Theodore Roosevelt National Park

315 2nd Ave, Medora ND, 58645

Restripe Park Roads, install (4) Speed Humps & Apply Crack Sealants(Bid Option)

PMIS
348988 & 348985
Drawing No:

PROJECT SPECIFICATIONS

NATIONAL PARK SERVICE
2026-02-13

TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

Section 01 10 00 - Division 01 Short Form General Requirements

DIVISION 32 EXTERIOR IMPROVEMENTS
Section 32 12 16 Asphalt Paving
Section 32 17 23 Pavement Markings

SITE PLAN – APPENDIX A
- Overall Project Outline

PHOTOGRAPHS – APPENDIX B
- Project Striping Area Details
-

DRAWINGS & Photos – APPENDIX C
- Speed Hump Design Drawing
- Parking Striping and Sealent Drawings
- Satellite Images of Parking Areas Within Scope of Work

SECTION 01 10 00

DIVISION 1 SHORT FORM GENERAL REQUIREMENTS

PART 1 – GENERAL

ITEM 1 - DESCRIPTION OF WORK

1.1 Background: Theodore Roosevelt National Park - South Unit in Medora, North Dakota possesses over 38 miles of public and government administrative roads. In 2026, the Grand Opening of the Theodore Roosevelt Presidential Library, and the 250th Anniversary of the American Revolution are anticipated to bring substantial increases of visitation, and pavement wear. The park intends to contract the sealant of Asphalt Road Cracks, install four traffic calming speed humps per attached drawings and specifications, and renew pavement striping on: East River Road (Asphalt Sections), on National Park Scenic Road, Pavement Markings within Cottonwood Campground and those spaces adjacent 315 Second Avenue, to maintain roads in good condition and at acceptable appearance standards.

1.2 Work Covered by the Contract Documents:

A. Project Location: All Pavement Surfaces within South Unit Theodore Roosevelt National Park. Excluding mile markers 6.5 – 12.5 which is under warranty with United States Department of Transportation.

B. Work consists of: Construction of four (4) asphalt speed humps at Two (2) locations within Theodore Roosevelt National Park, cyclic renewal of all existing pavement markings on road(s) to include double yellow solid lane striping 6", white fog lines, and yellow and \ or white, dashed pavement passing zones, parking stalls and ADA parking pavement markings (Blue and White), AND (a bid option) crack sealant application on pavement fractures for 28.5 miles of two-lane public park road.

All ABA space striping shall be white. All pavement striping shall be applied to a thickness of 15-mil (WET) 8-mil(dry) by spray truck AND ride-on spray cart apparatus. Temporary traffic controls (flaggers, pilots etc.), temporary roadwork signage, supervision, knowledge, skills, materials and labor shall be the responsibility of the awarded contractor.

The contractor shall complete this work before End of September 2026. Work performance includes fifteen (15) weather days. NO WORK WILL BE AUTHORIZED DURING JUNE 29th – JULY 10th. Should contractor not receive NTP before this date, work will commence July 13th.

Work excluded from this scope of work: Visitor Center Parking Lot and Staff Parking Areas at: 201 East River Road, Medora ND.

C. All work will be performed under a single contract.

D. Period of performance: Work shall be completed within 45 calendar days of the start date provided on the Notice to Proceed.

a. Clarification: The Notice to Proceed will be issued with a period of performance that is all inclusive of supply lead times, material deliveries, decommissioning, installation, anticipated average weather days for location, final commissioning, and acceptance of completed work. The contractor will be expected to provide a project schedule with adequate critical path details to ensure all work is completed within the stated calendar days from issuance of the Notice to Proceed. If weather impacts project beyond typical average weather patterns, contractor shall provide documentation in request for additional days.

1.3 Existing Condition Protections:

A. Preservation of Historical and Archeological Fabric:
   i. The Historic and Archeological Data Preservation Act of 1974 provides for the preservation of historical and archeological data that might otherwise be lost as the result of alterations to the terrain caused by a federal or federally licensed activity or program.
   ii. IF, in connection with operations under this contract, the Contractor, subcontractors, or employees of any of them, discovers, encounters or becomes aware of any possible historical or archeological remains or data, objects or sites of cultural value on the project area, such as historical ruins, graves or grave markers, fossils, or artifacts not specifically noted within the contract. The Contractor shall immediately suspend all operations in the vicinity and continue work in other areas outside a 50-foot radius of discovery and notify the Contracting Officer immediately. When safe to do so, follow up in writing with photographs within 2 days, giving the location and nature of the findings. No objects of cultural resource value may be removed. Contracting Officer will contact other entities as required.
   iii. Where appropriate by reason of discovery, the Contracting Officer may order delays in the time of performance and/or changes in the work. If such delays and/or changes are ordered, the time of performance and contract price shall be adjusted in accordance with Changes clause.
   iv. The Contractor will be responsible for protecting the cultural resources within and adjacent to the project area from damage. In addition, the Contractor will be liable for all damage to the cultural resources caused by their actions or the actions of their agents or representatives. The Contractor shall immediately notify the Contracting Officer or their representative if any damage occurs to any cultural resource and immediately suspend work in the area in which damage has occurred until authorized to proceed.
   v. The Contractor agrees to include this language within all subcontracts.

B. The structure or structures involved in this project are not historic.
C. There is no excavation required for this project.

ITEM 2 – PROTECTING EXISTING UTILITIES

2.1 Protecting Existing Utilities: Notify Contracting Officer (CO), Contracting Officer's Representative (COR) and utility companies as required to request location services prior to and to coordinate any excavation/digging operations, and/or for demolition if within Scope of Work.

2.2 Contractor shall be responsible for locating and preventing damage to known utilities on site or indoors. If contractor damage occurs, alert CO and COR as soon as safely possible, and repair utility at no additional expense to the Government. If damage occurs to an unknown utility, contact CO and COR as soon as safely possible.

2.3 Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Government or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated below:

A. Notify CO and COR not less than two business days in advance of proposed utility interruptions.

B. Hours for Utility Shutdowns: Shutdowns shall not exceed 2 to 3 hours. Temporary provisions will be needed by the Contractor for periods longer than stated allowance or if required for critical systems as determined by COR.

ITEM 3 - CONTRACTOR'S USE OF PREMISES

3.1 Conduct of Operations: At all times the contractor shall conduct his operations in conformance with the rules and regulations promulgated by the Secretary of the Interior for the National Park Service, and applicable park rules and regulations prescribed by the Park Superintendent. https://www.nps.gov/thro/learn/management/superintendent-s-compendium.htm

A. Communications: Contractor shall provide the Contracting Officer and COR with methods of communication including land and/or cell phone numbers (note, some areas of work have limited-service coverage), email and in case of emergency 24-hour contact options for duration of time operations.

B. No signs or advertisements (except those specified herein and as required for safety) shall be displayed on the construction site or within the park unless approved by the Contracting Officer.

C. Smoking is not permitted within any Federal building or within 25 feet of entrances, operable windows, or outdoor air intakes.

D. Public Use of Site: Contractor shall at all times conduct operations to ensure the least inconvenience to the public. The contractor shall manage the conduct of this work to ensure unrestricted use by the public through use of temporary signage and work scheduling necessary to ensure work is accomplished in a municipal fashion. Work SHALL BE COMPLETED NO LATER THAN 30 SEP 2026. Work must take into account mobilization due to late winter defrost conditions, and applicable application and cure times subject to weather requirements.

3.2 On-site work hours: Work shall be generally performed during normal business working hours of Work Hours are 7 AM to 4 PM, Monday through Friday.., Monday through Friday, except when

otherwise indicated. Work on Saturdays, Sundays, Federal holidays, early morning, or at night may not be performed without prior consent from the CO and COR. Submit requests for work outside of the stated normal business hours to the CO and COR for approval at least 48 hours in advance of the work.

The following Federal holidays are observed by the National Park Service:
New Year's Day
Inauguration Day
Martin Luther King, Jr's Birthday
Washington's Birthday
Memorial Day
Juneteenth National Independence Day
Independence Day
Labor Day
Columbus Day
Veterans Day
Thanksgiving Day
Christmas Day

- Note: Any of the above holidays falling on a Saturday will be observed on the preceding Friday; holidays falling on Sunday will be observed on the following Monday. The specific day that each holiday is recognized for each year can be found at the following site: Federal Holidays (opm.gov).

3.3 Contractor Use of Site:

A. General: Contractor shall have limited use of the site for construction operations. Limit use of premises to construction area as shown on site plan. Do not disturb portions of Project site beyond areas in which the Work is indicated.

B. Driveways and Entrances: Keep driveways, access roads, and entrances serving premises clear and available to Government, Government's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize use of driveways and entrances.

C. Do Not disturb site outside of noted disturbance area, including earthwork, and clearing of vegetation, to:

1. No staging outside of areas defined on attached map will be permitted.

Contractor shall provide appropriate matts for equipment on turf areas to reduce soil compaction. Contractor shall remediate soil compaction as directed to do so by the CO/COR.

D. Utilities
1. General: Cost or use charges for temporary facilities shall be included in the Contract Sum as required.

2. Water Service: Water from existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as

required for construction operations without any additional permit costs. Use resources wisely and minimize waste of water.

3. Electric Power Service: Electric power from existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations without any additional permit costs. Power may or may not meet your construction power tool requirements, provide generators if questionable. Use power in a resourceful manner and avoid excess power waste.

4. Sanitary Operations:

a. Toilets: Contractor must provide toilets for contractor personnel, sufficiently lighted and ventilated toilet facilities in weatherproof, sight proof, handicap accessible (if required), sturdy enclosures with privacy locks. Coordinate with COR for approved location if not shown on attached site plan.

E. Security and Protection facilities:

1. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with state and federal environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

2. Cleaning of Equipment: The Contractor shall ensure that prior to moving on to the Project Area, all equipment, is free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds. Ensure that all equipment has been pressure washed and is free of exotic species prior to start-up of operations and moving of equipment to Project Area. Equipment shall be considered free of soil, seeds, and other debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools are not required.

3. Vegetation and Wetland Protection: Coordinate with COR to construct protection fence at drip line of any vegetation or wetlands impacted within construction and grading limits. Any damaged vegetation or wetlands are to be restored to original conditions via replacement at no additional expense to the Government. Protection fence to be a temporary barrier, meeting the following requirements: High-density plastic, extruded and stretched polyethylene fabric with 2 inch (50mm) maximum opening pattern, highly visible orange color, 48 inches (1220mm) high, supported by tubular or T-shape galvanized steel posts spaced not more than 96 inches (2440mm) apart. Coordinate with COR prior to ANY vegetation or wetland removals. Consult with COR for any unplanned removals required for vegetation that interferes with construction. Carefully supervise excavating, grading, filling, and other construction operations near vegetation to prevent damage.

4. Pest Control: Follow best practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at project completion. Perform control operations lawfully, using environmentally safe materials.

5. Temporary Enclosures: Provide and maintain temporary enclosures such as snow fence as required for protection of construction in progress and from access by visitors or staff, other construction operations, and similar activities.

6. Hot Work Permit: Submit HW-1 Hot work permit form and receive approval from COR prior to Hot work activities commencing on site. https://www.nfpa.org/downloadable-resources/forms/hot-work-permit

3.4 Storage - Staging Areas:

A. Confine Storage of materials and equipment to the project staging area noted on the plans/aerial. Specific storage units shall be provided by the contractor and exact location within staging area shown in appendix A below may be discussed at the preconstruction briefing. All storage units provided by the contractor shall be in a clean and acceptable condition to the COR. Security of the materials and equipment on site is the Contractor's responsibility.
B. See attached Map for equipment and material temporary lay down area.

3.5 Preservation of Natural Features:

3.6 Hauling Restrictions: Contractor shall verify and be responsible for the path accessing the site and obtaining / maintaining all local, state and federal permits/licenses associated with hauling/road requirements and dumping of materials associated with the project.

3.7 Waste Removal, Recycling, and General Housekeeping:

A. Keep project site in a neat, orderly, and safe condition at all times.

1. Contractor is responsible for providing dumpsters for waste and recycling and for removing all waste created by the project. Contractor shall recycle to the highest degree possible and empty dumpsters as necessary to avoid debris on site. Coordinate with COR for approved dumpster locations prior to commencing construction.

2. Dispose of waste materials and recycling legally outside the park. The contractor shall not use park dumpsters.

3. Address Recycling: Government goal is to salvage and recycle as much nonhazardous construction waste as possible. Use sustainable methods to the extent possible during this project, recycling material as much as possible within local means. Maintain accurate documentary records for submittal of all recycled materials used including fly ash and slag cement.

4. For all waste and recycling removals offsite, contractors shall provide estimates and/or tickets to quantify material weights and report back to the park, submit to COR for review and record filing.

3.8 Occupancy Requirements for Buildings:

A. Existing Buildings:

1. Full Government Occupancy: Government will occupy buildings that will be under construction during the entire contract period. Cooperate with Government during construction operations to minimize conflicts and facilitate Government usage. Perform

the Work so as not to interfere with Government's day-to-day operations. Maintain existing exits, unless otherwise indicated. Contractor will maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from the CO or COR. Contractor will maintain existing building in a weather tight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

B. New /Existing Buildings Unoccupied:

1. N/A

3.9 Photo Documentation:

A. Contractor must provide existing condition, progress, and completion photos. All photos shall be in focus, show maximum range of depth of field general photo and then close-up detail photo as needed. Shall be in JPEG digital form and submitted preferably electronically by email or optional via CD-R Archival Gold or DVD-R Archival Gold media with printed labels and 8 mega pixels minimum within 7 days from time of taken or as approved by COR.

B. Existing Condition Images:

1. Before starting construction, take color, dated, digital images of project site and adjacent property/roads/etc. that may be impacted by construction activity/traffic. Include existing items to remain or be salvaged from different vantage points and with context for location identification.

C. Construction Progress Images:

1. Document all sub-surface work/ trenches etc. prior to backfill with photos covering enough overall field view to show location and then zoom in for details. (Locations and dimensions shall also be noted on as built drawing set.)
2. Maintain organized index for photos with date, description, etc.
3. Additional images as needed when questions or emergency situations occur. Submit within 24 hours.

D. Completion Images:

1. Document all completed work within scope of work.
2. Maintain organized index for photos with date, description, etc...
3. Additional images as needed when questions or emergency situations occur. Submit within 24 hours.

3.10 Fire and Life Safety:

A. As a minimum, conduct one weekly 15 minute "toolbox" safety meetings. These meetings shall be conducted by a foreman or supervisor and attended by all construction personnel at the worksite. Topics need to coincide with work scheduled for the following week. Document

and submit meeting minutes to the CO and COR within one day after the meeting and document the meetings on the daily reports.

B. Comply with the requirements of NFPA 241 (Standard for Safeguarding Construction, Alteration, and Demolition Operations). Take all necessary precautions to prevent fire during construction. Provide adequate ventilation during use of volatile or noxious substances.

C. Store and handle hazardous materials in accordance with manufacturers and OSHA 29CFR1926 Subpart D requirements 1926 | Occupational Safety and Health Administration (osha.gov). Maintain readily available, on site, MSDS/Safety Data Sheets (SDS) for each chemical.

1. Immediately report all spills of hazardous materials to the CO, COR, and park.
2. Maintain a spill emergency response kit.
3. Train employees how to respond to a spill and use the emergency response kit.

3.11 Noise and Acoustics Management

A. Contractor shall not have personal radios or other media sources, and they shall not be broadcast within NPS property.

B. Noise Control: Perform operations to minimize noise. Perform noise-producing work in less sensitive hours of the day or week as directed by the Contracting Officer or COR.

C. Repetitive and/or intermittent, high-level noise: Permitted only during Daytime.
a) Coordinate with COR prior to execution

ITEM 4 - COMMENCEMENT, PROSECUTION, AND COMPLETION

4.1 The Contractor shall commence work in accordance with the terms and conditions of the contract. Contractor shall coordinate and incorporate long lead and delivery time items within the schedule.

ITEM 5 - EXAMINATION OF THE SITE

5.1 All bidders are urged to visit the job site and examine existing conditions before submitting bids. Contractors will be accountable for understanding existing conditions. No cost changes for items visible during site visit will be allowed.

ITEM 6 - ABBREVIATIONS

6.1 The list of abbreviations, standards and organizations which may be used in/referred within the Construction Specifications or Special Provisions, may be found linked from the listed page below. On the home page, follow the link under **"Contracting and Procurement"** labeled **"NPS Reference Standards."** https://www.nps.gov/orgs/1671/do-business-with-us.htm

ITEM 7 - ACCIDENT PREVENTION

7.1 Description: The work of this section consists of establishing and implementing an effective accident prevention program (APP) and providing a safe environment for all personnel and visitors.

7.2 Submittals:

A. Accident Prevention (Safety) Plan (APP): Submit a **site-specific** accident prevention (safety) plan. The Plan shall be written to comply with OSHA and project requirements (a generic plan is not acceptable) including but not limited to the following:

1. Name and qualifications of responsible supervisor to carry out the program.
2. First aid and rescue procedures.
3. Training, both initial and continuing.
4. Outline of each phase of the work, the hazards associated with each major phase, and the methods proposed to provide for property protection and safety of the public, National Park Service personnel, and Contractor's employees. Identify the work included under each phase, with a Job Hazard Analysis (JHA)/Job Safety Analysis (JSA), etc. A sample JHA template may be provided upon request.
5. Planning for possible emergency situations, such as cave-ins, earthquake, explosions, fires, floods, power outages, slides, and windstorms. Such planning shall take into consideration the nature of construction, site conditions, and degree of exposure of persons and property.
6. Contractor to identify nearest location of medical facility for emergencies
7. Recognition that works will be performed in remote areas with limited communication or cell phone coverage if applicable.
8. Supplemental hazard specific plans may be required IAW 29 CFR 1926 or 1910.

B. Meeting and Inspection Reports: Safety Meetings: As a minimum, conduct 15 minute "toolbox" safety meetings. These meetings shall be conducted by a foreman and attended by all construction personnel at the worksite. Submit a report of safety meetings and inspections to CO and COR within one day after the meeting and document the meetings on the daily reports.

7.3 Qualification of Employees:

A. Ensure that employees are physically qualified to perform their assigned duties in a safe manner to include operators of vehicles and equipment. Provide operating instructions for all equipment.

B. Do not allow employees to work whose ability or alertness is impaired because of drugs, fatigue, illness, intoxication, or other conditions that may expose themselves or others to injury.

7.4 Accident Reporting: The Contractor shall report all accidents to the CO and COR as soon as safely possible and assist the CO and COR and other officials as required in the investigation of the accident.

7.5 First Aid Facilities: Provide access to facilities for the number of employees and appropriate to the hazards associated with the types of ongoing construction work at the site.

7.6 Emergency Instructions: Post telephone numbers and reporting instructions for ambulance, physician, hospital, fire department, and police in conspicuous locations at the work site.

7.7 Personal Protective Equipment (PPE): It is the Contractor's responsibility to require all those working on or visiting the site to wear necessary protective equipment at all times.

A. PPE must meet requirements of applicable ANSI standards. Selection shall conform to OSHA 29CFR 1926 Subpart E.

B. A hard hat use area shall be designated by the Contractor. The hard hat area shall be posted by the Contractor in a manner satisfactory to the Contracting Officer.

C. All PPE will be serviceable at all times. At a minimum, maintain 2 sets of PPE including hard hats and all other Accident Prevention Plan required equipment.

7.8 Hazardous Materials: It shall be the responsibility of all operators and contractors, functioning within the park to properly clean up, mitigate and remediate, if necessary, all unauthorized discharges of hazardous materials or non-hazardous chemical and biological products released from fleet and/or other support vehicles or stationary sources. Response shall be consistent with guidelines established by federal, state, and local regulations, and as outlined within the operator's Safety or Hazardous Materials Business Plan.

A. If a spill, leak, or other release occurs, the operator shall as soon as possible, without impeding cleanup, notify the local 911 Emergency Response, COR and or the National Park Service Emergency Dispatch.

ITEM 8 - PRECONSTRUCTION CONFERENCE

8.1 Contracting Officer Shall schedule a preconstruction conference, the successful offeror Prime and Subcontractor will be notified and will be required to attend. The Contracting Officer’s notification will include specific details regarding the date, time, and location of the conference, any need for attendance by subcontractors, and information regarding the items to be discussed. See Item 9.1C below.

ITEM 9 - SUBMITTALS

9.1 General Contracting Submittal Procedures:

A. General: Prepare and submit submittals required by individual Technical Specification Sections. Types of submittals are indicated in individual specific sections.

1. CM-16 Transmittal Form: All submittals shall be transmitted via electronic email using National Park Service form CM-16 form. The form will be provided by the Contracting Officer. No action will be taken on a submittal item unless accompanied by the CM-16 transmittal form. Submit completed CM-16 forms to the CO and the COR

B. Submittal List: administrative required submittals are listed below in 9.1.C and does not include technical section submittal requirements included in each technical section.

C. Preconstruction Conference Submittal: Satisfactory evidence of liability insurance coverage and workman’s compensation, and any applicable bonds, must be submitted within 10

calendar days of Notice of Award. The following items are to be submitted prior to the Preconstruction Conference or as specified at the CO's discretion. The timeline for the documents to be submitted will be addressed at the pre-construction conference for those items that were not received and approved prior. Notice to Proceed may not be issued, and the Contracting Officer will consider other contractual remedies if not resolved as directed. Work shall not commence until written Notice to Proceed has been issued. Contracting Officer will notify Contractor of tentative date for the Pre-Construction Conference:

1. Letter designating Project Superintendent.
2. Construction Schedule. (Must include shop drawings, procurement time including long lead time items, mobilization, trade work progression and completion at minimum.)
3. A comprehensive breakdown of the Schedule of Values.
4. Accident Prevention (Safety) Plan (see section 7 of this document).
5. A list of Subcontractors for this project.
6. Written statements from subcontractors certifying compliance with applicable labor standard clauses (SF1413).
7. Quality Control Plan.
8. Waste Management Plan. **REQUIRED for this project.**

9.2 Project Submittal Process (Shop Drawings, Product Data, and Samples): Contracting Officer will provide sample cover sheet, and a list of required submittals is included in each technical specification or attached at the end of this document.

A. Shop Drawings: Indicate all coordinating materials and work impacting the installation coordination, connection details, anchorage requirements, hardware locations, and installation details and locations.

1. Submit Shop Drawings according to Part 9.1 of this section to include one digital file (.PDF or .TIF) and two full size hardcopy documents to COR.

B. Product Data: Provide component construction and specification data sheets, anchorage requirements and any other product specific data.

1. Submit Product Data according to Part 9.1 of this section to include one digital file (.PDF or .TIF) to COR.

C. Samples: Submit 2 color samples 4" x 6" minimum in size for all product color selections. Paint samples shall be actual paint finish drawdown for all project colors.

1. Submit Samples CM-16 Transmittal Form according to Part 9.1 of this section to include one digital file (.PDF or .TIF) and physical samples of actual material to COR.

D. For submittals specified above, forward submittals to Contracting Officer and COR at least 15 days before need for approval (depends on length of project).

E. After approving submittals, Contracting Officer and/or COR will return one copy to the Contractor. If submittals are not approved, Contracting Officer will return all copies to Contractor with reasons for rejection. Resubmit, identifying changes. Any work done before approval shall be at Contractor's own risk.

9.3 Approved Equals: All brand names noted are subject to 'or equal' products. If an item in this solicitation is identified as "brand name or equal" or lists more than 1 manufacturer, the description of the proposed item must reflect the characteristics and level of quality that will satisfy the Government's needs as demonstrated by the salient physical, functional, or performance characteristics that "equal" products must meet and/or exceed that as specified in the solicitation or relevant specification. Contractor shall incorporate and be responsible for all collateral costs due to the or equal proposed as required to provide a complete project.

A. For each item proposed as an "approved equal," submit supporting data, including:

1. Drawings and samples as appropriate.
2. Comparison of the characteristics of the proposed item with that specified and with the salient characteristics provided.
3. Changes required in other elements of the work because of the substitution.
4. Name, address, and telephone number of vendor.
5. Manufacturer's literature regarding installation, operation, and maintenance, including schematics for electrical and hydraulic systems, lubrication requirements, and parts lists. Describe availability of maintenance service, and state source of replacement materials.

B. A request for approval constitutes a representation that General Contractor:

1. Has investigated and shall provide documentation in request showing that the proposed item is equal or superior in all respects to the salient characteristics specified.
2. Will meet or exceed warranties for the proposed item specified.
3. Has determined that the proposed item is compatible with interfacing items.
4. Will coordinate the installation of an approved item and make all changes required in other elements of the work because of the substitution.
5. Waives all claims for additional expenses that may be incurred as a result of the substitution.

C. Approved Equals will be evaluated and approved/disapproved during the submittal process.

9.4 Schedule of Values: Submit the Schedule of Values a minimum of one week prior to the Preconstruction Conference for COR review. Schedule of Values shall include defined work line items with cost break downs including labor, material, and equipment for COR approval.

9.5 Progress Reporting: The initial Construction Schedule and Schedule of Values are required a minimum of one week prior to the Preconstruction Conference. After the Notice to Proceed is issued and after on-site work begins, progress will be documented via daily logs and by providing an updated Construction Schedule and Schedule of Values when requested, but minimally with each pay application. Submit digital copy electronically (PDF preferred) of all required documents. Construction Schedules are normally in bar chart form and indicate estimated starting and completion dates for each part of the work. For a pay application to be reviewed and processed in a timely manner, the following information must either be submitted prior to or accompany submission of the pay application:

A. Daily/weekly progress reports during construction as part of the administration process.

B. Updated Schedule of Values: Breakdown each lump-sum item into component work activities used in the schedule, for which progress payments may be requested. The Schedule of Values will form the basis for payment. The work activities broken out within the schedule of values shall be integrated into and made a logical part of the construction baseline schedule submitted under this specification. The total costs for the component work activities shall equal the contract price for that lump-sum item. The Contracting Officer may request data to verify accuracy of dollar values. A sample Schedule of Values format may be provided upon request.

ITEM 10 – TEMPORARY SERVICES

10.1 It is the Contractor's responsibility to provide temporary services, equipment, tools, and skilled labor as required for the chosen means and methods to perform the work in accomplishing this Contract.

ITEM 11 - PROJECT CLOSEOUT

11.1 Description: The work of this section consists of final cleanup, closeout submittals, final inspection procedures working toward Final Acceptance.

11.2 Cleaning: Remove all tools, equipment, surplus materials, and rubbish. Move attic stock to location coordinated with COR. At time of final inspection, project shall be thoroughly clean and ready for intended use. Inspector holds the right to reschedule if project is not ready for inspection.

11.3 Completion and Final Inspection: Contractor shall submit written certification of project completion and request a final inspection to the Contracting Officer and COR. The Contracting Officer or designee will make an inspection within 10 days of receipt of request or at a mutually agreeable time.

A. If the work is determined to be complete following the final inspection with minor comments, the COR will prepare and provide the Contractor a Punch List noting outstanding items to be addressed.
B. If the work is not determined to be complete following the final inspection, the Contracting Officer will notify Contractor in writing, stating reasons. Contractor, after completing the work according to the Contract Documents, shall resubmit completion and request a new final inspection. Re-inspection costs may be charged against the Contractor in accordance with the Inspection of Construction contract clause.

C. Contractor shall complete the Punch List within 30 calendar days, or a time directed by the CO.

D. Once Contractor completes all items of work on the Punch List and all contractually required items are accepted, Contracting Officer will issue Letter of Final Acceptance of Work and request the final pay application.

E. If the Contractor fails to complete the work within the time frame, the Contracting Officer may correct the work with an appropriate reduction in contract price or charge for re-inspection costs in accordance with the Inspection of Construction contract clause.

F. Disposition of any permits and warranties required by the specifications in this section.

11.4 Final Acceptance of the Work: After all punch list deficiencies have been corrected, a Letter of Final Acceptance will be issued. A Release of Claims document must be executed and submitted to the Contracting Officer before final payment can occur.

11.5 Warranties

A. Construction Warranty shall be based on date of final acceptance of the work and remain in effect for one year.

B. Provide all manufacturer warranty information of products installed organized by Division. All contact information, extent of coverage and conditions shall be clearly noted as well as date of overall final acceptance.

C. Information shall include operation and maintenance manuals for each warranted product.

ITEM 12 - DEFINITION OF CONTRACT LINE ITEMS

12.1 Summary

A. The intent of this section is to explain, in general, what is and what is not included in a contract line item, and the limits or cut off points where one item ends, and another begins.

B. If no contract line item exists for a portion of the work, include the costs in a related item.

12.2 List of Contract Line Items

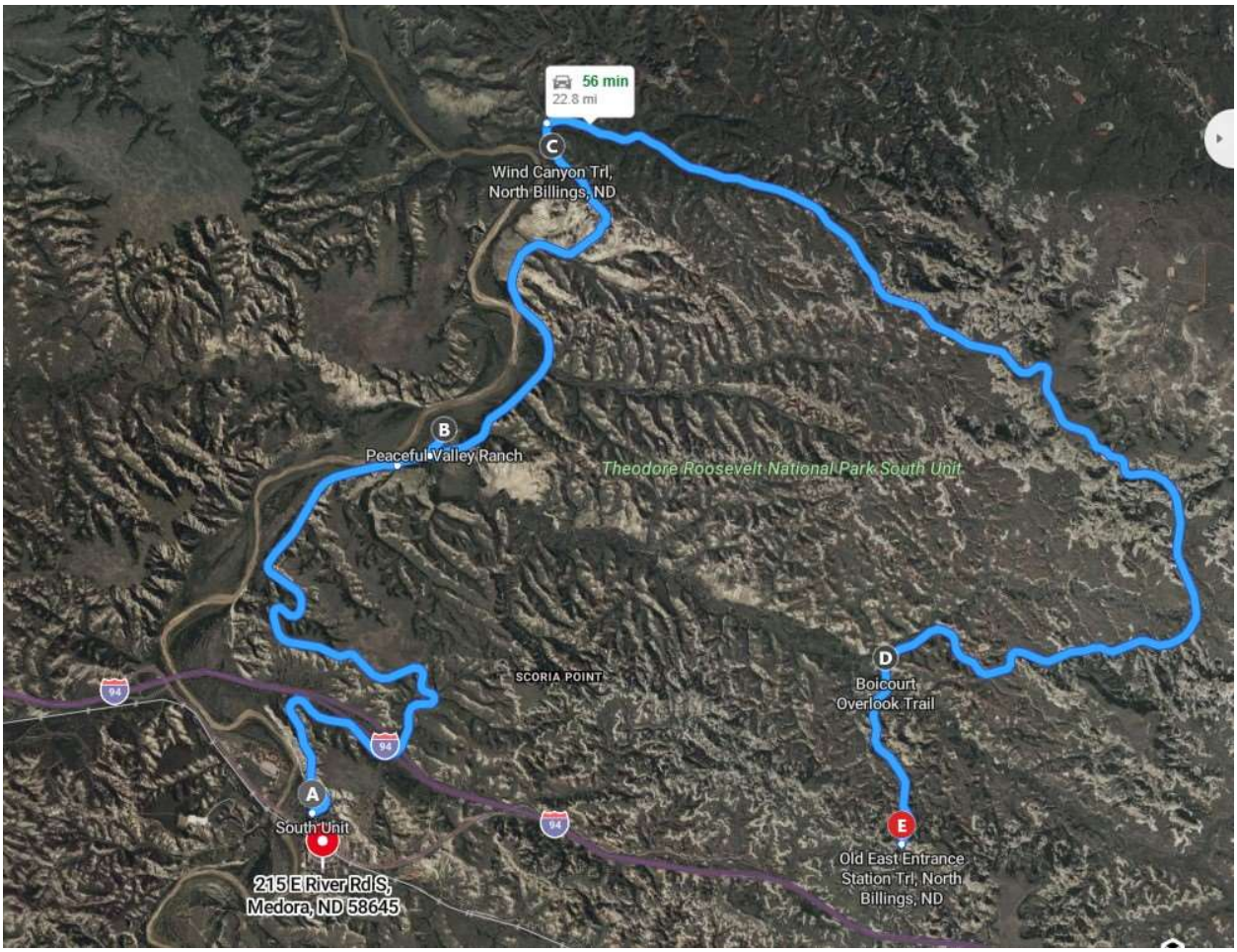
A. CLIN 10—Restripe Park Roads
   1. This line item consists of pavement marking work for parking areas, crosswalks, and roads (safety and management)
   2. Payment will be made as stipulated in contract

B. CLIN 20—Installation of Four Asphalt Speed Humps in Two Areas
   1. This line item consists of the construction of 4 asphalt speed humps—two speed humps in two separate locations
   2. Payment will be made as stipulated in contract

C. CLIN 30 (OPTION)—Crack Cleaning and Sealing
   1. This line item is a bid option that may be exercised at the Government’s discretion, and is subject to the availability of funds for approximately 3,900 LF of pavement cracking.
   2. This line item consists of pavement maintenance by cleaning and sealing cracks
   3. If exercised, payment will be made as stipulated in contract

END OF SECTION

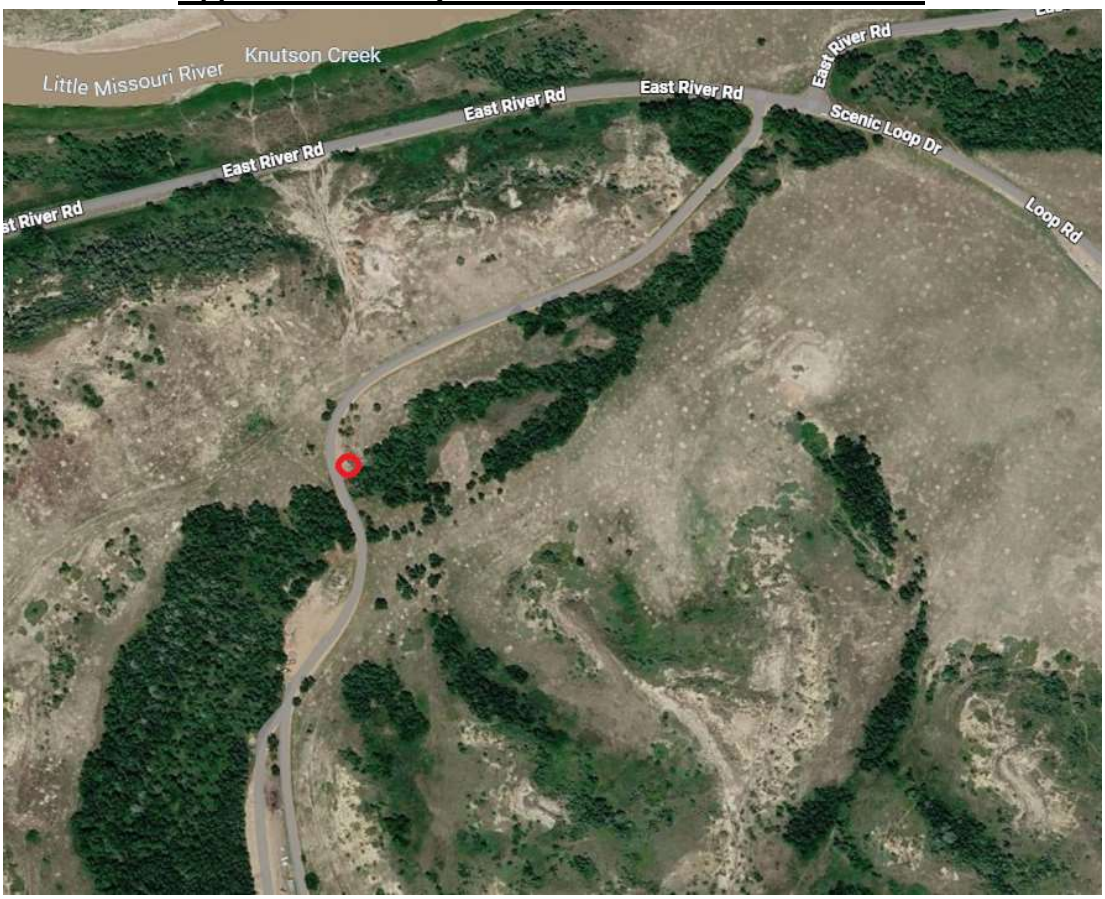
Appendix A - Site Plan



Appendix A.1 – Medora Area Lay Down Area

Confine Area to Minimum Extent – Coordinates: 46.917105562774225, -103.523211777021

Appendix A.2 – Lay Down Area at Park Materials Yard



Confine storage area to 150 Square Feet, Keep Road Clear to Traffic
Location Coordinates: 46.95285672676501, -103.51607226132639

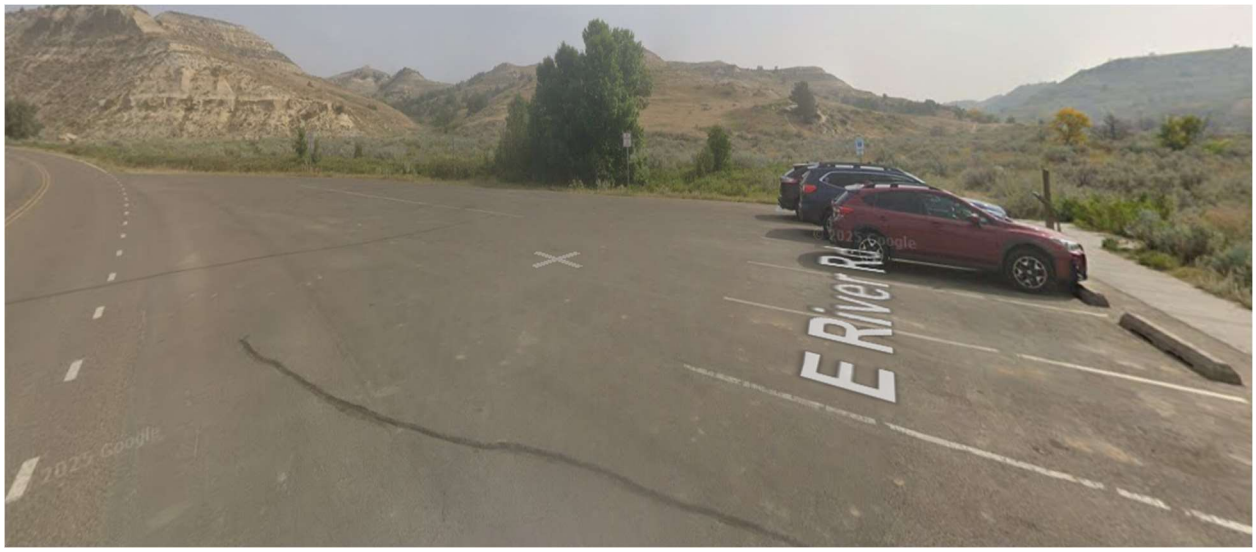
Appendix B - Project Photos

TYPICAL EXAMPLE - EXISTING PARK ROADWAY STRIPING

TYPICAL EXAMPLE - EXISTING SIMPLE VISITOR PULLOUT

TYPICAL EXAMPLE – SHOULDER PULLOUT WITH ACCESSIBLE STRIPING

TYPICAL EXAMPLE – TWO ROAD INTERSECTION



TYPICAL EXAMPLE – PULLOUT W/ CENTRAL TRAILER PARKING STRIPING (mid lot)

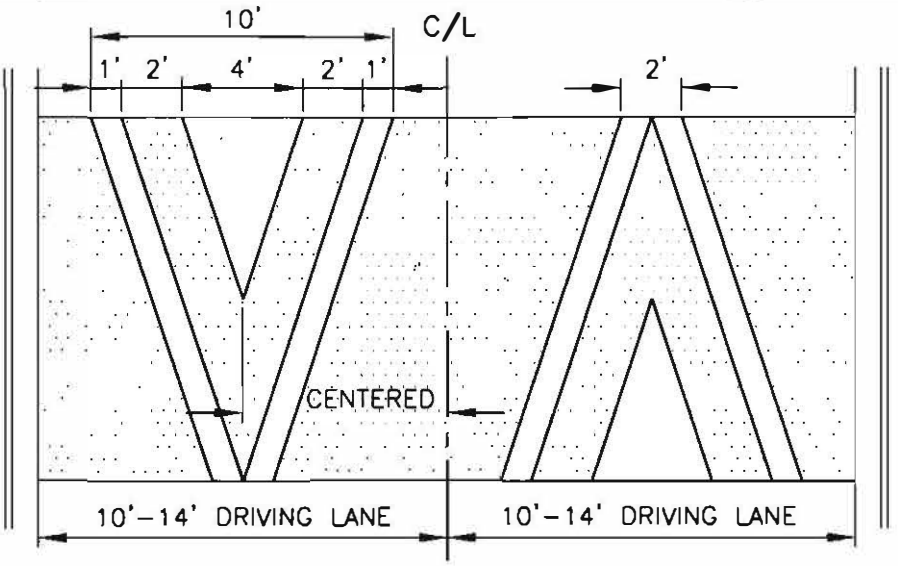
EXAMPLE OF DUAL PARALLEL PARKING PULLOUT

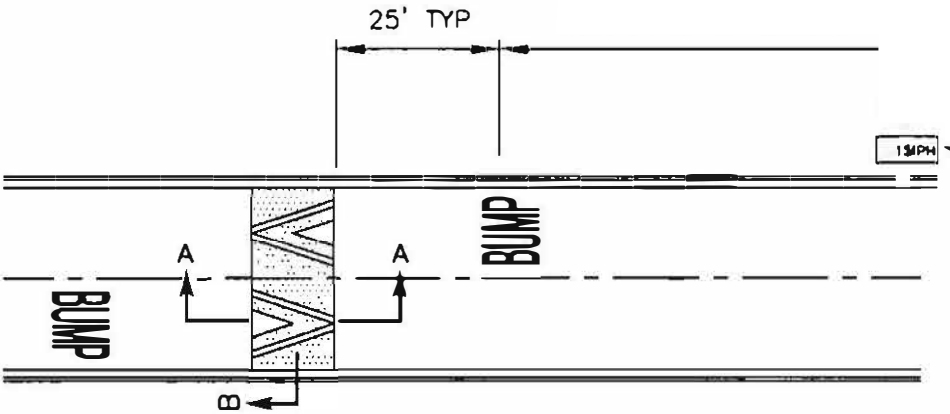
ADDITIONAL EXAMPLE – PARALLEL PARKING PULLOUT CONFIGURATION

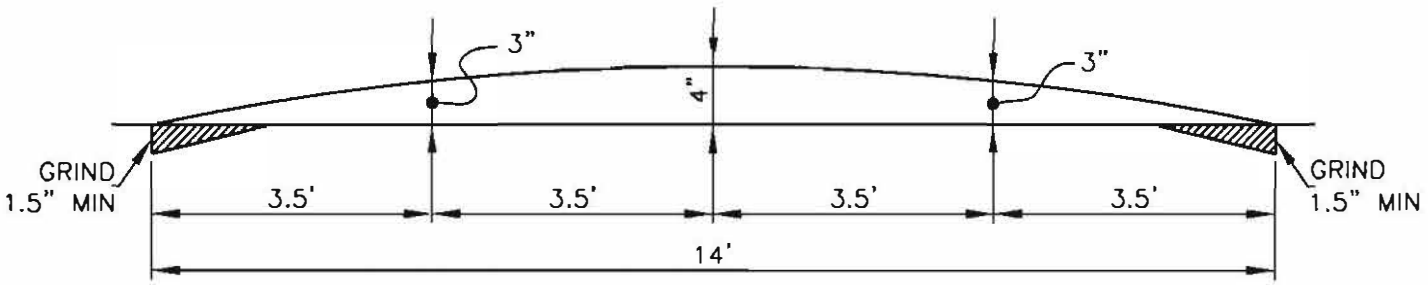
LOCATION OF (2) TWO Asphalt Speed Humps adjacent Medora Visitor Center (215 E. River Road, Medora ND 58645

LOCATION OF (2) TWO Asphalt Speed Humps adjacent COTTONWOOD CAMPGROUND – THEODORE ROOSEVELT NATIONAL PARK, SOUTH UNIT - 46°56'58.3"N x 103°31'49.3"W

Appendix C Project Drawings







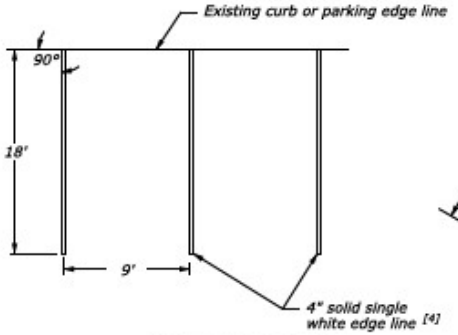
SECTION A-A

NOTES:

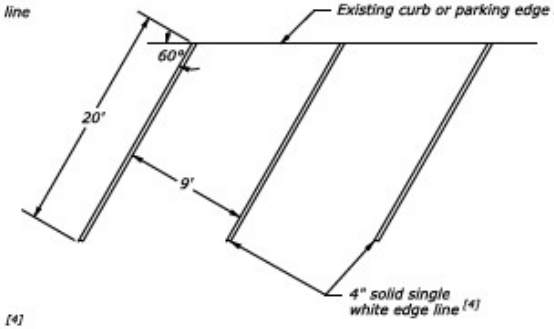
1. LEGEND AND 'V' MARKINGS TO BE PAINT.

Approved by: McCall 3,4 & 5 Region 27 Jan 2026 Date:	National Park Service 14 FOOT by 4 INCH SPEED HUMP DETAIL	DRAWING THRO SH1

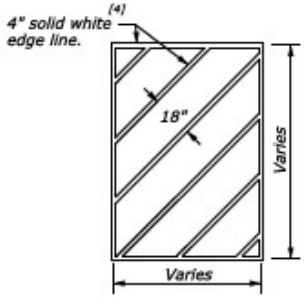
STATE	PROJECT	SHEET NUMBER
ND	THRO 348985	F. 1



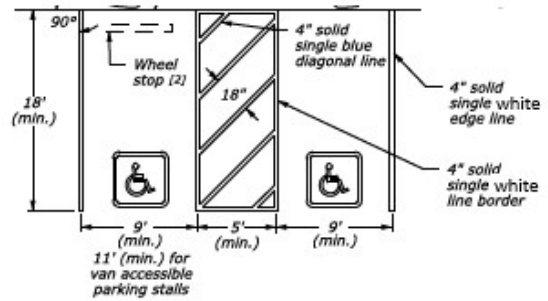
HEAD-ON PARKING STRIPING



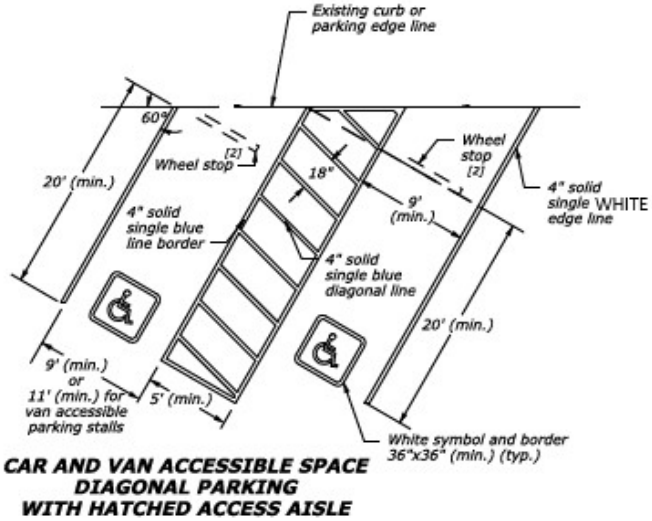
DIAGONAL PARKING STRIPING



NO PARKING HATCH (NON ADA/ABA ACCESS AISLE)



CAR AND VAN ACCESSIBLE SPACE HEAD-ON PARKING WITH HATCHED ACCESS AISLE



CAR AND VAN ACCESSIBLE SPACE DIAGONAL PARKING WITH HATCHED ACCESS AISLE

NOTE:

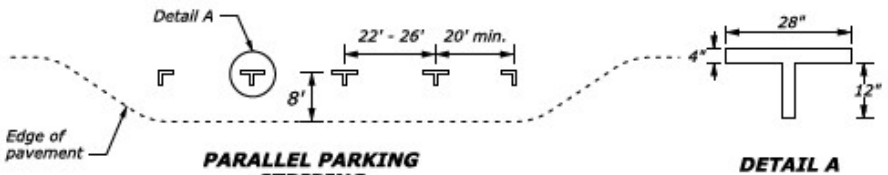
1. *Provide striping in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) latest edition.*
2. *Provide letters, numerals, and symbols that conform with the "Standard Highway Signs", latest edition.*
3. *Dimensions shown are for informational purposes only. Match existing pavement marking configurations, symbols and words, or as directed by the CO.*
4. *Use blue edge lines on concrete surfaces for Accessible spaces.*
5. *Dimensions are to center-line of stripe.*
6. *Paint curbs and wheel stops adjacent to ADA/ABA parking blue.*

FOOTNOTE:

[1] Use only 4" Type B solid white edge lines unless specified as yellow in the Quantity Tabulations or otherwise noted.

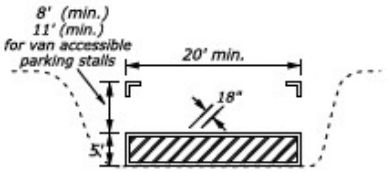
[2] See No Parking Hatch detail on this sheet for striping dimensions and spacings.

[3] All markings shall cover to extent possible existing pavement markings, matching style, and dimension. NOTE: ABA Parking stalls SHALL use only WHITE striping.



PARALLEL PARKING STRIPING

DETAIL A

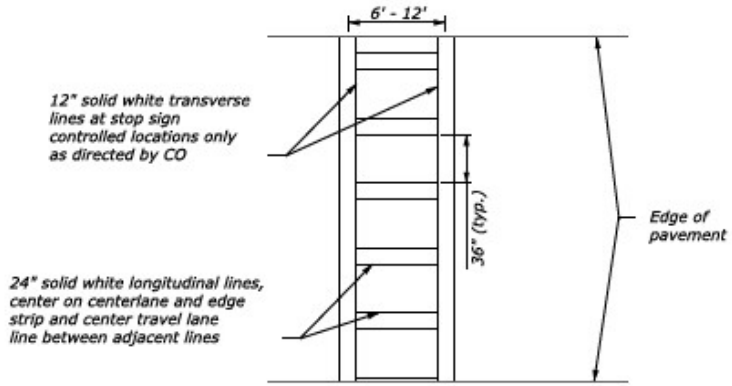


PARALLEL ACCESSIBLE CAR PARKING STRIPING [5]

NO SCALE

PAVEMENT MARKINGS IN PARKING AREAS

STATE	PROJECT	SHEET NUMBER
ND	THRO 348985	F1.2



CROSSWALK STRIPING [1]

NOTE:

1. Match striping in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) latest edition.
2. Match letters, numerals, and symbols that conform with the "Standard Highway Signs", latest edition.
3. Match existing pavement marking configurations, symbols and words, or as directed by the CO.

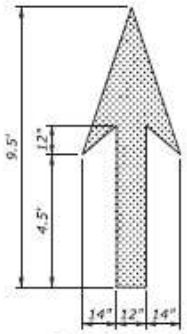
FOOTNOTE:

[1] Extend crosswalk across the full width of the roadway.

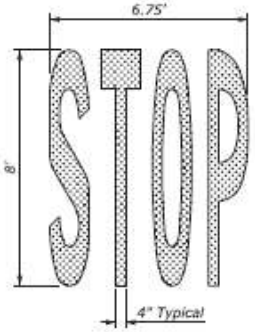
NO SCALE

PAVEMENT MARKINGS MISCELLANEOUS ROADWAY STRIPING

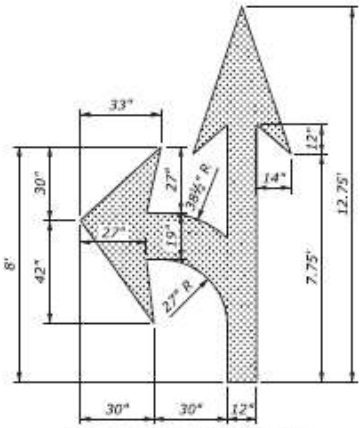
STATE	PROJECT	SHEET NUMBER
ND	THRO 348985	F. 3



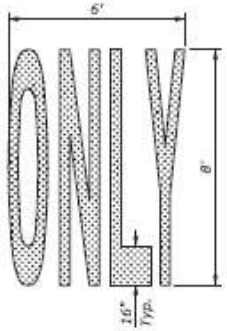
THROUGH LANE-USE ARROW



"STOP" WORD MARKING



TURN AND THROUGH LANE-USE ARROW



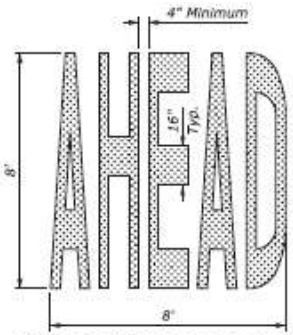
"ONLY" WORD MARKING

NOTE:

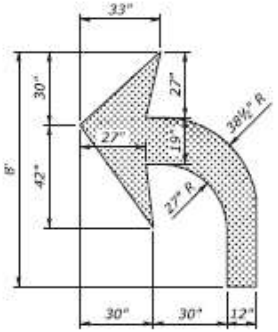
1. *Place pavement word and symbol markings in accordance with the "Manual on Uniform Traffic Control Devices" (MUTCD), current edition.*
2. *All letters, numerals and symbols shall conform with the "Standard Highway Signs", current edition.*
3. *The Accessibility Parking Space marking only includes the accessibility symbol unless a border is indicated in the Striping Plans.*

PAVEMENT MARKING AREAS

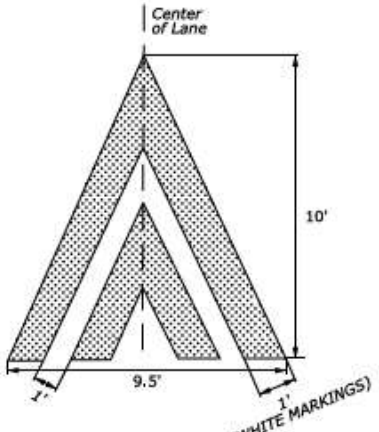
TYPE	SQFT
Through Lane-Use Arrow	12
Turn Lane-Use Arrow	16
Turn and Through Lane-Use Arrow	26
Yield Ahead Triangle (V≦40 MPH)	26
Yield Ahead Triangle (V≧45 MPH)	37
Accessibility Marking (symbol only)	2
Accessibility Marking w/ border (White)	5
Accessibility Marking w/ border (Blue)	9
AHEAD Word Marking	30
ONLY Word Marking	21
SCHOOL Word Marking	33
STOP Word Marking	22



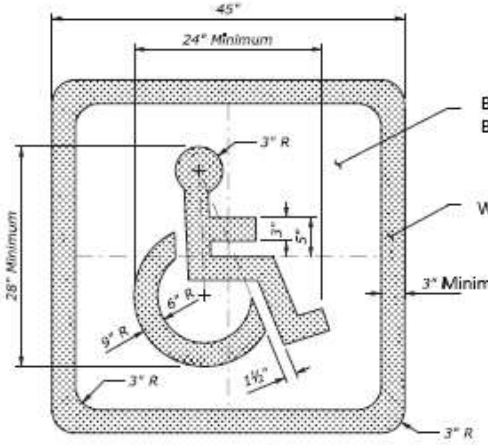
"AHEAD" WORD MARKING



TURN LANE-USE ARROW



SPEED BUMP CHEVRON SYMBOL



ACCESSIBILITY PARKING SPACE MARKING

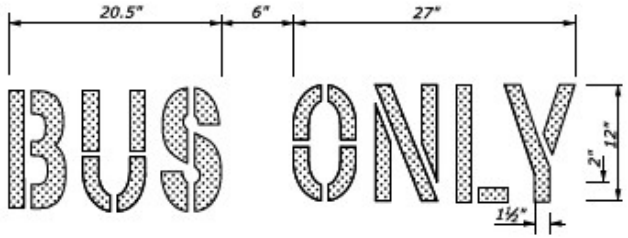
NO SCALE

PAVEMENT MARKINGS SYMBOLS AND WORDS

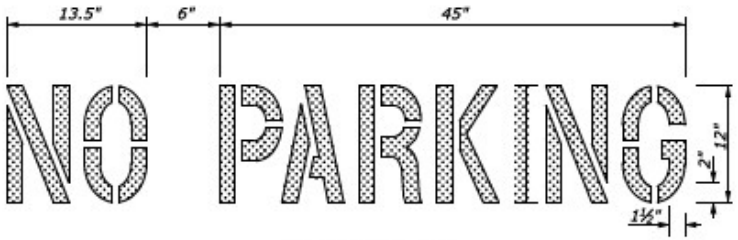
DETAIL APPROVED FOR USE 3/2021

DETAIL W634-1

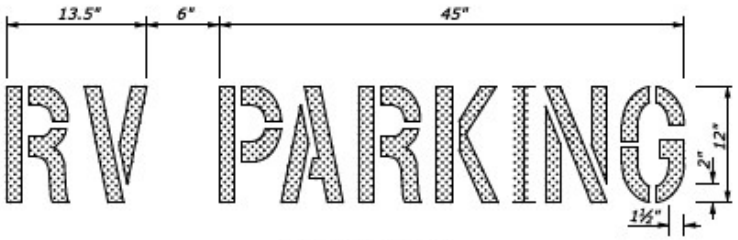
STATE	PROJECT	SHEET NUMBER
ND	THRO 348985	F.4



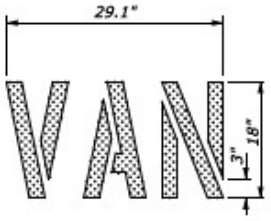
"BUS ONLY"
WORD MARKING



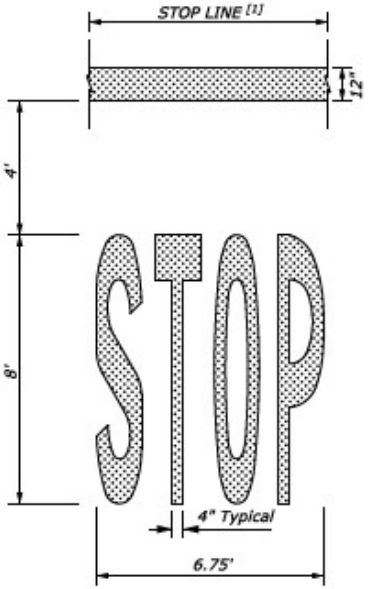
"NO PARKING"
WORD MARKING



"RV PARKING"
WORD MARKING



"VAN"
WORD MARKING



STOP LINE INCLUDING
"STOP" WORD MARKING

NOTE:

1. *Match existing pavement marking configurations, symbols and words, or as directed by the CO.*

FOOTNOTE:

[1] Extend stop line across the width of the lane. A 12' lane width was assumed for estimating purposes only.

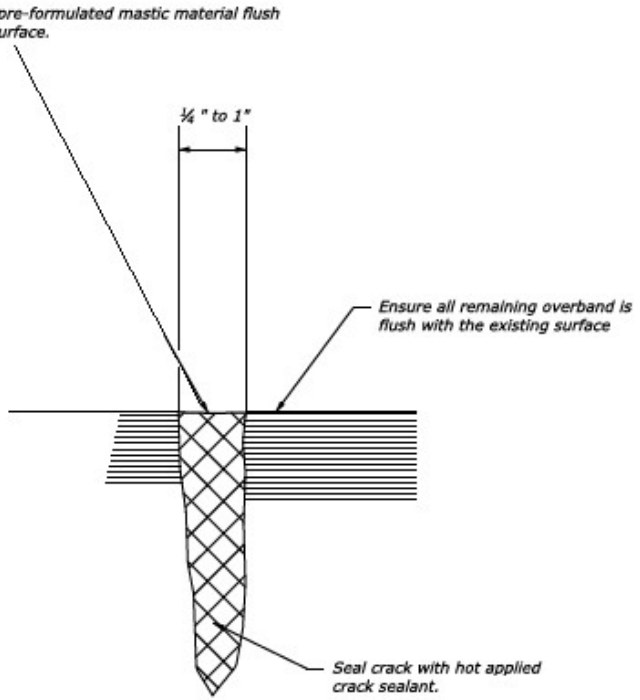
PAVEMENT MARKING AREAS

TYPE	SQFT
BUS ONLY Word Marking	2
NO PARKING Word Marking	2
Stop Line Including STOP Word Marking	34
Chevron Symbol	28
VAN Word Marking	1
RV PARKING Word Marking	2

NO SCALE

PAVEMENT MARKINGS SYMBOLS AND WORDS

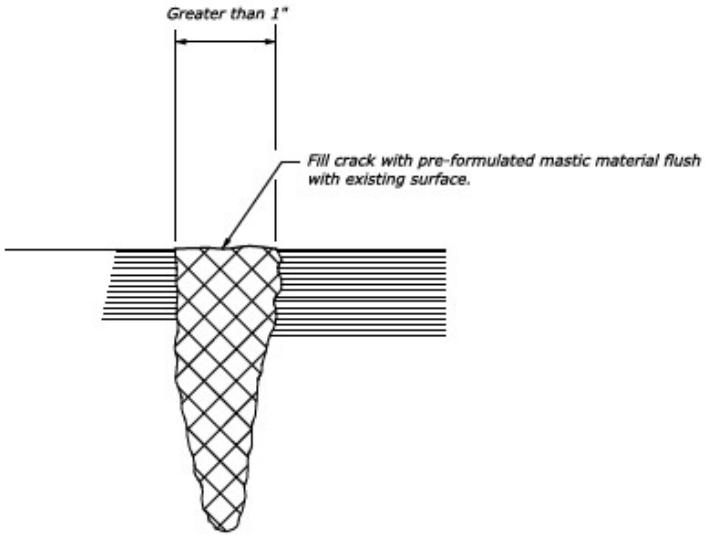
STATE	PROJECT	SHEET NUMBER
ND	THRO 348985	C.1



CRACK SEALING

NOTE:

1. *Prepare cracks for sealing and filling Follow manufacturer's recommendations for sealing and filling cracks.*
2. *Remove* **failing** *sealant from cracks to be filled by routing or other methods approved by the CO.*
3. *Force crack repair material into cracks to ensure adhesion to existing surface.*



CRACK FILLING

BID OPTION

SUBJECT to FUNDING

ASPHALT PAVEMENT
CRACK SEALING AND FILLING

SECTION 321216

ASPHALT PAVING

1.1 SUMMARY

A. Section Includes:

1. Hot-mix asphalt paving.

2. Hot-mix asphalt overlay.

3. Cold milling of existing asphalt pavement.

4. Asphalt surface treatments.

B. Related Requirements:

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:

a. Sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.
b. Requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.
c. Quality control of asphalt paving materials and asphalt paving construction practices.

2. Require representatives of each entity directly concerned with asphalt paving to attend, including the following:
a. Contractor’s superintendent
b. Asphalt paving Subcontractor

1.3 ACTION SUBMITTALS

A. Product Data: Include technical data and tested physical and performance properties.

1. Joint sealant.

2. Joint filler.

B. Hot-Mix Asphalt Designs:

1. Certification, by local DOT, of approval of each hot-mix asphalt design proposed for the Work.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For paving-mix manufacturer.

B. Material Certificates: Include statement that mixes containing recycled materials will perform equal to mixes produced from all new materials.

1. Aggregates.

2. Asphalt binder.

3. Tack coat.

1.5 SUBMITTAL COORDINATION

A. Submittal List: A submittal list has been attached to the end of this Specification Section. The intent is to provide an overall summary of the submittal requirements and not a comprehensive list. The requirements of the individual Specification Sections, terms and conditions of the Contract still apply regardless of what is shown on the submittal list.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by authorities having jurisdiction or the DOT of state in which Project is located. (North Dakota)

1.7 FIELD CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

B. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:

1. Tack Coat: Minimum surface temperature of 60 deg F.

2. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.

PART 2 - PRODUCTS

2.1 AGGREGATES

A. REFERENCE

1. Aggregate Gradation:
a.

AGGREGATE GRADATION OF MIX DESIGN		
SIEVE SIZE	½ INCH NOMINAL MAXIMUM AGGREGATE SIZE[1] PERCENT PASSING	
	MINIMUM	MAXIMUM
⅝ INCH	100	100
½ INCH	90	100
#4	40	70
#30	15	35
#200	2	7
[1] NOMINAL AGGREGATE SIZE IS DEFINED AS ONE SIEVE SIZE LARGER THAN THE FIRST SIEVE TO RETAIN MORE THAN 10 PERCENT.		

2. Aggregate Gradation Specification:

AGGREGATE SPECIFICATIONS								
SIEVE SIZE OR TESTING METHOD	AGGREGATE CLASS							
	2	3	3M	4	5	7	8	13
	PERCENT PASSING OR TESTING REQUIREMENT							
3 INCH		100						
1-1/2 INCH							100	
1 INCH			100		100	100		100
3/4 INCH	100	80-100	80-100	100	90-100	95-100		70-100
1/2 INCH						85-100		
3/8 INCH	50-95					60-90		
NO. 4		35-85	35-85	35-85	35-70	15-25	35-80	35-75
NO. 8						2-10		22-62
NO. 10	0-15							
NO. 30	0-4	20-50	20-50	10-50	16-40			12-45
NO. 200		0-15	4-10	7-17	4-10	0-3		7-15
ND T 113, SHALE (MAX %)		12.0%	12.0%	15.0%	12.0%	8.0%	20.0%	12.0%
AASHTO T 96, L.A. ABRASION (MAX %)				50%	50%	40%		50%
NDDOT 4, FRACTURED FACES*				10%	10%	85%		10%
* MINIMUM WEIGHT PERCENTAGE ALLOWABLE FOR THE PORTION OF THE AGGREGATE RETAINED ON A NO. 4 SIEVE HAVING AT LEAST ONE FRACTURED FACE FOR CLASSES 4, 5, AND 13 AND AT LEAST TWO FRACTURED FACES FOR CLASS 7.								

3. ASPHALT MATERIALS

B. Asphalt Binder: ASTM D6373, PG 64-22.

C. Tack Coat: ASTM D2397 cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

D. Water: Potable.

E. Joint Sealant: ASTM D6690, Type II or III, hot-applied, single-component, polymer-modified bituminous sealant.

2.2 MIXES

A. Hot-Mix Asphalt: Dense-graded, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and complying with the following requirements:

2.3 MIX DESIGN

- THE CONTRACTOR SHALL SUBMIT FOR THE PROJECT C.O.R.'S WRITTEN APPROVAL, A JOB MIX FORMULA FOR EACH MIXTURE TO BE SUPPLIED FOR THE PROJECT.

- THE JOB MIX FORMULA WITH THE ALLOWABLE TOLERANCES SHALL BE WITHIN THE MASTER RANGE SPECIFIED FOR THE PARTICULAR TYPE OF BITUMINOUS MATERIAL. THE JOB MIX FORMULA FOR EACH MIXTURE SHALL ESTABLISH A SINGLE PERCENTAGE OF AGGREGATE PASSING EACH REQUIRED SIEVE SIZE AND A SINGLE PERCENTAGE OF BITUMINOUS MATERIAL TO BE ADDED TO THE AGGREGATE.

- THE MINERAL AGGREGATE FOR THE SURFACE COURSE SHALL BE OF SUCH SIZE THAT THE PERCENTAGE COMPOSITION BY WEIGHT AS DETERMINED BY LABORATORY SIEVES SHALL CONFORM TO THE GRADATIONS SPECIFIED. THE FINAL GRADATIONS SHALL BE WITHIN THE DESIGNATED LIMITS AND SHALL BE WELL GRADED FROM COARSE TO FINE AND SHALL NOT VARY FROM THE LOW LIMIT ON ONE SIEVE TO THE HIGH LIMIT ON ADJACENT SIEVES OF VICE VERSA.

- THE BITUMINOUS CONTENT OF THE MIXTURE SHALL BE CALCULATED ON A PERCENTAGE BASIS BY WEIGHT OF THE TOTAL MIX.

- THE TABULATED COMPOSITION LIMIT SHALL GOVERN, BUT A CLOSER CONTROL APPROPRIATE TO THE JOB MATERIALS WILL BE REQUIRED FOR

- THE SPECIFIC PROJECT IN ACCORDANCE WITH THE ESTABLISHED JOB MIX FORMULA.

- SHOULD A CHANGE BE MADE IN SOURCES OF MATERIALS, A NEW JOB MIX FORMULA SHALL BE ESTABLISHED PRIOR TO ANY NEW MATERIALS BEING USED. SHOULD UNSATISFACTORY RESULTS OR UNFORESEEN CONDITIONS MAKE IT NECESSARY, A NEW JOB MIX FORMULA MAY BE ESTABLISHED AT THE DISCRETION OF THE PROJECT C.O.R.

AGGREGATE GRADATION OF MIX DESIGN		
SIEVE SIZE	½ INCH NOMINAL MAXIMUM AGGREGATE SIZE[1] PERCENT PASSING	
	MINIMUM	MAXIMUM
⅝ INCH	100	100
½ INCH	90	100
#4	40	70
#30	15	35
#200	2	7
[1] NOMINAL AGGREGATE SIZE IS DEFINED AS ONE SIEVE SIZE LARGER THAN THE FIRST SIEVE TO RETAIN MORE THAN 10 PERCENT.		

PART 3 - EXECUTION

3.1 SITE CLEARING

A. Remove slabs, paving, curbs, gutters, and walks as indicated.

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.

B. Edge Mill / Grind per attached drawings, for embedment of speed hump, asphalt surfaces to provide plowable toe and anchorage of assembly into pavement surface.

3.2 EXAMINATION

A. Verify that base is dry and in suitable condition to begin paving.

B. Proceed with paving only after unsatisfactory conditions have been corrected.

3.3 PREPARATION

A. Protection: Provide protective materials, procedures, and worker training to prevent asphalt materials from spilling, coating, or building up on curbs, driveway aprons, manholes, and other surfaces adjacent to the Work.

3.4 COLD MILLING / GRINDING

A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.

1. Mill to a depth of 1-1/2 inches.

2. Mill to a uniform finished surface free of excessive gouges, grooves, and ridges.

3. Control rate of milling to prevent tearing of existing asphalt course.

4. Repair or replace curbs, driveway aprons, manholes, and other construction damaged during cold milling.

5. Patch surface depressions deeper than 1 inch after milling, before wearing course is laid.

6. Keep milled pavement surface free of loose material and dust.

7. Do not allow milled materials to accumulate on-site.

3.5 REPAIRS

A. Crack and Joint Filling: Remove existing joint filler material from cracks or joints to a depth of 1/4 inch.

1. Clean cracks and joints in existing hot-mix asphalt pavement.

2. Use emulsified-asphalt slurry to seal cracks and joints less than 1/4 inch (6 mm) wide. Fill flush with surface of existing pavement and remove excess.

3. Use hot-applied joint sealant to seal cracks and joints more than 1/4 inch wide. Fill flush with surface of existing pavement and remove excess.

3.6 HOT-MIX ASPHALT PLACEMENT

A. Tack Coat: Apply uniformly to all pavement surfaces beneath new speed humps (milled and unmilled) at a rate of 0.15 gal./sq. yd.

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.

2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

B. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.

1. Place hot-mix asphalt binder course in a single, 2-inch finished lift.
2. Uniformly apply a tack coat over the binder course at a rate of 0.15 gal./sq. yd., and allow to cure undisturbed
3. Place hot-mix asphalt surface course in a single, 2-inch finished lift.
4. Spread mix at a minimum temperature of 250 deg F.
5. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
6. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

C. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Overlap mix placement about 1 to 1-1/2 inches from strip to strip to ensure proper compaction of mix along longitudinal joints.
2. Complete a section of asphalt binder course before placing asphalt surface course.

D. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.7 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.

1. Clean contact surfaces and apply tack coat to joints.

2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.

3. Offset transverse joints, in successive courses, a minimum of 24 inches.

4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method in accordance with AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."

5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.

6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.8 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.

1. Complete compaction before mix temperature cools to 185 deg F.

2. Maximum air voids shall be 4%.

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:

1. Average Density, Marshall Test Method: 96 percent of reference laboratory density in accordance with ASTM D6927 or AASHTO T 245, but not less than 94 percent or greater than 100 percent.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.9 INSTALLATION TOLERANCES

A. Pavement Thickness: Compact each course to produce thickness indicated within the following tolerances:

1. Binder Course: Plus or minus 1/2 inch.

2. Surface Course: Plus 1/4 inch, no minus.

B. Pavement Surface Smoothness: Compact each course to produce surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:

1. Binder Course: 1/4 inch.

2. Surface Course: 1/8 inch.

3.10 SURFACE TREATMENTS

A. Crack Sealants

1. With use of an air compressor, relieve road cracks of sand, weed growth, debris.

2. Using hot applied bituminous elastomeric crack fillers, seal cracks spreading sealant into and across the crack in pavement to prevent water infiltration.

END OF SECTION

SECTION 321723

PAVEMENT MARKINGS

1.1 SUMMARY

A. Section Includes:

1. Painted markings applied to asphalt paving.
2. Painted markings applied to concrete surfaces.

1.2 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Project site.

1. Review of methods and procedures related to marking asphalt paving or concrete surfaces including, but not limited to, the following:

a. Asphalt-paving or concrete-surface aging period before application of pavement markings.

b. Review requirements for protecting pavement markings, including restriction of traffic during installation period.

1.3 ACTION SUBMITTALS

A. Product Data: Include technical data and tested physical and performance properties. Include MPI Approved Products List for each product category specified, with the proposed product highlighted.

1. Pavement-marking paint, acrylic.
2. Pavement-marking paint, latex.

B. Assurance/Control:

1. Certificates: Manufacturer certificate that Products meet or exceed specified requirements.
2. Test Reports: Safety Data Sheets (SDS) for each paint type specified.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of Federal, State, and local restrictions for pavement-marking work.

B. Comply with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) where applicable.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for alkyd materials and 55 deg F for water-based materials, and not exceeding 95 deg F.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. MPI Listing Manufacturers as shown on the MPI Approved Products Lists.

B. Source Limitations: Obtain pavement-marking paints from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the 2015 ABA Standards. https://www.access-board.gov/attachments/article/1029/ABAstandards.pdf or **MATCH EXISTING PAVEMENT MARKINGS**

2.3 PAVEMENT-MARKING PAINT

A. Pavement-Marking Paint, Acrylic: Acrylic, waterborne emulsion, lead and chromate free, ready mixed, complying with FS TT-P-1952F, Type II, with drying time of less than three minutes.

1. Color:

a. **White** (Fog Lines, Cross Walks, Stop-lines, Parking Stalls & Portions of ABA Plaques

b. **Yellow** (Double Yellow and Intermittent Dashed lane-dividers)

c. **Blue** (ABA Parking Plaques)

B. Pavement-Marking Paint, Latex: MPI #97, latex traffic-marking paint.

1. Color:

a. **White** (Fog Lines, Cross Walks, Stop-lines, Parking Stalls & Portions of ABA Plaques

b. **Yellow** (Double Yellow and Intermittent Dashed lane-dividers)

c. **Blue** (ABA Parking Plaques)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that pavement-marking substrate is dry and in suitable condition to begin pavement marking in accordance with manufacturer's written instructions.

B. Proceed with pavement marking only after unsatisfactory conditions have been corrected.

3.2 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with COR.

B. Contractor shall prepare surface prior to application. Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, loose or peeling paint, and other foreign material to ensure adequate adhesion.

1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils, Mask an extended area beyond edges of each stencil to prevent paint application beyond stencil. Apply paint so that it cannot run beneath stencil.

3.3 PROTECTING AND CLEANING

A. Protect pavement markings from damage and wear during construction period.

B. Clean spillage and soiling from construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

River Woodland Pullout

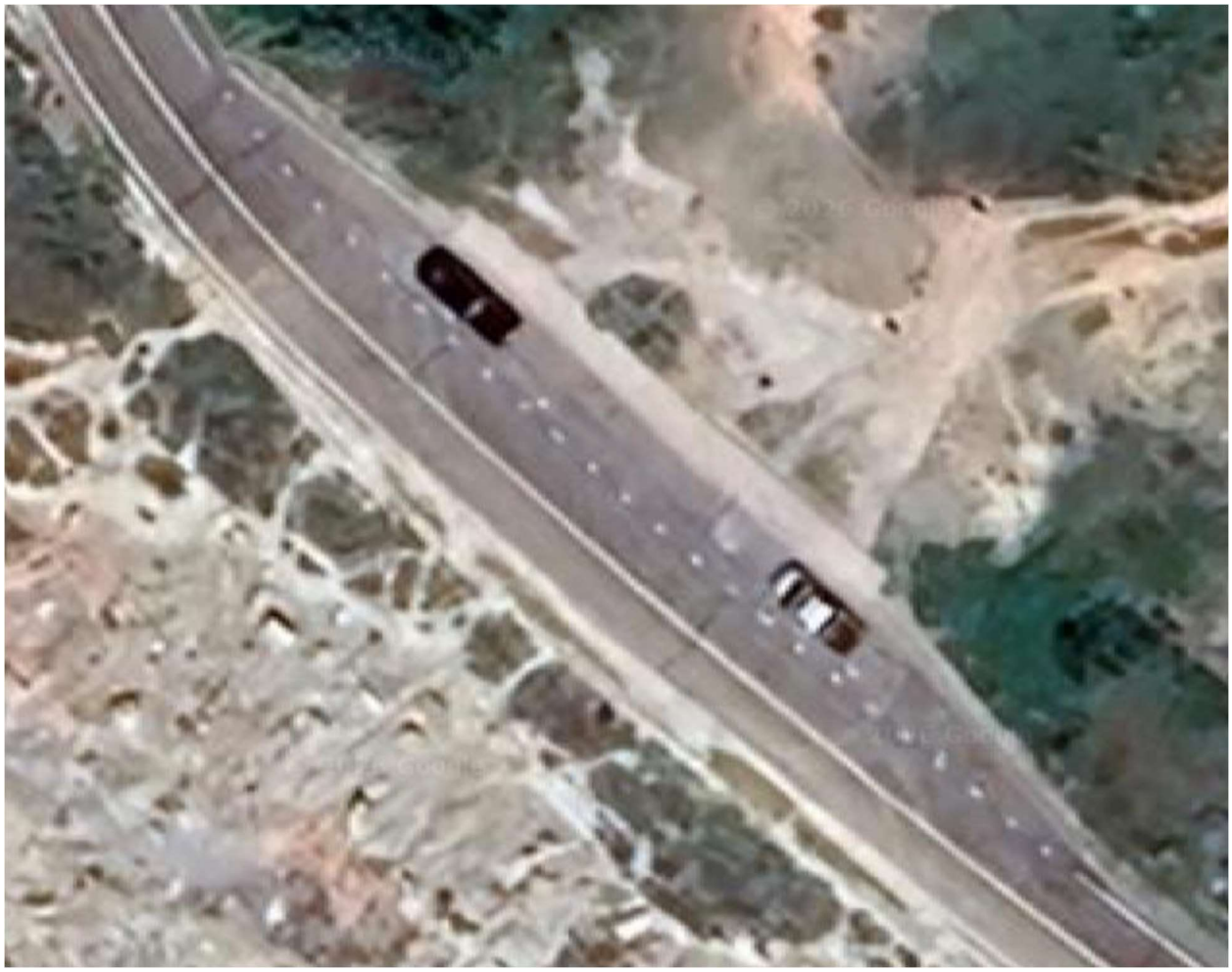
Skyline Vista

Johnson Plateau

Medora Overlook

Wind Canyon - Pullout

Schramm Hill Pullout



Beef Corral Flats

Lower Jones Creek

Peaceful Valley Intersection

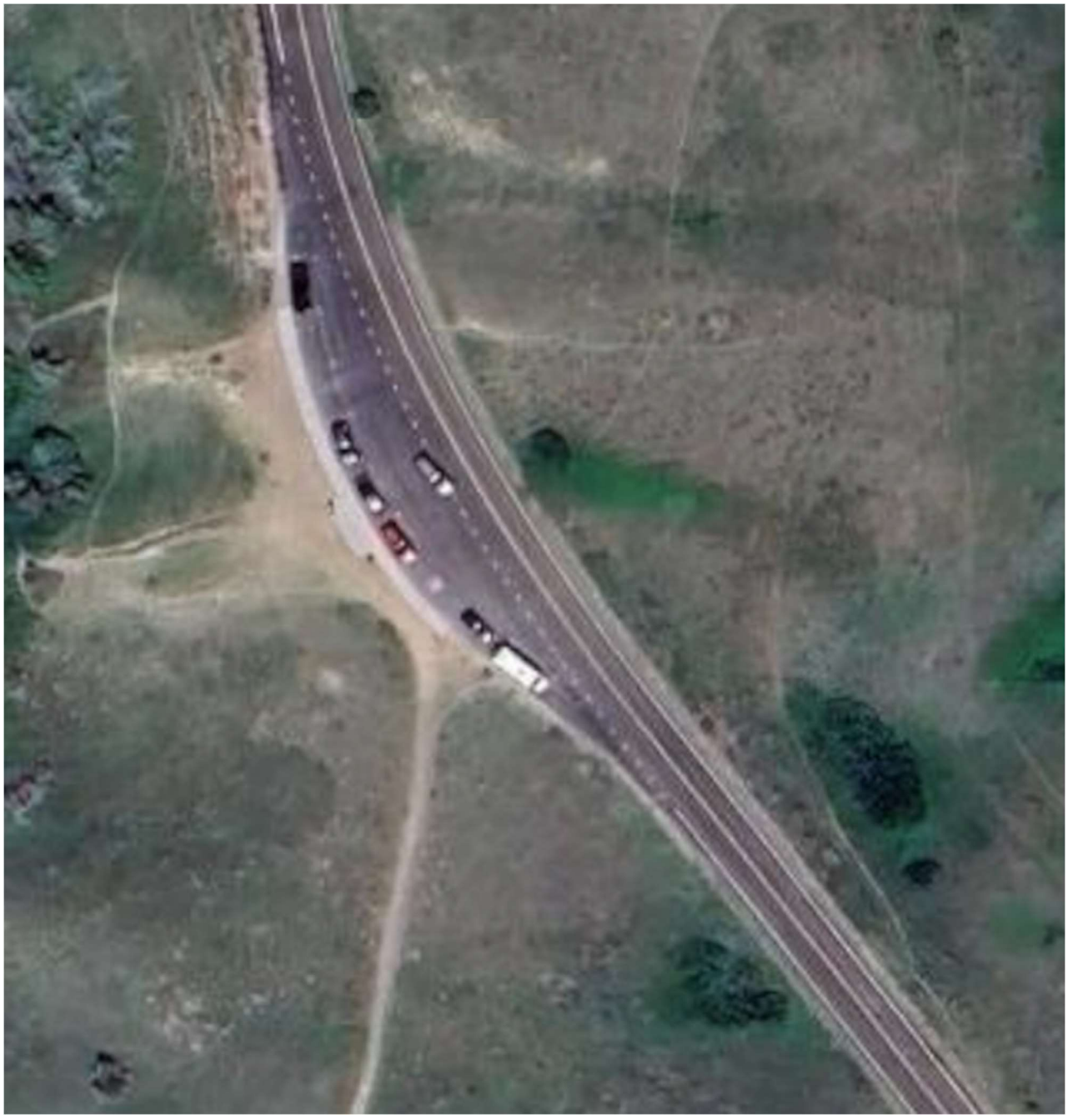
Peaceful Valley ABA & Crosswalk

Cottonwood Campground Picnic Area & Intersections

Cottonwood Campground Directional Markings & Parking Stall Striping

Cottonwood Campground Directional Markings & Parking Stall Striping (Photo Enlargements)

Boicourt Overlook - West



Boicourt Overlook - East

South Loop Vault Pullout

SUBMITTAL LIST

National Park Service MWRO Standardized Statements of Work

SUBMITTAL			REQUIREMENTS (indicate with an "X")							
			INFORMATIONAL				ACTION			
Spec. Sec.	Par. No.	Description	CERT./LAB TEST	REPORT/CALC. OR PLAN	Mfg. DATA & INSTRUCTIONS		SHOP DRAWING	SAMPLE	Mfg. DATA & INSTRUCTIONS	
321723	1.4	**Pavement Markings**								
		Product Data							x	
		MPI Approved Products List							x	
		Assurance/Control							x	
		Safety Data Sheets for Paint							x	
321216		**Asphalt Paving**								
	1.4	Product Data							x	
		Hot-Mix Asphalt Designs							x	
	1.5	Qualification Data	x							
		Material Certificates	x							