

2024



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

40



William Cass, P.E.
Commissioner

David Rodrigue, P.E.
Assistant Commissioner
Andre Briere, Colonel, USAF (RET)
Deputy Commissioner

His Excellency, Governor Christopher T. Sununu
and the Honorable Council
State House
Concord, New Hampshire 03301

Bureau of Highway Maintenance
January 25, 2024

REQUESTED RESOLUTION

1. Authorize the New Hampshire Department of Transportation, to hold an organized Safety Plow Rally meeting on May 16, 2024, at the Cheshire County Fairgrounds, Swanzey, NH for a total conference cost not to exceed \$16,000 for the purpose of recognizing and training Department of Transportation employees effective upon Governor and Council approval through December 31, 2024. (87.5% Highway Funds 12.5% Turnpike Funds).

Funds to support this request are available in the following accounts:

04-096-096-960515-2928	<u>FY 2024</u>
Bureau of Highway Maintenance	
020-500200 Current Expense	\$12,000
04-096-096-960515-3005	
Bureau of Mechanical Services	
020-500200 Current Expense	\$2,000
04-096-096-961017-7022	
Bureau of Turnpikes Central Maintenance	
020-500200 Current Expense	\$2,000

2. Pursuant to RSA 4:8, authorize the Department of Transportation to accept free use of the Cheshire County Fairgrounds, with a reported value of \$500, for the NHDOT Safety Plow Rally on May 16, 2024.

EXPLANATION

The purpose of this annual event is to provide safety training for employees involved in winter maintenance activities and to recognize them for their long winter work hours and their skill and dedication to operating safely over the previous year. This "Safety Plow Rally" has been hosted at various locations around the State of New Hampshire since the late 1970's. It allows employees in the Bureaus of Highway Maintenance, Turnpikes and Mechanical Services to demonstrate their skills and

abilities while competing in various events as outlined in the attached rule book. Winners of the NHDOT event are invited to compete against municipal employees on a Statewide level at a similar event hosted by the NH Road Agents Association. The safety plow rally also provides an opportunity for employees to gather with their peers from across the state and for Commissioners and executive staff to recognize them for their efforts. Invitations are extended to fellow crewmembers of each two-person competitive team as well as new employees hired since the previous year's event. Approximately 350 employees are expected to attend.

Food and beverage will be procured locally, and prepared and served by Maintenance District 4 personnel. All purchases will be in accordance with standard purchasing rules. Attendance is limited to State employees and retirees, with up to 10 non-State employees representing SEA and benefits providers who may attend as well. Cheshire County Fairgrounds is providing full use of their facilities free of charge.

Respectfully submitted,

A handwritten signature in black ink that reads "William Cass". The signature is written in a cursive, flowing style.

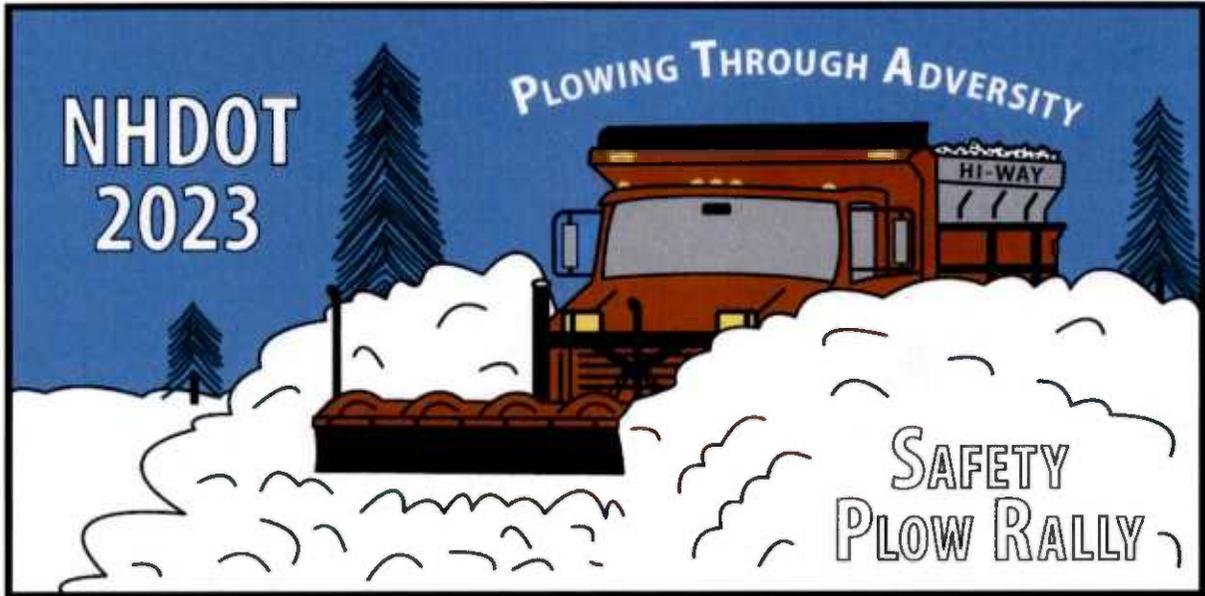
William J. Cass, P.E.
Commissioner

Attachments

ATTACHMENT I

NHDOT Annual Safety Plow Rally
Summary of Costs

Item	Cost
Food and Beverage	\$ 5,500.00
Event Trophies	\$ 500.00
Safety Plow Rally Hats	\$ 4,500.00
Safety Plow Rally T-shirts	\$ 4,000.00
Safety Plow Rally sweatshirts	\$ 1,500.00
Total	\$ 16,000.00



*(2023 logo artwork by District 6 employee Rollin Rumford.
2024 logo artwork under review.)*



2024 NH DOT SAFETY PLOW RALLY

**Cheshire County Fairgrounds
247 Monadnock Highway
Swanzey, New Hampshire
Thursday, May 16, 2024**

SCHEDULE OF EVENTS

9:00 – 9:30 AM

- A. Greetings
- B. Comments by:
 - 1. Department Officials
 - 2. Safety Officer
 - 3. Guests
- C. Introduction of Plow Rally Committee
- D. Introduction of Contestants
- E. Logo Design Winner
- F. Introduction of Innovation Judges
- G. Overview of Rally Events
- H. Review of Rules

9:30 - 10:00

Event #1 - Safety Quiz

10:00

All events will start at this time
(See page 2 for event order).

12:00 - 1:00

LUNCH

1:00

All events will continue until completion.

2:00

Upon completion, presentation of awards and closing remarks.

NOTE:

All contestants **MUST** read all the information in this booklet prior to the Plow Rally and **must bring with them and wear appropriate Core Personal Protective Equipment (PPE) (i.e. vest, gloves, safety glasses and boots). Failure to comply will result in a point deduction or disqualification. Failure to wear seat belt when a truck is in use will result in a point deduction.**

Decisions of all Plow Rally judges are final.

The person named as driver will be so for all events.

ORDER OF COMPETITION

SAFETY QUIZ (District 5)

MECHANICALLY DEFECTIVE TRUCK (Mechanical Services)

District 1 (Both Teams)
District 6 (Both Teams)

PLOW MOUNTING (District 4 & 1)

Turnpikes (Both Teams)
District 2 (Both Teams)

WING SLALOM (District 6)

District 3 (Both Teams)
Mechanical Services (Both Teams)

TEXAS ROLL (District 2)

District 4 (Both Teams)
District 5 (Both Teams)

NOTE:

Once you have finished the event you are first assigned, move promptly to another available event. This will save time having to look for your team to go through the next event.

SAFETY PLOW RALLY

Event #1: Multiple Choice Quiz **(No Core PPE required)**

The purpose of the quiz is to evaluate the Team's knowledge of the **Winter Maintenance Snow Removal and Ice Control Policy (2001 Edition)**, the **Safety Bulletins** and the **Commercial Driver's Manual**. The quiz will consist of 15 questions with each correct answer worth two (2) points for a maximum possible score of 30 points per person.

Each question will be read aloud twice and the contestants are to draw a line through the correct answer - For example: If the answer is "B" then draw a line through "B".

There will be a short question at the end of the quiz to be taken by both members of the team, which will be judged to determine the event winner should there be a tie score.

DRAFT

SAFETY PLOW RALLY

Event #2: Mechanically Defective Truck **(Seat belts not required, but vests and gloves are required for this event)**

The purpose of the Mechanically Defective Truck is to test the observatory awareness of the drivers in detecting defects in their plow & safety equipment (truck and plow). There will be 20 vehicle and/or safety defects that the teams will attempt to locate during a 5-minute period. When spotting a defect, they will call the defect to the judge who will note this on their score sheets. Each defect found is worth 3 points for a maximum of 60 points. Only planned defects will be counted; however, others may be present. No contestants will be allowed under the truck. All defects will be visible from the front /sides/ rear and cab of the truck

Prior to the event, each team will be asked to estimate their score for this event. Maximum- 60 points.

In the event of a tie, the team with the closest estimate without going over the actual score will be the winner.

It will not be necessary to start the truck. **If the truck is started, you will be disqualified and your score will be zero points.** The attached copy of the NHDOT Pre-trip Inspection Report is provided for your use.

Pre-Trip Inspection Report

Driver's Name: _____ Date: _____
 Truck/Trailer Number: _____ Mileage: _____
 Repair Location: _____

	Driver		Driver		
Approach Truck		External Inspection			
Looks or Leaning		Steering Box/Hoses			
Engine Compartment		Suspension: Springs, Pins, Bushings			
Oil Level		Brake Slack Adjusters			
Fluid Levels		Brake Hoses/Line			
Belts		Wheel Rims			
Wiring		Tire Inflation/Condition			
Cab Check/Engine Start		Tread Depth			
Mirrors & Windshield		Hub Oil Seals/Axle Seals			
Dash Indicator Lights		Lug Nuts			
Horn		Doors/Mirrors			
Heater/Defroster		Fuel Tank/Fuel Cap			
Brake Check		Splash Guards			
Parking Brake Check		Wheel Chocks			
Safety Belt		Other Items Inspected			
Clearance Lights					
Headlights (high/low beam)					
Taillights					
Turn Signals					
Four-Way Flashers					
Brake Lights		Driver/Foreman Comments:			
Red Reflectors (rear)					
Amber Reflectors					
Strobe/Warning Lights					
License Plate Light					
Inspection Sticker/Plates					
Fire Extinguisher					
Reflective Triangles					
<input type="checkbox"/> Condition of above vehicle is satisfactory					
				_____ Driver's Signature	

Repair location performed the following work/comments:

 Above defects have been corrected.
 Above defects need not be corrected for safe operation of vehicle.

Repair Location Supervisor's Signature

I certify that I am satisfied that this vehicle is in safe operating condition and I have reviewed the last Pre-Trip Inspection report and verified that the required repairs have been completed.

 Driver's Signature

 Date

SAFETY PLOW RALLY

Event # 3: Front Plow Mounting

(Seat belts, gloves, safety glasses, boots and vests are required for this event).

1. This timed event is intended to evaluate skill and teamwork at aligning and hitching the front plow correctly, rapidly and safely to a patrol truck's plow frame.
2. The driver in this event is to be the same team driver as in the preceding and forthcoming events.
3. Each team will have one chance to go through this event.
4. The truck will be provided by the committee and used by all teams. All contestants in this event will use the same truck. It will be a 3-to-5-ton truck with a standard plow equipped with a crank jack attachment. Blocking, a small sledgehammer, and a crowbar will be provided. In effect, each team will unhitch the previous team's hitch. They will then back to the starting position. **The plow pins must be in the truck plow mount frame with the keeper pins properly in place.**
5. **THE TEAM WILL HAVE A MAXIMUM OF 2 MINUTES AND 30 SECONDS TO SET UP THE PLOW. THE PURPOSE OF THE TIMING FOR THE SET UP IS TO REDUCE THE OVERALL TIME TO COMPLETE THIS EVENT. THE TIME USED TO SET UP THE PLOW WILL NOT BE USED FOR SCORING THIS EVENT.**
6. The starting position will be as shown in Figure 1. The time will begin when the truck's front wheel passes over the starting line and ends when the team's driver or assistant signals completion of the hitch by showing a thumbs-up as soon as the plow has been pinned. **DO NOT RAISE THE PLOW. THE JUDGE WILL TELL YOU WHEN TO RAISE THE PLOW.** The standard crank jack will be fully retracted after the judge directs you to do so.
7. The Judges will verify that a hitch is correct before awarding any points. A correct hitch shall consist of both plow pins in equal height holes in the plow frame with their locking pins in place plus the lifting chain correctly in place. If the hitch is not correct, the judges will impose a deduction of 10-points for each portion of the hitch that is not correct to the final score.

8. The Judges shall require that the person guiding the truck "into" the plow will be positioned so as to be safe from injury according to the following rules:
 - Safety zones are shown in Figure 1.
 - The Driver will wear the seatbelt while operating the truck.
 - The Assistant will stay in the safety zone until the truck and plow have made contact.
 - A "Realignment Line" will be marked on the ground, parallel to and 5-feet behind the final position of the front axle.
 - If a major realignment is required, such that the front wheels back over the realignment line, the Assistant shall return to the safety zone and remain there until the truck and plow have again made contact.
 - Penalties
 - i. failure to remain in the safety zone – 10-point reduction for each infraction;
 - ii. failure to wear a seatbelt – 10-point deduction to the final score;
 - iii. A 5-point reduction for each cone hit or run over backing into the starting position, driving to the start line or during alignment of the plow.
 - iv. Minimum score for this event will be zero (0)
 - The Driver may get out of the truck and help the Assistant, at his option.
 - The assistant will guide the truck back to the starting position.
9. The event Judges shall time and score all teams and rule on all aspects not covered by the rules.
10. A team will have a maximum of 2 minutes and 30 seconds to complete the hitch. No points will be awarded for times longer than the above stated time.

The Judges shall award points for completed hitches according to the following timetable:

- a. Timing will be done in minutes, seconds, and 1/10th of a second.
- b. No points will be scored for any time over 2 minutes 30 seconds.
- c. Sample of scoring: (Time 1 min. 37.4 sec.: $60 + 37.4 = 97.4$ seconds)

$$150 \text{ seconds} = 2 \text{ min. } 30 \text{ sec.}$$

$$150 \text{ seconds} - 97.4 \text{ seconds (Event time)} = 52.6$$

$$52.6/2 = 26.3 \text{ points for score}$$

SAFETY PLOW RALLY

Event # 4: Hiram Bickford Wing Slalom (Seat belts are required for the driver and assistant.)

The purpose of this event is to test the Team's ability to come as close as possible to newspaper boxes, cones and barrels, touching a chain or brush without actually clipping them.

1. The vehicle will be a 3–5-ton truck with reversible plow and front-mounted cable wing.
2. Each team will have one opportunity to run the course for score.
3. The course is to run forward on curves with the front plow raised. The wing will have to be raised and lowered to clear the cones, delineator posts, and barrels but hit the brushes.
4. The team is to run the course at a speed, which will enable them to complete the course safely and **without** stopping until they pass the end line. A team may be disqualified for deliberate misuse of equipment and **will be disqualified** for making a complete stop before reaching the end line. **(NOTE: This is not a timed event).** Failure to use a seat belt will result in a 10-point deduction to the final score.
5. A Judge is posted and scores the truck as it passes by each newspaper box, delineator post and barrel, and run of traffic cones. The outer cones are not scored, but should be avoided.

SCORING

Each team runs the course once. The scores are determined as follows:

Hitting first chain only on mailbox (6 mailboxes) -----	+5 points
Missing all chains -----	0 points
Knocking over box or hitting both chains -----	0 points
Missing delineator post and hitting brush on barrel (2 barrels) ----	+5 points
Missing Brushes on barrels -----	0 points
Hitting delineator post or barrel -----	0 points
Hitting each brush on cones (6 cones) -----	+3 points ea.
Knocking over cone or missing brushes -----	0 points
Total Possible Score -----	58 points

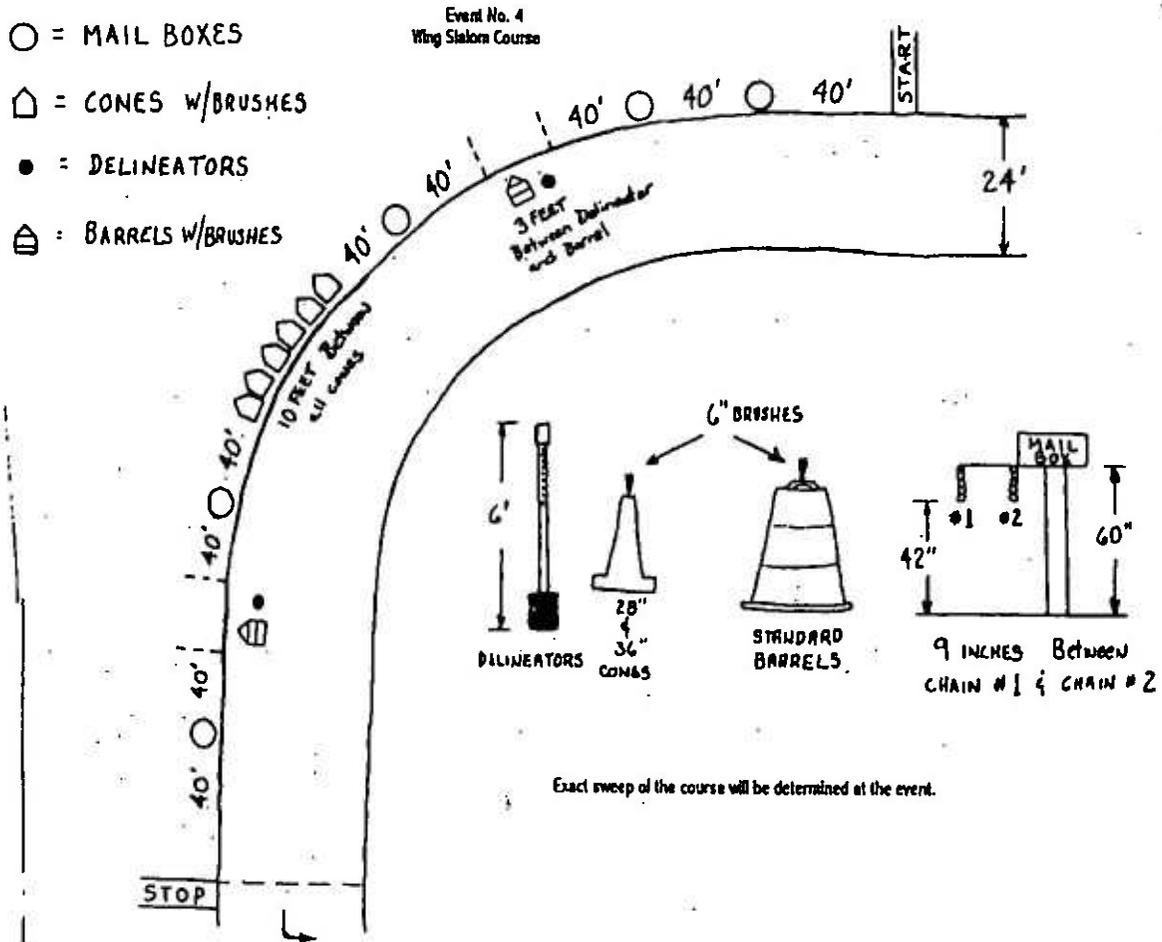
DISQUALIFICATION

- Stopping on course before passing end line.
- Misuse of equipment.

TIE BREAKER

If a tie occurs, additional runs will be made until a winner is declared. Each additional run will be judged as an individual event and scoring **WILL NOT** be counted toward the overall scoring of the Plow Rally.

Wing Slalom Layout



This is the basic course layout. Devices and separation should be close to this. The exact layout will be determined annually by the available space at the venue.

SAFETY PLOW RALLY

Event #5: Backing with Texas Roll (Seat belt and vests are required.)

1. This event is intended to evaluate the skill and teamwork at backing a Texas Tow Roller on its transport wheels into a side road.
2. Each team will consist of two people from the same district or bureau.
3. The event will be run twice (once from each direction) with only the best score counted.
4. The same truck and Texas Roll will be used by all contestants, providing no mechanical failures occur.
5. After backing the roller into the side road the second time, the next team driver will move the vehicle to the starting line for his team's run.
6. The event judge shall rule on all aspects not covered by the rules.
7. The spectators will stand outside of the safety zone that is outlined by the safety cones.

SCORING

- Each participant has 1 attempt to back the roll into the opening from both directions on its transport tires.
- An attempt starts with the backward movement and ends when backward movement stops.
- Score is determined by the location of the roll when it is declared stopped by the judges. Both wheels must be completely in the zone to get the higher score.
- Best run is used for scoring!
- Possible scores are 0 - 10 - 20 - 30 - 40 - 50 points.
- A 10-point deduction will be made for each cone or wood barrier struck. Lowest possible score is zero. Only judges and assistants are allowed in the safety zone.
- The score will be the last block that the driver successfully backs the roll into.

DEDUCTIONS

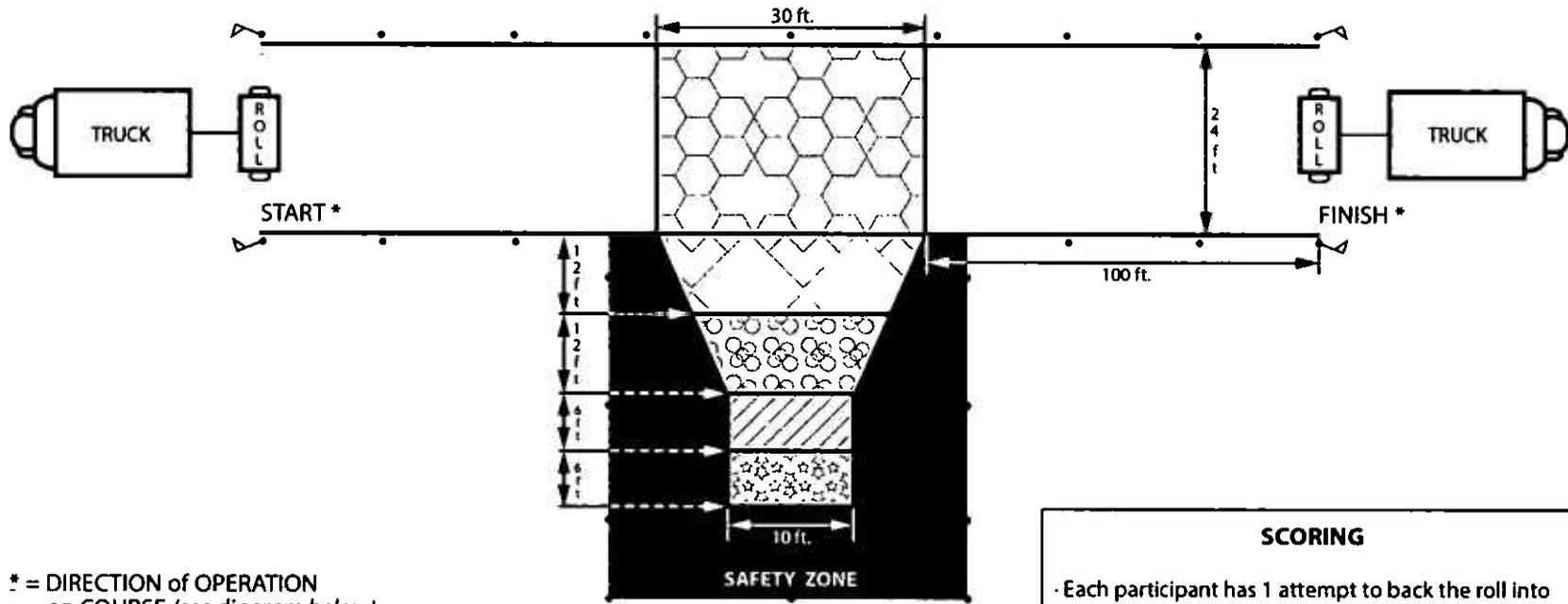
Points will be deducted for leaving the simulated roadway/shoulder areas.

1. Failure to wear a seat belt will result in a 10-point deduction.
2. Care of equipment will be emphasized. Any driver, who in the opinion of **The Judge** is misusing the equipment, shall be immediately disqualified from the event.

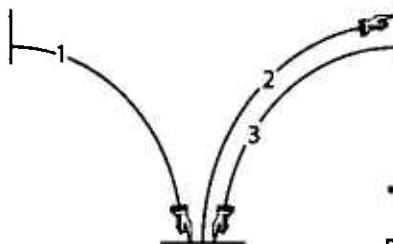
TIE BREAKER

The totals of the team's' runs from each direction will be added together to determine the winner. If this also results in a tie, additional runs in both directions will be made in a "sudden death" run-off format, until a winner is declared. Each additional run will be judged as an individual event. There will be no accumulative score kept and they **WILL NOT** be counted toward the overall scoring of the Plow Rally.

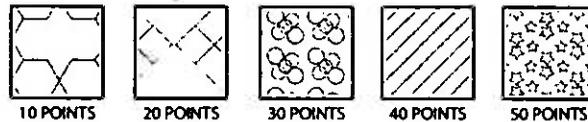
REVERSE TEXAS ROLL EVENT



* = DIRECTION of OPERATION on COURSE (see diagram below)



* = BEAM GUARDRAIL POSTS



SCORING

- Each participant has 1 attempt to back the roll into the opening from both directions on its transport tires.
- An attempt starts with the backward movement and ends when backward movement stops.
- Score is determined by the location of the roll when it is declared stopped by the judges. Both wheels must be completely in the zone to get the higher score.
- Best run is used for scoring.
- Possible scores are 0 - 10 - 20 - 30 - 40 - 50 points.
- A 10-point deduction will be made for each cone struck, or failure to wear your seatbelt.
- Only judges and assistants are allowed in the safety zone.
- The score will be the last block that the driver successfully backs the roll into.

SAFETY PLOW RALLY

Event #6: Backhoe Operation **(Seat Belt use required)**

The purpose of this event to provide an opportunity for any safety plow rally attendee to demonstrate their skill in operating a backhoe bucket through a pre-determined obstacle course. This may include moving items from one location to another with the bucket or the digging teeth without touching cones or other barriers.

1. This is a timed event. The loader-backhoe unit remains stationary during the event.
2. The same backhoe will be used by all participants, but the controls may be switched to accommodate the individual's preference of either Backhoe Controls or Excavator Controls.
3. The event will be set up according to the venue and may not necessarily be the same from year to year.
4. Deliberate misuse of the backhoe will result in an automatic disqualification.
5. The event judge shall rule on all aspects not covered by the rules.
6. The scores determine an individual winner and are not included as part of the team competition.

SCORING

Scoring will be determined by the Judge. Only a time within the predetermined time frame will be counted. In the event of a tie, the event judge will determine a tiebreaker.

SAFETY PLOW RALLY

Event #7: Safety Innovations **(No Core PPE required)**

The intent of this event is to showcase the talents of employees in devising, fabricating and implementing innovations related to Department of Transportation activities. This event is open to any employee or group from Division of Operations.

1. Innovations are judged by the following categories:
 - a. Ability to create a safer workplace,
 - b. Ability to save time and money, and
 - c. Originality
2. Each category is rated from 1 (least) to 5 (most) for a maximum total of 15 points.
3. The top scoring entrant will be determined to be the winner.
4. Judges are:
 - a. Director of Operations,
 - b. Host Maintenance Supervisor, and
 - c. Highway Maintainer from the host district.
5. Decisions of the judges are final.

Event #8: Plow Rally Logo Competition **(No Core PPE required)**

The intent of this event is a competition to create the logo used on the cover of the rules booklet, and on commemorative hats and t-shirts.

1. Design must be related to New Hampshire and the Department of Transportation.
2. Design must fit inside the template provided.
3. Members of the Plow Rally Committee will serve as judges.
4. Decisions of the judges are final.
5. Elements of the selected design may be modified for clarity and production values.

2023 SAFETY PLOW RALLY – TEAM SCORE SHEET

DISTRICT/BUREAU _____ TEAM _____

DRIVER'S NAME: _____ PATROL SECTION: _____

ASSISTANT'S NAME: _____ PATROL SECTION: _____

EVENT # 1 - MULTIPLE CHOICE QUIZ 15 QUESTIONS (2 points each) (Max. score 60 pts.)

(A) DRIVERS SCORE _____ (B) ASSISTANTS SCORE _____

(A) _____ + (B) _____ = _____ **Points** _____

(C) OPTIONAL QUESTION IN CASE OF EVENT # 1 TIE

EVENT # 2 - MECHANICAL DEFECTIVE TRUCK - (20 defects, 3 points each) (5 min. time limit) (Max. score 60 points)

TOTAL CORRECT: _____ x 3 = _____ **Points** _____

IN EVENT OF A TIE, THE TEAM WILL ESTIMATE THEIR SCORE

EVENT # 3 - PLOW MOUNTING (TEAM EVENT) (150) - (seconds)/2 - deductions = Total Points

OFFICIAL TIME: Minutes _____ Seconds _____ (convert to total seconds) = _____ total seconds

150 - _____ / _____ / 2 - deductions = _____ **Points** _____

EVENT # 4 - WING SLALOM - (Maximum score 58 pts.)

STATION	Score	Tiebreaker
1. MAILBOX	_____	_____
2. MAILBOX	_____	_____
3. DELINEATOR/BARREL	_____	_____
4. MAILBOX	_____	_____
5. CONES	_____	_____
6. MAILBOX	_____	_____
7. DELINEATOR/BARREL	_____	_____
8. MAILBOX	_____	_____
9. MAILBOX	_____	_____

Run = _____

EVENTS # 5 - BACKING The TEXAS ROLL Maximum score 50 points (The best run is used for score)

Driver Side Blind Side

Points _____

Deductions _____

Total points _____

Best Run = _____

THE TIE BREAKER WILL BE THE TOTAL OF RUNS FROM BOTH SIDES.

GRAND TOTAL = _____