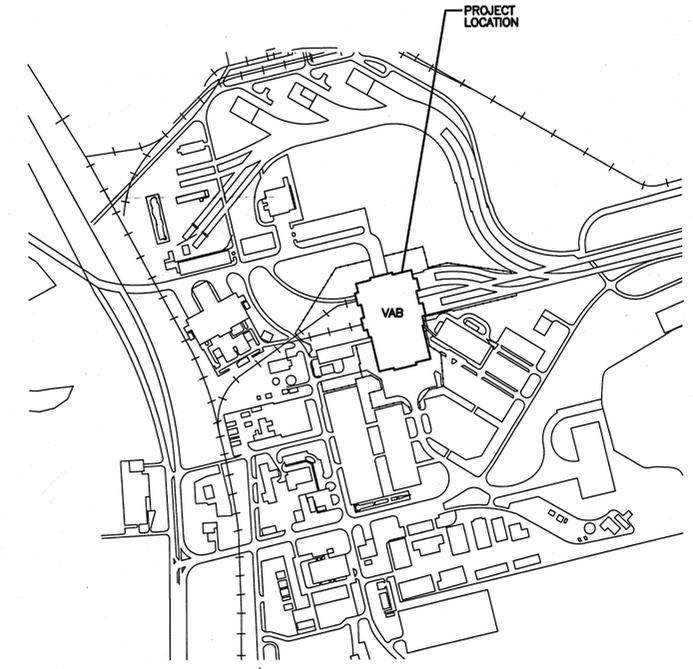
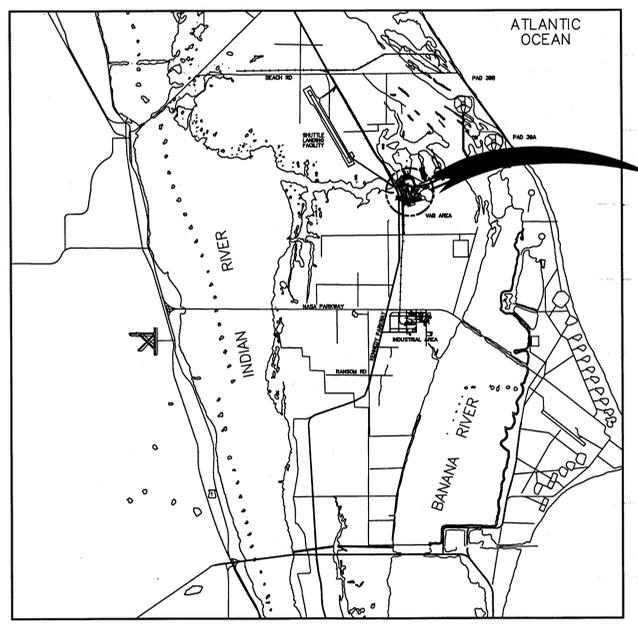
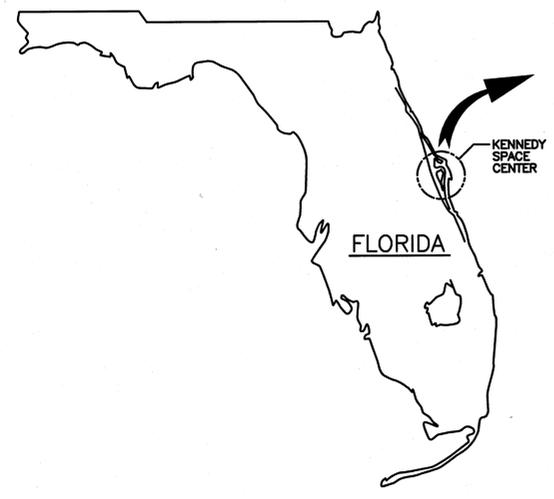


# LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS

NATIONAL AERONAUTICS AND  
SPACE ADMINISTRATION

John F. Kennedy Space Center  
Kennedy Space Center, Florida 32899



TECHNICAL SPECIFICATION No. 79K39668  
DATA MANUAL: KSC-TA-12243  
DATE: SEPTEMBER 25, 2013

**ASBESTOS IDENTIFIED**  
 YES  NO

IF THE CONTRACTOR SUSPECTS THE PRESENCE OF ANY ASBESTOS CONTAMINATED MATERIAL NOT IDENTIFIED ON THESE DRAWINGS, BUT IS REQUIRED TO BE DISTURBED TO PERFORM THE CONTRACT WORK, INFORM THE CONTRACTING OFFICER AT ONCE.

**HEAVY METALS IDENTIFIED**  
 YES  NO

IF THE CONTRACTOR SUSPECTS THE PRESENCE OF ANY HEAVY METAL COATING MATERIAL NOT IDENTIFIED ON THESE DRAWINGS, BUT IS REQUIRED TO BE DISTURBED TO PERFORM THE CONTRACT WORK, INFORM THE CONTRACTING OFFICER AT ONCE.

DOCUMENT INFORMATION: (TITLE, NUMBER, REV, DATE) 79K39668  
MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS,  
PCN 9000.5, REV BASIC, SEPTEMBER 25, 2013

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Document contains SBU?	Yes	No	SBU Reviewer's signature	Date	Company / Org
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Wallace Schroeder</i>	11-12-13	WALLACE TA-B3A

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EXPORT DETERMINATION (Check one box only)	Information
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		<b>REVISIONS</b> 		
		NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA		
		LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS		
		<b>COVER SHEET</b>		
		REVISION NO. 302-6058-043	SHEET NO. E	DRAWING NO. 79K39667
		PROJ. NO. PCN 99000.5	SHEET 1	OF 43

**RSH**  
Reynolds, Smith and Hills, Inc.  
115 Alma Blvd, Suite 101  
Merritt Island, Florida 32953-4101  
(321) 453-0212 (321) 453-0223 FAX  
www.rsandh.com

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V-001

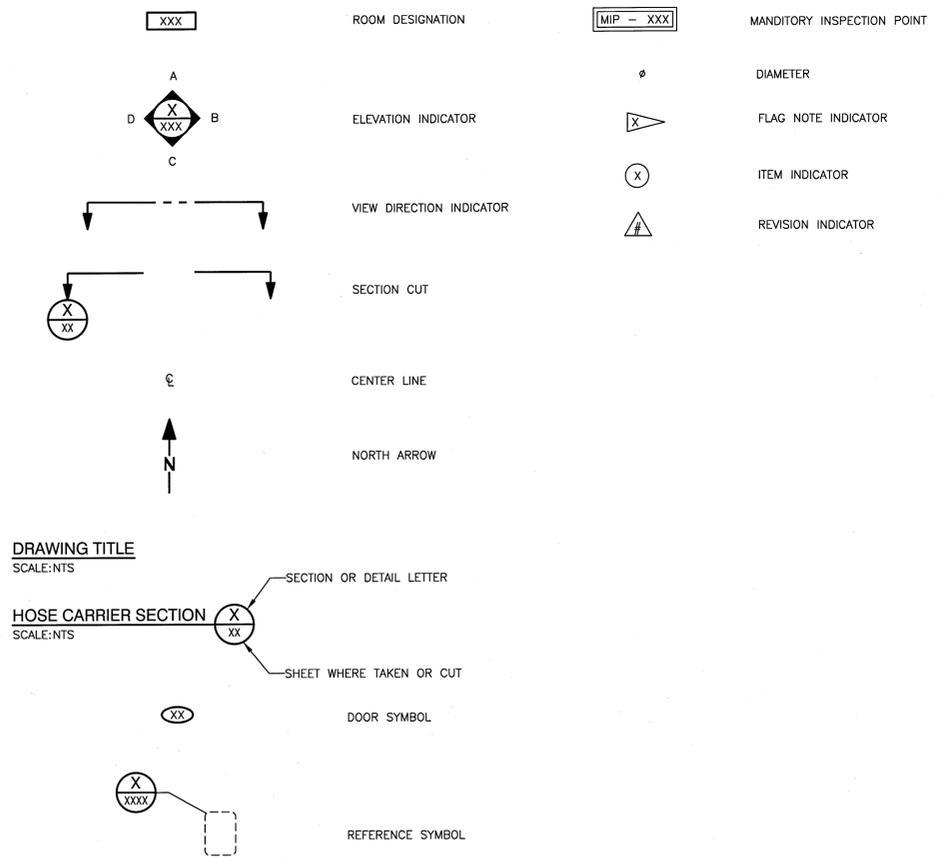
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3	V-003		WORK LAYDOWN LOCATIONS
ENVIRONMENTAL			
4	EN-001		METALS AND PCB SCHEDULES AND NOTES
ARCHITECTURAL			
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42	E-602		ELECTRICAL SCHEDULES
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**ABBREVIATIONS**

⊙	AT
A	AMPERES
AC	ALTERNATING CURRENT
ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL	ALUMINUM
ASD	ALLOWABLE STRENGTH DESIGN
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
CJP	COMPLETE JOINT PENETRATION
COL	COLUMN
CONC	CONCRETE
DIA	DIAMETER
EL	ELEVATION
EQ	EQUAL
F	FAHRENHEIT
FAC	FACTORY
FL	FLOOR
FT	FOOT
HDC	HOT DIP GALVANIZED
HMD	HOMOGENEOUS MATERIAL DESCRIPTION
HMP	HOMOGENEOUS MATERIAL PAINT
HP	HORSEPOWER
HSS	HOLLOW STRUCTURAL SQUARE AND RECTANGULAR SECTIONS
HT	HEIGHT
KG	KILOGRAM
LB	POUND
LBS	POUNDS
MAX	MAXIMUM
MG	MILLIGRAM
MM	MILLIMETER
MIN	MINIMUM
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OAE	OR APPROVED EQUAL
OC	ON CENTER
OPP	OPPOSITE
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PCB	POLYCHLORINATED BIPHENOLS
PH	PHASE
PL	PLATE
P/N	PART NUMBER
QTY	QUANTITY
REF	REFERENCE
RGC	RIGID GALVANIZED CONDUIT
RPM	REVOLUTIONS PER MINUTE
SCH	SCHEDULE
SIM	SIMILAR
SLS	SPACE LAUNCH SYSTEM
SP	SPACES
SS	STAINLESS STEEL
SYMM	SYMMETRIC
TOS	TOP OF STEEL
TYP	TYPICAL
UG	MICROGRAM
UON	UNLESS OTHERWISE NOTED
V	VOLT
VAB	VEHICLE ASSEMBLY BUILDING
VAC	VOLTS, AC
VIF	VERIFY IN FIELD
VRC	VERTICAL RATED CAPACITY
W	WATT
WD	WIDTH
W/	WITH
WP	WORK POINT
WP	WOOD POST
"	INCH(ES)
'	FOOT(FEET)

**DRAWING SYMBOLS**



**DRAWING TITLE**

SCALE: NTS  
**HOSE CARRIER SECTION**  
 SCALE: NTS

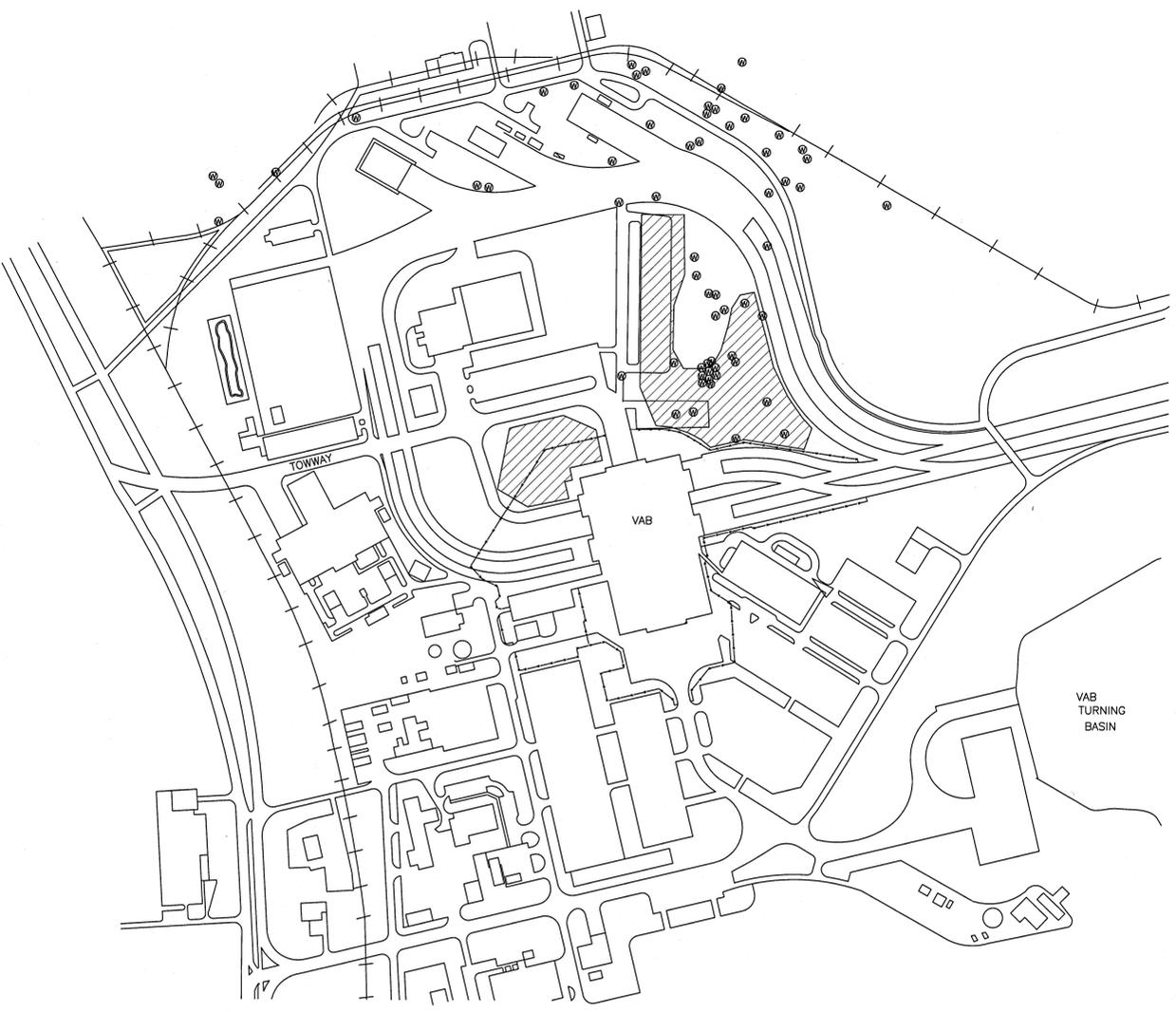
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REVISIONS				
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SIGNATURES	DATE	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION		
DRAWN: BRIAN CURTIS	08-20-2013	JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA		
CHECKED: TONY MAZZA	08-20-2013	LAUNCH COMPLEX 39		
SUBMITTED ARCHIVING OF RECORDS: ROBERT PRINSE	9/26/13	VEHICLE ASSEMBLY BUILDING		
ST OF LICENSURE: FL		MODIFY VEHICLE ASSEMBLY BUILDING		
LICENSE NO: 70300		HIGH BAY 3 FOR SLS - HOISTS		
APPROVED: JOHN KERESMAR	9/26/13	DRAWING INDEX, GENERAL		
FILE NO: 302-6058-043		SYMBOLS AND ABBREVIATIONS		
DATE: 11/12/13		REV: E	79K39667	REV
PROJ. NO. PCN 99000.5		SHEET 2	OF	

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H  
G  
F  
E  
D  
C  
B  
A



CONSTRUCTION SITE AND LAYDOWN AREA  
SCALE: NTS

NOTES:

- CONTRACTOR USE OF LAYDOWN AREAS SHALL ENSURE STORMWATER DRAINAGE TO COLLECTION AREAS ARE NOT IMPEDED. LAYDOWN AREAS SHALL NOT BE USED TO PERFORM ABRASIVE/WATER BLASTING, PAINTING, WELDING, CUTTING, ETC. WITHOUT APPROVAL FROM THE CONTRACTING OFFICER AND CONCURRENCE FROM THE NASA ENVIRONMENTAL ASSURANCE BRANCH.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF EXISTING UTILITIES, INCLUDING ENVIRONMENTAL MONITORING WELLS, PROTECT THEM IN PLACE AND MAINTAIN THEM IN SERVICE AT ALL TIMES. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONTRACTING OFFICER OF ANY UTILITY DAMAGED BY CONSTRUCTION ACTIVITY. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING AND RETURNING UTILITIES TO SERVICE AS SOON AS POSSIBLE AFTER THE OCCURRENCE OF DAMAGE OR SERVICE OUTAGE.
- CONTRACTOR SHALL SUBMIT, FOR APPROVAL, A PLAN TO STABILIZE ALL REQUIRED AREAS TO BE USED FOR HEAVY EQUIPMENT TRAVEL/PARKING. PLAN SHALL INCLUDE, AT A MINIMUM, CONSTRUCTION SITE, ALL LAYDOWN AREAS, AND ACCESS TO THOSE AREAS, AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM NECESSARY STABILIZATION PER THE APPROVED PLAN PRIOR TO LOCATING ANY HEAVY EQUIPMENT ON SITE.
-  INDICATES CONSTRUCTION SITE AND LAYDOWN AREAS.
- CONTRACTOR SHALL USE TOWWAY FROM KENNEDY PARKWAY FOR PRIMARY INGRESS AND EGRESS TO AND FROM THE CONSTRUCTION SITE.
- PARKING LOCATIONS FOR CONTRACTOR PERSONNEL SHALL BE COORDINATED WITH THE CONTRACTING OFFICER.
- CONTRACTOR TRAILER LOCATIONS SHALL BE COORDINATED WITH THE CONTRACTING OFFICER.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL UTILITY HOOKUPS TO CONSTRUCTION TRAILERS. UTILITY POINTS OF CONNECTION SHALL BE COORDINATED WITH THE CONTRACTING OFFICER.
- AREA DISTURBED DURING DEMOLITION AND CONSTRUCTION SHALL BE RE-GRADED TO MATCH ADJACENT TOPOGRAPHY. ALL DISTURBED AREAS ON SITE SHALL RECEIVE GROUND COVER TO MATCH EXISTING PRIOR TO COMPLETION OF CONSTRUCTION.
- ⊙ INDICATES ENVIRONMENTAL WELL LOCATIONS. CONTRACTOR SHALL PROTECT ENVIRONMENTAL MONITORING WELLS IN PLACE. DAMAGED ENVIRONMENTAL MONITORING WELLS WILL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE GOVERNMENT. ENVIRONMENTAL MONITORING WELL LOCATIONS SHOWN ON THIS SHEET ARE APPROXIMATE.

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SIGNATURES		DATE		
DRAWN: JOSEPH HALVER		08-20-2013		
CHECKED: JIM STAPP		08-20-2013		
SUBMITTED FOR RECORD: 		9/26/13		
ST OF LICENSURE: FL				
LICENSE NO: 70350				
APPROVED: 		9/26/13		
WIFE HARNETT		11/26/13		
V-003		E 79K39667		
FILE NO: 302-6058-043		SHEET 3 OF		
PROJ. NO. PCN 99000.5				

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**GENERAL NOTES:**

**HEAVY METALS AND PCBs**

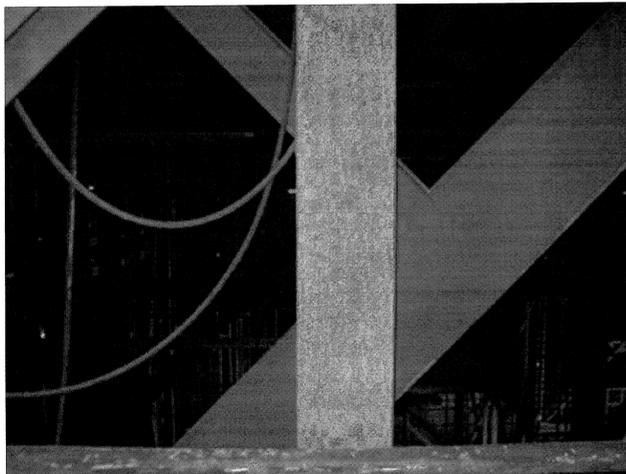
- EXISTING PAINT COATINGS ON HOMOGENEOUS MATERIAL IDENTIFIED IN THE TABLES CONTAIN HEAVY METALS AND PCBs. DISTURBANCE OF THESE EXISTING COATINGS SHALL BE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL HEALTH AND SAFETY REQUIREMENTS. THE CONTRACTOR SHALL SUBMIT A HEALTH AND SAFETY PLAN AND RESPIRATOR PLAN FOR APPROVAL PRIOR TO WORK. THE CONTRACTOR SHALL MANAGE ALL EXISTING COATING WASTE IN ACCORDANCE WITH SPECIFICATION 01 57 20.00 10 ENVIRONMENTAL PROTECTION AND SUBMIT A HAZARDOUS WASTE MANAGEMENT PLAN (AS PART OF THE ENVIRONMENTAL PROTECTION PLAN) FOR APPROVAL PRIOR TO WORK.
- NO TORCH CUTTING OR ABRASIVE GRINDING OF EXISTING PAINTS AND COATINGS IS ALLOWED. REMOVE PAINTS AND COATINGS 6 INCHES TO EITHER SIDE WHERE TORCH CUTTING OR ABRASIVE GRINDING WILL OCCUR.

**High Bay 3: Total Metals/PCB Inspection Analysis Summary  
Hoist Package**

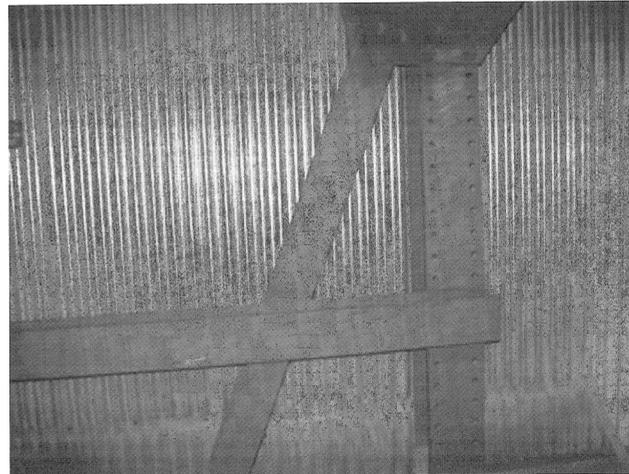
HMID	Homogeneous Material Description	Coating Appearance	Sample ID Numbers	Hazardous Metals (Yes/No)	PCBs (Yes/No)	As (mg/Kg)	Ba (mg/Kg)	Cd (mg/Kg)	Cr (mg/Kg)	Cr6 (mg/Kg)	Pb (mg/Kg)	Hg (ug/Kg)	Se (mg/Kg)	Ag (mg/Kg)	PCBs (ug/Kg)
HMP03	Vertical Beam Coatings	White Paint Gray Paint White/Gray Paint Layers	M3718, M3749, M3769, M3781	Yes	Yes	<96	<96	150	210	6.4	1,500	920	<96	<19	4,200
HMP04	Horizontal Beam Coatings	Gray Paint	M3735, M3748, M3754, M3772, M3773	Yes	Yes	<99	160	180	400	870	2,000	8,900	<99	<20	5,800
HMP05	Cross Beam Coating	Gray Paint	M3722, M3725, M3744, M3759, M3770	Yes	Yes	<100	350	320	450	1.9	1,500	660	<100	<20	4,500

**Note:** The above results represent the highest reported concentrations for the sample sets shown. Laboratory analytical data is referenced in InoMedic Health Applications "Asbestos, Hazardous Metals & PCB Survey" report, dated 26 April 2013 (PCN: 99000.5).  
Heavy Metals/Polychlorinated Byphenols detected at concentrations above their respective Method Detection Limits are highlighted and in **Bold**.  
HMID - Homogeneous Material Identification Number  
Sample collection dates: February 14, 2013 and March 27, 2013

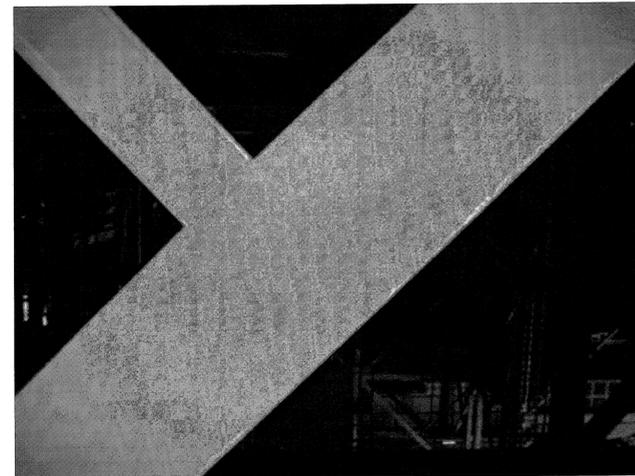
IMAGES OF HOMOGENEOUS MATERIALS CONTAINING HAZARDOUS METALS AND POLYCHLORINATED BYPHENOLS IDENTIFIED BY HMID:



HMP-03: GREY VERTICAL BEAM COATINGS



HMP-04: GREY HORIZONTAL BEAM COATINGS



HMP-05: GREY CROSS BEAM COATINGS

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
SIGNATURES	DATE	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION		
DRAWN: SCOTT VOCKELL	08-20-2013	JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA		
CHECKED: BEN HURON	08-20-2013	LAUNCH COMPLEX 39		
SUBMITTED ARCHIVE OF RECORDS: BEN CHANDLER	9/26/13	VEHICLE ASSEMBLY BUILDING		
ST OF LICENSURE: FL		HIGH BAY 3 FOR SLS - HOISTS		
APPROVED: Scott Vockell	9/26/13	METALS AND PCB		
SCOTT VOCKELL		SCHEDULES AND NOTES		
FILE NO:	302-6058-043	SIZE	DWG. NO.	REV
	E		79K39667	
PROJ. NO.	PCN 99000.5	SHEET	4	OF

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11/2/13

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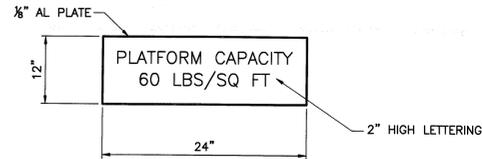
**ARCHITECTURAL SYMBOLS LEGEND**

-  NEW DOOR, NUMBER
-  DENOTES STEEL MATERIAL IN SECTION
- VIF VERIFY IN FIELD
-  NEW DOOR OR GATE
-  HDG GRATING
-  SIGN TYPE INDICATOR
- NIC NOT IN CONTRACT
- FAC FACTORY

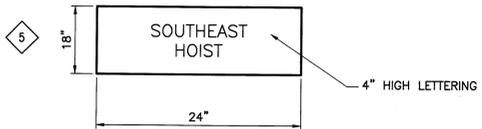
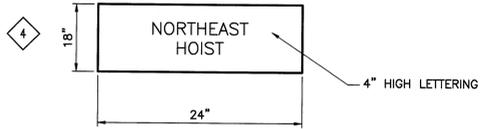
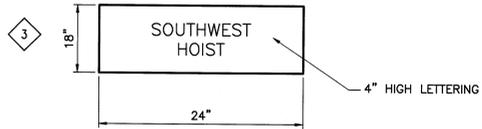
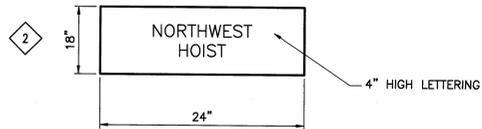
**GENERAL NOTES:**

1. REFER TO STRUCTURAL, MECHANICAL AND ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION.
2. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, OBTAIN CLARIFICATION OF AREA IN QUESTION.
3. REFER TO SPECIFICATIONS SECTION 09 97 13.00 98 FOR STEEL COATINGS. QUALITY CONTROL SHALL BE PERFORMED BY AN INDEPENDENT NACE CERTIFIED COATING INSPECTOR LEVEL 3 PROVIDED BY THE GENERAL CONTRACTOR.
4. ISOLATE DISSIMILAR METALS SUCH AS ALUMINUM AND STAINLESS STEEL WITH TEFLON LINER OR TEFLON COATING, DEPENDING ON TYPE OF ASSEMBLY.

**SIGNAGE**



 SIGNAGE TYPE 1 -- SEE A-500 AND A-501 FOR LOCATION



SEE A-506 FOR HOIST SIGN LOCATIONS FOR SIGNS 2-5

**CODE SUMMARY:**

**VAB HB3 MODIFICATIONS FOR SLS DESIGN**

**PROJECT SUMMARY**  
PROJECT SCOPE IS TO INSTALL HOIST SERVICE PLATFORMS IN THE VAB (VEHICLE ASSEMBLY BUILDING). PROJECT SCOPE ALSO INCLUDES INSTALLING HOISTS FOR THE EXTENSIBLE PLATFORMS AND INSTALLING HOISTS FOR THE ELEVATOR PLATFORMS.

**APPLICABLE CODES**  
NFPA 101 LIFE SAFETY CODE 2012  
OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION - DEPARTMENT OF LABOR STANDARD 29 CFR 1910

**CONSTRUCTION TYPE**  
VAB - VEHICLE ASSEMBLY BUILDING EXISTING TYPE II UNPROTECTED

**BUILDING USE CATEGORY**  
VAB IS CONSIDERED A SPECIAL PURPOSE INDUSTRIAL OCCUPANCY WITH INCIDENTAL HIGH HAZARD OPERATIONS

**HANDRAILS AND GUARDRAILS**

**GUARDRAILS** 42" HIGH ARE REQUIRED AT THE OPEN SIDES OF EGRESS AND WALKING AND WORKING SURFACES THAT EXCEED 30" ABOVE THE ADJACENT FLOOR OR GROUND LEVEL

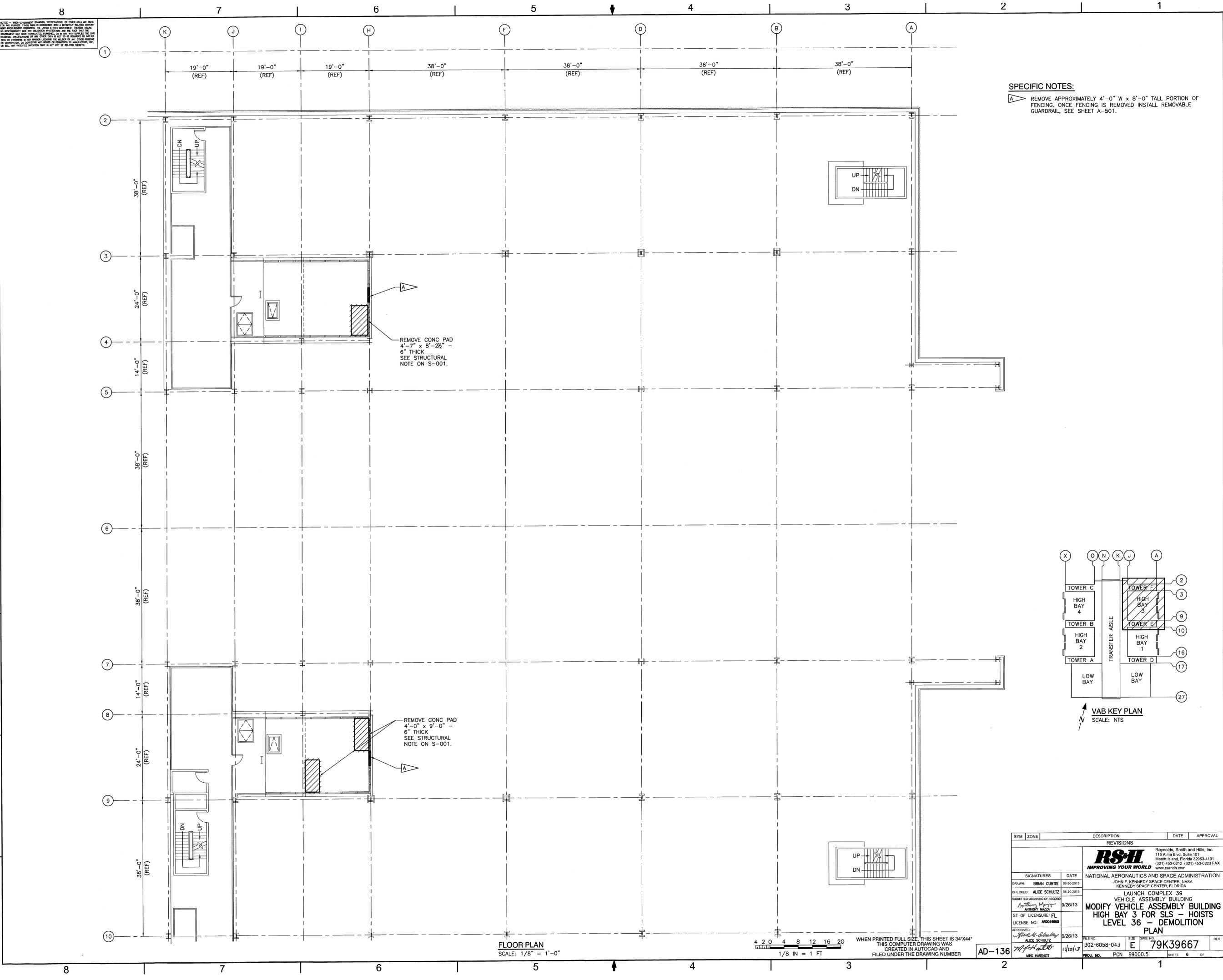
**GUARDRAILS**

42" IN HEIGHT, PIPE RAILINGS 1 1/2" NOMINAL DIAMETER WITH POSTS SPACED NOT MORE THAN 5'-0" OC  
TOE BOARD 4" IN HT. NOT MORE THAN 1/4" CLEARANCE ABOVE FLOOR LEVEL  
ALL GUARDRAILS ARE TO HAVE AN INTERMEDIATE RAIL MOUNTED AT THE MID-POINT OF THE HEIGHT OF THE GUARDRAIL PER 29 CFR 1910.23 (e)

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
<b>RS&amp;H</b> IMPROVING YOUR WORLD				
Reynolds, Smith and Hills, Inc. 115 Alpha Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, FLORIDA				
LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS ARCHITECTURAL ABBREVIATIONS, SYMBOLS AND GENERAL NOTES				
SIGNATURES	DATE			
DRAWN: BRIAN CURTIS	08-20-2013			
CHECKED: ALICE SCHULTZ	08-20-2013			
SUBMITTED ARCHIVING OF RECORD: <i>Anthony Maza</i>	11/01/13			
ST OF LICENSURE: FL LICENSE NO: A00016950				
APPROVED: <i>Alice Schultz</i> ALICE SCHULTZ	11/06/13			
<i>Mike Hartnett</i> MIKE HARTNETT	11/12/13			
FILE NO: 302-6056-043	SIZE: E	DWG. NO: 79K39667	REV	
PROJ. NO. PCN 99000.5	SHEET 5 OF			

WHEN PRINTED FULL SIZE, THIS SHEET IS 34"x44"  
THIS COMPUTER DRAWING WAS  
CREATED IN AUTOCAD AND  
FILED UNDER THE DRAWING NUMBER

A-001

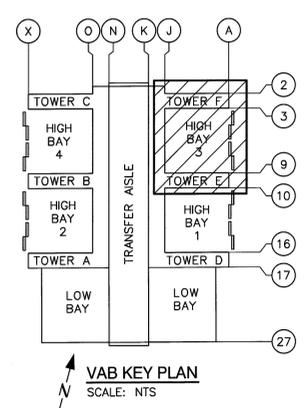


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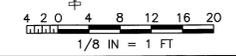
**SPECIFIC NOTES:**  
 A REMOVE APPROXIMATELY 4'-0" W x 8'-0" TALL PORTION OF FENCING. ONCE FENCING IS REMOVED INSTALL REMOVABLE GUARDRAIL, SEE SHEET A-501.

REMOVE CONC PAD  
 4'-7" x 8'-2 1/2" -  
 6" THICK  
 SEE STRUCTURAL  
 NOTE ON S-001.

REMOVE CONC PAD  
 4'-0" x 9'-0" -  
 6" THICK  
 SEE STRUCTURAL  
 NOTE ON S-001.



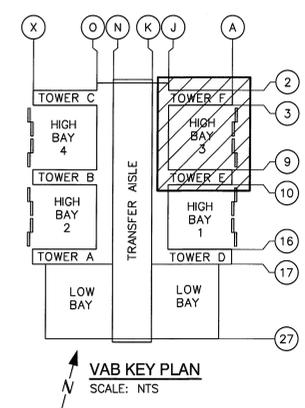
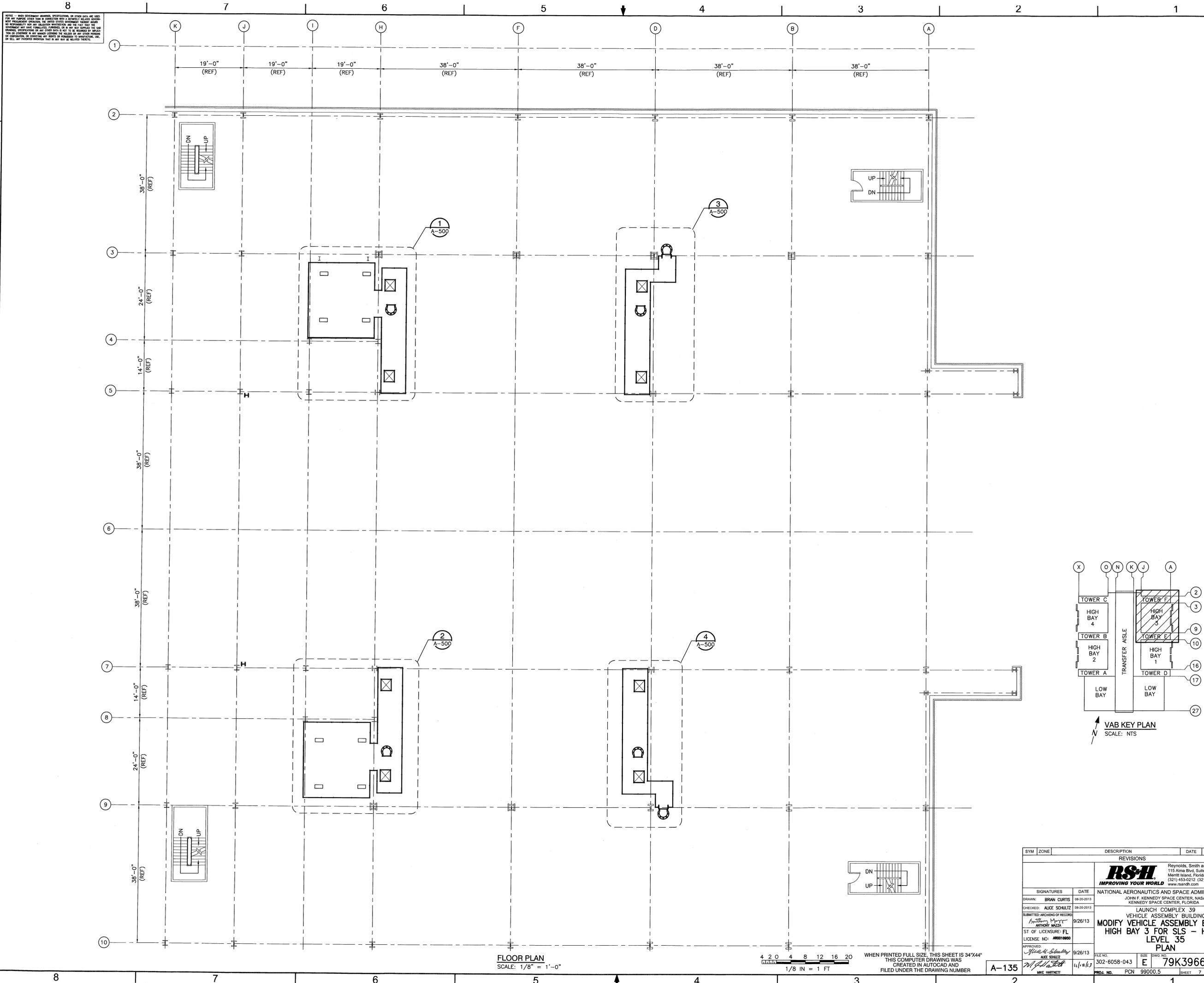
**FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"



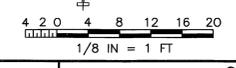
WHEN PRINTED FULL SIZE, THIS SHEET IS 34"x44"  
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 CREATED IN AUTOCAD AND  
 FILED UNDER THE DRAWING NUMBER

AD-136

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
<b>RSH</b> IMPROVING YOUR WORLD				
Raymonds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsh.com				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA				
LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING				
<b>MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS LEVEL 36 - DEMOLITION PLAN</b>				
SIGNATURES	DATE			
DRAWN: BRIAN CURTIS	08-20-2013			
CHECKED: ALICE SCHAULTZ	08-20-2013			
SUBMITTED ARCHIVING OF RECORDS: ANTHONY MAZZA	9/26/13			
ST OF LICENSURE: FL LICENSE NO: AR0018900				
APPROVED: Alice Schultz	9/26/13			
FILE NO: 302-6058-043	SIZE: E	DWS NO: 79K39667		
PROJ. NO. PCN 99000.5	DATE: 11/28/13	SHEET 6 OF		

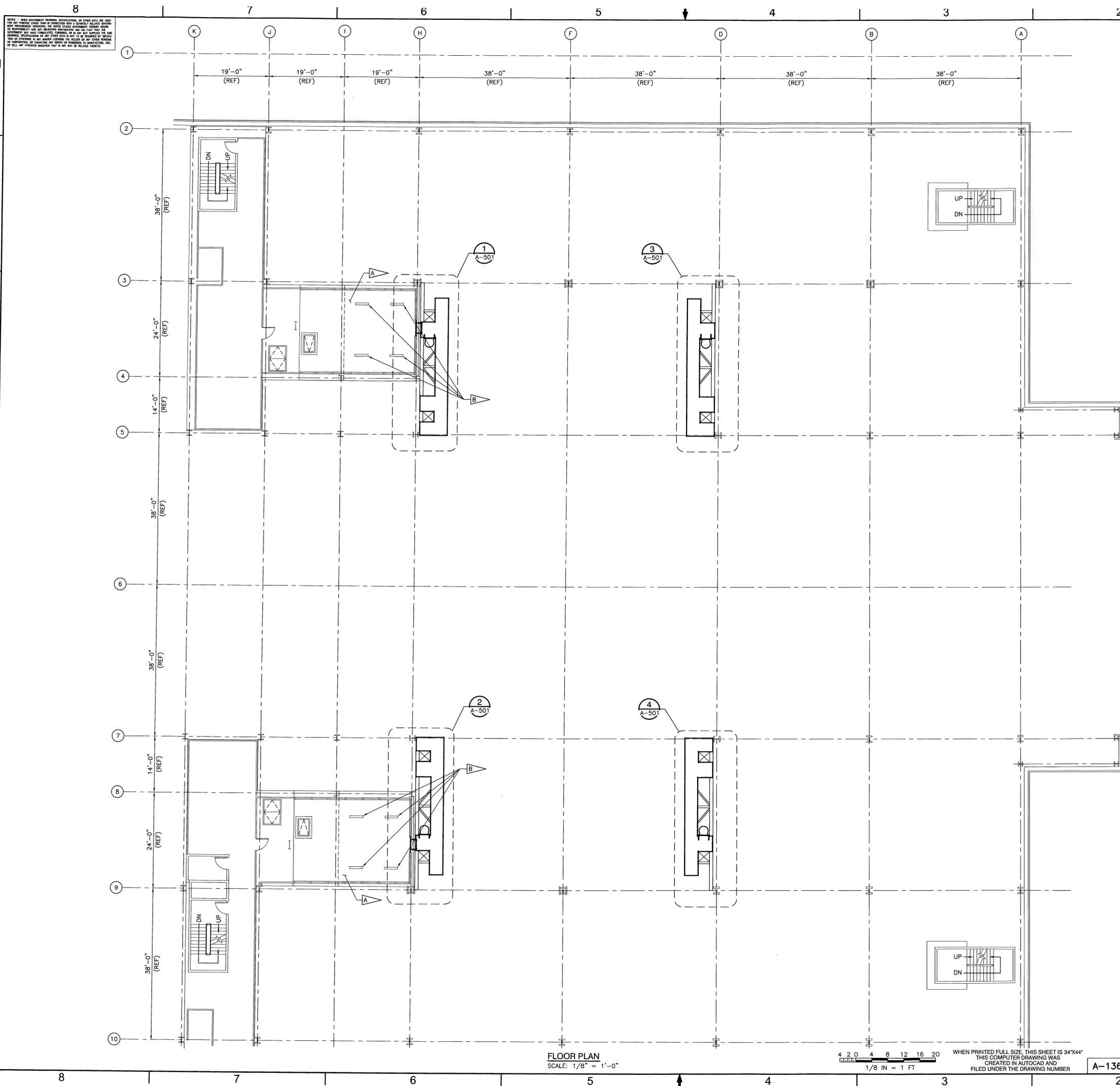


FLOOR PLAN  
SCALE: 1/8" = 1'-0"



WHEN PRINTED FULL SIZE, THIS SHEET IS 34"x44"  
THIS COMPUTER DRAWING WAS  
CREATED IN AUTOCAD AND  
FILED UNDER THE DRAWING NUMBER

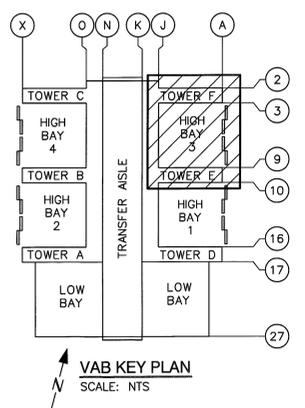
SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
DRAWN: BRIAN CURTIS		08-20-2013		
CHECKED: ALICE SCHULTZ		08-20-2013		
SUBMITTED ARCHIVING OF RECORDS		9/26/13		
ST OF LICENSEURE: FL		9/26/13		
LICENSE NO: AR0018600		9/26/13		
APPROVED:		9/26/13		
 ALICE SCHULTZ		 MIKE HARTNETT		
A-135		FILE NO:	302-6058-043	REV
		SIZE:	E	79K39667
		PROJ. NO.:	PCN 99000.5	SHEET 7 OF



**SPECIFIC NOTES:**

**A** EXISTING ELEVATOR MACHINE ROOM.

**B** HOLE THROUGH CONCRETE FLOOR FOR HOIST ROPE. COORDINATE SIZE AND LOCATION WITH HOIST MANUFACTURER.



**FLOOR PLAN**  
SCALE: 1/8" = 1'-0"

4 2 0 4 8 12 16 20  
1/8 IN = 1 FT  
WHEN PRINTED FULL SIZE, THIS SHEET IS 34"x44"  
THIS COMPUTER DRAWING WAS  
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SYM	ZONE	DESCRIPTION	DATE	APPROVAL
<b>REVISIONS</b>				
SIGNATURES		DATE		
DRAWN: BRIAN CURTIS		08-20-2013		
CHECKED: ALICE SCHULTZ		08-20-2013		
SUBMITTED ARCHIVING OF RECORDS		9/26/13		
ST OF LICENSURE: FL				
LICENSE NO: AR0018960				
APPROVED:		9/26/13		
 ALICE SCHULTZ MIKE WARTNETT		302-6058-043	E	79K39667
FILE NO: 302-6058-043 PROJ. NO. PCN 99000.5		SIZE DWG. NO. E	REV 79K39667	
A-136		SHEET 8 OF		

8  
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19'-0" (REF)  
19'-0" (REF)  
19'-0" (REF)  
38'-0" (REF)  
38'-0" (REF)  
38'-0" (REF)  
38'-0" (REF)

38'-0" (REF)  
24'-0" (REF)  
14'-0" (REF)  
38'-0" (REF)  
38'-0" (REF)  
14'-0" (REF)  
24'-0" (REF)  
38'-0" (REF)

1  
A-501  
3  
A-501  
2  
A-501  
4  
A-501

UP  
DN

UP  
DN

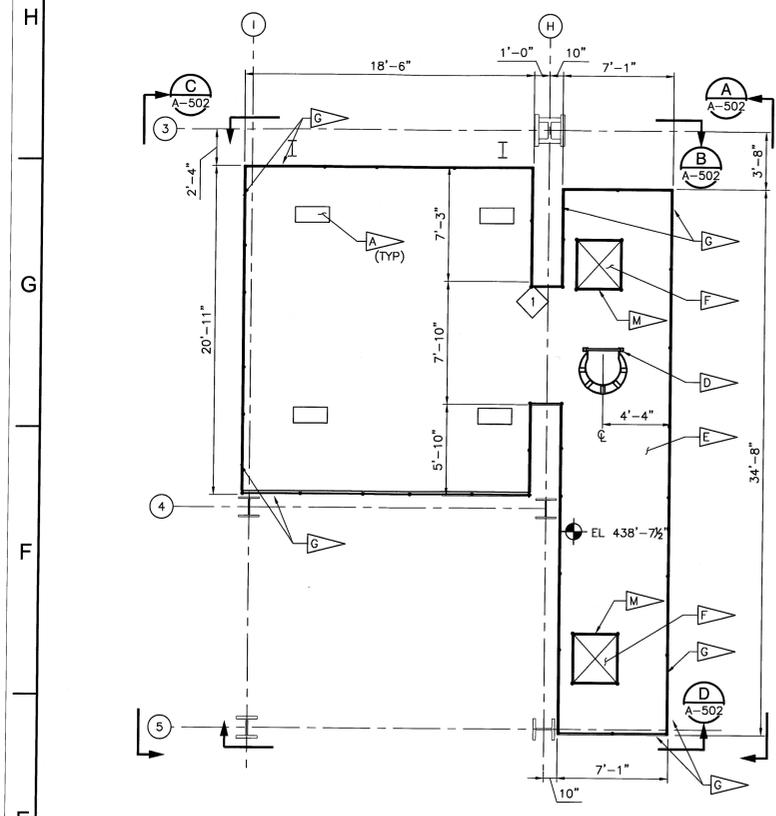
UP  
DN

UP  
DN

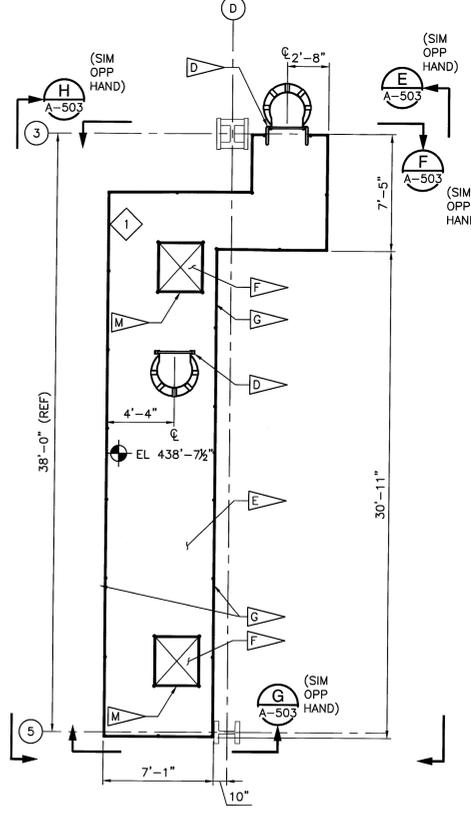
A-136

79K39667

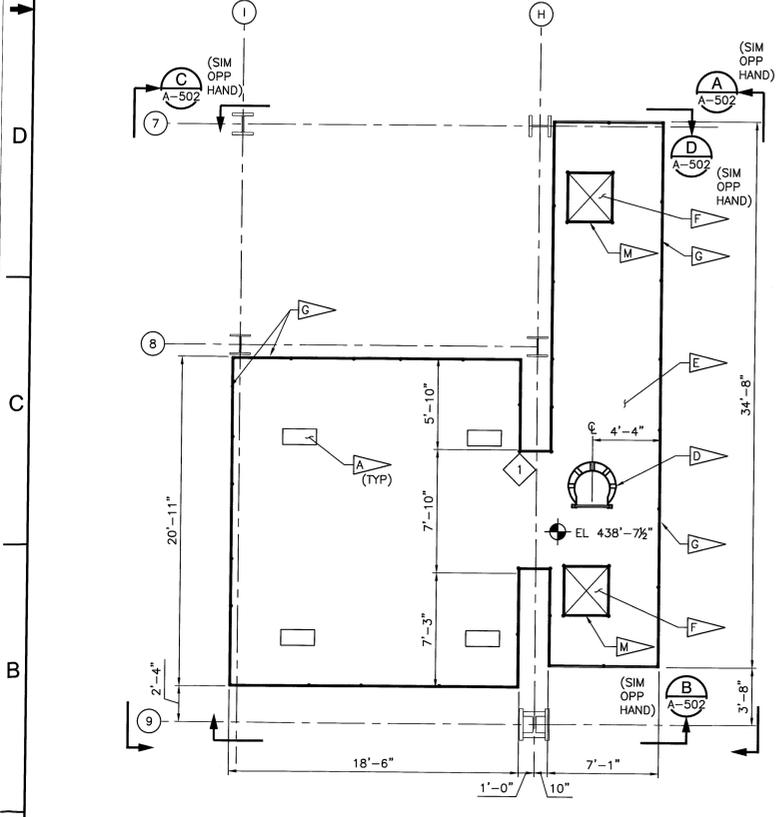
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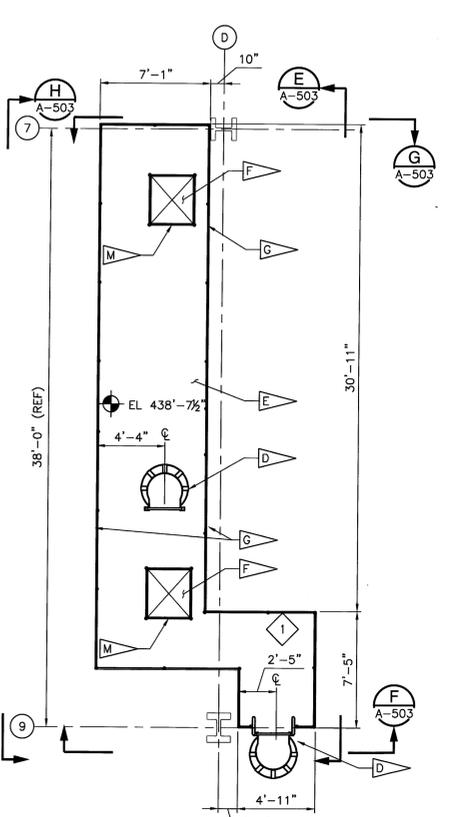
LEVEL 35  
SERVICE PLATFORM PLAN - TOWER F @ COL LINE H (1)  
SCALE: 1/4" = 1'-0"



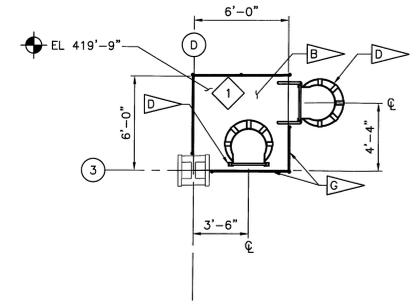
LEVEL 35  
SERVICE PLATFORM PLAN - TOWER F @ COL LINE D (3)  
SCALE: 1/4" = 1'-0"



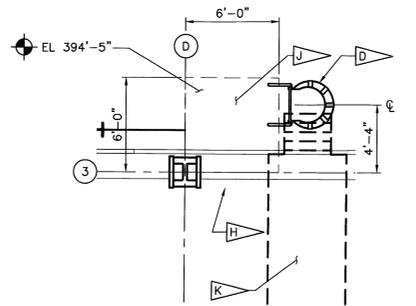
LEVEL 35  
SERVICE PLATFORM PLAN - TOWER E @ COL LINE H (2)  
SCALE: 1/4" = 1'-0"



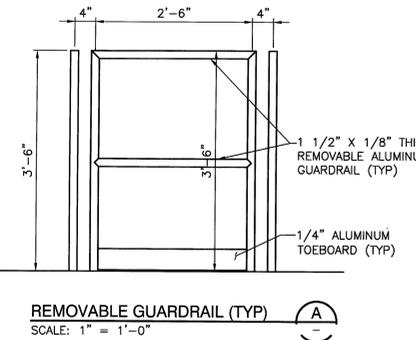
LEVEL 35  
SERVICE PLATFORM PLAN - TOWER E @ COL LINE D (4)  
SCALE: 1/4" = 1'-0"



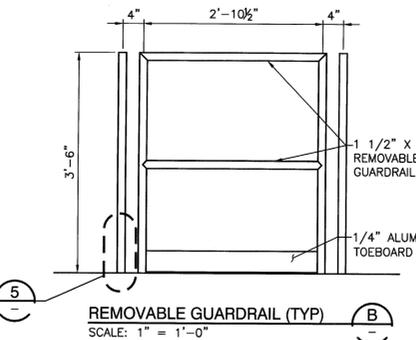
LEVEL 34  
LADDER LANDING PLAN - TOWER F @ COL LINE D  
SCALE: 1/4" = 1'-0"



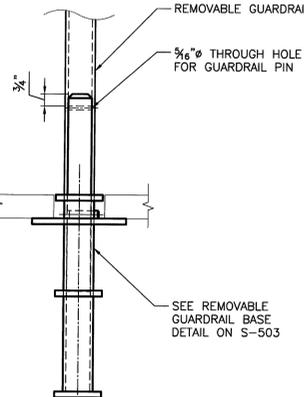
LEVEL 32  
LADDER PLAN - TOWER F @ COL LINE D  
SCALE: 1/4" = 1'-0"



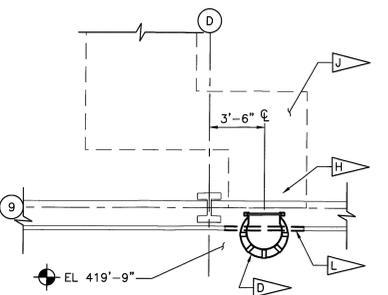
REMOVABLE GUARDRAIL (TYP) (A)  
SCALE: 1" = 1'-0"



REMOVABLE GUARDRAIL (TYP) (B)  
SCALE: 1" = 1'-0"

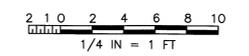


REMOVABLE GUARDRAIL BASE DETAIL (TYP) (5)  
SCALE: 3" = 1'-0"



LEVEL 34  
LADDER PLAN - TOWER E @ COL LINE D  
SCALE: 1/4" = 1'-0"

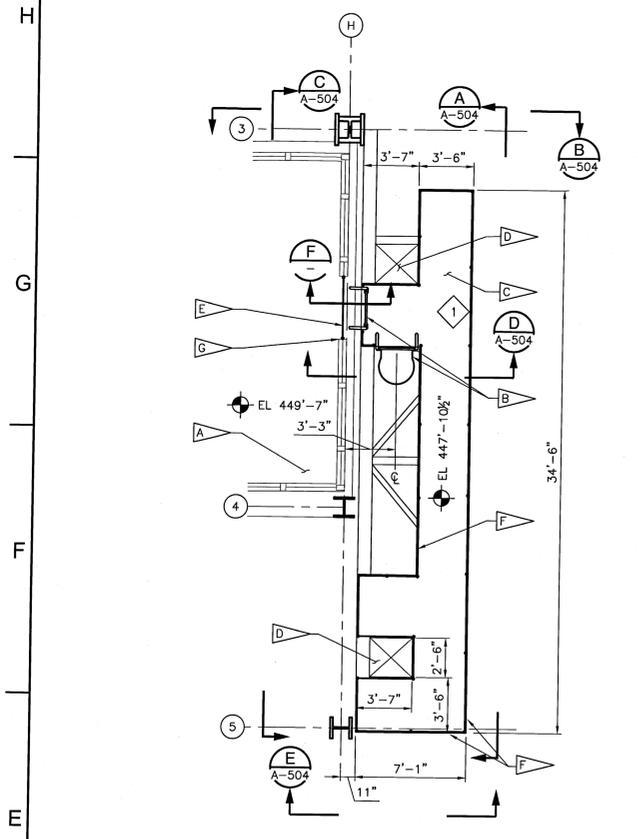
- SPECIFIC NOTES:**
- A FLOOR OPENING FOR HOIST. THE OPENING SIZE TO BE DETERMINED DURING SHOP DRAWING PHASE ONCE THE HOIST MANUFACTURER IS CHOSEN. IF OPENING IN FLOOR IS LARGER THAN OSHA MINIMUM, GUARDRAILS AROUND OPENING WILL BE REQUIRED.
  - B NEW LANDING.
  - C NOT USED.
  - D NEW FIXED LADDER, SEE A-505 FOR DETAILS.
  - E NEW SERVICE PLATFORM. SEE STRUCTURAL FOR FRAMING AND DETAILS.
  - F OPENING IN PLATFORM FLOOR.
  - G FIXED STEEL GUARDRAIL.
  - H EDGE OF SLAB.
  - J NEW LANDING ABOVE.
  - K DEMOLISH STAIR AND EXISTING CATWALK - CATWALK 38' x 5'.
  - L REMOVE 5'-0" OF EXISTING GUARDRAIL TO MAKE ROOM FOR NEW LADDER.
  - M REMOVABLE ALUMINUM GUARDRAIL ALL FOUR SIDES OF OPENING, SEE DETAIL A AND B ON THIS SHEET.



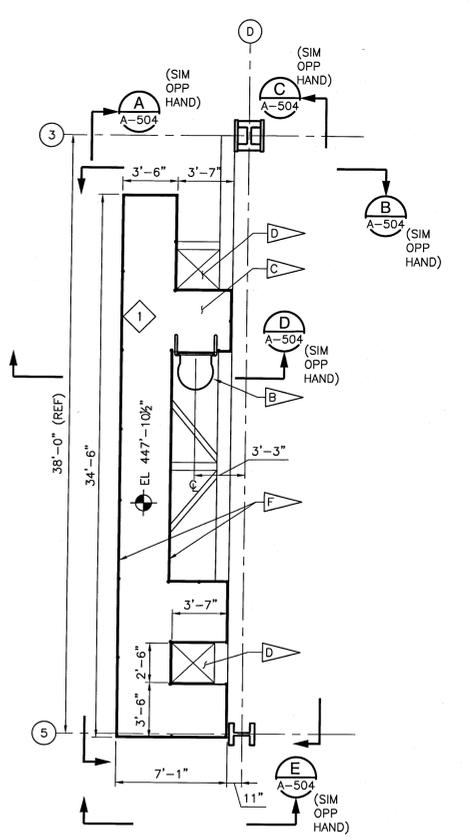
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FILED UNDER THE DRAWING NUMBER

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
		<small>Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Meritt Island, Florida 32953-4101 (321) 453-0215 (321) 453-0229 FAX www.rsandh.com</small>		
SIGNATURES		DATE	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	
DRAWN: BRIAN CURTIS		08-20-2013	JOHN F. KENNEDY SPACE CENTER, NASA	
CHECKED: ALICE SCHULTZ		08-20-2013	KENNEDY SPACE CENTER, FLORIDA	
SUBMITTED ARCHIVING OF RECORD		9/26/13	LAUNCH COMPLEX 39	
ST OF LICENSE: FL			VEHICLE ASSEMBLY BUILDING	
LICENSE NO: A00010650			HIGH BAY 3 FOR SLS - HOISTS	
APPROVED:		9/26/13	ENLARGED PLATFORM PLANS,	
Alice Schultz			LEVEL 35	
Alice Schultz			FILE NO:	REV
Mike Lambert			302-6058-043	E
			79K39667	
			PROJ. NO. PCN 99000.5	SHEET 9 OF

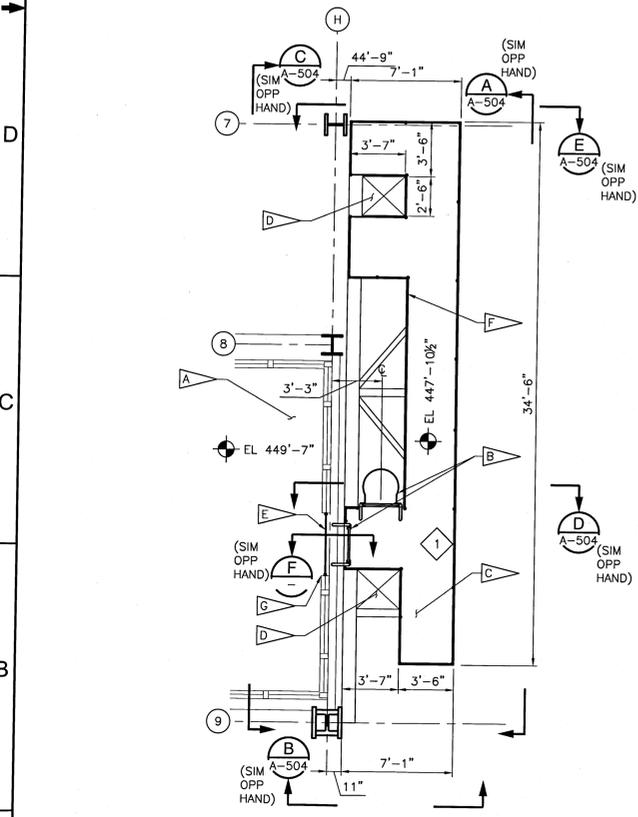
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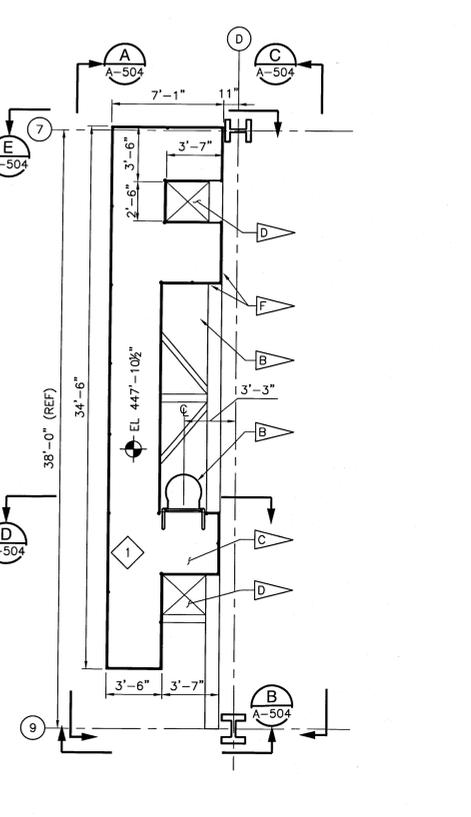
LEVEL 36  
SERVICE PLATFORM PLAN - TOWER F @ COL LINE H (1)  
SCALE: 1/4" = 1'-0" (A-136)



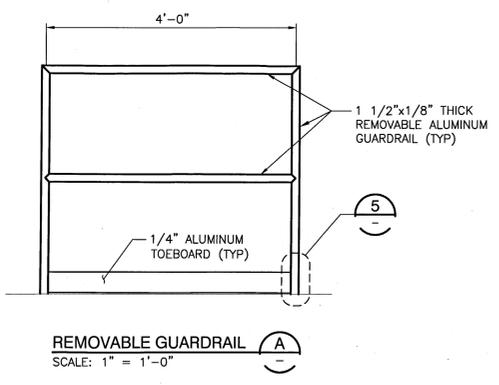
LEVEL 36  
SERVICE PLATFORM PLAN - TOWER F @ COL LINE D (3)  
SCALE: 1/4" = 1'-0" (A-136)



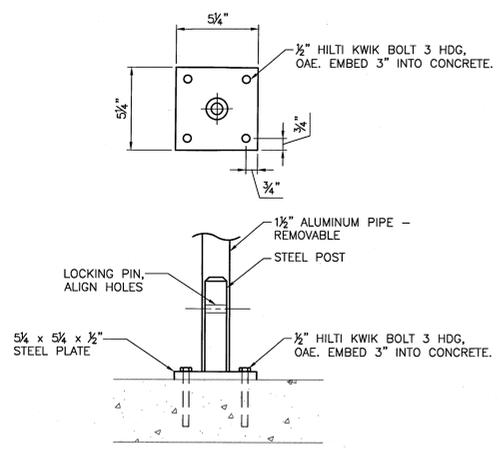
LEVEL 36  
SERVICE PLATFORM PLAN - TOWER E @ COL LINE H (2)  
SCALE: 1/4" = 1'-0" (A-136)



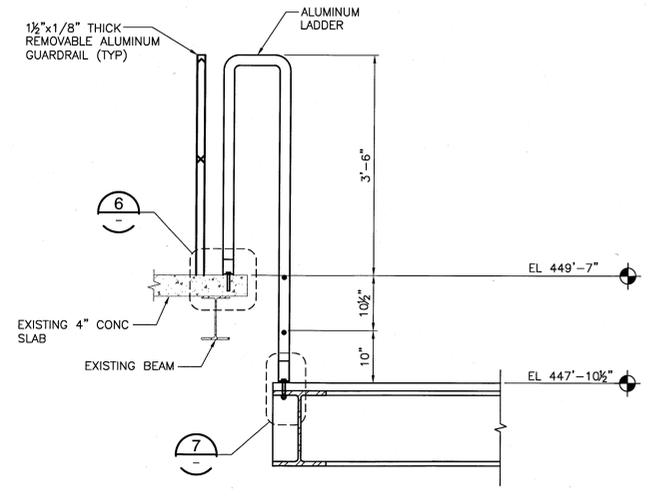
LEVEL 36  
SERVICE PLATFORM PLAN - TOWER E @ COL LINE D (4)  
SCALE: 1/4" = 1'-0" (A-136)



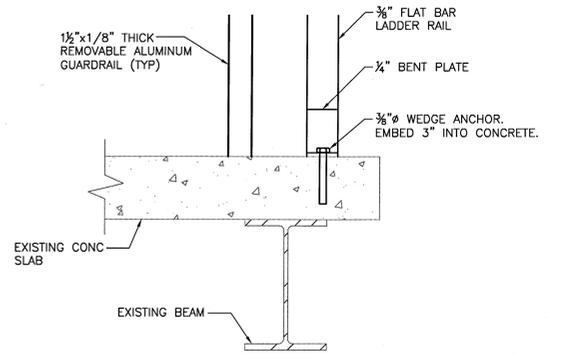
REMOVABLE GUARDRAIL (A)  
SCALE: 1" = 1'-0"



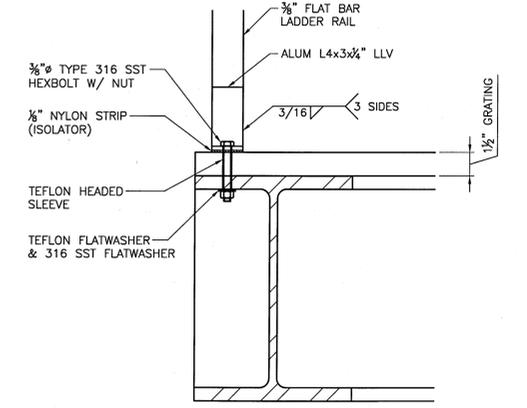
REMOVABLE GUARDRAIL (5)  
SCALE: 3" = 1'-0"



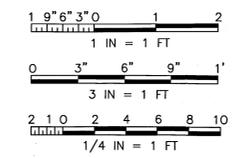
LADDER @ SERVICE PLATFORM (F)  
SCALE: 1" = 1'-0"



LADDER CONNECTION @ CONC SLAB (6)  
SCALE: 3" = 1'-0"



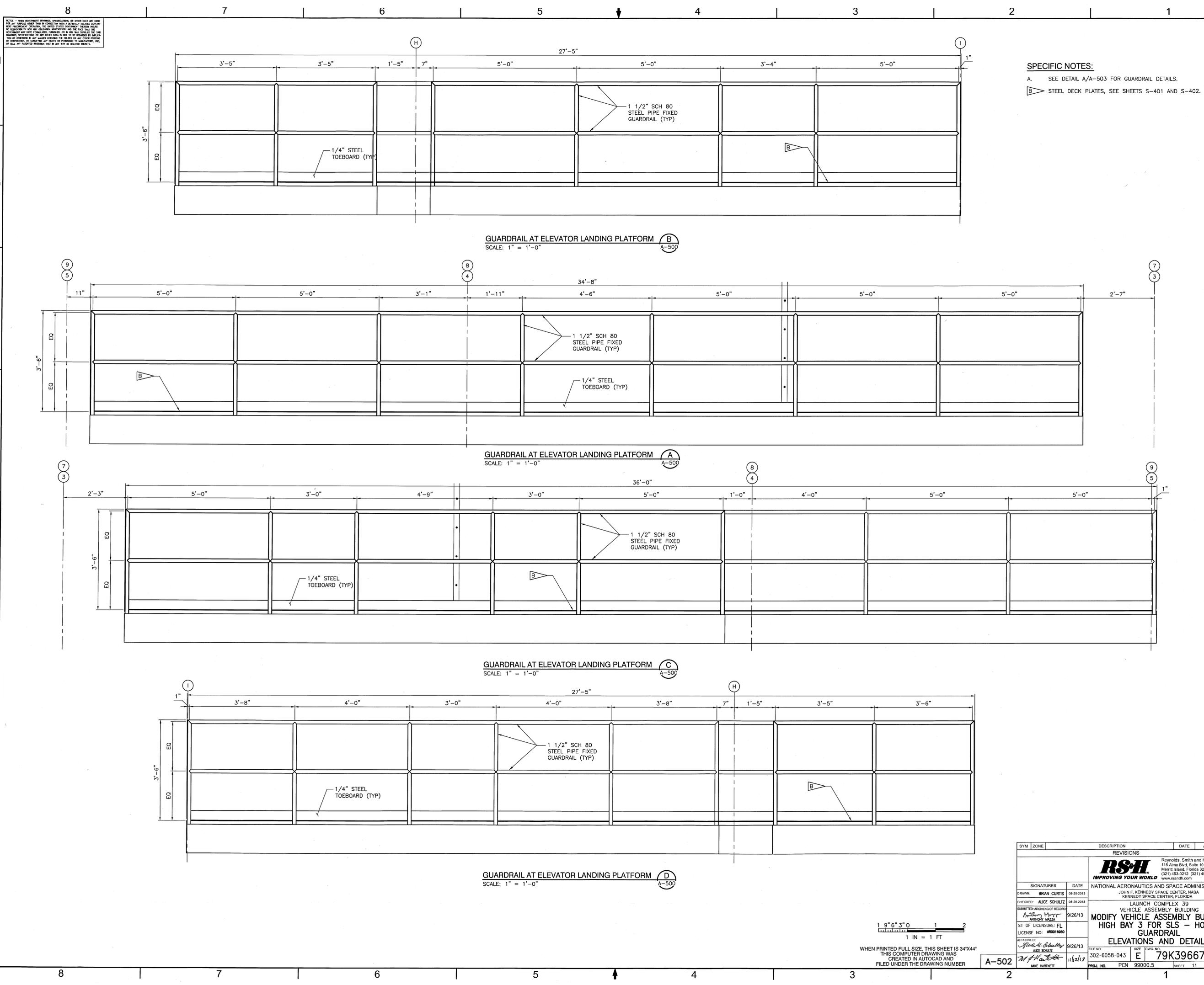
LADDER CONNECTION @ STEEL BEAM (7)  
SCALE: 3" = 1'-0"



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SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		DATE	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	
DRAWN: BRAN CURTIS		08-20-2013	JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA	
CHECKED: ALICE SCHULTZ		08-20-2013	LAUNCH COMPLEX 39	
SUBMITTED ARCHIVING OF RECORDS		9/26/13	VEHICLE ASSEMBLY BUILDING	
ST OF LICENSURE: FL			HIGH BAY 3 FOR SLS - HOISTS	
LICENSE NO: A90018950			ENLARGED PLATFORM PLANS,	
APPROVED:		9/26/13	LEVEL 36	
Alice Schultz			FILE NO: 302-6058-043	SIZE: DWG. NO: 79K39667
Mike Barnett			PROJ. NO: PCN 99000.5	SHEET 10 OF

A-501



NOTE: WHEN GOVERNMENT SPECIFICATIONS OR OTHER DATA ARE USED FOR ANY PORTION OF THIS DRAWING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF SUCH DATA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.

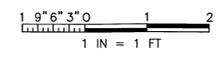
**SPECIFIC NOTES:**  
 A. SEE DETAIL A/A-503 FOR GUARDRAIL DETAILS.  
 B. STEEL DECK PLATES, SEE SHEETS S-401 AND S-402.

GUARDRAIL AT ELEVATOR LANDING PLATFORM **B**  
 SCALE: 1" = 1'-0"

GUARDRAIL AT ELEVATOR LANDING PLATFORM **A**  
 SCALE: 1" = 1'-0"

GUARDRAIL AT ELEVATOR LANDING PLATFORM **C**  
 SCALE: 1" = 1'-0"

GUARDRAIL AT ELEVATOR LANDING PLATFORM **D**  
 SCALE: 1" = 1'-0"

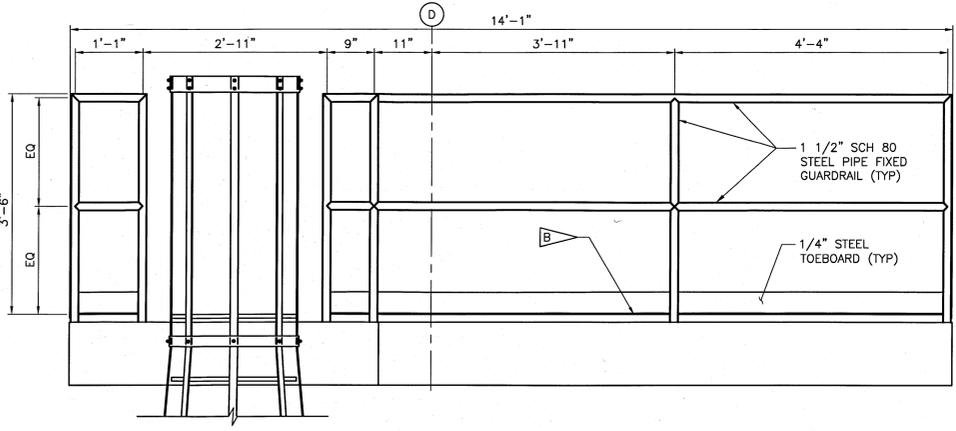


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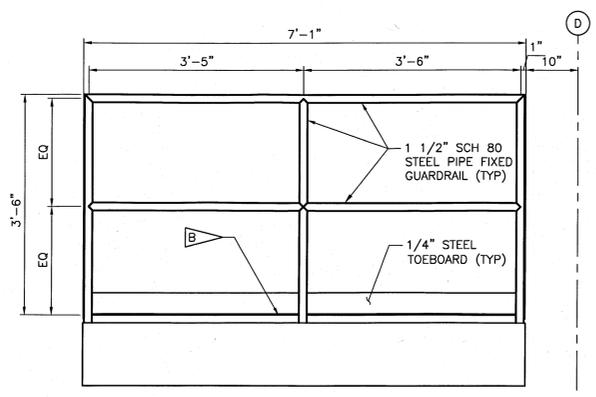
SYM	ZONE	DESCRIPTION	DATE	APPROVAL
<b>REVISIONS</b>				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd., Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsh.com		
		<b>RS&amp;H</b>		
		<b>IMPROVING YOUR WORLD</b>		
SIGNATURES	DATE	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION		
DRAWN: BRIAN CURTIS	08-20-2013	JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA		
CHECKED: ALICE SCHULTZ	08-20-2013	LAUNCH COMPLEX 39		
SUBMITTED ARCHIVING OF RECORDS:		VEHICLE ASSEMBLY BUILDING		
ANTHONY MAZZA	9/26/13	MODIFY VEHICLE ASSEMBLY BUILDING		
ST OF LICENSEURE: FL		HIGH BAY 3 FOR SLS - HOISTS		
LICENSE NO: A00016900		GUARDRAIL		
APPROVED:		ELEVATIONS AND DETAILS		
ALICE SCHULTZ	9/26/13	FILE NO:	302-6058-043	REV
MIKE HARTNETT	11/21/13	SIZE:	E	79K39667
		PROJ. NO.:	PCN 99000.5	SHEET 11 OF

A-502

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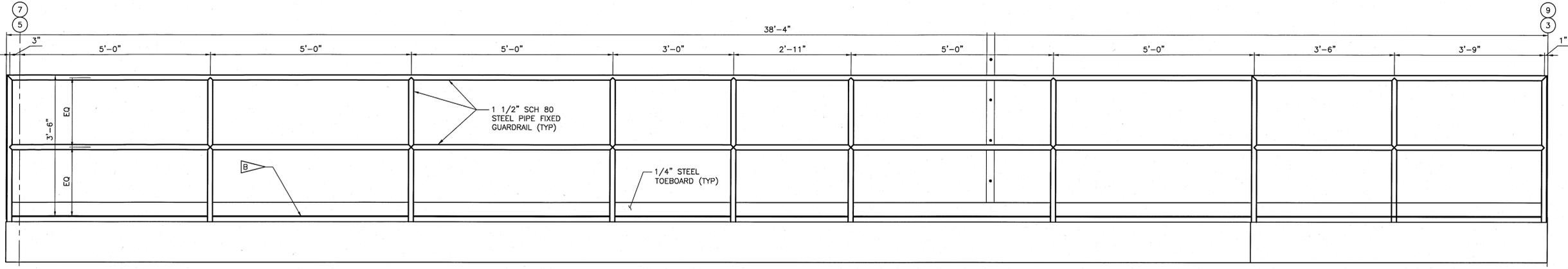


GUARDRAIL AT NEW SERVICE PLATFORM (F)  
SCALE: 1" = 1'-0" (A-500)

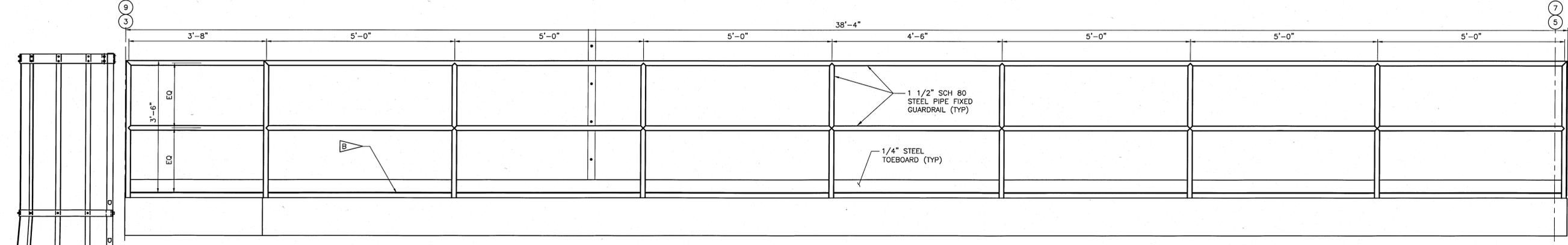


GUARDRAIL AT NEW SERVICE PLATFORM (G)  
SCALE: 1" = 1'-0" (A-500)

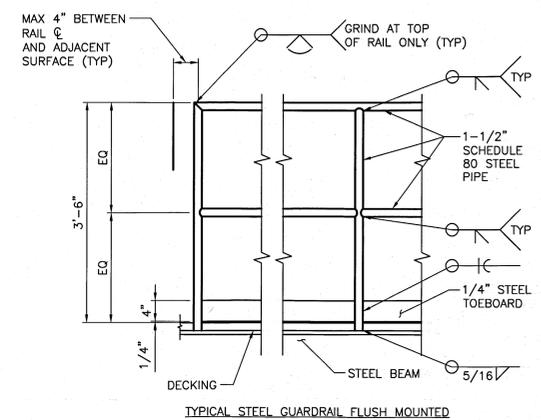
**SPECIFIC NOTES:**  
A. SEE DETAIL A FOR GUARDRAIL DETAILS.  
B. STEEL DECK PLATES, SEE SHEETS S-401 AND S-402.



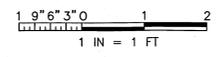
GUARDRAIL AT NEW SERVICE PLATFORM (E)  
SCALE: 1" = 1'-0" (A-500)



GUARDRAIL AT NEW SERVICE PLATFORM (H)  
SCALE: 1" = 1'-0" (A-500)



TYPICAL STEEL GUARDRAIL FLUSH MOUNTED  
DETAIL (A)  
SCALE: 1" = 1'-0" (A-500)



WHEN PRINTED FULL SIZE, THIS SHEET IS 34"X44"  
THIS COMPUTER DRAWING WAS  
CREATED IN AUTOCAD AND  
FILED UNDER THE DRAWING NUMBER

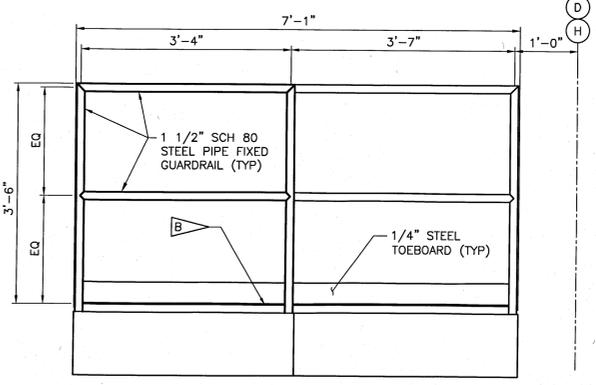
SYM	ZONE	DESCRIPTION	DATE	APPROVAL
<b>REVISIONS</b>				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsh.com		
		<b>RS&amp;H</b>		
		<b>IMPROVING YOUR WORLD</b>		
SIGNATURES	DATE	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION		
DRAWN: BRAN CURTIS	09-20-2013	JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA		
CHECKED: ALICE SCHULTZ	09-20-2013	LAUNCH COMPLEX 39		
SUBMITTED ARCHIVING OF RECORD:		VEHICLE ASSEMBLY BUILDING		
APPROVED: Anthony Mazza	9/26/13	MODIFY VEHICLE ASSEMBLY BUILDING		
ST OF LICENSEURE: FL		HIGH BAY 3 FOR SLS - HOISTS		
LICENSE NO: A9001990		GUARDRAIL		
APPROVER:		ELEVATIONS AND DETAILS		
APPROVED: Alice Schultz	9/26/13	FILE NO:	302-6058-043	SIZE: E
APPROVED: Mike Hartnett	11/28/13	PROJ. NO.:	PCN 99000.5	DWG. NO.:
				79K39667
				REV: 12 OF 12

A-503

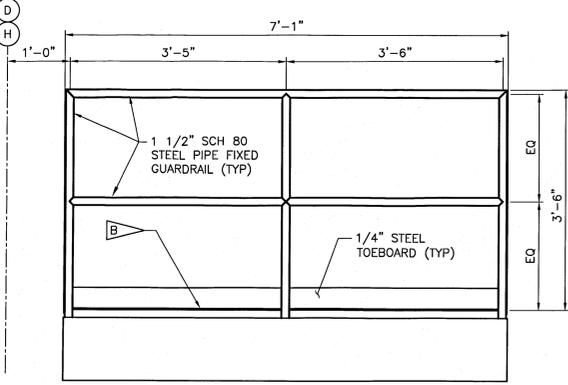
8 7 6 5 4 3 2 1

NOTE: - WHEN GOVERNMENT DRAWING, SPECIFICATION, OR OTHER DATA ARE USED FOR ANY PART OF THIS DRAWING, THE USER SHALL BE RESPONSIBLE FOR VERIFYING THAT THE DATA IS CORRECT AND THAT IT IS THE MOST CURRENT AND APPLICABLE. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THAT THE DATA IS THE MOST CURRENT AND APPLICABLE. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THAT THE DATA IS THE MOST CURRENT AND APPLICABLE.

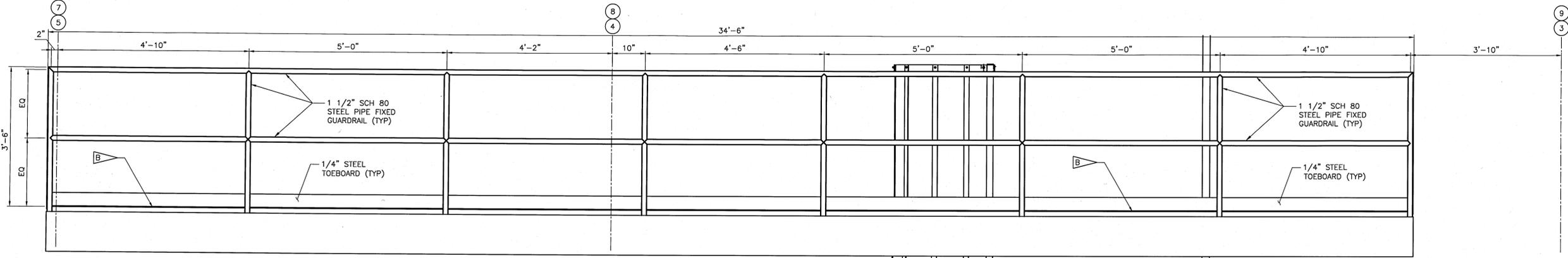
**SPECIFIC NOTES:**  
 A. SEE DETAIL A/A-503 FOR GUARDRAIL DETAILS.  
 B. STEEL DECK PLATES, SEE SHEETS S-401 AND S-402.



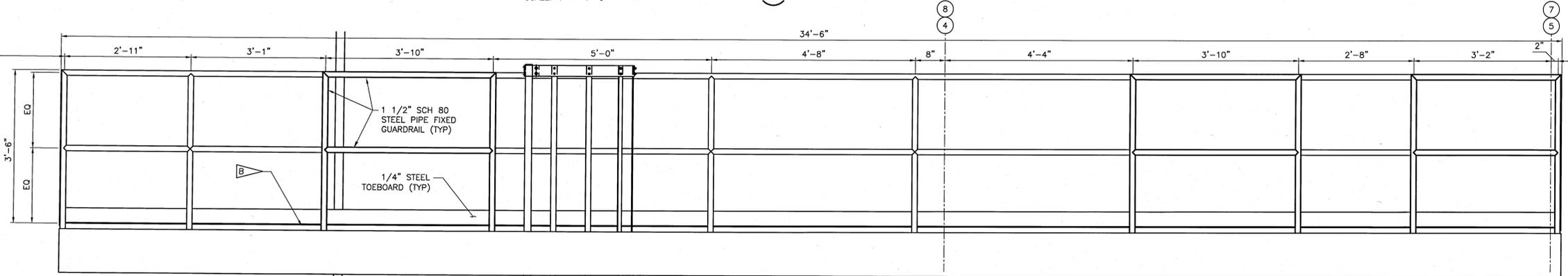
GUARDRAIL AT NEW SERVICE PLATFORM (B)  
 SCALE: 1" = 1'-0"



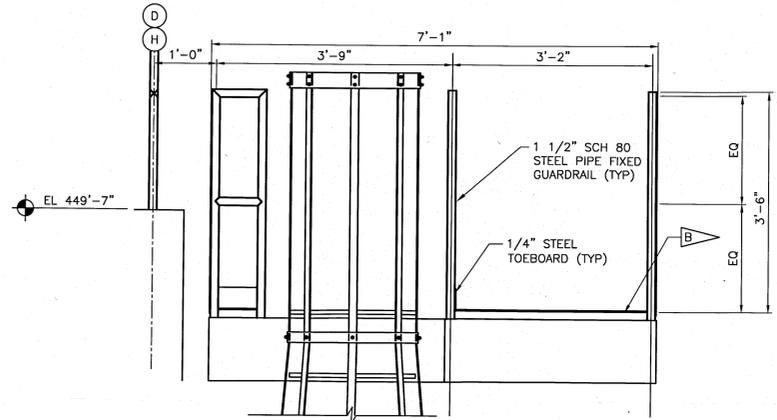
GUARDRAIL AT NEW SERVICE PLATFORM (E)  
 SCALE: 1" = 1'-0"



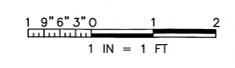
GUARDRAIL AT NEW SERVICE PLATFORM (A)  
 SCALE: 1" = 1'-0"



GUARDRAIL AT NEW SERVICE PLATFORM (C)  
 SCALE: 1" = 1'-0"



GUARDRAIL AT NEW SERVICE PLATFORM (D)  
 SCALE: 1" = 1'-0"



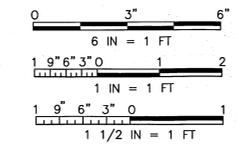
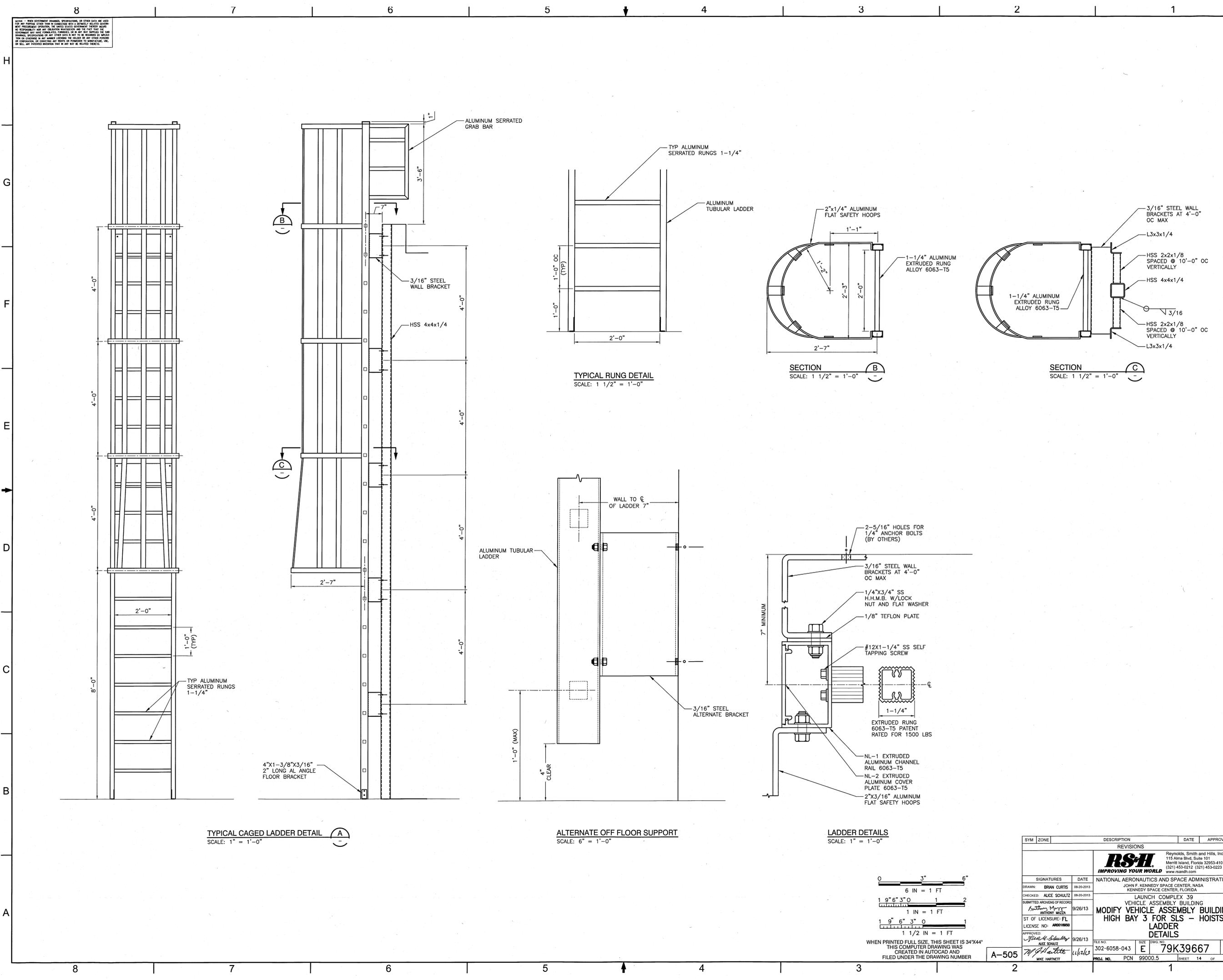
WHEN PRINTED FULL SIZE, THIS SHEET IS 34"x44"  
 THIS COMPUTER DRAWING WAS  
 CREATED IN AUTOCAD AND  
 FILED UNDER THE DRAWING NUMBER

A-504

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
<b>REVISIONS</b>				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		DATE		
DRAWN: BRIAN CURTIS		08-20-2013		
CHECKED: ALICE SCHULTZ		08-20-2013		
SUBMITTED ARCHIVING OF RECORD:		9/26/13		
ST OF LICENSURE: FL		9/26/13		
LICENSE NO: A90018050		9/26/13		
APPROVED:		9/26/13		
MWE HARTNETT		u/c/13		
FILE NO:		302-6058-043		
SIZE (EWS NO):		E 79K39667		
PROJ. NO. PCN		99000.5 SHEET 13 OF		

8 7 6 5 4 3 2 1

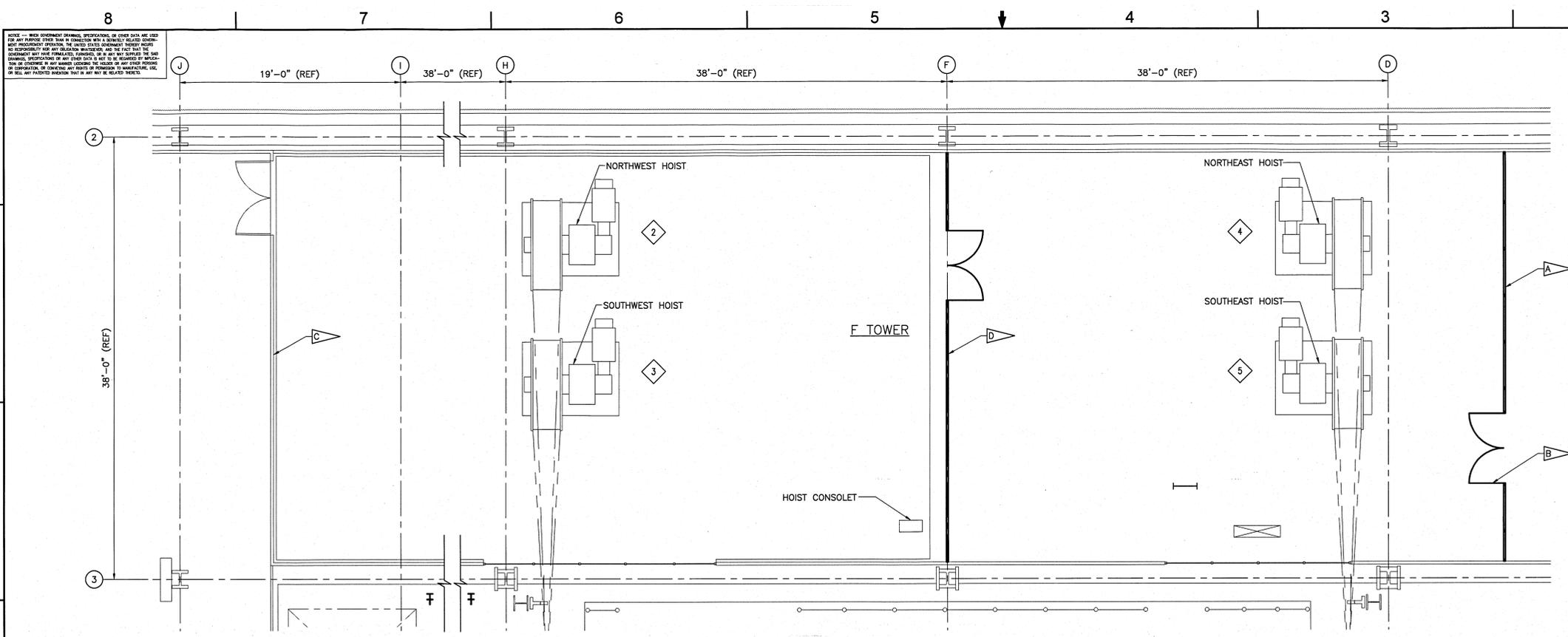
NOTE: THIS DRAWING, SPECIFICATIONS, OR OTHER DATA ARE USED FOR THE DESIGN OF THE STRUCTURE AND CONSTRUCTION OF THE RELATED SYSTEMS. THE USER SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE RELATED SYSTEMS. THE USER SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE RELATED SYSTEMS. THE USER SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE RELATED SYSTEMS.



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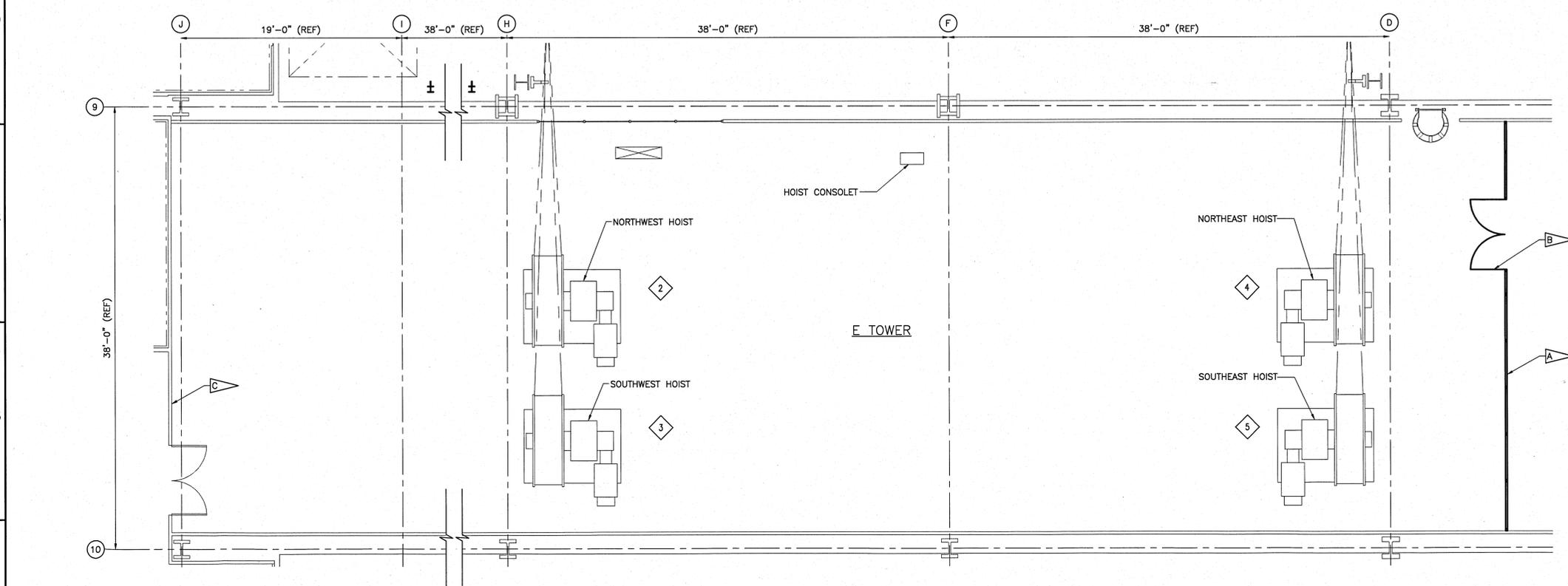
SYM	ZONE	DESCRIPTION	DATE	APPROVAL
<b>REVISIONS</b>				
<b>RS&amp;H</b> REYNOLDS, SMITH AND HILLS, INC. 115 ALMA BLVD, SUITE 101 MERRITT ISLAND, FLORIDA 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA				
LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS LADDER DETAILS				
SIGNATURES	DATE			
DRAWN: BRIAN CURTIS	09-20-2013			
CHECKED: ALICE SCHULTZ	09-20-2013			
SUBMITTED ARCHIVING OF RECORD:				
BY: Anthony Maza	9/26/13			
ST OF LICENSEURE: FL				
LICENSE NO: A80019900				
APPROVED:				
BY: Alice Schultz	9/26/13			
BY: Mike Hartnett	11/2/13			
FILE NO:	302-6058-043	SIZE:	E	DWG NO: 79K39667
PROJ. NO.:	PCN 99000.5	SHEET:	14	OF

A-505

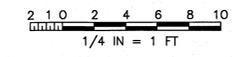


FLOOR PLAN AT LEVEL 32 HOIST EQUIPMENT AREA (EL 394'-5")  
SCALE: 1/4" = 1'-0"

- SPECIFIC NOTES:**
- A SECURITY FENCE - 8'-0" HIGH W/ NO. 10 WIRE W/ 1 1/2" DIAMOND SHAPED MESH IN 1"x1/2" METAL FRAME.
  - B PAIR (3'-0" x 8'-0") HIGH DIAMOND SHAPED MESH GATE WITH 1" x 1/2" METAL FRAME.
  - C EXISTING FENCING AND GATE TO REMAIN.
  - D REMOVE 8'-0" HIGH SECURITY FENCE AND GATE.
  - E LOCATE HOIST SIGNS SO THEY ARE VISIBLE FROM THE HOIST CONSOLE. ONCE A HOIST MANUFACTURER IS CHOSEN, HOIST SIGNS ARE TO BE LOCATED AT A MUTUALLY AGREEABLE LOCATION BETWEEN NASA AND THE HOIST MANUFACTURER.



FLOOR PLAN AT LEVEL 34 HOIST EQUIPMENT AREA (EL 419'-9")  
SCALE: 1/4" = 1'-0"



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SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		DATE		
DRAWN: BRIAN CURTIS		08-20-2013		
CHECKED: ALICE SCHULTZ		08-20-2013		
SUBMITTED: ARCHING OF RECORD		11/01/13		
ST OF LICENSURE: FL		ANTHONY MAZZA		
LICENSE NO: AN0018800		APPROVED: ALICE SCHULTZ		
APPROVED: ALICE SCHULTZ		11/04/13		
APPROVED: MIKE HARTNETT		11/04/13		
A-506		FILE NO:	SIZE	DWG NO.
		302-6058-043	E	79K39667
		PROJ. NO. PCN	99000.5	SHEET 15 OF

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1. GENERAL DEMOLITION NOTES:

- 1. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE AREAS AND EXISTING CONDITIONS ASSOCIATED WITH THE WORK TO BE PERFORMED TO UNDERSTAND THE EXISTING FIELD CONDITIONS AND DIFFICULTIES THAT AFFECT EXECUTION OF THE WORK, AS WELL AS TO IDENTIFY SYSTEMS AND EQUIPMENT WHICH ARE TO REMAIN IN PLACE AND MUST BE PROTECTED FROM THE DEMOLITION ACTIVITIES.
- 2. THE CONTRACTOR SHALL REMOVE THE STRUCTURAL ITEMS AND EQUIPMENT IDENTIFIED ON THE DRAWINGS. ITEMS IDENTIFIED FOR REUSE/REINSTALLATION SHALL BE REMOVED, STORED AND PROTECTED DURING CONSTRUCTION ACTIVITIES. ITEMS MARKED TO BE DEMOLISHED AND TURNED OVER TO THE GOVERNMENT ARE THE PROPERTY OF THE GOVERNMENT AND WILL BE SEGREGATED, ITEMIZED AND DISPOSED PER INSTRUCTIONS OF THE CONTRACTING OFFICER.
- 3. THE CONTRACTOR SHALL DISPOSE OF DEBRIS RUBBISH AND OTHER NON-SALVAGEABLE MATERIALS PROMPTLY.
- 4. CONTRACTOR SHALL VERIFY QUANTITIES AND SHALL BE RESPONSIBLE FOR THE WORK WITHIN THE DESCRIPTION OF THE SCOPE.
- 5. THE CONTRACTOR MAY NOT ALTER ANY ELEMENT OUTSIDE THE SCOPE OF THIS PROJECT WITHOUT THE PRIOR APPROVAL OF THE CONTRACTING OFFICER.
- 6. THE CONTRACTOR SHALL PROVIDE OPENINGS THROUGH EXISTING SLABS AS REQUIRED BY THE HOIST MANUFACTURER. THE OPENINGS SHALL BE MADE AFTER THE INSTALLATION OF THE REQUIRED SECONDARY FRAMING PER NOTE B ON SHEET M-810. OPENING EDGES SHALL BE FREE OF ROUGH EDGES. EXPOSED REINFORCEMENT SHALL BE COATED PER PROJECT SPECIFICATIONS.
- 7. THE CONTRACTOR SHALL REMOVE THE EXISTING EQUIPMENT PADS WHERE NOTED. THE CONTRACTOR SHALL PROVIDE A CLASS A FINISH PER ACI 347-04 TO THE FLOOR UPON REMOVAL OF EQUIPMENT PAD.
- 8. THE CONTRACTOR SHALL COVER HOLES IN THE FLOOR EXPOSED BY HOIST REMOVAL WITH 1/4" THICK PATTERNED STEEL PLATE. THE CONTRACTOR SHALL PROVIDE A MINIMUM LAP WITH CONCRETE OF 3". SECURE TO CONCRETE USING 1/4" x 1-3/4" TITEN HD MINI ANCHOR OR APPROVED EQUAL. SPACE ANCHORS AT 8" ON CENTER AROUND PERIMETER.

- 17. ONE FOURTH INCH (1/4") THICKNESS WELDED CLOSURE PLATE SHALL BE PROVIDED AT OPEN ENDS OF ALL PIPE AND TUBULAR MEMBERS UNLESS OTHERWISE NOTED. CONNECT TO PIPE OR TUBULAR MEMBERS WITH 3/16" SINGLE BEVEL GROOVE WELD.
- 18. REQUESTS FOR PENETRATIONS THROUGH WIDE FLANGE BEAMS MUST BE APPROVED BY THE CONTRACTING OFFICER.
- 19. BREAK SHARP EDGES TO BE PAINTED WITH 1/8" RADIUS MINIMUM.

4. METAL CELLULAR DECK:

- 1. METAL CELLULAR DECKING SHALL BE 1.5BP 16/16 CELLULAR DECK: HEIGHT OF DECK: 1.5" NOMINAL WIDTH OF CELLS 3.5" MINIMUM HAT THICKNESS 16 GAUGE MINIMUM PAN THICKNESS 16 GAUGE DECK SECTION PROPERTIES (MINIMUM):  $I_p = 0.722in^4/FT$ ,  $S_p = 0.644in^3/FT$ ,  $S_n = 0.685 in^3/H$  GALVANIZED ASTM A653 STEEL NO INTERNAL INSULATION BASIS OF DESIGN: VULCRAFT 1.5BP 16/16 CELLULAR DECK OR APPROVED EQUAL.

5. DESIGN CAPACITY:

- 1. MAINTENANCE PLATFORMS ARE DESIGNED FOR A LIVE LOADING OF 60 PSF. SEE ARCHITECTURAL NOTES FOR SIGNAGE.

2. GENERAL STRUCTURAL NOTES:

- 1. CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING, SHORING, AND OTHER MEASURES TO PROTECT PERSONNEL, STRUCTURES UNDER CONSTRUCTION, AND ADJACENT STRUCTURES DURING CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS IN ERECTION SITE PRIOR TO PROCEEDING WITH FABRICATION AND CONSTRUCTION.

3. STRUCTURAL STEEL DESIGN:

- 1. ALL WORK SHALL BE IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND THE "CODE OF STANDARD PRACTICE" AS CONTAINED IN THE THIRTEENTH EDITION OF THE AISC STEEL CONSTRUCTION MANUAL WITH THE FOLLOWING EXCEPTION. DIMENSION TOLERANCES PRESCRIBED ON THE DRAWINGS ARE TO BE ADHERED TO AS WELL AS THE FABRICATION AND ERECTION TOLERANCES PRESENTED IN THE "CODE OF STANDARD PRACTICE."

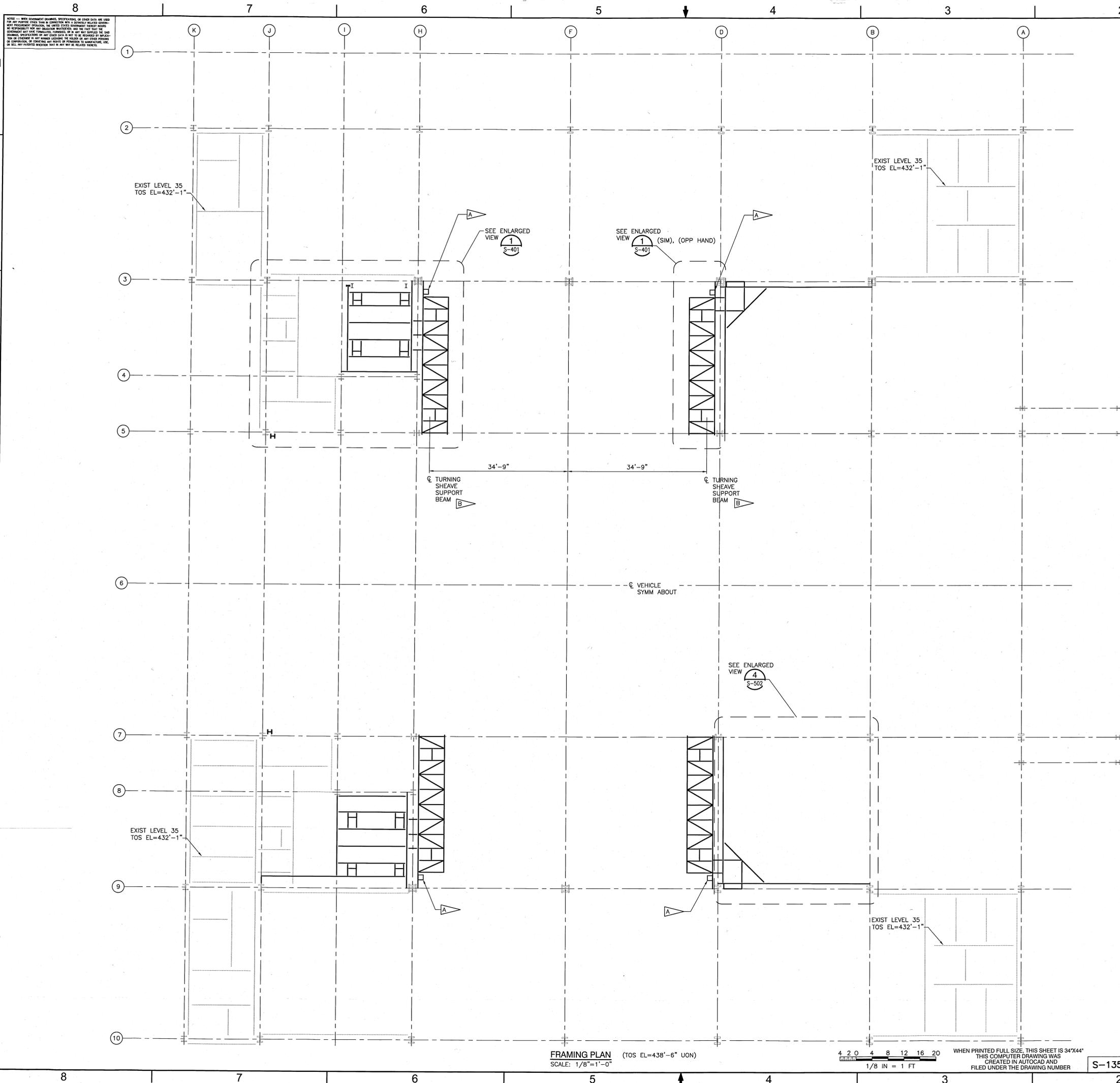
- 2. STRUCTURAL STEEL PROPERTIES UNLESS OTHERWISE NOTED:  
 PLATE THICKNESS <= 4": ASTM A572, GRADE 50  
 HSS SHAPES: ASTM A500 GRADE B  
 W SHAPES: ASTM A992  
 ANGLES AND CHANNEL SHAPES:  
 EXISTING: ASTM A36  
 NEW: ASTM A572, GRADE 50  
 PIPE SHAPES:  
 DIAMETER <= 12": ASTM A53, GRADE B  
 STRUCTURAL STEEL BOLTS: ASTM A325  
 STRUCTURAL STEEL NUTS: ASTM A563  
 STRUCTURAL STEEL WASHERS: ASTM F436

ANY CARBON STEEL MATERIAL DESIGNATED TO BE HOT-DIPPED GALVANIZED SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123. ALL CARBON STEEL FASTENERS AND HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.

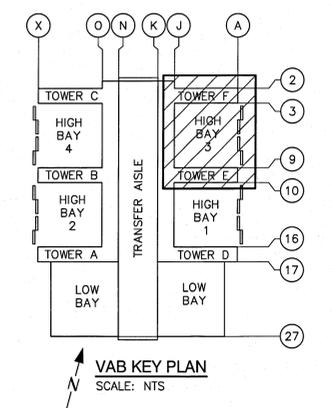
- 3. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 AND THE REQUIREMENTS OF NASA-SPEC-5004. WELDERS AND WELDING OPERATORS SHALL BE QUALIFIED IN ACCORDANCE WITH AWS D1.1 ALL WELDS REQUIRE A CLASS B INSPECTION UNLESS NOTED AS CLASS A IN THE WELD SYMBOL OR IN THE WELDMENT NOTATION.
- 4. SUBSTITUTIONS OF SPECIFIED MEMBER SIZE OR CHANGE IN DETAILS OR DIMENSIONS OF ANY KIND SHALL NOT BE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL FROM THE CONTRACTING OFFICER OR HIS/HER DESIGNEE.
- 5. WELDED JOINTS SHALL CONFORM TO SECTION J2 OF THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - ASD.
- 6. SHOP CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE NOTED.
- 7. BRACING AND TRUSS CONNECTIONS SHALL BE SIZED TO DEVELOP THE LOAD SPECIFIED ON THE DESIGN DRAWINGS OR 75% OF THEIR TENSION CAPACITY. A MINIMUM CONNECTION SHALL CONSIST OF TWO BOLTS.
- 8. ALL CONNECTION SHOP DRAWINGS SHALL BE DESIGNED AND SEALED BY A REGISTERED FLORIDA P.E. COPIES OF ALL SHOP DRAWING CALCULATIONS SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR APPROVAL AT SAME TIME AS CONNECTION SHOP DRAWINGS.
- 9. ERECTION BOLTS, PLATE SHIMS, AND TEMPORARY FASTENINGS REQUIRED FOR ERECTION SHALL BE FURNISHED BY THE STEEL ERECTOR. ALL PLATES, EXTRA FRAMING, AND OTHER COMPONENTS NOT DEPICTED ON THESE DRAWINGS THAT HAVE BEEN ADDED FOR EASE OF FABRICATION AND ERECTION SHALL BE REMOVED AFTER USE, AS WELL AS ANY SPATTER, AND WELD SCARS SHALL BE GROUND OFF AND REPAIRED. REPAIR COATINGS PER PROJECT SPECIFICATIONS.
- 10. SHOP AND FIELD SPICES OF STRUCTURAL MEMBERS ARE PROHIBITED EXCEPT AS SHOWN ON THE DRAWING AND/OR PERMITTED IN THE SPECIFICATIONS AND AS SPECIFICALLY APPROVED ON SHOP DRAWINGS PRIOR TO FABRICATION.
- 11. BOLT HOLES SHALL NOT BE CUT, ALIGNED OR ENLARGED BY FLAME CUTTING.
- 12. MILLED ENDS FOR INTERMEDIATE OR BEARING STIFFENERS ARE NOT REQUIRED UNLESS NOTED OTHERWISE. WELD STIFFENERS AS INDICATED ON DRAWINGS.
- 13. AXIALLY STRESSED MEMBERS MEETING AT A POINT SHALL HAVE THEIR GRAVITY AXIS MEET AT A POINT IF PRACTICAL; IF NOT, PROVISIONS SHALL BE MADE FOR BENDING STRESSES DUE TO ECCENTRICITY.
- 14. GUSSET PLATES SHALL BE A MINIMUM OF 1/2" THICK. ANY CROSS SECTION OF THE GUSSET, WELD OR BOLT GROUP SHALL BE DESIGNED TO DEVELOP THE AXIAL LOAD INDICATED OR THE FULL CAPACITY OF THE BOLT GROUP, WHICHEVER IS LARGER, PLUS ANY BENDING DUE TO ECCENTRICITY. THIS THICKNESS REQUIREMENT DOES NOT APPLY TO SHEAR TABS FOR THE FLOOR STEEL CONNECTIONS.
- 15. BOLTED JOINTS SHALL CONFORM TO THE PROVISIONS OF SECTION J3 OF THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - ASD.
- 16. SIZES, SPACING AND QUANTITY OF BOLTS FOR EQUIPMENT TO BE FURNISHED BY SUBCONTRACTORS SHALL BE DETERMINED BY THE CONTRACTOR AND COORDINATED WITH ALL SUBCONTRACTORS PRIOR TO PREPARATION OF SHOP DRAWINGS.

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		DATE		
DRAWN: JOSEPH MAUER		08-20-2013		
CHECKED: ROBERT PRUSS		08-20-2013		
SUBMITTED ARCHIVES OF RECORD:		9/26/13		
BY: JAMES BALMER				
ST OF LICENSURE: FL				
LICENSE NO: 54870				
APPROVED:		9/26/13		
[Signature]				
[Signature]		11/7/13		
MCE LE				
FILE NO:		302-6058-043		
SIZE:		E		
DWG NO:		79K39667		
REV:				
PROJ. NO.:		PCN 99000.5		
SHEET:		16 OF		

WHEN PRINTED FULL SIZE, THIS SHEET IS 34"x44"  
THIS COMPUTER DRAWING WAS  
CREATED IN AUTOCAD AND  
FILED UNDER THE DRAWING NUMBER S-001



- SPECIFIC NOTES:**
- A** REMOVE EXISTING W14X142 COLUMN AND SUPPORTING TUBE SHAPED CONNECTORS DETAILED ON SHEET S-3-172 OF VOL. 5 OF AS-BUILT DRAWINGS. FILE NO. 203-28,297 FROM EL. 430' TO EL. 457'.
  - B** EXTENSIBLE PLATFORM HOIST HOOK.



**FRAMING PLAN** (TOS EL=438'-6" UON)  
 SCALE: 1/8"=1'-0"

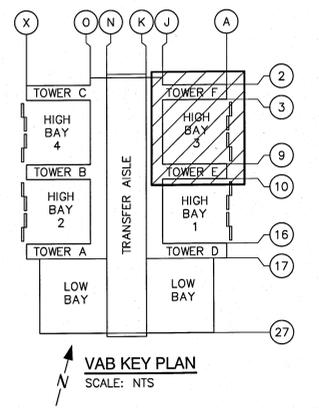
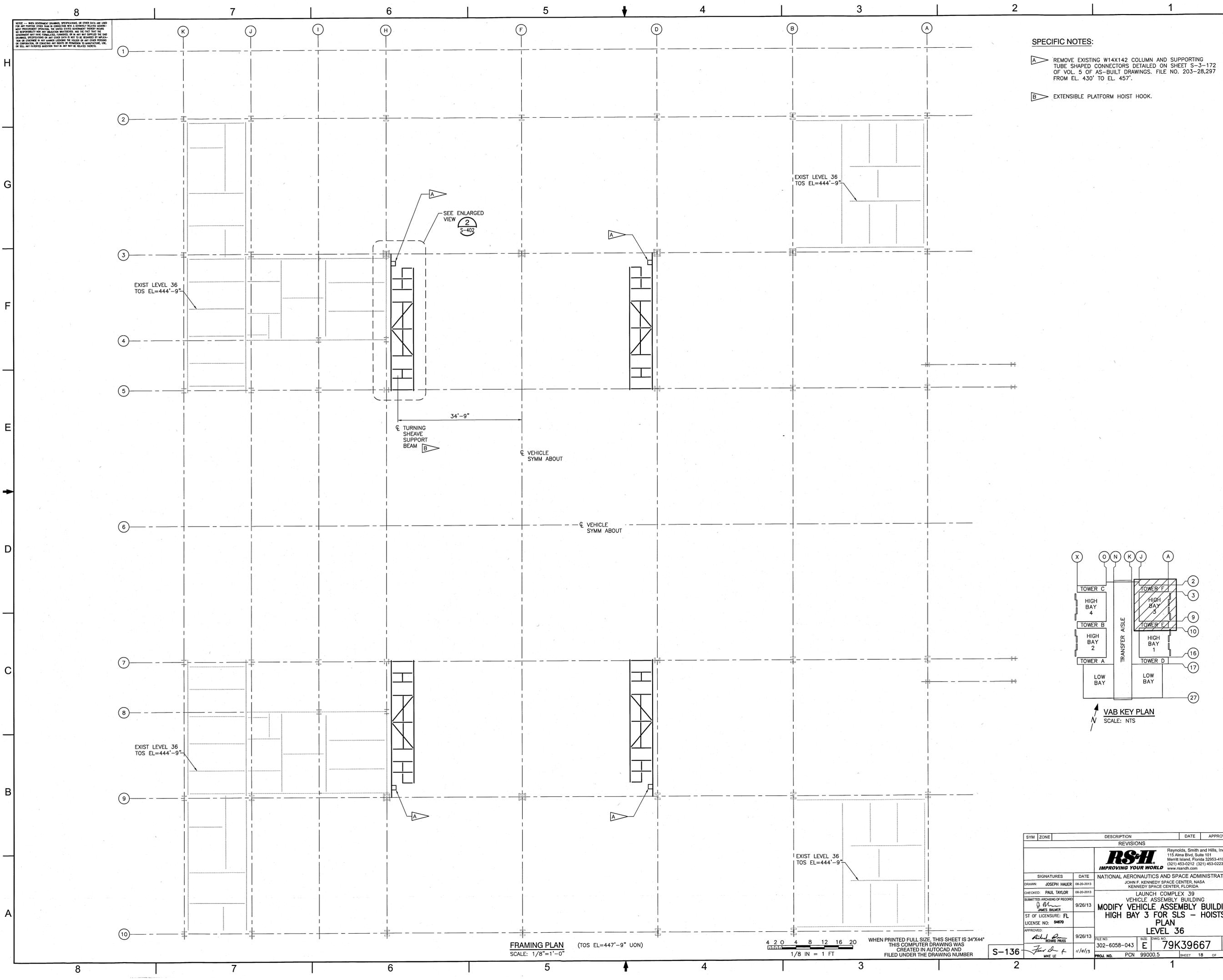
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<b>REVISIONS</b>				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		DATE		
DRAWN: JOSEPH HAUER		08-20-2013		
CHECKED: PAUL TAYLOR		08-20-2013		
SUBMITTED ARCHIVING OF RECORDS:		9/26/13		
ST OF LICENSURE: FL				
LICENSE NO: 54670				
APPROVED:		9/26/13		
 JAMES BALMER WKE LE		NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING <b>MODIFY VEHICLE ASSEMBLY BUILDING            HIGH BAY 3 FOR SLS - HOISTS            PLAN            LEVEL 35</b>		
FILE NO:	302-6058-043	SIZE:	E	DWG NO: 79K39667
PROJ. NO.:	PCN 99000.5	SHEET:	17	OF:

S-135

NOTE: THIS DRAWING IS A PRELIMINARY DESIGN. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL DIMENSIONS AND CONDITIONS. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE FIELD. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE FIELD. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE FIELD.

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  - B EXTENSIBLE PLATFORM HOIST HOOK.



**FRAMING PLAN** (TOS EL=447'-9" UON)  
SCALE: 1/8"=1'-0"

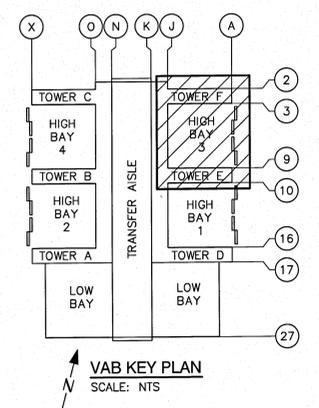
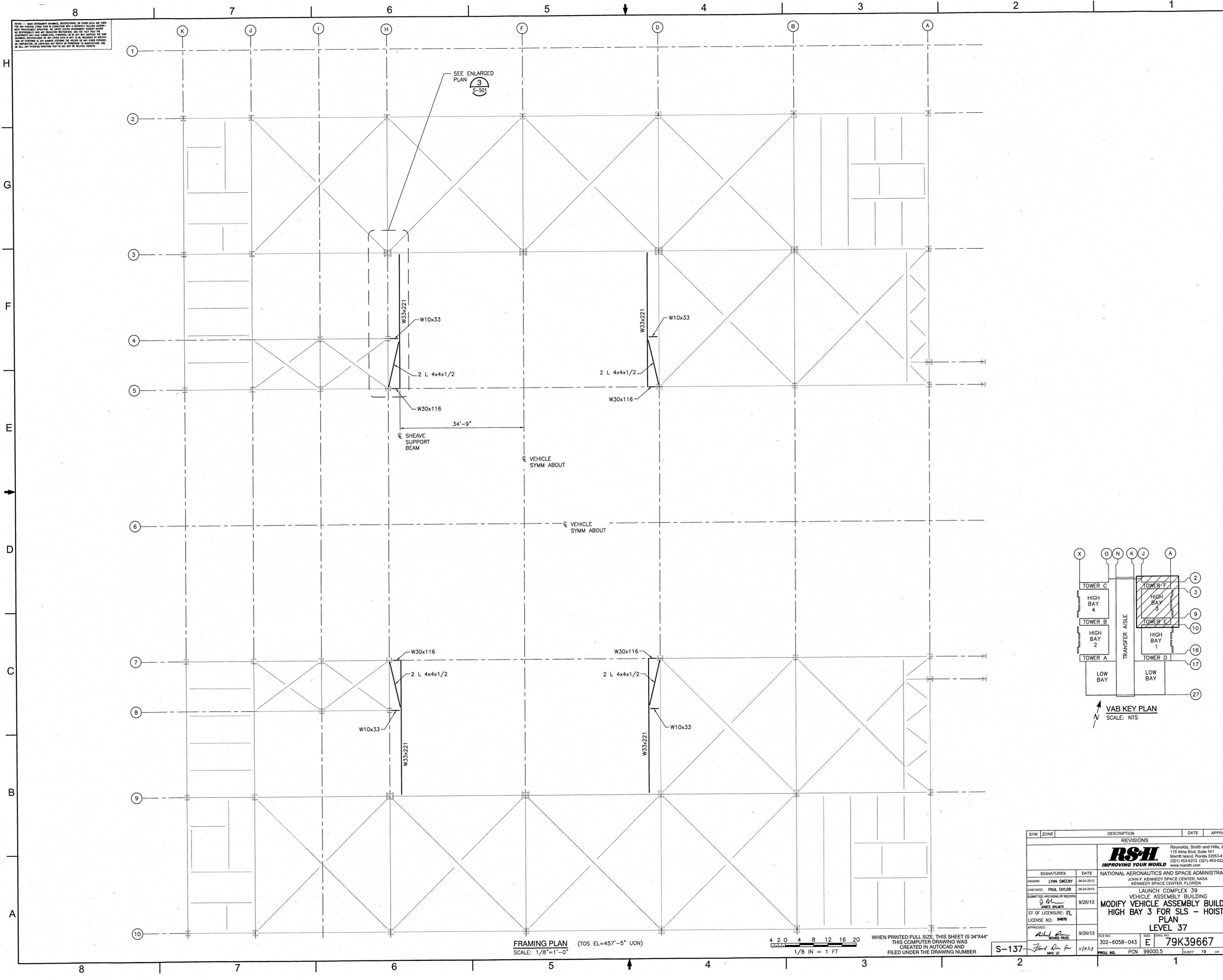
4 2 0 4 8 12 16 20  
1/8 IN = 1 FT

WHEN PRINTED FULL SIZE, THIS SHEET IS 34"X44"  
THIS COMPUTER DRAWING WAS  
CREATED IN AUTOCAD AND  
FILED UNDER THE DRAWING NUMBER

S-136

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Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com				
SIGNATURES	DATE	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION		
DRAWN: JOSEPH HAUER	08-26-2013	JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA		
CHECKED: PAUL TAYLOR	08-26-2013	LAUNCH COMPLEX 39		
SUBMITTED ARCHIVING OF RECORDS:	9/26/13	VEHICLE ASSEMBLY BUILDING		
ST OF LICENSURE: FL		MODIFY VEHICLE ASSEMBLY BUILDING		
LICENSE NO: 04870		HIGH BAY 3 FOR SLS - HOISTS		
APPROVED:	9/26/13	PLAN		
		LEVEL 36		
		FILE NO:	302-6058-043	SIZE: DWG NO. E 79K39667
		PROJ. NO.:	PCN 99000.5	SHEET 18 OF

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FRAMING PLAN (TOS EL=457'-5" UON)  
SCALE: 1/8"=1'-0"

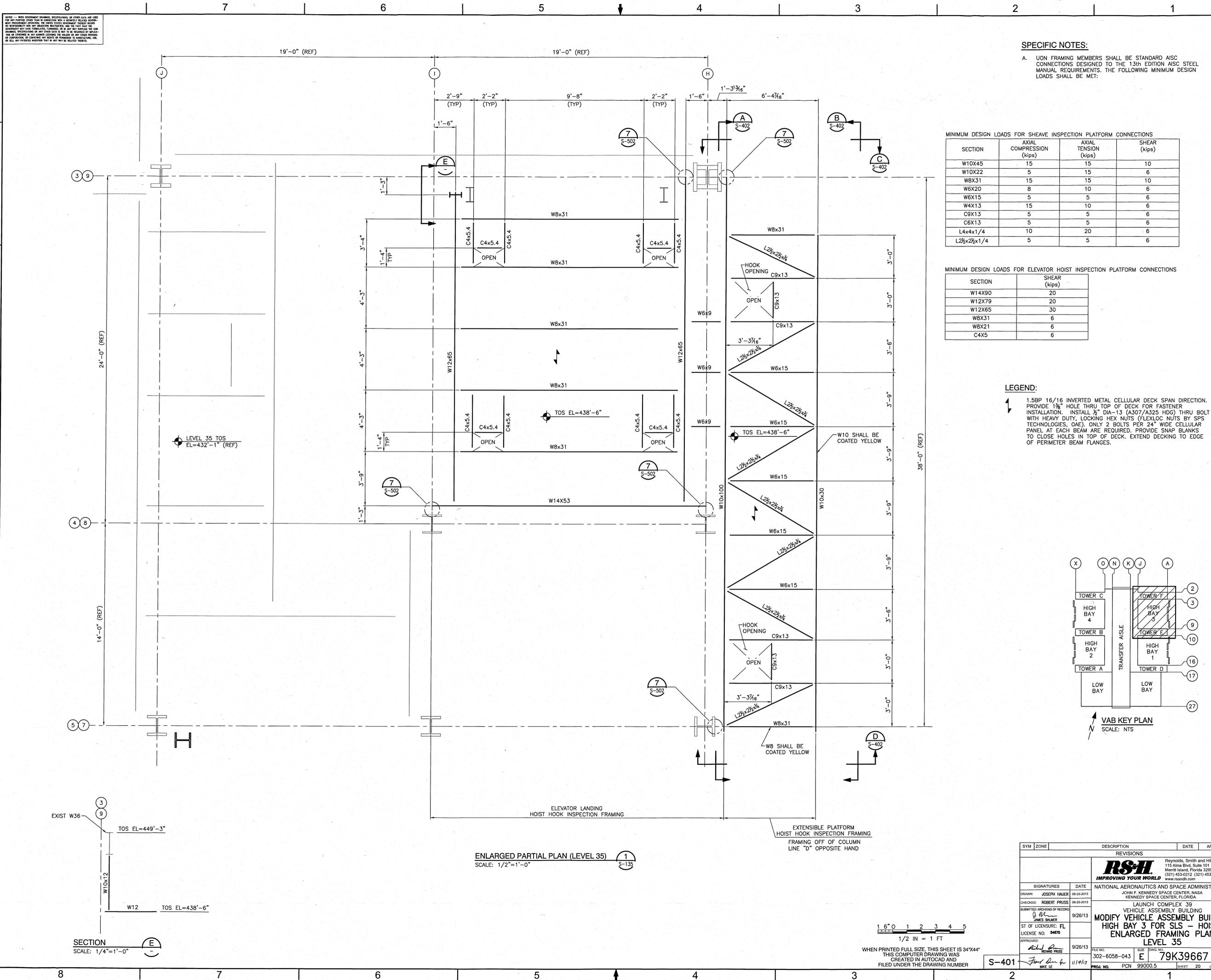
4 2 0 4 8 12 16 20  
1/8 IN = 1 FT

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THIS COMPUTER DRAWING WAS  
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REVISIONS				
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SIGNATURES		DATE		
DRAWN: LYNN SWEENEY		08-20-2013		
CHECKED: PAUL TAYLOR		08-20-2013		
SUBMITTED ARCHIVING OF RECORDS: JAMES BALMER		9/26/13		
ST OF LICENSEURE: FL		9/26/13		
LICENSE NO: 54670		9/26/13		
APPROVED: <i>[Signature]</i>		9/26/13		
BOARDS PRESS		9/26/13		
FILE NO: 302-6058-043		E 79K39667		
PROJ. NO. PCN 99000.5		SHEET 19 OF		

S-137

*[Signature]*  
11/13



**SPECIFIC NOTES:**  
 A. UNION FRAMING MEMBERS SHALL BE STANDARD AISI CONNECTIONS DESIGNED TO THE 13th EDITION AISI STEEL MANUAL REQUIREMENTS. THE FOLLOWING MINIMUM DESIGN LOADS SHALL BE MET:

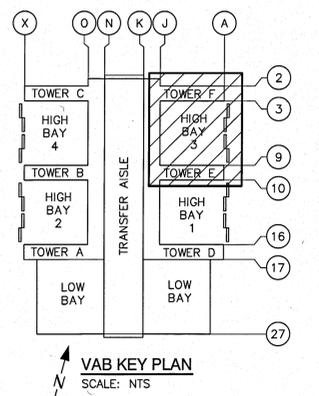
MINIMUM DESIGN LOADS FOR SHEAVE INSPECTION PLATFORM CONNECTIONS

SECTION	AXIAL COMPRESSION (kips)	AXIAL TENSION (kips)	SHEAR (kips)
W10x45	15	15	10
W10x22	5	15	6
W8x31	15	15	10
W6x20	8	10	6
W6x15	5	5	6
W4x13	15	10	6
C9x13	5	5	6
C6x13	5	5	6
L4x4x1/4	10	20	6
L2 1/2 x 2 1/2 x 1/4	5	5	6

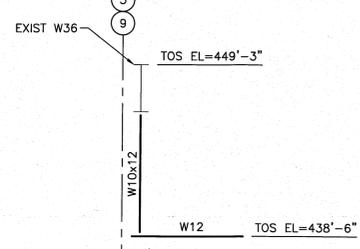
MINIMUM DESIGN LOADS FOR ELEVATOR HOIST INSPECTION PLATFORM CONNECTIONS

SECTION	SHEAR (kips)
W14x90	20
W12x79	20
W12x65	30
W8x31	6
W8x21	6
C4x5	6

**LEGEND:**  
 1.5BP 16/16 INVERTED METAL CELLULAR DECK SPAN DIRECTION. PROVIDE 1 1/8" HOLE THRU TOP OF DECK FOR FASTENER INSTALLATION. INSTALL 1/2" DIA-13 (A307/A325 HDG) THRU BOLT WITH HEAVY DUTY, LOCKING HEX NUTS BY SPS TECHNOLOGIES, OAD). ONLY 2 BOLTS PER 24" WIDE CELLULAR PANEL AT EACH BEAM ARE REQUIRED. PROVIDE SNAP BLANKS TO CLOSE HOLES IN TOP OF DECK. EXTEND DECKING TO EDGE OF PERIMETER BEAM FLANGES.



ENLARGED PARTIAL PLAN (LEVEL 35)  
 SCALE: 1/2"=1'-0"

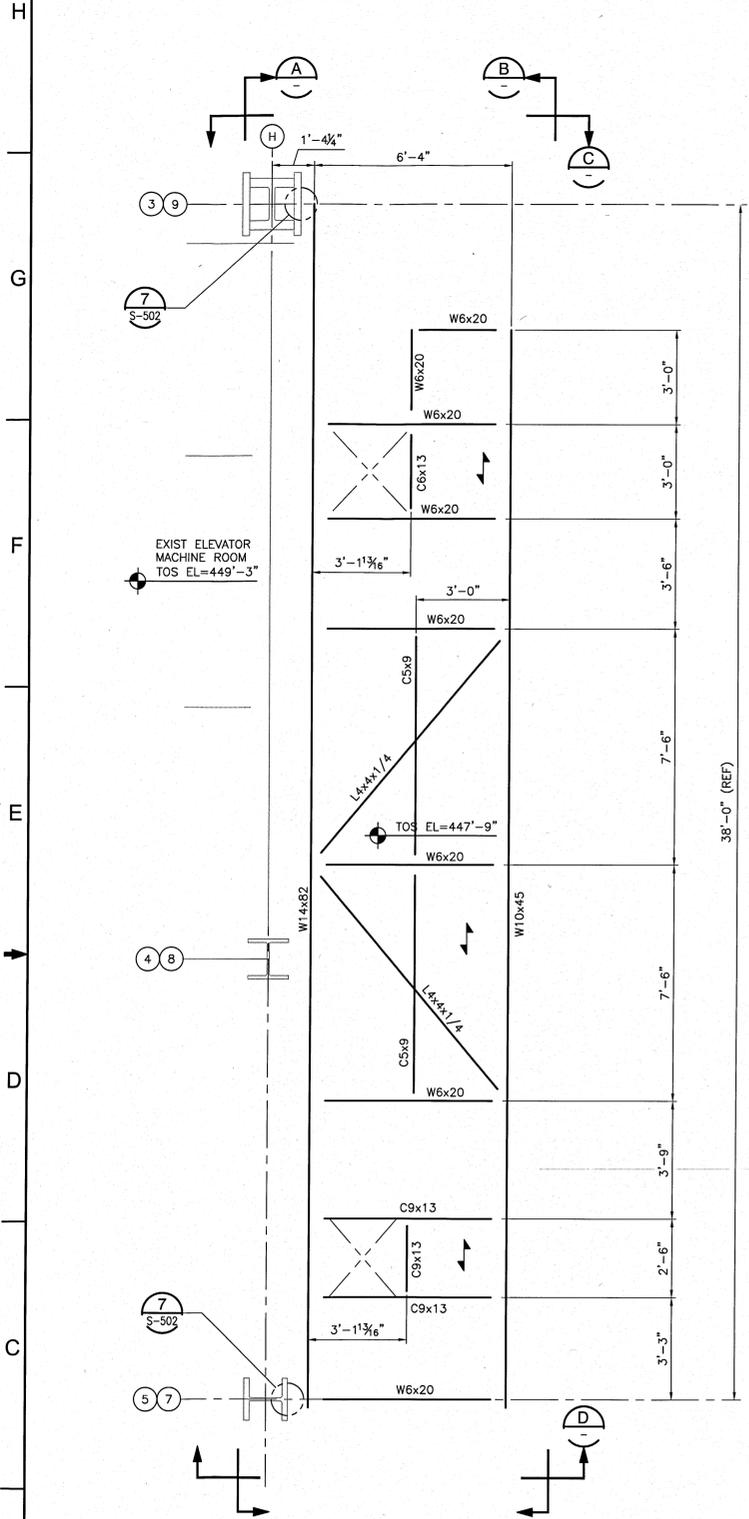


1 6" 0 1 2 3 4 5  
 1/2 IN = 1 FT  
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		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rshinc.com		
SIGNATURES		DATE	<b>NATIONAL AERONAUTICS AND SPACE ADMINISTRATION</b> JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA	
DRAWN: JOSEPH HAUSER		06-20-2013	<b>LAUNCH COMPLEX 39</b> VEHICLE ASSEMBLY BUILDING <b>MODIFY VEHICLE ASSEMBLY BUILDING</b> <b>HIGH BAY 3 FOR SLS - HOISTS</b> <b>ENLARGED FRAMING PLAN</b> <b>LEVEL 35</b>	
CHECKED: ROBERT PRUSS		06-20-2013		
SUBMITTED WORKING OF RECORD:		9/26/13	FILE NO. 302-6058-043 SHEET 20 OF 27 SHEET NO. 79K39667	
JAMES BALMER ST OF LICENSURE: FL LICENSE NO: 54670		9/26/13		
APPROVED:		9/26/13		
[Signature] PROJECT MANAGER		11/19/13		

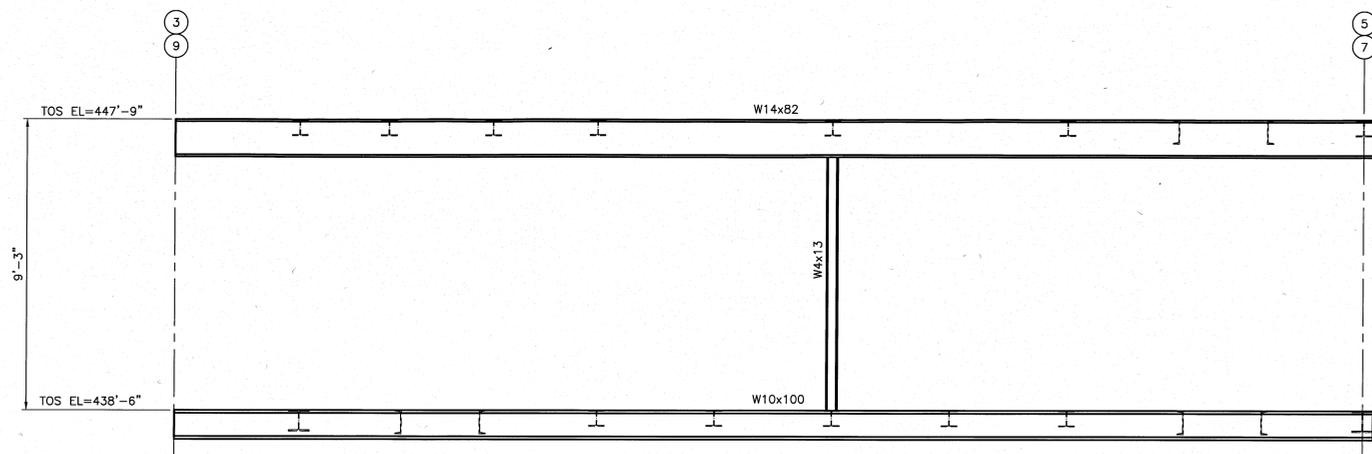
S-401

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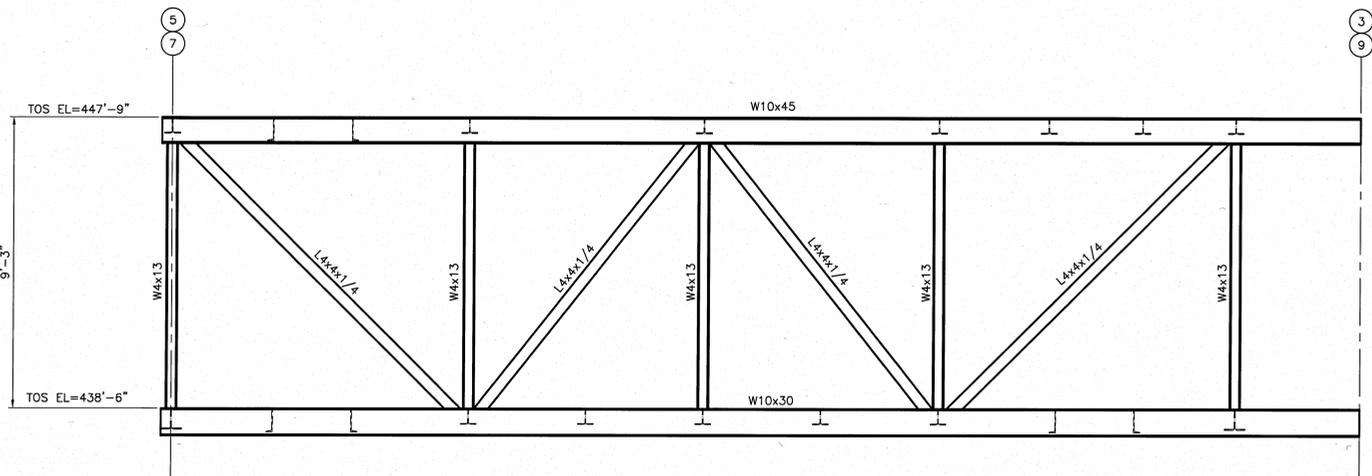


(TYPICAL 4 PLACES)  
UPPER SHEAVE INSPECTION PLATFORM - PLAN  
SCALE: 1/2"=1'-0" S-136

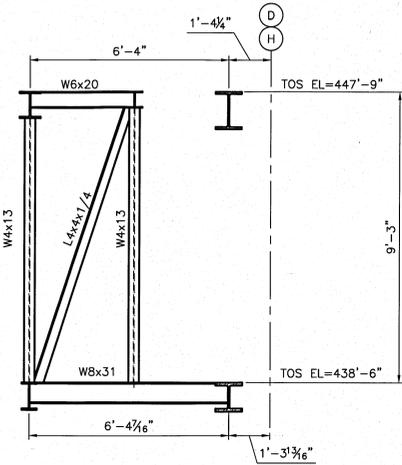
FRAMING OFF OF COLUMN  
LINE "D" OPPOSITE HAND



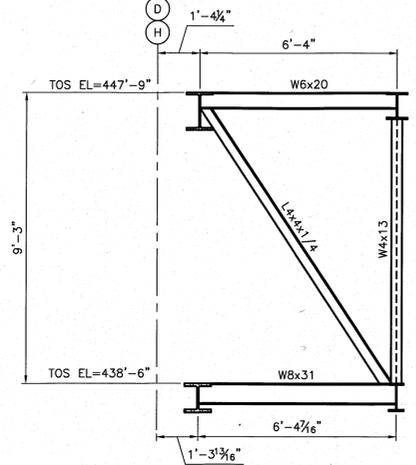
FRAMING ELEVATION A-A  
SCALE: 1/2"=1'-0" S-401



FRAMING ELEVATION B-B  
SCALE: 1/2"=1'-0" S-401



FRAMING ELEVATION C-C  
SCALE: 1/2"=1'-0" S-401



FRAMING ELEVATION D-D  
SCALE: 1/2"=1'-0" S-401

**NOTES:**

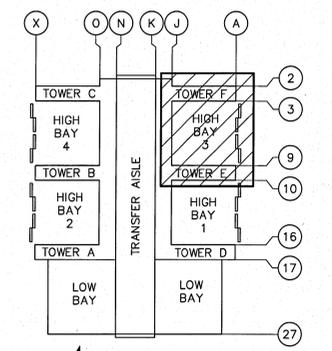
A. UNON FRAMING MEMBERS SHALL BE STANDARD AISC CONNECTIONS DESIGNED TO THE 13th EDITION AISC STEEL MANUAL REQUIREMENTS. THE FOLLOWING MINIMUM DESIGN LOADS SHALL BE MET:

MINIMUM DESIGN LOADS FOR SHEAVE INSPECTION PLATFORM CONNECTIONS

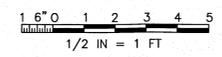
SECTION	AXIAL COMPRESSION (kips)	AXIAL TENSION (kips)	SHEAR (kips)
W10X45	15	15	10
W10X22	5	15	6
W8X31	15	15	10
W6X20	8	10	6
W6X15	5	5	6
W4X13	15	10	6
C9X13	5	5	6
C6X13	5	5	6
L4x4x1/4	10	20	6
L2½x2½x1/4	5	5	6

**LEGEND:**

1. 1.5BP 16/16 INVERTED METAL CELLULAR DECK SPAN DIRECTION. PROVIDE 1/8" HOLE THRU TOP OF DECK FOR FASTENER INSTALLATION. INSTALL 1/2" DIA-13 (A307/A325 HDG) THRU BOLT WITH HEAVY DUTY, LOCKING HEX NUTS (FLEXLOC NUTS BY SPS TECHNOLOGIES, OAE). ONLY 2 BOLTS PER 24" WIDE CELLULAR PANEL AT EACH BEAM. PROVIDE SNAP BLANKS TO CLOSE HOLES IN TOP OF DECK. EXTEND DECKING TO EDGE OF PERIMETER BEAM FLANGES.



VAB KEY PLAN  
SCALE: NTS

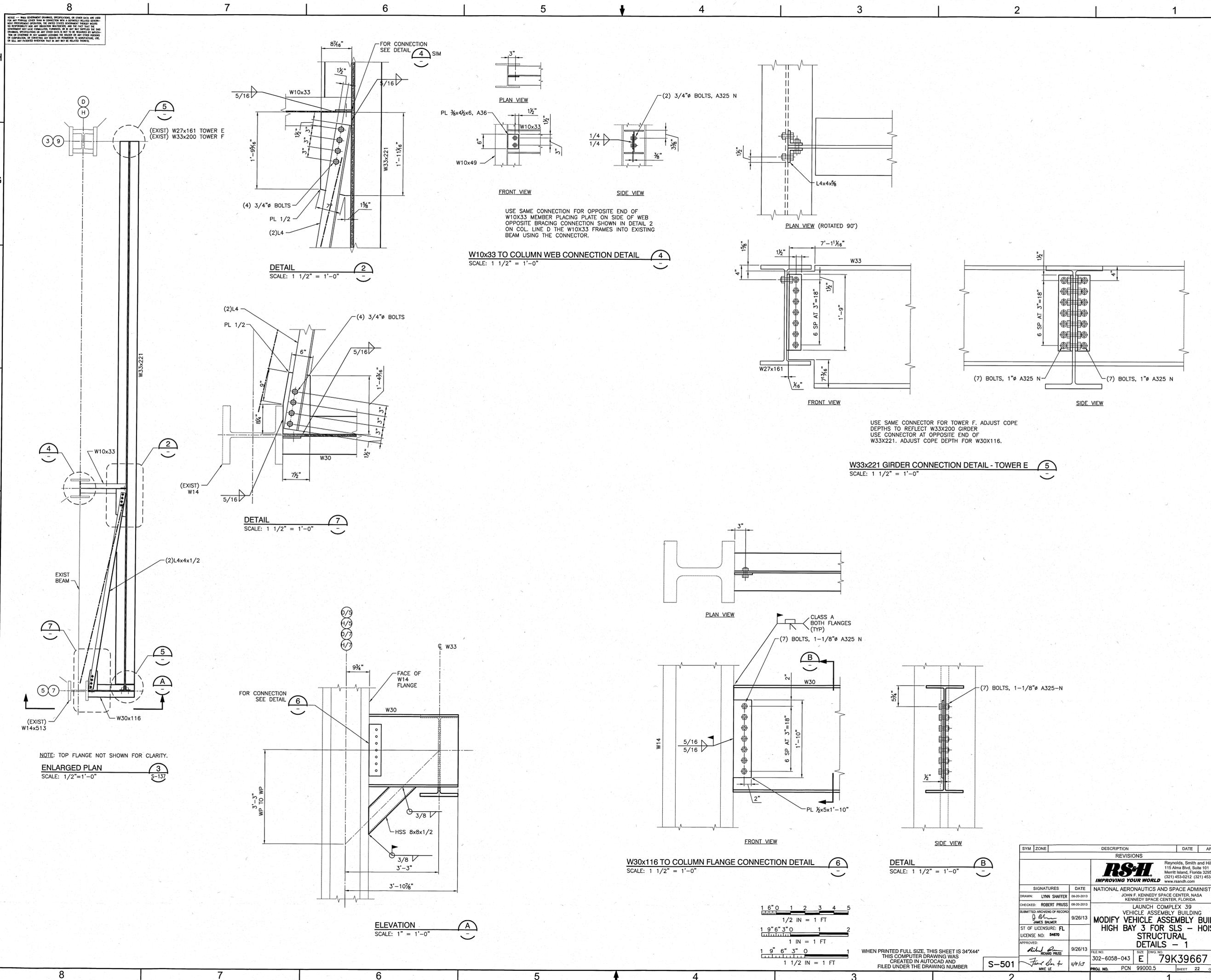


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FILED UNDER THE DRAWING NUMBER

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<b>RS&amp;H</b>				
<b>IMPROVING YOUR WORLD</b>				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA				
LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS ENLARGED FRAMING PLAN AND ELEVATIONS LEVEL 36				
SIGNATURES	DATE			
DRAWN: JOSEPH HAUER	08-20-2013			
CHECKED: ROBERT PRUSS	08-20-2013			
SUBMITTED ARCHIVING OF RECORD				
ST OF LICENSURE: FL	9/26/13			
LICENSE NO: 94670				
APPROVED:				
FILE NO:	SUBJ:	DWG. NO.:	REV	
302-6058-043	E	79K39667		
PRJ. NO.:	PCN:	99000.5	SHEET:	21 OF

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A



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**DETAIL 2**  
SCALE: 1 1/2" = 1'-0"

**W10x33 TO COLUMN WEB CONNECTION DETAIL 4**  
SCALE: 1 1/2" = 1'-0"

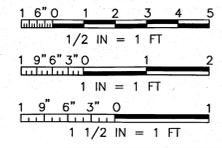
**DETAIL 7**  
SCALE: 1 1/2" = 1'-0"

**W30x116 TO COLUMN FLANGE CONNECTION DETAIL 6**  
SCALE: 1 1/2" = 1'-0"

**DETAIL B**  
SCALE: 1 1/2" = 1'-0"

**ENLARGED PLAN 3**  
SCALE: 1/2" = 1'-0"

**ELEVATION A**  
SCALE: 1" = 1'-0"



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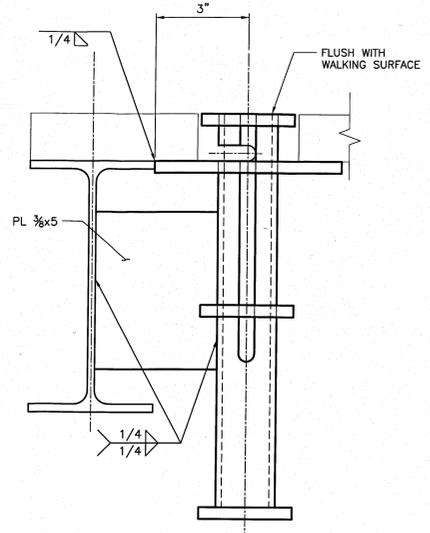
SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		DATE		
DRAWN: LYNN SHAWFER		08-20-2013		
CHECKED: ROBERT PRUSS		08-20-2013		
SUBMITTED ARCHIVING OF RECORDS:				
ST OF LICENSE: FL		9/26/13		
LICENSE NO: 54470				
APPROVED:		9/26/13		
 JAMES SALMER MKE LE		NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS STRUCTURAL DETAILS - 1		
FILE NO: 302-6058-043		SIZE: E		REV
PROJ. NO. PCN 99000.5		SHEET 22 OF		

S-501

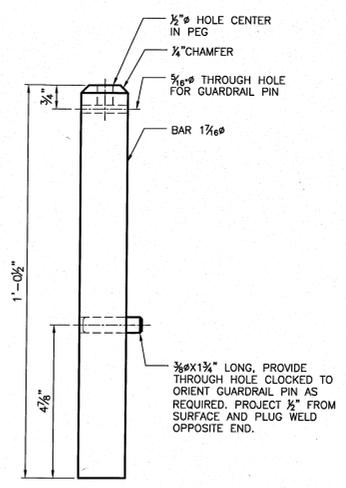


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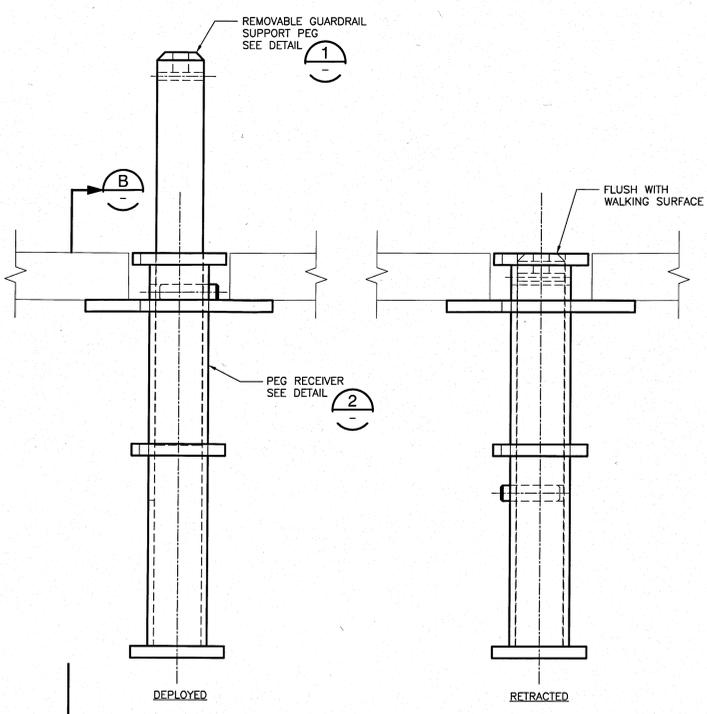
- SPECIFIC NOTES:**
- A. PROVIDE ANCHOR PLATE TO MATCH PROVIDED FALL PROTECTION POST.  
DBI SALA PART NUMBER: 8510816  
MILLER PART NUMBER: DH-AP-5/  
UCL ADVANCED SAFETY SYSTEMS PART NUMBER: 17423
  - B. CONTRACTOR SHALL PROVIDE (4) PORTABLE FALL PROTECTION POSTS.  
DBI SALA PART NUMBER: 8516691  
MILLER PART NUMBER: DH-AP-1/  
UCL ADVANCED SAFETY SYSTEMS PART NUMBER: 16691



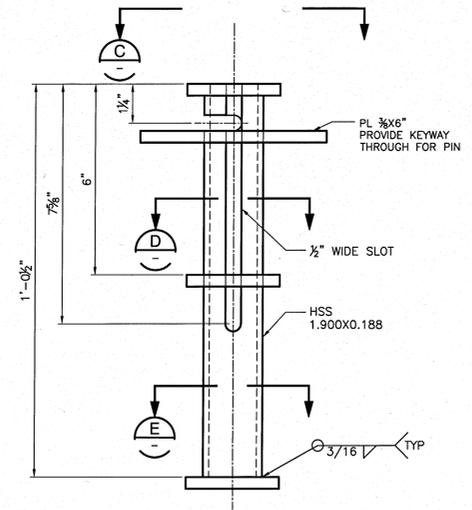
SECTION B  
SCALE: 6"=1'-0"



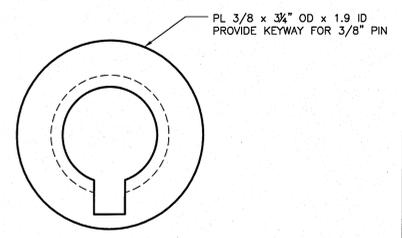
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SCALE: 6"=1'-0"



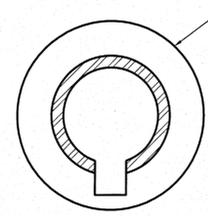
REMOVABLE GUARDRAIL BASE DETAIL  
SCALE: 6"=1'-0"



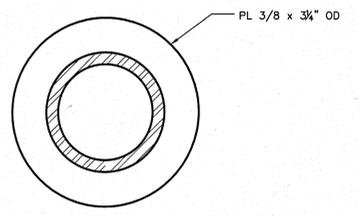
DETAIL 2  
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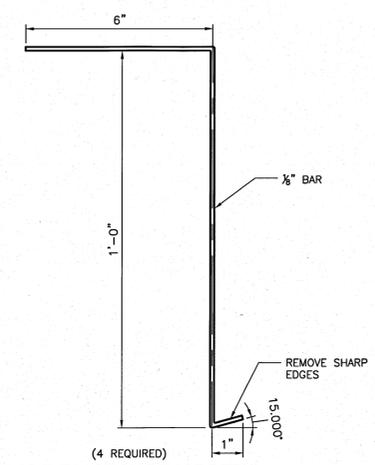
VIEW C  
SCALE: 1'-0"=1'-0"



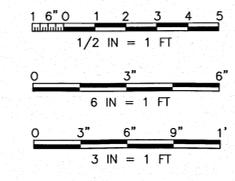
SECTION D  
SCALE: 1'-0"=1'-0"



SECTION E  
SCALE: 1'-0"=1'-0"



PEG EXTRACTION DEVICE DETAIL  
SCALE: 6"=1'-0"

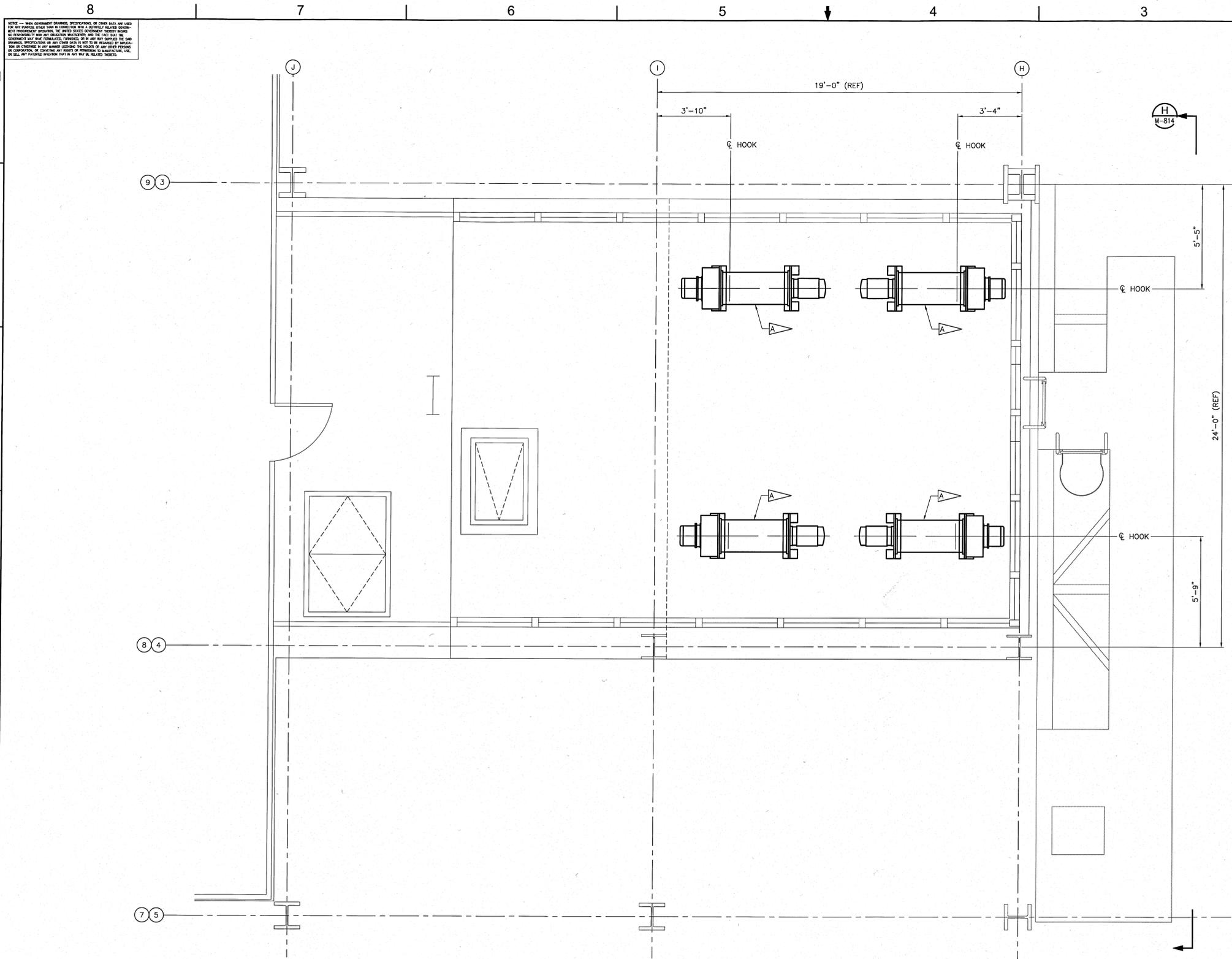


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SIGNATURES	DATE	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION		
DRAWN: JOSEPH HAUER	08-26-2013	JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA		
CHECKED: MIKE KENDRICK	08-26-2013	LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING		
SUBMITTED ARCHIVING OF RECORD:	9/26/13	MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS REMOVABLE GUARDRAIL BASE DETAIL		
ST OF LICENSURE: FL		FILE NO.	SIZE	DWG NO.
LICENSE NO: 54870		302-6058-043	E	79K39667
APPROVED:	9/26/13	PROJ. NO.	PCN	99000.5
<i>Richard Pross</i>				
<i>Mike Le</i>	11/20/17			

S-503

REV 24 OF 24



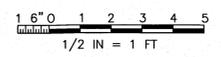
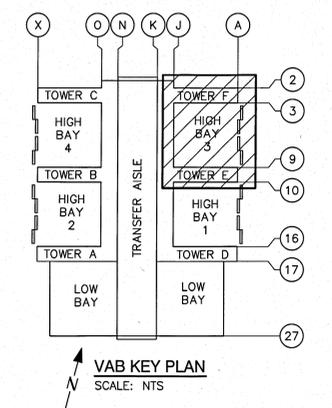
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**SPECIFIC NOTES:**

- A. ELEVATOR PLATFORM HOISTS PER 79K39668 (MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS), SECTION 41 22 23.19.
- B. THE CONTRACTOR SHALL PROVIDE SECONDARY FRAMING TO SUPPORT REACTION LOADS FROM HOIST EQUIPMENT AS WELL AS SUPPORTING OPENINGS IN THE FLOOR REQUIRED TO SUPPORT HIS LAYOUT. CONTRACTOR FRAMING PLANS SHALL BE SIGNED AND SEALED BY A FLORIDA LICENSED STRUCTURAL ENGINEER. THE CONTRACTOR SHALL REFER TO DRAWING S-3-074 FOR AS-BUILT INFORMATION FOR EXISTING FRAMING ON THE LEVEL.
- C. ELEVATOR PLATFORM MAXIMUM TRAVEL HEIGHT IS LEVEL 34.
- D. HOIST ARRANGEMENT AND INSTALLATION SHALL ACCOMMODATE TRUE VERTICAL PLATFORM HOIST MOVEMENT. THE HOOK CENTERLINE IS HIGH HOOK POSITION CENTERLINE.
- E. ELEVATOR PLATFORM HOISTS TO BE POSITIONED SUCH TO ALLOW ADEQUATE ROOM AROUND EACH HOIST FOR MAINTENANCE.
- F. CONDUITS USED IN THE INSTALLATION OF THE HOIST MOTORS AND THEIR REQUIRED CONTROL ACCESSORIES SHALL BE RUN IN ACCORDANCE WITH SPECIFICATION 26 05 00.00 40. CONDUITS SHALL NOT BE ROUTED ALONG WALKING SURFACES OR IN A MANNER THAT RESTRICTS ACCESS OR EGRESS FROM THE SPACE IN WHICH IT IS INSTALLED.

NOTE: TOWER F SHOWN. TOWER E SIMILAR EXCEPT OPPOSITE HAND.

FLOOR PLAN AT LEVEL 36 (EL 445'-1")  
SCALE: 1/2"=1'-0"

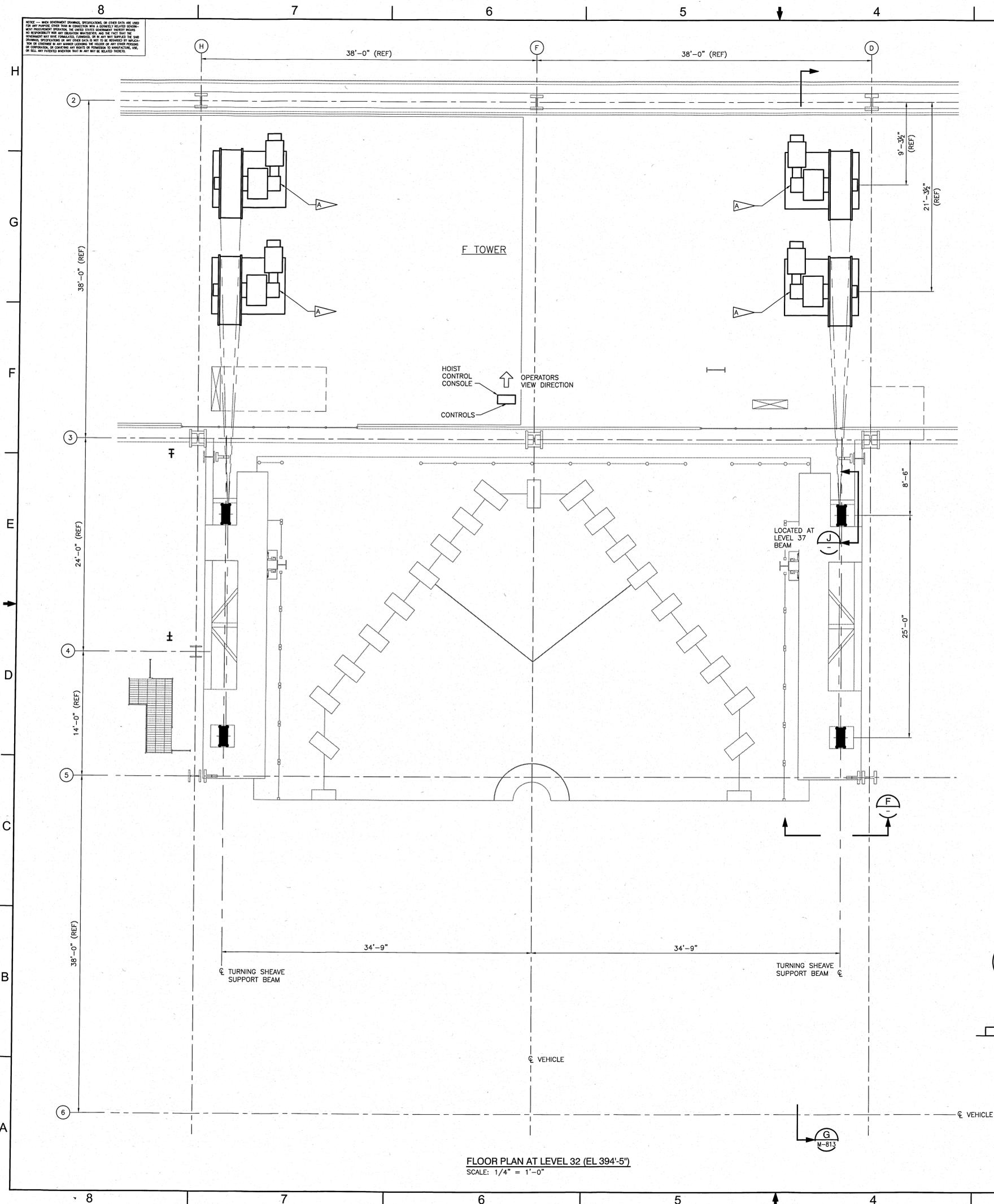


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THIS COMPUTER DRAWING WAS  
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M-810

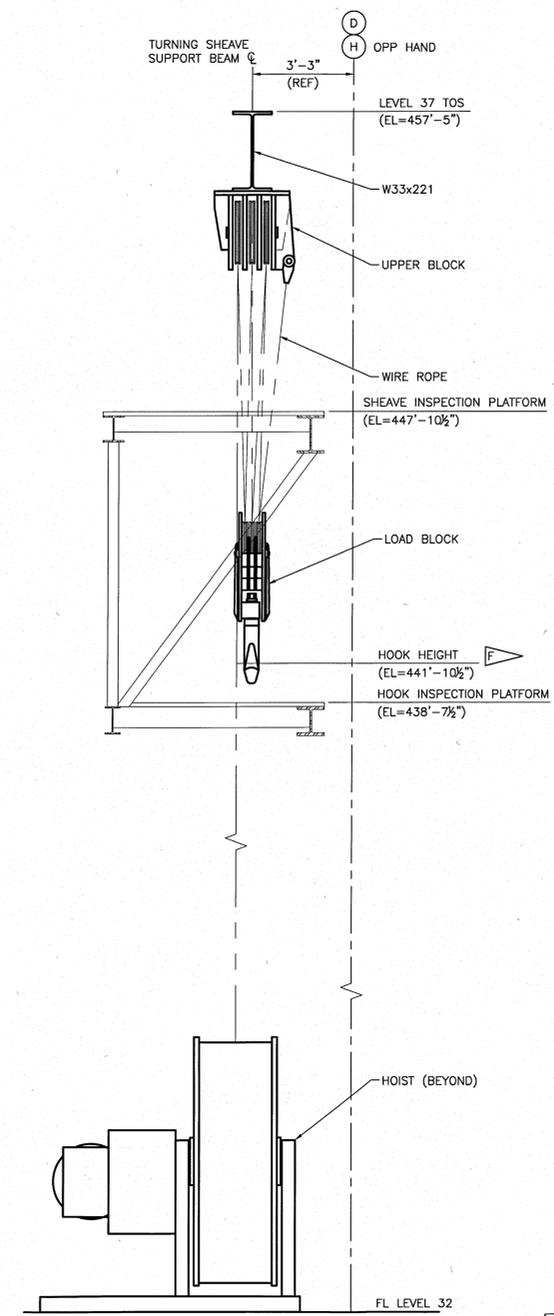
SYM	ZONE	DESCRIPTION	DATE	APPROVAL
<b>REVISIONS</b>				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		NATIONAL AERONAUTICS AND SPACE ADMINISTRATION		
DRAWN:	JOSEPH HAUER	DATE:	08-26-2013	JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA
CHECKED:	JIM STAPP		08-26-2013	
SUBMITTED ARCHIVING OF RECORD:				
ST OF LICENSURE:	FL			
LICENSE NO.:	70300			
APPROVED:				
	JAMES BAUER		9/26/13	
	DOV PITMAN		11/8/13	
FILE NO.:	302-6058-043	SIZE:	DWG. NO. E	79K39667
PROJ. NO.:	PCN 99000.5	ISOMET:	25	OF

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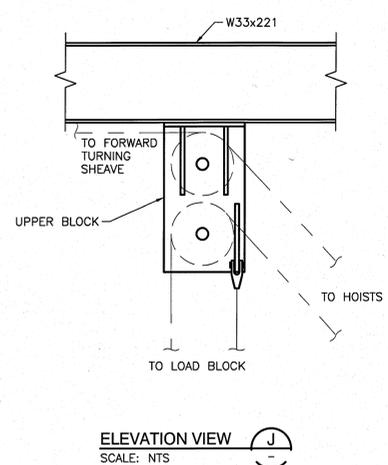


FLOOR PLAN AT LEVEL 32 (EL 394'-5")  
SCALE: 1/4" = 1'-0"

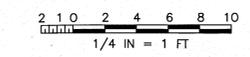
- SPECIFIC NOTES:**
- A. EXTENSIBLE PLATFORM HOISTS PER 79K39668 (MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS, SECTION 41 22 23.19.
  - B. THE CONTRACTOR SHALL PROVIDE SECONDARY FRAMING TO SUPPORT REACTION LOADS FROM HOIST EQUIPMENT AS WELL AS SUPPORTING OPENINGS IN THE FLOOR REQUIRED TO SUPPORT HIS LAYOUT. CONTRACTOR FRAMING PLANS SHALL BE SIGNED AND SEALED BY A FLORIDA LICENSED STRUCTURAL ENGINEER. THE CONTRACTOR SHALL REFER TO DRAWING S-3-074 FOR AS-BUILT INFORMATION FOR EXISTING FRAMING ON THE LEVEL.
  - C. EXTENSIBLE PLATFORM MAXIMUM TRAVEL HEIGHT IS LEVEL 34.
  - D. CONTRACTOR TO INSTALL HOISTS AS REQUIRED TO MAINTAIN HOOK CENTERLINE AS INDICATED.
  - E. EXTENSIBLE PLATFORM HOISTS TO BE POSITIONED SUCH TO ALLOW ADEQUATE ROOM AROUND EACH HOIST FOR MAINTENANCE.
  - F. HOIST HOOK AT STOWED POSITION WITH 85 FEET OF DOWNWARD TRAVEL REQUIRED FROM THIS ELEVATION.
  - G. CONDUITS USED IN THE INSTALLATION OF THE HOIST MOTORS AND THEIR REQUIRED CONTROL ACCESSORIES SHALL BE RUN IN ACCORDANCE WITH SPECIFICATION 26 05 00.00 40. CONDUITS SHALL NOT BE ROUTED ALONG WALKING SURFACES OR IN A MANNER THAT RESTRICTS ACCESS OR EGRESS FROM THE SPACE IN WHICH IT IS INSTALLED. COORDINATE WITH CONTRACTING OFFICER WHEN ROUTING.



ELEVATION VIEW (F)  
SCALE: NTS



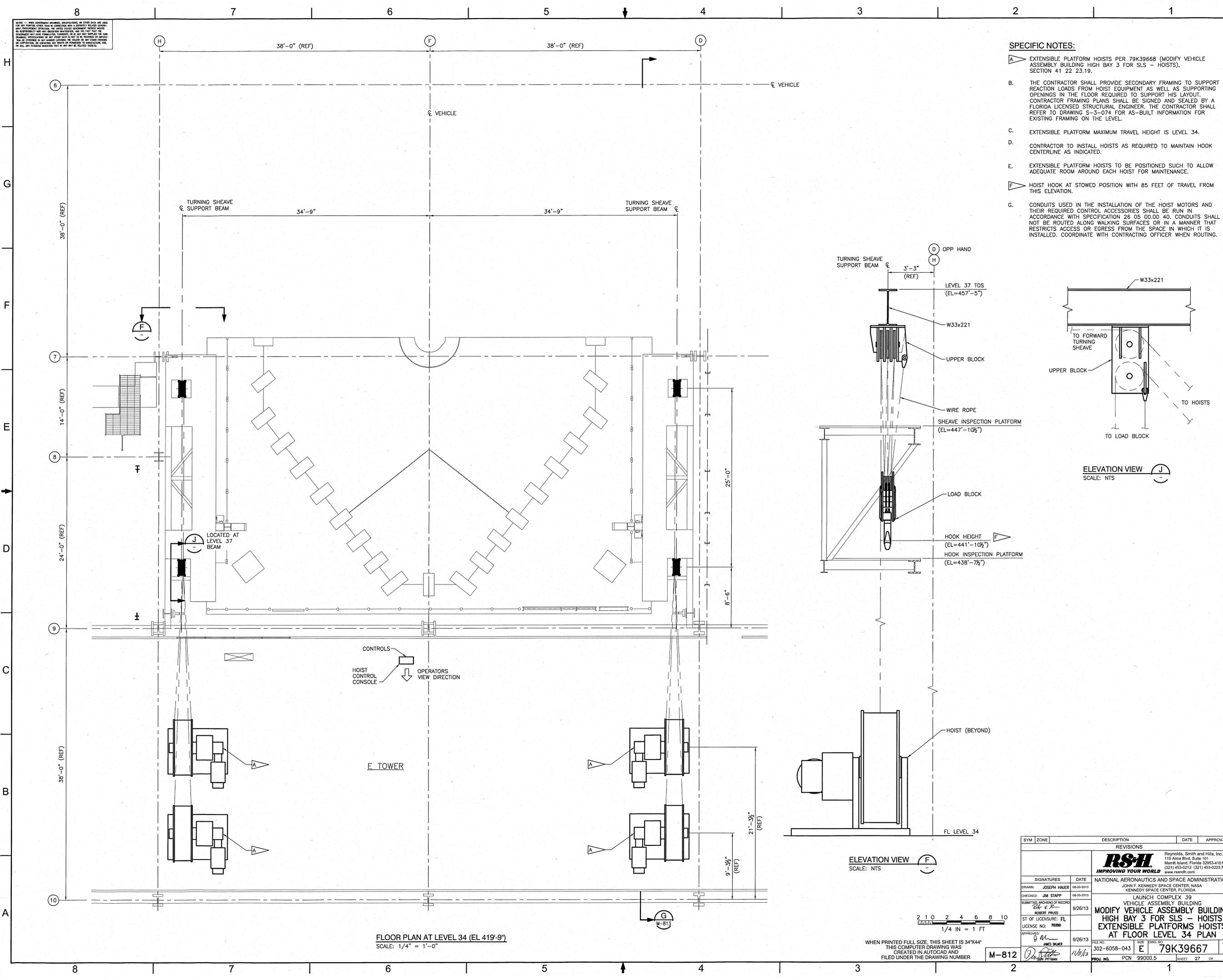
ELEVATION VIEW (J)  
SCALE: NTS



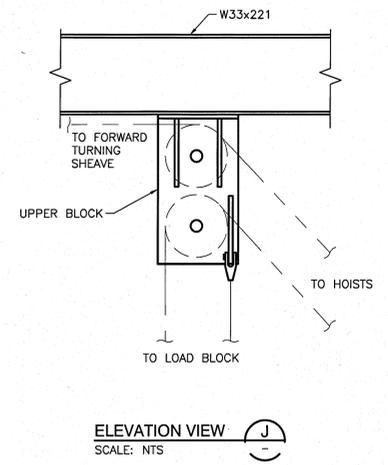
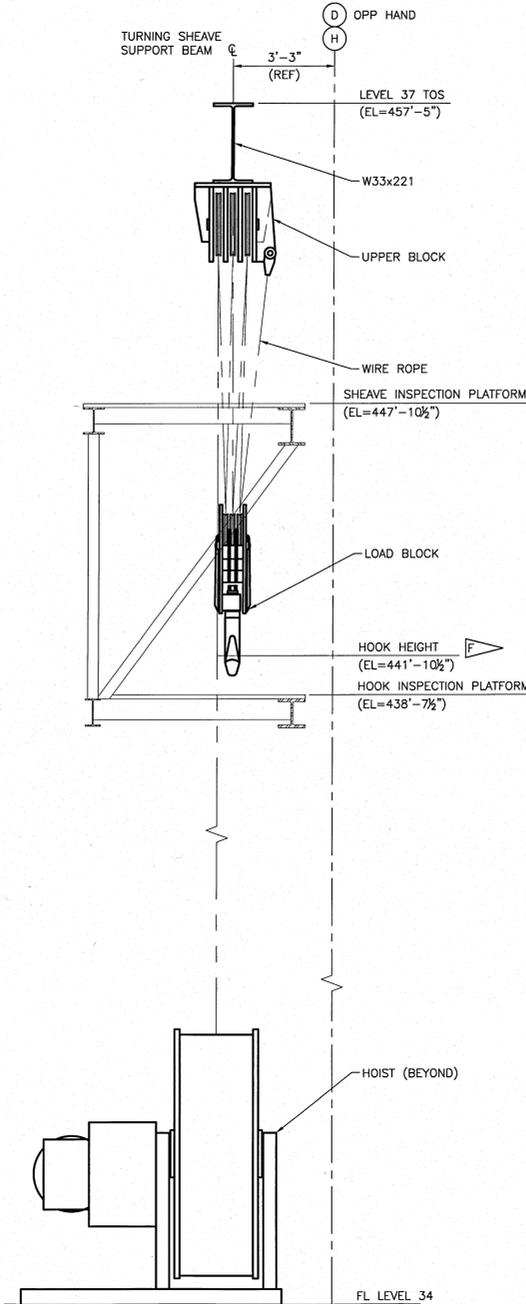
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FILED UNDER THE DRAWING NUMBER

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REVISIONS				
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SIGNATURES		NATIONAL AERONAUTICS AND SPACE ADMINISTRATION		
DRAWN: JOSEPH HAUER		JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA		
CHECKED: JIM STAPP		LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING		
SUBMITTED AND ARCHIVED BY RECORDS		MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS AT FLOOR LEVEL 32 PLAN		
ST OF LICENSEURE: FL		FILE NO. 302-6058-043		
LICENSE NO: 70350		SIZE: DWG NO. E 79K39667		
APPROVED: [Signature]		PROJ. NO. PCN 99000.5		
[Signature]		SHEET 26 OF		

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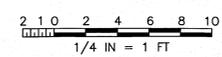
- SPECIFIC NOTES:**
- A. EXTENSIBLE PLATFORM HOISTS PER 79K39668 (MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS), SECTION 41 22 23.19.
  - B. THE CONTRACTOR SHALL PROVIDE SECONDARY FRAMING TO SUPPORT REACTION LOADS FROM HOIST EQUIPMENT AS WELL AS SUPPORTING OPENINGS IN THE FLOOR REQUIRED TO SUPPORT HIS LAYOUT. CONTRACTOR FRAMING PLANS SHALL BE SIGNED AND SEALED BY A FLORIDA LICENSED STRUCTURAL ENGINEER. THE CONTRACTOR SHALL REFER TO DRAWING SA-3-074 FOR AS-BUILT INFORMATION FOR EXISTING FRAMING ON THE LEVEL.
  - C. EXTENSIBLE PLATFORM MAXIMUM TRAVEL HEIGHT IS LEVEL 34.
  - D. CONTRACTOR TO INSTALL HOISTS AS REQUIRED TO MAINTAIN HOOK CENTERLINE AS INDICATED.
  - E. EXTENSIBLE PLATFORM HOISTS TO BE POSITIONED SUCH TO ALLOW ADEQUATE ROOM AROUND EACH HOIST FOR MAINTENANCE.
  - F. HOIST HOOK AT STOWED POSITION WITH 85 FEET OF TRAVEL FROM THIS ELEVATION.
  - G. CONDUITS USED IN THE INSTALLATION OF THE HOIST MOTORS AND THEIR REQUIRED CONTROL ACCESSORIES SHALL BE RUN IN ACCORDANCE WITH SPECIFICATION 26 05 00.00 40. CONDUITS SHALL NOT BE ROUTED ALONG WALKING SURFACES OR IN A MANNER THAT RESTRICTS ACCESS OR EGRESS FROM THE SPACE IN WHICH IT IS INSTALLED. COORDINATE WITH CONTRACTING OFFICER WHEN ROUTING.



FLOOR PLAN AT LEVEL 34 (EL 419'-9")  
SCALE: 1/4" = 1'-0"

ELEVATION VIEW F  
SCALE: 1/4" = 1 FT

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
<b>RS&amp;H</b> IMPROVING YOUR WORLD				
Raynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-9212 (321) 453-9223 FAX www.rsandh.com				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION				
JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA				
LAUNCH COMPLEX 39				
VEHICLE ASSEMBLY BUILDING				
MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS EXTENSIBLE PLATFORMS HOISTS AT FLOOR LEVEL 34 PLAN				
SIGNATURES	DATE			
DRAWN: JOSEPH HAUER	08-20-2013			
CHECKED: JIM STAPP	08-20-2013			
SUBMITTED ARCHIVES OF RECORD:	9/26/13			
ST OF LICENSURE: FL				
LICENSE NO: 70300				
APPROVED:	9/26/13			
JAMES BAKER				
PROJ. NO. 302-6058-043	SIZE E	DWG. NO. 79K39667	REV	
PROJ. NO. PCN 99000.5	SHEET 27	OF		

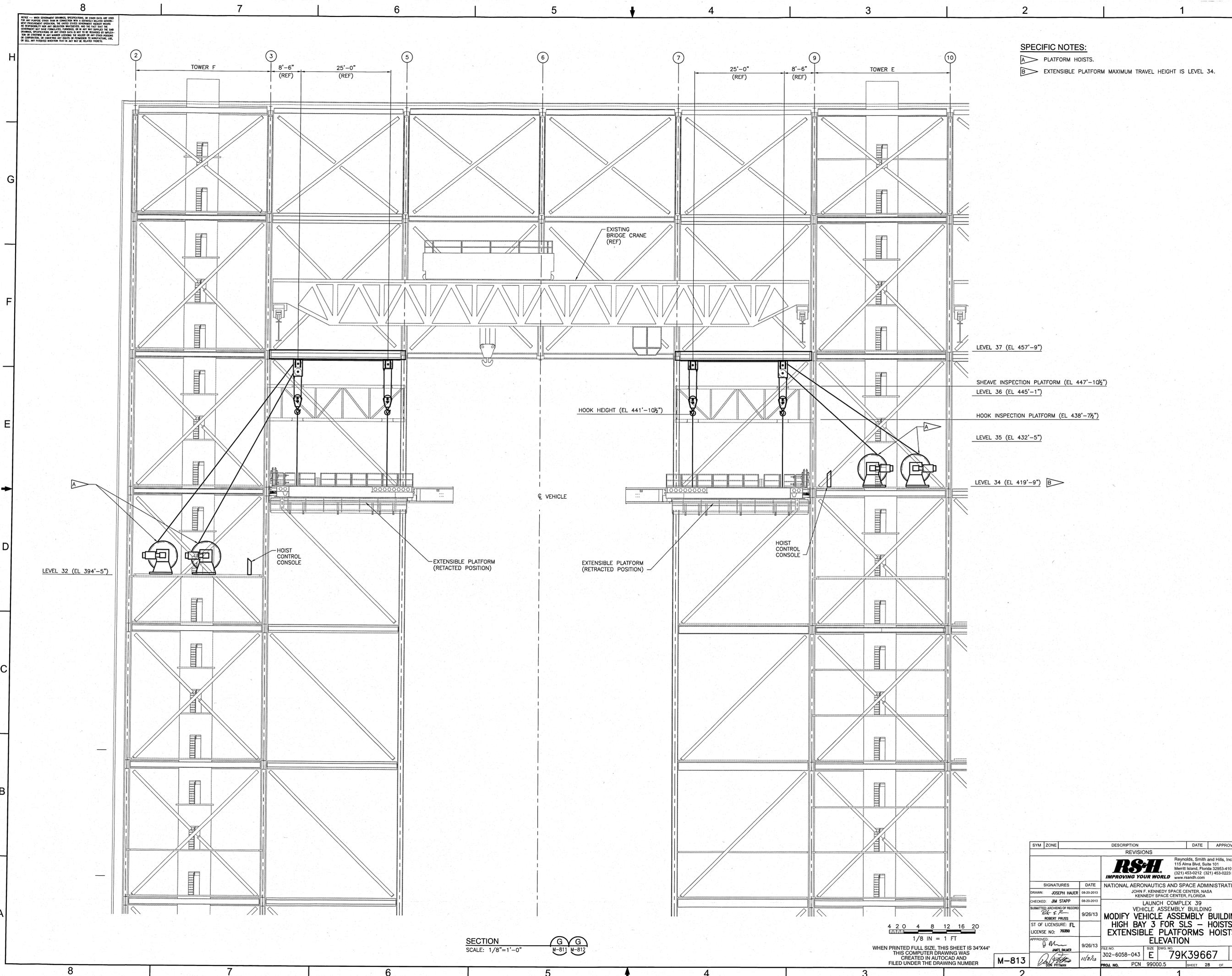


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FILED UNDER THE DRAWING NUMBER

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**SPECIFIC NOTES:**  
 A PLATFORM HOISTS.  
 B EXTENSIBLE PLATFORM MAXIMUM TRAVEL HEIGHT IS LEVEL 34.



LEVEL 32 (EL 394'-5")

LEVEL 37 (EL 457'-9")

SHEAVE INSPECTION PLATFORM (EL 447'-10 1/2")  
 LEVEL 36 (EL 445'-1")

HOOK INSPECTION PLATFORM (EL 438'-7 1/2")

LEVEL 35 (EL 432'-5")

LEVEL 34 (EL 419'-9")

VEHICLE

HOIST CONTROL CONSOLE

EXTENSIBLE PLATFORM (RETRACTED POSITION)

EXTENSIBLE PLATFORM (RETRACTED POSITION)

HOIST CONTROL CONSOLE

EXISTING BRIDGE CRANE (REF)

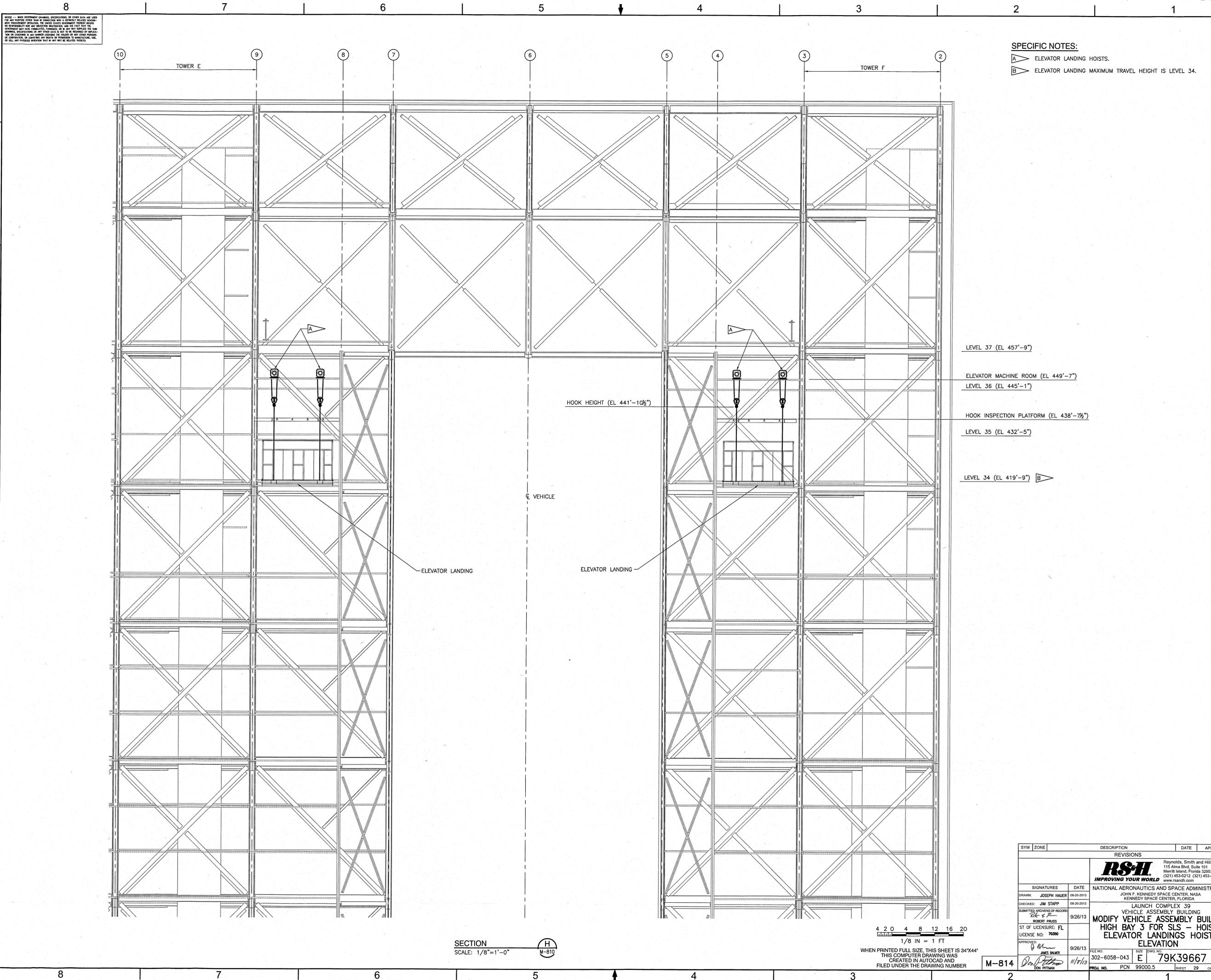
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 1/8" = 1 FT

SECTION  
 SCALE: 1/8"=1'-0"  
 G G  
 M-811 M-812

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M-813

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REVISIONS				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd., Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		DATE		
DRAWN: JOSEPH MAUER		08-20-2013		
CHECKED: JIM STAPP		08-20-2013		
SUBMITTED ARCHIVE OF RECORD:		9/26/13		
ST OF LICENSURE: FL				
LICENSE NO: 70350				
APPROVED:		9/26/13		
JAMES OLIVER		11/21/13		
BOB PITMAN				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION		LAUNCH COMPLEX 39		
JOHN F. KENNEDY SPACE CENTER, NASA		VEHICLE ASSEMBLY BUILDING		
KENNEDY SPACE CENTER, FLORIDA		MODIFY VEHICLE ASSEMBLY BUILDING		
		HIGH BAY 3 FOR SLS - HOISTS		
		EXTENSIBLE PLATFORMS HOISTS		
		ELEVATION		
FILE NO:	302-6058-043	SIZE:	E	79K39667
PROJ. NO.:	PCN 99000.5	SHEET:	28	OF



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**SPECIFIC NOTES:**  
 A ELEVATOR LANDING HOISTS.  
 B ELEVATOR LANDING MAXIMUM TRAVEL HEIGHT IS LEVEL 34.

LEVEL 37 (EL 457'-9")  
 ELEVATOR MACHINE ROOM (EL 449'-7")  
 LEVEL 36 (EL 445'-1")  
 HOOK INSPECTION PLATFORM (EL 438'-7 1/2")  
 LEVEL 35 (EL 432'-5")  
 LEVEL 34 (EL 419'-9")

SECTION  
 SCALE: 1/8"=1'-0"  
 H  
 M-814

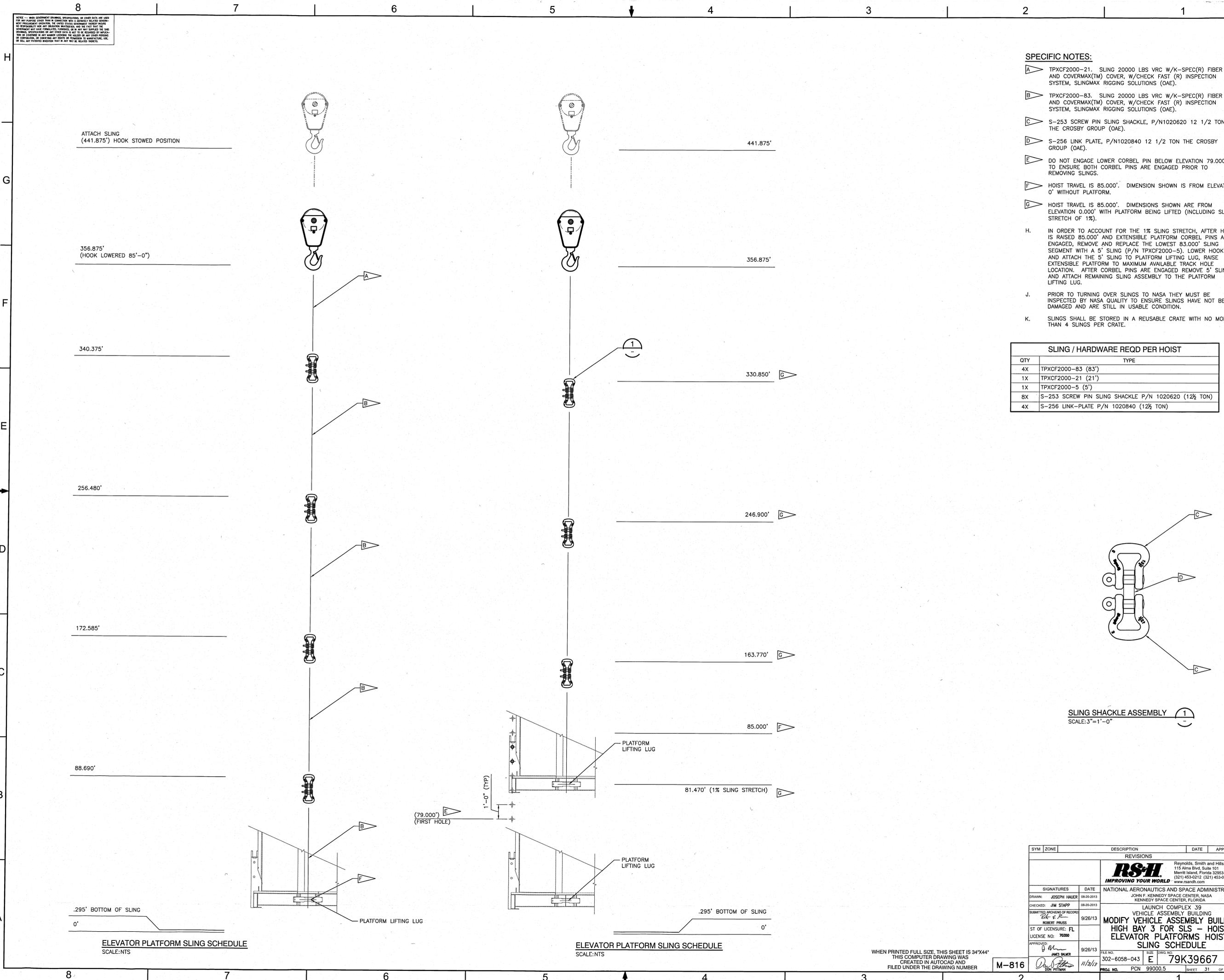
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 1/8 IN = 1 FT

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SIGNATURES		DATE		
DRAWN: JOSEPH MAUER		08-20-2013		
CHECKED: JIM STAPP		08-20-2013		
SUBMITTED ARCHIVING OF RECORD		9/26/13		
ST OF LICENSURE: FL				
LICENSE NO: 70390				
APPROVED:		9/26/13		
JAMES SAUER				
DON PITMAN		11/21/13		
FILE NO:		302-6058-043		
SIZE:		E 79K39667		
PROJ. NO.:		PCN 99000.5		
SHEET:		29 OF		

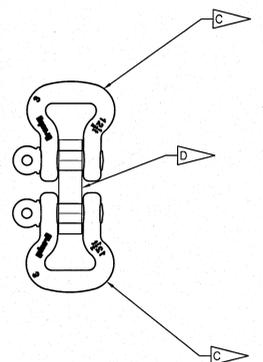




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- SPECIFIC NOTES:**
- A TPXCF2000-21. SLING 20000 LBS VRC W/K-SPEC(R) FIBER AND COVERMAX(TM) COVER, W/CHECK FAST (R) INSPECTION SYSTEM, SLINGMAX RIGGING SOLUTIONS (OAE).
  - B TPXCF2000-83. SLING 20000 LBS VRC W/K-SPEC(R) FIBER AND COVERMAX(TM) COVER, W/CHECK FAST (R) INSPECTION SYSTEM, SLINGMAX RIGGING SOLUTIONS (OAE).
  - C S-253 SCREW PIN SLING SHACKLE, P/N1020620 12 1/2 TON THE CROSBY GROUP (OAE).
  - D S-256 LINK PLATE, P/N1020840 12 1/2 TON THE CROSBY GROUP (OAE).
  - E DO NOT ENGAGE LOWER CORBEL PIN BELOW ELEVATION 79.000' TO ENSURE BOTH CORBEL PINS ARE ENGAGED PRIOR TO REMOVING SLINGS.
  - F HOIST TRAVEL IS 85.000'. DIMENSION SHOWN IS FROM ELEVATION 0' WITHOUT PLATFORM.
  - G HOIST TRAVEL IS 85.000'. DIMENSIONS SHOWN ARE FROM ELEVATION 0.000' WITH PLATFORM BEING LIFTED (INCLUDING SLING STRETCH OF 1%).
  - H IN ORDER TO ACCOUNT FOR THE 1% SLING STRETCH, AFTER HOOK IS RAISED 85.000' AND EXTENSIBLE PLATFORM CORBEL PINS ARE ENGAGED, REMOVE AND REPLACE THE LOWEST 83.000' SLING SEGMENT WITH A 5' SLING (P/N TPXCF2000-5). LOWER HOOK AND ATTACH THE 5' SLING TO PLATFORM LIFTING LUG, RAISE EXTENSIBLE PLATFORM TO MAXIMUM AVAILABLE TRACK HOLE LOCATION. AFTER CORBEL PINS ARE ENGAGED REMOVE 5' SLING AND ATTACH REMAINING SLING ASSEMBLY TO THE PLATFORM LIFTING LUG.
  - J PRIOR TO TURNING OVER SLINGS TO NASA THEY MUST BE INSPECTED BY NASA QUALITY TO ENSURE SLINGS HAVE NOT BEEN DAMAGED AND ARE STILL IN USABLE CONDITION.
  - K SLINGS SHALL BE STORED IN A REUSABLE CRATE WITH NO MORE THAN 4 SLINGS PER CRATE.

SLING / HARDWARE REQD PER HOIST	
QTY	TYPE
4X	TPXCF2000-83 (83')
1X	TPXCF2000-21 (21')
1X	TPXCF2000-5 (5')
8X	S-253 SCREW PIN SLING SHACKLE P/N 1020620 (12½ TON)
4X	S-256 LINK-PLATE P/N 1020840 (12½ TON)



SLING SHACKLE ASSEMBLY 1  
SCALE: 3"=1'-0"

ELEVATOR PLATFORM SLING SCHEDULE  
SCALE: NTS

ELEVATOR PLATFORM SLING SCHEDULE  
SCALE: NTS

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<b>REVISIONS</b>				
SIGNATURES		DATE		
DRAWN: JOSEPH HAUER		08-26-2013		
CHECKED: JIM STAPP		08-26-2013		
SUBMITTED ARCHIVING OF RECORDS		9/26/13		
ST OF LICENSEURE: FL		70300		
APPROVED: JAMES BLUMER		9/26/13		
DON PITTMAN		11/8/13		

Reynolds, Smith and Hills, Inc.  
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 Merritt Island, Florida 32953-4101  
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**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**  
 JOHN F. KENNEDY SPACE CENTER, NASA  
 KENNEDY SPACE CENTER, FLORIDA

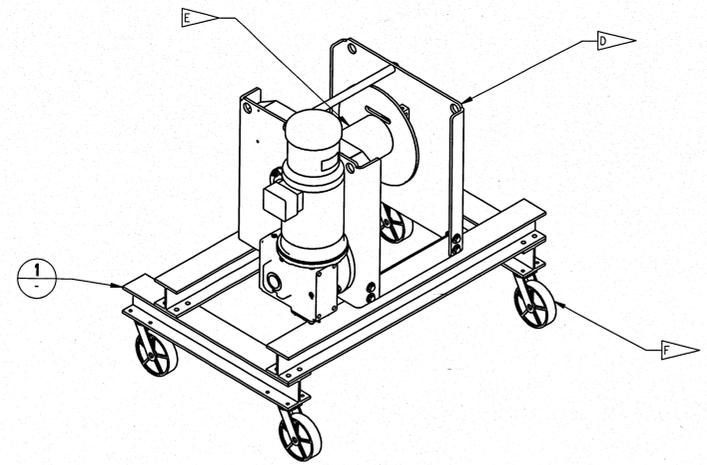
**LAUNCH COMPLEX 39**  
**VEHICLE ASSEMBLY BUILDING**  
**MODIFY VEHICLE ASSEMBLY BUILDING**  
**HIGH BAY 3 FOR SLS - HOISTS**  
**ELEVATOR PLATFORMS HOISTS**  
**SLING SCHEDULE**

FILE NO: 302-6058-043 E 79K39667  
 PROJ. NO. PCN 99000.5 SHEET 31 OF

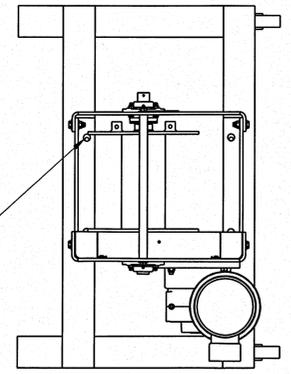
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**SPECIFIC NOTES**

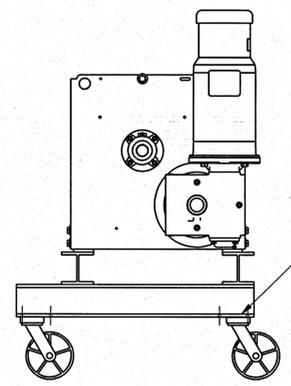
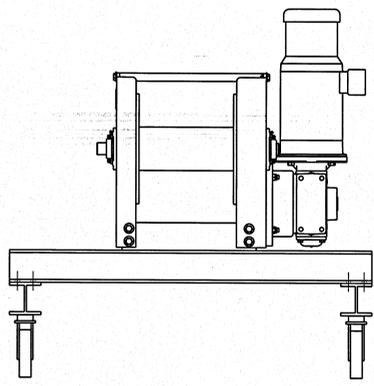
- A. TOLERANCES:
  - X.X +/- 0.1"
  - X.XX +/- 0.01"
  - X.XXX +/- .005"
  - ANGLE +/- 0.5°
- B. CLEAN COMPONENT PARTS PER MIL-S-5002 BEFORE WELDING.
- C. NOT USED.
- D. MODIFIED WORM/SPUR GEAR POWER WINCH WITH A 3 HP, 460-3-60 INPUT VOLTAGE BRAKE MOTOR AND WORM GEAR REDUCER; THE TOTAL REDUCTION RATIO WITH SPUR GEAR IS 114.25 TO 1. ALL COMPONENTS MOUNT ON TO HEAVY DUTY FRAME SHOWN ON THIS SHEET. WINCH IS MODIFIED WITH THE FOLLOWING: GEARBOX ROTATED SO THE MOTOR IS UP. THE BOLT HOLES SHALL BE SIZED TO ACCOMMODATE 1/2" DIAMETER BOLTS AND THERE SHALL BE 2 ADDITIONAL HOLES PER SIDE OF WINCH IN FRAME TO MOUNT BRACKET ON OUTBOARD BEARING SIDE OF WINCH. THEN PRODUCT# 10STE4-S (OAE) MODIFIED SINGLE-SPEED ELECTRIC MOTOR CONTROL, RATED UP TO 7.5 HP AND 460-3-60 LINE VOLTAGE. ELECTRIC MOTOR CONTROL SHALL INCLUDE A MAGNETIC REVERSING STARTER, THERMAL OVERLOAD RELAY AND A FUSED CONTROL CIRCUIT IN A NEMA 4 ENCLOSURE. THE ELECTRIC MOTOR CONTROLS SHALL ALSO INCLUDE A 15-FOOT PENDANT. THE PENDANT SHALL INCLUDE TWO (2) MOMENTARY CONTACT PUSHBUTTONS IN A NEMA 4X ENCLOSURE. PUSHBUTTONS SHALL BE LABELED "UP/DOWN". MODIFY BRACKET TO MOUNT CONTROL ON OUTBOARD BEARING SIDE OF WINCH. ELECTRIC MOTOR CONTROLS ARE MOUNTED AND WIRED BY THEM EXCEPT FOR THE 4WP, 477 AND 3WG SERIES WINCHES. PLEASE CONTACT MANUFACTURER FOR MOUNTING OPTIONS ON THESE MODELS.
- E. 450 FT OF 3/8" DIAMETER IWRC EIPS (EXTRA IMPROVED PLOW STEEL) WIRE ROPE, ONE END PLAIN AND THE OTHER END WITH AN EYE HOOK AND SAFETY LATCH. SENT PROCURE SEPARATELY, TO BE INSTALLED BY OTHERS.
- F. SERVICE CASTER, MEDIUM TO HEAVY DUTY CASTER #30 SERIES PRODUCT# SCC-30CS20-EZPUR-TL8-BSL WITH SIDE LOCK BRAKES AND FACE CONTACT BRAKES, OR APPROVED EQUAL (4 PLACES)
- G. A TOTAL OF 4 CARTS ARE NEEDED, ONE FOR EACH SERVICE PLATFORM.



GRADE 8 ALLOY STEEL HEX HEAD CAP SCREW ZINC YELLOW PLTD 1/2"-20 THRD, 2" L, FULLY THRD ZINC-PLATED STEEL TYPE A SAE FLAT WASHER 1/2" SCREW SIZE, 1-1/16" OD, .07"-.13" THICK (2 REQD) ZINC-PLTD GRADE 5 STL NYLON-INSERT HEX LOCKNUT 1/2"-20 THREAD SIZE (4 PLACES)

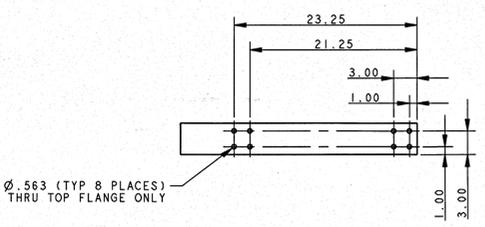
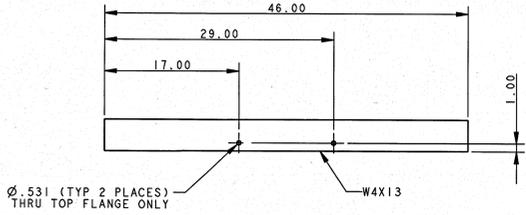
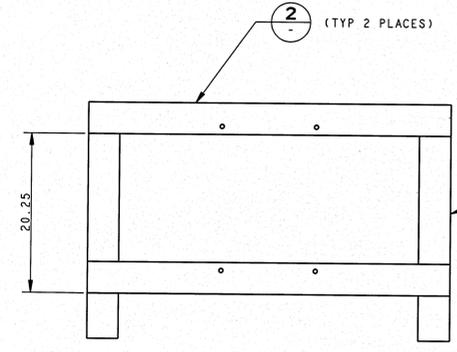


**HOIST CART ASSEMBLY ISO**  
SCALE: 1 1/2"=1'-0"



GRADE 8 ALLOY STEEL HEX HEAD CAP SCREW ZINC YELLOW PLTD, 3/8"-16 THRD, 1-3/4" L, FULLY THRD, 18-8 SS TYPE A USS FLAT WASHER 3/8" SCREW SIZE, 1" OD, .06"-.11" THICK (2 REQD), GRADE 8 STEEL NYLON-INSERT HEX LOCK NUT ZINC YELLOW PLTD, 3/8"-16 THRD SZ, 9/16" W, 29/64" H (16 PLACES)

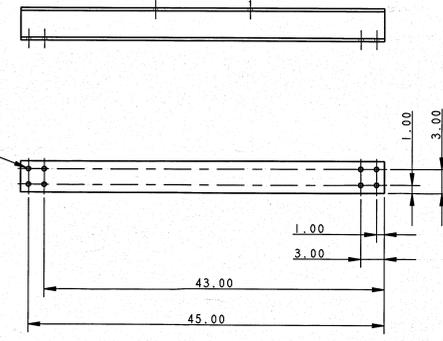
**HOIST CART ASSEMBLY**  
SCALE: 1 1/2"=1'-0"



HDG 1/2" Ø X 1-1/2" A325 HEXBOLT WITH NUT & WASHERS (16 PLACES)

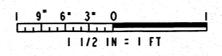
**FRAME ASSEMBLY**  
SCALE: 1 1/2"=1'-0"

Ø .563 (TYP 8 PLACES) THRU BOTTOM FLANGE ONLY



**BASE BEAM**  
SCALE: 1 1/2"=1'-0"

**CROSS BEAM**  
SCALE: 1 1/2"=1'-0"



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		Reynolds, Smith and Hills, Inc. 116 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 455-0212 (321) 455-0223 FAX www.rsandh.com		
SIGNATURES		DATE		
DRAWN: SAM MCMULLEN		08/20/2013		
CHECKED: JOE D'AMICO		08/20/2013		
SUBMITTED: ARCHIVAL RECORD		11/6/13		
ROBERT PRUSS				
ST OF LICENSURE: FL				
LICENSE NO: 79350				
APPROVED: [Signature]		11/6/13		
JOHN KENNEDY		11/20/13		
DO NOT FITTING				
FILE NO:		REV		
302-6058-043		E		
SHEET NO:		REV		
79K39667		-		
PROJ. NO.		SHEET 32 OF		

M-817

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**ABBREVIATIONS**

AF	AMP-FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERAGE INTERRUPTING CAPACITIES
AMP	AMPERE
C, COND	CONDUIT
CFP	CUSTOMER FACE PLATE
CID1	CLASS 1, DIVISION 1
CID2	CLASS 1, DIVISION 2
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CNTR	CONTROLLER
COMM	COMMUNICATION
CORR	CORRIDOR
DR	DROP RESISTANT
ELEV	ELEVATOR
EP	EXPLOSION PROOF
EST	ESTIMATED
FA	FIRE ALARM
FDLT	FLOODLIGHT
FDR	FEEDER
FL	FLOOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HOR	HAND-OFF-REMOTE
HP	HORSE POWER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
IAW	IN ACCORDANCE WITH
KVA	KILO-VOLT AMPERE
LED	LIGHT EMITTING DIODE
LC	LIGHTING CONTACTOR
LCC	LAUNCH CONTROL CENTER
LP	LIGHTING PANEL
LSIG	LONG, SHORT, INSTANTANEOUS AND GROUND
LTG	LIGHTING
LVL	LEVEL
NEC	NATIONAL ELECTRICAL CODE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUG ONLY
MP	MECHANICAL PANEL
NIC	NOT IN CONTRACT
PLAT	PLATFORM
POS	POSITION
RCP	RECEPTACLE PANEL
RECP/RECP	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
SP	SYSTEMS PANEL
SPD	SURGE PROTECTION DEVICE
SS	STAINLESS STEEL
SUBSTA	SUBSTATION
SWBD	SWITCHBOARD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
UON	UNLESS OTHERWISE NOTED
UTIL	UTILITY
USS	UNIT SUBSTATION
XFMR	TRANSFORMER

**SYMBOLS LEGEND**

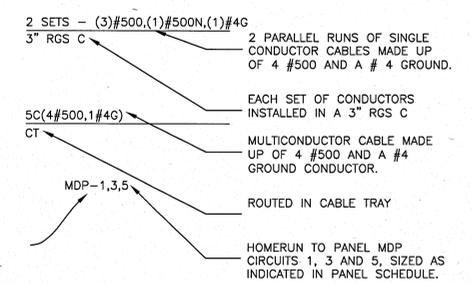
	DUPLEX RECEPTACLE, 120V, 20A, NEMA 5-20R
	SPECIAL PURPOSE RECEPTACLE, TYPE AS INDICATED
	LINEAR FLUORESCENT LIGHTING (X = FIXTURE TYPE, REFERENCE LIGHTING DETAILS; NUMBER REPRESENTS CIRCUITING)
	WALL MOUNTED LINEAR FLUORESCENT LIGHTING (X = FIXTURE TYPE, REFERENCE LIGHTING DETAILS; NUMBER REPRESENTS CIRCUITING)
	WALL MOUNTED LINEAR FLUORESCENT LIGHTING FED BY EMERGENCY CIRCUIT
	TIME DELAY SWITCH
	TOGGLE SWITCH
	EXISTING SURFACE MOUNTED LIGHT FIXTURE
	EXISTING SURFACE MOUNTED LIGHT FIXTURE FED BY EMERGENCY CIRCUIT

	MOTOR (X = INDICATES HP RATING)
	HEAVY DUTY DISCONNECT SWITCH
	HEAVY DUTY CB DISCONNECT SWITCH
	PULL BOX
	JUNCTION BOX
	RATING NOMENCLATURE (3P = NUMBER OF POLES, 20 = AMP TRIP/ FUSED, 30 = AMP FRAME/ RATED, 4X = ENCLOSURE NEMA RATING)
	PANELBOARD 277/480V, 3 PHASE, 4 WIRE OR 480V, 3 PHASE, 3 WIRE AS INDICATED
	CONTROLLER/ ENCLOSURE (AS INDICATED)

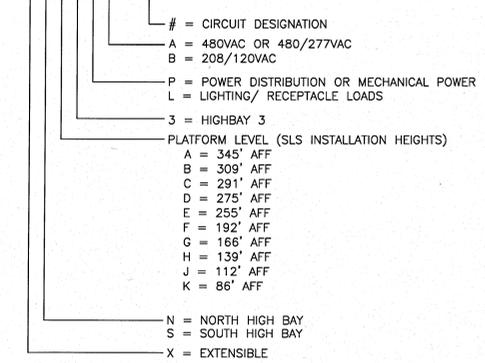
**LINE TYPE LEGEND**

	EXPOSED, POWER CIRCUITING
	LOW VOLTAGE (12V) POWER CIRCUITING

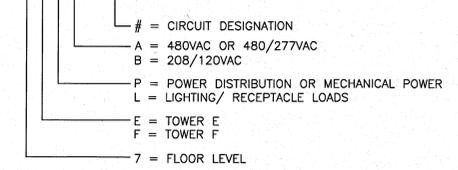
**CIRCUITING LEGEND**



**XNA3PA/12**



**7EPA/12**



**GENERAL NOTES**

- ALL ELECTRICAL PANELS, SWITCHBOARDS, SWITCHGEAR, AND OTHER ENCLOSURES OF ELECTRICAL EQUIPMENT REQUIRING ACCESS FOR MAINTENANCE, TESTING, AND/OR TROUBLESHOOTING, SHALL BE LABELED WITH ARC FLASH WARNING LABELS. ARC FLASH CALCULATIONS SHALL BE PERFORMED FOR EACH OF THE ITEMS LISTED ABOVE. ARC FLASH LABELING SHALL IDENTIFY PROPER PPE AND CLEARANCES REQUIRED AND BE AFFIXED TO THE EQUIPMENT IAW THE LATEST EDITION OF NFPA 70E.
- CONSTRUCTION OF THE ELECTRICAL SYSTEMS SHALL BE PERFORMED IAW WITH ALL LOCAL AND NATIONAL CODES, INCLUDING THE LATEST EDITIONS OF, BUT NOT LIMITED TO: NFPA 70, NFPA 70E, NFPA 780 AND NFPA 497.
- ALL ELECTRICAL DISCONNECTS, BREAKERS, OR ANY OTHER MEANS OF ISOLATING POWER SOURCES FROM THEIR LOADS, SHALL BE CAPABLE OF BEING LOCKED WITH A PAD LOCK. ITEMS SUCH AS BREAKER HANDLES UNABLE TO BE LOCKED DIRECTLY SHALL BE MANUFACTURED AND INSTALLED IN A MANNER IN WHICH AN OSHA APPROVED LOCKOUT/TAGOUT LOCKING MECHANISM IN CONJUNCTION WITH A PADLOCK WILL RENDER THEM INOPERATIVE.
- POWER DISTRIBUTION EQUIPMENT LOCATION AND SCHEDULING ARE BASED ON ELECTRICAL AS-BUILT DRAWINGS 39K6150009 (LAUNCH COMPLEX 39 VAB TOWER E SECONDARY VOLTAGE POWER DISTRIBUTION SYSTEM) AND 39K6150010 (LAUNCH COMPLEX 39 SECONDARY VOLTAGE POWER DISTRIBUTION SYSTEM VAB - TOWER F).

**GENERAL DEMOLITION NOTES**

- THE DEMOLITION PLAN IS INTENDED TO SHOW THE GENERAL SCOPE OF WORK AND DOES NOT SHOW EVERY DEVICE, BOX, CONDUIT, PANEL, ETC. TO BE REMOVED. FIELD VERIFY OTHER ELECTRICAL SERVICE THAT MAY BE ENCOUNTERED DURING DEMOLITION AND REMOVE THESE ITEMS AS REQUIRED.
- REMOVE EXISTING LIGHTING FIXTURES, LIGHTING CONTROLS, POWER RECEPTACLES AND COMMUNICATIONS OUTLETS AS INDICATED ON ELECTRICAL DEMOLITION DRAWINGS. REMOVE ASSOCIATED BRANCH CIRCUITS AND CONDUITS BACK TO THE POINT OF ORIGIN.
- QUANTITIES AND LOCATIONS OF EQUIPMENT AND DEVICES SHOWN ARE BASED ON AS-BUILT DRAWINGS DATED JANUARY 1967 AND INFORMATION GATHERED DURING SITE VISITS. CONTRACTOR TO FIELD VERIFY.
- COORDINATE ELECTRICAL DEMOLITION WORK WITH MECHANICAL, STRUCTURAL AND ARCHITECTURAL.

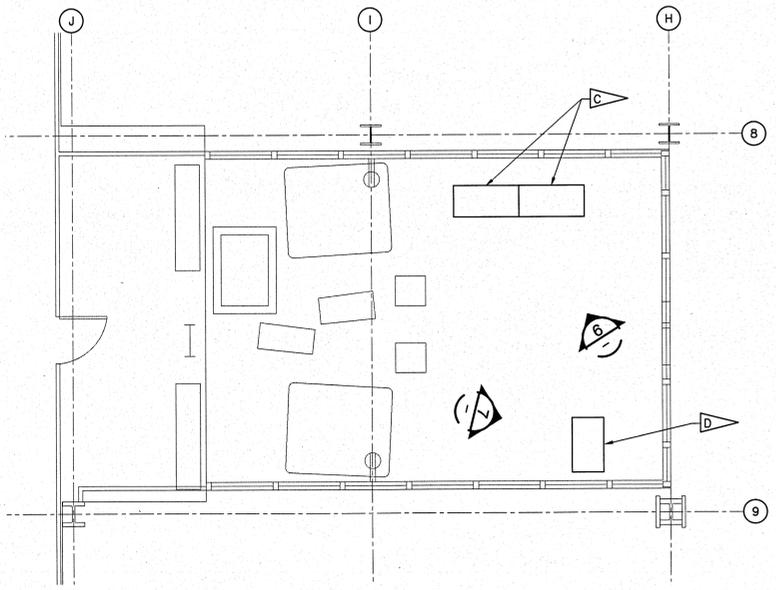
SYM	ZONE	DESCRIPTION	DATE	APPROVAL
<b>REVISIONS</b>				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		DATE		
DRAWN: JOSEPH HAUER		08-20-2013		
CHECKED: DANIEL WISANT		08-20-2013		
SUBMITTED ARCHIVE OF RECORDS: KEVIN HARRIS		9/26/13		
ST OF LICENSEURE: FL LICENSE NO: 68533				
APPROVED: DANIEL WISANT		9/26/13		
APPROVED: JAMES NELSON				
FILE NO: 302-6058-043		SIZE: E	FIG. NO: 79K39667	REV: 1
PROJ. NO. PCN 99000.5		SHEET 33 OF 38		

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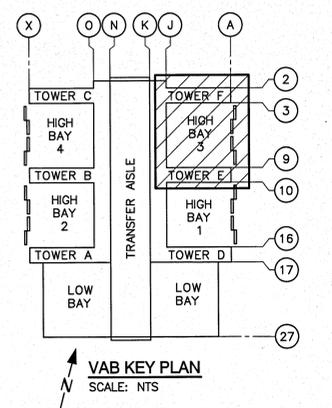
E-001

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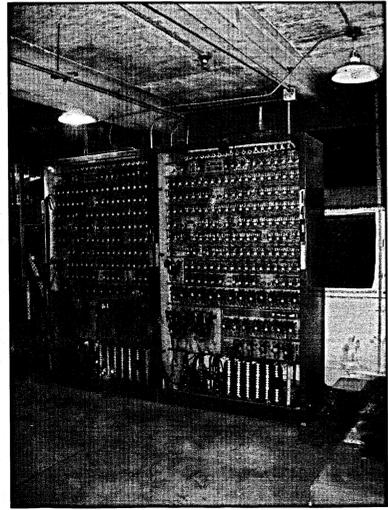
- SPECIFIC NOTES:**
- A. NOT ALL ELEVATOR EQUIPMENT AND ACCESSORY CABINETS ARE SHOWN.
  - B. NOT USED.
  - C. REMOVE EXISTING ABANDONED IN PLACE ELEVATOR CONTROL CABINET(S), ASSOCIATED CABLING AND RACEWAYS IN THEIR ENTIRETY.
  - D. REMOVE EXISTING ABANDONED IN PLACE ELEVATOR DISPATCHER CABINET ASSOCIATED CABLING AND RACEWAYS IN THEIR ENTIRETY.
  - E. CONTRACTOR SHALL COORDINATE HERITAGE EQUIPMENT REMOVAL WITH THE ENVIRONMENTAL SPECIFICATIONS.
  - F. COORDINATE THE REMOVAL OF EQUIPMENT WITH MECHANICAL AND STRUCTURAL DISCIPLINES. REFER TO STRUCTURAL DRAWINGS FOR THE PATCHING OF FLOOR PENETRATIONS.



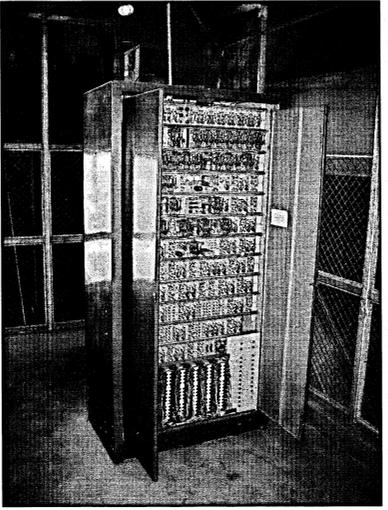
**LEVEL 36 - ELECTRICAL DEMOLITION - TOWER E**  
SCALE: 1/4" = 1'-0"



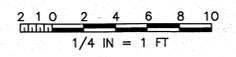
**VAB KEY PLAN**  
SCALE: NTS



**TOWER E - CONTROL** (6)  
SCALE: NTS



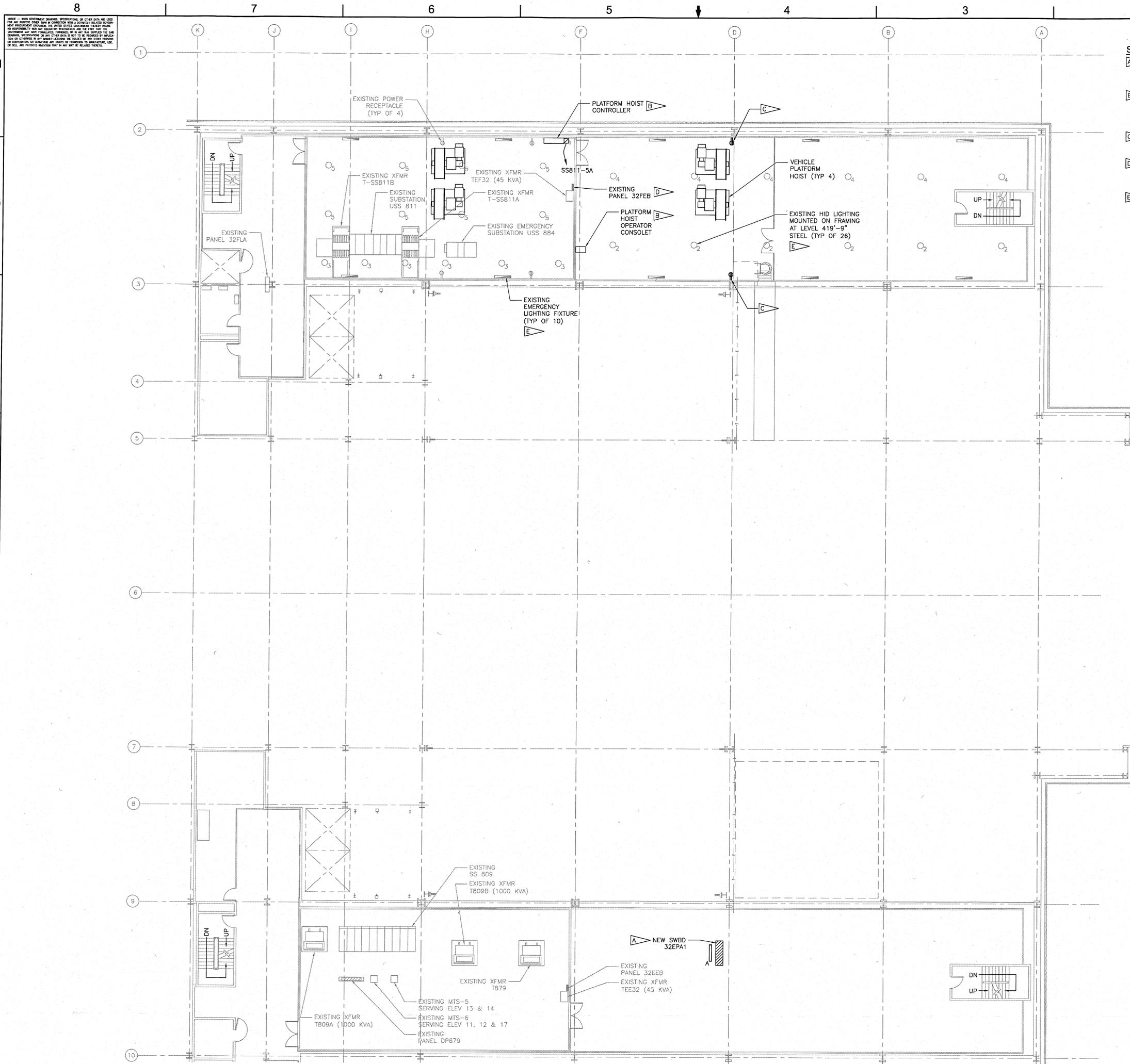
**TOWER E - DISPATCHER** (7)  
SCALE: NTS



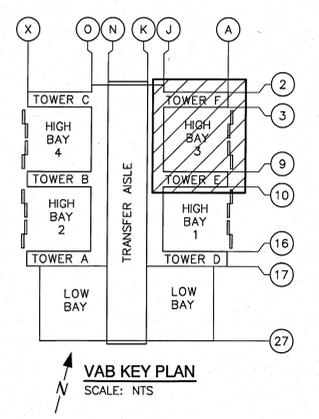
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ED-136

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION				
JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA				
LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING				
MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS LEVEL 36 - ELECTRICAL DEMOLITION PLANS				
SIGNATURES	DATE			
DRAWN: JOSEPH HAUER	08-20-2013	FILE NO.	302-6058-043	REV
CHECKED: DANIEL VIGANTI	08-20-2013	SIZE	E	79K39667
SUBMITTED ARCHIVE OF RECORD	11-06-2013	PROJ. NO.	PCN 99000.5	SHEET 34 OF
APPROVED: DANIEL VIGANTI	11-06-2013			
JAMES NELSON				



- SPECIFIC NOTES:**
- A PROVIDE 1200A, 480V, 3PH, 3W DISTRIBUTION SWITCHBOARD 32EPA1. SEE E-601 FOR ONE-LINE AND PANEL SCHEDULE AND E-580 FOR MOUNTING DETAILS. EXTEND EXISTING LIGHTING CIRCUITS OVER SSB09 FOR NEW TYPE A FIXTURE OVER SWBD 32EPA1.
  - B SEE E-641 FOR PLATFORM HOIST ELEMENTARY CONTROLLER DIAGRAM AND TYPICAL OPERATOR CONSOLE ELEVATION. SEE SPECIFICATIONS 41 22 23.19 FOR REQUIRED EQUIPMENT PARAMETERS. COORDINATE LOCATION OF CONTROLLER WITH HOIST EQUIPMENT MANUFACTURER AND EXISTING FACILITY STRUCTURE.
  - C PROVIDE NEW CONVENIENCE RECEPTACLE RECEIVING POWER FROM EXISTING PANEL 32FEB CIRCUIT 14. SURFACE MOUNT RECEPTACLE ON EXISTING STRUCTURAL COLUMN. REFER TO DRAWING E-580 FOR ADDITIONAL DETAIL.
  - D PROVIDE STRUCTURE TO INDEPENDENTLY SUPPORT EXISTING PANELBOARD 32FEB AND RACEWAYS. PANELBOARD 32FEB AND ITS ASSOCIATED RACEWAYS ARE CURRENTLY SUPPORTED BY THE FENCING BEING REMOVED. SEE SHEET A-506 FOR FENCING MODIFICATION PLANS.
  - E PROVIDE NEW LAMPS FOR EXISTING 400W MERCURY VAPOR HID AND SINGLE TUBE FLUORESCENT EMERGENCY LIGHTING. CONTRACTOR TO SERVICE FIXTURES AND REWORK LIGHTING CIRCUITS BACK TO PANEL 32FLA FOR HID LIGHTING AND EMERGENCY PANEL 28FEA FOR THE EMERGENCY FIXTURES AS REQUIRED FOR FULLY FUNCTIONING FIXTURES. PROVIDE SWITCH-RATED CIRCUIT BREAKERS FOR CONTROLLING FIXTURES.



**POWER AND SYSTEMS PLAN**  
SCALE: 1/8" = 1'-0"

4 2 0 4 8 12 16 20  
1/8 IN = 1 FT

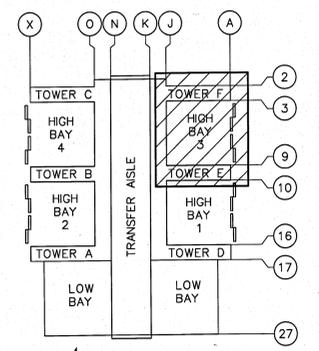
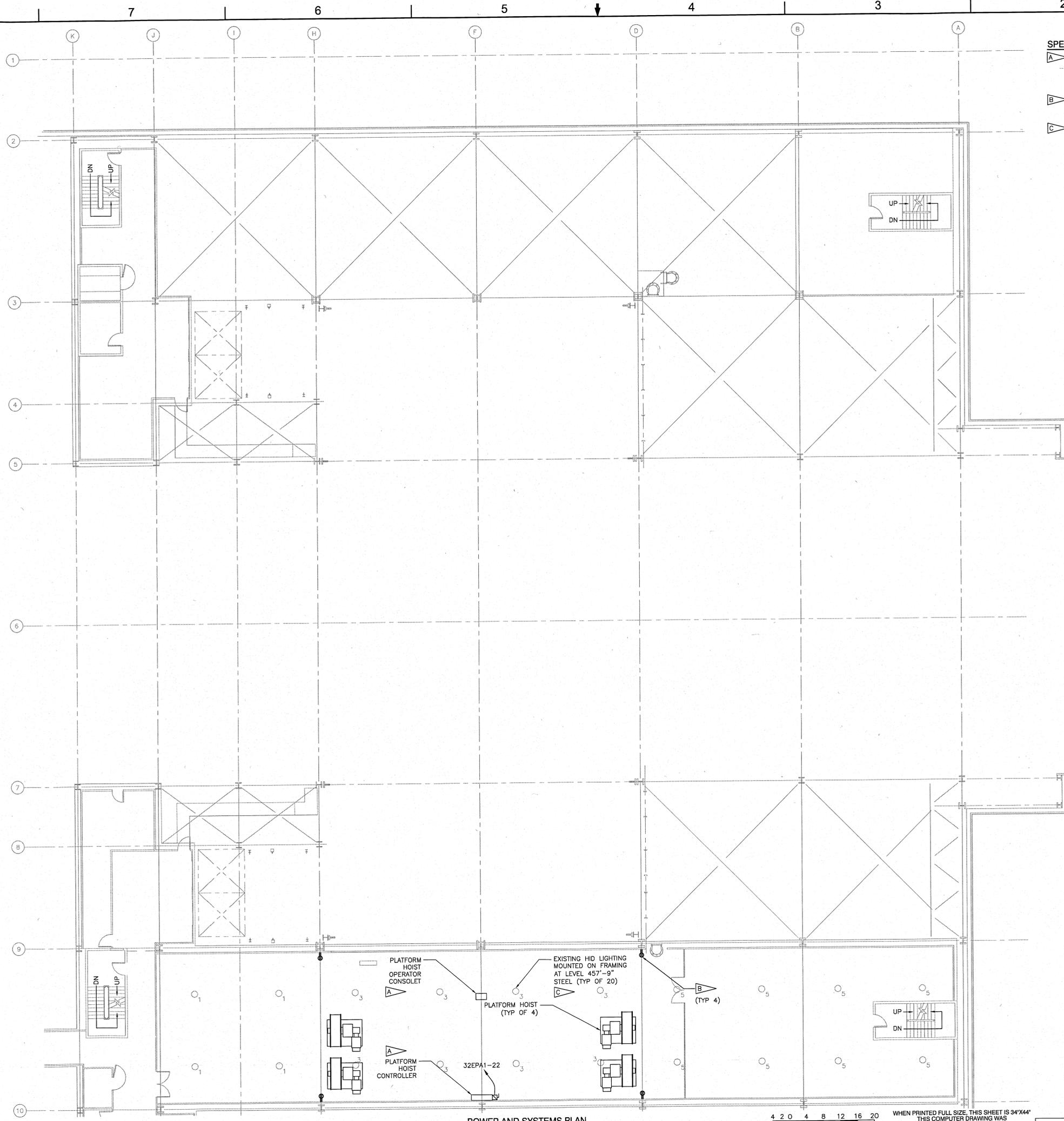
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E-132

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REVISIONS				
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SIGNATURES		DATE		
DRAWN: JOSEPH HAUER		09-20-2013		
CHECKED: DANIEL VIGANT		09-20-2013		
SUBMITTED ARCHIVE OF RECORD		9/26/13		
ST OF LICENSURE: FL		9/26/13		
LICENSE NO: 68533		9/26/13		
APPROVED: DANIEL VIGANT		9/26/13		
APPROVED: JAMES NELSON		9/26/13		
FILE NO: 302-6058-043		SIZE: E	DWG. NO: 79K39667	REV
PROD. NO: PCN 99000.5		SHEET 35		OF

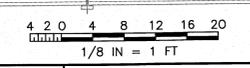
NOTE: WHEN GOVERNMENT CHANGES, SPECIFICATIONS, OR OTHER DATA ARE USED IN THIS DRAWING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE LATEST EDITIONS OF ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE LATEST EDITIONS OF ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE LATEST EDITIONS OF ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE LATEST EDITIONS OF ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS.

- SPECIFIC NOTES:**
- A SEE E-641 FOR PLATFORM HOIST ELEMENTARY CONTROLLER DIAGRAM AND TYPICAL OPERATOR CONSOLE ELEVATION. SEE SPECIFICATIONS 41 22 23.19 FOR REQUIRED EQUIPMENT PARAMETERS. COORDINATE LOCATION OF CONTROLLER WITH HOIST EQUIPMENT MANUFACTURER AND EXISTING FACILITY STRUCTURE.
  - B PROVIDE NEW CONVENIENCE RECEPTACLE RECEIVING POWER FROM EXISTING PANEL 32EEB CIRCUIT 17. SURFACE MOUNT RECEPTACLE ON EXISTING STRUCTURAL COLUMN. REFER TO DRAWING E-580 FOR ADDITIONAL DETAIL.
  - C PROVIDE NEW LAMPS FOR EXISTING 400W MERCURY VAPOR HID. CONTRACTOR TO SERVICE FIXTURES AND REWORK LIGHTING CIRCUITS BACK TO PANEL 34ELA FOR HID LIGHTING AS REQUIRED FOR FULLY FUNCTIONING FIXTURES. PROVIDE SWITCH-RATED CIRCUIT BREAKERS FOR CONTROLLING FIXTURES.



VAB KEY PLAN  
SCALE: NTS

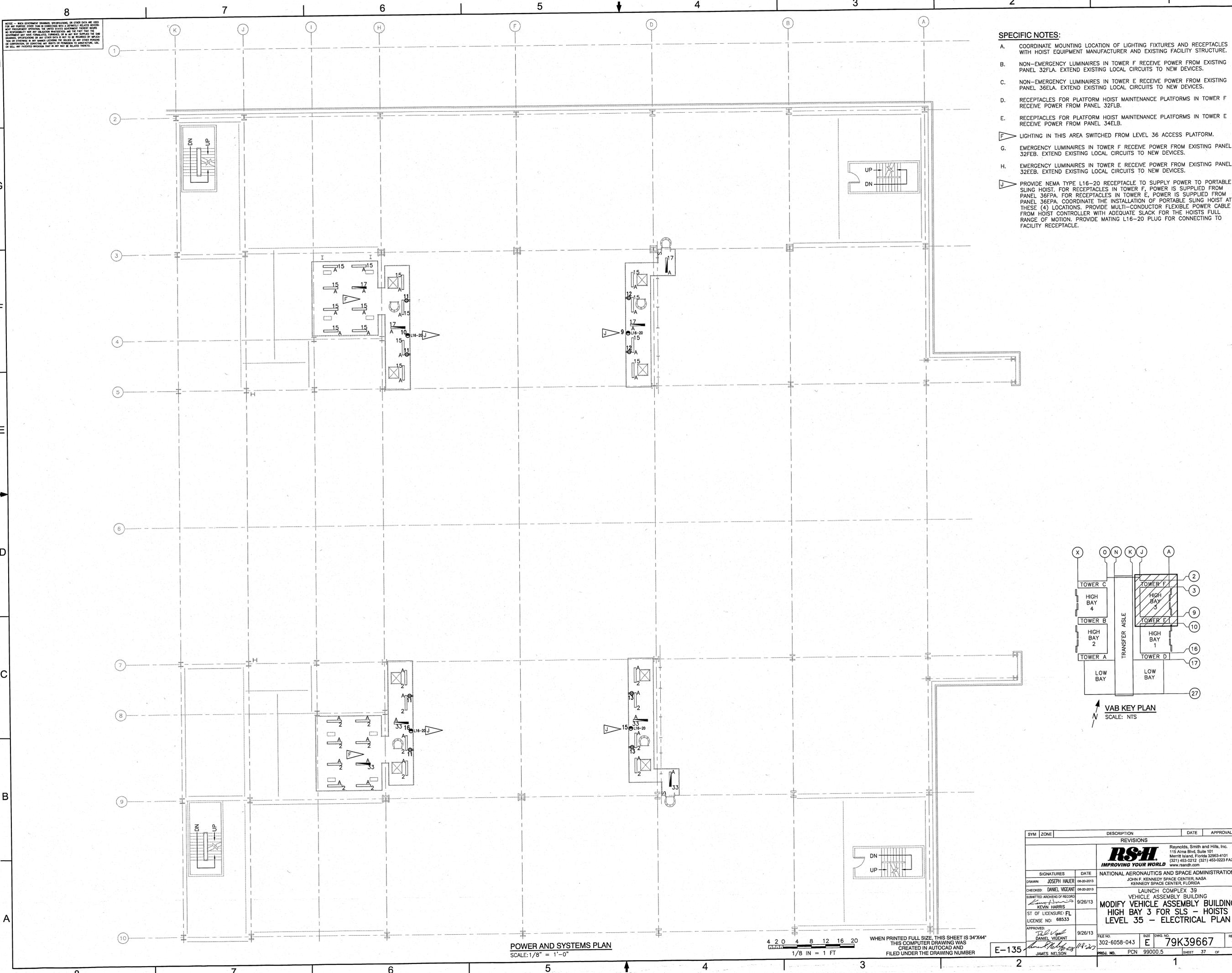
POWER AND SYSTEMS PLAN  
SCALE: 1/8" = 1'-0"



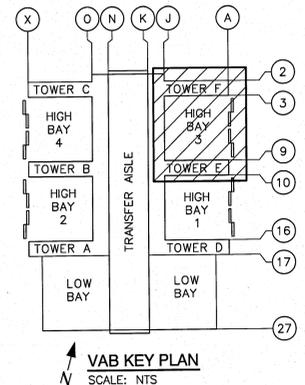
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REVISIONS				
<b>RSH</b> IMPROVING YOUR WORLD				
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LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS LEVEL 34 - ELECTRICAL PLAN				
SIGNATURES		DATE		
DRAWN: JOSEPH HAUER		08-20-2013		
CHECKED: DANIEL VIGENT		08-20-2013		
SUBMITTED ARCHIVING OF RECORD: KEVIN HARRIS		9/26/13		
ST OF LICENSURE: FL LICENSE NO: 68533				
APPROVED: DANIEL VIGENT		9/26/13		
JAMES NELSON				
FILE NO: 302-6058-043		SIZE: E		
PROJ. NO. PCN 99000.5		DWS NO: 79K39667		
SHEET 36 OF				

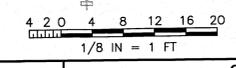
E-134



- SPECIFIC NOTES:**
- A. COORDINATE MOUNTING LOCATION OF LIGHTING FIXTURES AND RECEPTACLES WITH HOIST EQUIPMENT MANUFACTURER AND EXISTING FACILITY STRUCTURE.
  - B. NON-EMERGENCY LUMINAIRES IN TOWER F RECEIVE POWER FROM EXISTING PANEL 32FLA. EXTEND EXISTING LOCAL CIRCUITS TO NEW DEVICES.
  - C. NON-EMERGENCY LUMINAIRES IN TOWER E RECEIVE POWER FROM EXISTING PANEL 36ELA. EXTEND EXISTING LOCAL CIRCUITS TO NEW DEVICES.
  - D. RECEPTACLES FOR PLATFORM HOIST MAINTENANCE PLATFORMS IN TOWER F RECEIVE POWER FROM PANEL 32FLB.
  - E. RECEPTACLES FOR PLATFORM HOIST MAINTENANCE PLATFORMS IN TOWER E RECEIVE POWER FROM PANEL 34ELB.
  - F. LIGHTING IN THIS AREA SWITCHED FROM LEVEL 36 ACCESS PLATFORM.
  - G. EMERGENCY LUMINAIRES IN TOWER F RECEIVE POWER FROM EXISTING PANEL 32FEB. EXTEND EXISTING LOCAL CIRCUITS TO NEW DEVICES.
  - H. EMERGENCY LUMINAIRES IN TOWER E RECEIVE POWER FROM EXISTING PANEL 32EEB. EXTEND EXISTING LOCAL CIRCUITS TO NEW DEVICES.
  - J. PROVIDE NEMA TYPE L16-20 RECEPTACLE TO SUPPLY POWER TO PORTABLE SLING HOIST. FOR RECEPTACLES IN TOWER F, POWER IS SUPPLIED FROM PANEL 36FPA. FOR RECEPTACLES IN TOWER E, POWER IS SUPPLIED FROM PANEL 36EPA. COORDINATE THE INSTALLATION OF PORTABLE SLING HOIST AT THESE (4) LOCATIONS. PROVIDE MULTI-CONDUCTOR FLEXIBLE POWER CABLE FROM HOIST CONTROLLER WITH ADEQUATE SLACK FOR THE HOISTS FULL RANGE OF MOTION. PROVIDE MATING L16-20 PLUG FOR CONNECTING TO FACILITY RECEPTACLE.



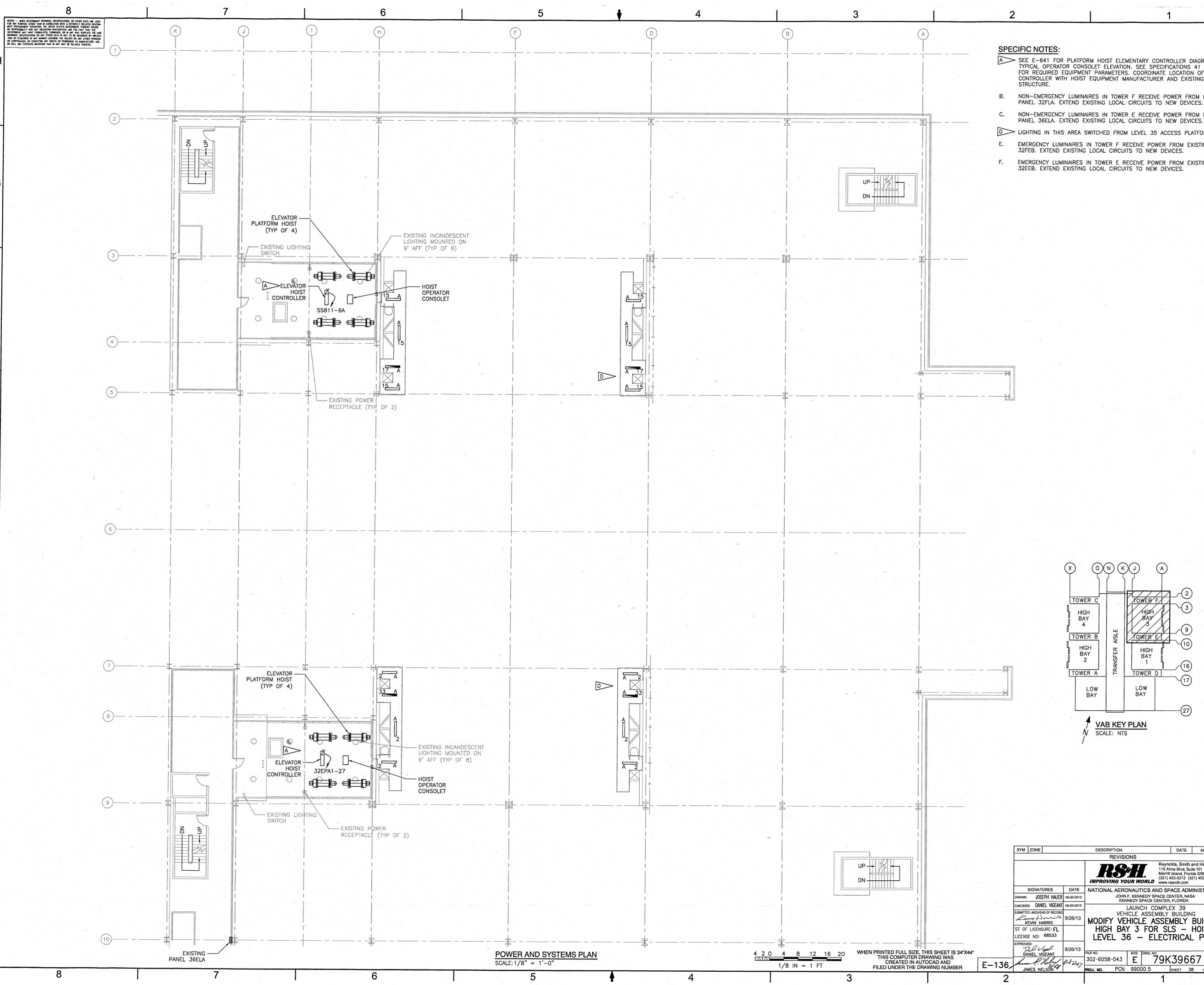
**POWER AND SYSTEMS PLAN**  
SCALE: 1/8" = 1'-0"



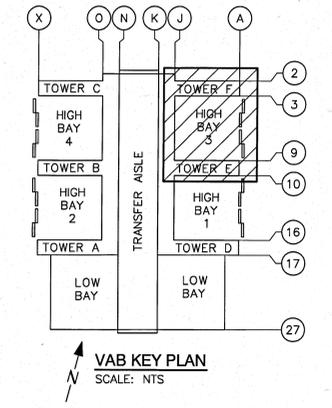
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E-135

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
<b>REVISIONS</b>				
SIGNATURES		DATE	<b>RS&amp;H</b> Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com	
DRAWN: JOSEPH HAUER		08-20-2013	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA	
CHECKED: DANIEL VIGANT		08-20-2013	LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING	
SUBMITTED ARCHIVE OF RECORD		9/26/13	<b>MODIFY VEHICLE ASSEMBLY BUILDING            HIGH BAY 3 FOR SLS - HOISTS            LEVEL 35 - ELECTRICAL PLAN</b>	
ST OF LICENSURE: FL LICENSE NO: 68533			FILE NO: 302-6058-043	SIZE (TOWNS) NO: E 79K39667
APPROVED:		9/26/13	REV	
DANIEL VIGANT			PROJ. NO. PCN 99000.5	SHEET 37 OF
JAMES NELSON				

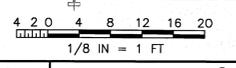


- SPECIFIC NOTES:**
- A. SEE E-641 FOR PLATFORM HOIST ELEMENTARY CONTROLLER DIAGRAM AND TYPICAL OPERATOR CONSOLE ELEVATION. SEE SPECIFICATIONS 41 22 23.19 FOR REQUIRED EQUIPMENT PARAMETERS. COORDINATE LOCATION OF CONTROLLER WITH HOIST EQUIPMENT MANUFACTURER AND EXISTING FACILITY STRUCTURE.
  - B. NON-EMERGENCY LUMINAIRES IN TOWER F RECEIVE POWER FROM EXISTING PANEL 32FLA. EXTEND EXISTING LOCAL CIRCUITS TO NEW DEVICES.
  - C. NON-EMERGENCY LUMINAIRES IN TOWER E RECEIVE POWER FROM EXISTING PANEL 36ELA. EXTEND EXISTING LOCAL CIRCUITS TO NEW DEVICES.
  - D. LIGHTING IN THIS AREA SWITCHED FROM LEVEL 35 ACCESS PLATFORM.
  - E. EMERGENCY LUMINAIRES IN TOWER F RECEIVE POWER FROM EXISTING PANEL 32FEB. EXTEND EXISTING LOCAL CIRCUITS TO NEW DEVICES.
  - F. EMERGENCY LUMINAIRES IN TOWER E RECEIVE POWER FROM EXISTING PANEL 32EEB. EXTEND EXISTING LOCAL CIRCUITS TO NEW DEVICES.



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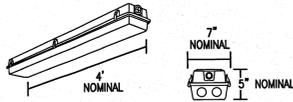
**POWER AND SYSTEMS PLAN**  
SCALE: 1/8" = 1'-0"



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CREATED IN AUTOCAD AND  
FILED UNDER THE DRAWING NUMBER

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
<b>NATIONAL AERONAUTICS AND SPACE ADMINISTRATION</b> JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA				
<b>LAUNCH COMPLEX 39</b> <b>VEHICLE ASSEMBLY BUILDING</b> <b>MODIFY VEHICLE ASSEMBLY BUILDING</b> <b>HIGH BAY 3 FOR SLS - HOISTS</b> <b>LEVEL 36 - ELECTRICAL PLAN</b>				
SIGNATURES	DATE	Raynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-9212 (321) 453-9223 FAX www.rsandh.com		
DRAWN: JOSEPH HALVER	08-20-2013			
CHECKED: DANIEL VIGANTI	08-20-2013			
SUBMITTED ARCHIVING OF RECORDS	9/26/13			
ST OF LICENSEURE: FL LICENSE NO: 68533				
APPROVED:	9/26/13			
DANIEL VIGANTI				
JAMES NELSON				
FILE NO:	302-6058-043	SHEET NO.:	79K39667	
PROJ. NO.:	PCN 99000.5	SHEET	38 OF 38	

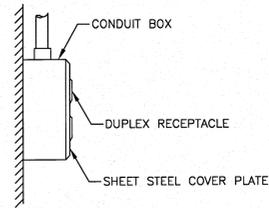
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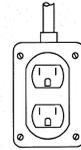
**LUMINAIRE REQUIREMENTS:**

1. HOUSING - ONE-PIECE, IMPACT-RESISTANT, FIBERGLASS REINFORCED POLYESTER WITH ENCLOSED COLD-ROLLED STEEL WIREWAY.
2. FINISH - STEEL REFLECTOR WITH MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. LENS - 100% CLEAR ACRYLIC/DR OPTICAL DIFFUSER, STIPPLED INTERIOR SURFACES AND SMOOTH EXTERIOR. CLOSED CELL NEOPRENE GASKET WITH CAPTIVE NONMETALLIC, SNAP ACTION CAM LATCHES TO SECURE LENS TO HOUSING.
4. LAMPS - LINEAR FLUORESCENT T5, WITH (2) 28W LAMPS.
5. BALLAST - CLASS P, THERMALLY-PROTECTED, HIGH POWER FACTOR (.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
6. CERTIFICATION - UL LISTED AND LABELED, SUITABLE FOR DAMP OR WET LOCATION AS DESIGNATED IN LIGHTING FIXTURE SCHEDULE.
7. INSTALLATION - SURFACE CEILING MOUNTING OR SUSPENDED MOUNTED AT 9'-0" AFF.

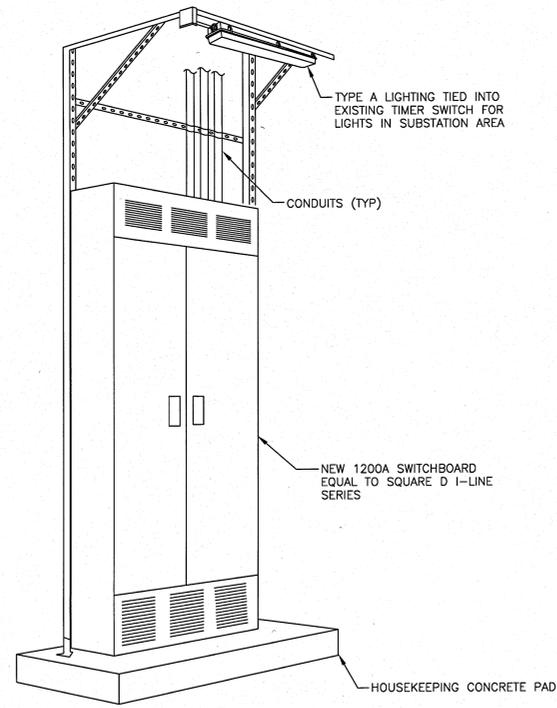
**TYPE A: WET LOCATION INDUSTRIAL FLUORESCENT**  
SCALE: NTS



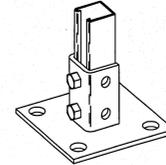
**TYPICAL RECEPTACLE SURFACE MOUNTING**  
SCALE: NTS



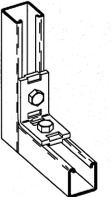
**TYPICAL RECEPTACLE SURFACE MOUNTING**  
SCALE: NTS



**TYPICAL SWITCHBOARD MOUNTING DETAIL**  
SCALE: NTS



**POST BASE FITTING**



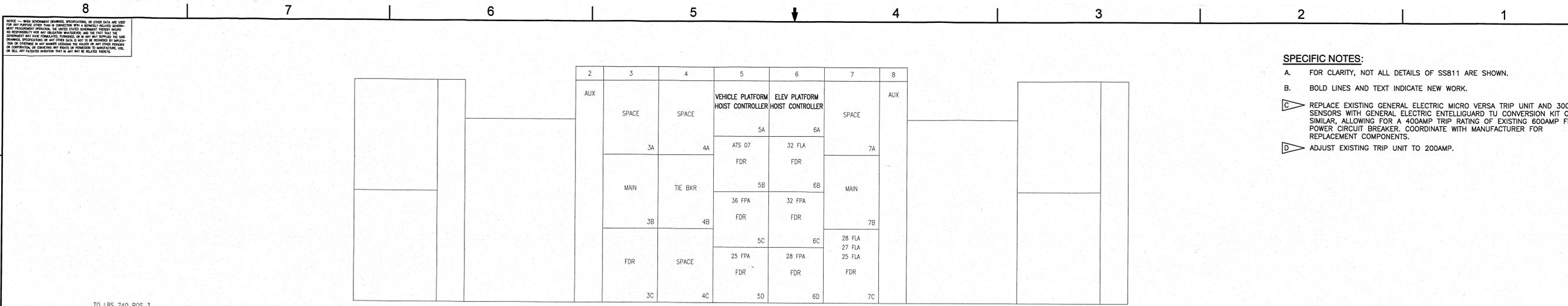
**90 DEGREE ANGLE FITTING**

**TYPICAL STRUT SYSTEM FITTINGS**  
SCALE: NTS

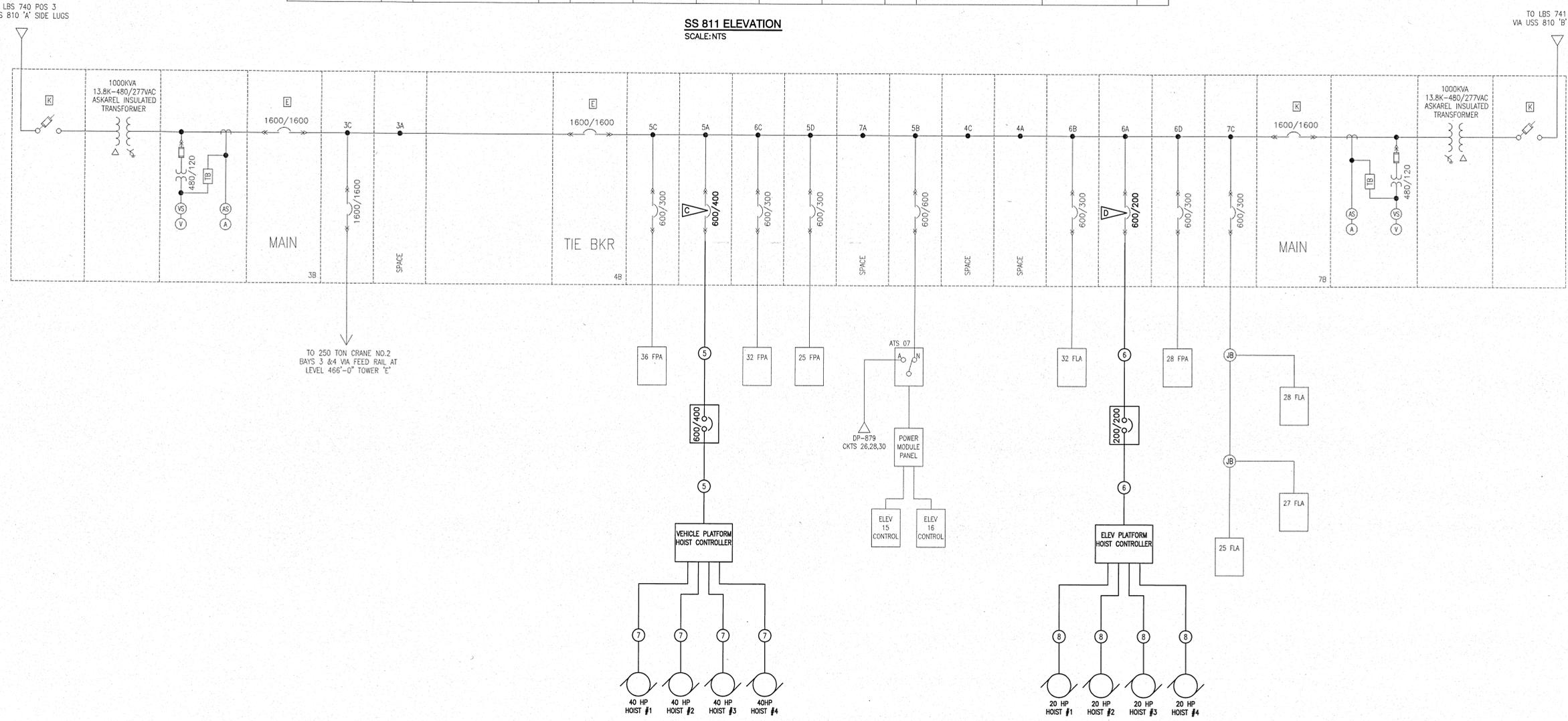
SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
		<b>RS&amp;H</b> Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		DATE		
DRAWN: JOSEPH HAUER		08-20-2013		
CHECKED: DANIEL VIGANT		08-20-2013		
SUBMITTED ARCHIVING OF RECORDS:		9/26/13		
KEVIN HARRIS				
ST OF LICENSURE: FL				
LICENSE NO: 68533				
APPROVED:		9/26/13		
DANIEL VIGANT				
JAMES NELSON				
FILE NO.		SIZE	DWG NO.	REV
302-6058-043		E	79K39667	
PROJ. NO.		PCN	99000.5	SHEET 39 OF

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E-580



- SPECIFIC NOTES:**
- A. FOR CLARITY, NOT ALL DETAILS OF SS811 ARE SHOWN.
  - B. BOLD LINES AND TEXT INDICATE NEW WORK.
  - C. REPLACE EXISTING GENERAL ELECTRIC MICRO VERSA TRIP UNIT AND 300AMP SENSORS WITH GENERAL ELECTRIC ENTELLIGUARD TU CONVERSION KIT OR SIMILAR, ALLOWING FOR A 400AMP TRIP RATING OF EXISTING 600AMP FRAME POWER CIRCUIT BREAKER. COORDINATE WITH MANUFACTURER FOR REPLACEMENT COMPONENTS.
  - D. ADJUST EXISTING TRIP UNIT TO 200AMP.



**TOWER F - SS811 PARTIAL SINGLE-LINE DIAGRAM**  
SCALE: NTS

FEEDER SCHEDULE							
FEEDER #	TYPE	CABLING DESCRIPTION	SOURCE		LOAD		NOTES
			CIRCUIT	LOCATION	DESCRIPTION	LOCATION	
1	THWN	(3) #600, (1) #3G IN 4" C	SWBD 32EPA 1-22	FLOOR 32 - TOWER E	PLATFORM HOIST CONTROLLER	FLOOR 34 - TOWER E	
2	THWN	(3) #3/0, (1) #6G IN 2" C	SWBD 32EPA 1-27	FLOOR 32 - TOWER E	ELEVATOR HOIST CONTROLLER	FLOOR 36 - TOWER E	
3	VFD RATED	(3) #3, (1) #8G IN 1-1/4" C	PLATFORM HOIST CONTROLLER	FLOOR 34 - TOWER E	PLATFORM HOIST MOTOR	FLOOR 34 - TOWER E	1
4	VFD RATED	(3) #6, (1) #10G IN 1" C	ELEVATOR HOIST CONTROLLER	FLOOR 36 - TOWER E	ELEVATOR HOIST MOTOR	FLOOR 36 - TOWER E	1
5	THWN	(3) #600, (1) #3G IN 4" C	SS811-5A	FLOOR 32 - TOWER F	PLATFORM HOIST CONTROLLER	FLOOR 32 - TOWER F	
6	THWN	(3) #3/0, (1) #6G IN 2" C	SS811-6A	FLOOR 32 - TOWER F	ELEVATOR HOIST CONTROLLER	FLOOR 36 - TOWER F	
7	VFD RATED	(3) #3, (1) #8G IN 1-1/4" C	PLATFORM HOIST CONTROLLER	FLOOR 32 - TOWER F	PLATFORM HOIST MOTOR	FLOOR 32 - TOWER F	1
8	VFD RATED	(3) #6, (1) #10G IN 1" C	ELEVATOR HOIST CONTROLLER	FLOOR 36 - TOWER F	ELEVATOR HOIST MOTOR	FLOOR 36 - TOWER F	1
9	THWN	4 SETS - (3)#350, (1) #3/0G IN 3" C	SS809-4A	FLOOR 32 - TOWER E	SWBD 32EPA1	FLOOR 32 - TOWER E	

NOTES:  
1. PROVIDE RACEWAY SIZED FOR HOIST MANUFACTURER VFD MOTOR AND CONTROL CABLING.

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
<b>RSH</b> IMPROVING YOUR WORLD				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS POWER ONE-LINE - DIAGRAM 1				
SIGNATURES	DATE			
DRAWN: JOSEPH HAUER	08-20-2013			
CHECKED: DANIEL VEGANT	09-20-2013			
SUBMITTED FOR REVIEW OF RECORDS				
BY: KEVIN HARRIS	11-06-2013			
STATE OF FLORIDA LICENSE NO. 88533				
APPROVED:	11-04-2013			
DANIEL VEGANT				
JAMES NELSON	11-20-2013			
FILE NO. 302-6058-043	SIZE E	DWG. NO. 79K39667	REV	
PROJ. NO. PCN 99000.5	SHEET 40	OF		

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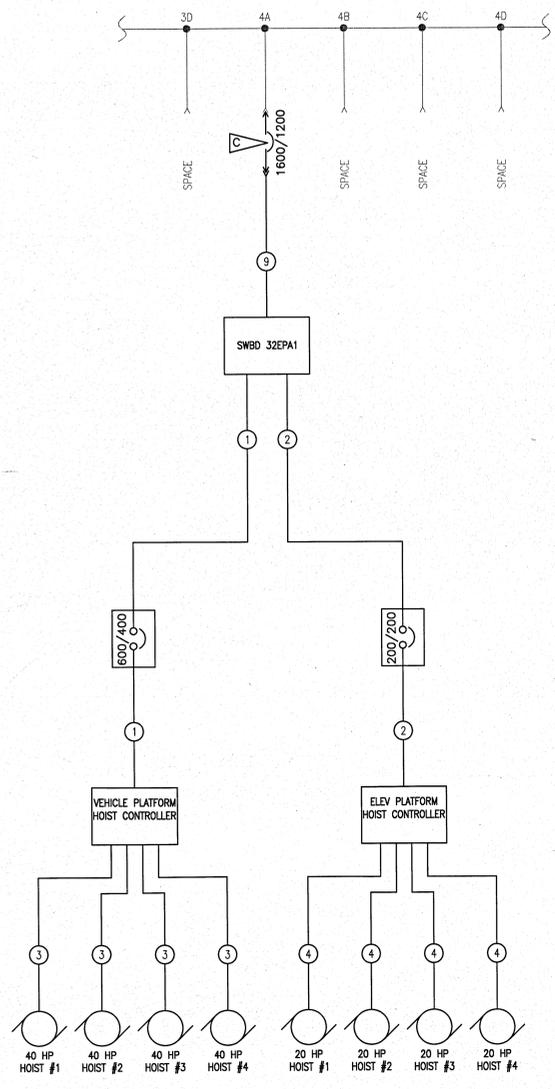
E-600

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1	2	3	4	5	6	7	8	9	10
METERING A 1A	MTS #6 ELEV #11/12/17 2A	PANELS 31EPA/32EPA 3A	SWBD 32EPA1 4A	CTRL PWR SW 5A	PLC 6A	MCC 41E1 MCC 41E2 7A	SPACE 8A	PANEL 41ELA 9A	METERING B 10A
MAIN BKR A 1B	PANELS 34EPA/36EPA 2B	PANELS 22EPA/24EPA 3B	SPACE 4B	TIE BKR 5B		PANELS 30ELA/31ELA 32ELA 7B	PANEL 28EPA 8B	PANELS 34ELA/36ELA 9B	MAIN BKR B 10B
CPT. 1C	SPACE 2C	PANELS 25ELA/26ELA 27ELA/28ELA 3C	SPACE 4C	UPS 5C		MTS #5 ELEV #13/14 7C	PANEL 42E4 8C	PANELS 22ELA/24ELA 9C	CPT 10C
RECEPT CM-MAIN A 1D	SPACE 2D	SPACE 3D	SPACE 4D	SPACE 5D		PANEL BOARD 7D	PANELS 25EPA/27EPA 8D	SPACE 9D	RECEPT CM-MAIN B 10D

SS 809 ELEVATION  
SCALE: NTS

- SPECIFIC NOTES:**
- A CONNECTION OF LOAD SHOWN FOR PLATFORM INTERFACE IS NOT IN CONTRACT. PROVIDE ALL BRANCH CIRCUIT BREAKERS AS SHOWN. WHERE LOADS ARE NOT CONNECTED, LABEL BREAKERS AS SPARE.
  - B BOLD LINES AND TEXT INDICATE NEW WORK.
  - C PROVIDE 1600AF SQUARE D MASTERPACT POWER CIRCUIT BREAKER TO BE INSTALLED IN EXISTING AVAILABLE SWITCHGEAR CELL 4A AS INDICATED. INCLUDE MICROLOGIC TRIP UNIT WITH POWER CIRCUIT BREAKER WITH ADJUSTABLE LSG. AIC RATING TO BE PROVIDED TO MAINTAIN EXISTING EQUIPMENT RATING.
  - D SEE SHEET E-600 FOR FEEDER SCHEDULE.
  - E FOR CLARITY, NOT ALL DETAILS OF SS809 ARE SHOWN.



TOWER E - SS809 PARTIAL SINGLE-LINE DIAGRAM  
SCALE: NTS

480V VOLTS SURFACE MOUNT 1200 AMP BUS										3 PHASE 3 WIRE 1200 MCB (TOP)										SWBD 32EPA1 AIC: 65,000A										LOCATION: TOWER E-FLOOR 32 FED FROM: SS809-4A ENCLOSURE: NEMA 1									
CKT	TRIP	PHASE	NEUTRAL	GND	COND	DEMAND			KVA	NOTES	LOAD			NOTES	KVA	DEMAND			COND	GND	NEUTRAL	PHASE	TRIP	CKT															
						LV	LV	LV			A	B	C			LV	LV	LV																					
1																																							
3	200	#4/0		#6	2"		X	17.1		A	PLATFORM INTERFACE - FLOOR 32 (TOWER E)	X			17.1		X			2"	#6		#4/0	200	4														
5							X	17.1				X			17.1		X								6														
7							X	17.1				X			17.1		X								8														
9	200	#4/0		#6	2"		X	17.1		A	PLATFORM INTERFACE - FLOOR 28 (TOWER E)	X			17.1		X			2"	#6		#4/0	200	10														
11							X	17.1				X			17.1		X								12														
13							X	17.1				X			17.1		X								14														
15	200	#4/0		#6	2"		X	17.1		A	PLATFORM INTERFACE - FLOOR 24 (TOWER E)	X			17.1		X			2"	#6		#4/0	200	16														
17							X	17.1				X			17.1		X								18														
19							X	17.1				X			17.1		X								20														
21	200	#4/0		#6	2"		X	17.1		A	PLATFORM INTERFACE - FLOOR 20 (TOWER E)	X			17.1		X			2"	#6		#4/0	200	22														
23							X	17.1				X			17.1		X								24														
25							X	29.0				X			29.0										26														
27	200	#3/0		#6	2"		X	29.0		1	ELEVATOR HOIST CONTROLLER (TOWER E)	X			61.2		X			4"	#3		#600	400	28														
29							X	29.0				X			29.0		X								30														
31												X													32														
33												X													34														
35												X													36														
37												X													38														
39												X									1"	#6		#6	60	40													
41												X													42														

Notes:	1 PROVIDED UNDER 79K39667	NEC 220.51	100%	EST DEMAND LOAD HVAC (KVA):	0.0	PHASE A CONNECTED LOAD (KVA):	209.9
		NEC 220.42 for All others	100%	EST DEMAND LOAD LGTS (KVA):	0.0	PHASE B CONNECTED LOAD (KVA):	209.9
		NEC 220.44 (0-10KVA@100%, X-10KVA@50%)	0.0	EST DEMAND LOAD RECP (KVA):	0.0	PHASE C CONNECTED LOAD (KVA):	209.9
			50%	EST DEMAND LOAD GEN (KVA):	314.9	TOTAL CONNECTED LOAD (KVA):	629.8
				TOTAL ESTIMATED DEMAND LOAD (KVA):	314.9	TOTAL CONNECTED LOAD (AMPS):	757.6

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com				
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA				
LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS POWER ONE-LINE - DIAGRAM 2				
DRAWN:	JOSEPH HAUER	DATE:	08-20-2013	
CHECKED:	DANIEL VIGENT	DATE:	08-20-2013	
SUBMITTED ARCHIVES OF RECORD:		DATE:	11-06-2015	
ST OF LICENSE:	FL	LICENSE NO.:	68533	
APPROVED:	DANIEL VIGENT	DATE:	11-06-2015	
	JAMES NELSON	DATE:	11-07-2015	

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FILE NO. 302-6058-043  
SIZE (DWG. NO.) E  
979K39667  
PROJ. NO. PCN 99000.5  
SHEET 41 OF

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PANEL 36FPA. 277/480 VOLTS, 3 PHASE, SURFACE MOUNT, 400 AMP BUS. LOCATION: TOWER F - ROOM 36F2. AIC: 35,000A. Includes table with columns for TRIP, PHASE, NEUTRAL, GND, COND, and various demand load categories (HVAC, LGTS, RECP, GEN).

Notes for Panel 36FPA: NEC 220.51, NEC 220.42 for All others, NEC 220.44 (0-10KVA@100%, X-10KVA@50%), NEC 220.14. Summary of demand loads and total connected load (9.6 AMPS).

PANEL 36EPA. 277/480 VOLTS, 3 PHASE, SURFACE MOUNT, 200 AMP BUS. LOCATION: TOWER E - 36TH FL. AIC: 18,000A SQUARE D NF. Includes table with columns for TRIP, PHASE, NEUTRAL, GND, COND, and various demand load categories.

Notes for Panel 36EPA: NEC 220.51, NEC 220.42 for All others, NEC 220.44 (0-10KVA@100%, X-10KVA@50%), NEC 220.14. Summary of demand loads and total connected load (9.6 AMPS).

SPECIFIC NOTES: A. ALL PANELS THIS SHEET ARE EXISTING. FOR EXISTING PANELS, LOADS BEING MODIFIED UNDER THIS EFFORT HAVE A CONNECTED LOAD VALUE IN THE KVA COLUMN, AS SHOWN IN THE SCHEDULES. ALL LOADS WITH KVA SHOW, REQUIRES THE INSTALLATION OF NEW BREAKERS, CONDUIT AND WIRING AS INDICATED.

PANEL 32EEB. 120/208 VOLTS, 3 PHASE, SURFACE MOUNT, 225 AMP BUS. LOCATION: TOWER E - 32ND FL. GE NLAB. Includes table with columns for TRIP, PHASE, NEUTRAL, GND, COND, and various demand load categories.

Notes for Panel 32EEB: NEC 220.51, NEC 220.42 for All others, NEC 220.44 (0-10KVA@100%, X-10KVA@50%), NEC 220.14. Summary of demand loads and total connected load (3.4 AMPS).

PANEL 32FLA. 277/480 VOLTS, 3 PHASE, SURFACE MOUNT, 225 AMP BUS. LOCATION: TOWER F - CORRIDOR 32ND FLOOR. GE QMR2-CCB. Includes table with columns for TRIP, PHASE, NEUTRAL, GND, COND, and various demand load categories.

Notes for Panel 32FLA: NEC 220.51, NEC 220.42 for All others, NEC 220.44 (0-10KVA@100%, X-10KVA@50%), NEC 220.14. Summary of demand loads and total connected load (1.3 AMPS).

PANEL 32FLB. 120/208 VOLTS, 3 PHASE, SURFACE MOUNT, 225 AMP BUS. LOCATION: TOWER F - RM 32F2 VAB. GE NLAB. Includes table with columns for TRIP, PHASE, NEUTRAL, GND, COND, and various demand load categories.

Notes for Panel 32FLB: NEC 220.51, NEC 220.42 for All others, NEC 220.44 (0-10KVA@100%, X-10KVA@50%), NEC 220.14. Summary of demand loads and total connected load (2.0 AMPS).

PANEL 32FEB. 120/208 VOLTS, 3 PHASE, SURFACE MOUNT, 225 AMP BUS. LOCATION: TOWER F - SUBSTA AREA 32ND FL. GE NLAB. Includes table with columns for TRIP, PHASE, NEUTRAL, GND, COND, and various demand load categories.

Notes for Panel 32FEB: NEC 220.51, NEC 220.42 for All others, NEC 220.44 (0-10KVA@100%, X-10KVA@50%), NEC 220.14. Summary of demand loads and total connected load (2.9 AMPS).

PANEL 34ELB. 120/208 VOLTS, 3 PHASE, SURFACE MOUNT, 225 AMP BUS. LOCATION: TOWER E - ELEC CLOSET 34TH FL. GE NLAB. Includes table with columns for TRIP, PHASE, NEUTRAL, GND, COND, and various demand load categories.

Notes for Panel 34ELB: NEC 220.51, NEC 220.42 for All others, NEC 220.44 (0-10KVA@100%, X-10KVA@50%), NEC 220.14. Summary of demand loads and total connected load (2.0 AMPS).

PANEL 36ELA. 277/480 VOLTS, 3 PHASE, SURFACE MOUNT, 200 AMP BUS. LOCATION: TOWER E - 36TH FL. AIC: 18,000A SQUARE D NF. Includes table with columns for TRIP, PHASE, NEUTRAL, GND, COND, and various demand load categories.

Notes for Panel 36ELA: NEC 220.51, NEC 220.42 for All others, NEC 220.44 (0-10KVA@100%, X-10KVA@50%), NEC 220.14. Summary of demand loads and total connected load (1.3 AMPS).

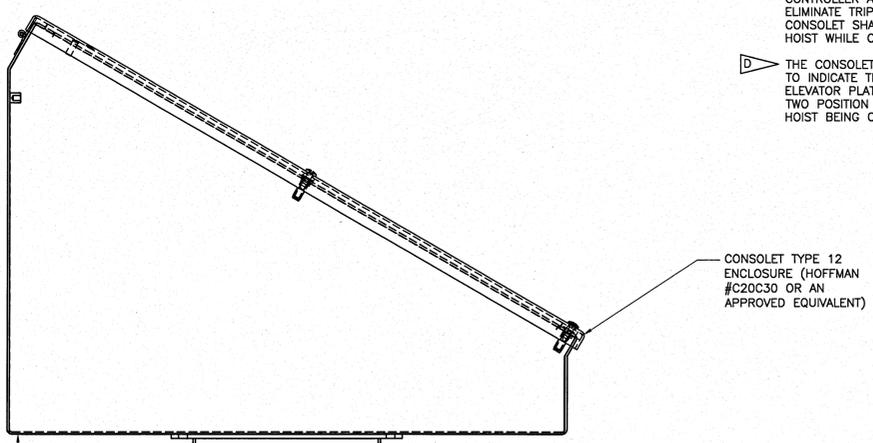
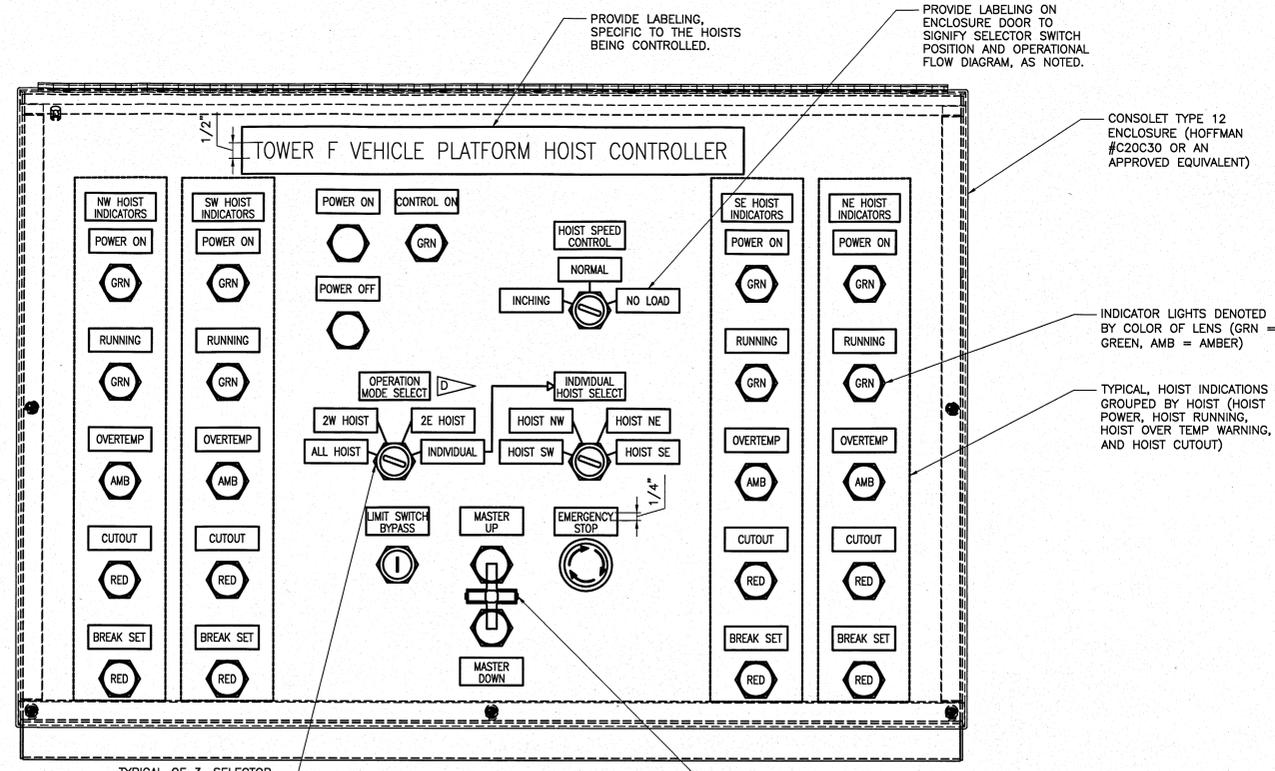
PANEL INDEX table listing panels 36FPA, 36EPA, 32EEB, 32FLA, 32FLB, 32FEB, 34ELB, and 36ELA.

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REVISIONS table with columns for SYM, ZONE, DESCRIPTION, DATE, APPROVAL. Includes project information: NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, LAUNCH COMPLEX 39, VEHICLE ASSEMBLY BUILDING, MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS ELECTRICAL SCHEDULES.

NOTE: WITH APPROVED DRAWING SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN TO CONFORM TO A SPECIFICALLY ISSUED APPROVED PROCEDURE OPERATIONAL, BE LIMITED TO THE SPECIFIC PURPOSE FOR WHICH THEY WERE DESIGNED AND THE FACT THAT THE DRAWING SPECIFICATIONS OF ANY OTHER DATA IS NOT TO BE RELIED UPON UNLESS IT IS SPECIFICALLY STATED OTHERWISE. THE USER OF THIS DRAWING OR ANY OTHER DATA IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, APPROVALS AND THE FACT THAT THE DRAWING SPECIFICATIONS OF ANY OTHER DATA IS NOT TO BE RELIED UPON UNLESS IT IS SPECIFICALLY STATED OTHERWISE. THE USER OF THIS DRAWING OR ANY OTHER DATA IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, APPROVALS AND THE FACT THAT THE DRAWING SPECIFICATIONS OF ANY OTHER DATA IS NOT TO BE RELIED UPON UNLESS IT IS SPECIFICALLY STATED OTHERWISE.

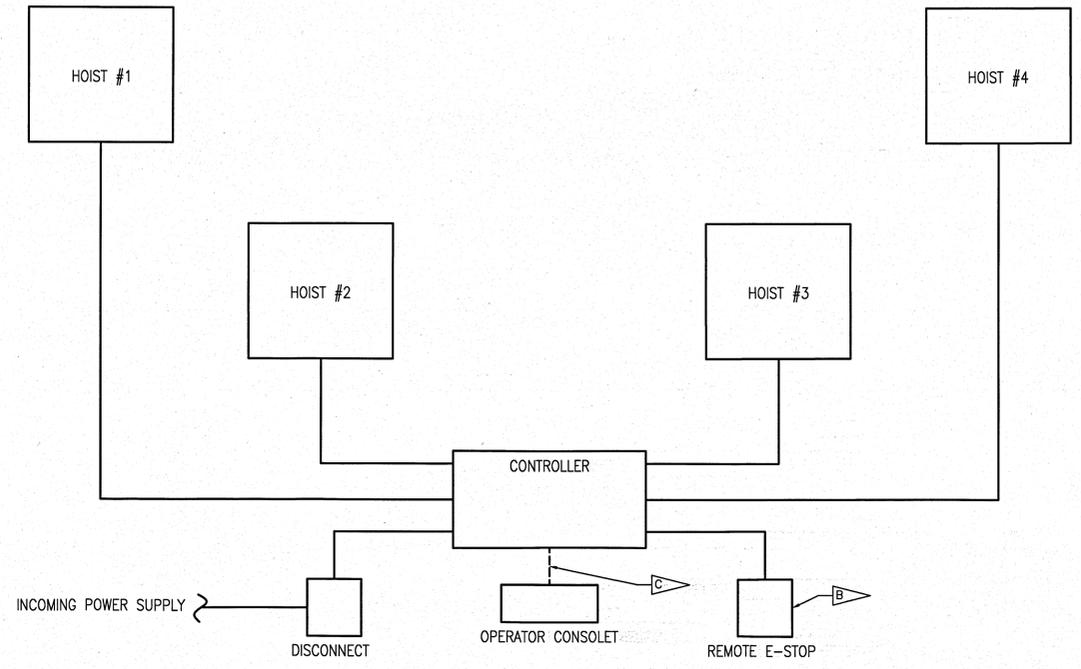
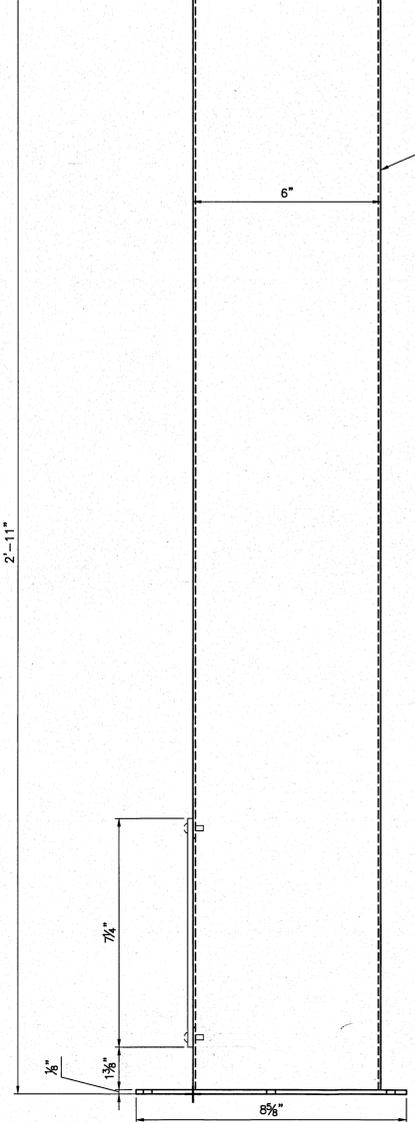
- SPECIFIC NOTES:**
- A. THIS BLOCK DIAGRAM AND ELEVATION IS INTENDED TO DESCRIBE THE ELEMENTARY FUNCTION OF THE VEHICLE AND ELEVATOR HOIST CONTROLS. SEE SPECIFICATION 41 22 23.19 FOR REQUIRED EQUIPMENT PARAMETERS.
  - B. PROVIDE EMERGENCY STOP INTERFACE JUNCTION BOX NEAR HOIST CONTROLLERS, FOR EXTENSION OF CIRCUITRY BY OTHERS.
  - C. PROVIDED EXTENSION OF CONTROL CIRCUITRY TO OPERATOR CONSOLE FOR A FULLY FUNCTIONING SYSTEM. ROUTE CONDUITS FROM THE HOIST CONTROLLER AND ENTER THE CONSOLE PEDestal FROM BELOW TO ELIMINATE TRIPPING HAZARDS AROUND THE OPERATOR INTERFACE. OPERATOR CONSOLE SHALL BE POSITIONED SUCH THAT THE OPERATOR IS FACING THE HOIST WHILE OPERATING.
  - D. THE CONSOLE IS SHOWN WITH LABELING AND OPERATION MODE SELECTION TO INDICATE THE OPERATION OF THE VEHICLE PLATFORM HOISTS. FOR ELEVATOR PLATFORM HOIST THE OPERATION MODE SELECTOR SHALL ONLY BE TWO POSITION (ALL OR INDIVIDUAL). COORDINATE CONSOLE LABELING WITH HOIST BEING CONTROLLED.



TYPICAL OF 3, SELECTOR SWITCHES ((2) 4-POSITION, (1) 3-POSITION) DETERMINE SPEED AND MODE OF OPERATION.

MASTER PUSH BUTTON CONTROL WITH ROCKER ARM OPERATING LEVER.

**TYPICAL HOIST OPERATOR CONSOLE LAYOUT**  
SCALE: NTS



**HOIST CONTROLLER ELEMENTARY BLOCK DIAGRAM**  
SCALE: NTS

SYM	ZONE	DESCRIPTION	DATE	APPROVAL
REVISIONS				
		Reynolds, Smith and Hills, Inc. 115 Alma Blvd, Suite 101 Merritt Island, Florida 32953-4101 (321) 453-0212 (321) 453-0223 FAX www.rsandh.com		
SIGNATURES		DATE		
DRAWN: JOSEPH HAUER		08-20-2013		
CHECKED: DANIEL VIGANT		08-20-2013		
SUBMITTED: ARCHIVING OF RECORDS		11-06-2015		
ST OF LICENSE: FL		68533		
APPROVED: DANIEL VIGANT		11-06-2015		
APPROVED: JAMES NELSON		11-17-2015		
E-641		NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JOHN F. KENNEDY SPACE CENTER, NASA KENNEDY SPACE CENTER, FLORIDA LAUNCH COMPLEX 39 VEHICLE ASSEMBLY BUILDING MODIFY VEHICLE ASSEMBLY BUILDING HIGH BAY 3 FOR SLS - HOISTS HOIST CONTROLLER ELEVATION AND BLOCK DIAGRAM		
FILE NO. 302-6058-043		SIZE: E		REV: 79K39667
PROJ. NO. PCN 99000.5		SHEET 43		OF 43

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