DEPARTMENT OF TRANSPORTATION

Planning & Engineering
Office of Project Development
700 E Broadway Avenue
Pierre, South Dakota 57501-2586
O: 605.773.3275 | F: 605.773.2614
dot.sd.gov

May 10, 2024

ADDENDUM NO. 1

RE: Item #3, May 15, 2024 Letting - P TAPU(37), PCN 08W6, Minnehaha County - PCC Shared Use Path

TO WHOM IT MAY CONCERN:

The following addenda to the plans shall be inserted and made a part of your proposal for the referenced project.

SPECIAL PROVISIONS: NO CHANGE

SDEBS BID PROPOSAL: *The electronic bid proposal for this contract has been revised to include the changes associated with this addendum. Bidders must log in to the SDEBS to retrieve and incorporate these changes into their bid.*

Bid Items were added:
Bid Item 632E1340 "2.5"x2.5" Perforated Tube Post"

Quantities for Bid Items were changed:
Bid Item 632E1320 "2.0"x2.0" Perforated Tube Post" changed from 47.0 to 21.0 Ft
Bid Item 632E3205 "Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity" changed from 31.7 to 39.9 SqFt

PLANS: Please destroy sheets 2, 10, 11, 37 and 38 and replace with the enclosed sheets, dated 5/8/24.

Sheet 2: **Bid Items were added:**
Bid Item 632E1340 "2.5"x2.5" Perforated Tube Post"

Quantities for Bid Items were changed:
Bid Item 632E1320 "2.0"x2.0" Perforated Tube Post" changed from 47.0 to 21.0 Ft
Bid Item 632E3205 "Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity changed from 31.7 to 39.9 SqFt

Sheet 10: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON SYSTEM note was revised.
Beacon system was changed to a double sided RRFB.

Sheet 11: SOLAR POWERED FLASHING BEACON POSTS note was revised.

Sheet 37: Solar Powered Flashing Beacon note revised to read "W11-2, W16-7P, and Solar Powered Flashing Beacons to be mounted on the north and south sides of the 2.5"x2.5" perforated tube post."

Sheet 38: TABLE OF SOLAR POWERED FLASHING BEACON was revised.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/cj
CC: Travis Dressen, Mitchell Region Engineer
Harry Johnston, Sioux Falls Area Engineer

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPU(37)	2	54

FILE: 672118 - Estimate of Quantities & Environmental Commitments.doc
PLOTTING DATE: 2024-05-08 INITIALS: JTM
REVISION DATE: 2024-05-08

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	41	Ft
110E1010	Remove Asphalt Concrete Pavement	749.0	SqYd
110E1130	Remove Concrete Driveway Pavement	147.0	SqYd
110E1140	Remove Concrete Sidewalk	6.0	SqYd
110E7150	Remove Sign for Reset	21	Each
120E0010	Unclassified Excavation	1,105	CuYd
120E0600	Contractor Furnished Borrow Excavation	680	CuYd
120E0900	Contaminated Material Excavation	10	CuYd
230E0010	Placing Topsoil	915	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
260E1010	Base Course	1,200.0	Ton
320E1200	Asphalt Concrete Composite	167.0	Ton
380E3020	6" PCC Driveway Pavement	156.0	SqYd
380E4010	6" PCC Fillet Section	117.0	SqYd
632E1320	2.0"x2.0" Perforated Tube Post	21.0	Ft
632E1340	2.5"x2.5" Perforated Tube Post	26.0	Ft
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	13.6	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	39.9	SqFt
632E3500	Reset Sign	21	Each
633E1130	Epoxy Pavement Marking Paint, 24" White	88	Ft
633E5050	Surface Preparation for Pavement Marking	88	Ft
634E0110	Traffic Control Signs	121.5	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	7	Each
635E5900	Pedestrian Push Button	2	Each
635E5960	Solar Powered Flashing Beacon	2	Each
650E2100	Special Concrete Curb and Gutter	50	Ft
651E0040	4" Concrete Sidewalk	1,575	SqFt
651E0050	5" Concrete Sidewalk	10,640	SqFt
651E0060	6" Concrete Sidewalk	1,982	SqFt
651E7000	Type 1 Detectable Warnings	128	SqFt
700E0210	Class B Riprap	14.0	Ton
730E0206	Type D Permanent Seed Mixture	257	Lb
731E0100	Fertilizing	253	Lb
732E0200	Fiber Mulching	1.3	Ton
734E0150	6" Diameter Erosion Control Wattle	45	Ft
734E0602	Low Flow Silt Fence	711	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	1	Each
734E5010	Sweeping	10	Hour
831E0110	Type B Drainage Fabric	21	SqYd

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf >

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

COMMITMENT C: WATER SOURCE

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment will be power washed with hot water (≥140 °F) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

The Contractor will not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (DANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at:
< https://sdleastwanted.sd.gov/maps/default.aspx >

< South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species: https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04 >

COMMITMENT D: WATER QUALITY STANDARDS

This project may be in the vicinity of multiple streams and wetlands. These waters are considered waters of the state and are protected under Administrative Rules of South Dakota (ARSD) Chapter 74:51. Special construction measures may have to be taken to ensure that this water body is not impacted.

Action Taken/Required:

The Contractor is advised that the South Dakota Surface Water Quality Standards, administered by the South Dakota Department of Agriculture and Natural Resources (DANR), apply to this project. Special construction measures will be taken to ensure the above standard(s) of the surface waters are maintained and protected.

COMMITMENT D2: SURFACE WATER DISCHARGE

The DANR General Permit for Temporary Discharge is required for temporary dewatering and discharges to waters of the state. The effluent limit for total suspended solids will be 90 mg/L 30-day average. The effluent limit applies to discharges to all waters of the state except discharges to waters classified as cold water permanent fish life propagation waters according to the ARSD 74:51:01:45. For discharges to waters of the state classified as cold water permanent fish life propagation waters, the effluent limit for total suspended solids will be 53 mg/L daily maximum.

The permittee has the option of completing effluent testing or implementing a pollution prevention plan for compliance with this permit. If the permittee develops a pollution prevention plan instead of total suspended solids sampling, the plan must be developed and implemented prior to discontinuing total suspended solids sampling. Refer to Section 4.0 of the permit. If any pollutants are suspected of being discharged, a sample must be taken for those parameters listed in Section 3.4 of the permit.

Refer to Commitment D1: Surface Water Quality for stream classification.

Action Taken/Required:

If construction dewatering is required and this project is currently covered under a General Permit for Stormwater Discharges Associated with Construction Activities, the contractor will need to submit the dewatering information to the SDDANR using the following form:

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
15287
JACOB T.
MORRIS
SOUTH DAKOTA
05/08/2024

GENERAL NOTES AND TABLES

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPU(37)	10	54

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EPOXY PAVEMENT MARKING PAINT

General: This specification provides for the classification of epoxy pavement marking systems by type. **For this project, Contractor will use Type II.**

Type I: A fast-cure material suitable for line applications but may require coning.

Type II: A slow-cure material suitable for all applications of pavement markings performed under controlled traffic conditions requiring coning.

Certifications: The manufacturer must certify that the components meet the following requirements and must furnish certified test results for each batch. The Contractor must provide the Engineer with a copy of the manufacturer's product data sheet, instructions for surface preparation and material application at least one week before application work begins. Whenever the manufacturer's recommendations are more stringent than these provisions, the manufacturer's recommendations will apply.

Epoxy Material: Furnish a two-component 100 percent solids epoxy material containing no fillers or pigment extenders. Follow the manufacturer's mixing ratio when mixing the two components. Mix the components within plus or minus 2 1/2 percent of the manufacturer's recommended mix ratio. No solvents are to be given off to the environment upon application to a pavement surface. The components, when combined, must not contain or produce volatile solvents. Type II material must be completely free of TMPTA (Tri-Methyol Propane Tri-Acrylate) and other multi-functional monomers. All materials must be free of lead, cadmium, mercury, hexavalent chromium, and other toxic heavy metals as defined by the United States Environmental Protection Agency.

The Resin/Pigment component must meet the following percentages by weight:

Pigment	White	Yellow
TiO2, meeting ASTM D-476, Type II	18–25	12–17
Organic Yellow		7–9
Epoxy Resin	75–82	74–82

Test the epoxy content of the epoxy resin in accordance with ASTM D 1652 and calculate as the Weight per Epoxy Equivalent (WPE) for both white and yellow. Determine the epoxy content on a pigment-free basis. The accepted epoxy content range (WPE) is +50 of the manufacturer's target value.

Ensure the Activator/Curing Agent meets the following requirements:

Test the amine value in accordance with ASTM D 2074. Ensure the total amine value meets the manufacturer's target value with the acceptance range being ±50 of the target value.

a. Color:

White: The color must be within the Chromaticity coordinates listed in Tables 1 and 2 when tested in accordance with ASTM E-1347 or ASTM E-1349

Yellow: The color must be Federal Test Standard Number 595a, Color 13538, or must be within the Chromaticity coordinates listed in Tables 1 and 2 when tested in accordance with ASTM E-1347 or ASTM E-1349.

TABLE 1

Color	Chromaticity coordinates (corner points)							
	x	Y	x	y	x	y	x	y
White	.355	.355	.305	.305	.285	.325	.335	.375
Yellow	.560	.440	.490	.510	.420	.440	.460	.400

Color	Y values %			
	With Glass Beads		Without Glass Beads	
	Min	Max	Min	Max
White	60	--	70	--
Yellow	30	--	35	--

Table 1: Daytime Color Specification Limits for Pavement Markings Material with CIE 2° Standard Observer and 45/0 (0/45) Geometry and CIE D65 Standard Illuminant

TABLE 2

Color	Chromaticity coordinates (corner points)							
	1		2		3		4	
	x	y	x	y	x	y	x	y
White	.480	.410	.430	.380	.405	.405	.455	.435
Yellow	.575	.425	.508	.415	.473	.453	.510	.490

Table 2: Nighttime Color Specification Limits for Pavement Marking Retroreflective Material With CIE 2° Standard Observer and Observation Angle = 1.05°, Entrance Angle = 88.76° (beta angle 2 and epsilon = 0°) and CIE Standard Illuminant A

b. Shelf Life: The individual components must not require mixing prior to use when stored for a period of 12 months or less.
c. Adhesion Capabilities: When the adhesion of the material to Portland cement concrete (the concrete must have a minimum of 300 psi. tensile strength (2,070 kPa)) is tested in accordance with the American Concrete Institute Committee 503 testing procedure, the failure of the system must take place in the concrete. The concrete must be a minimum of 90°F (32°C) when the material is applied, after which the material must be allowed to cure for 72 hours at 73°F ± 5°F (23°C ±2°C).
d. Abrasion Resistance: When the abrasion resistance of the material is tested in accordance with ASTM C 501 with a CS-17 wheel under a load of 1,000 grams for 1,000 cycles, the wear index must be no greater than 82. (The wear index is the weight in milligrams that is abraded from the sample under the test conditions.)
e. Hardness: The Type D durometer hardness of the material must not be less than 75 nor more than 90 when tested in accordance with ASTM D 2240 after the material has cured for 72 hours at 73°F ± 5°F (23°C ±2°C).
f. Tensile Strength: The tensile strength of the material, when tested in accordance with ASTM D 638, must not be less than 6,000 psi. (42 MPa) after 72 hours cure at 73°F ± 5°F (23°C ±2°C).
g. Compressive Strength: The compressive strength of the material, when tested in accordance with ASTM D 695, must not be less than 12,000 psi (83 MPa) after 72 hours cure at 73°F ± 5°F (23°C ±2°C). The rate of compression of these samples must be no more than 1/4 inch (6 mm) per minute.
h. Weather Resistance: Apply the mixed epoxy, both white and yellow, at 15 mils +1 mil thick to 3- x 6-inch (75 mm x 150 mm) aluminum panels. Do not apply beads to the epoxy sample. Expose the cured sample in an Environmental Test Chamber meeting the requirements of ASTM G 53. Conduct the test for 80 hours at 122°F (50°C), alternating four-hour cycles of condensation and ultraviolet light.

SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON SYSTEM

The Solar Powered Flashing Beacons (RRFB) system will consist of the following:

- Double-sided RRFB with solar panel as shown in the plans
- Pedestrian push buttons as shown in the plans
- W11-2 (crossing warning) signs as shown in the plans
- W16-7P (diagonal arrow) plaques as shown in the plans
- R10-25 (push button) signs as shown in the plans
- All necessary electronic programming and flash units, hardware, and wiring to make the system operational

Beacon Dimensions and Placement in Sign Assembly:

Each individual RRFB will consist of two rectangular-shaped yellow indications, each with an LED-array-based light source. The size of each indication will be at least 5 inches wide by at least 2 inches high.

The two indications will be aligned horizontally, with the longer dimension horizontal and with a minimum space between the two indications of at least 7 inches, measured from the nearest edge of one indication to the nearest edge of the other indication.

The outside edges of the RRFB will not project beyond the outside edges of the W11-2 sign.

Each RRFB will be located between, and immediately adjacent to, the bottom of the W11-2 sign and the top of the W16-7P plaque.

Beacon Flashing Requirements:

When actuated, the indications in each RRFB will flash in a rapidly flashing sequence. The RRFB will provide 75 flashing sequences per minute. During each 800-millisecond flashing sequence, the left and right RRFB indications will operate using the following sequence:

1. The indication on the left-hand side will be illuminated for approximately 50 milliseconds.
2. Both indications will be dark for approximately 50 milliseconds.
3. The indication on the right-hand side will be illuminated for approximately 50 milliseconds.
4. Both indications will be dark for approximately 50 milliseconds.

GENERAL NOTES AND TABLES

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SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON SYSTEM (CONTINUED)

5. The indication on the left-hand side will be illuminated for approximately 50 milliseconds.
6. Both indications will be dark for approximately 50 milliseconds.
7. The indication on the right-hand side will be illuminated for approximately 50 milliseconds.
8. Both indications will be dark for approximately 50 milliseconds.
9. Both indications will be illuminated for approximately 50 milliseconds.
10. Both indications will be dark for approximately 50 milliseconds.
11. Both indications will be illuminated for approximately 50 milliseconds.
12. Both indications will be dark for approximately 250 milliseconds.

The light intensity of the indications during daytime conditions will meet the minimum specifications for Class 1 yellow peak luminous intensity in the Society of Automotive Engineers (SAE) Standard J595 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles) dated January 2005.

Each RRFB will be equipped with an automatic signal dimming device to reduce illumination levels during periods of reduced ambient light.

Beacon Operation:

Each RRFB will be normally dark, will initiate operation only upon pedestrian actuation, and will cease operation 7 seconds after the pedestrian actuation.

All RRFB indications will simultaneously commence operation and simultaneously cease operation.

The programmed operation period will be immediately initiated upon each pedestrian actuation, including when the actuation occurs while the RRFB are already flashing and when the actuation occurs immediately after the indications have ceased flashing.

A small light directed at and visible to pedestrians in the crosswalk will be installed integral to the RRFB or push button, to give confirmation that each beacon is in operation.

Control Enclosure:

All enclosures will be aluminum and comply with the requirements for NEMA 3R type.

All materials and installation costs necessary for the operation of each system will be incidental to the contract unit price per each for “Solar Powered Flashing Beacon”.

TABLE OF SOLAR POWERED FLASHING BEACON

Station	L/R	Quantity (Each)
2+28	58.3’R	1
2+29	2.7’L	1
	Total:	2

SOLAR POWERED FLASHING BEACON POSTS

All appurtenances and materials for solar powered flashing beacons to include: flashing beacon, push button, solar panel and enclosure, and reflective streets signs must be installed on a standard 2.5”x2.5” tube post with a 2.5” Slip Base Assembly.

Payment will be at the respective bid items for flashing beacon, push button, tube post, and high intensity sign.

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PERMANENT SIGNING

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPU(37)	37	54

FILE: 672118 – Permanent Signing Layout.dwg
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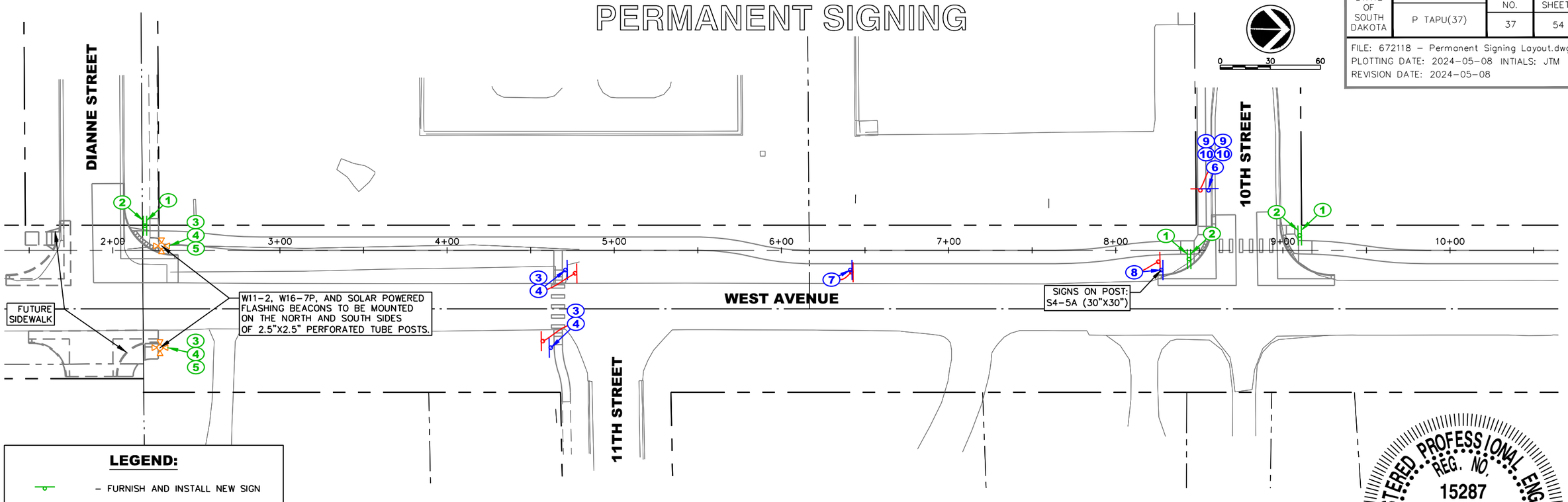
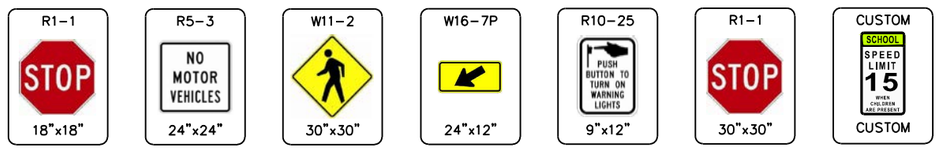


LEGEND:

- – FURNISH AND INSTALL NEW SIGN
- – REMOVE SIGN FOR RESET
- – RESET SIGN
- – SOLAR POWERED FLASHING BEACON



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PERMANENT SIGNING

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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TABLE OF NEW PERMANENT SIGNS

LOCATION	SIGN CODE	DESCRIPTION	SIGN SIZE	SUPER/VERY HIGH INTENSITY TRAFFIC SIGN AREA (SQFT)	HIGH INTENSITY TRAFFIC SIGN AREA (SQFT)	2" SQ. TUBE POST (FT)
2+19 - 14.8'L	R1-1	STOP	18" x 18"	2.3		7.0
	R5-3	NO MOTOR VEHICLES	24" x 24"		4.0	
8+44 - 5.3'R	R1-1	STOP	18" x 18"	2.3		7.0
	R5-3	NO MOTOR VEHICLES	24" x 24"		4.0	
9+10 - 8.9'L	R1-1	STOP	18" x 18"	2.3		7.0
	R5-3	NO MOTOR VEHICLES	24" x 24"		4.0	
			TOTAL:	6.9	12.0	21.0

TABLE OF SOLAR POWERED FLASHING BEACON

LOCATION	SIGN CODE	DESCRIPTION	SIGN SIZE	SUPER/VERY HIGH INTENSITY TRAFFIC SIGN AREA (SQFT)	HIGH INTENSITY TRAFFIC SIGN AREA (SQFT)	2.5" SQ. TUBE POST (FT)
2+28 - 58.3'R	W11-2	PEDESTRIAN	30" x 30"	12.5		13.0
	W16-7P	DOWNWARD DIAGONAL ARROW (PLAQUE)	24" x 12"	4.0		
	R10-25	PUSH BUTTON TO TURN ON WARNING LIGHTS	9" x 12"		0.8	
2+29 - 2.7'L	W11-2	PEDESTRIAN	30" x 30"	12.5		13.0
	W16-7P	DOWNWARD DIAGONAL ARROW (PLAQUE)	24" x 12"	4.0		
	R10-25	PUSH BUTTON TO TURN ON WARNING LIGHTS	9" x 12"		0.8	
			TOTAL:	33.0	1.6	26.0

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