Idaho PG3 Project Update

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MICHIGAN STATE UNIVERSITY

IDAHO TRANSPORTATION DEPARTMENT

ncpp Preserving Our Transportation Assets

IDAHO TRANSPORTATION DEPARTMENT

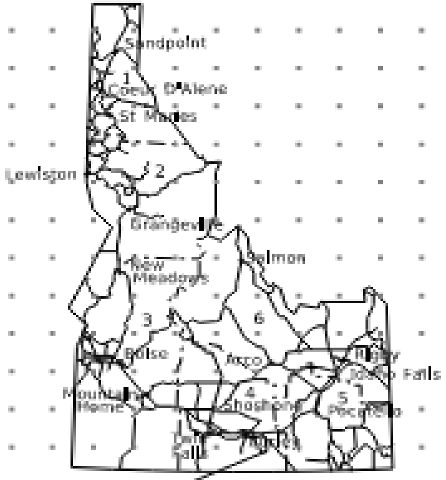
PLAN AND PROFILE OF PROPOSED
SH-77

FEDERAL AID PROJECT NO. A022(217)

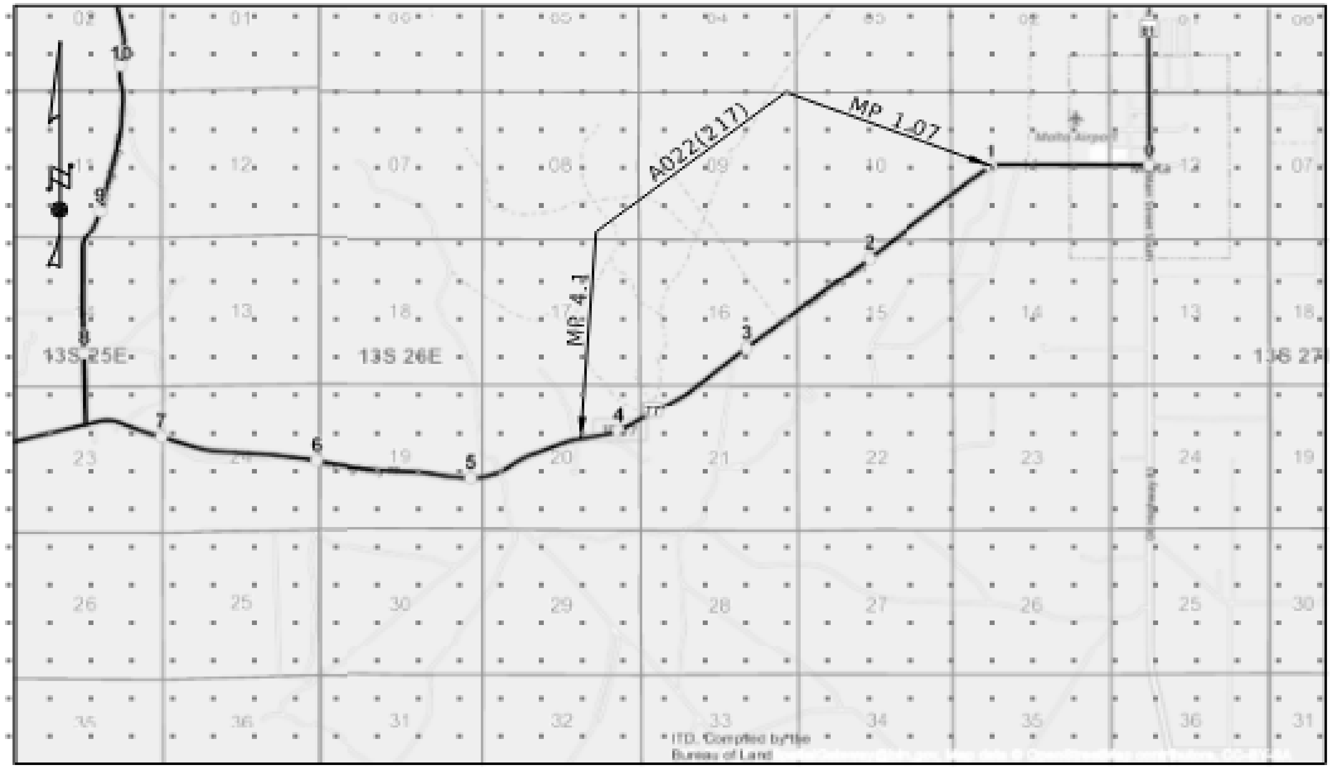
KEY NO. 22217

CASSIA COUNTY

February 2023



A022(217)
Nibbs Cr to Rice Cr
M.P. 1.07 M.P. 4.1
SEGMENT CODE 002300



DESIGN DESIGNATION

ADT 2027	360
ADT 2047	440
DHV 2027	20
DHV 2047	30
D	60/40%
V	55 MPH
TRUCKS:	
ADT 2027	90
ADT 2047	120
DHV 2027	0
DHV 2047	10

Contractor RAP Cover Coat QC

Test	Test Method	Frequency	Point of Sampling	Specifications
Moisture Content on RAP	Modified AASHTO T 255 (Constant mass at 140F)	1 test minimum per 400 ton	From stockpile	Cover Coat Aggregate See Modified Gradation Table above.
Gradation on RAP	AASHTO T 27/11	1 test minimum per 400 ton	From stockpile	Provide to Engineer for Information only.
Cleanness Value on RAP	Idaho T-72	1 test minimum per 400 ton	From stockpile	Provide to Engineer for information only.
Asphalt Content and Gradation	AASHTO T 308 & T 30	1 test minimum per 1000 ton	From stockpile	Provide to Engineer for information only.
Fracture Count	AASHTO T 335	1 test minimum	From stockpile	Provide to

RAP Test Data

Sieve Size	% Passing			Spec.
	Design	Actual	T-30	Cl-B
½”	100	100	99	100
3/8”	74	79	88	40-90
#4	4	6	28	0-6
#8	1	2	19	0-3
#200	.3	.2	4.4	0-2
NCAT			3.7	
FF			97	
CV		87		

- Impact Crusher and Power Screen: 19/32” and 7/32”

4. Mcleod Mix Design

Based on the gradation in Table V:

M = Medium Particle Size, inches for Chip Seal Agg: **0.320** in

Aggregate Properties (Measured by IAS)

- Flakiness Index (FI): **18%**
- Loose Unit Weight (W): **72.02 lb/ft^3**
- Bulk Specific Gravity (G): **2.446**
- % Absorption (A): **0.42%** (0.0042)

The average least dimension (ALD):

$$H = M/(1.139285 + 0.011506*FI)$$
$$= 0.320/(1.139285 + 0.011506 * 18)$$
$$= \mathbf{0.237} \text{ in}$$

Voids in loose aggregate (V)

$$V = 1-(W/(62.4*G))$$
$$= 1-(72.02/(62.4*2.446))$$
$$= \mathbf{0.528}$$

Application Rates/Emulsions

- PMRE
- 2 lanes @ 3000 ft
  - .45 to .38 emulsion rate = .38
  - Test at 24 and 22 rate = 23 lbs/ft2

CRS-2P

.40 to .43 rate = .43

23 to 19 lbs/ft2

PG3 Pooled Fund Preservation Study

- This project is part of the “PG3 Pooled Fund Preservation Study” which is designed to construct a RAP Chip Seal. The first in the State of Idaho. The contractor should be aware that they may be required to:
- Attend additional preconstruction and pre-work conferences
- Make key field personnel available for up to 8 hours of Just – In-Time training
- Complete additional equipment calibrations, test strips and adjustments immediately prior the start of construction
- Cooperate with investigators during construction of a 500 ft. Test Section(s) that is embedded within the project limits.
- Provide up to seven days’ notice prior to construction of the test section.

Project Overview

- Idaho SH 77
- Low volume, 2 lanes
- 4 center miles
- Last resurface 2024
- Treatment
  - 100% RAP Chip Seal with PMRE
  - 100% RAP Chip Seal with CRS 2P

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Stockpile at Nearby Maintenance Facility

Pre Job Meeting July 28 8:00

Go Time with PMRE at 11:15

July 29 9:00 Switch to CRS 2P

- Application Rates
  - Emulsion 0.38 – 0.45 Gal/SYD
  - RAP 22-23 lb/SYD

July 30 – After Sweeping

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Go Team!