

 Eskom	<b>Report</b>	<b>Technology</b>
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Protection Replacement  
Detail Design Report**

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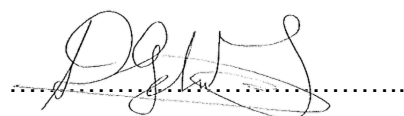
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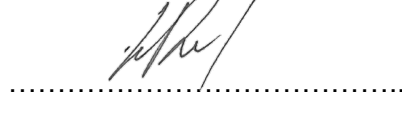
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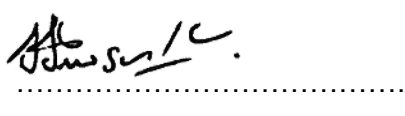
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## **EXECUTIVE SUMMARY**

This project is deemed a *component replacement* initiative for all conveyor, moving head and flopper gate control and protection field instrumentation. Relevant information, requirements and constraints relating the replaced components are given. The existing control- and protection philosophies will not change.

High level scope and components due for replacement:

- Conveyors:
  - pull-key/safe-line system
  - misalignment detectors
  - rip/tear detectors
  - speed detectors
- Moving head and flopper gates:
  - control- and ultimate position indicators
  - blocked chute detectors + new power
- Drawings:
  - update existing
  - create as-built for missing

Rather than a traditional *detailed design report*, this document will be more focussed towards a *detailed requirements report*.

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## **1. INTRODUCTION**

This project is deemed a *component replacement* project. It aims to replace all protection and control field equipment on all conveyors, moving heads and flopper gates, ash and coal, with supported equipment and newer technologies.

This document provides the detail specifications, requirements, limitations and drawings for all conveyor, moving head and chute control and protection instrumentation for procurement, installation and commissioning.

This detail design phase follows the Stakeholder Requirement Definition phase; the concept- and basic design phases have been exempted.

### **1.1 System Identification**

- 08-00PC, 08-0xPC (x = units 1 to 6): Silo and Bunker Coal Conveyors
- 08-00PK, 08-0xPK (x = units 1 to 6): Silo and Bunker Coal Chutes and Moving Heads
- 08-00WA, 08-00WC, 08-00WF: Overland Ash Conveyors
- 08-00WK: Overland Ash Chutes and Moving Heads

### **1.2 System Overview**

The conveyor control and protection instrumentation consist of:

- Misalignment protection
- Belt rip/tear protection
- Under speed protection
- Blocked chute protection
- ETR (pull keys)
- Various limit- and proximity switches for moving heads, flopper gates, etc.

## **2. SUPPORTING CLAUSES**

### **2.1 Scope**

The scope of this document is limited to the control and protection instrumentation relating to the ash and coal conveyors, moving heads and flopper gates at Lethabo Power Station.

### **2.2 Purpose**

This purpose of this document is to provide detailed specifications and engineering drawings for all control and protection instrumentation relating to the ash and coal conveyors, moving heads and flopper gates at Lethabo Power Station.

#### **2.2.1 Applicability**

The document applies to Lethabo Power Station.

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## 2.3 Normative/Informative References

### 2.3.1 Normative

- [1] 375-172104 – Lethabo PS Conveyor Protection Replacement Stakeholder Requirements Definition Report
- [2] 240-56355754 – Field Equipment Installation Standard
- [3] 240-56355815 – Control & Instrumentation Field Enclosures and Cable Termination Standard
- [4] 240-56356396 – Earthing and Lighting Protection

### 2.3.2 Informative

- [5] Mines Health and Safety Act – General Machinery Regulations
- [6] All-or-nothing relay RH1713

## 2.4 Definitions

### 2.4.1 Disclosure Classification

**Controlled Disclosure:** Controlled Disclosure to external parties (either enforced by law, or discretionary).

## 2.5 ABBREVIATIONS

Abbreviation	Description
DC	Direct Current
DCS	Distributed Control System
EOL	Emergency Off-loading
ETR	Emergency Trip Relay
IO	Input/Output
OEM	Original Equipment Manufacturer
OTS	Operating Technical Specification

## 3. DETAIL DESIGN INFORMATION

### 3.1 Objective of The Detail Design Phase

The objective of this detail design phase is to:

- State all design assumptions
- State all requirements
- State limitations that new equipment will be subjected to
- Produce red-lined drawings and equipment specifications subjected to the design assumptions, limitations and requirements from the Stakeholder Requirements Definition report

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### **3.2 System Summary Description**

The conveyor protections consist of:

- Misalignment protection
- Belt rip/tear protection
- Under speed protection
- Blocked chute protection
- ETR (pull keys)
- Various limit- and proximity switches for moving heads, flopper gates, etc.

The technologies being used are old and some components, especially on the ETR systems, are obsolete. The mechanical limit switches used for detecting misalignments and rips/tears are prone to failure due to the harsh environments they operate in; they then fail to detect the belt damage early. The blocked chute detectors are not reliable in detecting blocked chutes and causes excessive build up without tripping the belts in time.

### **3.3 System Detail Design Overview**

The design assumptions, requirements, limitations and red-lined drawings will be stated and described in the following sections. The various conveyor control and protection instrumentation will be grouped as follows:

- Conveyor Long-Line Protection
  - Misalignment protection
  - Belt rip/tear protection
  - ETR (pull keys)
- Conveyor Underspeed Protection
  - Under speed protection
- Blocked Chute Protection
  - Blocked chute protection
- Moving Head and Flopper Gate Limit Controls
  - Various limit- and proximity switches for moving heads and flopper gates

#### **3.3.1 Generic Requirements**

The following requirements will apply to all sections below unless otherwise specified:

- Where possible, a non-contact, non-mechanical device should be used.
- Optical measurements are not allowed due to dust.
- All DCS interfaces should be compatible with both 24 VDC and 48 VDC.
- All switchgear interfaces should be compatible with both 24 VDC and 48 VDC.
- All signals should be wired fail-safe where possible.
- Existing field cabling should be re-used as far as possible.
- Existing interfaces are 2-core cables.
- DCS digital inputs are not NAMUR compatible.
- Two-wire DC proximities:
  - The following are Lethabo stock items and should be used as far as possible:
    - 152062: NBN4-12GM40-Z0

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- 638573: NBB5-18GM40-Z0
- 147744: NBN40-U4-Z2-V1
- Should be rated at minimum 48 VDC as stated above.

### **3.3.2 Conveyor Long-Line Protection**

The long-line protection system will consist of:

- Misalignment switches
- Belt rip/tear switches
- ETR (pull key) switches

Assumptions, requirements and limitations:

- The conveyor long-line protection shall comply with legislative requirements.
  - This document will not prescribe the number or location of pull key devices as they are all prescribed by legislation.
  - Appendixes gives quantities for other protection devices.
- All devices will connect onto the long-line protection system's communication bus.
  - This single cable will run the length of the conveyor on both sides.
  - The communication bus allows the control unit to display which device has operated.
- The pull key switches will also connect through a dedicated safety line.
  - A dedicated core in the communication cable will be used for the pull key switches to be hardwired to the control unit and the switchgear.
- The control unit will be installed in the same location as the existing control units.
  - The existing 220 V supply will be used.
  - Surge and lightning protection to be included in control unit
    - 2 poles
    - spark-gap
    - 100kA impulse current protection
  - The pull keys, through the safety line, will interface with redundant relays.
  - The redundant relays will provide a dry contact interface.
  - The redundant relays will interface to the emergency trip relay in the switchgear.
  - The existing interface to the switchgear emergency trip relay will be used.
  - The control unit will provide three additional dry contact outputs to be used for:
    - Misalignment activated
    - Belt rip/tear activated
    - Pull key activated
  - These outputs will be interfaced to the DCS for control and indication.
  - Existing misalignment and rip/tear instrumentation are interfaced directly to the DCS.
    - Re-use existing interfaces to interface additional signals from control unit.
- Start-up sirens
  - WA16/26 and WC18/28 start-up sirens should form part of the longline protection systems.
  - All other conveyors have a stand-alone start-up siren system that will remain.

### **3.3.3 Conveyor Underspeed Protection**

The underspeed protection system will consist of:

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- Conveyor speed sensor

Assumptions, requirements and limitations:

- The conveyor speed should be translated to meters-per-second.
- Conveyor speed can be measured by:
  - Rotational speed of a non-drive pulley
  - Translational speed of the conveyor belt
- The existing speed interface to the DCS should be re-used.
- The existing speed interface to the DCS is a digital input, but can be changed to a 4 to 20 mA analogue.
- No additional power apart from the 4 to 20 mA loop power can be supplied.
- The Foxboro FBM217 has a maximum pulse count rate of 250 Hz.
- Existing 48 VDC digital inputs all have mechanical interposing relays between the field and IO; for pulse frequency speed measurement these need to be replaced with solid state relays.

### **3.3.4 Blocked Chute Protection**

The blocked chute protection system will consist of:

- Blocked chute detector

Assumptions, requirements and limitations:

- The existing 220 V, paddle wheel-type blocked chute detectors on the coal plant will remain.
- Where more than one (mostly coal plant) blocked chute detector (excluding the paddle wheel-type) is installed, only one detector will be replaced.
- Active blocked chute detectors will be installed.
- 24 VDC instrument power will be supplied through existing junction boxes from existing control cubicles.
- 24 VDC power need to be added to as-built junction box drawings.
- The detector should indicate a blocked chute with a single signal.
- The detector should differentiate between “blocked chute” and “no material on belt”.
- The detector should not activate its signal to the DCS when “no material on belt”.

### **3.3.5 Moving Head and Flopper Gate Limit Controls**

The moving head and flopper gate controls system will consist of:

- Moving head forward and reverse control limits
- Moving head forward and reverse ultimate limits
- Flopper gate forward and reverse control limits

Assumptions, requirements and limitations:

- Moving head forward and reverse control limits interfaces to the DCS.
- Moving head forward and reverse ultimate limits interfaces directly to the switchgear.
- Flopper gate forward and reverse control limits interfaces directly to the switchgear.
- Interfaces to switchgear is used to energise an ABB RH1713 interposing relay.
- Replace all limit switches with two-wire DC proximities.

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### 3.3.6 Electrical System Design

The electrical system that this project will interface with consists of:

- ETR relay coils
- Moving head ultimate limit relay coils
- Flopper gate control limits relay coils

Assumptions, requirements and limitations:

- No modifications to any switchgear elements will be made.
- Testing with existing Lethabo stock item proximity switches proved compatibility between the interposing relays and 2-wire DC proximities.

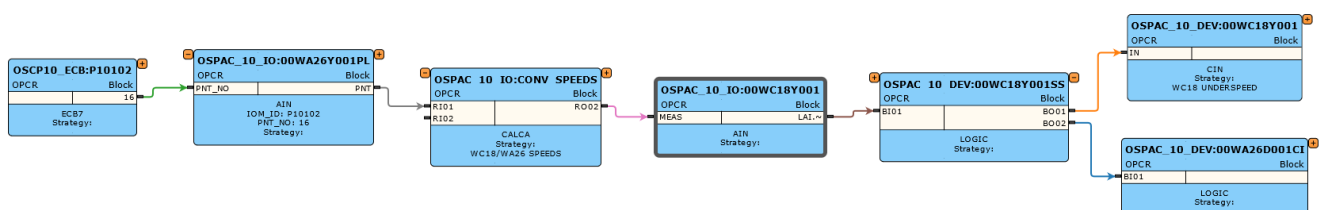
### 3.3.7 Red-lined Drawings

- The drawings listed in Appendix E are deemed relevant to this project.
- The red-lined information on the loop drawings need to be carried over to the junction box drawings by the draughtsman.
- The new 24 VDC blocked chute detector supply need to be added on the junction box drawings.
- Only incomplete and outdated drawings for EOL (WC41, WA36 and WC16), ash dump (WA16/26, WC18/28) and JPC conveyors exist. These drawings were not red-lined or catalogued; these conveyors will have to be as-built during execution. The available information will be made available to the contractor.

### 3.3.8 DCS Control Logic

The following control logic changes will be required:

- Where multiple instruments (blocked chute, rips/tears and misalignments) that interfaces with the DCS separately are replaced by a single signal:
  - Disable spare inputs in control/trip logic
  - Remove additional alarms/trips from operator displays
- Underspeed protection:
  - Rotational speed of a non-drive pulley: the control schema is shown in Figure 1 and Figure 2.
  - Translational speed of the conveyor belt: the control schema is shown in Figure 3.



**Figure 1: Conveyor underspeed schema: rotational speed pulses converted to translational speed and low speed alarms setpoint driving original trip logic.**

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STEP01	SUB RI01 M01
STEP02	LAC M10
STEP03	DIV
STEP04	OUT RO01
STEP05	IN RI01
STEP06	OUT M01; SAVE RI01

Figure 2: Converting pulse counts into rotational speed.

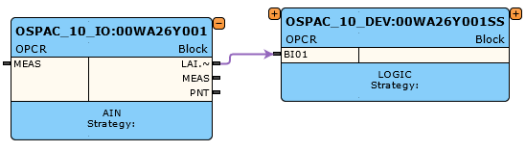


Figure 3: Conveyor underspeed schema: translational speed captured as analogue signal and low speed alarm setpoint driving original trip logic.

### 3.4 System Maintenance and Operating Requirements

#### 3.4.1 Maintenance Requirements

The following applies to maintenance requirements:

- New proximity switches should match Lethabo’s existing stock items as far as possible.
- If special configuration devices (hardware and/or software) are required to configure new equipment, three should be procured.
- All maintenance personnel (15) should be trained to be competent on new equipment to perform all required duties without OEM assistance.

#### 3.4.2 Operating Requirements

The following applies to operating requirements:

- The conveyor long-line protection control unit need to indicated which device (pull-key, rip/tear and misalignment) activated the trip.
- The conveyor long-line protection control unit need to be resettable by operating without using any tools.
- The conveyor long-line protection pull-keys need to have on-device visual indication when activated.

References to a centrifugal underspeed protection devices in the following documents should be updated; no other changes are necessary:

- LBT00142OTS – Operating Technical Specification for Coal Plant
- LBT00144OTS – Operating Technical Specification for Mixed Ash Plant
- LBT00149OTS – Operating Technical Specification for Coarse Ash Plant
- OPS Training Manuals: Ash Plant

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- OPS Training Manuals: Outside Plant

### **3.5 Waste Management**

#### **3.5.1 Waste Storage and Transportation**

Old equipment that can be kept as spares will be stored by C&I Maintenance or booked back into stores. Other equipment will be disposed of according to Lethabo Waste Management Work Instruction (240-65666252).

Equipment to be disposed of could include:

- Long-line protection devices, cables and control panels
- Small C&I instruments, such as limit switches

No large rubble (steel frames or building material) will be generated.

### **3.6 System Safety Analysis**

- The existing safety measures relating to the conveyor long-line protection will remain intact. The existing protection system will be replaced with a functionally equivalent system.
- No additional safety analysis was done.

### **3.7 System Technical Integration Reviews**

#### **3.7.1 Mechanical System Integration**

Instrumentation should integrate with existing mechanical plant without the need for modifications.

#### **3.7.2 Electrical Design Integration**

Instrumentation should integrate with existing electrical plant without the need for modifications.

#### **3.7.3 Control System Integration**

- Instrumentation should integrate with the existing control system without the need for architectural modifications.
- Standard Foxboro DCS IO modules can be added:
  - FBM201/211: 0/4 – 20 mA inputs
  - FBM237: 0/4 – 20 mA outputs
  - FBM217: digital inputs
  - FBM242: digital outputs
- Software modifications will be needed to integrate the new equipment into existing control logic.
- Software modifications will be needed to remove old equipment from existing control logic.

### **3.8 Test and Commissioning Strategy**

The following should be done before installation on-site starts:

- Conveyor Long-Line Protection
  - FAT at contractor workshop proving software configuration as required.
- Conveyor Underspeed Protection

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- If pulse-based measurement: on-site demonstration with DCS IO to prove compatibility.
- Blocked Chute Protection
  - In-plant demonstration (not necessarily Lethabo) to prove operation.
- Moving Head and Flopper Gate Limit Controls
  - FAT at contractor workshop with RH1713 relay to prove compatibility.
  - On-site demonstration with DCS IO to prove compatibility.

The following should be done during installation:

- DCS IO list should be verified
- Red-lined drawings should be update with additional as-built/missing information.

The following should be done after installation and during commissioning:

- Conveyor Long-Line Protection
  - Every long-line device should be operated to prove it is functional.
- Conveyor Underspeed Protection
  - Processed speed in the DCS should be verified by tachometer.
- Blocked Chute Protection
  - Device should be operated to prove it is functional.
- Moving Head and Flopper Gate Limit Controls
  - Every proximity should be operated to prove it is functional.

### 3.9 Procurement Strategy

A contract should be placed with one contractor that will be capable of the following:

- Supplying and installing all cabling
- Supplying and installing all instrumentation required by this design document
- Producing as-built drawings
- Updating and re-drawing red-lined drawings

### 3.10 Lessons Learned

While gathering as-built information relevant to all the equipment forming part of this project we were again made aware of the fact that drawings are not in a good state. This project has the opportunity to produce new, complete and accurate as-built drawings.

## 4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation
Daniël du Toit	Project Engineering Design Work Lead
Khaya Sobuwa	C&I Asset Management
Louis Nel	C&I Engineering Manager
Remofiloe Kubyane	Plant Engineering Design Work Lead

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## 5. REVISIONS

Date	Rev.	Compiler	Remarks
February 2021	0	DJ du Toit	Initial compilation
March 2021	1	DJ du Toit	C&I IDR comment updates
June 2021	2	DJ du Toit	Final

## 6. DESIGN OUTPUT DOCUMENTS

**Table 1: Detail Design Output Documents**

Document Number	Rev.	Document Title	Remarks
	0	Existing Interfaces.xlsx	Appendix D
	0	Red-lined drawings	Appendix E
	0	Limit of Scope and Services (LoSS)	Appendix F
	0	Vendor document submittal schedule (VDSS)	Appendix G

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## **A. CONVEYORS INFORMATION**

The conveyors require the following devices:

- Contractor to establish the number of pull-keys in order to meet the legislative requirements.
- Conveyor lengths are listed in

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- Table 2 and

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- Table 3 below.
- Misalignment detectors at both drive- and non-drive ends.
- Rip/tear detector at both drive- and non-drive ends.
- Speed sensor
- Existing start-up siren to be re-used.
- Additional requirements in tables' notes.

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Table 3 also lists P&ID drawings, where available, for the various conveyors.

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**Table 2: Ash Plant Conveyors (x = units 1 – 6)**

Functional Location	Description	Horizontal Length (m)	Width (mm)	Notes
00WC11	Overland	1023	1650	Misalignment detector at each WF conveyor discharge Rip/tear detectors at each WF conveyor discharge and both ends Two speed sensors 0.63/70737
00WC21	Overland	1023	1650	Misalignment detector at each WF conveyor discharge Rip/tear detectors at each WF conveyor discharge and both ends Two speed sensors 0.63/70737
00WC12	Overland	208	1650	Two speed sensors 0.63/70737
00WC22	Overland	208	1650	Two speed sensors 0.63/70737
00WC13	Overland	1243	1650	Two speed sensors 0.63/70752
00WC23	Overland	1243	1650	Two speed sensors 0.63/70752
00WC14	Overland	1596	1650	Two speed sensors 0.63/70752
00WC24	Overland	1596	1650	Two speed sensors 0.63/70752
00WA15	Overland	970	1650	
00WA25	Overland	970	1650	
00WA16	Extendable	725	1500	Start-up siren part of long-line protection
00WA26	Extendable	725	1500	Start-up siren part of long-line protection
00WC18	Shiftable	1300	1500	Start-up siren part of long-line protection Includes stacker tripper car

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Functional Location	Description	Horizontal Length (m)	Width (mm)	Notes
00WC28	Shiftable	1300	1500	Start-up siren part of long-line protection Includes stacker tripper car
00WC16	Inloading	40	1500	0.63/70752
00WA36	EOL Link	40	1500	0.63/70752
00WC41	EOL Boom	40	1500	0.63/70752
00WF41	Conditioned Ash	43	1500	0.63/70736
00WF31	Conditioned Ash	43	1500	0.63/70736
00WF61	Conditioned Ash	43	1500	0.63/70736
00WF51	Conditioned Ash	43	1500	0.63/70736
00WF81	Conditioned Ash	43	1500	0.63/70736
00WF71	Conditioned Ash	43	1500	0.63/70736
0xNU01	JPC A	80		0.63/70807
0xNU02	JPC B	80		0.63/70807

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**Table 3: Coal Plant Conveyors (x = units 1 – 6)**

Functional Location	Description	Horizontal Length (m)	Width (mm)	Notes
00PC11	Terrace (T1A)	775	1800	Two speed sensors 0.63/70224
00PC21	Terrace (T1B)	775	1800	Two speed sensors 0.63/70224
00PC12	Over Silo (T2A)	55	1800	0.63/70224
00PC22	Over Silo (T2B)	55	1800	0.63/70224
00PC13	Over Silo (T3A)	125	1800	0.63/70225
00PC23	Over Silo (T3B)	125	1800	0.63/70225
00PC14	Over Silo (T4A)	55	1800	0.63/70225
00PC24	Over Silo (T4B)	55	1800	0.63/70225
00PC15	Over Silo (T5A)	125	1800	0.63/70226
00PC25	Over Silo (T5B)	125	1800	0.63/70226
00PC16	Over Silo (T6A)	55	1800	0.63/70226
00PC26	Over Silo (T6B)	55	1800	0.63/70226
0xPC01	Under Silo (T7)	35	2100	0.63/70739 – 70741
0xPC02	Incline (T8)	230	1200	0.63/70739 – 70741
0xPC03	Shuttle	5	1350	0.63/70739 – 70741
0xPC11	Bunker (T9)	80/8	1200	Long: units 2, 4, 6 Short: units 1, 3, 5 0.63/70739 – 70741
0xPC12	Bunker (T11)	30	1200	0.63/70742 – 70747
0xPC13	Bunker (T13)	20	1200	Reversable conveyor 0.63/70742 – 70747
0xPC21	Bunker (T10)	8/80	1200	Long: units 1, 3, 5 Short: units 2, 4, 6 0.63/70742 – 70747
0xPC22	Bunker (T12)	30	1200	0.63/70742 – 70747
0xPC23	Bunker (T14)	20	1200	Reversable conveyor 0.63/70742 – 70747

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**B. MOVING HEADS, FLOPPER GATES AND CHUTES INFORMATION**

The moving heads (

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Table 4) require the following devices:

- Blocked chute detector
- Forward and reverse control limits
- Forward and reverse ultimate limits

The flopper gates (

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Table 5) require the following devices:

- Blocked chute detector
- Forward and reverse control limits

The non-controlled chutes (

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Table 6) require the following devices:

- Blocked chute detector

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**Table 4: Moving Heads (x = units 1 – 6)**

Functional Location	Description	Notes
0xNU01	JPC A	
0xNU02	JPC B	
00WF41	Conditioned Ash	
00WF31	Conditioned Ash	
00WF61	Conditioned Ash	
00WF51	Conditioned Ash	
00WF81	Conditioned Ash	
00WF71	Conditioned Ash	
00WC11	Overland	
00WC21	Overland	
00WC12	Overland	
00WC22	Overland	
00WC13	Overland	Three-position moving head
00WC23	Overland	Three-position moving head
00WA15	Overland	
00WA25	Overland	

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**Table 5: Flopper Gates (x = units 1 – 6)**

Functional Location	Description	Notes
0xNU10S002	JPC Feed Chute	
00PK11	Terrace (T1A)	
00PK21	Terrace (T1B)	
00PK12	Over Silo (T2A)	
00PK22	Over Silo (T2B)	
00PK13	Over Silo (T3A)	
00PK23	Over Silo (T3B)	
00PK14	Over Silo (T4A)	
00PK24	Over Silo (T4B)	
00PK15	Over Silo (T5A)	
00PK25	Over Silo (T5B)	
00PK16	Over Silo (T6A)	
00PK26	Over Silo (T6B)	
0xPK02	T8	
0xPK12	T11/T13	
0xPK22	T12/T14	

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**Table 6: Non-controlled Chutes (x = units 1 – 6)**

Functional Location	Description	Notes
00WA15	Overland	
00WA25	Overland	
00WA16	Overland	
00WA26	Overland	
00PC16	Over Silo (T6A)	
00PC26	Over Silo (T6B)	
0xPC01	Under Silo (T7)	
0xPC11	Bunker (T9)	
0xPC21	Bunker (T10)	
0xPC13	Bunker (T13)	
0xPC23	Bunker (T14)	

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C. QUANTITIES ESTIMATE

			HCU	PULLKEY	RIP/TEAR	MISALIGNMENT	BLOCKED CHUTE	END UNIT	SIREN	SPEED	PROXIMITY	DRAWING
WC11	1	1023m	1	24	5	5	1	1		2		
WC21	1	1023m	1	24	5	5	1	1		2		
WC12	1	208m	1	8	2	2	1	1		2		
WC22	1	208m	1	8	2	2	1	1		2		
WC13	1	1243m	1	28	2	2	1	1		2		
WC23	1	1243m	1	28	2	2	1	1		2		
WC14	1	1596m	1	36	2	2	1	1		2		
WC24	1	1596m	1	36	2	2	1	1		2		
WA15	1	970m	1	24	2	2	1	1		1		
WA25	1	970m	1	24	2	2	1	1		1		
WA16	1	725m	1	18	2	2	1	1	✓	1		
WA26	1	725m	1	18	2	2	1	1	✓	1		
WC18	1	1300m	1	28	2	2	1	1	✓	1		
WC28	1	1300m	1	28	2	2	1	1	✓	1		
WC16	1	40m		2	2	2				1		
WC41	1	40m		2	2	2				1		
WA36	1	40m		2	2	2	1			1		
WF	6	43m	1	2	2	2	1	1		1		
T7	6	35m	1	4	1	4	1	1		1		
T8	6	230m	1	10	2	4	1	1		1		
T9	6	80/8m	1	4	1	4	1	1		1		
T10	6	8/80m	1	4	1	4	1	1		1		
T11/12	12	30m	1	4	1	4	1	1		1		
T13/14	12	20m	1	4	1	4	1	1		1		
Shuttle	6	5m		E-Stop						1		
T1	2	775m	1	20	4	4	1	1		2		
T2-6	10	55/125m	1	4/6	2	4	1	1		1		
Moving Heads + Flopper Gates	78										4	
Drawings												1000

## **D. EXISTING INTERFACES**

All existing interfaces and details are captured in the *Existing Interfaces.xlsx* Excel document that should accompany this detail design report. Due to the nature of its content it cannot be reproduced within this report.



Existing  
Interfaces.xlsx

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## **E. RED-LINED AND REFERENCE DRAWINGS**

Note the following:

- Table 7 lists all existing, red-lined loop drawings. Table 8 lists all junction box drawings relevant to the red-lined loop drawings. The red-lined information on the loop drawings need to be carried over to the junction box drawings.
- All the drawings listed in Table 7 and Table 8 need to be updated and redrawn.
- Switchgear reference drawings relating to all conveyors, moving heads and flopper gates can be found in the *Existing Interface.xlsx* Excel document that should accompany this design report.
- Only incomplete and outdated drawings for EOL (WC41, WA36 and WC16), ash dump (WA16/26, WC18/28) and JPC conveyors exist. These drawings were not red-lined or catalogued; these conveyors will have to be as-built during execution.

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**Table 7: PLC/Loop drawings**

Area	Type	Drawing	Sheet	Revision
Ash Chutes, 00WA15	PLC	31465	5	2
Ash Chutes, 00WA15	PLC	31465	6	3
Ash Chutes, 00WA15	PLC	31465	7	2
Ash Chutes, 00WA25	PLC	31466	5	2
Ash Chutes, 00WA25	PLC	31466	6	3
Ash Chutes, 00WA25	PLC	31466	7	2
Ash Chutes, 00WC11	PLC	33598	1	3
Ash Chutes, 00WC11	PLC	33598	2	3
Ash Chutes, 00WC11	PLC	33598	3	3
Ash Chutes, 00WC12	PLC	33600	1	4
Ash Chutes, 00WC12	PLC	33600	2	3
Ash Chutes, 00WC12	PLC	33600	3	3
Ash Chutes, 00WC13	PLC	33207	1	3
Ash Chutes, 00WC13	PLC	33207	2	5
Ash Chutes, 00WC13	PLC	33207	3	4
Ash Chutes, 00WC13	PLC	33207	4	1
Ash Chutes, 00WC21	PLC	33603	1	3
Ash Chutes, 00WC21	PLC	33603	2	3
Ash Chutes, 00WC21	PLC	33603	3	3
Ash Chutes, 00WC22	PLC	33605	1	4
Ash Chutes, 00WC22	PLC	33605	2	3
Ash Chutes, 00WC22	PLC	33605	3	3
Ash Chutes, 00WC23	PLC	33206	1	3
Ash Chutes, 00WC23	PLC	33206	2	5
Ash Chutes, 00WC23	PLC	33206	3	4
Ash Chutes, 00WF31	PLC	33728	1	2
Ash Chutes, 00WF31	PLC	33728	2	2
Ash Chutes, 00WF31	PLC	33728	3	3
Ash Chutes, 00WF41	PLC	33700	1	1
Ash Chutes, 00WF41	PLC	33700	2	1
Ash Chutes, 00WF41	PLC	33700	3	2
Ash Chutes, 00WF51	PLC	33788	1	2
Ash Chutes, 00WF51	PLC	33788	2	2
Ash Chutes, 00WF51	PLC	33788	3	2
Ash Chutes, 00WF61	PLC	33756	1	1
Ash Chutes, 00WF61	PLC	33756	2	1
Ash Chutes, 00WF61	PLC	33756	3	1
Ash Chutes, 00WF71	PLC	32642	1	1
Ash Chutes, 00WF71	PLC	32642	2	1
Ash Chutes, 00WF71	PLC	32642	3	1
Ash Chutes, 00WF81	PLC	31243	1	1

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Area	Type	Drawing	Sheet	Revision
Ash Chutes, 00WF81	PLC	31243	2	1
Ash Chutes, 00WF81	PLC	31243	3	2
Ash Conveyors, 00WA15	PLC	31465	1	2
Ash Conveyors, 00WA15	PLC	31465	2	3
Ash Conveyors, 00WA15	PLC	31465	3	2
Ash Conveyors, 00WA15	PLC	31465	8	1
Ash Conveyors, 00WA25	PLC	31466	1	2
Ash Conveyors, 00WA25	PLC	31466	2	3
Ash Conveyors, 00WA25	PLC	31466	3	2
Ash Conveyors, 00WC11	PLC	33597	1	2
Ash Conveyors, 00WC11	PLC	33597	2	4
Ash Conveyors, 00WC11	PLC	33597	3	3
Ash Conveyors, 00WC11	PLC	33597	4	2
Ash Conveyors, 00WC11	PLC	33597	5	5
Ash Conveyors, 00WC11	PLC	33597	7	2
Ash Conveyors, 00WC12	PLC	33599	1	2
Ash Conveyors, 00WC12	PLC	33599	2	3
Ash Conveyors, 00WC12	PLC	33599	3	3
Ash Conveyors, 00WC12	PLC	33599	4	4
Ash Conveyors, 00WC13	PLC	33621	1	2
Ash Conveyors, 00WC13	PLC	33621	2	4
Ash Conveyors, 00WC13	PLC	33621	3	3
Ash Conveyors, 00WC13	PLC	33621	4	4
Ash Conveyors, 00WC14	PLC	33637	1	2
Ash Conveyors, 00WC14	PLC	33637	2	3
Ash Conveyors, 00WC14	PLC	33637	3	4
Ash Conveyors, 00WC14	PLC	33637	4	3
Ash Conveyors, 00WC14	PLC	33637	5	3
Ash Conveyors, 00WC21	PLC	33602	1	2
Ash Conveyors, 00WC21	PLC	33602	2	4
Ash Conveyors, 00WC21	PLC	33602	3	3
Ash Conveyors, 00WC21	PLC	33602	4	2
Ash Conveyors, 00WC21	PLC	33602	5	5
Ash Conveyors, 00WC21	PLC	33602	7	2
Ash Conveyors, 00WC22	PLC	33604	1	3
Ash Conveyors, 00WC22	PLC	33604	2	3
Ash Conveyors, 00WC22	PLC	33604	3	3
Ash Conveyors, 00WC22	PLC	33604	4	4
Ash Conveyors, 00WC23	PLC	33622	1	2
Ash Conveyors, 00WC23	PLC	33622	2	4
Ash Conveyors, 00WC23	PLC	33622	3	4
Ash Conveyors, 00WC23	PLC	33622	4	3
Ash Conveyors, 00WC23	PLC	33622	6	3

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Area	Type	Drawing	Sheet	Revision
Ash Conveyors, 00WC23	PLC	33622	7	2
Ash Conveyors, 00WC24	PLC	33640	1	2
Ash Conveyors, 00WC24	PLC	33640	2	3
Ash Conveyors, 00WC24	PLC	33640	3	4
Ash Conveyors, 00WC24	PLC	33640	4	3
Ash Conveyors, 00WC24	PLC	33640	5	3
Ash Conveyors, 00WF31	PLC	33727	1	2
Ash Conveyors, 00WF31	PLC	33727	2	3
Ash Conveyors, 00WF31	PLC	33727	3	2
Ash Conveyors, 00WF31	PLC	33727	4	2
Ash Conveyors, 00WF41	PLC	33699	1	1
Ash Conveyors, 00WF41	PLC	33699	2	3
Ash Conveyors, 00WF41	PLC	33699	3	1
Ash Conveyors, 00WF41	PLC	33699	4	1
Ash Conveyors, 00WF51	PLC	33787	1	2
Ash Conveyors, 00WF51	PLC	33787	2	2
Ash Conveyors, 00WF51	PLC	33787	3	2
Ash Conveyors, 00WF51	PLC	33787	4	2
Ash Conveyors, 00WF61	PLC	33755	1	1
Ash Conveyors, 00WF61	PLC	33755	2	1
Ash Conveyors, 00WF61	PLC	33755	3	1
Ash Conveyors, 00WF61	PLC	33755	4	1
Ash Conveyors, 00WF71	PLC	32641	1	2
Ash Conveyors, 00WF71	PLC	32641	2	1
Ash Conveyors, 00WF71	PLC	32641	3	1
Ash Conveyors, 00WF71	PLC	32641	4	1
Ash Conveyors, 00WF81	PLC	31242	1	2
Ash Conveyors, 00WF81	PLC	31242	2	1
Ash Conveyors, 00WF81	PLC	31242	3	1
Ash Conveyors, 00WF81	PLC	31242	4	1
Bunker Chutes, 01PC03	PLC	25186	6	1
Bunker Chutes, 01PK01	PLC	25193	1	2
Bunker Chutes, 01PK01	PLC	25193	2	2
Bunker Chutes, 01PK01	PLC	25193	3	3
Bunker Chutes, 01PK02	PLC	25194	1	2
Bunker Chutes, 01PK02	PLC	25194	2	2
Bunker Chutes, 01PK02	PLC	25194	3	5
Bunker Chutes, 01PK11	PLC	25195	1	4
Bunker Chutes, 01PK12	PLC	25196	1	2
Bunker Chutes, 01PK12	PLC	25196	2	2
Bunker Chutes, 01PK12	PLC	25196	3	4
Bunker Chutes, 01PK21	PLC	25197	1	4
Bunker Chutes, 01PK22	PLC	25198	1	2

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Area	Type	Drawing	Sheet	Revision
Bunker Chutes, 01PK22	PLC	25198	2	2
Bunker Chutes, 01PK22	PLC	25198	3	4
Bunker Chutes, 02PC03	PLC	25212	6	1
Bunker Chutes, 02PK01	PLC	25219	1	1
Bunker Chutes, 02PK01	PLC	25219	2	1
Bunker Chutes, 02PK01	PLC	25219	3	1
Bunker Chutes, 02PK02	PLC	25220	1	1
Bunker Chutes, 02PK02	PLC	25220	2	1
Bunker Chutes, 02PK02	PLC	25220	3	4
Bunker Chutes, 02PK11	PLC	25221	1	3
Bunker Chutes, 02PK12	PLC	25222	1	1
Bunker Chutes, 02PK12	PLC	25222	2	1
Bunker Chutes, 02PK12	PLC	25222	3	3
Bunker Chutes, 02PK21	PLC	25223	1	3
Bunker Chutes, 02PK22	PLC	25224	1	1
Bunker Chutes, 02PK22	PLC	25224	2	1
Bunker Chutes, 02PK22	PLC	25224	3	3
Bunker Chutes, 03PC03	PLC	33473	6	2
Bunker Chutes, 03PK01	PLC	33480	1	1
Bunker Chutes, 03PK01	PLC	33480	2	1
Bunker Chutes, 03PK01	PLC	33480	3	2
Bunker Chutes, 03PK02	PLC	33481	1	1
Bunker Chutes, 03PK02	PLC	33481	2	1
Bunker Chutes, 03PK02	PLC	33481	3	4
Bunker Chutes, 03PK11	PLC	33482	1	4
Bunker Chutes, 03PK12	PLC	33483	1	1
Bunker Chutes, 03PK12	PLC	33483	2	1
Bunker Chutes, 03PK12	PLC	33483	3	4
Bunker Chutes, 03PK21	PLC	33484	1	4
Bunker Chutes, 03PK22	PLC	33485	1	1
Bunker Chutes, 03PK22	PLC	33485	2	1
Bunker Chutes, 03PK22	PLC	33485	3	4
Bunker Chutes, 04PC03	PLC	33499	6	2
Bunker Chutes, 04PK01	PLC	33506	1	1
Bunker Chutes, 04PK01	PLC	33506	2	1
Bunker Chutes, 04PK01	PLC	33506	3	2
Bunker Chutes, 04PK02	PLC	33507	1	1
Bunker Chutes, 04PK02	PLC	33507	2	1
Bunker Chutes, 04PK02	PLC	33507	3	4
Bunker Chutes, 04PK11	PLC	33508	1	4
Bunker Chutes, 04PK12	PLC	33509	1	1
Bunker Chutes, 04PK12	PLC	33509	2	1
Bunker Chutes, 04PK12	PLC	33509	3	4

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Area	Type	Drawing	Sheet	Revision
Bunker Chutes, 04PK21	PLC	33510	1	4
Bunker Chutes, 04PK22	PLC	33511	1	1
Bunker Chutes, 04PK22	PLC	33511	2	1
Bunker Chutes, 04PK22	PLC	33511	3	5
Bunker Chutes, 05PC03	PLC	31187	6	1
Bunker Chutes, 05PK01	PLC	31194	1	1
Bunker Chutes, 05PK01	PLC	31194	2	1
Bunker Chutes, 05PK01	PLC	31194	3	1
Bunker Chutes, 05PK02	PLC	31195	1	1
Bunker Chutes, 05PK02	PLC	31195	2	1
Bunker Chutes, 05PK02	PLC	31195	3	3
Bunker Chutes, 05PK11	PLC	31196	1	3
Bunker Chutes, 05PK12	PLC	31197	1	1
Bunker Chutes, 05PK12	PLC	31197	2	1
Bunker Chutes, 05PK12	PLC	31197	3	3
Bunker Chutes, 05PK21	PLC	31198	1	3
Bunker Chutes, 05PK22	PLC	31199	1	1
Bunker Chutes, 05PK22	PLC	31199	2	1
Bunker Chutes, 05PK22	PLC	31199	3	3
Bunker Chutes, 06PC03	PLC	32416	6	1
Bunker Chutes, 06PK01	PLC	32423	1	1
Bunker Chutes, 06PK01	PLC	32423	2	1
Bunker Chutes, 06PK01	PLC	32423	3	1
Bunker Chutes, 06PK02	PLC	32424	1	2
Bunker Chutes, 06PK02	PLC	32424	2	1
Bunker Chutes, 06PK02	PLC	32424	3	3
Bunker Chutes, 06PK11	PLC	32425	1	2
Bunker Chutes, 06PK12	PLC	32426	1	2
Bunker Chutes, 06PK12	PLC	32426	2	1
Bunker Chutes, 06PK12	PLC	32426	3	3
Bunker Chutes, 06PK21	PLC	32427	1	3
Bunker Chutes, 06PK22	PLC	32428	1	2
Bunker Chutes, 06PK22	PLC	32428	2	1
Bunker Chutes, 06PK22	PLC	32428	3	3
Bunker Conveyors, 01PC01	PLC	25184	1	2
Bunker Conveyors, 01PC01	PLC	25184	2	2
Bunker Conveyors, 01PC01	PLC	25184	3	2
Bunker Conveyors, 01PC01	PLC	25184	4	2
Bunker Conveyors, 01PC01	PLC	25184	5	2
Bunker Conveyors, 01PC01	PLC	25184	6	2
Bunker Conveyors, 01PC01	PLC	25184	7	4
Bunker Conveyors, 01PC01	PLC	25184	8	3
Bunker Conveyors, 01PC01	PLC	25184	9	2

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Area	Type	Drawing	Sheet	Revision
Bunker Conveyors, 01PC02	PLC	25185	1	2
Bunker Conveyors, 01PC02	PLC	25185	2	2
Bunker Conveyors, 01PC02	PLC	25185	3	3
Bunker Conveyors, 01PC02	PLC	25185	4	2
Bunker Conveyors, 01PC02	PLC	25185	5	2
Bunker Conveyors, 01PC02	PLC	25185	6	4
Bunker Conveyors, 01PC02	PLC	25185	7	3
Bunker Conveyors, 01PC02	PLC	25185	8	2
Bunker Conveyors, 01PC02	PLC	25185	9	1
Bunker Conveyors, 01PC02	PLC	25185	10	1
Bunker Conveyors, 01PC02	PLC	25185	11	1
Bunker Conveyors, 01PC03	PLC	25186	1	2
Bunker Conveyors, 01PC03	PLC	25186	2	2
Bunker Conveyors, 01PC03	PLC	25186	3	2
Bunker Conveyors, 01PC03	PLC	25186	4	2
Bunker Conveyors, 01PC03	PLC	25186	5	3
Bunker Conveyors, 01PC11	PLC	25187	1	2
Bunker Conveyors, 01PC11	PLC	25187	2	2
Bunker Conveyors, 01PC11	PLC	25187	3	4
Bunker Conveyors, 01PC12	PLC	25188	1	2
Bunker Conveyors, 01PC12	PLC	25188	2	2
Bunker Conveyors, 01PC12	PLC	25188	3	3
Bunker Conveyors, 01PC13	PLC	25189	1	2
Bunker Conveyors, 01PC13	PLC	25189	2	2
Bunker Conveyors, 01PC13	PLC	25189	3	3
Bunker Conveyors, 01PC21	PLC	25190	1	2
Bunker Conveyors, 01PC21	PLC	25190	2	2
Bunker Conveyors, 01PC21	PLC	25190	3	3
Bunker Conveyors, 01PC22	PLC	25191	1	2
Bunker Conveyors, 01PC22	PLC	25191	2	2
Bunker Conveyors, 01PC22	PLC	25191	3	3
Bunker Conveyors, 01PC23	PLC	25192	1	2
Bunker Conveyors, 01PC23	PLC	25192	2	2
Bunker Conveyors, 01PC23	PLC	25192	3	3
Bunker Conveyors, 02PC01	PLC	25210	1	1
Bunker Conveyors, 02PC01	PLC	25210	2	1
Bunker Conveyors, 02PC01	PLC	25210	3	1
Bunker Conveyors, 02PC01	PLC	25210	4	1
Bunker Conveyors, 02PC01	PLC	25210	5	2
Bunker Conveyors, 02PC01	PLC	25210	6	1
Bunker Conveyors, 02PC01	PLC	25210	7	3
Bunker Conveyors, 02PC01	PLC	25210	8	3
Bunker Conveyors, 02PC01	PLC	25210	9	2

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Area	Type	Drawing	Sheet	Revision
Bunker Conveyors, 02PC02	PLC	25211	1	1
Bunker Conveyors, 02PC02	PLC	25211	2	1
Bunker Conveyors, 02PC02	PLC	25211	3	1
Bunker Conveyors, 02PC02	PLC	25211	4	1
Bunker Conveyors, 02PC02	PLC	25211	5	1
Bunker Conveyors, 02PC02	PLC	25211	6	2
Bunker Conveyors, 02PC02	PLC	25211	7	2
Bunker Conveyors, 02PC02	PLC	25211	8	1
Bunker Conveyors, 02PC02	PLC	25211	9	1
Bunker Conveyors, 02PC02	PLC	25211	10	1
Bunker Conveyors, 02PC02	PLC	25211	11	2
Bunker Conveyors, 02PC03	PLC	25212	1	1
Bunker Conveyors, 02PC03	PLC	25212	2	1
Bunker Conveyors, 02PC03	PLC	25212	3	1
Bunker Conveyors, 02PC03	PLC	25212	4	1
Bunker Conveyors, 02PC03	PLC	25212	5	2
Bunker Conveyors, 02PC11	PLC	25213	1	1
Bunker Conveyors, 02PC11	PLC	25213	2	1
Bunker Conveyors, 02PC11	PLC	25213	3	2
Bunker Conveyors, 02PC12	PLC	25214	1	1
Bunker Conveyors, 02PC12	PLC	25214	2	1
Bunker Conveyors, 02PC12	PLC	25214	3	2
Bunker Conveyors, 02PC13	PLC	25215	1	1
Bunker Conveyors, 02PC13	PLC	25215	2	1
Bunker Conveyors, 02PC13	PLC	25215	3	2
Bunker Conveyors, 02PC21	PLC	25216	1	1
Bunker Conveyors, 02PC21	PLC	25216	2	1
Bunker Conveyors, 02PC21	PLC	25216	3	3
Bunker Conveyors, 02PC22	PLC	25217	1	1
Bunker Conveyors, 02PC22	PLC	25217	2	1
Bunker Conveyors, 02PC22	PLC	25217	3	2
Bunker Conveyors, 02PC23	PLC	25218	1	2
Bunker Conveyors, 02PC23	PLC	25218	2	1
Bunker Conveyors, 02PC23	PLC	25218	3	2
Bunker Conveyors, 03PC01	PLC	33471	1	1
Bunker Conveyors, 03PC01	PLC	33471	2	1
Bunker Conveyors, 03PC01	PLC	33471	3	1
Bunker Conveyors, 03PC01	PLC	33471	4	1
Bunker Conveyors, 03PC01	PLC	33471	5	1
Bunker Conveyors, 03PC01	PLC	33471	6	1
Bunker Conveyors, 03PC01	PLC	33471	7	3
Bunker Conveyors, 03PC01	PLC	33471	8	1
Bunker Conveyors, 03PC01	PLC	33471	9	2

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Area	Type	Drawing	Sheet	Revision
Bunker Conveyors, 03PC02	PLC	33472	1	1
Bunker Conveyors, 03PC02	PLC	33472	2	1
Bunker Conveyors, 03PC02	PLC	33472	3	1
Bunker Conveyors, 03PC02	PLC	33472	4	1
Bunker Conveyors, 03PC02	PLC	33472	5	1
Bunker Conveyors, 03PC02	PLC	33472	6	2
Bunker Conveyors, 03PC02	PLC	33472	7	2
Bunker Conveyors, 03PC02	PLC	33472	8	
Bunker Conveyors, 03PC02	PLC	33472	9	1
Bunker Conveyors, 03PC02	PLC	33472	10	1
Bunker Conveyors, 03PC02	PLC	33472	11	
Bunker Conveyors, 03PC03	PLC	33473	1	1
Bunker Conveyors, 03PC03	PLC	33473	2	1
Bunker Conveyors, 03PC03	PLC	33473	3	1
Bunker Conveyors, 03PC03	PLC	33473	4	1
Bunker Conveyors, 03PC03	PLC	33473	5	2
Bunker Conveyors, 03PC11	PLC	33474	1	1
Bunker Conveyors, 03PC11	PLC	33474	2	1
Bunker Conveyors, 03PC11	PLC	33474	3	3
Bunker Conveyors, 03PC12	PLC	33475	1	1
Bunker Conveyors, 03PC12	PLC	33475	2	1
Bunker Conveyors, 03PC12	PLC	33475	3	2
Bunker Conveyors, 03PC13	PLC	33476	1	1
Bunker Conveyors, 03PC13	PLC	33476	2	1
Bunker Conveyors, 03PC13	PLC	33476	3	4
Bunker Conveyors, 03PC21	PLC	33477	1	1
Bunker Conveyors, 03PC21	PLC	33477	2	1
Bunker Conveyors, 03PC21	PLC	33477	3	2
Bunker Conveyors, 03PC22	PLC	33478	1	1
Bunker Conveyors, 03PC22	PLC	33478	2	1
Bunker Conveyors, 03PC22	PLC	33478	3	2
Bunker Conveyors, 03PC23	PLC	33479	1	1
Bunker Conveyors, 03PC23	PLC	33479	2	1
Bunker Conveyors, 03PC23	PLC	33479	3	2
Bunker Conveyors, 04PC01	PLC	33497	1	1
Bunker Conveyors, 04PC01	PLC	33497	2	1
Bunker Conveyors, 04PC01	PLC	33497	3	1
Bunker Conveyors, 04PC01	PLC	33497	4	1
Bunker Conveyors, 04PC01	PLC	33497	5	2
Bunker Conveyors, 04PC01	PLC	33497	6	2
Bunker Conveyors, 04PC01	PLC	33497	7	3
Bunker Conveyors, 04PC01	PLC	33497	8	2
Bunker Conveyors, 04PC01	PLC	33497	9	2

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Area	Type	Drawing	Sheet	Revision
Bunker Conveyors, 04PC02	PLC	33498	1	1
Bunker Conveyors, 04PC02	PLC	33498	2	1
Bunker Conveyors, 04PC02	PLC	33498	3	1
Bunker Conveyors, 04PC02	PLC	33498	4	1
Bunker Conveyors, 04PC02	PLC	33498	5	1
Bunker Conveyors, 04PC02	PLC	33498	6	2
Bunker Conveyors, 04PC02	PLC	33498	7	2
Bunker Conveyors, 04PC02	PLC	33498	8	
Bunker Conveyors, 04PC02	PLC	33498	9	1
Bunker Conveyors, 04PC02	PLC	33498	10	1
Bunker Conveyors, 04PC02	PLC	33498	11	
Bunker Conveyors, 04PC03	PLC	33499	1	1
Bunker Conveyors, 04PC03	PLC	33499	2	1
Bunker Conveyors, 04PC03	PLC	33499	3	1
Bunker Conveyors, 04PC03	PLC	33499	4	1
Bunker Conveyors, 04PC03	PLC	33499	5	2
Bunker Conveyors, 04PC11	PLC	33500	1	1
Bunker Conveyors, 04PC11	PLC	33500	2	1
Bunker Conveyors, 04PC11	PLC	33500	3	2
Bunker Conveyors, 04PC12	PLC	33501	1	1
Bunker Conveyors, 04PC12	PLC	33501	2	1
Bunker Conveyors, 04PC12	PLC	33501	3	2
Bunker Conveyors, 04PC13	PLC	33502	1	1
Bunker Conveyors, 04PC13	PLC	33502	2	1
Bunker Conveyors, 04PC13	PLC	33502	3	4
Bunker Conveyors, 04PC21	PLC	33503	1	1
Bunker Conveyors, 04PC21	PLC	33503	2	1
Bunker Conveyors, 04PC21	PLC	33503	3	3
Bunker Conveyors, 04PC22	PLC	33504	1	1
Bunker Conveyors, 04PC22	PLC	33504	2	1
Bunker Conveyors, 04PC22	PLC	33504	3	2
Bunker Conveyors, 04PC23	PLC	33505	1	1
Bunker Conveyors, 04PC23	PLC	33505	2	1
Bunker Conveyors, 04PC23	PLC	33505	3	2
Bunker Conveyors, 05PC01	PLC	31185	1	1
Bunker Conveyors, 05PC01	PLC	31185	2	1
Bunker Conveyors, 05PC01	PLC	31185	3	1
Bunker Conveyors, 05PC01	PLC	31185	4	1
Bunker Conveyors, 05PC01	PLC	31185	5	1
Bunker Conveyors, 05PC01	PLC	31185	6	1
Bunker Conveyors, 05PC01	PLC	31185	7	2
Bunker Conveyors, 05PC01	PLC	31185	8	1
Bunker Conveyors, 05PC01	PLC	31185	9	1

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Area	Type	Drawing	Sheet	Revision
Bunker Conveyors, 05PC02	PLC	31186	1	1
Bunker Conveyors, 05PC02	PLC	31186	2	1
Bunker Conveyors, 05PC02	PLC	31186	3	1
Bunker Conveyors, 05PC02	PLC	31186	4	1
Bunker Conveyors, 05PC02	PLC	31186	5	1
Bunker Conveyors, 05PC02	PLC	31186	6	1
Bunker Conveyors, 05PC02	PLC	31186	7	1
Bunker Conveyors, 05PC02	PLC	31186	8	
Bunker Conveyors, 05PC02	PLC	31186	9	1
Bunker Conveyors, 05PC02	PLC	31186	10	1
Bunker Conveyors, 05PC02	PLC	31186	11	
Bunker Conveyors, 05PC03	PLC	31187	1	1
Bunker Conveyors, 05PC03	PLC	31187	2	1
Bunker Conveyors, 05PC03	PLC	31187	3	1
Bunker Conveyors, 05PC03	PLC	31187	4	1
Bunker Conveyors, 05PC03	PLC	31187	5	1
Bunker Conveyors, 05PC11	PLC	31188	1	1
Bunker Conveyors, 05PC11	PLC	31188	2	1
Bunker Conveyors, 05PC11	PLC	31188	3	2
Bunker Conveyors, 05PC12	PLC	31189	1	1
Bunker Conveyors, 05PC12	PLC	31189	2	1
Bunker Conveyors, 05PC12	PLC	31189	3	1
Bunker Conveyors, 05PC13	PLC	31190	1	1
Bunker Conveyors, 05PC13	PLC	31190	2	1
Bunker Conveyors, 05PC13	PLC	31190	3	4
Bunker Conveyors, 05PC21	PLC	31191	1	1
Bunker Conveyors, 05PC21	PLC	31191	2	1
Bunker Conveyors, 05PC21	PLC	31191	3	1
Bunker Conveyors, 05PC22	PLC	31192	1	1
Bunker Conveyors, 05PC22	PLC	31192	2	1
Bunker Conveyors, 05PC22	PLC	31192	3	1
Bunker Conveyors, 05PC23	PLC	31193	1	1
Bunker Conveyors, 05PC23	PLC	31193	2	1
Bunker Conveyors, 05PC23	PLC	31193	3	4
Bunker Conveyors, 06PC01	PLC	32414	1	1
Bunker Conveyors, 06PC01	PLC	32414	2	1
Bunker Conveyors, 06PC01	PLC	32414	3	1
Bunker Conveyors, 06PC01	PLC	32414	4	1
Bunker Conveyors, 06PC01	PLC	32414	5	1
Bunker Conveyors, 06PC01	PLC	32414	6	1
Bunker Conveyors, 06PC01	PLC	32414	7	2
Bunker Conveyors, 06PC01	PLC	32414	8	1
Bunker Conveyors, 06PC01	PLC	32414	9	1

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Area	Type	Drawing	Sheet	Revision
Bunker Conveyors, 06PC02	PLC	32415	1	1
Bunker Conveyors, 06PC02	PLC	32415	2	2
Bunker Conveyors, 06PC02	PLC	32415	3	1
Bunker Conveyors, 06PC02	PLC	32415	4	1
Bunker Conveyors, 06PC02	PLC	32415	5	1
Bunker Conveyors, 06PC02	PLC	32415	6	1
Bunker Conveyors, 06PC02	PLC	32415	7	1
Bunker Conveyors, 06PC02	PLC	32415	8	
Bunker Conveyors, 06PC02	PLC	32415	9	2
Bunker Conveyors, 06PC02	PLC	32415	10	2
Bunker Conveyors, 06PC02	PLC	32415	11	0
Bunker Conveyors, 06PC03	PLC	32416	1	2
Bunker Conveyors, 06PC03	PLC	32416	2	2
Bunker Conveyors, 06PC03	PLC	32416	3	1
Bunker Conveyors, 06PC03	PLC	32416	4	1
Bunker Conveyors, 06PC03	PLC	32416	5	1
Bunker Conveyors, 06PC11	PLC	32417	1	2
Bunker Conveyors, 06PC11	PLC	32417	2	1
Bunker Conveyors, 06PC11	PLC	32417	3	1
Bunker Conveyors, 06PC12	PLC	32418	1	2
Bunker Conveyors, 06PC12	PLC	32418	2	1
Bunker Conveyors, 06PC12	PLC	32418	3	1
Bunker Conveyors, 06PC13	PLC	32419	1	2
Bunker Conveyors, 06PC13	PLC	32419	2	1
Bunker Conveyors, 06PC13	PLC	32419	3	3
Bunker Conveyors, 06PC21	PLC	32420	1	2
Bunker Conveyors, 06PC21	PLC	32420	2	1
Bunker Conveyors, 06PC21	PLC	32420	3	2
Bunker Conveyors, 06PC22	PLC	32421	1	2
Bunker Conveyors, 06PC22	PLC	32421	2	1
Bunker Conveyors, 06PC22	PLC	32421	3	1
Bunker Conveyors, 06PC23	PLC	32422	1	2
Bunker Conveyors, 06PC23	PLC	32422	2	1
Bunker Conveyors, 06PC23	PLC	32422	3	1
Silo Chutes, 00PK11	PLC	32160	1	3
Silo Chutes, 00PK11	PLC	32160	2	3
Silo Chutes, 00PK11	PLC	32160	3	6
Silo Chutes, 00PK12	PLC	32161	1	3
Silo Chutes, 00PK12	PLC	32161	2	3
Silo Chutes, 00PK12	PLC	32161	3	6
Silo Chutes, 00PK13	PLC	32162	1	3
Silo Chutes, 00PK13	PLC	32162	2	3
Silo Chutes, 00PK13	PLC	32162	3	5

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Area	Type	Drawing	Sheet	Revision
Silo Chutes, 00PK14	PLC	32177	1	2
Silo Chutes, 00PK14	PLC	32177	2	1
Silo Chutes, 00PK14	PLC	32177	3	2
Silo Chutes, 00PK15	PLC	32178	1	2
Silo Chutes, 00PK15	PLC	32178	2	1
Silo Chutes, 00PK15	PLC	32178	3	2
Silo Chutes, 00PK16	PLC	32179	1	4
Silo Chutes, 00PK21	PLC	32227	1	3
Silo Chutes, 00PK21	PLC	32227	2	3
Silo Chutes, 00PK21	PLC	32227	3	5
Silo Chutes, 00PK22	PLC	32228	1	2
Silo Chutes, 00PK22	PLC	32228	2	3
Silo Chutes, 00PK22	PLC	32228	3	5
Silo Chutes, 00PK23	PLC	32229	1	3
Silo Chutes, 00PK23	PLC	32229	2	3
Silo Chutes, 00PK23	PLC	32229	3	6
Silo Chutes, 00PK24	PLC	32243	1	2
Silo Chutes, 00PK24	PLC	32243	2	1
Silo Chutes, 00PK24	PLC	32243	3	4
Silo Chutes, 00PK25	PLC	32244	1	2
Silo Chutes, 00PK25	PLC	32244	2	1
Silo Chutes, 00PK25	PLC	32244	3	4
Silo Chutes, 00PK26	PLC	32245	1	4
Silo Conveyors, 00PC11	PLC	32157	1	3
Silo Conveyors, 00PC11	PLC	32157	2	3
Silo Conveyors, 00PC11	PLC	32157	3	3
Silo Conveyors, 00PC11	PLC	32157	4	3
Silo Conveyors, 00PC11	PLC	32157	5	3
Silo Conveyors, 00PC11	PLC	32157	6	5
Silo Conveyors, 00PC11	PLC	32157	7	5
Silo Conveyors, 00PC11	PLC	32157	8	5
Silo Conveyors, 00PC12	PLC	32158	1	3
Silo Conveyors, 00PC12	PLC	32158	2	3
Silo Conveyors, 00PC12	PLC	32158	3	4
Silo Conveyors, 00PC12	PLC	32158	4	4
Silo Conveyors, 00PC13	PLC	32159	1	3
Silo Conveyors, 00PC13	PLC	32159	2	3
Silo Conveyors, 00PC13	PLC	32159	3	4
Silo Conveyors, 00PC13	PLC	32159	4	4
Silo Conveyors, 00PC14	PLC	32174	1	2
Silo Conveyors, 00PC14	PLC	32174	2	1
Silo Conveyors, 00PC14	PLC	32174	3	2
Silo Conveyors, 00PC14	PLC	32174	4	3

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Area	Type	Drawing	Sheet	Revision
Silo Conveyors, 00PC15	PLC	32175	1	2
Silo Conveyors, 00PC15	PLC	32175	2	1
Silo Conveyors, 00PC15	PLC	32175	3	4
Silo Conveyors, 00PC15	PLC	32175	4	3
Silo Conveyors, 00PC16	PLC	32176	1	2
Silo Conveyors, 00PC16	PLC	32176	2	1
Silo Conveyors, 00PC16	PLC	32176	3	4
Silo Conveyors, 00PC16	PLC	32176	4	3
Silo Conveyors, 00PC21	PLC	32224	1	3
Silo Conveyors, 00PC21	PLC	32224	2	3
Silo Conveyors, 00PC21	PLC	32224	3	
Silo Conveyors, 00PC21	PLC	32224	4	
Silo Conveyors, 00PC21	PLC	32224	5	3
Silo Conveyors, 00PC21	PLC	32224	6	4
Silo Conveyors, 00PC21	PLC	32224	7	5
Silo Conveyors, 00PC21	PLC	32224	8	5
Silo Conveyors, 00PC22	PLC	32225	1	3
Silo Conveyors, 00PC22	PLC	32225	2	3
Silo Conveyors, 00PC22	PLC	32225	3	4
Silo Conveyors, 00PC22	PLC	32225	4	4
Silo Conveyors, 00PC23	PLC	32226	1	3
Silo Conveyors, 00PC23	PLC	32226	2	3
Silo Conveyors, 00PC23	PLC	32226	3	4
Silo Conveyors, 00PC23	PLC	32226	4	4
Silo Conveyors, 00PC24	PLC	32240	1	2
Silo Conveyors, 00PC24	PLC	32240	2	1
Silo Conveyors, 00PC24	PLC	32240	3	4
Silo Conveyors, 00PC24	PLC	32240	4	3
Silo Conveyors, 00PC25	PLC	32241	1	2
Silo Conveyors, 00PC25	PLC	32241	2	1
Silo Conveyors, 00PC25	PLC	32241	3	3
Silo Conveyors, 00PC25	PLC	32241	4	3
Silo Conveyors, 00PC26	PLC	32242	1	2
Silo Conveyors, 00PC26	PLC	32242	2	1
Silo Conveyors, 00PC26	PLC	32242	3	4
Silo Conveyors, 00PC26	PLC	32242	4	3

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**Table 8: Junction box drawings**

Area	Type	Drawing	Sheet	Revision
Ash Chutes, 00WA15	JB	31459	1	4
Ash Chutes, 00WA15	JB	31459	2	3
Ash Chutes, 00WA15	JB	31459	3	2
Ash Chutes, 00WA25	JB	31460	1	4
Ash Chutes, 00WA25	JB	31460	2	3
Ash Chutes, 00WA25	JB	31460	3	2
Ash Chutes, 00WC11	JB	19335	1	4
Ash Chutes, 00WC11	JB	19335	2	3
Ash Chutes, 00WC12	JB	19338	1	4
Ash Chutes, 00WC12	JB	19338	2	5
Ash Chutes, 00WC13	JB	19340	1	6
Ash Chutes, 00WC13	JB	19340	2	7
Ash Chutes, 00WC21	JB	19337	1	5
Ash Chutes, 00WC21	JB	19337	2	3
Ash Chutes, 00WC22	JB	19339	1	4
Ash Chutes, 00WC22	JB	19339	2	6
Ash Chutes, 00WC23	JB	19341	1	6
Ash Chutes, 00WC23	JB	19341	2	8
Ash Chutes, 00WF31	JB	33888	1	3
Ash Chutes, 00WF31	JB	33888	2	5
Ash Chutes, 00WF41	JB	33875	1	3
Ash Chutes, 00WF41	JB	33875	2	4
Ash Chutes, 00WF51	JB	27074	1	2
Ash Chutes, 00WF51	JB	27074	2	3
Ash Chutes, 00WF61	JB	33901	1	1
Ash Chutes, 00WF61	JB	33901	2	2
Ash Chutes, 00WF71	JB	32674	1	1
Ash Chutes, 00WF71	JB	32674	2	2
Ash Chutes, 00WF81	JB	31274	1	1
Ash Chutes, 00WF81	JB	31274	2	2
Ash Conveyors, 00WA15	JB	31459	1	4
Ash Conveyors, 00WA15	JB	31459	2	3
Ash Conveyors, 00WA15	JB	31459	3	2
Ash Conveyors, 00WA25	JB	31460	1	4
Ash Conveyors, 00WA25	JB	31460	2	3
Ash Conveyors, 00WA25	JB	31460	3	2
Ash Conveyors, 00WC11	JB	19334	1	7
Ash Conveyors, 00WC11	JB	19334	2	5
Ash Conveyors, 00WC12	JB	19338	1	4
Ash Conveyors, 00WC12	JB	19338	2	5
Ash Conveyors, 00WC13	JB	19340	1	6

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Area	Type	Drawing	Sheet	Revision
Ash Conveyors, 00WC13	JB	19340	2	7
Ash Conveyors, 00WC13	JB	33631	1	2
Ash Conveyors, 00WC13	JB	33632	1	2
Ash Conveyors, 00WC14	JB	19342	1	7
Ash Conveyors, 00WC14	JB	19342	2	3
Ash Conveyors, 00WC14	JB	19346	1	3
Ash Conveyors, 00WC14	JB	19347	1	3
Ash Conveyors, 00WC21	JB	19336	1	5
Ash Conveyors, 00WC21	JB	19336	2	5
Ash Conveyors, 00WC22	JB	19339	1	4
Ash Conveyors, 00WC22	JB	19339	2	6
Ash Conveyors, 00WC23	JB	19341	1	6
Ash Conveyors, 00WC23	JB	19341	2	8
Ash Conveyors, 00WC23	JB	33631	1	2
Ash Conveyors, 00WC23	JB	33632	1	2
Ash Conveyors, 00WC24	JB	19344	1	8
Ash Conveyors, 00WC24	JB	19344	2	4
Ash Conveyors, 00WC24	JB	19346	1	3
Ash Conveyors, 00WC24	JB	19347	1	3
Ash Conveyors, 00WF31	JB	33888	1	3
Ash Conveyors, 00WF31	JB	33888	2	5
Ash Conveyors, 00WF41	JB	33875	1	3
Ash Conveyors, 00WF41	JB	33875	2	4
Ash Conveyors, 00WF51	JB	27074	1	2
Ash Conveyors, 00WF51	JB	27074	2	3
Ash Conveyors, 00WF61	JB	33901	1	1
Ash Conveyors, 00WF61	JB	33901	2	2
Ash Conveyors, 00WF71	JB	32674	1	1
Ash Conveyors, 00WF71	JB	32674	2	2
Ash Conveyors, 00WF81	JB	31274	1	1
Ash Conveyors, 00WF81	JB	31274	2	2
Bunker Chutes, 01PC03	JB	19201	1	2
Bunker Chutes, 01PC03	JB	19201	2	4
Bunker Chutes, 01PK02	JB	19202	1	6
Bunker Chutes, 01PK02	JB	19202	2	4
Bunker Chutes, 01PK11	JB	19203	1	5
Bunker Chutes, 01PK11	JB	19203	2	6
Bunker Chutes, 01PK12	JB	19203	1	5
Bunker Chutes, 01PK12	JB	19203	2	6
Bunker Chutes, 01PK21	JB	19204	1	4
Bunker Chutes, 01PK21	JB	19204	2	6
Bunker Chutes, 01PK22	JB	19204	1	4
Bunker Chutes, 01PK22	JB	19204	2	6

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Area	Type	Drawing	Sheet	Revision
Bunker Chutes, 02PC03	JB	25253	1	1
Bunker Chutes, 02PC03	JB	25253	2	3
Bunker Chutes, 02PK02	JB	25254	1	2
Bunker Chutes, 02PK02	JB	25254	2	2
Bunker Chutes, 02PK11	JB	25255	1	3
Bunker Chutes, 02PK11	JB	25255	2	3
Bunker Chutes, 02PK12	JB	25255	1	3
Bunker Chutes, 02PK12	JB	25255	2	3
Bunker Chutes, 02PK21	JB	25256	1	3
Bunker Chutes, 02PK21	JB	25256	2	3
Bunker Chutes, 02PK22	JB	25256	1	3
Bunker Chutes, 02PK22	JB	25256	2	3
Bunker Chutes, 03PC03	JB	33551	1	1
Bunker Chutes, 03PC03	JB	33551	2	3
Bunker Chutes, 03PK02	JB	33552	1	2
Bunker Chutes, 03PK02	JB	33552	2	4
Bunker Chutes, 03PK11	JB	33553	1	3
Bunker Chutes, 03PK11	JB	33553	2	5
Bunker Chutes, 03PK12	JB	33553	1	3
Bunker Chutes, 03PK12	JB	33553	2	5
Bunker Chutes, 03PK21	JB	33554	1	3
Bunker Chutes, 03PK21	JB	33554	2	5
Bunker Chutes, 03PK22	JB	33554	1	3
Bunker Chutes, 03PK22	JB	33554	2	5
Bunker Chutes, 04PC03	JB	33569	1	1
Bunker Chutes, 04PC03	JB	33569	2	2
Bunker Chutes, 04PK02	JB	33570	1	5
Bunker Chutes, 04PK02	JB	33570	2	4
Bunker Chutes, 04PK11	JB	33571	1	3
Bunker Chutes, 04PK11	JB	33571	2	5
Bunker Chutes, 04PK12	JB	33571	1	3
Bunker Chutes, 04PK12	JB	33571	2	5
Bunker Chutes, 04PK21	JB	33572	1	3
Bunker Chutes, 04PK21	JB	33572	2	5
Bunker Chutes, 04PK22	JB	33572	1	3
Bunker Chutes, 04PK22	JB	33572	2	5
Bunker Chutes, 05PC03	JB	31211	1	1
Bunker Chutes, 05PC03	JB	31211	2	1
Bunker Chutes, 05PK02	JB	31212	1	1
Bunker Chutes, 05PK02	JB	31212	2	1
Bunker Chutes, 05PK11	JB	31213	1	2
Bunker Chutes, 05PK11	JB	31213	2	4
Bunker Chutes, 05PK12	JB	31213	1	2

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Area	Type	Drawing	Sheet	Revision
Bunker Chutes, 05PK12	JB	31213	2	4
Bunker Chutes, 05PK21	JB	31214	1	3
Bunker Chutes, 05PK21	JB	31214	2	4
Bunker Chutes, 05PK22	JB	31214	1	3
Bunker Chutes, 05PK22	JB	31214	2	4
Bunker Chutes, 06PC03	JB	32442	1	1
Bunker Chutes, 06PC03	JB	32442	2	2
Bunker Chutes, 06PK02	JB	32443	1	2
Bunker Chutes, 06PK02	JB	32443	2	2
Bunker Chutes, 06PK11	JB	32444	1	2
Bunker Chutes, 06PK11	JB	32444	2	2
Bunker Chutes, 06PK12	JB	32444	1	2
Bunker Chutes, 06PK12	JB	32444	2	2
Bunker Chutes, 06PK21	JB	32445	1	2
Bunker Chutes, 06PK21	JB	32445	2	2
Bunker Chutes, 06PK22	JB	32445	1	2
Bunker Chutes, 06PK22	JB	32445	2	2
Bunker Conveyors, 01PC01	JB	19199	1	4
Bunker Conveyors, 01PC01	JB	19199	2	5
Bunker Conveyors, 01PC02	JB	19200	1	4
Bunker Conveyors, 01PC02	JB	19200	2	2
Bunker Conveyors, 01PC02	JB	19201	1	2
Bunker Conveyors, 01PC02	JB	19201	2	4
Bunker Conveyors, 01PC03	JB	19201	1	2
Bunker Conveyors, 01PC03	JB	19201	2	4
Bunker Conveyors, 01PC11	JB	19202	1	6
Bunker Conveyors, 01PC11	JB	19202	2	4
Bunker Conveyors, 01PC11	JB	19203	1	5
Bunker Conveyors, 01PC11	JB	19203	2	6
Bunker Conveyors, 01PC12	JB	19203	1	5
Bunker Conveyors, 01PC12	JB	19203	2	6
Bunker Conveyors, 01PC13	JB	19205	1	3
Bunker Conveyors, 01PC13	JB	19205	2	5
Bunker Conveyors, 01PC21	JB	19202	1	6
Bunker Conveyors, 01PC21	JB	19202	2	4
Bunker Conveyors, 01PC21	JB	19204	1	4
Bunker Conveyors, 01PC21	JB	19204	2	6
Bunker Conveyors, 01PC22	JB	19204	1	4
Bunker Conveyors, 01PC22	JB	19204	2	6
Bunker Conveyors, 01PC23	JB	19206	1	3
Bunker Conveyors, 01PC23	JB	19206	2	5
Bunker Conveyors, 02PC01	JB	25251	1	5
Bunker Conveyors, 02PC01	JB	25251	2	4

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Area	Type	Drawing	Sheet	Revision
Bunker Conveyors, 02PC02	JB	25252	1	2
Bunker Conveyors, 02PC02	JB	25252	2	1
Bunker Conveyors, 02PC02	JB	25253	1	1
Bunker Conveyors, 02PC02	JB	25253	2	3
Bunker Conveyors, 02PC03	JB	25253	1	1
Bunker Conveyors, 02PC03	JB	25253	2	3
Bunker Conveyors, 02PC11	JB	25254	1	2
Bunker Conveyors, 02PC11	JB	25254	2	2
Bunker Conveyors, 02PC11	JB	25255	1	3
Bunker Conveyors, 02PC11	JB	25255	2	3
Bunker Conveyors, 02PC12	JB	25255	1	3
Bunker Conveyors, 02PC12	JB	25255	2	3
Bunker Conveyors, 02PC13	JB	25257	1	2
Bunker Conveyors, 02PC13	JB	25257	2	6
Bunker Conveyors, 02PC21	JB	25254	1	2
Bunker Conveyors, 02PC21	JB	25254	2	2
Bunker Conveyors, 02PC21	JB	25256	1	3
Bunker Conveyors, 02PC21	JB	25256	2	3
Bunker Conveyors, 02PC22	JB	25256	1	3
Bunker Conveyors, 02PC22	JB	25256	2	3
Bunker Conveyors, 02PC23	JB	25258	1	2
Bunker Conveyors, 02PC23	JB	25258	2	4
Bunker Conveyors, 03PC01	JB	33549	1	4
Bunker Conveyors, 03PC01	JB	33549	2	3
Bunker Conveyors, 03PC02	JB	33550	1	2
Bunker Conveyors, 03PC02	JB	33550	2	2
Bunker Conveyors, 03PC02	JB	33551	1	1
Bunker Conveyors, 03PC02	JB	33551	2	3
Bunker Conveyors, 03PC03	JB	33551	1	1
Bunker Conveyors, 03PC03	JB	33551	2	3
Bunker Conveyors, 03PC11	JB	33552	1	2
Bunker Conveyors, 03PC11	JB	33552	2	4
Bunker Conveyors, 03PC11	JB	33553	1	3
Bunker Conveyors, 03PC11	JB	33553	2	5
Bunker Conveyors, 03PC12	JB	33553	1	3
Bunker Conveyors, 03PC12	JB	33553	2	5
Bunker Conveyors, 03PC13	JB	33555	1	2
Bunker Conveyors, 03PC13	JB	33555	2	5
Bunker Conveyors, 03PC21	JB	33552	1	2
Bunker Conveyors, 03PC21	JB	33552	2	4
Bunker Conveyors, 03PC21	JB	33554	1	3
Bunker Conveyors, 03PC21	JB	33554	2	5
Bunker Conveyors, 03PC22	JB	33554	1	3

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Area	Type	Drawing	Sheet	Revision
Bunker Conveyors, 03PC22	JB	33554	2	5
Bunker Conveyors, 03PC23	JB	33556	1	2
Bunker Conveyors, 03PC23	JB	33556	2	4
Bunker Conveyors, 04PC01	JB	33567	1	4
Bunker Conveyors, 04PC01	JB	33567	2	3
Bunker Conveyors, 04PC02	JB	33568	1	2
Bunker Conveyors, 04PC02	JB	33568	2	1
Bunker Conveyors, 04PC02	JB	33569	1	1
Bunker Conveyors, 04PC02	JB	33569	2	2
Bunker Conveyors, 04PC03	JB	33569	1	1
Bunker Conveyors, 04PC03	JB	33569	2	2
Bunker Conveyors, 04PC11	JB	33570	1	5
Bunker Conveyors, 04PC11	JB	33570	2	4
Bunker Conveyors, 04PC11	JB	33571	1	3
Bunker Conveyors, 04PC11	JB	33571	2	5
Bunker Conveyors, 04PC12	JB	33571	1	3
Bunker Conveyors, 04PC12	JB	33571	2	5
Bunker Conveyors, 04PC13	JB	33573	1	2
Bunker Conveyors, 04PC13	JB	33573	2	3
Bunker Conveyors, 04PC21	JB	33570	1	5
Bunker Conveyors, 04PC21	JB	33570	2	4
Bunker Conveyors, 04PC21	JB	33572	1	3
Bunker Conveyors, 04PC21	JB	33572	2	5
Bunker Conveyors, 04PC22	JB	33572	1	3
Bunker Conveyors, 04PC22	JB	33572	2	5
Bunker Conveyors, 04PC23	JB	33574	1	2
Bunker Conveyors, 04PC23	JB	33574	2	4
Bunker Conveyors, 05PC01	JB	31209	1	3
Bunker Conveyors, 05PC01	JB	31209	2	2
Bunker Conveyors, 05PC02	JB	31210	1	1
Bunker Conveyors, 05PC02	JB	31210	2	1
Bunker Conveyors, 05PC02	JB	31211	1	1
Bunker Conveyors, 05PC02	JB	31211	2	1
Bunker Conveyors, 05PC03	JB	31211	1	1
Bunker Conveyors, 05PC03	JB	31211	2	1
Bunker Conveyors, 05PC11	JB	31212	1	1
Bunker Conveyors, 05PC11	JB	31212	2	1
Bunker Conveyors, 05PC11	JB	31213	1	2
Bunker Conveyors, 05PC11	JB	31213	2	4
Bunker Conveyors, 05PC12	JB	31213	1	2
Bunker Conveyors, 05PC12	JB	31213	2	4
Bunker Conveyors, 05PC13	JB	31215	1	1
Bunker Conveyors, 05PC13	JB	31215	2	4

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Area	Type	Drawing	Sheet	Revision
Bunker Conveyors, 05PC21	JB	31212	1	1
Bunker Conveyors, 05PC21	JB	31212	2	1
Bunker Conveyors, 05PC21	JB	31214	1	3
Bunker Conveyors, 05PC21	JB	31214	2	4
Bunker Conveyors, 05PC22	JB	31214	1	3
Bunker Conveyors, 05PC22	JB	31214	2	4
Bunker Conveyors, 05PC23	JB	31216	1	1
Bunker Conveyors, 05PC23	JB	31216	2	4
Bunker Conveyors, 06PC01	JB	32440	1	4
Bunker Conveyors, 06PC01	JB	32440	2	3
Bunker Conveyors, 06PC02	JB	32441	1	2
Bunker Conveyors, 06PC02	JB	32441	2	1
Bunker Conveyors, 06PC02	JB	32442	1	1
Bunker Conveyors, 06PC02	JB	32442	2	2
Bunker Conveyors, 06PC03	JB	32442	1	1
Bunker Conveyors, 06PC03	JB	32442	2	2
Bunker Conveyors, 06PC11	JB	32443	1	2
Bunker Conveyors, 06PC11	JB	32443	2	2
Bunker Conveyors, 06PC11	JB	32444	1	2
Bunker Conveyors, 06PC11	JB	32444	2	2
Bunker Conveyors, 06PC12	JB	32444	1	2
Bunker Conveyors, 06PC12	JB	32444	2	2
Bunker Conveyors, 06PC13	JB	32446	1	2
Bunker Conveyors, 06PC13	JB	32446	2	1
Bunker Conveyors, 06PC21	JB	32443	1	2
Bunker Conveyors, 06PC21	JB	32443	2	2
Bunker Conveyors, 06PC21	JB	32445	1	2
Bunker Conveyors, 06PC21	JB	32445	2	2
Bunker Conveyors, 06PC22	JB	32445	1	2
Bunker Conveyors, 06PC22	JB	32445	2	2
Bunker Conveyors, 06PC23	JB	32447	1	2
Bunker Conveyors, 06PC23	JB	32447	2	4
Silo Chutes, 00PK11	JB	19186	1	3
Silo Chutes, 00PK11	JB	19186	2	4
Silo Chutes, 00PK12	JB	19187	1	5
Silo Chutes, 00PK12	JB	19187	2	5
Silo Chutes, 00PK13	JB	19188	1	3
Silo Chutes, 00PK13	JB	19188	2	3
Silo Chutes, 00PK14	JB	32197	1	4
Silo Chutes, 00PK14	JB	32197	2	4
Silo Chutes, 00PK15	JB	32198	1	3
Silo Chutes, 00PK15	JB	32198	2	2
Silo Chutes, 00PK16	JB	32199	1	3

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Area	Type	Drawing	Sheet	Revision
Silo Chutes, 00PK16	JB	32199	2	3
Silo Chutes, 00PK21	JB	19196	1	3
Silo Chutes, 00PK21	JB	19196	2	4
Silo Chutes, 00PK22	JB	19197	1	4
Silo Chutes, 00PK22	JB	19197	2	4
Silo Chutes, 00PK23	JB	19198	1	3
Silo Chutes, 00PK23	JB	19198	2	3
Silo Chutes, 00PK24	JB	32262	1	4
Silo Chutes, 00PK24	JB	32262	2	4
Silo Chutes, 00PK25	JB	32263	1	4
Silo Chutes, 00PK25	JB	32263	2	3
Silo Chutes, 00PK26	JB	32264	1	4
Silo Chutes, 00PK26	JB	32264	2	4
Silo Conveyors, 00PC11	JB	19185	1	6
Silo Conveyors, 00PC11	JB	19185	2	4
Silo Conveyors, 00PC11	JB	19186	1	3
Silo Conveyors, 00PC11	JB	19186	2	4
Silo Conveyors, 00PC12	JB	19186	1	3
Silo Conveyors, 00PC12	JB	19186	2	4
Silo Conveyors, 00PC12	JB	19187	1	5
Silo Conveyors, 00PC12	JB	19187	2	5
Silo Conveyors, 00PC13	JB	19187	1	5
Silo Conveyors, 00PC13	JB	19187	2	5
Silo Conveyors, 00PC13	JB	19188	1	3
Silo Conveyors, 00PC13	JB	19188	2	3
Silo Conveyors, 00PC14	JB	32197	1	4
Silo Conveyors, 00PC14	JB	32197	2	4
Silo Conveyors, 00PC15	JB	32197	1	4
Silo Conveyors, 00PC15	JB	32197	2	4
Silo Conveyors, 00PC15	JB	32198	1	3
Silo Conveyors, 00PC15	JB	32198	2	2
Silo Conveyors, 00PC16	JB	32198	1	3
Silo Conveyors, 00PC16	JB	32198	2	2
Silo Conveyors, 00PC16	JB	32199	1	3
Silo Conveyors, 00PC16	JB	32199	2	3
Silo Conveyors, 00PC21	JB	19195	1	5
Silo Conveyors, 00PC21	JB	19195	2	4
Silo Conveyors, 00PC21	JB	19196	1	3
Silo Conveyors, 00PC21	JB	19196	2	4
Silo Conveyors, 00PC22	JB	19196	1	3
Silo Conveyors, 00PC22	JB	19196	2	4
Silo Conveyors, 00PC22	JB	32197	1	4
Silo Conveyors, 00PC22	JB	32197	2	4

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Area	Type	Drawing	Sheet	Revision
Silo Conveyors, 00PC23	JB	32197	1	4
Silo Conveyors, 00PC23	JB	32197	2	4
Silo Conveyors, 00PC23	JB	32198	1	3
Silo Conveyors, 00PC23	JB	32198	2	2
Silo Conveyors, 00PC24	JB	32262	1	4
Silo Conveyors, 00PC24	JB	32262	2	4
Silo Conveyors, 00PC25	JB	32262	1	4
Silo Conveyors, 00PC25	JB	32262	2	4
Silo Conveyors, 00PC25	JB	32263	1	4
Silo Conveyors, 00PC25	JB	32263	2	3
Silo Conveyors, 00PC26	JB	32263	1	4
Silo Conveyors, 00PC26	JB	32263	2	3
Silo Conveyors, 00PC26	JB	32264	1	4
Silo Conveyors, 00PC26	JB	32264	2	4

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F. LIMIT OF SCOPE AND SERVICES (LOSS)



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G. VENDOR DOCUMENT SUBMITTAL SCHEDULE (VDSS)



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