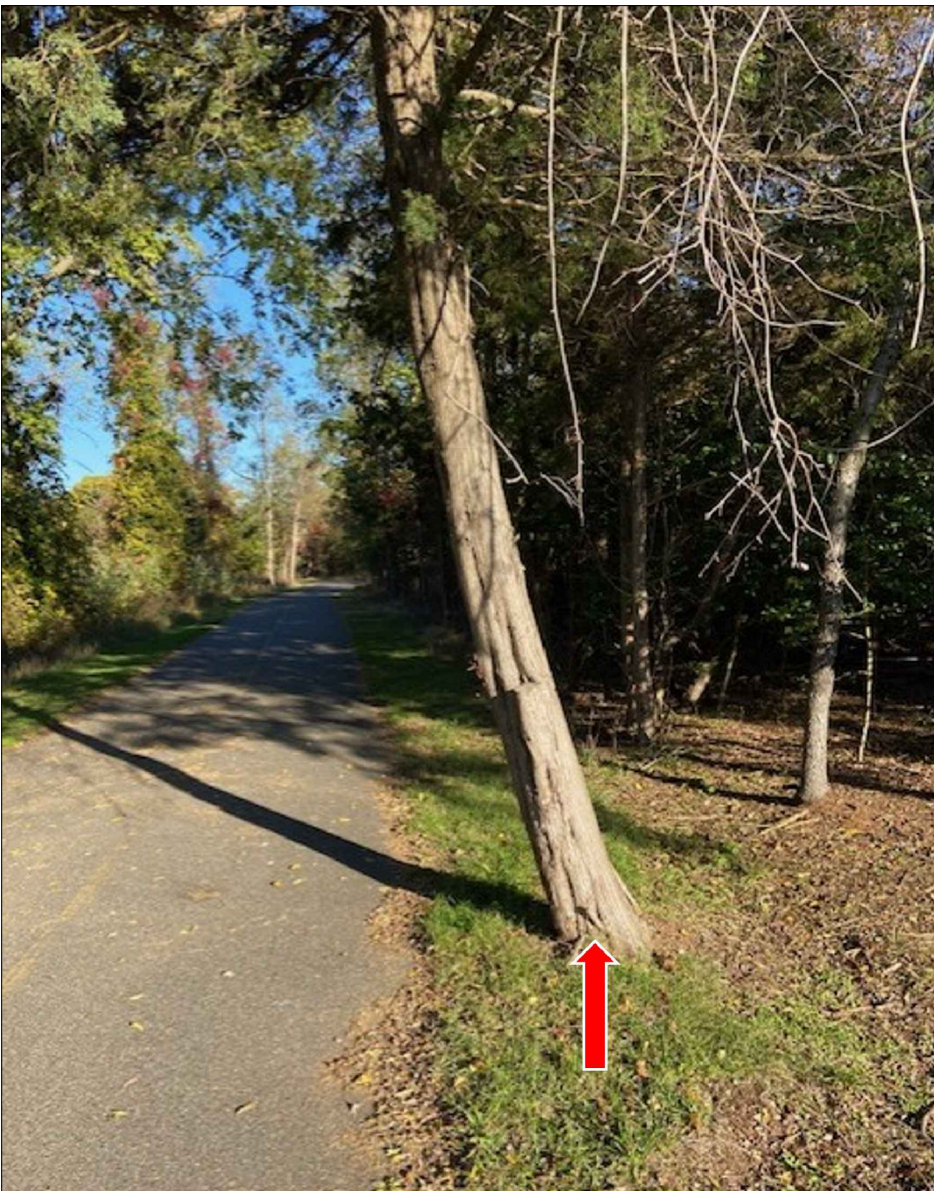
1. SAWCUT EDGES PRIOR TO REMOVING EXISTING PAVEMENT MATERIAL.
2. WHERE ROOT REMOVAL IS INDICATED ON SHEET C1, A LICENSED ARBORIST SHALL CONDUCT A PRE-CONSTRUCTION PHYSICAL SURVEY TO IDENTIFY THE TREE ROOT SPECIES . SUBMIT SURVEY TO NATIONAL PARK SERVICE AND ALLOW 15 WORKING DAY REVIEW PRIOR TO CUTTING TREE ROOTS. DURING CONSTRUCTION, ROOT REMOVAL SHALL BE UNDERTAKEN BY AN ISA CERTIFIED ARBORIST.
3. AFTER REMOVING ROOTS AND PRIOR TO FIXING AND COMPACTING BASE, INSTALL TREE ROOT BARRIER AT EDGE OF BASE COURSE. ROOT BARRIER SHALL BE AT LEAST 18" DEEP AND EXTEND LENGTH OF PATCH ON THE SIDE(S) OF ROOT INTRUSION. ROOT BARRIER SHALL BE MADE FROM POLYMERIC MATERIAL. SUBMIT ROOT BARRIER FOR APPROVAL PRIOR TO INSTALLING IT. TOP OF ROOT BARRIER SHALL NOT EXTEND ABOVE SOIL LINE FOR INJURY PREVENTION PURPOSE.
4. REPAIR AND COMPACT EXISTING BASE MATERIAL WHEN IT IS EXPOSED.
5. INSTALL ADDITIONAL BASE MATERIAL WHERE NECESSARY TO MAINTAIN BASE COURSE AS INDICATED.
6. APPLY TACK COAT TO EXISTING ASPHALT SUBSTRATE AND JOINT FACE SURFACES PRIOR TO INSTALLING NEW HOT MIX ASPHALT.
7. APPLY PRIME COAT TO COMPACTED BASE COURSE AND EDGES PRIOR TO INSTALLING HOT MIX ASPHALT.
8. UNLESS OTHERWISE SPECIFIED, INSTALL 3" TOTAL HOT MIX ASPHALT. THERE SHALL BE ONE 1.5" HOT MIX ASPHALT 12.5L64 SURFACE COURSE AND ONE 1.5" HOT MIX ASPHALT 12.5L64 BASE COURSE
9. FINISHED ASPHALT GRADE SHALL MATCH NEIGHBORING SURFACES.

	SHEET	PERFORM SURFACE REPAIRS ON MULTI USE PATH TRAIL - SAHO	PARK GATE
	C2		PMIS 256574
	DRAWING	Asphalt Pavement Repair	DATE NOV 2022

TREE REMOVAL



REMOVE THIS TREE
AND STUMP LOCATED
BETWEEN RANDOLPH
AND CAMPGROUND




REMOVE THIS TREE
AND STUMP LOCATED
AT CAMPGROUND
ENTRANCE

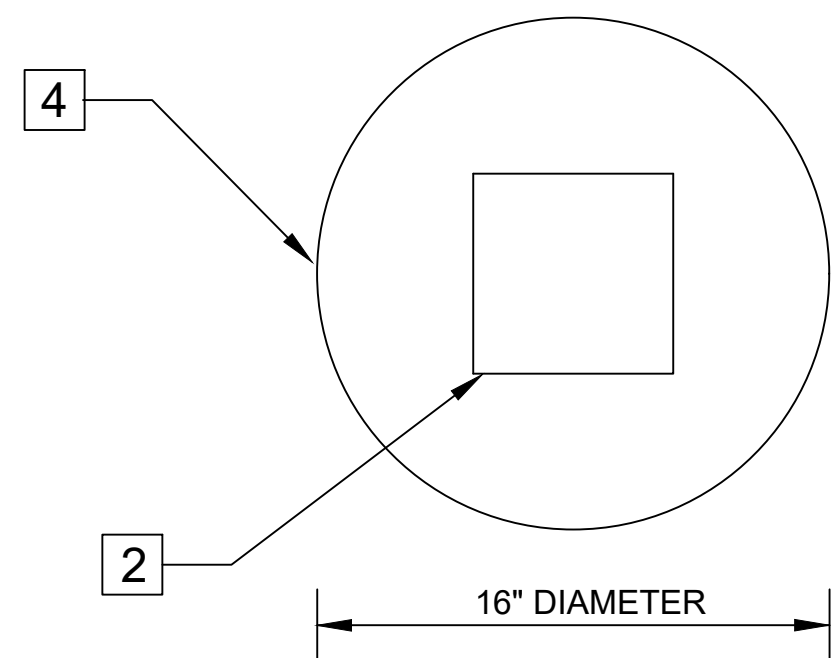


REMOVE THESE TREES AND
STUMPS LOCATED NORTH OF
RANDOLPH

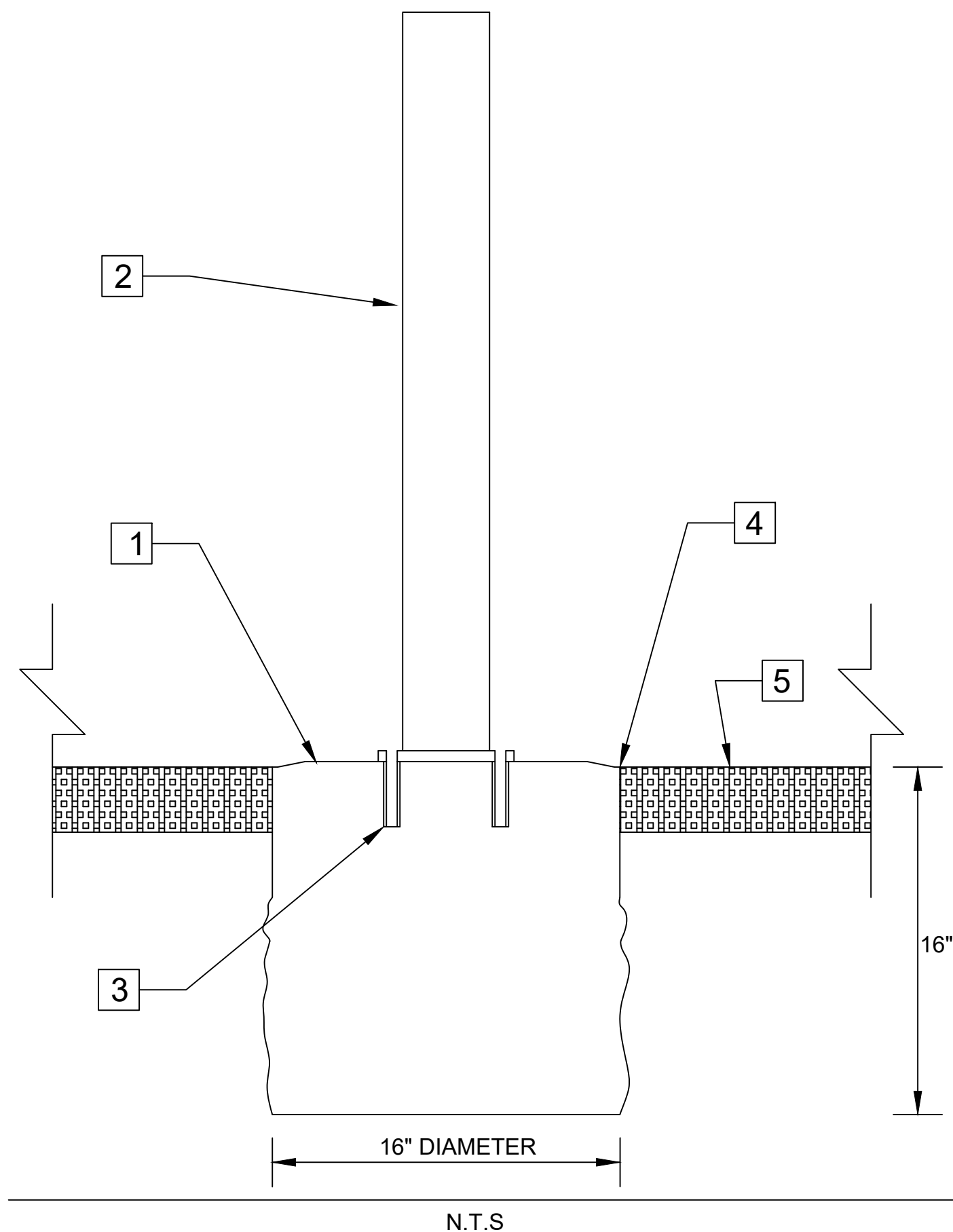
THESE TREE TRUNKS ARE SO CLOSE TO
MUP THAT CUTTING THEIR ROOTS WILL
MAKE THE REMAINING PARTS OF THE
TREES UNSTABLE
(ISA *MANAGING TREES DURING
CONSTRUCTION 2ND ED.* PAGE 18)

ITEM	QTY
TOTAL TREE REMOVAL	4

	SHEET	PERFORM SURFACE REPAIRS ON MULTI USE PATH TRAIL - SAHO	PARK GATE
	C3		PMIS 256574
	DRAWING	Tree Locations	DATE NOV 2022

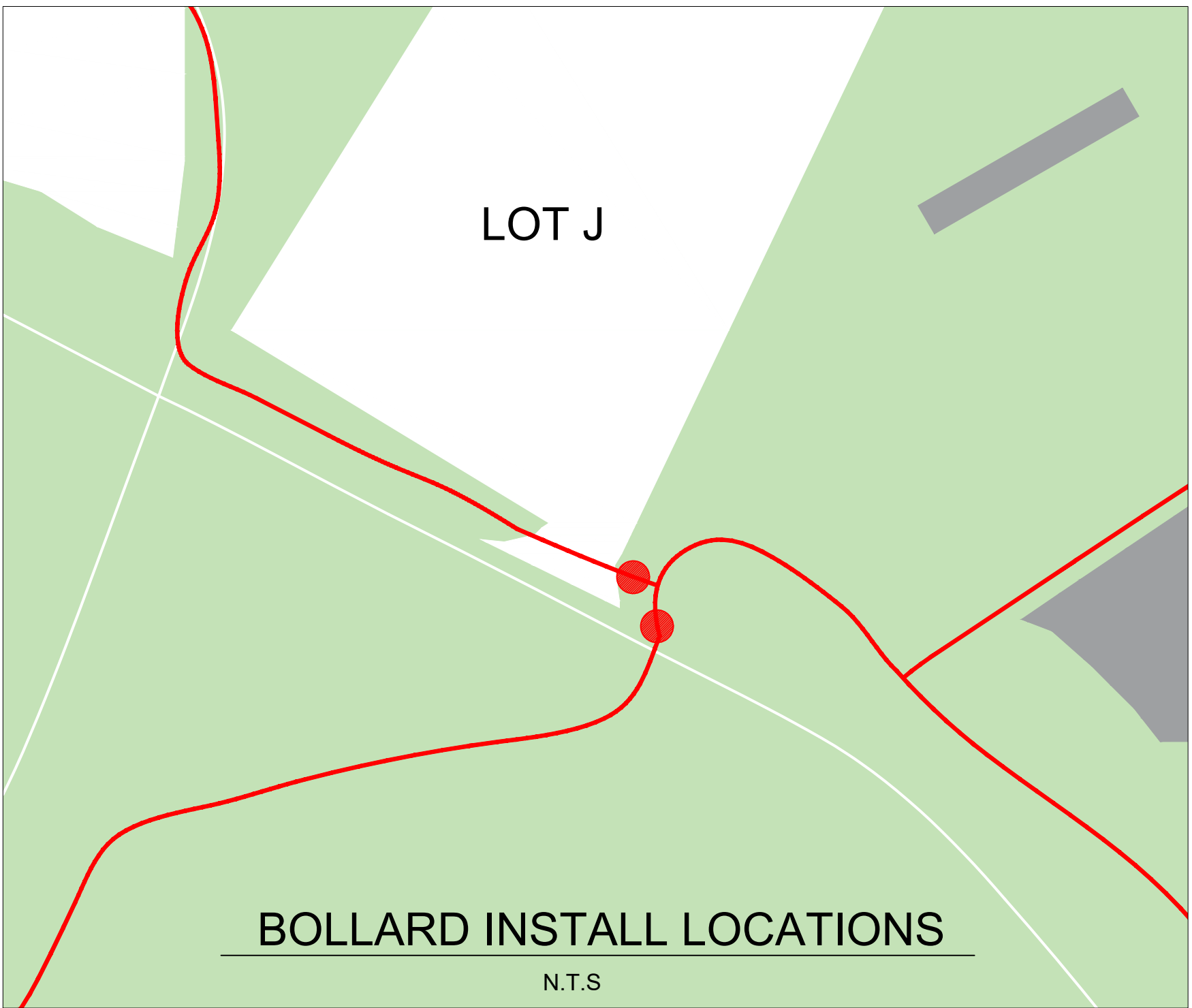


BOLLARD INSTALLATION PLAN DETAIL
N.T.S

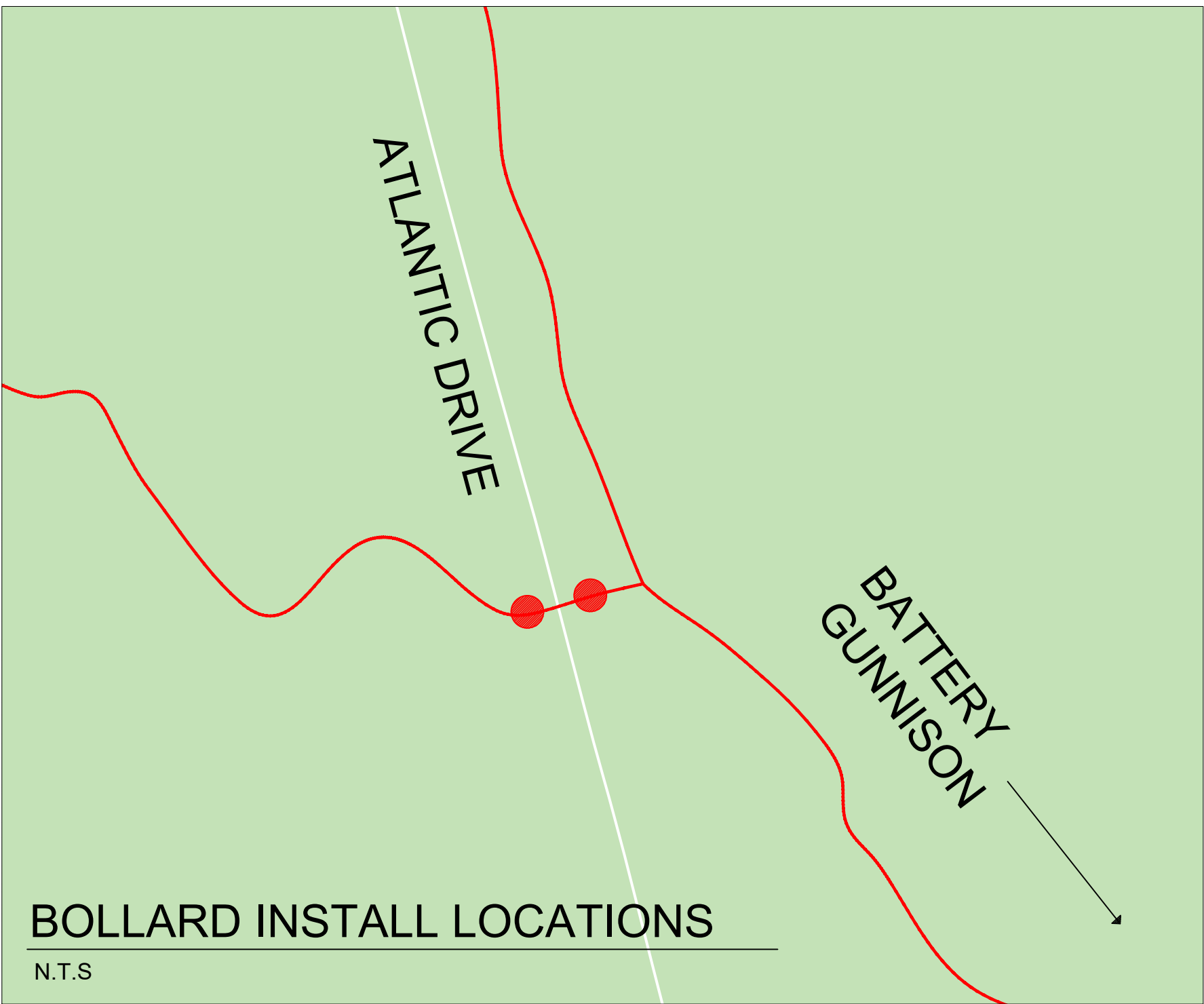


BOLLARD INSTALLATION SECTION DETAIL
N.T.S

ITEM	QTY
● NEW BOLLARD INSTALLATION.....	6 EACH



BOLLARD INSTALL LOCATIONS
N.T.S



BOLLARD INSTALL LOCATIONS
N.T.S

- NOTES
- 16" DIAMETER X 16" DEEP CONCRETE FOUNDATION. TOP SURFACE IS SLOPED TO DRAIN.
 - NEW POLYMER BOLLARD. MINIMUM HEIGHT IS 42". BOLLARD SHALL BE ABLE TO FLEX IF HIT BY A CAR. SUBMIT FOR APPROVAL. BOLT NEW BOLLARD TO NEW INSERTS.
 - INSTALL FOUR NEW GALVANIZED STEEL THREADED INSERTS TO MATCH BOLLARD HOLE PATTERN AND CONNECTOR BOLT SIZE. CONNECTOR BOLTS SHALL BE GALVANIZED STEEL. SUBMIT THREADED INSERTS AND CONNECTOR BOLTS FOR APPROVAL.
 - CUT EXISTING PAVEMENT IN SMOOTH AND NEAT CIRCLE. THE PURPOSE OF THIS IS TO REDUCE PROBABILITY OF FUTURE CRACKS FORMING AT STRESS CONCENTRATIONS AT POINTED EDGES.
 - INSTALL BOLLARD FOUNDATION PRIOR TO INSTALLING NEW ASPHALT SURFACE COURSE OR SLURRY SEAL. PROTECT NEW CONCRETE SURFACE FROM SLURRY SEAL. FINISHED GRADE.
 - NEW BOLLARDS SHALL BE PLACED AT LEAST 1-1/2 FEET CLEAR FROM ROAD EDGE.



BOLLARD INSTALL LOCATIONS
N.T.S

	SHEET	PERFORM SURFACE REPAIRS ON MULTI USE PATH TRAIL - SAHO	PARK GATE
	C4		PMIS 256574
	DRAWING		DATE NOV 2022
Bollard Detail			



CRACK FILLING NOTES


1. MULTI-USE PATH INDICATED WITH RED LINES.
2. CLEAN CRACKS AND REMOVE LOOSE MATERIAL INCLUDING SOIL AND GRASS TO THREE INCHES DEPTH PRIOR TO INSTALLING CRACK FILLER.
3. USE HOT POURED JOINT SEALANT MATERIAL TO FILL CRACKS BETWEEN 1/4" WIDE TO 1-1/2" WIDE.
4. WHERE INDICATED IN DRAWINGS WITH **S**, FILL CRACKS WITH DESIGNATED QUANTITY OF THREE COMPONENT POLYURETHANE RESIN, GLASS AGGREGATE, ISOCYANATE PATCHING COMPOSITION. CONFIRM LOCATION IN PERSON WITH COR PRIOR TO CARRYING OUT THE REPAIR.

CRACK FILLING QUANTITIES FOR CRACKS 1/4" WIDE TO 1-3/4" WIDE, 3" DEEP. HOT POURED JOINT SEALANT MATERIAL

A.....	200 LF
B.....	300 LF
C.....	0 LF
D.....	650 LF
E.....	200 LF
F.....	400 LF
G.....	700 LF
H.....	650 LF
I.....	150 LF
J.....	50 LF
K.....	650 LF
L.....	2,800 LF
M.....	50 LF
<hr/>	
TOTAL.....	6,800 LF

CRACK FILLING QUANTITY FOR POLYURETHANE RESIN, GLASS AGGREGATE, ISOCYANATE PATCHING COMPOSITION

TOTAL.....	102 GALLONS
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	SHEET	PERFORM SURFACE REPAIRS ON MULTI USE PATH TRAIL - SAHO	PARK GATE
	C5		PMIS 256574
	DRAWING	Crack Fill	DATE NOV 2022



POLYMER MODIFIED ASPHALTIC SLURRY SEAL NOTES

- 1. MULTI-USE PATH INDICATED WITH RED LINES.
- 2. PERFORM CRACK SEALING, HMA ASPHALT PAVEMENT REPAIR, AND PAINT REMOVAL PRIOR TO APPLICATION OF TACK COAT AND ASPHALTIC SLURRY SEAL.
- 3. APPLY TACK COAT PRIOR TO APPLYING SLURRY SEAL PER SPECIFICATION IN AREAS INDICATED ON THIS SHEET.
- 4. APPLY POLYMER MODIFIED ASPHALTIC SLURRY SEAL WITH TYPE I AGGREGATE PER SPECIFICATION IN AREAS INDICATED ON THIS SHEET.


DISTANCES

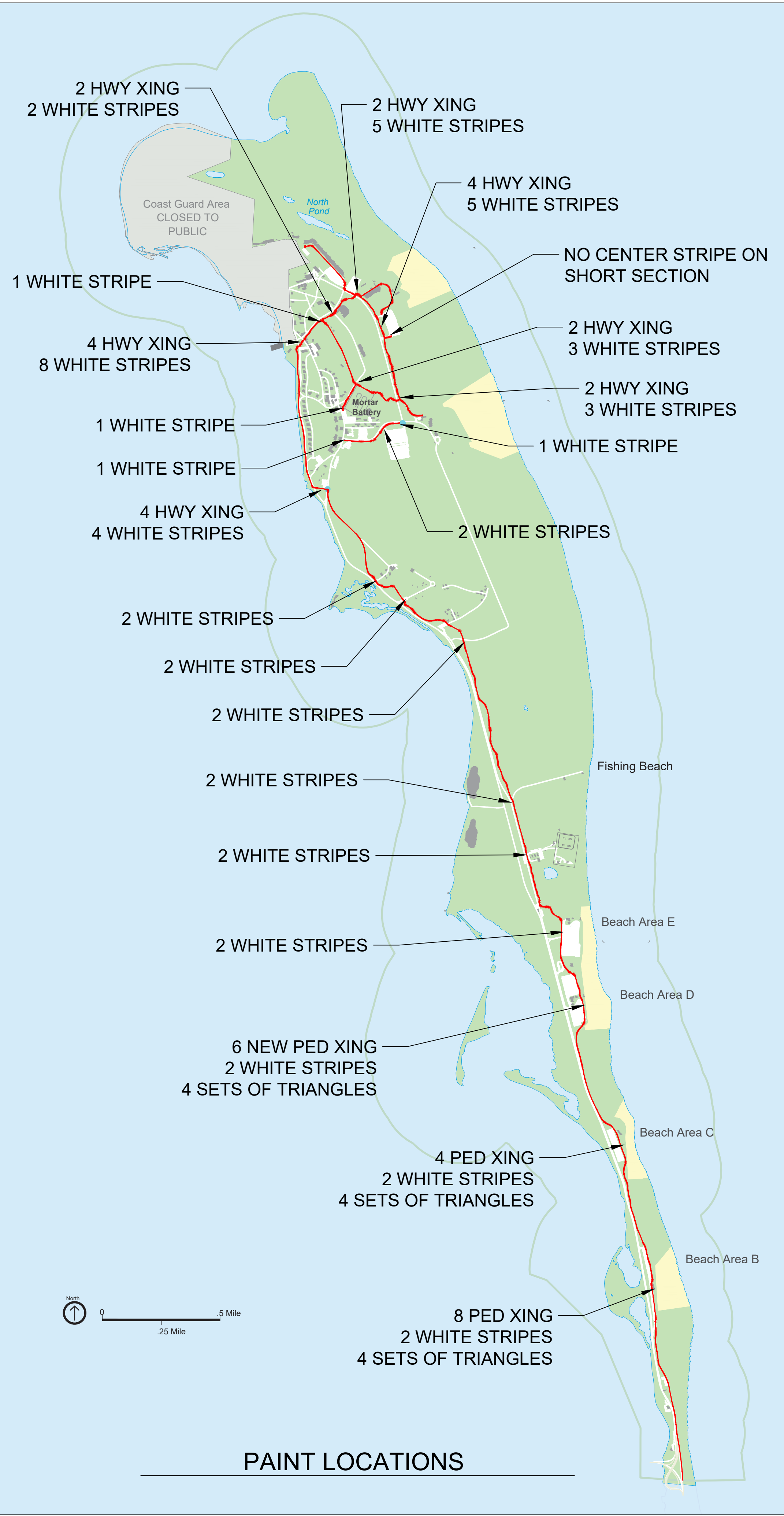
A.....	1,700 FT	
B.....	950 FT	
C.....	1,500 FT	[14 FEET WIDE] [NO SEALING]
D.....	2,700 FT	
E.....	700 FT	
F.....	1,200 FT	
G.....	1,700 FT	
H.....	4,050 FT	
I.....	650 FT	[8 FEET WIDE AND WIDER ON WEST END]
J.....	1,370 FT	[NO SEALING]
K.....	263 FT	
L.....	22,600 FT	
M.....	165 FT	[8 FEET WIDE]

AREAS

A.....	2,300 SY
B.....	1,267 SY
C.....	0 SY
D.....	3,600 SY
E.....	933 SY
F.....	1,600 SY
G.....	2,267 SY
H.....	5,400 SY
I.....	600 SY
J.....	0 SY
K.....	456 SY
L.....	30,133 SY
M.....	150 SY

TOTAL.....48,706 SY

	SHEET	PERFORM SURFACE REPAIRS ON MULTI USE PATH TRAIL - SAHO	PARK GATE
	C6		PMIS 256574
	DRAWING	Asphalt Seal	DATE NOV 2022

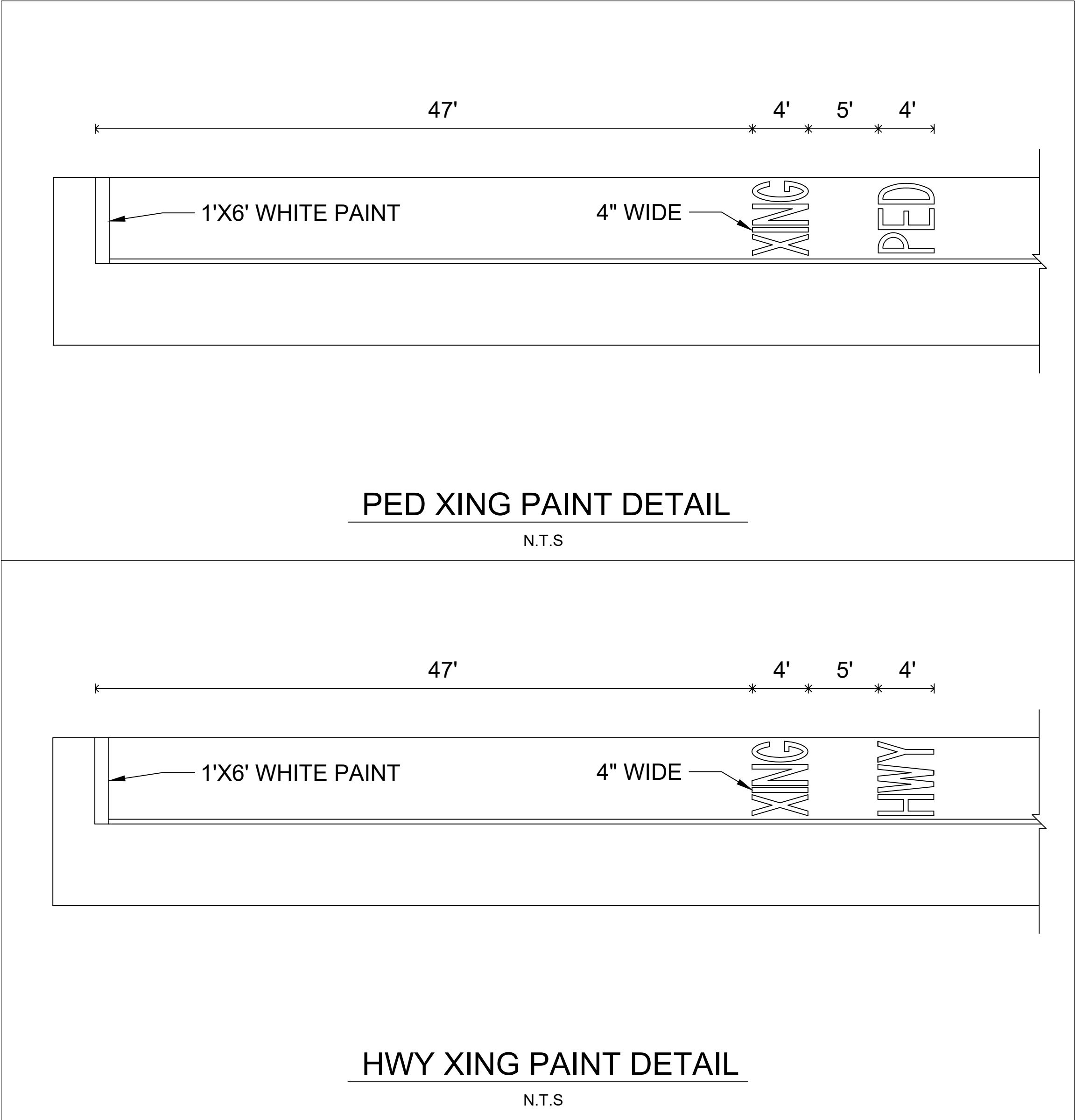
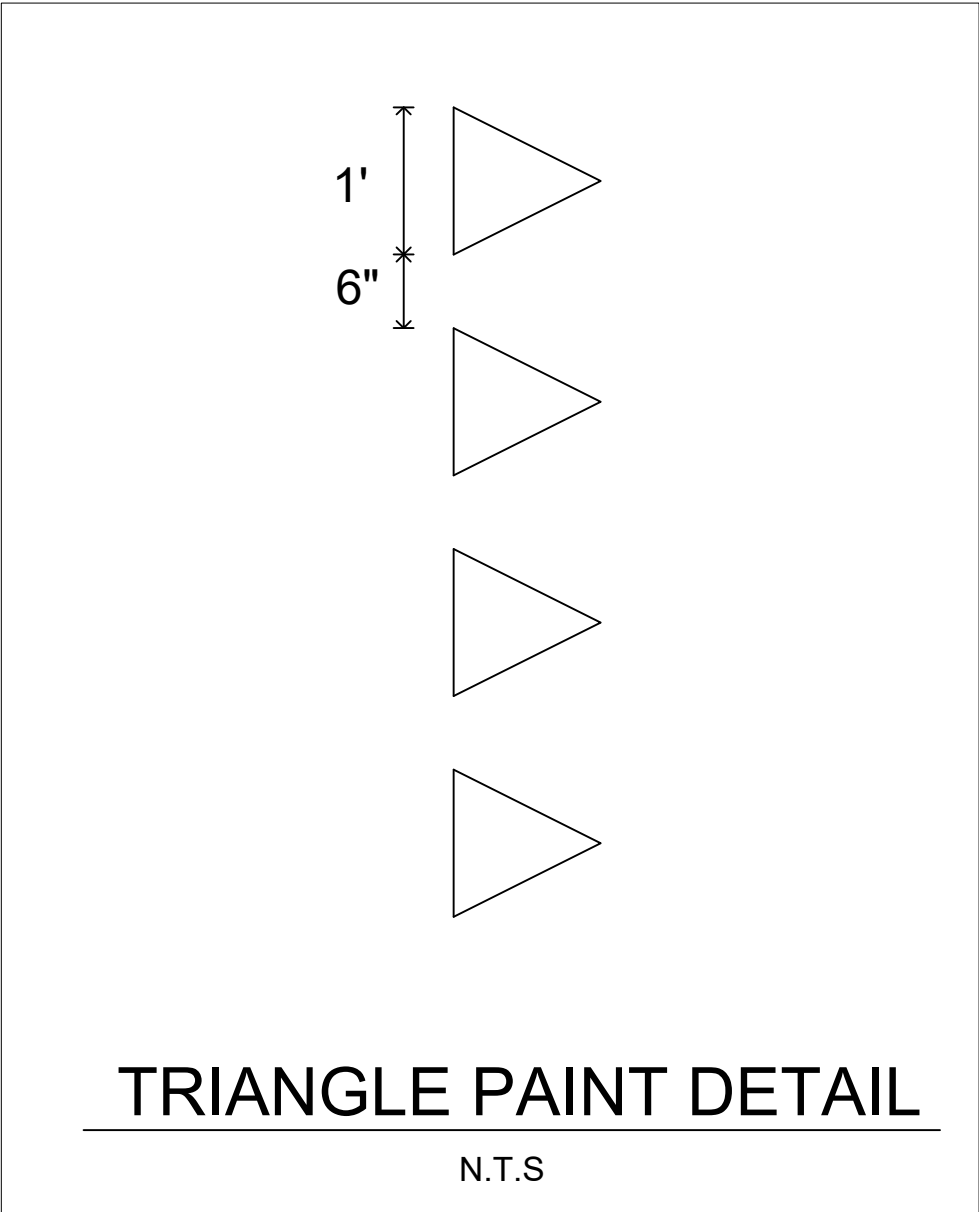


PAINT REMOVAL & REPLACEMENT QUANTITY

DESCRIPTION	QUANTITY	TOTAL
1-FOOT X 6-FOOT WHITE STRIPS	54	324 SF
WHITE PED/HWY XING	38	722 SF
4-INCH YELLOW CENTER STRIPE	1	39,500 LF
FOUR WHITE TRIANGLES	12	24 SF

NOTES:

- REMOVE EXISTING ROAD PAINT FROM MULTI-USE PATH PRIOR TO APPLYING SLURRY SEAL.
- DO NOT REMOVE ROAD PAINT FROM ROADS WHERE MULTI-USE PATH CROSSES THE ROADS.
- USE WATERBORNE PAINT TO REPLACE MULTI-USE PATH MARKINGS.



SHEET
C7
DRAWING

PERFORM SURFACE REPAIRS
ON MULTI USE PATH TRAIL -
SAHO

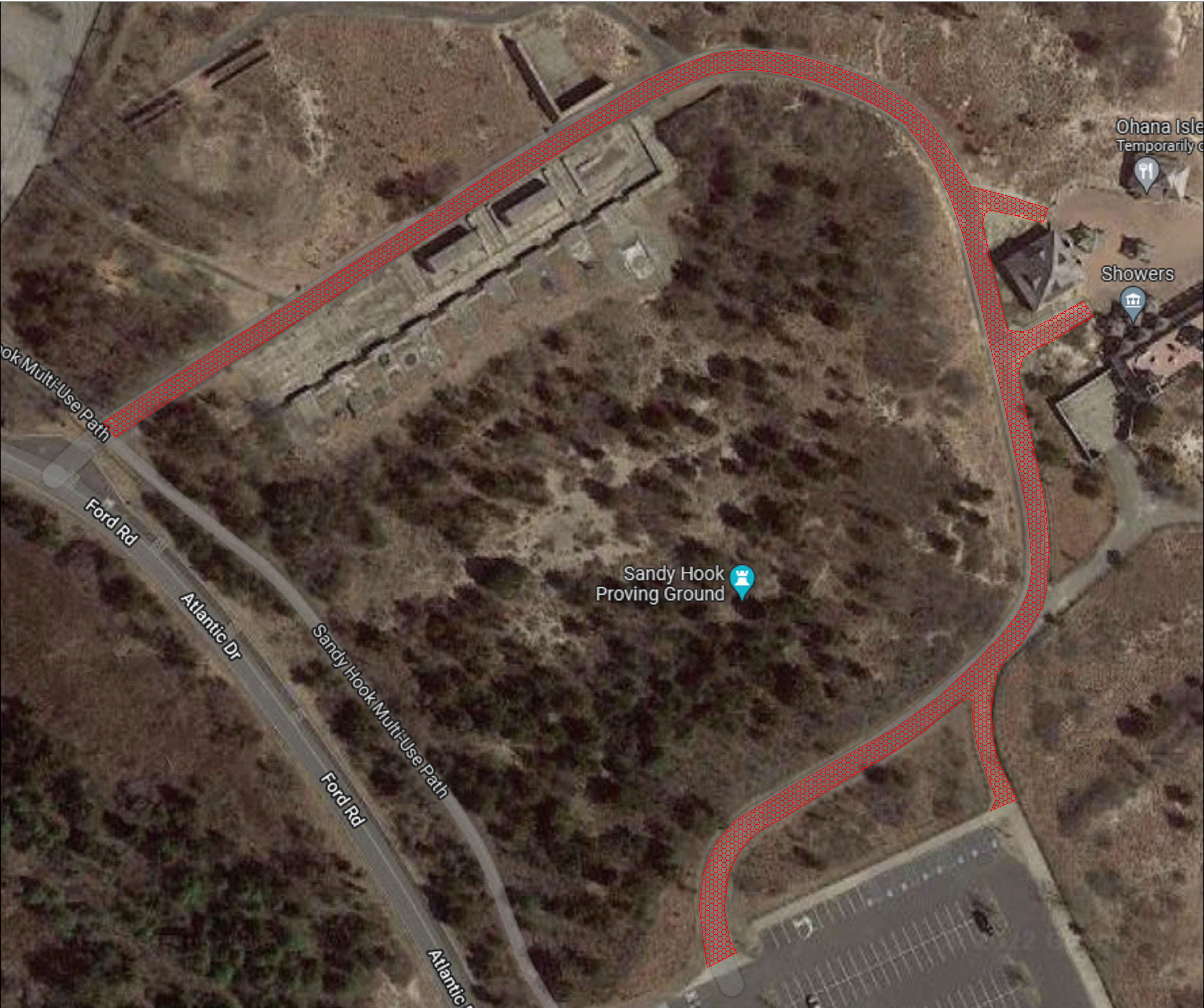
Paint

PARK
GATE
PMIS
256574
DATE
NOV 2022

CONTRACT OPTION 1

NOTES

- 1. REMOVE AND REPLACE ASPHALT SHOWN IN RED HATCHING ACCORDING TO SPECIFICATIONS.
- 2. AREA OF ASPHALT IS 2,800 SY.
- 3. SLOPE NEW ASPHALT TO DRAIN 2% MIN AND 3% MAX SLOPE.
- 4. REPAIR AND COMPACT EXISTING BASE MATERIAL WHEN IT IS EXPOSED.
- 5. INSTALL ADDITIONAL BASE MATERIAL WHERE NECESSARY TO MAINTAIN BASE COURSE.
- 6. APPLY TACK COAT TO EXISTING ASPHALT SUBSTRATE AND JOINT FACE SURFACES PRIOR TO INSTALLING NEW HOT MIX ASPHALT.
- 7. APPLY PRIME COAT TO COMPACTED BASE COURSE PRIOR TO INSTALLING HOT MIX ASPHALT.
- 8. INSTALL 3" TOTAL HOT MIX ASPHALT. THERE SHALL BE ONE 1.5" HOT MIX ASPHALT 12.5L64 SURFACE COURSE AND ONE 1.5" HOT MIX ASPHALT 12.5L64 BASE COURSE
- 9. FINISHED ASPHALT GRADE SHALL MATCH NEIGHBORING SURFACES.



SHEET
C8
DRAWING

PERFORM SURFACE REPAIRS
ON MULTI USE PATH TRAIL -
SAHO

Contract Option 1

PARK
GATE
PMIS
256574
DATE
NOV 2022