0078804

U.S. Department of Energy

Office of River Protection

BECHTEL

SEP 17 2008

08-ESQ-183

CCN: 186804

RECEIVED
OCT 01 2008
EDMC

Mr. Jay Manning, Director
Washington State
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504

Dear Mr. Manning:

COMPLETION OF DANGEROUS WASTE PERMIT COMPLIANCE SCHEDULE ITEM 37 – MECHANICAL HANDLING DIAGRAMS AND DATA SHEETS

Reference: WA7890008967, "Dangerous Waste Portion of the Hanford Facility Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste," Part III, Operating Unit 10, "Waste Treatment and Immobilization Plant," Attachment 51, Appendix 1.

This letter transmits mechanical handling diagrams and data sheets for nine lifting devices identified in the Reference Permit Condition III.10.C.15.a.i.B. Submittal of these documents to the Washington State Department of Ecology will complete Dangerous Waste Permit Interim Compliance Schedule Item 37.

The attached information was shared in advance with Mr. Edward A. Fredenburg, of your staff, and comments were resolved.

If you have any questions, please contact Lori A. Huffman, U.S. Department of Energy, Office of River Protection, (509) 376-0104, or Brad Erlandson, Bechtel National, Inc., (509) 371-3428.

Shirley J. Olinger, Manager
Office of River Protection

W. S. Elkins, Project Director
Bechtel National, Inc.

ESQ:LAH

Attachment

cc: See page 2

cc w/attach:
W. S. Elkins, BNI
B. G. Erlandson, BNI
J. A. Hedges, Ecology
B. Becker-Khaleel, Ecology
A. C. McKarns, RL
Administrative Record (WTP H-0-8)
BNI Correspondence
Environmental Portal, LMSI

cc w/o attach:
G. R. Ashley, BNI
J. M. Colby, BNI
S. S. Crawford, BNI
J. M. Dunkirk, BNI
N. F. Grover, BNI
D. A. Klein, BNI
D. F. Leeth, BNI
P. E. Peistrup, BNI
L. J. Simmons, BNI
J. Cox, CTUIR
S. G. Harris, CTUIR
S. L. Dahl, Ecology
S. Thompson, FH
G. P. Bohnee, NPT
S. R. Weil, RL
R. Jim, YN

Attachment
08-ESQ-183

Mechanical Handling Diagrams and Data Sheets

	Data Sheets	**Diagrams**
1	24590-HLW-M0D-HDH-00021	24590-HLW-M7-HDH-00001005
2	24590-HLW-M0D-HEH-00021	24590-HLW-M7-HEH-00001005
3	24590-HLW-M0D-HEH-00025	24590-HLW-M7-HEH-00001004
4	24590-HLW-M0D-HPH-00063	24590-HLW-M7-HPH-00001001
5	24590-HLW-M0D-HPH-00064	24590-HLW-M7-HPH-00001002
6	24590-HLW-M0D-HSH-00013	24590-HLW-M7-HSH-00001002
7	24590-HLW-M0D-HSH-00181	24590-HLW-M7-HSH-00002002
8	24590-LAW-M0D-LEH-00014	24590-LAW-M7-LEH-00002002
9	24590-LAW-M0D-LPH-00003	24590-LAW-M7-LPH-00001004

U.S. Department of Energy, Office of River Protection Certification

The following certification statement is provided for the submittal of dangerous waste permit compliance schedule item 37 – Mechanical Handling diagrams and data sheets.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

S. J. Olinger, Manager
U.S. Department of Energy,
Office of River Protection

9/17/08
Date

Bechtel National, Inc. Certification

The following certification statement is provided consistent with Contract No. DE-AC27-01RV14136, Section H.26, Environmental Permits, paragraph (g) for the submittal of dangerous waste permit compliance schedule item 37 - Mechanical Handling diagrams and data sheets.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

W. S. Elkins
Project Director

July 22 2008
Date

BECHTEL	**Mechanical Handling Data Sheet** Top Running, Double Girder	CM 3	Data Sheet No. 24590-HLW-M0D-HDH-00021 Plant Item No. 24590-HLW-MJ-HDH-CRN-00005 Rev. 3

Project	RPP-WTP	Description	Decontamination Swabbing and Monitoring Crane
Project No.	24590	Supporting Calculation No.	N/A 3
Planning Area		Associated Drawing No.	N/A
System No.	HDH	Associated Specification No.	24590-WTP-3PS-MJKG-T0003
Building No.	30	Associated MR No.	24590-QL-MRA-MJKG-00002
Quality Level	►CM 3		
Seismic Criteria	SC-II		
Function	Canister Handling and Maintenance Activities		

R10704039

ISSUED BY RPP-WTP PDC

DESIGN CRITERIA

Design Life	40 years	Safety Classification 3	►APC

OPERATING ENVIRONMENT			In-Cave Rm # H-0133		Out-Cave Rm # H-313A		List All Special
			Min	Max	Min	Max	Conditions
Temperature		deg F	59	113	59	113	
Relative Humidity		%	0	70	0	70	
Radiological Equip. Dose	gamma	mrad/hr	►4.0*E+4 3		►100 3		
	neutron	mrad/hr	Negligible		Negligible		
Radiological Classification			►R3/R5 3		►R3/R5 3		
Contamination Classification			C3		►C3 3		

CRANE REQUIREMENTS

Type of Crane	Top Running Double Girder Electric Overhead Traveling Crane		Tons
Service Information	CMAA 70-2000, Class E	Capacity	6 Ton
Crane Operation Indoors?	Yes, In-Cave	Main Hoist	6 Ton
Material Handled	Canisters and Ancillary Equipment	Auxiliary Hoist	N/A
Class Information	Class E	Trolley	6 Ton
No. of Cranes Required	1	Bridge	6 Ton
ASCE Rail Type or Beam Size	► 104 lb/yd Crane Rail 3		

OPERATING CHARACTERISTICS - FREQUENCY OF MOVEMENT

Hoist- Range of Lift	(F) - (G)	No. lifts/day	6
Average Moves - Bridge	1/2 Runway Length	Moves/day	12
Average Moves - Trolley	3/4 Bridge Length	Moves/day	6

CRANE DIMENSIONS AND ELEVATIONS	Symbol	ft - in.
Lowest Obstruction Elevation	(A)	46-6"
Shield Door Corner Obstruction Elevation	(B)	46'-0"
Trolley Rail Elevation	(C)	41'-11" NOMINAL
Bridge Rail Elevation	(D)	40'-3.5"
Lowest Point of Crane Elevation	(E)	39'-9"
High Hook Elevation	(F)	38'-6"
Low Hook Elevation	(G)	-9'-0"
Side Approach - hoist center line to West Rails	(H)	3'-4"
Side Approach - hoist center line to East Rails	(I)	3'-4"
Distance from Grid line "17" to inside face of West Wall	(J)	-1'-9"
Distance from hoist center line to end-truck South bumper	(K) 3	►5'-9"
Distance from hoist center line to end-truck North bumper	(L) 3	►7'-2"
Distance from hoist center line to In-Cave South Wall	(M) 3	►5'-9"
Distance from hoist center line to CMA North Wall	(N) 3	►7'-2"
Distance from Grid Line "R" to inside face of South Wall	(O)	0'-8"
Total distance between inside wall faces of CMA and Cave	(P)	107'-0"
Range of Lift	(R)	47'-6"
Runway Rails Span	(S)	9'-8"
Shield Door Corner Obstruction	(T)	0'-6"

Date	REV	Revisions	By	Checked	Supervisor	Approved
8/10/06	3	See note 13	N J Darwen	A. Whitford CT	P. Snider SLW	D. Wilsey FOR
09/08/03	2	See note 12	A. Whitford	L. Harrison	G. Marr	D. Wilsey
11/27/02	1	See note 11	David Horton	Paul Carter	Joni Weamer/ Jim Brower	Dave Wilsey
02/26/02	0	Issued for Procurement	Joeseph Roach	Andy Whitford	Jim Brower	Dave Wilsey

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-HLW-M0D-HDH-00021	
	Plant Item No. 24590-HLW-MJ-HDH-CRN-00005	Rev. 3

DRIVE TYPE SPEED AND HORSEPOWER

Drives	Drive Type	Speed	Horsepower		Slow	Fast
Main Hoist Drive Type	Flux Vector	Variable 0 - 25	12 HP	Nominal Speed (ft/m):	5	25
Recovery Hoist Drive Type	Single Speed	Single Speed	7 HP	Nominal Speed (ft/m):	5	
Main Bridge Drive Type	VFD	Variable 0 - 50	4 HP	Nominal Speed (ft/m):	5	50
Recovery Bridge Drive Type	Single Speed	Single Speed	1 HP	Nominal Speed (ft/m):	5	
Main Trolley Drive Type	VFD	Variable 0-25	1.5 HP	Nominal Speed (ft/m):	5	25
Recovery Trolley Drive Type	Single Speed	Single Speed	0.75 HP	Nominal Speed (ft/m):	5	
Powered Hook	DC Motor	Fixed	0.05 HP	Nominal Speed (rpm):	1-2	

CONDUCTOR TYPE

Bridge	Cable Reel
Trolley	Cable Track

CONTROLS

Method of Control	Manual
Location of Control	Dedicated Crane Control Room/ Window Station/ Crane Maintenance Area
Type of Control Enclosure	NEMA 4X or IP 66

ELECTRICAL REQUIREMENTS

Item	Volts Phase Hertz
Motor	480 VAC / 3 Phase / 60 HZ
Special Wiring Conditions	National Electric Code

MAINTENANCE REQUIREMENTS

Construction	Modular for ease of assembly / dismantling
Modularization	Heaviest Modular item except bridge beams / end trucks / must be < 5 tons.
Retrieval	Crane must be retrievable / Hoist must be retrievable
Decontamination	Crane and hoist needs to be decontaminable and minimize cracks and crevices that can trap debris

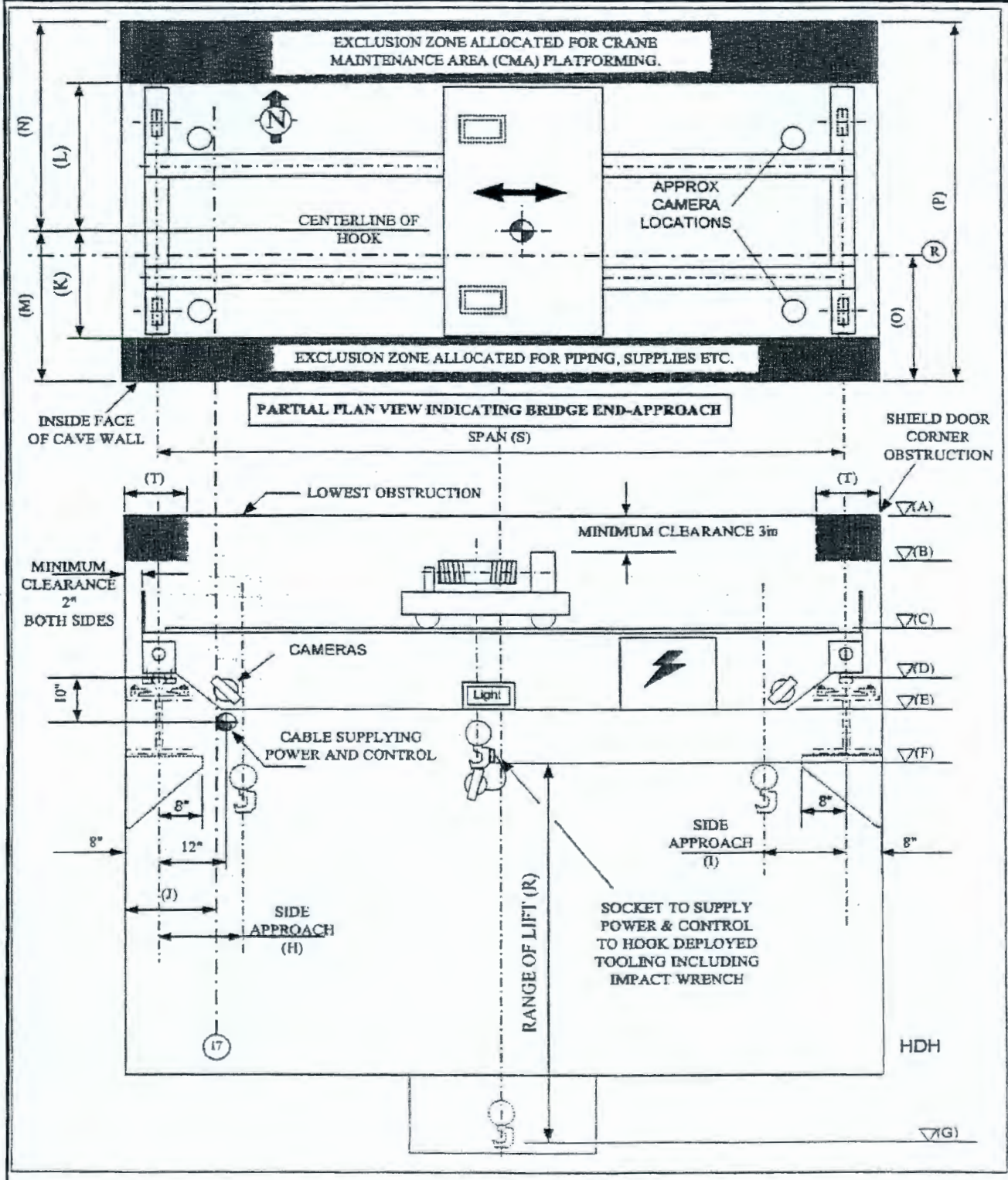
ADDITIONAL REQUIREMENTS (NOTES):

1. Motors and electrical cabinets etc. to be sealed to withstand occasional washdown during decontamination.
2. Four crane mounted cameras capable of pan, zoom, iris and tilt and one hook deployed camera including lighting, pan, tilt, zoom and iris to view cave floors. The Buyer supplies the cameras, Seller provides mounts.
3. All cranes shall be designed to allow operator positioning to within +/- 3/8".
4. Two crane mounted lights as well as light supplied by cameras.
5. Must be able to hold and control suspended payload without mechanical braking for sustained periods.
6. Must not drop load during any single random or common mode electrical failure.
7. Must be recoverable by remote means after any specified single random or common mode failure by use of redundant drives in conjunction with cable reel where necessary.
8. Power supply is required at hook for crane held tools.
9. Motor horsepower estimated for plant electrical load sizing. Seller to provide.
10. This drawing provided basic outlines, design objectives, and bounding dimensions to contracted design or fabrication supplier(s) and shall not be used to confirm the as built WTP structure, system or component identified herein. See vendor information for final configuration provided in conformance to purchase order QL-POA-MJKG-00002.

► 11. Revision 1 changes: Changed additional requirements, number of lifts per day, drives, and description 3

► 12. Revision 2 changes: Revised based on IAW 24590-HLW-DCA-PL-03-002 Rev 0 and editorial changes. Changed recovery drive type; was VFD. Added note to sketch on configuration. 3

► 13. Revision 3 changes: Safety Classification changed to APC; Quality Level changed to CM; Calc ref deleted; Dimension K & M ammended to include bumper extensions that allow bumpers to engage on cave wall. IAW 24590-HLW-ACA-M-05-00031 3


EXCLUSION ZONE ALLOCATED FOR CRANE MAINTENANCE AREA (CMA) PLATFORMING.
N
(N)
(L)
(M)
(K)
CENTERLINE OF HOOK
APPROX CAMERA LOCATIONS
(P)
(O)
R
EXCLUSION ZONE ALLOCATED FOR PIPING, SUPPLIES ETC.
INSIDE FACE OF CAVE WALL
PARTIAL PLAN VIEW INDICATING BRIDGE END-APPROACH
SPAN (S)
SHIELD DOOR CORNER OBSTRUCTION
(T)
(T)
LOWEST OBSTRUCTION
MINIMUM CLEARANCE 3in
(A)
(B)
MINIMUM CLEARANCE 2" BOTH SIDES
(C)
CAMERAS
(D)
10"
Light
(E)
CABLE SUPPLYING POWER AND CONTROL
(F)
8"
8"
12"
8"
8"
SIDE APPROACH (I)
(J)
SIDE APPROACH (H)
RANGE OF LIFT (R)
SOCKET TO SUPPLY POWER & CONTROL TO HOOK DEPLOYED TOOLING INCLUDING IMPACT WRENCH
17
HDH
(G)

BECHTEL	**Mechanical Handling Data Sheet** Top Running, Double Girder	CM	Data Sheet No. 24590-HLW-M0D-HEH-00021 Tag No. 24590-HLW-MJ-HEH-CRN-00001 / Rev. 5

R10864330

Project	RPP-WTP	Description	Cask Handling Crane
Project No	24590	Supporting Calculation No.	CCN 068118
Planning Area	9B	Associated Drawing No.	24590-HLW-M0K-340-00001002,24590-HLW-M7-HEH-00001005
System No.	HEH	Associated Specification No.	24590-HLW-3PS-MJKG-T0001
Building No.	30	Associated MR No.	24590-QL-MRA-MJKH-00001
Quality Level	Commercial (CM)		
Seismic Criteria	SC-II		
Function	Transfer product canister cask to/from cask transporter and SSW cask to/from transporter; support HLW facility.		

~~ISSUED BY RPP-WTP PDC~~

DESIGN CRITERIA

Design Life	40 years	Safety Classification	Additional Protection Class (APC)

OPERATING ENVIRONMENT			In-Cave	Rm #	N/A	Out-Cave	Rm #	H-0127	List All Special Conditions
Temperature		deg F	N/A	N/A		59	101		N/A
Relative Humidity		%	N/A	N/A		10	85		
Radiological Equip. Dose	gamma	rad/ 40 yrs	N/A	N/A		87.5	175		
	neutron	rad/ 40 yrs	N/A	N/A		Negligible	Negligible		
Radiological Classification			N/A	N/A		R1	R2		
Contamination Classification			N/A	N/A		C1	C2		

CRANE REQUIREMENTS

Type of Crane	Top Running, Double Girder, IWRC & Powered rotate hook for main hoist.		Tons
Service Information	Heavy Service	Capacity	60/15
Crane Operation Indoors?	Yes	Main Hoist	60
Material Handled	Filled product canister cask	Auxiliary Hoist	15
Class Information	CMAA Class 70 Type D, HST-H4 or See Note 1	Trolley	60
No of Cranes Required	1	Bridge	60
ASCE Rail Type or Beam Size	Bethlehem 175# Crane Rail [Buyer (CSA) supplied]		

Lifts	Symbol	(ft)	(in)		Quantity	Main Speed		Creep Speed	
Maximum Lift - Main Hoist	A	46	9	Lifts/day	2	10-12	(ft/min)	1-4	(ft/min)
Maximum Lift - Aux. Hoist	K	40	3	Lifts/day	2	10-12	(ft/min)	1-4	(ft/min)
Average Moves - Bridge	N/A	90	0	Moves/day	4	1-40	(ft/min)	1-4	(ft/min)
Average Moves - Trolley	N/A	34	0	Moves/day	4	1-40	(ft/min)	1-4	(ft/min)

Rail Lengths	Symbol	(ft)	(in)
Runway Length	B	114	3
Hook Approach - hook C/L to end walls (Maximum)	C	See note 9	See note 9
Span	D	32	4 /5
Hook Approach - hook C/L to Rail C/L (Maximum)	E	See note 10	See note 10

Date	REV	Revisions	By	Checked	Supervisor	Approved	E&NS
1/18/08	5	TN-24590-06-03113—Mod to HLW Cranes to Meet OSHA 2" Running Clearance. Added EN&S safety screening note.	WA Frier	D. Adams	S. Winsel	J. Hancock	J. Cook
N/A	0-4	See Page 3	N/A	N/A	N/A	N/A	

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-HLW-M0D-HEH-00021	
	Tag No. 24590-HLW-MJ-HEH-CRN-00001	Rev. 5

Rail Positions	Symbol	(ft)	(in)
Top of Rail to Ceiling	F	16	0
Floor to Top of Rail	G	43	0
Rail Centerline to side wall	H	1'-1" (E)	1'-0" (W) /5\
Bridge end to wall	N/A	N/A	N/A
Top of Rail to Lowest Obstruction	J	12	0

Drives	Volts	Phase	Hz	Control Type
Hook Rotate Drive Type	460	3	60	2-spd multi-step variable frequency drive
Main Hoist Drive Type	460	3	60	5-spd multi-step flux vector drive, closed loop
Aux. Hoist Drive Type	460	3	60	5-spd multi-step flux vector drive, closed loop
Bridge Drive Type	460	3	60	5-spd multi-step variable frequency drive
Trolley Drive Type	460	3	60	5-spd multi-step variable frequency drive
Slewing Drive Type	N/A	N/A	N/A	N/A

CONDUCTOR TYPE

Bridge	Festoon
Trolley	Festoon

CONTROLS

Method of Control	Digital radio
Location of Control	Provide all controls in electrical panel that is to be mounted on the wall or at floor level by the buyer in a C2 (clean) environment
Type of Control Enclosure	NEMA Type 12
Main Hoist	Digital radio
Auxiliary Hoist	Digital radio
Bridge	Digital radio
Trolley	Digital radio
Slewing Drive	N/A
Rotating Hook	Digital radio

MATERIALS

Item	Material	Grade/Type
N/A	Carbon Steel	N/A

ELECTRICAL REQUIREMENTS

Item		HP		HP		HP		HP		HP
Motor	Main Hoist	50	Aux. Hoist	15	Bridge	(2) 3	Trolley	(2) 2	Slewing	N/A
	Hook Rotate	2								

Special Wiring Conditions or Codes: National Electric Code (NEC)

Motor horsepower estimated for plant electrical load sizing. Seller to provide.

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-HLW-M0D-HEH-00021	
	Tag No. 24590-HLW-MJ-HEH-CRN-00001	Rev. 5

MAINTENANCE REQUIREMENTS

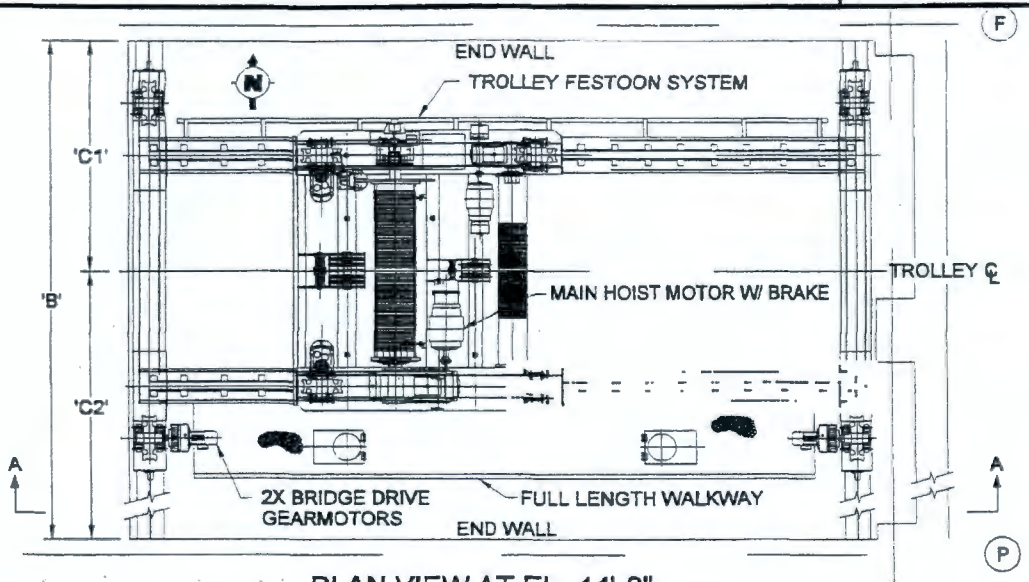
Retrieval	N/A
Decontamination	N/A

ADDITIONAL REQUIREMENTS

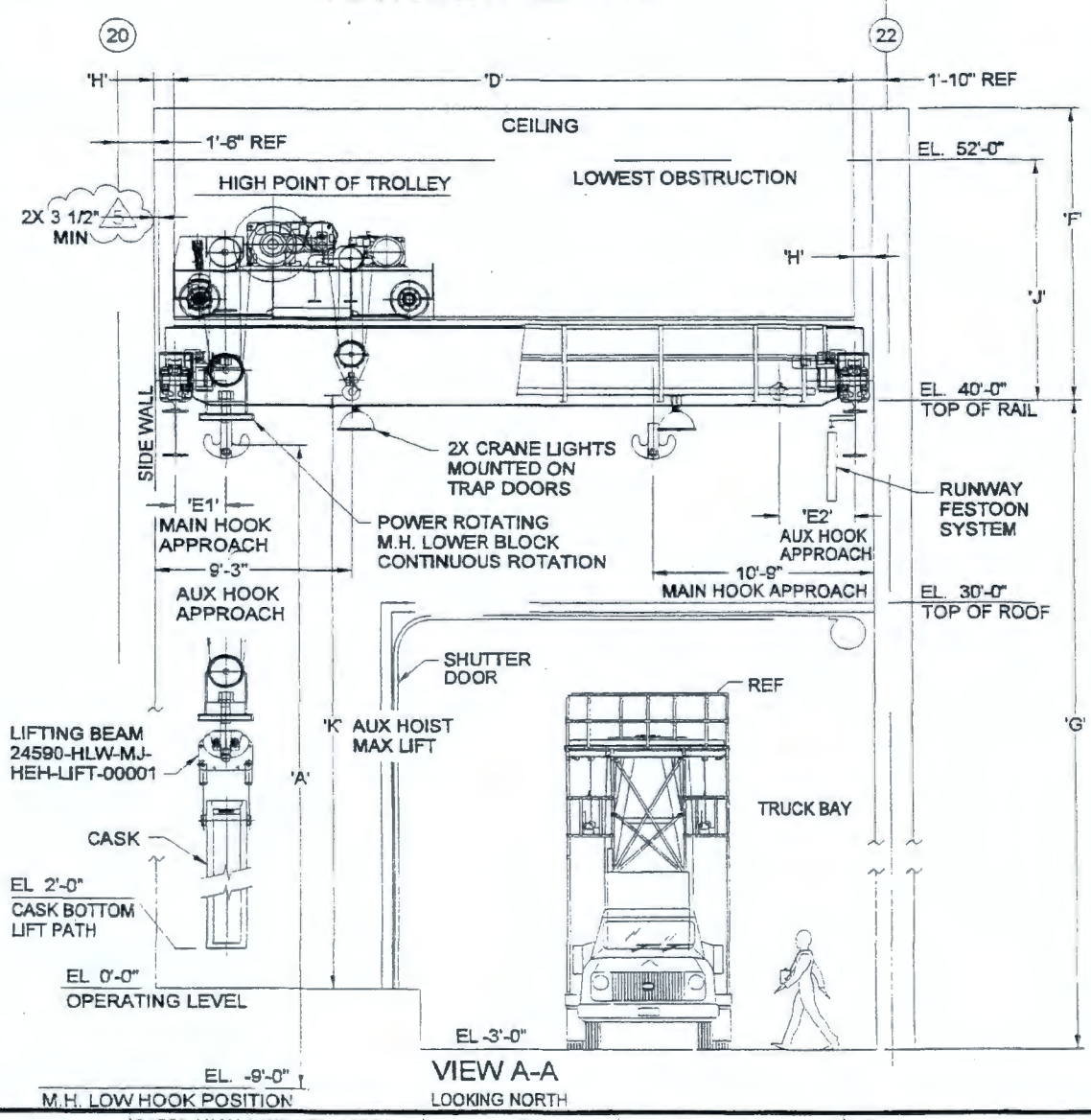
1. Bridge and trolley bearings shall be CMAA70, Class F. This note supersedes 24590-WTP-3PS-M000-T0002 Sec. 4.3.3.
2. Provide shank hook with swivel for auxiliary hoist
3. Provide emergency stop switch, pull to reset.
4. Provide high-high limit switch for main and auxiliary hoist with keyed over-ride switch located in control panel.
5. Provide bridge and trolley slowdown travel limit switches.
6. Main hoist hook shall move to -9'-0" elevation.
7. Main hoist hook shall be a Crosby/McKissick Duplex Hook Assembly.
8. Omit important to safety requirements from auxiliary hoist unless noted otherwise.
9. C1 =10'-2"; C2 = 10'-2"
10. E1 = 2'-3" ; E2 = 9'-8" (For Main hoist); E1 = 8'-3" (For Aux Hoist); E2 = 3'-8" (For Aux hoist) /5\
11. The 175# crane rail will be acceptable provided that seller can provide calculations that the crane frequency in the transverse direction (i.e., perpendicular to the runway) will be 16 Hz. minimum.
12. This data sheet provides basic outlines design objectives and bounding dimensions to contracted design or fabrication supplier(s) and shall not be used to confirm the as built WTP structure system or component identified herein. See vendor information for final configuration provided in conformance to purchase order 24590-QL-POA-MJKH-00001.
13. Seller shall provide a second high speed brake on the auxiliary hoist.
14. Power feed shall be supplied at the north end to Seller supplied festoon junction boxes.
15. 24590-HLW-M0D-HEH-00021 is a lead document in accordance with 24590-WTP-GPP-SANA-001 and 24590-WTP-RPT-ENS-07-001; requires a safety screening. /5\

Date	REV	Revisions	By	Checked	Supervisor	Approved
6/12/2007	4	24590-HLW-P1-P01T-00002	WA Frier	D. Adams	S. Winsel	P. Snider
10/27/2005	3	24590-WTP-SE-ENS-04-0127 revised safety classification to APC and QL to CM. Corrected dimension IAW 24590-CM-POA-MJKH-00001-05-00003.	WA Frier	N. Darwen	S. Winsel/P. Snider	D. Wilsey
6/21/2005	2	24590-HLW-SS-S15T-00418; (2) Revised Aux Hoist Drive IAW vendor standard policy; (3) Revised HP, C dim & main hook	WA Frier	N. Darwen	S. Winsel/P. Snider	D. Wilsey
4/22/2004	1	accordance with CCN 091566	WA Frier	G. Marr	L. Harrison/P. Snide	D. Wilsey
2/2/2004	0	Issue for Procurement	WA Frier	E. Szavay	J. Weamer/J. Browe	D. Wilsey

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-HLW-M0D-HEH-00021	
	Tag No. 24590-HLW-MJ-HEH-CRN-00001	Rev. 5



PLAN VIEW AT EL. 44'-0"



VIEW A-A
LOOKING NORTH

BECHTEL	**Mechanical Handling Data Sheet** Top Running, Double Girder	CM 4	Data Sheet No. 24590-HLW-M0D-HEH-00025 Plant Item No. 24590-HLW-MJ-HEH-CRN-00003 — Rev. 4

Project	RPP-WTP	Description	Canister Storage Crane
Project No.	24590	Supporting Calculation No.	N/A 4
Planning Area		Associated Drawing No.	N/A
System No.	HEH	Associated Specification No.	24590-WTP-3PS-MJKG-T0003
Building No.	30	Associated MR No.	24590-QL-MRA-MJKG-00002
Quality Level	► CM 4		
Seismic Criteria	SC-II		
Function	Canister Handling, Storage, and Maintenance Activities		

R10704040

ISSUED BY RPP-WTP PDC

DESIGN CRITERIA

Design Life	40 years	Safety Classification	► APC 4

OPERATING ENVIRONMENT			In-Cave Rm # H-0132		Out-Cave Rm # H-313B		List All Special Conditions
			Min	Max	Min	Max	
Temperature		deg F	59	113	59	113	
Relative Humidity		%	0	70	0	70	
Radiological Equip. Dose	gamma	mrad/hr	►4.0"E+4 4		►100 4		
	neutron	mrad/hr	Negligible		Negligible		
Radiological Classification			R5		►R3/R5 4		
Contamination Classification			C3		►C3 4		

CRANE REQUIREMENTS

Type of Crane	Top Running Double Girder Electric Overhead Traveling Crane		Tons
Service Information	CMAA 70-2000, Class E	Capacity	6 Ton
Crane Operation Indoors?	Yes, In-Cave	Main Hoist	6 Ton
Material Handled	Canisters	Auxiliary Hoist	N/A
Class Information	Class E	Trolley	6 Ton
No. of Cranes Required	1	Bridge	6 Ton
ASCE Rail Type or Beam Size	► 104 lb/yd Crane Rail 4		

OPERATING CHARACTERISTICS AND FREQUENCY OF MOVEMENT

Hoist- Range of Lift	(F) - (G)	No. lifts/day	6
Average Moves - Bridge	1/2 Runway Length	Moves/day	6
Average Moves - Trolley	3/4 Bridge Length	Moves/day	6

CRANE DIMENSIONS AND ELEVATIONS	Symbol	ft - in.
Lowest Obstruction Elevation	(A)	45'-0"
Shield Door Corner Obstruction Elevation	(B)	44'-6"
Trolley Rail Elevation	(C)	39'-11" NOMINAL
Bridge Rail Elevation	(D)	38'-3 1/2"
Lowest Point of Crane Elevation	(E)	37'-9"
High Hook Elevation	(F)	35'-7.5"
Low Hook Elevation	(G)	-9'-0"
Side Approach - hoist center line to West Rails	(H)	3'-4" MAXIMUM
Side Approach - hoist center line to East Rails	(I)	3'-4" MAXIMUM
Distance from Grid line "18" to inside face of West Wall	(J)	3'-6"
Distance from hoist center line to end-truck South bumper	(K) 4	►5'-3 1/2"
Distance from hoist center line to end-truck North bumper	(L) 4	►7'-2"
Distance from hoist center line to In-Cave South Wall	(M) 4	►5'-3 1/2"
Distance from hoist center line to CMA North Wall	(N) 4	►7'-2"
Distance from Grid Line "P" to inside face of South Wall	(O)	0'-0"
Total distance between inside wall faces of CMA and Cave	(P)	91'-9"
Range of Lift	(R)	44'-7.5"
Runway Rails Span	(S)	20'-8"
Shield Door Corner Obstruction	(T)	0'-6"

Date	REV	Revisions	By	Checked	Supervisor	Approved
8/10/06	4	See note 14	N J Darwen	A. Whitford	P. Snider SLW	D. Wilsey
9/8/2003	3	See note 13	A. Whitford	L. Harrison	G. Marr	D. Wilsey
01/24/03	2	See note 12	David Horton	Paul Carter	Joni Weamer	Dave Wilsey
12/27/02	1	See note 11	David Horton	Paul Carter	Brower	Dave Wilsey
02/26/02	0	Issued for Procurement	Joseph Roach	Andy Whitford	Jim Brower	Dave Wilsey

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-HLW-M0D-HEH-00025	
	Plant Item No. 24590-HLW-MJ-HEH-CRN-00003	Rev. 4

DRIVE TYPE SPEED AND HORSEPOWER

Drives	Drive Type	Speed	Horsepower		Slow	Fast
Main Hoist Drive Type	Flux Vector	Variable 0 - 25	12 HP	Nominal Speed (ft/m):	5	25
Recovery Hoist Drive Type	Single Speed	Single Speed	7 HP	Nominal Speed (ft/m):	5	
Main Bridge Drive Type	VFD	Variable 0 - 50	4 HP	Nominal Speed (ft/m):	5	50
Recovery Bridge Drive Type	Single Speed	Single Speed	1 HP	Nominal Speed (ft/m):	5	
Main Trolley Drive Type	VFD	Variable 0-25	1.5 HP	Nominal Speed (ft/m):	5	25
Recovery Trolley Drive Type	Single Speed	Single Speed	0.75 HP	Nominal Speed (ft/m):	5	
Powered Hook	DC Motor	Fixed	0.05 HP	Nominal Speed (rpm):	1-2	

CONDUCTOR TYPE

Bridge	Cable Reel
Trolley	Cable Track

CONTROLS

Method of Control	Manual
Location of Control	Dedicated Crane Control Room/ Window Station/ Crane Maintenance Area
Type of Control Enclosure	NEMA 4X or IP 66

ELECTRICAL REQUIREMENTS

Item	Volts / Phase / Hertz
Motor	480 VAC / 3 Phase / 60 HZ
Special Wiring Conditions	National Electric Code

MAINTENANCE REQUIREMENTS

Construction	Modular for ease of assembly / dismantling
Modularization	Heaviest Modular item except bridge beams / end trucks / must be < 5 tons.
Retrieval	Crane must be retrievable / Hoist must be retrievable
Decontamination	Crane and hoist needs to be decontaminable and minimize cracks and crevices that can trap debris

ADDITIONAL REQUIREMENTS (NOTES):

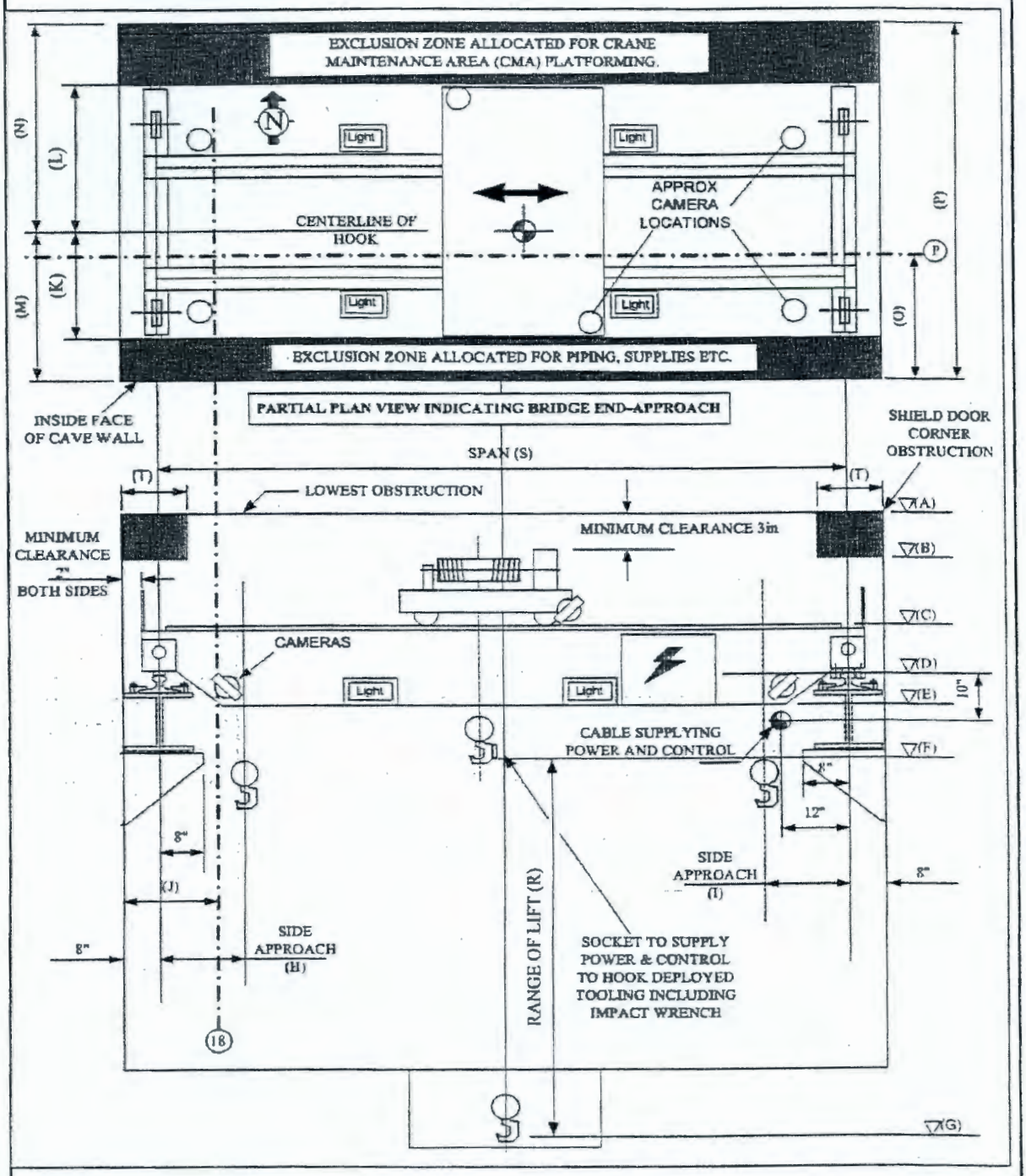
1. Motors and electrical cabinets etc. to be sealed to withstand occasional washdown during decontamination.
2. Four bridge mounted and two trolley mounted cameras capable of pan, zoom, iris and tilt and one hook deployed camera including lighting, pan, tilt, zoom and iris to view cave floors. The Buyer supplies the cameras, Seller provides mounts.
3. All cranes shall be designed to allow operator positioning to within +/- 3/8".
4. Four crane mounted lights as well as light supplied by cameras.
5. Must be able to hold and control suspended payload without mechanical braking for sustained periods.
6. Must not drop load during any single random or common mode electrical failure.
7. Must be recoverable by remote means after any specified single random or common mode failure by use of redundant drives in conjunction with cable reel where necessary.
8. Power supply is required at hook for crane held tools.
9. Motor horsepower estimated for plant electrical load sizing. Seller to provide.
10. This drawing provided basic outlines, design objectives, and bounding dimensions to contracted design or fabrication supplier(s) and shall not be used to confirm the as built WTP structure, system or component identified herein. See vendor information for final configuration provided in conformance to purchase order QL-POA-MJKG-00002.

► 11. Revision 1 changes: Changed additional requirements, drives, and description 4

► 12. Revision 2 changes: Changed low hook height and range of lift 4

► 13. Revision 3 changes: Changed rad levels, drive types and editorial changes. 4

► 14. Revision 3 changes: Safety Classification changed to APC; Quality Level changed to CM; Calc ref deleted; Dimension K & M ammended to include bumper extensions that allow bumpers to engage on cave wall, IAW 24590-HLW-ACA-M-05-00031 4


EXCLUSION ZONE ALLOCATED FOR CRANE MAINTENANCE AREA (CMA) PLATFORMING.
Light
APPROX CAMERA LOCATIONS
CENTERLINE OF HOOK
EXCLUSION ZONE ALLOCATED FOR PIPING, SUPPLIES ETC.
PARTIAL PLAN VIEW INDICATING BRIDGE END-APPROACH
INSIDE FACE OF CAVE WALL
SHIELD DOOR CORNER OBSTRUCTION
SPAN (S)
LOWEST OBSTRUCTION
MINIMUM CLEARANCE 3in
MINIMUM CLEARANCE 2" BOTH SIDES
CAMERAS
CABLE SUPPLYING POWER AND CONTROL
SIDE APPROACH (I)
SIDE APPROACH (H)
RANGE OF LIFT (R)
SOCKET TO SUPPLY POWER & CONTROL TO HOOK DEPLOYED TOOLING INCLUDING IMPACT WRENCH
(A)
(B)
(C)
(D)
(E)
(F)
(G)

BECHTEL	**Mechanical Handling Data Sheet** Top Running. Double Girder	CM 3	Data Sheet No. 24590-HLW-M0D-HPH-00063 Plant Item No. 24590-HLW-MJ-HPH-CRN-00002 Rev. 3

Project	RPP-WTP	Description	Canister Handling Crane (Upper)
Project No.	24590	Supporting Calculation No.	N/A 3
Planning Area		Associated Drawing No.	N/A
System No.	HPH	Associated Specification No.	24590-WTP-3PS-MJKG-T0003
Building No.	30	Associated MR No.	24590-QL-MRA-MJKG-00002
Quality Level	► CM 3		
Seismic Criteria	SC-II		
Function	Canister Handling and Maintenance Activities		

R10704041

ISSUED BY RPP-WTP PDC

DESIGN CRITERIA

Design Life	40 years	Safety Classification	► APC 3

OPERATING ENVIRONMENT			In-Cave Rm # H-0136		Out-Cave Rm # H-329A		List All Special Conditions
			Min	Max	Min	Max	
Temperature		deg F	59	113	59	113	
Relative Humidity		%	0	70	0	70	
Radiological Equip. Dose	gamma	mrad/hr	►4.0*E+4 3		►10 3		
	neutron	mrad/hr	Negligible		Negligible		
Radiological Classification			R5		►R3 3		
Contamination Classification			►C5 3		►C3 3		

CRANE REQUIREMENTS

Type of Crane	Top Running Double Girder Electric Overhead Traveling Crane		Tons
Service Information	CMAA 70-2000, Class E	Capacity	6 Ton
Crane Operation Indoors?	Yes, In-Cave	Main Hoist	6 Ton
Material Handled	Canisters	Auxiliary Hoist	N/A
Class Information	Class E	Trolley	6 Ton
No. of Cranes Required	1	Bridge	6 Ton
ASCE Rail Type or Beam Size	► 104 lb/yd Crane Rail 3		

OPERATING CHARACTERISTICS AND FREQUENCY OF MOVEMENT

Hoist- Range of Lift	(F) - (G)	No. lifts/day	6
Average Moves - Bridge	1/2 Runway Length	Moves/day	6
Average Moves - Trolley	3/4 Bridge Length	Moves/day	6

CRANE DIMENSIONS AND ELEVATIONS	Symbol	ft - in.
Lowest Obstruction Elevation	(A)	48'-0"
Shield Door Corner Obstruction Elevation	(B)	47'-6"
Trolley Rail Elevation	(C)	44'-0" NOMINAL
Bridge Rail Elevation	(D)	42'-4.5"
Lowest Point of Crane Elevation	(E)	42'-4.5"
High Hook Elevation	(F)	42'-4.5"
Low Hook Elevation	(G)	-3-0"
Side Approach - hoist center line to South Rails	(H)	3'-4" MAXIMUM
Side Approach - hoist center line to North Rails	(I)	3'-4" MAXIMUM
Distance from Grid line "R" to inside face of South Wall	(J) 3	►2'-0" IN/OUT CAVE
Distance from hoist center line to end-truck East bumper	(K) 3	►5'-7"
Distance from hoist center line to end-truck West bumper	(L) 3	►6'-10 1/2"
Distance from hoist center line to In-Cave East Wall	(M) 3	►5'-7"
Distance from hoist center line to CMA West Wall	(N) 3	►6'-10 1/2"
Distance from Grid Line "15" to inside face of East Wall	(O)	7'-6"
Total distance between inside wall faces of CMA and Cave	(P)	188'-7"
Range of Lift	(R)	45'-4.5"
Runway Rails Span	(S)	19'-4"
Shield Door Corner Obstruction	(T)	0-6"

Date	REV	Revisions	By	Checked	Supervisor	Approved
8/10/06	3	See note 13	N J Darwen	A. Whitford	P. Snider	D. Wilsey
09/08/03	2	See note 12	A. Whitford	L. Harrison	G. Marr	D. Wilsey
11/27/02	1	See note 11	David Horton	Paul Carter	Brower	Dave Wilsey
02/26/02	0	Issued for Procurement	Joseph Roach	Andy Whitford	Jim Brower	Dave Wilsey

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-HLW-M0D-HPH-00063	
	Plant Item No. 24590-HLW-MJ-HPH-CRN-00002	Rev. 3

DRIVE TYPE SPEED AND HORSEPOWER

Drives	Drive Type	Speed	Horsepower		Slow	Fast
Main Hoist Drive Type	Flux Vector	Variable 0 - 25	12 HP	Nominal Speed (ft/m):	5	25
Recovery Hoist Drive Type	Single Speed	Single Speed	7 HP	Nominal Speed (ft/m):	5	
Main Bridge Drive Type	VFD	Variable 0 - 50	4 HP	Nominal Speed (ft/m):	5	50
Recovery Bridge Drive Type	Single Speed	Single Speed	1 HP	Nominal Speed (ft/m):	5	
Main Trolley Drive Type	VFD	Variable 0-25	1.5 HP	Nominal Speed (ft/m):	5	25
Recovery Trolley Drive Type	Single Speed	Single Speed	0.75 HP	Nominal Speed (ft/m):	5	
Powered Hook	DC Motor	Fixed	0.05 HP	Nominal Speed (rpm):	1-2	

CONDUCTOR TYPE

Bridge	Cable Reel
Trolley	Cable Track

CONTROLS

Method of Control	Manual
Location of Control	Dedicated Crane Control Room/ Window Station/ Crane Maintenance Area
Type of Control Enclosure	NEMA 4X or IP 66

ELECTRICAL REQUIREMENTS

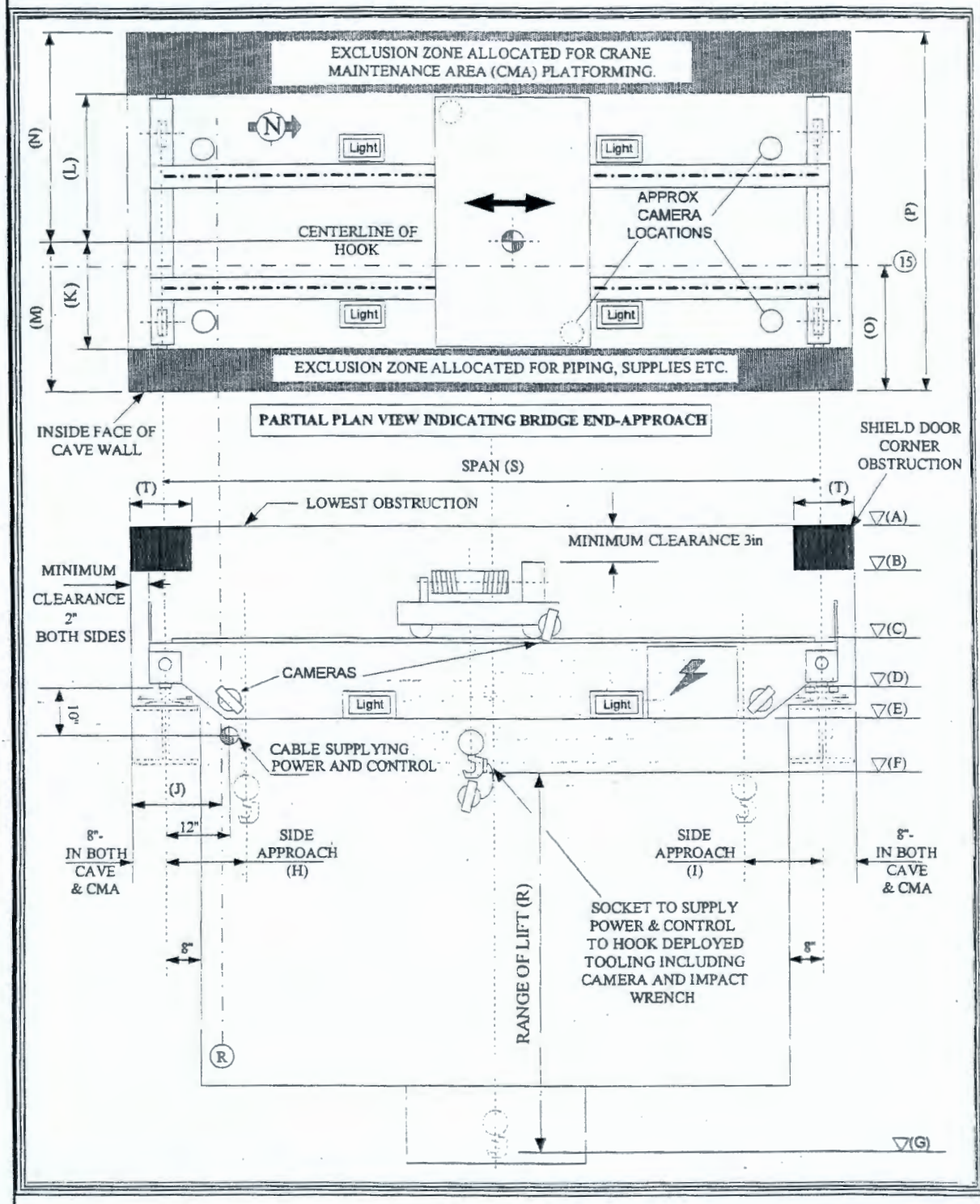
Item	Volts / Phase / Hertz
Motor	480 VAC / 3 Phase / 60 HZ
Special Wiring Conditions	National Electric Code

MAINTENANCE REQUIREMENTS

Construction	Modular for ease of assembly / dismantling
Modularization	Heaviest Modular item except bridge beams / end trucks / must be < 5 tons.
Retrieval	Crane must be retrievable / Hoist must be retrievable
Decontamination	Crane and hoist needs to be decontaminable and minimize cracks and crevices that can trap debris

ADDITIONAL REQUIREMENTS

1. Motors and electrical cabinets etc. to be sealed to withstand occasional washdown during decontamination.
2. Four bridge mounted and two trolley mounted cameras capable of pan, zoom, iris and tilt and one hook deployed camera including lighting, pan, tilt, zoom and iris to view cave floors. The Buyer supplies the cameras. Seller provides mounts.
3. All cranes shall be designed to allow operator positioning to within +/- 3/8".
4. Four crane mounted lights as well as light supplied by cameras.
5. Must be able to hold and control suspended payload without mechanical braking for sustained periods.
6. Must not drop load during any single random or common mode electrical failure.
7. Must be recoverable by remote means after any specified single random or common mode failure by use of redundant drives in conjunction with cable reel where necessary.
8. Power supply is required at hook for crane held tools.
9. Motor horsepower estimated for plant electrical load sizing. Seller to provide.
10. This drawing provided basic outlines, design objectives, and bounding dimensions to contracted design or fabrication supplier(s) and shall not be used to confirm the as built WTP structure, system or component identified herein. See vendor information for final configuration provided in conformance to purchase order QL-POA-MJKG-00002.
11. ► Revision 1 changes: Changed additional requirements, drives, and description 3
12. ► Revision 2 changes: Revised based on 24590-HLW-DCA-PL-03-002 Rev 0, and editorial changes. Changed recovery drive type; was VFD. 3
13. ► Revision 3 changes: Safety Classification changed to APC; Quality Level changed to CM; Calc ref deleted; Dimension K & M ammended to include bumper extensions that allow bumpers to engage on cave wall, IAW 24590-HLW-ACA-M-05-00031 3


EXCLUSION ZONE ALLOCATED FOR CRANE MAINTENANCE AREA (CMA) PLATFORMING.
N
Light
Light
Light
Light
APPROX CAMERA LOCATIONS
CENTERLINE OF HOOK
(N)
(L)
(K)
(M)
(P)
(O)
15
EXCLUSION ZONE ALLOCATED FOR PIPING, SUPPLIES ETC.
INSIDE FACE OF CAVE WALL
PARTIAL PLAN VIEW INDICATING BRIDGE END-APPROACH
SHIELD DOOR CORNER OBSTRUCTION
SPAN (S)
(T)
(T)
LOWEST OBSTRUCTION
MINIMUM CLEARANCE 3in
MINIMUM CLEARANCE 2" BOTH SIDES
CAMERAS
Light
Light
10"
CABLE SUPPLYING POWER AND CONTROL
(J)
12"
8"- IN BOTH CAVE & CMA
SIDE APPROACH (H)
SIDE APPROACH (I)
8"- IN BOTH CAVE & CMA
8"
8"
RANGE OF LIFT (R)
SOCKET TO SUPPLY POWER & CONTROL TO HOOK DEPLOYED TOOLING INCLUDING CAMERA AND IMPACT WRENCH
R
(A)
(B)
(C)
(D)
(E)
(F)
(G)

BECHTEL	**Mechanical Handling Data Sheet** Top Running, Double Girder	CM 3	Data Sheet No. 24590-HLW-M0D-HPH-00064 Plant Item No. 24590-HLW-MJ-HPH-CRN-00001 — Rev. 3

Project	RPP-WTP	Description	Canister Handling Crane (Lower)
Project No.	24590	Supporting Calculation No.	N/A 3
Planning Area		Associated Drawing No.	N/A
System No.	HPH	Associated Specification No.	24590-WTP-3PS-MJKG-T0003
Building No.	30	Associated MR No.	24590-QL-MRA-MJKG-00002
Quality Level	► CM 3		
Seismic Criteria	SC-II		
Function	Canister Handling and Maintenance Activities		

R10704042

~~ISSUED BY RPP-WTP PDC~~

DESIGN CRITERIA

Design Life	40 years	Safety Classification	► APC 3

OPERATING ENVIRONMENT			In-Cave Rm # H-0136		Out-Cave Rm # H-329A		List All Special
			Min	Max	Min	Max	Conditions
Temperature		deg F	59	113	59	113	
Relative Humidity		%	0	70	0	70	
Radiological Equip. Dose	gamma	mrad/hr	4.0*E+4 3		►10 3		
	neutron	mrad/hr	Negligible		Negligible		
Radiological Classification			R5		►R3 3		
Contamination Classification			C3		►C3 3		

CRANE REQUIREMENTS

Type of Crane	Top Running Double Girder Electric Overhead Traveling Crane		Tons
Service Information	CMAA 70-2000, Class E	Capacity	6 Ton
Crane Operation Indoors?	Yes, In-Cave	Main Hoist	6 Ton
Material Handled	Canisters	Auxiliary Hoist	N/A
Class Information	Class E	Trolley	6 Ton
No. of Cranes Required	1	Bridge	6 Ton
ASCE Rail Type or Beam Size	► 104 lb/yd Crane Rail 3		

OPERATING CHARACTERISTICS AND FREQUENCY OF MOVEMENT

Hoist- Range of Lift	(F) - (G)	No. lifts/day	6
Average Moves - Bridge	1/2 Runway Length	Moves/day	6
Average Moves - Trolley	3/4 Bridge Length	Moves/day	6

CRANE DIMENSIONS AND ELEVATIONS	Symbol	ft - in.
Lowest Obstruction Elevation	(A)	42'-4.25"
Shield Door Corner Obstruction Elevation	(B)	N/A
Trolley Rail Elevation	(C)	38'-6.5" NOMINAL
Bridge Rail Elevation	(D)	36'-11"
Lowest Point of Crane Elevation	(E)	36'-4.5"
High Hook Elevation	(F)	36'-4.5"
Low Hook Elevation	(G)	-3-0"
Side Approach - hoist center line to South Rails	(H)	3'-4" MAXIMUM
Side Approach - hoist center line to North Rails	(I)	3'-4" MAXIMUM
Distance from Grid line "R" to inside face of South Wall	(J) 3	►8" IN CAVE, 2'-0" OUT CAVE
Distance from hoist center line to end-truck East bumper	(K) 3	►5'-7"
Distance from hoist center line to end-truck West bumper	(L)	5'-11 3/4" MAXIMUM
Distance from hoist center line to In-Cave East Wall	(M) 3	►5'-7"
Distance from hoist center line to CMA West Wall	(N) 3	►9'-6.5"
Distance from Grid Line "15" to inside face of East Wall	(O)	7'-6"
Total distance between inside wall faces of CMA and Cave	(P)	188'-7"
Range of Lift	(R)	39'-4.5"
Runway Rails Span	(S)	15'-9.5"
Shield Door Corner Obstruction	(T)	N/A

Date	REV	Revisions	By	Checked	Supervisor	Approved
08/10/06	3	See note 13	N J Darwen	A. Whitford RT	P. Snider SCW	D. Wilsey FOR
09/08/03	2	See note 12	A. Whitford	L. Harrison	G. Marr	D. Wilsey
11/28/02	1	See note 11	David Horton	Paul Carter	Jim Brower	Dave Wilsey
02/26/02	0	Issued for Procurement	Joseph Roach	Andy Whitford	Jim Brower	Dave Wilsey

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-HLW-M0D-HPH-00064	
	Plant Item No. 24590-HLW-MJ-HPH-CRN-00001	Rev. 3

DRIVE TYPE SPEED AND HORSEPOWER

Drives	Drive Type	Speed	Horsepower		Slow	Fast
Main Hoist Drive Type	Flux Vector	Variable 0 - 25	12 HP	Nominal Speed (ft/m):	5	25
Recovery Hoist Drive Type	Single Speed	Single Speed	7 HP	Nominal Speed (ft/m):	5	
Main Bridge Drive Type	VFD	Variable 0 - 50	4 HP	Nominal Speed (ft/m):	5	50
Recovery Bridge Drive Type	Single Speed	Single Speed	1 HP	Nominal Speed (ft/m):	5	
Main Trolley Drive Type	VFD	Variable 0-25	1.5 HP	Nominal Speed (ft/m):	5	25
Recovery Trolley Drive Type	Single Speed	Single Speed	0.75 HP	Nominal Speed (ft/m):	5	
Powered Hook	DC Motor	Fixed	0.05 HP	Nominal Speed (rpm):	1-2	

CONDUCTOR TYPE

Bridge	Cable Reel
Trolley	Cable Track

CONTROLS

Method of Control	Manual
Location of Control	Dedicated Crane Control Room/ Window Station/ Crane Maintenance Area
Type of Control Enclosure	NEMA 4X or IP 66

ELECTRICAL REQUIREMENTS

Item	Volts / Phase / Hertz
Motor	480 VAC / 3 Phase / 60 HZ
Special Wiring Conditions	National Electric Code

MAINTENANCE REQUIREMENTS

Construction	Modular for ease of assembly / dismantling
Modularization	Heaviest Modular item except bridge beams / end trucks / must be < 5 tons.
Retrieval	Crane must be retrievable / Hoist must be retrievable
Decontamination	Crane and hoist needs to be decontaminable and minimize cracks and crevices that can trap debris

ADDITIONAL REQUIREMENTS (NOTES):

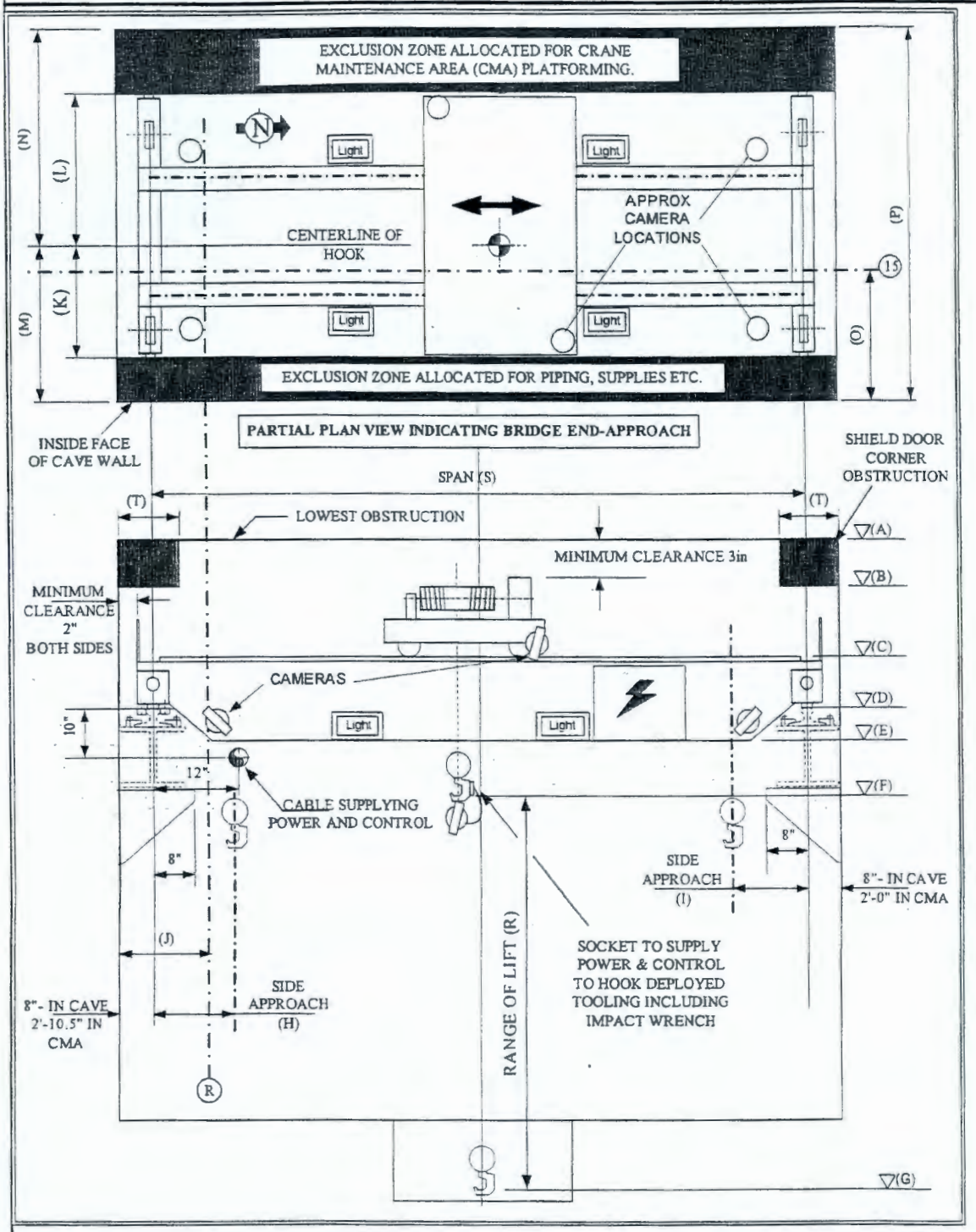
1. Motors and electrical cabinets etc. to be sealed to withstand occasional washdown during decontamination.
2. Four bridge mounted and two trolley mounted cameras capable of pan, zoom, iris and tilt and one hook deployed camera including lighting, pan, tilt, zoom and iris to view cave floors. The Buyer supplies the cameras, Seller provides mounts.
3. All cranes shall be designed to allow operator positioning to within +/- 3/8".
4. Four crane mounted lights as well as light supplied by cameras.
5. Must be able to hold and control suspended payload without mechanical braking for sustained periods.
6. Must not drop load during any single random or common mode electrical failure.
7. Must be recoverable by remote means after any specified single random or common mode failure by use of redundant drives in conjunction with cable reel where necessary.
8. Power supply is required at hook for crane held tools.
9. Motor horsepower estimated for plant electrical load sizing. Seller to provide.
10. This drawing provided basic outlines, design objectives, and bounding dimensions to contracted design or fabrication supplier(s) and shall not be used to confirm the as built WTP structure, system or component identified herein. See vendor information for final configuration provided in conformance to purchase order QL-POA-MJKG-00002.

► 11. Revision 1 changes: Changed additional requirements, drives, and description 3

► 12. Revision 2 changes: Revised based on 24590-HLW-DCA-PL-03-002 Rev 0, and editorial changes. Changed recovery drives to single speed, was VFD. 3

► 13. Revision 3 changes: Safety Classification changed to APC; Quality Level changed to CM; Calc ref deleted; Dimension K & M ammended to include bumper extensions that allow bumpers to engage on cave wall, IAW 24590-HLW-ACA-M-05-00031 3

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-HLW-M0D-HPH-00064	
	Plant Item No. 24590-HLW-MJ-HPH-CRN-00001	Rev. 3



BECHTEL	Mechanical Handling Data Sheet Top Running, Double Girder	**CM** 4	Data Sheet No. 24590-HLW-M0D-HSH-00013 Rev. 4 Plant Item No. 24590-HLW-MJ-HSH-CRN-00001

Project	RPP-WTP	Description	Melter 1 Cave Main Crane
Project No.	24590	Supporting Calculation No.	N/A
Planning Area		Associated Drawing No.	N/A
System No.	HSH	Associated Specification No.	24590-WTP-3PS-MJKG-T0003
Building No.	30	Associated MR No.	24590-QL-MRA-MJKG-00002
Quality Level	► CM 4	Associated MHD No.	24590-HLW-M7-HSH-00001002
Seismic Category	SC-II		
Function	Melter Cave 1 Support		

R10704043

ISSUED BY RPP-WTP PDC

DESIGN CRITERIA

Design Life	40 years	Safety Classification	► APC 4

OPERATING ENVIRONMENT			In-Cave Rm # H-0117		CMA Rm # H-0309		List All Special Conditions
			Min	Max	Min	Max	
Temperature		deg F	59	113	59	113	TID is derived using maximum local exposure assumed full time, ie multiplied by 24x365x40
Relative Humidity		%	0	70	0	70	
Radiological	gamma	rad/ 40 yrs	► 7.0*E+6 TID 4		►3.5*E+3 4		
	neutron	rad/ 40 yrs	Negligible		Negligible		
Radiological Classification			R5		►R3 4		
Contamination Classification			C5		►C3 4		

CRANE REQUIREMENTS

Type of Crane	Top Running Double Girder Electric Overhead Traveling Crane		
Service Information	CMAA 70-2000, Class E	Capacity	25 Ton
Crane Operation Indoors?	Yes, In-Cave	Main Hoist	25 Ton
Material Handled	Melter Cave Components	Auxiliary Hoist	N/A
Class Information	Class E	Trolley	25 Ton
No. of Cranes Required	1	Bridge	25 Ton
ASCE Rail Type	175 lb/yd		
Max Wheel Load	42,000 lbs		

OPERATING CHARACTERISTICS AND FREQUENCY OF MOVEMENT

Hoist- Range of Lift	41'-9"	No. lifts/day	1
Average Moves - Bridge	1/2 Runway Length	Moves/day	1
Average Moves - Trolley	3/4 Bridge Length	Moves/day	1

CRANE DIMENSIONS AND ELEVATIONS	ft - in.
Lowest Obstruction Elevation	52'-0"
Uppermost bridge feature 4	► (47'-7" MAXIMUM) BY VENDOR
Bridge Rail Elevation	45'-1"
Lowest Point of Crane Elevation	44'-10"
High Hook Elevation	44'-9"
Low Hook Elevation	3'-0"
Side Approach - hoist center line to West Rails	3'-9" MAXIMUM
Side Approach - hoist center line to East Rails	3'-9" MAXIMUM
Distance from Grid line "14" to inside face of West Wall 4	► 7'-7" (REF) - SEE SKETCH (pg 3)
Distance from hoist center line to end-truck South bumper	5'-0" MAXIMUM
Distance from hoist center line to end-truck North bumper	6'-6" MAXIMUM
Distance from hoist center line to In-Cave South Wall 4	► 6'-9" MAXIMUM (REF)
Distance from hoist center line to CMA North Wall	10'-6" MAXIMUM (REF)
Distance from Grid Line "L" to inside face of South Wall 4	► 13'-0"
Total distance between inside wall faces of CMA and Cave	131'-10" (REF)
Runway Rails Span	34'-4"

Date	REV	Revisions	By	Checked	Supervisor	Approved
8/10/06	4	See note 17	N J Darwen	A. Whitford	P. Snider	D. Wilsey
02/09/05	3	See note 13	Matt Robinson	Andy Whitford	Phil Snider	Dave Wilsey
09/08/03	2	See note 15	Andy Whitford	Lawrnel Harrison	Grant Marr	Dave Wilsey
11/27/02	1	See note 14	David Horton	Paul Carter	Joni Weamer/ Jim	Dave Wilsey
02/26/02	0	Issued for Procurement	Joeseph Roach	Andy Whitford	Jim Brower	Dave Wilsey

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-HLW-M0D-HSH-00013	Rev. 4
	Plant Item No. 24590-HLW-MJ-HSH-CRN-00001	

DRIVE TYPE SPEED AND HORSEPOWER

				Nominal Speed (ft/m):	
Drives	Drive Type	Speed	Horsepower	Slow	Fast
Main Hoist Drive Type	Flux Vector	Variable 0 - 25	30 HP	5	20
Recovery Hoist Drive Type	Single Speed	Single Speed	15 HP	4	
Main Bridge Drive Type	VFD	Variable 0 - 50	4 HP	5	50
Recovery Bridge Drive Type	Single Speed	Single Speed	1 HP	5	
Main Trolley Drive Type	VFD	Variable 0-25	1.5 HP	5	25
Recovery Trolley Drive Type	Single Speed	Single Speed	0.75 HP	5	
Powered Hook	DC Motor	Fixed	0.05 HP	1-2	

CONDUCTOR TYPE

Bridge	Cable Reel
Trolley	Cable Track

CONTROLS

Method of Control	Integrated control network (remote) or panel pushbuttons (local)
Location of Control	Operating corridor or facility control room (remote) or panel (local)
Type of Control Enclosure	NEMA 4X or IP 66

ELECTRICAL REQUIREMENTS

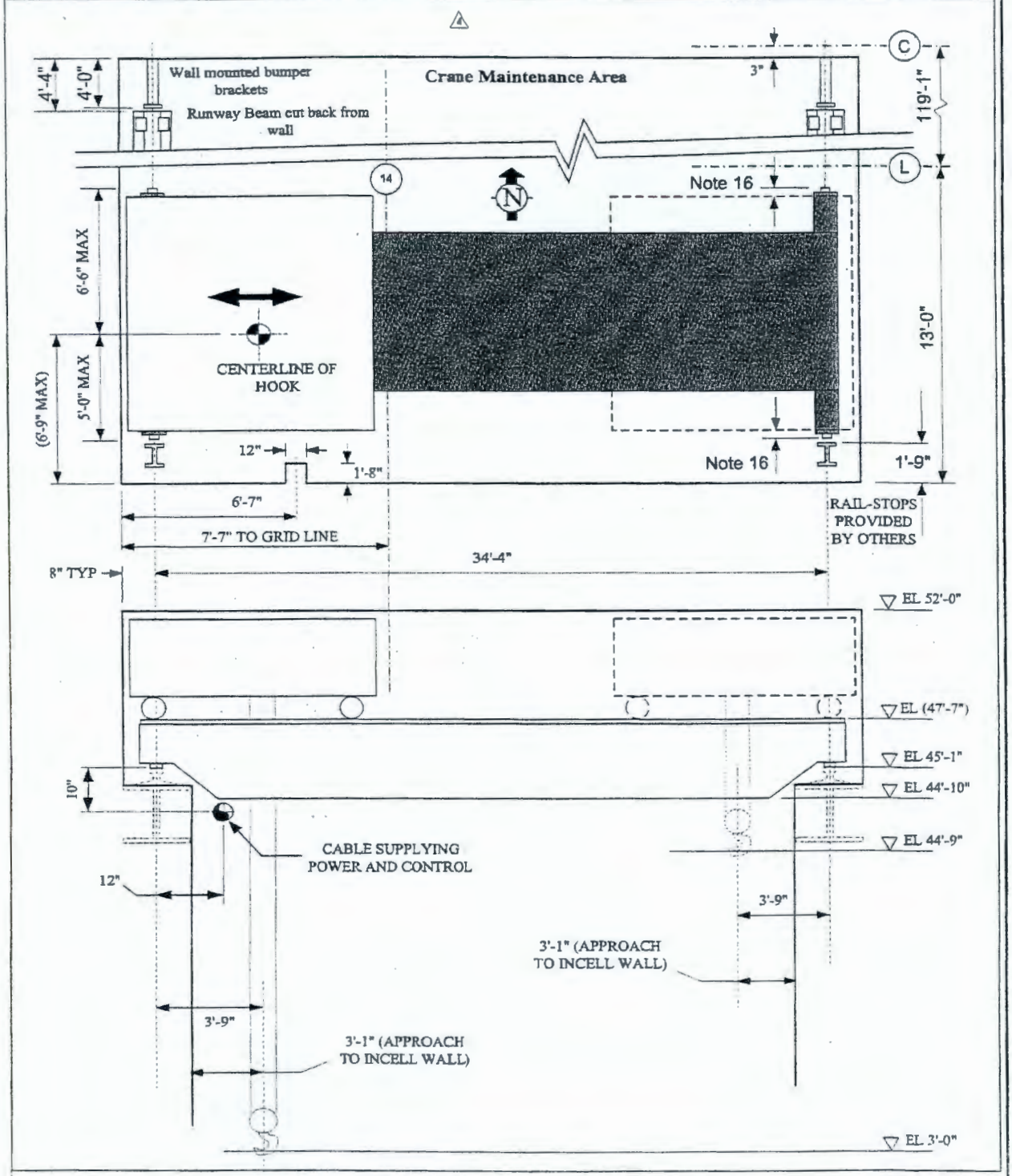
Item	Volts / Phase / Hertz
Motor	480 VAC / 3 Phase / 60 HZ
Special Wiring Conditions	National Electric Code

MAINTENANCE REQUIREMENTS

Construction	Modular for ease of assembly / dismantling
Modularization	Heaviest modular item (excludes bridge beams and end trucks) shall be < 5 tons.
Retrieval	Crane must be retrievable
Decontamination	Crane-mounted equipment to withstand occasional washdown during decontamination.

ADDITIONAL REQUIREMENTS

1. Crane-mounted motors, electrical cabinets, etc. to be sealed to withstand occasional washdown during decontamination.
2. Deleted
3. All cranes shall be designed to allow operator positioning to within +/- 3/8".
4. Deleted
5. Must be able to hold and control suspended payload without mechanical braking for sustained periods.
6. Deleted
7. Deleted
8. Power supply is required at hook for crane held tools.
9. Motor horsepower estimated for plant electrical load sizing. Seller to provide.
10. This drawing provided basic outlines, design objectives, and bounding dimensions to contracted design or fabrication supplier(s) and shall not be used to confirm the as built WTP structure, system or component identified herein. See vendor information for final configuration provided in conformance to purchase order 24590-QL-POA-MJKG-00002.
11. The crane will infrequently be subject to operating temperatures near 150°F for up to 12 hours.
12. The full range of hoist speed is not required for all loads.
13. Revision 3 removed calculation reference, symbols column, shield door corner obstruction information, duplicate "range of lift" dimension, gridline distance requirements, and several notes; changed outcell room name, units of dose, outcell room contamination and radiation classification, capacity, range of lift, uppermost bridge feature callout, bridge rail elevation, lowest point of crane, low hook elevation, side approaches, end approaches, maximum crane dimensions, hoist speeds, and several notes; and added MHD reference, rail type, and maximum wheel load.
14. ► Revision 1 changes: Changed additional requirements, drives, and description 4
15. ► Revision 2 changes: Revised based on 24590-HLW-DCA-PL-03-002 Rev 0, and editorial changes. Changed recovery drive type; was VFD 4
16. ► Trolley may not extend past fully compressed end truck bumper. 4
17. ► Revised sketch on page 3, changed Safety Classification from SDS to APC; Quality Level changed from QL to CM 4 and revised environmental conditions 4


Wall mounted bumper brackets
Runway Beam cut back from wall
Crane Maintenance Area
3"
C
L
119'-1"
4'-4"
4'-0"
14
N
Note 16
6'-6" MAX
5'-0" MAX
(6'-9" MAX)
CENTERLINE OF HOOK
13'-0"
12"
1'-8"
Note 16
1'-9"
6'-7"
7'-7" TO GRID LINE
RAIL-STOPS PROVIDED BY OTHERS
8" TYP
34'-4"
EL 52'-0"
EL (47'-7")
EL 45'-1"
EL 44'-10"
EL 44'-9"
10"
CABLE SUPPLYING POWER AND CONTROL
12"
3'-9"
3'-1" (APPROACH TO INCELL WALL)
3'-9"
3'-1" (APPROACH TO INCELL WALL)
EL 3'-0"

BECHTEL	Mechanical Handling Data Sheet Top Running, Double Girder	**CM** ⚠4	Data Sheet No. 24590-HLW-M0D-HSH-00181 Rev. 4 Plant Item No. 24590-HLW-MJ-HSH-CRN-00014

Project	RPP-WTP	Description	Melter 2 Cave Main Crane
Project No.	24590	Supporting Calculation No.	N/A
Planning Area		Associated Drawing No.	N/A
System No.	HSH	Associated Specification No.	24590-WTP-3PS-MJKG-T0003
Building No.	30	Associated MR No.	24590-QL-MRA-MJKG-00002
Quality Level	►CM ⚠4	Associated MHD No.	24590-HLW-M7-HSH-00002002
Seismic Category	SC-II		
Function	Melter Cave 2 Support		

R10704044

DESIGN CRITERIA

ISSUED BY RPP-WTP PDC

Design Life	40 years	Safety Classification	►APC ⚠4

OPERATING ENVIRONMENT			In-Cave Rm # H-0106		CMA Rm # H-0303		List All Special Conditions
			Min	Max	Min	Max	
Temperature		deg F	59	113	59	113	TID is derived using maximum local exposure assumed full time, ie multiplied by 24x365x40
Relative Humidity		%	0	70	0	70	
Radiological	gamma	rad/ 40 yrs	► 7.0*E+6 TID ⚠4		►3.5*E+3 ⚠4		
	neutron	rad/ 40 yrs	Negligible		Negligible		
Radiological Classification			R5		►R3 ⚠4		
Contamination Classification			C5		►C3 ⚠4		

CRANE REQUIREMENTS

Type of Crane	Top Running Double Girder Electric Overhead Traveling Crane		
Service Information	CMAA 70-2000, Class E	Capacity	25 Ton
Crane Operation Indoors?	Yes, In-Cave	Main Hoist	25 Ton
Material Handled	Melter Cave Components	Auxiliary Hoist	N/A
Class Information	Class E	Trolley	25 Ton
No. of Cranes Required	1	Bridge	25 Ton
ASCE Rail Type	175 lb/yd		
Max Wheel Load	42,000 lbs		

OPERATING CHARACTERISTICS AND FREQUENCY OF MOVEMENT

Hoist- Range of Lift	41'-9"	No. lifts/day	1
Average Moves - Bridge	1/2 Runway Length	Moves/day	1
Average Moves - Trolley	3/4 Bridge Length	Moves/day	1

CRANE DIMENSIONS AND ELEVATIONS	ft - in.
Lowest Obstruction Elevation	52'-0"
Uppermost bridge feature ⚠4	► (47'-7" MAXIMUM) BY VENDOR
Bridge Rail Elevation	45'-1"
Lowest Point of Crane Elevation	44'-10"
High Hook Elevation	44'-9"
Low Hook Elevation	3'-0"
Side Approach - hoist center line to West Rails	3'-9" MAXIMUM
Side Approach - hoist center line to East Rails	3'-9" MAXIMUM
Distance from Grid line "9" to Inside face of West Wall ⚠4	► 6'-3" (REF) - SEE SKETCH (pg 3)
Distance from hoist center line to end-truck South bumper	5'-0" MAXIMUM
Distance from hoist center line to end-truck North bumper	6'-6" MAXIMUM
Distance from hoist center line to In-Cave South Wall ⚠4	► 6'-9" MAXIMUM (REF)
Distance from hoist center line to CMA North Wall	10'-6" MAXIMUM (REF)
Distance from Grid Line "L" to inside face of South Wall ⚠4	► 13'-0"
Total distance between inside wall faces of CMA and Cave	131'-10" (REF)
Runway Rails Span	34'-4"

Date	REV	Revisions	By	Checked	Supervisor	Approved
8/10/06	4	See note 17	N J Darwen	A. Whitford	P. Snider	D. Wilsey
02/10/05	3	See note 13	Matt Robinson	Andy Whitford	Phil Snider	Dave Wilsey
09/08/03	2	See note 15	Andy Whitford	Lawrnel Harrison	Grant Marr	Dave Wilsey
11/27/02	1	See note 14	David Horton	Paul Carter	Joni Weamer/ Jim	Dave Wilsey
02/26/02	0	Issued for Procurement	Joeseph Roach	Andy Whitford	Jim Brower	Dave Wilsey

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-HLW-M0D-HSH-00181	Rev. 4
	Plant Item No. 24590-HLW-MJ-HSH-CRN-00014	

DRIVE TYPE SPEED AND HORSEPOWER

				Nominal Speed (ft/m):	
Drives	Drive Type	Speed	Horsepower	Slow	Fast
Main Hoist Drive Type	Flux Vector	Variable 0 - 25	30 HP	5	20
Recovery Hoist Drive Type	Single Speed	Single Speed	15 HP	4	
Main Bridge Drive Type	VFD	Variable 0 - 50	4 HP	5	50
Recovery Bridge Drive Type	Single Speed	Single Speed	1 HP	5	
Main Trolley Drive Type	VFD	Variable 0-25	1.5 HP	5	25
Recovery Trolley Drive Type	Single Speed	Single Speed	0.75 HP	5	
Powered Hook	DC Motor	Fixed	0.05 HP	1-2	

CONDUCTOR TYPE

Bridge	Cable Reel
Trolley	Cable Track

CONTROLS

Method of Control	Integrated control network (remote) or panel pushbuttons (local)
Location of Control	Operating corridor or facility control room (remote) or panel (local)
Type of Control Enclosure	NEMA 4X or IP 66

ELECTRICAL REQUIREMENTS

Item	Volts / Phase / Hertz
Motor	480 VAC / 3 Phase / 60 HZ
Special Wiring Conditions	National Electric Code

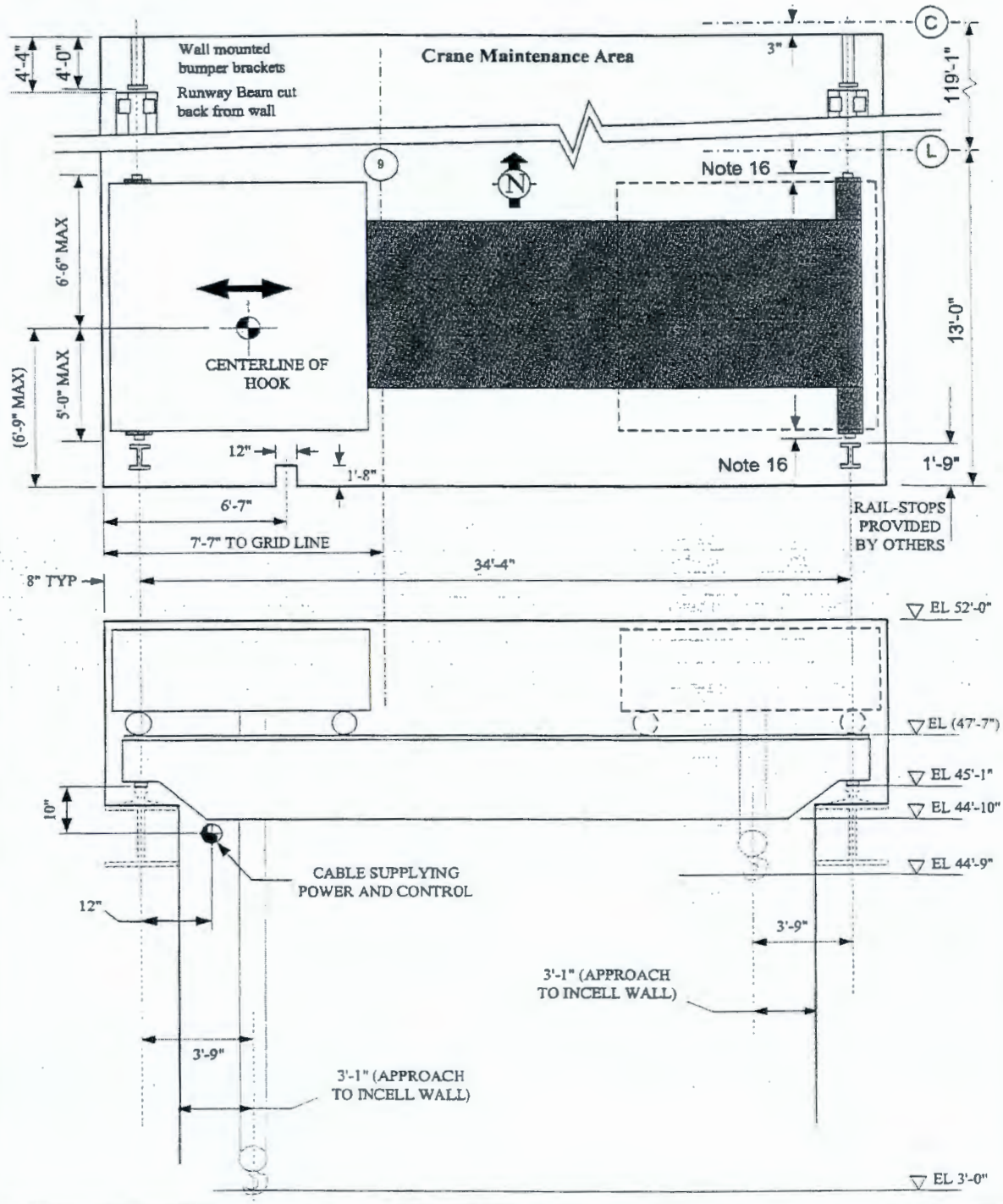
MAINTENANCE REQUIREMENTS

Construction	Modular for ease of assembly / dismantling
Modularization	Heaviest modular item (excludes bridge beams and end trucks) shall be < 5 tons.
Retrieval	Crane must be retrievable
Decontamination	Crane-mounted equipment to withstand occasional washdown during decontamination.

ADDITIONAL REQUIREMENTS (NOTES):

1. Crane-mounted motors, electrical cabinets, etc. to be sealed to withstand occasional washdown during decontamination.
2. Deleted
3. All cranes shall be designed to allow operator positioning to within +/- 3/8".
4. Deleted
5. Must be able to hold and control suspended payload without mechanical braking for sustained periods.
6. Deleted
7. Deleted
8. Power supply is required at hook for crane held tools.
9. Motor horsepower estimated for plant electrical load sizing. Seller to provide.
10. This drawing provided basic outlines, design objectives, and bounding dimensions to contracted design or fabrication supplier(s) and shall not be used to confirm the as built WTP structure, system or component identified herein. See vendor information for final configuration provided in conformance to purchase order 24590-QL-POA-MJKG-00002.
11. The crane will infrequently be subject to operating temperatures near 150°F for up to 12 hours.
12. The full range of hoist speed is not required for all loads.
13. Revision 3 removed calculation reference, symbols column, shield door corner obstruction information, duplicate "range of lift" dimension, gridline distance requirements, and several notes; changed outcell room name, units of dose, outcell room contamination and radiation classification, capacity, range of lift, uppermost bridge feature callout, bridge rail elevation, lowest point of crane, low hook elevation, side approaches, end approaches, maximum crane dimensions, hoist speeds, and several notes; and added MHD reference, rail type, and maximum wheel load.
14. ► Revision 1 changes: Changed additional requirements, drives, and description 4
15. ► Revision 2 changes: Revised based on 24590-HLW-DCA-PL-03-002 Rev 0, and editorial changes. Changed recovery drive type; was VFD 4
16. ► Trolley may not extend past fully compressed end truck bumper. 4
17. ► Revised sketch on page 3, changed Safety Classification from SDS to APC; Quality Level changed from QL to CM and revised environmental conditions 4

4


Wall mounted bumper brackets
Runway Beam cut back from wall
Crane Maintenance Area
4'-4"
4'-0"
3"
C
119'-1"
L
9
N
Note 16
6'-6" MAX
5'-0" MAX
(6'-9" MAX)
CENTERLINE OF HOOK
13'-0"
12"
1'-8"
Note 16
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6'-7"
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RAIL-STOPS PROVIDED BY OTHERS
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CABLE SUPPLYING POWER AND CONTROL
12"
3'-9"
3'-1" (APPROACH TO INCELL WALL)
3'-9"
3'-1" (APPROACH TO INCELL WALL)
EL 3'-0"

BECHTEL	**Mechanical Handling Data Sheet** ISSUED BY RPP-WTP PDC Top Running, Double Girder	CM	Data Sheet No. 24590-LAW-M0D-LEH-00014 Plant Item No 24590-LAW-MJ-LEH-CRN-00003 Rev. 7

R10737254

Project	RPP-WTP	Description	LEH Crane Export High Bay With Recovery, 10 Ton
Project No.	24590	Supporting Calculation No.	24590-LAW-M0C-LRH-00004
Planning Area	6B	Associated Drawing No.	24590-LAW-M7-LEH-00002002; 24590-LAW-P1-P01T-00009
System No.	LEH	Associated Specification No.	24590-LAW-3PS-MJKG-T0001
Building No.	20	Associated MR No.	24590-CM-MRA-MJKG-00003
Quality Level	CM-Commercial		
Seismic Criteria	SC-III (UBC Zone 2B)		
Function	Load and transfer ILAW containers		

DESIGN CRITERIA

Design Life	40 years		Safety Class		Non Important To Safety (ITS)			
OPERATING ENVIRONMENT			In-Cave	Rm #	NA	Out-Cave	Rm #	L-0127
								List All Special Conditions
Temperature		deg F	N/A	N/A		50	113	Cave is considered R2 (Personnel may enter) when a LAW container is not present or is loaded into a cask. See Note 6.
Relative Humidity		%	N/A	N/A		5	100	
Radiological Equip. Dose	gamma	rad/ 40 yrs	N/A	N/A		175	2000	
	neutron	rad/ 40 yrs	N/A	N/A		Negligible	Negligible	
Radiological Classification			N/A	N/A		R2	R5	
Contamination Classification			N/A	N/A		C1	C1	

CRANE REQUIREMENTS

Type of Crane	LEH Crane Export High With Recovery, 10 Ton		Tons
Service Information	CMAA-70: Class D	Capacity	10
Crane Operation Indoors?	Yes	Main Hoist	10
Material Handled	Filled ILAW Product Containers	Auxiliary Hoist	N/A
Class Information	CMAA-70; Class D	Trolley	10
No. of Cranes Required	1	Bridge	10
ASCE Rail Type or Beam Size	104# CR [Buyer (CSA) supplied]		

Lifts	Symbol	(ft)	(in)		Quantity	Main Speed		Creep Speed	
Maximum Lift - Main Hoist	A	31	0	Lifts/day	5	VAR 0-25	(ft/min)	5	(ft/min)
Maximum Lift - Aux. Hoist	N/A	N/A	N/A	Lifts/day	N/A	N/A	(ft/min)	N/A	(ft/min)
Average Moves - Bridge	N/A	45	0	Moves/day	10	VAR 0-25	(ft/min)	5	(ft/min)
Average Moves - Trolley	N/A	30	0	Moves/day	10	VAR 0-25	(ft/min)	5	(ft/min)

Rail Lengths	Symbol	(ft)	(in)
Runway Length	B	79	0
Hook Approach - hook C/L to end walls (Maximum)	C	See note 2	See note 2
Span	D	40	0
Hook Approach - hook C/L to Rail C/L (Maximum)	E	See note 3	See note 3

Date	REV	Revisions	By	Checked	Supervisor	Approved
11-14-06	7	Calc reference correction; As-builts; CCNs 137017 & 139194; Project closeout & 24590-LAW-M0N-LEH-00001.	WA Frier	D. Adams	J. LaBryer	P. Snider
12/8/2005	6	Revised "J" IAW 24590-CM-POA-MJKH 00002-01-00024, Incorporated 24590-WTP-SDDR-M-05-00201	WA Frier	N. Darwen	P Snider	J. LaBryer
10/1/2004	5	Revised rail beam attachmet in accordance with CCN 101264	WA Frier	N. Darwen	L. Harrison	D Wilsey
9/17/2004	4	Revised festoon location per Sellers request (CCN 089943)	WA Frier	N Darwen	L. Harrison	D. Wilsey
08/05/04	3	Revised Dim "H" & "G" in accordance with CCN 095329 & 095615 (except span retained as 40'-0"), clarified note 7; and added note 10 due to design evolution	WA Frier	N Darwen	L Harrison	D. Wilsey
06/14/04	2	Revised throughput in accordance with CCN 068365	WA Frier JSH	E Szavay	L Harrison/N Darwen	D. Wilsey
03/15/04	1	Corrected Note in Environmental Conditions Notes 7 & 9 revised for clarification	WA Frier	E Szavay	L Harrison	D. Wilsey
10/07/03	0	Issued For Procurement	WA Frier	A Whitford	J. Weamer/M. Johnson	D. Wilsey

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-LAW-M0D-LEH-00014	
	Plant Item No. 24590-LAW-MJ-LEH-CRN-00003	Rev. 7

Rail Positions	Symbol	(ft)	(in)
Top of Rail to Ceiling	F	N/A	N/A
Floor to Top of Rail	G	32	0
Rail Centerline to side wall	H	1	2
Bridge end to wall	N/A	N/A	N/A
Top of Rail to Lowest Obstruction	J	8	5

Drives	Volts	Phase	Hz	Control Type
Hook Rotate Drive Type	N/A	N/A	N/A	N/A
Main Hoist Drive Type	460	3	60	Intelligent Drive
Aux. Hoist Drive Type	N/A	N/A	N/A	N/A
Bridge Drive Type	460	3	60	Intelligent Drive
Trolley Drive Type	460	3	60	Intelligent Drive
Slewing Drive Type	N/A	N/A	N/A	N/A

CONDUCTOR TYPE

Bridge	Festoon
Trolley	Festoon

CONTROLS

Method of Control	Combination of Automation/Semi Automatic/manual - Through Integrated Control Network (ICN)
Location of Control	Facility Control Room HMI/ (CMA) Controller / LOI in Operating Area
Type of Control Enclosure	NEMA 12
Main Hoist	ICN
Auxiliary Hoist	N/A
Bridge	ICN
Trolley	ICN
Slewing Drive	N/A
Rotating Hook	N/A

MATERIALS

Item	Material	Grade/Type
.	A36	Seller shall designate
.	.	.

ELECTRICAL REQUIREMENTS

Item		HP		HP		HP		HP		HP
Motor	Main Hoist	20	Aux. Hoist	N/A	Bridge	(4) 1.75	Trolley	(2)1.75	Slewing	N/A
	Hook Rotate	N/A								

Special Wiring Conditions or Codes	National Electrical Code

Motor horsepower estimated for plant electrical load sizing. Seller to provide.

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-LAW-M0D-LEH-00014	
	Plant Item No. 24590-LAW-MJ-LEH-CRN-00003	Rev. 7

MAINTENANCE REQUIREMENTS

Retrieval	Bridge, Trolley, and Hoist Drives shall be recoverable in accordance with 24590-LAW-3PS-MJKG-T0001, Sec.3.2.10.
Decontamination	N/A

ADDITIONAL REQUIREMENTS

1. Three crane mounted cameras capable of pan, zoom and tilt. One on the East end truck, one mounted to the trolley, and one on the bridge approximately 10 feet from the East rail centerline. (Buyer Supplied)

2. C1 = 15'-0"; C2 = 15'-0"

3. E1 = 4'-0" maximum; E2 = 6'-0" maximum /7\

4. Provide six crane mounted lights mounted to underside of bridge beams. Three lights shall be equally spaced on each beam. Provide 60-ft candles at 7.5-ft above floor level.

5. Recovery motor size: Hoist 4HP, Bridge (2) 1.75 HP, Trolley 1.75HP. Sizes are approximate and used for plant electrical load sizing. Seller shall verify size.

6. Room L-0127 is classified as R2/R5 when LAW canister is present which occurs less than 20% of time. Exposure is 30 mR/hr. at 4-ft from contact (24590-LAW-Z0C-W13T-00002).

7. The bottom of the festoon loop shall not hang below elevation 18'-0".

8. Provide walkway on south side of crane for maintenance.

9. Seller shall provide crane-mounted walkway for festoon rail inspection. Walkway shall be designed for 100 pounds per square foot.

10. Control and power feed will be from the north wall. Power and control cables will be a maximum of 150-ft length from 24590-LAW-JC-LEH-PNL-00005 to the junction boxes. /7\

11. Seller shall identify number of bridge festoon wall supports and size common to wall. Festoon supports need not be painted if materials of fabrication are stainless steel. /7\

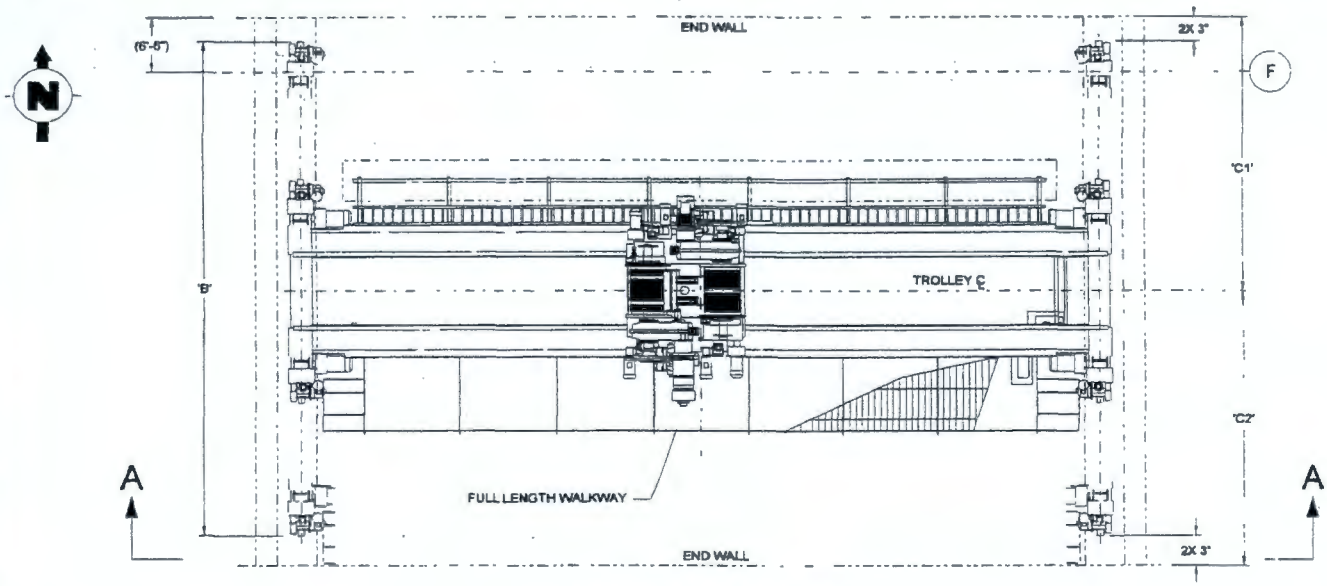
12. For LEH-CRN-00003 seismic calculations use h_r = 48'-0".

13. Bridge festoon support (24590-CM-POA-MJKG-00003-08-00061) overall length shall be 52". /7\

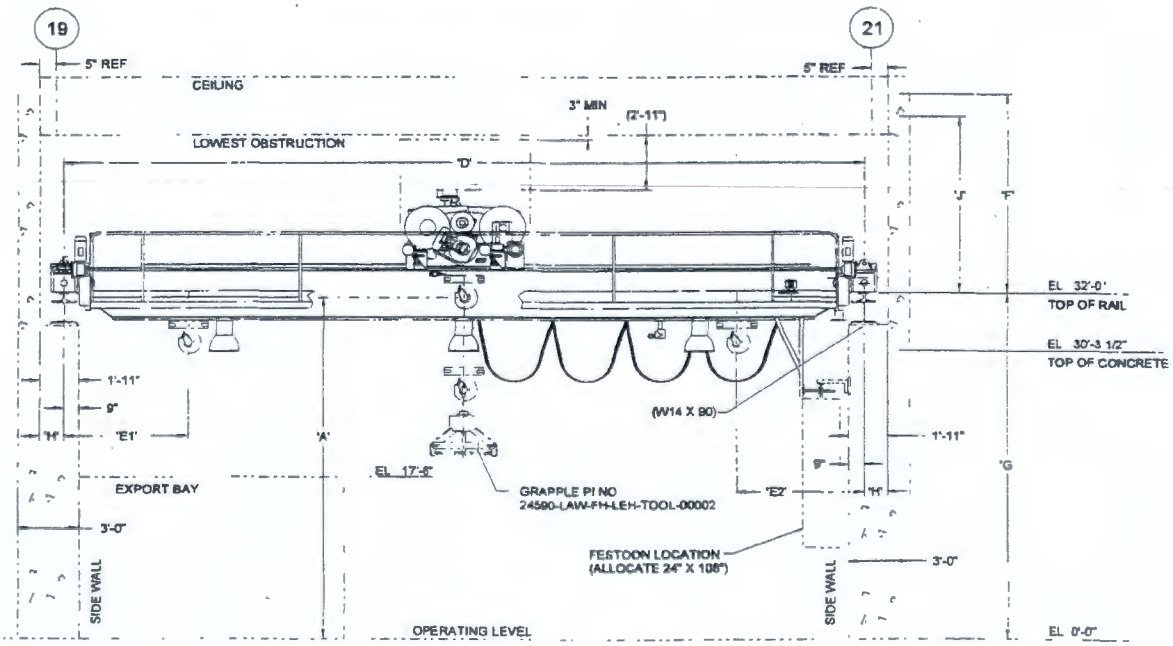
14. This data sheet is a lead document that contains input information for Design Basis Event calculations. Modification of the maximum lift height of the main hoist require AB review by the E&NS discipline. Changes to the text of this note require AB review by the E&NS discipline as well. If the changes being made do not alter the maximum lift height of the main hoist or the text of this note, AB review is not required. (A Safety Screening/Evaluation is required becasue the proposed changes identify these documents as Lead Documents that require E&NS screening when specific parameters are modified.) /7\

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No. 24590-LAW-M0D-LEH-00014	
	Plant Item No. 24590-LAW-MJ-LEH-CRN-00003	Rev. 7

THIS DRAWING PROVIDED BASIC OUTLINES, DESIGN OBJECTIVES, AND BOUNDING DIMENSIONS TO CONTRACTED DESIGN OR FABRICATION SUPPLIER(S) AND SHALL NOT BE USED TO CONFIRM THE AS BUILT WTP STRUCTURE, SYSTEM OR COMPONENT IDENTIFIED HEREIN, SEE VENDOR INFORMATION FOR FINAL CONFIGURATION PROVIDED IN CONFORMANCE TO PURCHASE ORDER.



PLAN VIEW AT ELEV. 35'-0"



VIEW A-A

⚠ CRANE GRAPHICS UPDATED WITH VENDOR'S AS-BUILT CRANE

R10319622

Mechanical Handling Data Sheet Top Running, Double Girder	CM	Data Sheet No 24590-LAW-M0D-LPH-00003	
		Plant Item No 24590-LAW-MJ-LPH-CRN-00002	Rev. 5

Project	RPP-WTP	Description	Top Running, Double Girder
Project No	24590	Supporting Calculation No.	24590-LAW-M0C-LRH-00001
Planning Area	3	Associated Drawing No	24590-LAW-M0-LPH-00014001, 24590-LAW-M0-LPH-00014002; 24590-LAW-M0-LPH-00014003; 24590-LAW-M7-LPH-00001004
System No.	LPH	Associated Specification No	24590-LAW-3PS-MJKG-T0001
Building No	20	Associated MR No.	24590-CM-MRA-MJKG-00003
Quality Level	Commercial		
Seismic Criteria	SC-III (UBC Zone 2B)		
Function	Transport ILAW Containers into/out of Buffer Storage		

ISSUED BY RPP-WTP PDC
INIT DATE

DESIGN CRITERIA

Design Life	40 years	Safety Class	Non-Important To Safety

OPERATING ENVIRONMENT			In-Cave Rm # L-B025C		Out-Cave Rm # L-B019A		List All Special
			Min	Max	Min	Max	Conditions
Temperature		deg F	59	113	59	95	In-Cave temperature may be as high as 130 deg F Max.
Relative Humidity		%	5	85	5	85	
Radiological Equip Dose	gamma	rad/ 40 yrs	3.5x10e3	3 5x10e4	875	3 5x10e3	
	neutron	rad/ 40 yrs	Negligible	Negligible	Negligible	Negligible	
Radiological Classification			R5	R5	R3	R3	
Contamination Classification			C5	R5	C3	C3	

CRANE REQUIREMENTS

Type of Crane	Top Running, Double Girder		
Service Information	CMAA-70: Class D		Capacity (tons)
Crane Operation Indoors?	Yes	Main Hoist	10
Material Handled	Filled ILAW Product Containers	Auxiliary Hoist	N/A
Class Information	CMAA-70, Class D	Bridge	10
ASCE Rail Type or Beam Size	104# CR [Buyer (CSA) supplied]		

Lifts	Symbol	(ft)	(in)		Quantity	Main Speed		Creep Speed	
Main Hoist Lift Height	A	15	5 5	Lifts/day	7	VAR 0-25	(ft/min)	N/A	(ft/min)
Aux. Hoist Lift Height	N/A	N/A	N/A	Lifts/day	N/A	N/A	(ft/min)	N/A	(ft/min)
Average Moves - Bridge	N/A	48	6	Moves/day	7	VAR 0-25	(ft/min)	N/A	(ft/min)
Average Moves - Trolley	N/A	10	0	Moves/day	14	VAR 0-25	(ft/min)	N/A	(ft/min)

Date	REV	Revisions	By	Checked	Supervisor	Approved
6/14/04	5	Incorporate 24590-WTP-SDDR-PROC-04-00414 and 24590-WTP-SDDR-PROC-04-00450	WA Frier	E. Szavay	L Harnson	Dave Wilsey
04/29/04	4	Revised hook approach in accordance with 24590-CM-POA-MJKG-00003-16-01. Revised motor control center rating in accordance with 24590-WTP-SDDR-PROC-04-00284. Editorial revision	WA Frier	E. Szavay	L Harnson	Dave Wilsey
09/09/03	3	Revised calc no., crane type & hook approach notation. Dose calculation based upon 24590-LAW-20C-W13T-00002, Rev A & CCN 068694. Revised dim 'F' Revised decon maint req'mt Clarified lighting requirements. Added note on configuration Added grapple profile & revised 'A' & 'B' dim in sketch	WA Frier	E. Szavay	J Weamer/Mark Johnson	Dave Wilsey
05/01/03	2	Note 1 changed to state 2 cameras required as close to each end truck as possible Template updated. Dimensions A and E improved based on Supplier information. Includes vendor information for motor sizing. Incorporates SDDR 24590-WTP-SDDR-PROC-03-0006	B Kempe	R. Leyva	J Weamer/Mark Johnson	Dave Wilsey
09/26/02	1	Issued for Procurement	B Kempe	C. Weddle	S Crow/J Weamer	Dave Wilsey
03/27/02	0	Issued for Procurement	M Meyer	Craig Keller	Mark Johnson	Dave Wilsey

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No 24590-LAW-M0D-LPH-00003	
	Plant Item No 24590-LAW-MJ-LPH-CRN-00002	Rev. 5

Rail Lengths	Symbol	(ft)	(in)
Runway Length	B	76	4
Hook Approach - bridge to north wall (Max)	C1	6	0
Hook Approach - bridge to south wall (Max)	C2	6	2
Span	D	18	10
Hook Approach - trolley to west Beam C/L (Max)	E1	2	10
Hook Approach - trolley to east Beam C/L (Max)	E2	3	3

Rail Positions	Symbol	(ft)	(in)
Top of Rail to Ceiling	F	6	6
Floor to Top of Rail	G	16	0
Rail Centerline to side wall	H	0	10
Top of Rail to Lowest Obstruction	J	4	11

Drives	Volts	Phase	Hz	Control Type
Main Hoist Drive Type	460	3	60	ICN
Aux. Hoist Drive Type	N/A	N/A	N/A	N/A
Bridge Drive Type	460	3	60	ICN
Trolley Drive Type	460	3	60	ICN

CONDUCTOR TYPE

Bridge	Cable Track
Trolley	Cable Track

CONTROLS

Method of Control	Combination of Automation/Semi Automatic/manual - Through Integrated Control Network (ICN)
Location of Control	Facility Control Room HMI/ (CMA) Controller
Type of Control Enclosure	NEMA 1 for Motor Control Center
Main Hoist	ICN, flux vector drive 0-25 ft/min
Auxiliary Hoist	N/A
Bridge	ICN, variable frequency drive 0-25 ft/min
Trolley	ICN, variable frequency drive 0-25 ft/min

MATERIALS

Item	Material	Grade/Type
N/A	N/A	N/A
N/A	N/A	N/A

ELECTRICAL REQUIREMENTS

Item	HP		HP		HP		HP
Motor Main Hoist	20	Aux. Hoist	N/A	Bridge	(4) 1.75	Trolley	(2) 1.75

Special Wiring Conditions or Codes	National Electrical Code

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No 24590-LAW-M0D-LPH-00003	
	Plant Item No. 24590-LAW-MJ-LPH-CRN-00002	Rev 5

MAINTENANCE REQUIREMENTS

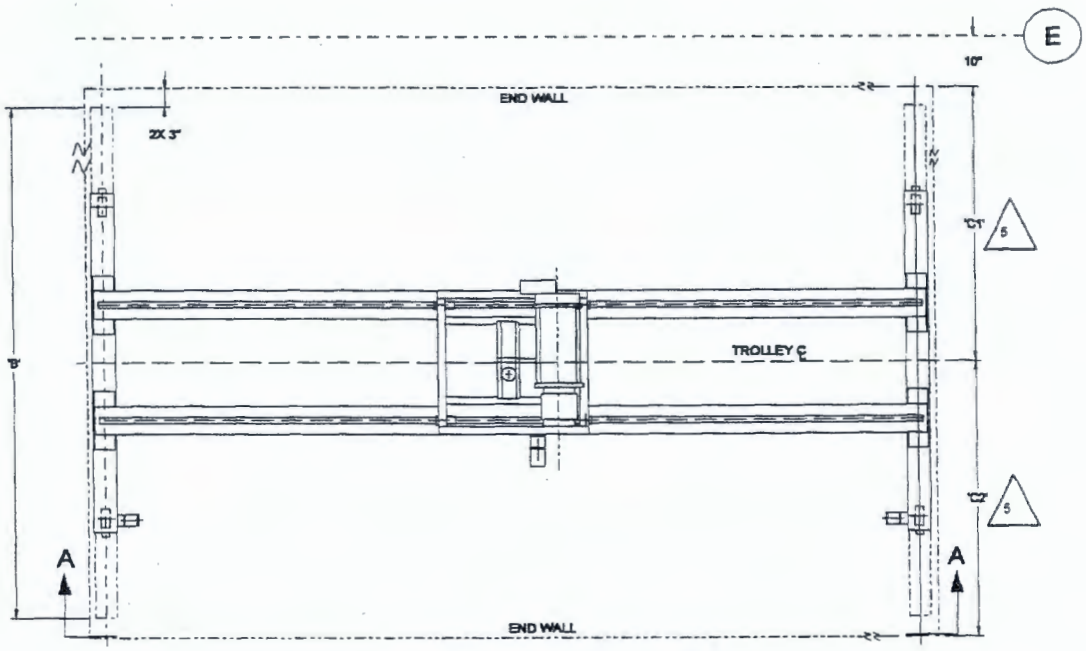
Retrieval	Crane must be retrievable including hoist, bridge drive, and trolley drive Grapple sequence requires a lower-raise-lower to release
Decontamination	Cranes shall be decontaminated by hands on contact.

ADDITIONAL REQUIREMENTS

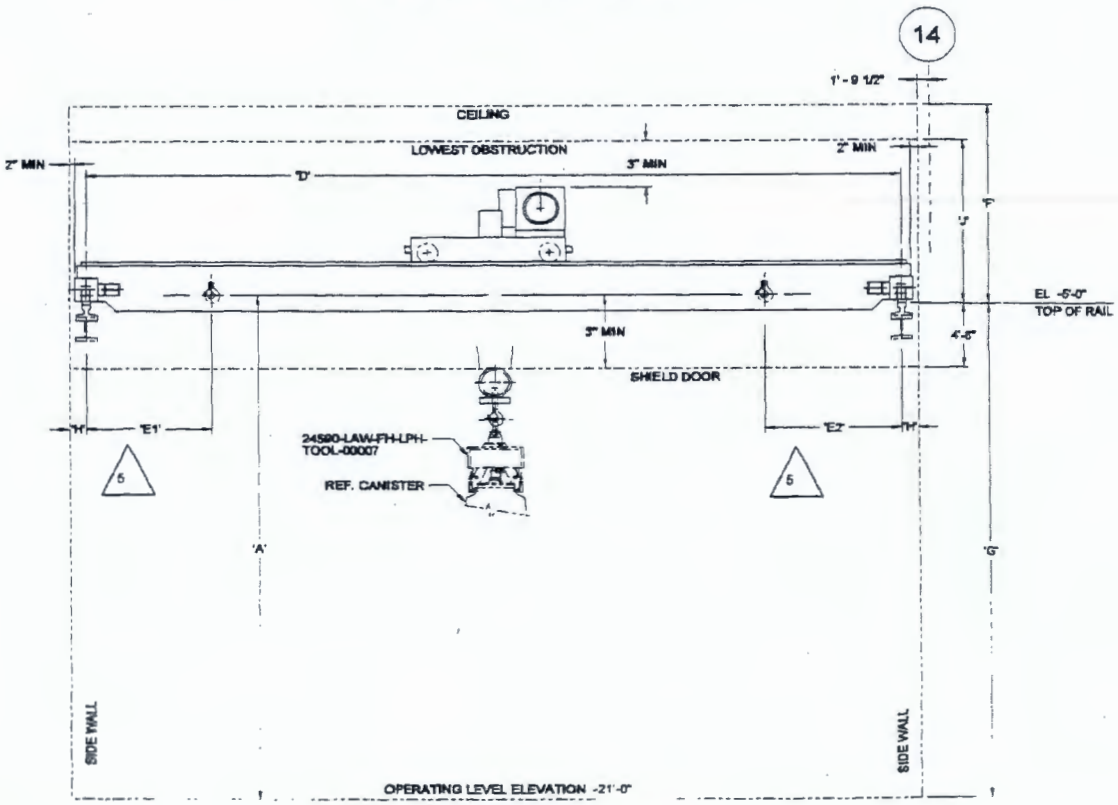
1. Two crane mounted cameras capable of pan, zoom and tilt. One camera mounted as close to each end truck as possible. (Buyer supplied).
2. Four crane mounted lights mounted to underside of bridge beam - capable of 40-60 foot candle at7.5 ft from floor level
3. Room maximum operational temp is 113 degrees F. Peak temperature may be as high as 130 degrees F.
4. Deleted
5. Hoist shall have a load cell, as shown in 24590-LAW-M7-LPH-00001004.

Mechanical Handling Data Sheet Top Running, Double Girder	Data Sheet No 24590-LAW-M0D-LPH-00003	
	Plant Item No. 24590-LAW-MJ-LPH-CRN-00002	Rev 5

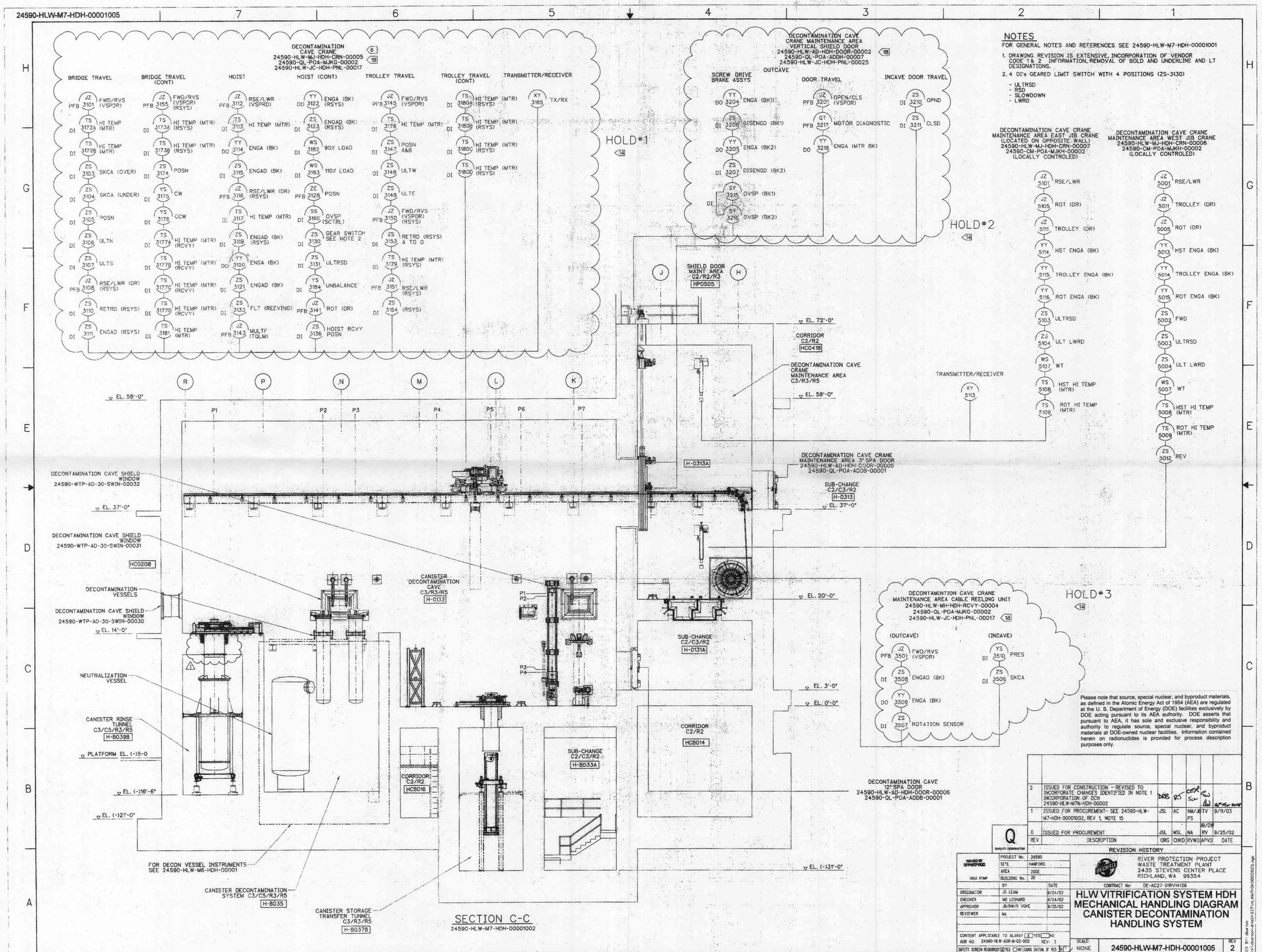
THIS DRAWING PROVIDES BASIC OUTLINES, DESIGN OBJECTIVES, AND BOUNDING DIMENSIONS TO CONTRACTED DESIGN OR FABRICATION SUPPLIER(S) AND SHALL NOT BE USED TO CONFIRM THE AS BUILT WTP STRUCTURE, SYSTEM OR COMPONENT IDENTIFIED HEREIN. SEE VENDOR INFORMATION FOR FINAL CONFIGURATION PROVIDED IN CONFORMANCE TO PURCHASE ORDER 24590-CM-POA-MJKG-00003.



PLAN VIEW AT ELEV. -5'-0"



VIEW A-A



NOTES

FOR GENERAL NOTES AND REFERENCES SEE 24590-HLW-M7-HDH-00001001

1. DRAWING REVISION IS EXTENSIVE, INCORPORATION OF VENDOR CODE 1 & 2 INFORMATION, REMOVAL OF BOLD AND UNDERLINE AND LT DESIGNATIONS.
2. 4 DI's GEARED LIMIT SWITCH WITH 4 POSITIONS (ZS-3130)
   - ULTRSD
   - RSD
   - SLOWDOWN
   - LWRD

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
2	ISSUED FOR CONSTRUCTION - REVISED TO INCORPORATE CHANGES IDENTIFIED IN NOTE 1 INCORPORATION OF DCN 24590-HLW-M7N-HDH-00002	DRB	RS	CEH SLW	RW	09/24/03
1	ISSUED FOR PROCUREMENT- SEE 24590-HLW-M7-HDH-00001002, REV 1, NOTE 15	JSL	AC	NM/JB PS	TV	9/11/03
0	ISSUED FOR PROCUREMENT	JSL	MSL	NA	JB/DW RV	9/25/02

REVISION HISTORY

Q QUALITY DESIGNATOR

ISSUED BY RPP-WTP PDC

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	JS LEAM	9/24/02
CHECKER	MS LEONARD	9/24/02
APPROVER	JB/DW/R VOKE	9/25/02
REVIEWER	NA	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-002 REV: 3
SAFETY SCREEN REQUIRED? [X] YES [ ] NO (EWS INITIAL IF YES)

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

HLW VITRIFICATION SYSTEM HDH MECHANICAL HANDLING DIAGRAM CANISTER DECONTAMINATION HANDLING SYSTEM

SCALE: NONE

24590-HLW-M7-HDH-00001005

REV 2

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SEEG-002

SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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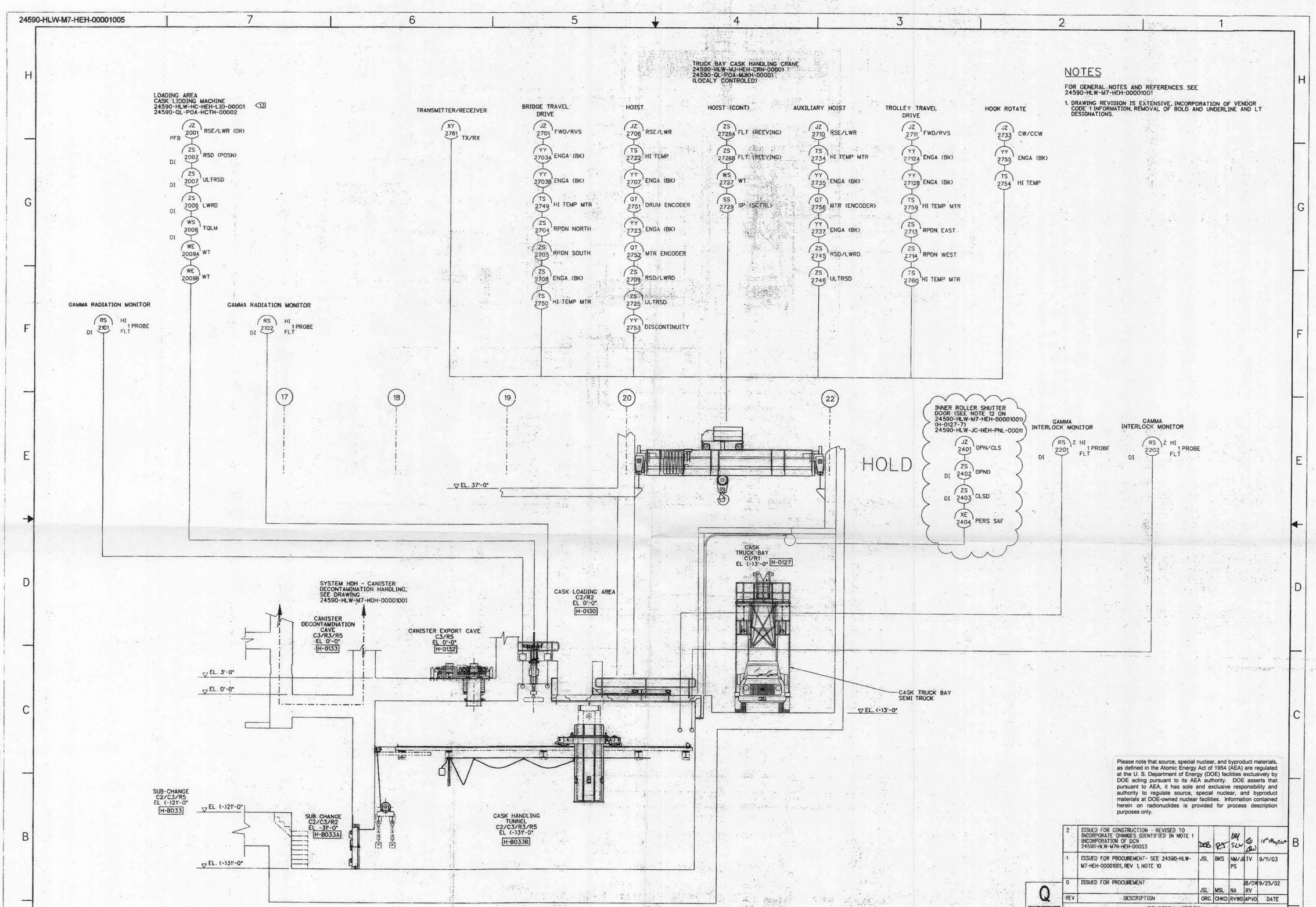

SECTION B-B

24590-HLW-M7-HEH-00001002

NOTES

FOR GENERAL NOTES AND REFERENCES SEE 24590-HLW-M7-HEH-00001001

1. DRAWING REVISION IS EXTENSIVE, INCORPORATION OF VENDOR CODE 1 INFORMATION, REMOVAL OF BOLD AND UNDERLINE AND LT DESIGNATIONS.

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
2	ISSUED FOR CONSTRUCTION - REVISED TO INCORPORATE CHANGES IDENTIFIED IN NOTE 1 INCORPORATION OF DCN 24590-HLW-M7N-HEH-00003	DEB	RJ	SLW		15th May 2007
1	ISSUED FOR PROCUREMENT- SEE 24590-HLW-M7-HEH-00001001, REV 1, NOTE 10	JSL	BKS	NM/JB PS	TV	9/11/03
0	ISSUED FOR PROCUREMENT	JSL	MSL	NA	JB/DW RV	9/25/02

REVISION HISTORY

Q QUALITY DESIGNATOR

ISSUED BY RPP-WTP-PDC ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	JS LEAM	9/24/02
CHECKER	MS LEONARD	9/24/02
APPROVER	JB/DW/R VONE	9/25/02
REVIEWER	NA	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO

ADR NO. 24590-HLW-ADR-M-02-002 REV: 3

SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMAIL INITIAL IF YES: AC 5/9/07

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-PPP-SHEQ-002

2

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

HLW VITRIFICATION SYSTEM HEH MECHANICAL HANDLING DIAGRAM CANISTER EXPORT HANDLING SYSTEM

SCALE: NONE

24590-HLW-M7-HEH-00001005

REV 2

E SIZE - 44x34

COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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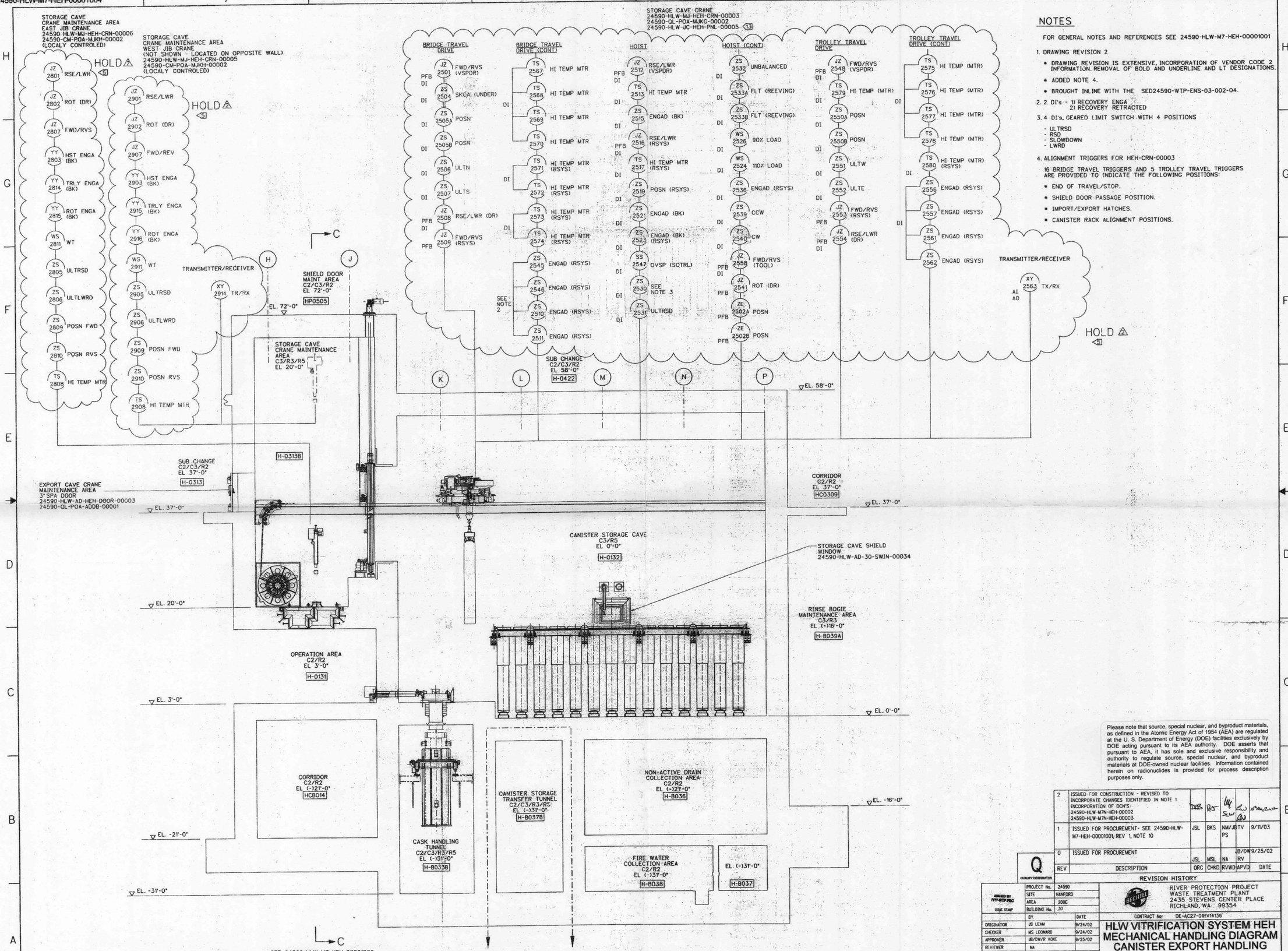
FORM E_SDKLDGN 02/2003

24590-HLW-M7-HEH-00001004



NOTES

FOR GENERAL NOTES AND REFERENCES SEE 24590-HLW-M7-HEH-00001001

1. DRAWING REVISION 2
   - DRAWING REVISION IS EXTENSIVE, INCORPORATION OF VENDOR CODE 2 INFORMATION. REMOVAL OF BOLD AND UNDERLINE AND LT DESIGNATIONS.
   - ADDED NOTE 4.
   - BROUGHT INLINE WITH THE SED24590-WTP-ENS-03-002-04.
2. 2 DI's - 1) RECOVERY ENGA
   2) RECOVERY RETRACTED
3. 4 DI's, GEARED LIMIT SWITCH WITH 4 POSITIONS
   - ULTRSD
   - RSD
   - SLOWDOWN
   - LWRD
4. ALIGNMENT TRIGGERS FOR HEH-CRN-00003

   16 BRIDGE TRAVEL TRIGGERS AND 5 TROLLEY TRAVEL TRIGGERS ARE PROVIDED TO INDICATE THE FOLLOWING POSITIONS:
   - END OF TRAVEL/STOP.
   - SHIELD DOOR PASSAGE POSITION.
   - IMPORT/EXPORT HATCHES.
   - CANISTER RACK ALIGNMENT POSITIONS.

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REVISION HISTORY

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
2	ISSUED FOR CONSTRUCTION - REVISED TO INCORPORATE CHANGES IDENTIFIED IN NOTE 1 INCORPORATION OF DCN'S 24590-HLW-M7N-HEH-00002 24590-HLW-M7N-HEH-00003	DRB	RJS	LW SLW	CJ JB	10/24/2003
1	ISSUED FOR PROCUREMENT- SEE 24590-HLW-M7-HEH-00001001, REV 1, NOTE 10	JSL	BKS	NM/JB PS	TV	9/11/03
0	ISSUED FOR PROCUREMENT	JSL	MSL	NA	JB/DW RV	9/25/02

Q QUALITY DESIGNATOR

ISSUED BY RPP-WTP-PDC ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	

	BY	DATE
ORIGINATOR	JS LEAM	9/24/02
CHECKER	MS LEONARD	9/24/02
APPROVER	JB/DW/R VORE	9/25/02
REVIEWER	NA	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-002 REV: 3
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES

SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREQ-002

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

HLW VITRIFICATION SYSTEM HEH MECHANICAL HANDLING DIAGRAM CANISTER EXPORT HANDLING SYSTEM

SCALE: NONE

24590-HLW-M7-HEH-00001004 REV 2

"E" SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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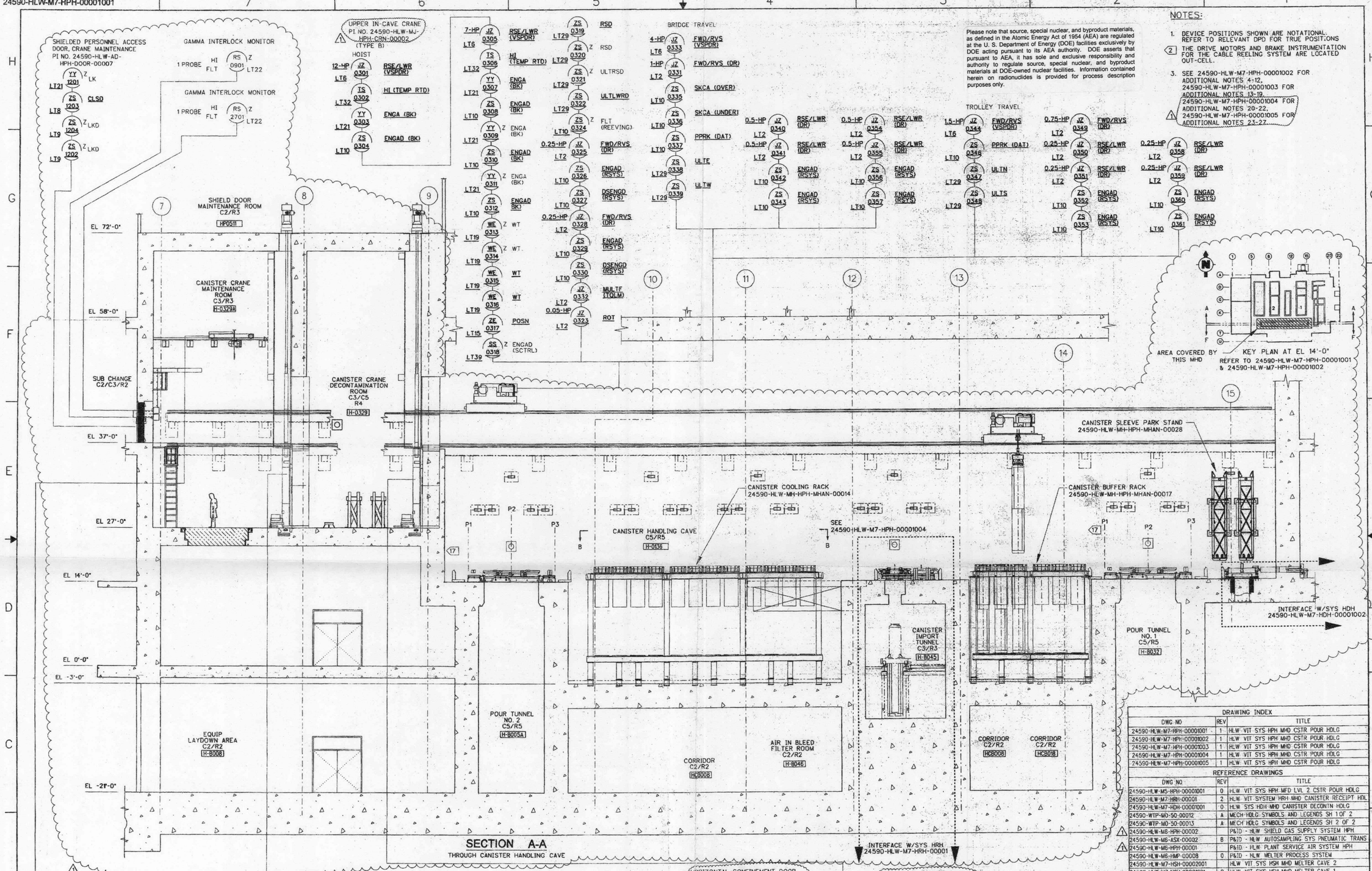
FORM E_SDNLDGN 02/2003

24590-HLW-M7-HPH-00001001



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NOTES:

1. DEVICE POSITIONS SHOWN ARE NOTATIONAL. REFER TO RELEVANT DPD FOR TRUE POSITIONS
2. THE DRIVE MOTORS AND BRAKE INSTRUMENTATION FOR THE CABLE REELING SYSTEM ARE LOCATED OUT-CELL.
3. SEE 24590-HLW-M7-HPH-00001002 FOR ADDITIONAL NOTES 4-12, 24590-HLW-M7-HPH-00001003 FOR ADDITIONAL NOTES 13-19, 24590-HLW-M7-HPH-00001004 FOR ADDITIONAL NOTES 20-22, 24590-HLW-M7-HPH-00001005 FOR ADDITIONAL NOTES 23-27.

SECTION A-A
THROUGH CANISTER HANDLING CAVE

DRAWING INDEX

DWG NO	REV	TITLE
24590-HLW-M7-HPH-00001001	1	HLW VIT SYS HPH MHD CSTR POUR HDLG
24590-HLW-M7-HPH-00001002	1	HLW VIT SYS HPH MHD CSTR POUR HDLG
24590-HLW-M7-HPH-00001003	1	HLW VIT SYS HPH MHD CSTR POUR HDLG
24590-HLW-M7-HPH-00001004	1	HLW VIT SYS HPH MHD CSTR POUR HDLG
24590-HLW-M7-HPH-00001005	1	HLW VIT SYS HPH MHD CSTR POUR HDLG

REFERENCE DRAWINGS

DWG NO	REV	TITLE
24590-HLW-M5-HPH-00001001	0	HLW VIT SYS HPH MFD LVL 2 CSTR POUR HDLG
24590-HLW-M7-HRH-00001	2	HLW VIT SYSTEM HRH MHD CANISTER RECEIPT HDL
24590-HLW-M7-HDH-00001001	0	HLW SYS HDH MHD CANISTER DECONTN HDLG
24590-WTP-MD-50-00012	A	MECH HDLG SYMBOLS AND LEGENDS SH 1 OF 2
24590-WTP-MD-50-00013	A	MECH HDLG SYMBOLS AND LEGENDS SH 2 OF 2
24590-HLW-M6-HPH-00002		P&ID - HLW SHIELD GAS SUPPLY SYSTEM HPH
24590-HLW-M6-ASX-00002	B	P&ID - HLW AUTOSAMPLING SYS PNEUMATIC TRANS
24590-HLW-M6-HPH-00001		P&ID - HLW PLANT SERVICE AIR SYSTEM HPH
24590-HLW-M6-HMP-00008	0	P&ID - HLW MELTER PROCESS SYSTEM
24590-HLW-M7-HSH-00002001		HLW VIT SYS HSH MHD MELTER CAVE 2
24590-HLW-M7-HSH-00001001	0	HLW VIT SYS HSH MHD MELTER CAVE 1

REVISION HISTORY

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
1	ISSUED FOR PROCUREMENT. SEE NOTE 22 ON DRAWING 24590-HLW-M7-HPH-00001004 REV 1 FOR REVISION DETAILS	LG	BS	MKG	GD	9/23/03
0	ISSUED FOR PROCUREMENT- SUPERCEDES 24590-HLW-M7-310-00001001, REV B	LG	PS	N/A	GD	9/30/02

Q

ISSUED BY: HPM NATL ENG. MANAGER APPROVAL DATE:
ISSUE STAMP

	PROJECT No.	24590
	SITE	HANFORD
	AREA	200E
	BUILDING No.	30

	BY:	DATE
ORIGINATOR	L. GREEN	9/30/02
CHECKER	P. SNIDER	9/30/02
APPROVER	C. DUNCAN	9/30/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-003 REV. 2
DIM REFERENCE No. N/A

RIVER PROTECTION PROJECT WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14136

HLW VITRIFICATION SYSTEM HPH MECHANICAL HANDLING DIAGRAM CANISTER POUR HANDLING CANISTER HANDLING CAVE

SCALE: NONE

24590-HLW-M7-HPH-00001001 REV 1

"E" SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

WHEN REFERENCING DRAWING AND DIM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

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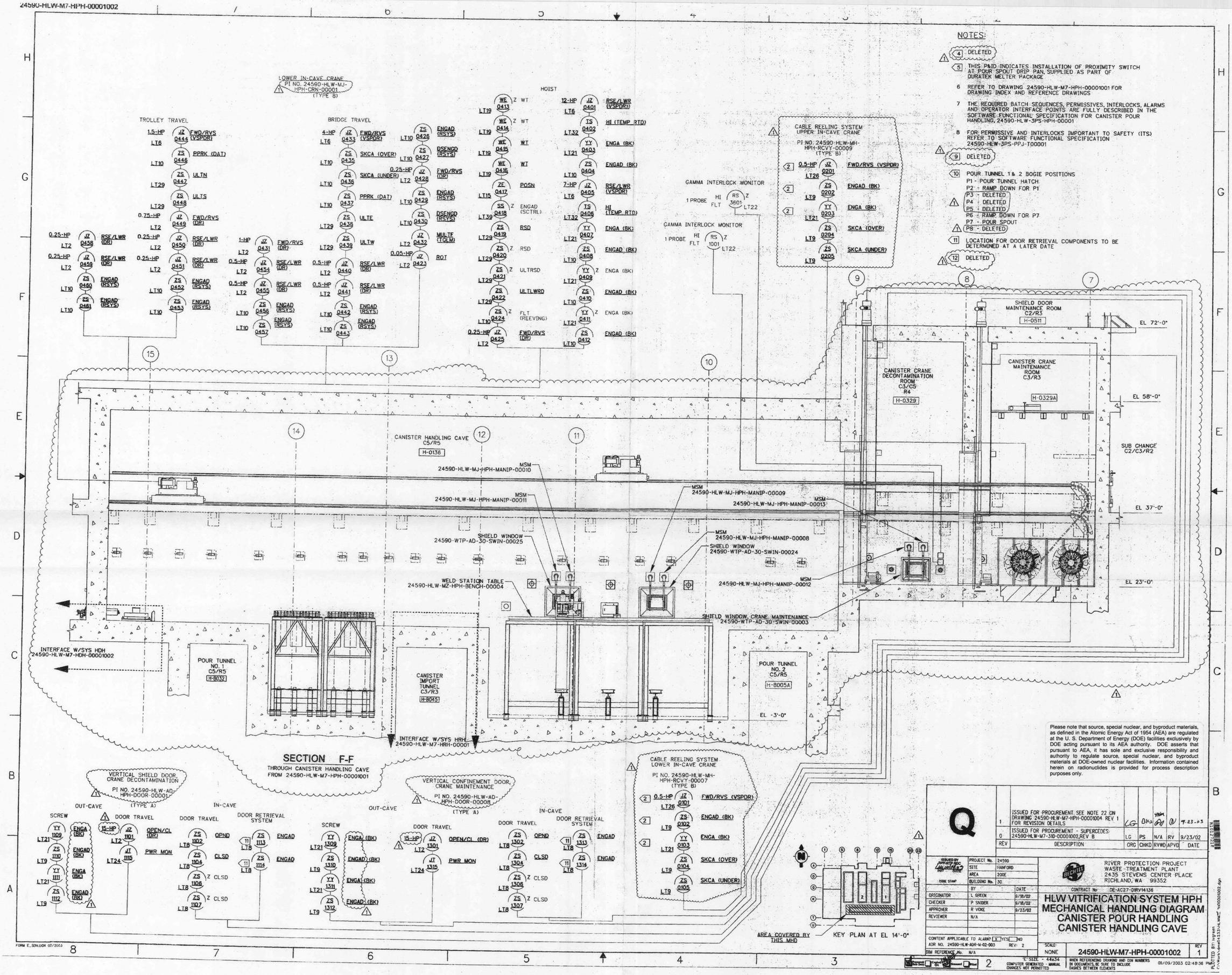
FORM E_SENLDGN 02/2003



NOTES:

4. DELETED
5. THIS P&ID INDICATES INSTALLATION OF PROXIMITY SWITCH AT POUR SPOUT DRIP PAN, SUPPLIED AS PART OF DURATEK MELTER PACKAGE
6. REFER TO DRAWING 24590-HLW-M7-HPH-00001001 FOR DRAWING INDEX AND REFERENCE DRAWINGS
7. THE REQUIRED BATCH SEQUENCES, PERMISSIVES, INTERLOCKS, ALARMS AND OPERATOR INTERFACE POINTS ARE FULLY DESCRIBED IN THE SOFTWARE FUNCTIONAL SPECIFICATION FOR CANISTER POUR HANDLING, 24590-HLW-3PS-HPH-00001
8. FOR PERMISSIVE AND INTERLOCKS IMPORTANT TO SAFETY (ITS) REFER TO SOFTWARE FUNCTIONAL SPECIFICATION 24590-HLW-3PS-PPJ-T00001
9. DELETED
10. POUR TUNNEL 1 & 2 BOGIE POSITIONS
    P1 - POUR TUNNEL HATCH
    P2 - RAMP DOWN FOR P1
    P3 - DELETED
    P4 - DELETED
    P5 - DELETED
    P6 - RAMP DOWN FOR P7
    P7 - POUR SPOUT
    P8 - DELETED
11. LOCATION FOR DOOR RETRIEVAL COMPONENTS TO BE DETERMINED AT A LATER DATE
12. DELETED

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Q

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
1	ISSUED FOR PROCUREMENT. SEE NOTE 22 ON DRAWING 24590-HLW-M7-HPH-00001004 REV 1 FOR REVISION DETAILS	LG	BKS	YMM	RV	9-23-03
0	ISSUED FOR PROCUREMENT - SUPERCEDES 24590-HLW-M7-310-00001002,REV B	LG	PS	N/A	RV	9/23/02

ISSUED BY WTP-WTP-PSC

ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	L GREEN	9/18/02
CHECKER	P SNIDER	9/18/02
APPROVER	R VOKE	9/23/02
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO

ADR NO. 24590-HLW-ADR-N-02-003 REV: 2

DIM REFERENCE No. N/A

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No. DE-AC27-01RV14136

HLW VITRIFICATION SYSTEM HPH MECHANICAL HANDLING DIAGRAM CANISTER POUR HANDLING CANISTER HANDLING CAVE

SCALE: NONE

24590-HLW-M7-HPH-00001002

REV 1

"E" SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

WHEN REFERENCING DRAWING AND DIM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

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PLOTTED BY: lagreen

FORM E_SDNLGDN 02/2003

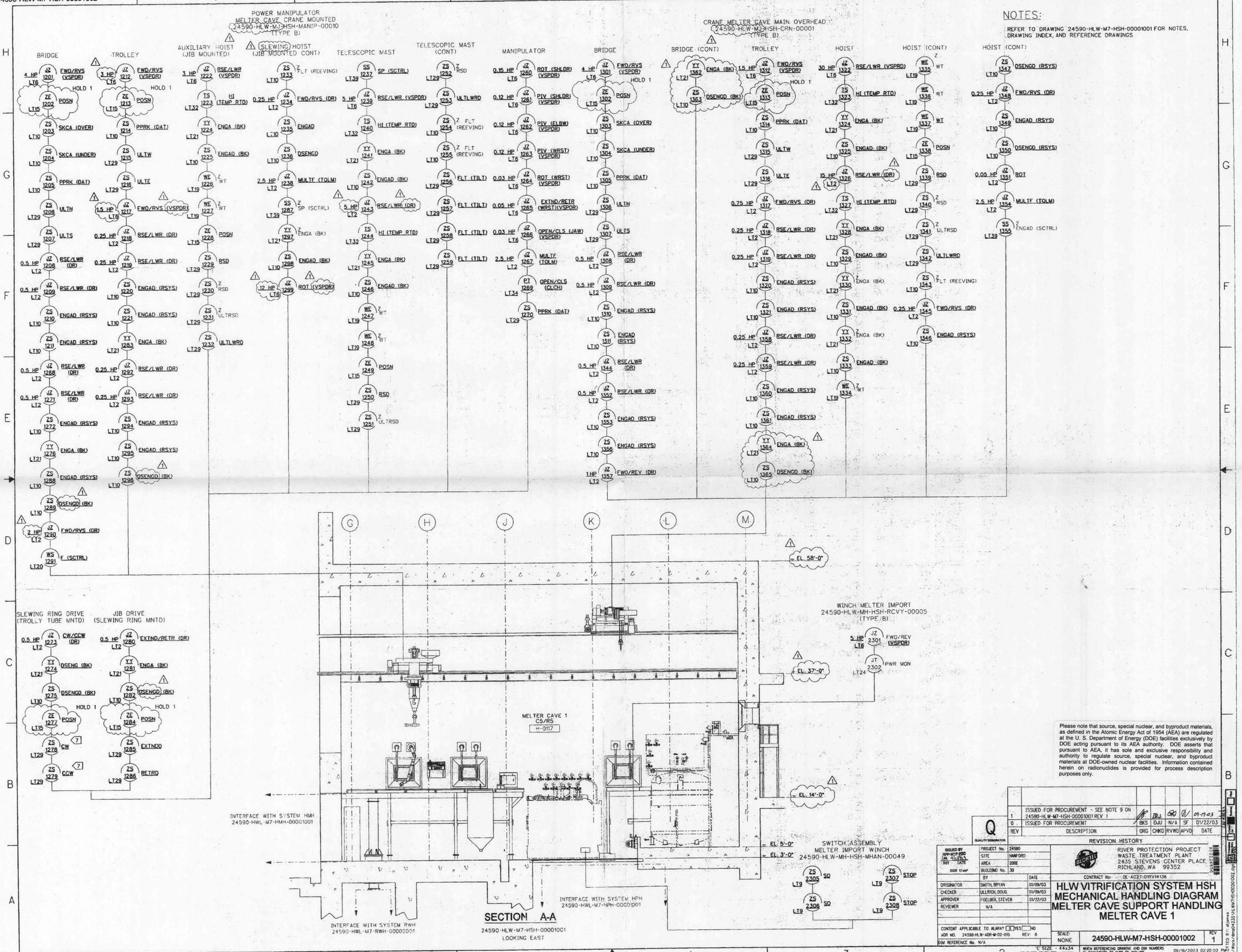
24590-HLW-M7-HSH-00001002

POWER MANIPULATOR
MELTER CAVE CRANE MOUNTED
24590-HLW-MJ-HSH-MANIP-00010
(TYPE B)

CRANE MELTER CAVE MAIN OVERHEAD
24590-HLW-MJ-HSH-CRN-00001
(TYPE B)

NOTES:

REFER TO DRAWING 24590-HLW-M7-HSH-00001001 FOR NOTES, DRAWING INDEX, AND REFERENCE DRAWINGS



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REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
1	ISSUED FOR PROCUREMENT - SEE NOTE 9 ON 24590-HLW-M7-HSH-00001001 REV 1	BKS	DJU	N/A	SF	01/22/03
0	ISSUED FOR PROCUREMENT					

REVISION HISTORY

QUALITY DESIGNATOR: Q

ISSUED BY: RPP-WTP PDC
APPROVED BY: DATE:
ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	30	
	BY	DATE
ORIGINATOR	SMITH, BRYAN	01/09/03
CHECKER	ULLRICH, DOUG	01/09/03
APPROVER	FOELBER, STEVEN	01/22/03
REVIEWER	N/A	

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-HLW-ADR-M-02-015 REV: 0
DIM REFERENCE No. N/A

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No: DE-AC27-01RV14136

HLW VITRIFICATION SYSTEM HSH MECHANICAL HANDLING DIAGRAM MELTER CAVE SUPPORT HANDLING MELTER CAVE 1

SCALE: NONE

24590-HLW-M7-HSH-00001002

REV 1

"C" SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

WHEN REFERENCING DRAWING AND DIM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

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FORM E_SDM.DGN 02/2003

POWER MANIPULATOR
MELTER CAVE CRANE MOUNTED
24590-HLW-MJ-HSH-MANIP-00023
(TYPE B)

BRIDGE
- 4 HP LT6 JZ 4701 FWD/RVS (VSPDR)
- HOLD 1
- LT15 ZE 4702 POSN
- LT10 ZS 4703 SKCA (OVER)
- LT10 ZS 4704 SKCA (UNDER)
- LT10 ZS 4705 PPRK (DAT)
- LT29 ZS 4706 ULTN
- LT29 ZS 4707 ULTS
- 0.5 HP LT2 JZ 4708 RSE/LWR (DR)
- 0.5 HP LT2 JZ 4709 RSE/LWR (DR)
- LT10 ZS 4710 ENGAD (RSYS)
- LT10 ZS 4711 ENGAD (RSYS)
- 0.5 HP LT2 JZ 4712 RSE/LWR (DR)
- 0.5 HP LT2 JZ 4713 RSE/LWR (DR)
- LT10 ZS 4714 ENGAD (RSYS)
- LT10 ZS 4715 ENGAD (RSYS)
- LT21 YY 4716 ENGA (BK)
- LT10 ZS 4717 DSENGD (BK)
- 2 HP LT2 JZ 4718 FWD/RVS (DR)
- LT20 WS 4719 F (SCTRL)

TROLLEY
- 3 HP LT6 JZ 4720 FWD/RVS (VSPDR)
- HOLD 1
- LT15 ZE 4721 POSN
- LT10 ZS 4722 PPRK (DAT)
- LT29 ZS 4723 ULTW
- LT29 ZS 4724 ULTE
- 1.5 HP LT6 JZ 4725 FWD/RVS (VSPDR)
- 0.25 HP LT2 JZ 4726 RSE/LWR (DR)
- 0.25 HP LT2 JZ 4727 RSE/LWR (DR)
- LT10 ZS 4728 ENGAD (RSYS)
- LT10 ZS 4729 ENGAD (RSYS)
- 0.25 HP LT2 JZ 4730 RSE/LWR (DR)
- 0.25 HP LT2 JZ 4731 RSE/LWR (DR)
- LT10 ZS 4732 ENGAD (RSYS)
- LT10 ZS 4733 ENGAD (RSYS)
- LT21 YY 4734 ENGA (BK)
- LT10 ZS 4754 DSENGD (BK)

AUXILIARY HOIST (JIB MOUNTED)
- 3 HP LT6 JZ 4735 RSE/LWR (VSPDR)
- LT32 TS 4736 HI (TEMP)
- LT21 YY 4737 ENGA (BK)
- LT10 ZS 4738 ENGAD (BK)
- LT19 WE 4739 Z WT
- LT19 WE 4740 Z WT
- LT15 ZE 4741 POSN
- LT29 ZS 4742 RSD
- LT29 ZS 4743 Z RSD
- LT29 ZS 4744 Z ULTRSD
- LT29 ZS 4745 ULTLWRD

SLEWING HOIST (JIB MOUNTED CONT)
- LT10 ZS 4746 Z FLT (REEVING)
- 0.25 HP LT2 JZ 4747 FWD/RVS (DR)
- LT10 ZS 4748 ENGAD
- LT10 ZS 4749 DSENGD
- 2.5 HP LT2 JZ 4750 MULTF (TQLM)
- LT39 SS 4751 Z SP (SCTRL)
- LT21 YY 4752 Z ENGA (BK)
- LT10 ZS 4753 ENGAD (BK)
- .12 HP LT6 JZ 4755 ROT (VSPDR) 7

TELESCOPIC MAST
- 5 HP LT6 JZ 4756 RSE/LWR (VSPDR)
- LT32 TS 4757 HI (TEMP RTD)
- LT21 YY 4758 ENGA (BK)
- LT10 ZS 4759 ENGAD (BK)
- 5 HP LT2 JZ 4760 RSE/LWR (DR)
- LT32 TS 4761 HI (TEMP RTD)
- LT21 YY 4762 ENGA (BK)
- LT10 ZS 4763 ENGAD (BK)
- LT19 WE 4764 Z WT
- LT19 WE 4765 Z WT
- LT15 ZE 4766 POSN
- LT29 ZS 4767 RSD
- LT29 ZS 4768 Z ULTRSD
- LT29 ZS 4769 Z RSD

TELESCOPIC MAST (CONT)
- LT39 SS 4770 SP (SCTRL)
- LT29 ZS 4771 ULTLWRD
- LT10 ZS 4772 Z FLT (REEVING)
- LT10 ZS 4773 Z FLT (REEVING)
- LT29 ZS 4774 FLT (TILT)
- LT29 ZS 4775 FLT (TILT)
- LT29 ZS 4776 FLT (TILT)
- LT29 ZS 4777 FLT (TILT)

MANIPULATOR
- 0.15 HP LT6 JZ 4778 ROT (SHLDR) (VSPDR)
- 0.12 HP LT6 JZ 4779 PIV (SHLDR) (VSPDR)
- 0.12 HP LT6 JZ 4780 PIV (ELBW) (VSPDR)
- 0.12 HP LT6 JZ 4781 PIV (WRST) (VSPDR)
- 0.03 HP LT6 JZ 4782 ROT (WRST) (VSPDR)
- 0.05 HP LT6 JZ 4783 EXTND/RETR (WRST) (VSPDR)
- 0.03 HP LT6 JZ 4784 OPEN/CLS (JAW) (VSPDR)
- LT34 PT 4785 OPEN/CLS (CLCH)
- LT29 ZS 4786 PPRK (DAT)
- 2.5 HP LT2 JZ 4787 MULTF (TQLM)

CRANE MELTER CAVE MAIN OVERHEAD
24590-HLW-MJ-HSH-CRN-00014
(TYPE B)

BRIDGE
- 4 HP LT6 JZ 4801 FWD/RVS (VSPDR)
- HOLD 1
- LT15 ZE 4802 POSN
- LT10 ZS 4803 SKCA (OVER)
- LT10 ZS 4804 SKCA (UNDER)
- LT10 ZS 4805 PPRK (DAT)
- LT29 ZS 4806 ULTN
- LT29 ZS 4807 ULTS
- 0.5 HP LT2 JZ 4808 RSE/LWR (DR)
- 0.5 HP LT2 JZ 4809 RSE/LWR (DR)
- LT10 ZS 4810 ENGAD (RSYS)
- LT10 ZS 4811 ENGAD (RSYS)
- 0.5 HP LT2 JZ 4812 RSE/LWR (DR)
- 0.5 HP LT2 JZ 4813 RSE/LWR (DR)
- LT10 ZS 4814 ENGAD (RSYS)
- LT10 ZS 4815 ENGAD (RSYS)
- 1 HP LT2 JZ 4816 FWD/REV (DR)

BRIDGE (CONT)
- LT21 YY 4862 ENGAD (BK)
- LT10 ZS 4863 DSENGD (BK)

TROLLEY
- 1.5 HP LT6 JZ 4817 FWD/RVS (VSPDR)
- HOLD 1
- LT15 ZE 4818 POSN
- LT10 ZS 4819 PPRK (DAT)
- LT29 ZS 4820 ULTW
- LT29 ZS 4821 ULTE
- 0.75 HP LT2 JZ 4822 FWD/RVS (DR)
- 0.25 HP LT2 JZ 4823 RSE/LWR (DR)
- 0.25 HP LT2 JZ 4824 RSE/LWR (DR)
- LT10 ZS 4825 ENGAD (RSYS)
- LT10 ZS 4826 ENGAD (RSYS)
- 0.25 HP LT2 JZ 4827 RSE/LWR (DR)
- 0.25 HP LT2 JZ 4828 RSE/LWR (DR)
- LT10 ZS 4829 ENGAD (RSYS)
- LT10 ZS 4830 ENGAD (RSYS)
- LT21 YY 4864 ENGAD (BK)
- LT10 ZS 4865 DSENGD (BK)

HOIST
- 30 HP LT6 JZ 4831 RSE/LWR (VSPRD)
- LT32 TS 4832 HI (TEMP RTD)
- LT21 YY 4833 ENGA (BK)
- LT10 ZS 4834 ENGAD (BK)
- 15 HP LT2 JZ 4835 RSE/LWR (DR)
- LT32 TS 4836 HI (TEMP RTD)
- LT21 YY 4837 ENGA (BK)
- LT10 ZS 4838 ENGAD (BK)
- LT21 YY 4839 Z ENGA (BK)
- LT10 ZS 4840 ENGAD (BK)
- LT21 YY 4841 Z ENGA (BK)
- LT10 ZS 4842 ENGAD (BK)
- LT19 WE 4843 Z WT
- LT19 WE 4844 Z WT
- LT19 WE 4845 WT
- LT19 WE 4846 WT

HOIST (CONT)
- LT10 ZS 4855 DSENGD (RSYS)
- 0.25 HP LT2 JZ 4856 FWD/RVS (DR)
- LT10 ZS 4857 ENGAD (RSYS)
- LT10 ZS 4858 DSENGD (RSYS)
- 0.05 HP LT2 JZ 4859 ROT
- 2.5 HP LT2 JZ 4860 MULTF (TQLM)
- LT39 SS 4861 Z ENGAD (SCTRL)
- LT15 ZE 4847 POSN
- LT29 ZS 4848 RSD
- LT29 ZS 4849 Z RSD
- LT29 ZS 4850 Z ULTRSD
- LT29 ZS 4851 ULTLWRD
- LT10 ZS 4852 Z FLT (REEVING)
- 0.25 HP LT2 JZ 4853 FWD/RVS (DR)
- LT10 ZS 4854 ENGAD (RSYS)

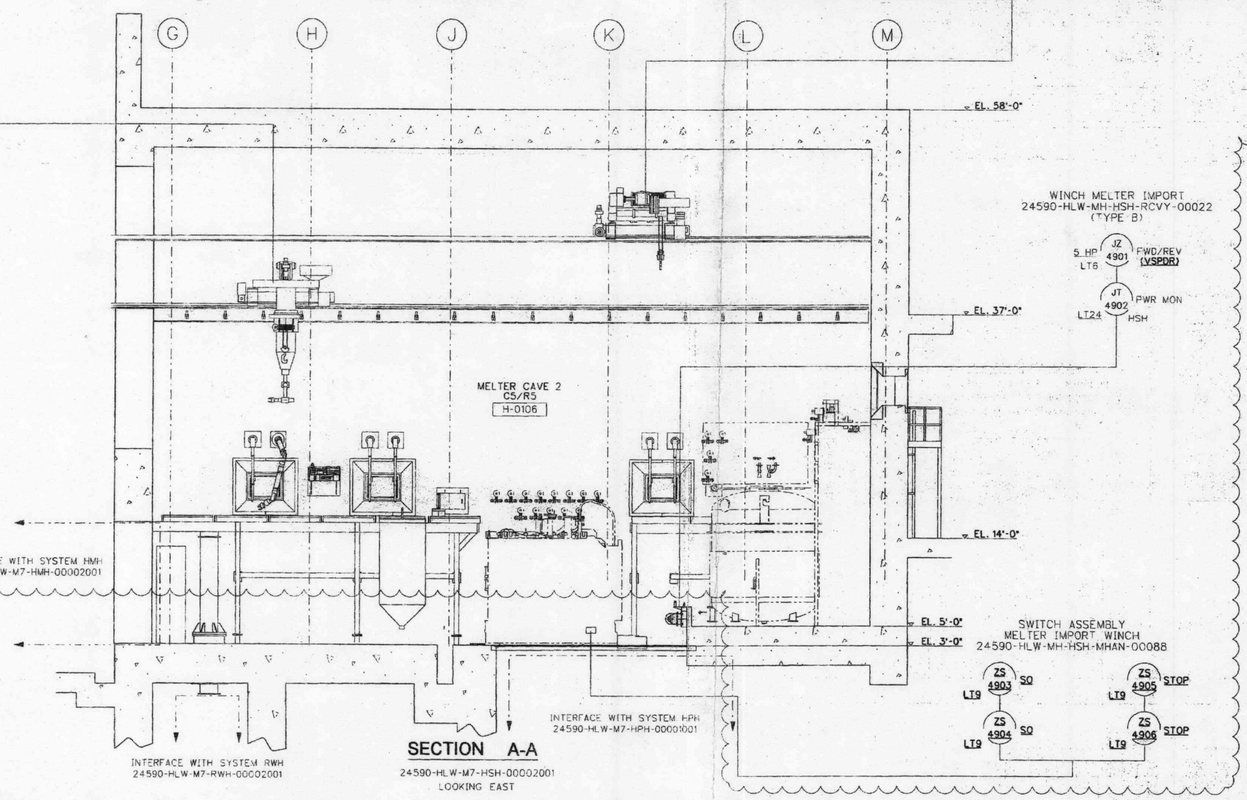
HOLD 2

NOTE:

FOR NOTES, DRAWING INDEX, AND REFERENCE DRAWINGS SEE 24590-HLW-M7-HSH-00002001

SLEWING RING DRIVE (TROLLEY TUBE MNTD)
- 0.5 HP LT2 JZ 4788 CW/CCW (DR)
- LT21 YY 4789 DSENG (BK)
- LT10 ZS 4790 DSENGD (BK)
- HOLD 1
- LT15 ZE 4791 POSN
- LT29 ZS 4792 CW 7
- LT29 ZS 4793 CCW 7

JIB DRIVE (SLEWING RING MNTD)
- 0.5 HP LT2 JZ 4794 EXTND/RETR (DR)
- LT21 YY 4795 ENGA (BK)
- LT10 ZS 4796 DSENGD (BK)
- HOLD 1
- LT15 ZE 4797 POSN
- LT29 ZS 4798 EXTNDD
- LT29 ZS 4799 RETRD



WINCH MELTER IMPORT
24590-HLW-MH-HSH-RCVY-00022
(TYPE B)
- 5 HP LT6 JZ 4901 FWD/REV (VSPDR)
- LT24 JT 4902 PWR MON HSH

SWITCH ASSEMBLY
MELTER IMPORT WINCH
24590-HLW-MH-HSH-MHAN-00088
- LT9 ZS 4903 SO
- LT9 ZS 4904 SO
- LT9 ZS 4905 STOP
- LT9 ZS 4906 STOP

SECTION A-A
24590-HLW-M7-HSH-00002001
LOOKING EAST

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
0	ISSUED FOR PROCUREMENT					9-17-03

REVISION HISTORY

Q QUALITY DESIGNATOR

ISSUED BY RPP-WTP ENG — INIT. DATE

PROJECT No.	24590	
SITE:	HANFORD	
AREA:	200E	
BUILDING No.	30	
ISSUE STAMP	BY	DATE
ORIGINATOR		9-16-03
CHECKER		9/16/03
APPROVER		9-17-03
REVIEWER		9-16-03

CONTENT APPLICABLE TO ALARA? X YES ___ NO
ADR NO. 24590-HLW-ADR-M-02-015 REV: 0
DIM REFERENCE No. N/A

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99352

CONTRACT No DE-AC27-01RV14136

HLW VITRIFICATION SYSTEM HSH MECHANICAL HANDLING DIAGRAM MELTER CAVE SUPPORT HANDLING MELTER CAVE 2

SCALE: NONE

24590-HLW-M7-HSH-00002002 REV 0

"E" SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

WHEN REFERENCING DRAWING AND DIM NUMBERS IN DOCUMENTS, BE SURE TO INCLUDE DASHES BETWEEN ELEMENTS

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FORM E_SCN JGN 02/2003

CRANE, EXPORT HIGH BAY
10 TON WITH RECOVERY
24590-LAW-MJ-LEH-CRN-00003
24590-CM-POA-MJKG-00003
24590-LAW-JC-LEH-PNL-00005

BRIDGE 4

PFB	JZ 0101	NORTH/SOUTH (VSPDR) NORTH (2 MOTORS)
PFB	JZ 0167	NORTH/SOUTH (VSPDR) SOUTH (2 MOTORS)
	YY 0108	ENGA / DSENG (BK) NORTHEAST
	YY 0105	ENGA / DSENG (BK) NORTHWEST
	YY 0106	ENGA / DSENG (BK) SOUTHEAST
	YY 0107	ENGA / DSENG (BK) SOUTHWEST
	TS 0175	HI TEMP NORTHEAST
	TS 0176	HI TEMP NORTHWEST
	TS 0178	HI TEMP SOUTHEAST
	TS 0179	HI TEMP SOUTHWEST
	ZS 0111	ULTN/ULTS
	JZ 0137	EXTND/RETR (RCVY) NORTH (2 MOTORS)
	JZ 0138	EXTND/RETR (RCVY) SOUTH (2 MOTORS)
DI	ZS 0139	EXTNDD/RETRD (RCVY) NORTHWEST
DI	ZS 0140	EXTNDD/RETRD (RCVY) NORTHEAST
DI	ZS 0141	EXTNDD/RETRD (RCVY) SOUTHWEST
DI	ZS 0142	EXTNDD/RETRD (RCVY) SOUTHEAST
PFB	ZT 0147	POSN (LASER)
	TS 0180	HI TEMP (LASER) POSITIONING DEVICE

TROLLEY

PFB	JZ 0114	EAST/WEST (VSPDR) EAST
PFB	JZ 0115	EAST/WEST (VSPDR) WEST
	YY 0119	ENGA / DSENG (BK) EAST
	YY 0120	ENGA / DSENG (BK) WEST
	TS 0173	HI TEMP EAST
	TS 0174	HI TEMP WEST
	ZS 0123	ULTE/ULTW
	JZ 0148	EXTND/RETR (RSYS)(2 MOTORS) NORTHEAST / SOUTHEAST
	JZ 0149	EXTND/RETR (RSYS)(2 MOTORS) NORTHWEST / SOUTHWEST
DI	ZS 0150	EXTNDD/RETRD (RCVY) SOUTHEAST
DI	ZS 0151	EXTNDD/RETRD (RCVY) NORTHEAST
DI	ZS 0152	EXTNDD/RETRD (RCVY) SOUTHWEST
DI	ZS 0153	EXTNDD/RETRD (RCVY) NORTHWEST
PFB	ZT 0158	POSN (LASER)
	TS 0181	HI TEMP (LASER) POSITIONING DEVICE

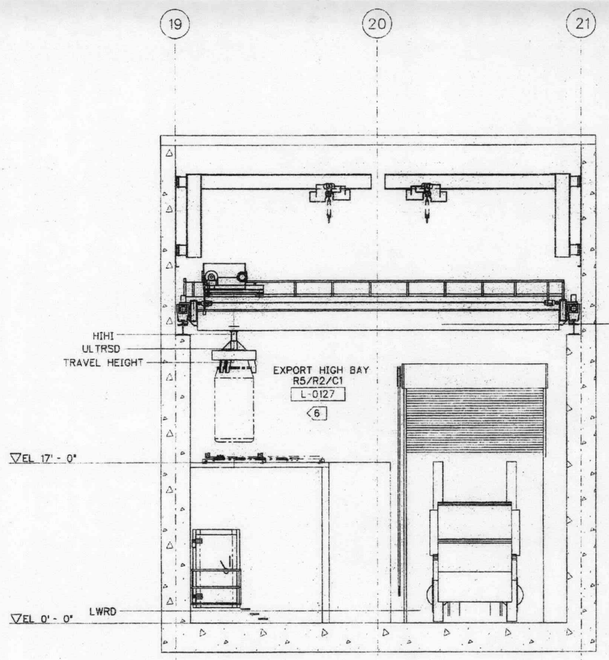
HOIST 3

PFB	JZ 0125	RSE / LWR (VSPDR) MAIN MOTOR
	TS 0159	HI TEMP SWITCH MAIN MOTOR
	QT 0160	MAIN MOTOR DIAGNOSTICS ONLY
	JZ 0166	RSE / LWR (DR/RSYS) RSYS MOTOR
DI	TS 0161	HI TEMP SWITCH RSYS
	YY 0127	ENGA / DSENG (BK) MAIN MOTOR
	YY 0128	ENGA / DSENG (BK) MAIN DRUM
	YY 0129	ENGA / DSENG (BK) RSYS MOTOR
	YY 0130	ENGA / DSENG (BK) RSYS DRUM
DI/AI	WE 0131	WT / SKCA / OVLD
	ZS 0135	HI MAIN HOIST
PFB	QT 0133	POSN (ENCODER)
DI	ZS 0134	HI HI MAIN HOIST
DI	ZS 0162	FLT (MIS-REEVING)
DI	SE 0182	SCTRL MAIN HOIST
	ZS 0183	HI (RSYS) RECOVERY HOIST

	XL 0165	WARNING LIGHT
DO	XA 0165	AUDIBLE ALARM

NOTE:

FOR NOTES, DRAWING INDEX, REFERENCE DRAWINGS, AND PARTS/MATERIAL LIST SEE 24590-LAW-M7-LEH-00002001.



SECTION A-A
24590-LAW-M7-LEH-00002001

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
1	ISSUED FOR CONSTRUCTION - SEE NOTE 10			CEK		6-11-07
0	ISSUED FOR CONSTRUCTION, SUPERSEDES 24590-LAW-M7-LEH-00001006, REV B	MW	RAS	PL	CJW	9-30-03

CM QUALITY DESIGNATOR

REVISION HISTORY

ISSUED BY RPP-WTP PDC

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	20	
	BY	DATE
ORIGINATOR	MATT MAYER	9-22-03
CHECKER	RICHARD STEELE	9-23-03
APPROVER	C. J. WINKLER	9-30-03
REVIEWER	P. LATHAM	9-23-03

ISSUE STAMP

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR NO. 24590-LAW-ADR-M-02-003 REV: 2
SAFETY SCREEN REQUIRED? [X] YES [ ] NO EMS INITIAL IF YES

SAFETY SCREEN IS REQUIRED? FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREQ-002

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

LAW VITRIFICATION SYSTEM LEH MECHANICAL HANDLING DIAGRAM CONTAINER EXPORT HANDLING SYSTEM

SCALE: NONE

24590-LAW-M7-LEH-00002002 REV 1

U SIZE - 4 x 34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

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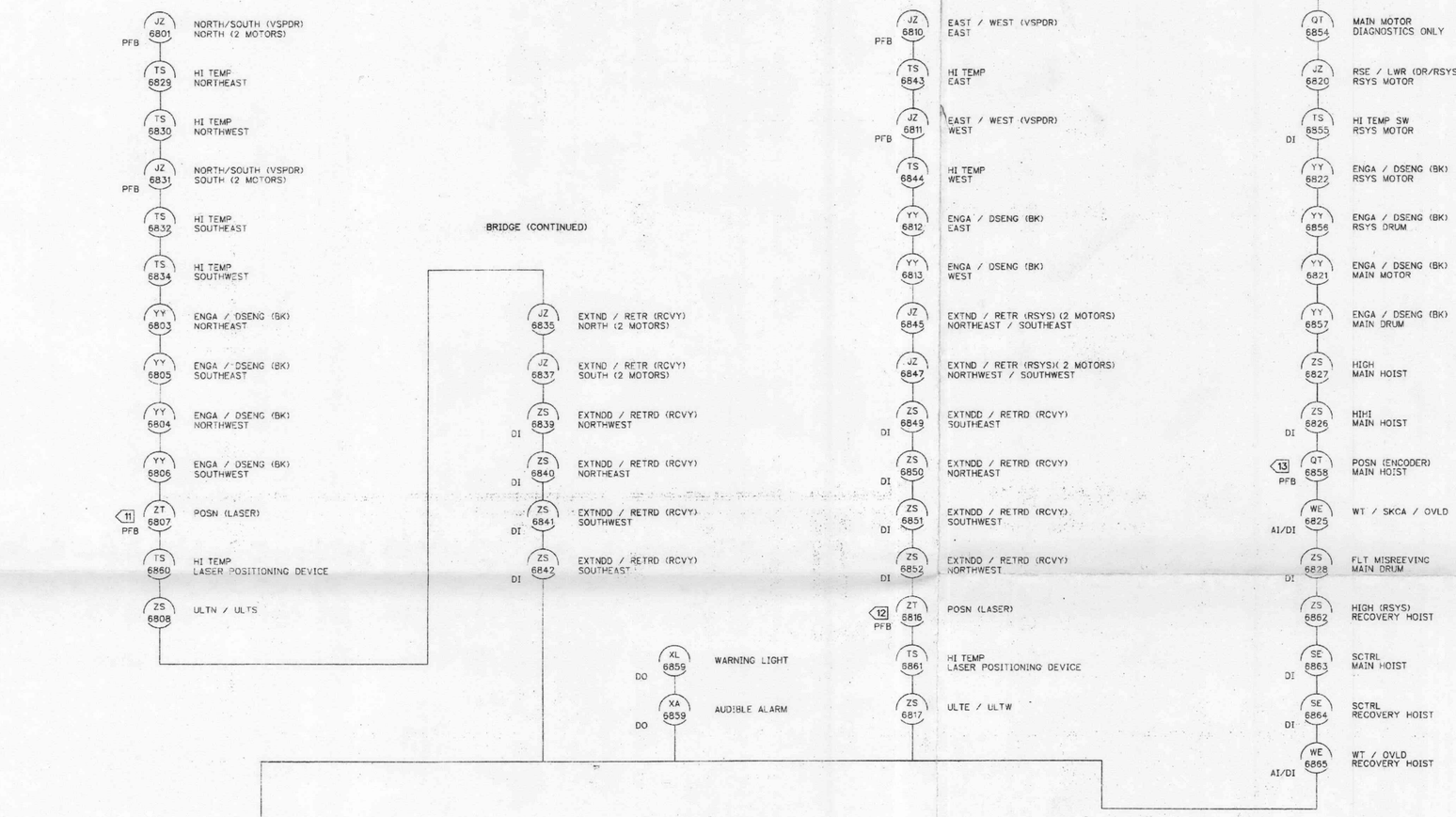
FORM E_SDN.DGN 02/2003



SECTION D-D
24590-LAW-M7-LPH-00001003

(NOTES CONTINUED FROM 24590-LAW-M7-LPH-00001003)

NOTES:

FOR NOTES AND REFERENCE DRAWINGS SEE 24590-LAW-M7-LPH-00001001.

11 FOR BRIDGE POSITIONS, SEE 24590-LAW-M7-LPH-00001003.

12 FOR TROLLEY POSITIONS, SEE 24590-LAW-M7-LPH-00001003.

13 BUFFER STORE CRANE HOIST POSITIONS:

CONTAINER RAISED POSTION

CONTAINER SET DOWN/PICKUP IN BUFFER STORAGE

CONTAINER PICKUP FROM TRANSPORT BOGIE

CONTAINER SET DOWN AT CONTAINER EXPORT STAND

14. THE FOLLOWING CHANGES HAVE BEEN MADE IN ACCORDANCE WITH DCA 24590-LAW-DCA-M-02-010, REV 0:

A. REVISED COMPONENT CONTROL CHANGES LISTED BELOW:

ADDED	DELETED
TS-6829	ZS-6809
TS-6830	YY-6814
JZ-6831	YY-6815
TS-6832	ZS-6818
TS-6834	YY-6823
JZ-6835	ZT-6824
JZ-6837	JZ-6802
ZS-6839	
ZS-6840	
ZS-6841	
ZS-6842	
TS-6843	
TS-6844	
JZ-6845	
JZ-6847	
ZS-6849	
ZS-6850	
ZS-6851	
ZS-6852	
TS-6853	
QT-6854	
TS-6855	
YY-6856	
YY-6857	
QT-6858	
XL-6859	
ZS-6826	
ZS-6827	
ZS-6828	
TS-6860	
TS-6861	
ZS-6862	

B. THE EQUIPMENT TYPE HAS BEEN CHANGED TO "BK" FROM "CLCH" FOR YY-6803, YY-6804, YY-6812, AND YY-6813.

C. THE LOOP TEMPLATE CODE FOR JZ-6801, JZ-6810, AND JZ-6819 HAVE BEEN CHANGED TO LT6 FROM LT5.

D. THE LOOP TEMPLATE CODE FOR ZS-6808 AND ZS-6817 HAS BEEN CHANGED TO LT9 FROM LT29.

E. THE HORSEPOWER RATING FOR JZ-6801 HAS BEEN CHANGED TO 1.75 HP FROM 1 HP.

F. THE HORSEPOWER RATING FOR JZ-6811 HAS BEEN CHANGED TO 1.75 HP FROM 0.5 HP.

G. THE HORSEPOWER RATING FOR JZ-6820 HAS BEEN CHANGED TO 5 HP FROM 2.5 HP.

H. THE LOOP TEMPLATE CODE FOR JZ-6811 HAS BEEN CHANGED TO LT6 FROM LT2.

J. THE LOOP TEMPLATE CODE FOR JZ-6820 HAS BEEN CHANGED TO LT42 FROM LT2.

THE FOLLOWING CHANGES HAVE BEEN MADE THAT DO NOT REQUIRE A DCA:

K. VARIOUS EDITORIAL CHANGES.

(NOTES CONTINUED ON 24590-LAW-M7-LPH-00001005)

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

CM
QUALITY DESIGNATOR

REVISION HISTORY

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
2	ISSUED FOR CONSTRUCTION - SEE NOTE 55		RAS	BD	MLJ	DW 5-30-07
1	ISSUED FOR CONSTRUCTION COMPLETE RE-DRAW - SEE NOTE 14	JLO	CMK			DW 10-07-03
0	ISSUED FOR CONSTRUCTION	JLO	CMK			GD 04-22-02

ISSUED BY RPP-WTP PDC	PROJECT No.	24590
	SITE	HANFORD
	AREA	200E
ISSUE STAMP	BUILDING No.	20

	BY	DATE
ORIGINATOR	JON L. OSBORNE	04-22-02
CHECKER	CRAIG KELLER	04-22-02
APPROVER	G.M. DUNCAN	04-22-02
REVIEWER		

CONTENT APPLICABLE TO ALARA? [X] YES [ ] NO
ADR. NO. 24590-LAW-ADR-M-02-036 REV: 1
SAFETY SCREEN REQUIRED? [X] YES [ ] NO ENHS INITIAL IF YES DMK
SAFETY SCREEN IS REQUIRED FOR DRAWING TYPES IDENTIFIED IN 24590-WTP-GPP-SREQ-002

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

LAW VITRIFICATION SYSTEM LPH MECHANICAL HANDLING DIAGRAM CONTAINER POUR HANDLING SYSTEM

SCALE: NONE
"E" SIZE - 44x34
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

24590-LAW-M7-LPH-00001004 REV 2

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FORM E_SCN.DCN 02/2003