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| **Topic entry (tick boxes that are applicable) 1 [ ]  2 X 3 [ ]  4 [ ]  5 [ ]  6 [ ]  7** **[ ]  8** **[ ]**  |
| **Entry number (MPA Ref)** | 22026 |
| **Title of Entry** | Easy Access Dust Tray |
| **Name of Company** | Northstone Materials |
| **Location** | Mountfield Asphalt Plant |
| **Video** **[ ]  (if yes, please include URL for video)** | Yes |
| **Other resource** **[ ]  (if yes, please include description)** | 3 images |
| **Fatal Theme (tick boxes that are applicable) 1** **[ ]  2 [ ]  3** **[ ]  4** **[ ]  5** **[ ]  6** **[ ]**  |
| **BACKGROUND** |
| Northstone Materials Mountfield Asphalt Coating Plant produces Bitmac and Asphalt from a Benninghoven MBA 3000 mixing plant. The MBA plant's components are meant to be mobile in theory, thanks to the semi-trailer, a dual-line braking system, parking brake, kingpins with height-adjustable supporting feet, and a comprehensive lighting system. This plant can mix up to 240 tonnes per hour accompanied by a 7-fold cold feed system with a hopper capacity of 8m3. The mixer is capable of mixing 3 tonne batches and has mixed material hot storage able to store up to 90 tonnes across two chambers. This mixing plant services Northstone’s own road contracts department as well as other local contractors for use in both Northern Ireland and the Republic of Ireland. The asphalt plant was installed and commissioned in 2018, becoming operational in January 2019. Since becoming operational, the coating plant has been inspected and approved by the HSE Northern Ireland and has achieved ISO45001, ISO14001 and ISO9001 certification. The coating plant operator Ryan McCrory has been an employee of Northstone for 10 years. Due to Ryan’s proactive approach as mixer operator at Carrickmore plant, he was asked to move to Mountfield coating plant and join the commissioning team. He provided valuable suggestions such as: * Removal and relocation of access steps to a safer location at the mixing plant.
* Identifying suitable locations for stockpiles and surface water controls around the plant area.

Since the plant became operational in January 2019, he has continued to suggest health, safety, environmental and operational improvements.Whilst there had been no incidents to date, it was felt that there was potential for back strain or hitting their head on the underside of the plant when clearing out fallen material from the collecting conveyor. Ryan concluded there was an opportunity to prevent an injury before it occurred, and the current system of clearing material was time consuming and required double handling of the material leading to inefficiencies**.** |
| **MANAGEMENT OF PROCESS** |
| All Mountfield quarry and coating plant operators attend regular team consultation meetings to discuss opportunities and resolve issues with production, maintenance and health and safety - health and safety is the first item on the agenda. The manager Peter Linton leads the discussions and encourages all employees to contribute. At a team meeting in March 2021, Ryan raised his concern about operators having to go under the conveyor. Whilst the belt was isolated and made safe prior to access, the space under the belt was low which made removing material difficult and unpleasant. Ryan suggested that a tray on wheels which could be rolled into position underneath the conveyor and then pulled into an open space to be cleaned out. This would eliminate the need for repeated access under the belt to remove fallen material. Ryan collaborated with his manager to finalise the design. Gormley Engineering Services fabricated the tray to this design and specification. The design was trialled by the team with minor adjustments made before being finalised. A further improvement made at this stage was to attach a hook to secure the handle of the tray. This meant it could be reached without bending over thus eliminating potential back strain and a trip hazard and therefore allowing it to remain within the interlocked gate. A Best Practice Alert was issued across all 35 of Northstone Materials and Island Aggregates locations. It was shared as Best Practice across CRH (3100 locations worldwide).This entry reflects the MPA/BP H&S Vision Zero Values of: * Empowerment – employees empowered to identify problems and devise solutions.
* Engaged Visible and Consistent Leadership – Manager regularly consulted his employees and supports their initiatives and suggestions.
* Zero Tolerance of Unsafe Working Conditions – the management team sought a solution to a potential hazard.
* High Quality Implementation – involvement of employees in the design and trials to ensure the solution was effective.
* Collaboration and Sharing – employees collaborated from idea through to implementation, best practice shared across the Group.
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| **BENEFITS** |
| This improvement project has been very successful as it eliminates the risk of manual handling from underneath the conveyor structure, improving housekeeping and minimising the material build up under the collecting conveyor. A secondary benefit is efficiency and time saving - a tray of fallen material can be rolled out in one movement, rather than 10 to 15 trips under the conveyor previously required by the operator. There are clear benefits to the operator by reducing manual strain, but also a saving of up to 25 minutes each day this allows more time to be focused on other essential maintenance tasks. There was an investment cost of just £550 - very quickly recouped by a time saving for the operator. The coating plant team have managed to eliminate manual handling risk from what was a daily work activity. Whilst elimination of risk is the optimum, in practice it can be very difficult to achieve – the team achieved this by collaboration and innovative thinking. By regularly consulting the operators and acting upon their suggestions, the team know that they are valued and continue to look for ways to improve safety practices and operational processes. Other improvements suggested by the plant operators and implemented by the manager include: * Constructing a catwalk to enable safe access to two silo motors
* Installation of a safety chain and sign to prevent pedestrians crossing under the path of the travelling skip
* Developing and piloting the new draft bitumen delivery procedure
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| **INNOVATION** |
| The manager encouraged his team to think of continuous improvement and demonstrated willingness to listen to their ideas and solutions. He has created an environment in which they collaborate to find solutions and work together as a team. The coating plant operator met with the fabricator of the tray to discuss and agree the design. Gormley Engineering Services fabricated the tray to this design and specification. This improvement project has been very successful as it eliminates the manual handling required by a plant operator accessing the area under the conveyor belt to shovel out material and the hook removes a trip hazard. The cost to design and produce this innovation was just £550 – affordable to operators of all sizes. |
| **DEVELOPMENT & TRANSFERABILITY** |
| This deceptively simple but effective solution could be used or adapted by operators across the industry. The teams at two other Northstone locations have adopted this best practice and have implemented easy access dust trays on site. The best practice design has been shared with all operating companies within our parent company CRH Plc. |
| **NB if document has embedded images try and include these****If other documents provided say additional information available.** |