

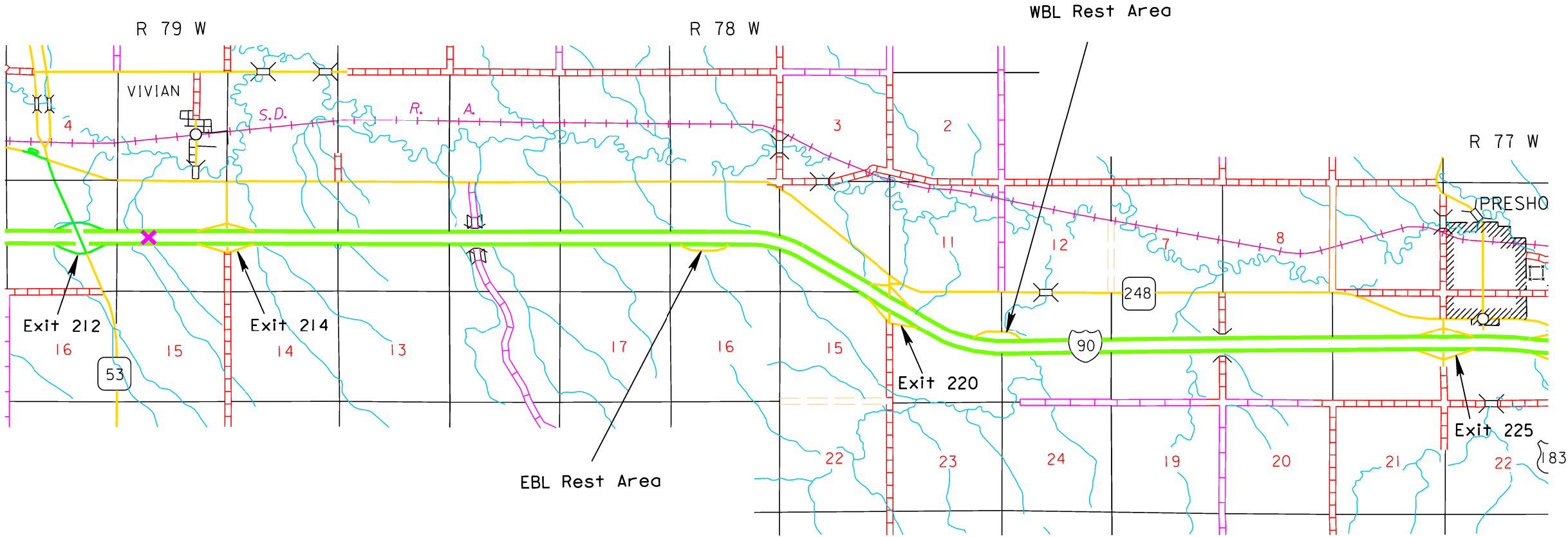
STATE OF SOUTH DAKOTA	PROJECT IM 0905(115)218	SHEET M1	TOTAL SHEETS M4
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Plotting Date: 03/04/2021

# SECTION M: PAVEMENT MARKING PLANS

## INDEX OF SHEETS

M1	General Layout W/Index
M2	Estimate With General Notes & Tables
M3-M4	Layouts



PLOT SCALE - 1"=7920'

PLOTTED FROM - TRPR25289

PLOT NAME - 1

FILE - ...\\SECTION M\\0515 TITLE.MXD

SECTION M ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0010	Cold Applied Plastic Pavement Marking, 4"	4,391	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	96	Ft
633E0255	Preformed Thermoplastic Pavement Marking, Symbol	2	Each
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	4,391	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	96	Ft
633E5137	Grooving for Durable Pavement Marking, Symbol	2	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	1,990	Ft
634E0575	Remove Pavement Marking, Area	224.0	SqFt

COLD APPLIED PLASTIC PAVEMENT MARKING

All materials will be applied as per the manufacturer’s recommendations.

Cold Applied Plastic Pavement Markings will be 3M Series 380 AW or an approved equal.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. The cleaning of the residue for grooving will be to the satisfaction of the Engineer and may require more than one pass to adequately remove material. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot for “Grooving for Cold Applied Plastic Pavement Marking” contract items.

GROOVING FOR DURABLE PAVEMENT MARKING, SYMBOL

Grooving for the International Symbol of Accessibility Parking Space Markings will be the same as required for Cold Applied Plastic Pavement Marking.

REMOVE PAVEMENT MARKING, 4” OR EQUIVALENT

The existing truck parking stalls and the trailer dump station island markings will be removed.

Markings that fall outside of the new groove will be obliterated using additional methods approved by the Engineer. Removal of the existing markings will be accomplished without causing damage to the pavement, pavement joints, or joint sealant. The Contractor will repair any damage to the pavement, pavement joints, or joint sealant for no additional payment and at no cost to the State. All costs for materials, labor, and equipment necessary to remove the existing markings will be incidental to the contract unit price per foot for “Remove Pavement Marking, 4” or Equivalent”.

PAVEMENT MARKING SYMBOL FOR ACCESSIBLE PARKING SPACES

The International Symbol of Accessibility Parking Space Marking with blue background and white border, meeting the minimum dimensions shown in Part 3 of the MUTCD will be placed in accessible parking spaces having the required regulatory signing. The blue background and white border symbol will be required for all accessible parking spaces for persons with disabilities.

All costs for furnishing and installing the International Symbol of Accessibility Parking Space Marking will be incidental to the contract unit price per each for Preformed Thermoplastic Pavement Marking, Symbol.

PREFORMED THERMOPLASTIC PAVEMENT MARKING

General

- Made of prefabricated retroreflective, resilient thermoplastic material;
- Contains glass beads uniformly distributed through the entire cross-sectional area;
- Capable of being affixed to bituminous or concrete pavement by heating;
- Resistant to deterioration due to exposure to sunlight, water, salt, and adverse weather conditions;
- Under traffic wear, shows no appreciable fading in accordance with the color requirements, lifting, or shrinkage throughout the life of the marking;
- Capable of conforming to pavement contours, breaks, and faults through the action of traffic at normal pavement temperatures;
- Possesses resealing characteristics, such that it is capable of fusing with itself and previous thermoplastic markings when heated; and
- Protected during shipment and in storage.

Apply the preformed thermoplastic pavement marking as recommended by the manufacturer to provide a neat, durable marking that will not flow, distort, or crack due to temperature if the pavement surface remains stable. Use equipment and application methods specified by the manufacturer. Primer as required by the manufacturer will be provided with the material.

Application of the markings will include the use of any manufacturer recommended sealers. Sealers may be required on concrete pavements, inside grooves, or on older asphalt pavements. Prior to placing any markings on new concrete, the Contractor will remove any curing compounds. Removal will be by sandblasting or other standard industry methods.

Any required primers or sealers will be included in the contract unit price for the various preformed thermoplastic pavement marking items.

Provide precut messages and symbols meeting the requirements of the MUTCD and the Standard Signs Manual in custom kits. Use separate pieces or segments to form individual letters or symbols only to the extent supplied by the manufacturer. Provide shapes, sizes, and colors as required by the contract.

Color

- Will meet the color specification limits and luminance factors for Cold Applied Plastic Pavement Marking and Legends (Section 983.2 D, Tables 1 and 2).

Glass Beads

- Ensure the preformed thermoplastic pavement marking contains a minimum 30% intermixed glass beads by weight and a minimum 80% true spheres.
- Ensure preformed thermoplastic pavement markings contain only clear beads.

Skid Resistance

- Ensure the surface of the preformed thermoplastic pavement marking provides a skid resistance value of at least 45 British Pendulum Number (BPN) when tested in accordance with ASTM E303.

Retroreflectivity

- Provide preformed thermoplastic pavement marking meeting the minimum initial pavement marking retroreflectivity values using 30 m geometry and meeting the testing procedures of ASTM E1710:

Minimum Initial Pavement Marking Retroreflectivity		
	White	Yellow
Thermoplastic	400 mcd/sq. ft./ft.	250 mcd/sq. ft./ft.
Thermoplastic, enhanced skid resistance (ESR)	250 d/sq. ft./ft.	150 d/sq. ft./ft.

Thickness

- A longitudinal marking is a minimum 90 mils thick at the edges, and a maximum 125 mils thick at the center of the stripe.
- Transverse markings and symbols are a minimum 125 mils thick at the edges, and a maximum 160 mils thick at the center.

Sample

- Prior to application, the Contractor will provide a sample of the preformed thermoplastic pavement marking to be used on the project to the Region Traffic Engineer for inspection and approval.
- Do not begin application of the preformed thermoplastic pavement marking prior to obtaining the Region Traffic Engineer’s approval of the preformed thermoplastic pavement marking material. The Region Traffic Engineer’s approval of the preformed thermoplastic pavement marking does not void other preformed thermoplastic pavement marking requirements specified.

TABLE OF PAVEMENT MARKING QUANTITIES

4” White	3,533 Ft
4” Yellow	858 Ft
24” White	96 Ft

# REST AREA PAVEMENT MARKING LAYOUT (TAPE)

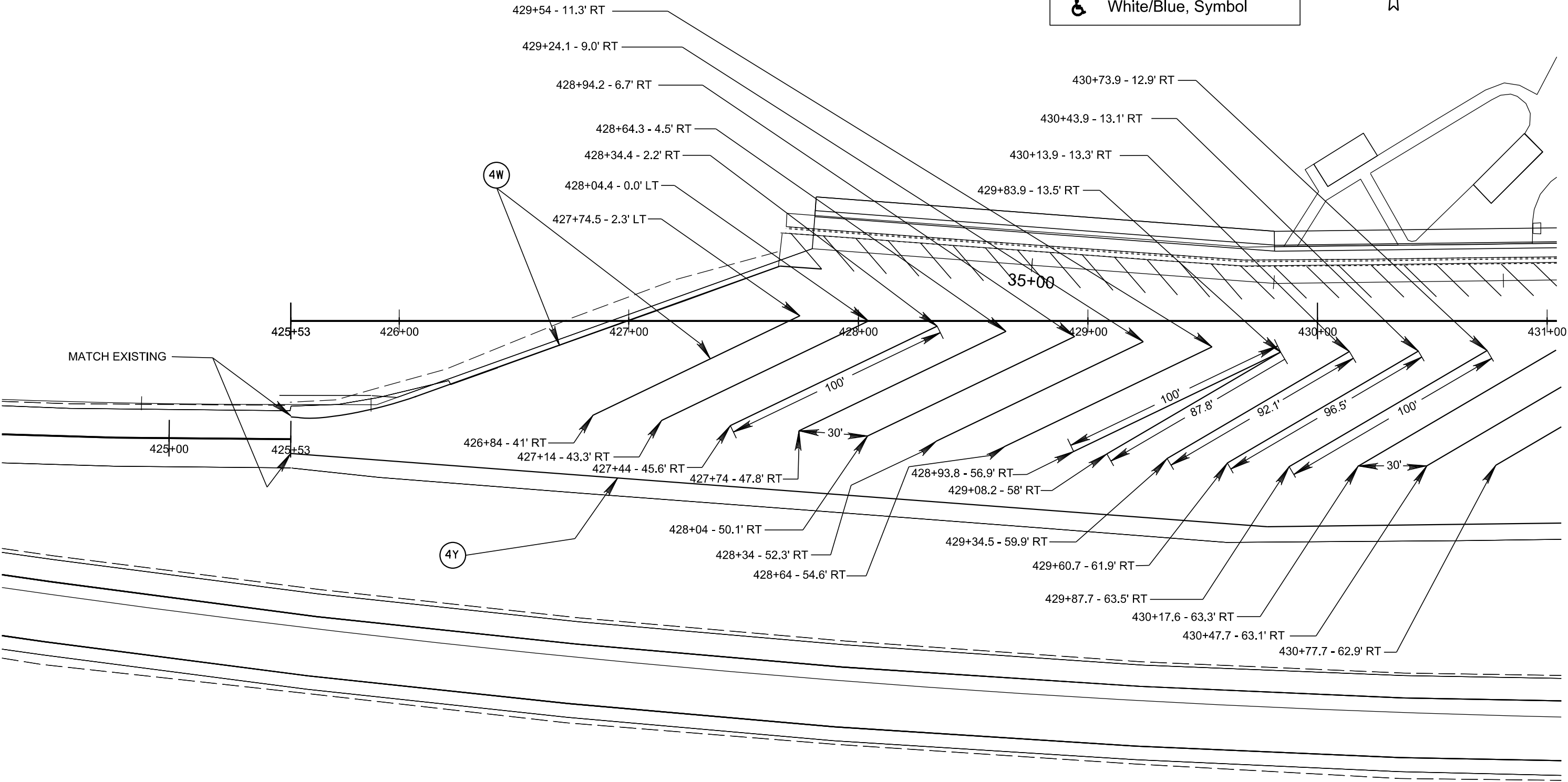
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0905(115)218	M3	M4

Plotting Date: 03/01/2021

NOTE - EDGELINES AND CAR PARKING STALLS  
WILL BE INSTALLED IN THE EXISTING LOCATIONS.

## LEGEND

- 4W 4" White Tape
- 4Y 4" Yellow Tape
- 24W 24" White Tape
- White/Blue, Symbol



Plot Scale - 1:43.9347

Plotted From - TRPR25291

File - ...\\Section M\\rest area Presho.dgn

# REST AREA PAVEMENT MARKING LAYOUT (TAPE)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0905(115)218	M4	M4

Plotting Date: 03/02/2021

NOTE - EDGELINES AND CAR PARKING STALLS  
WILL BE INSTALLED IN THE EXISTING LOCATIONS.

## LEGEND

- 4W 4" White Tape
- 4Y 4" Yellow Tape
- 24W 24" White Tape
- White/Blue, Symbol

