

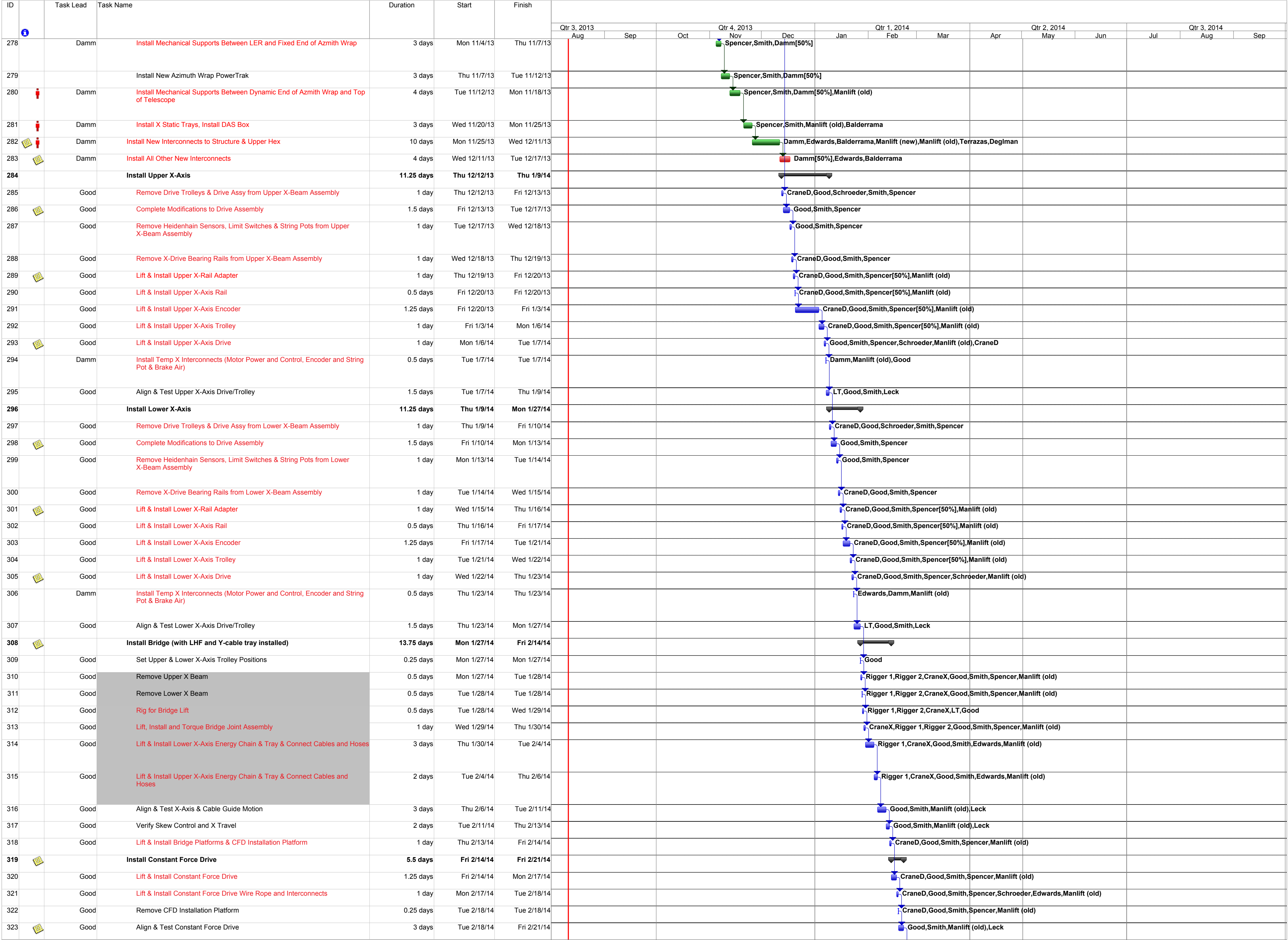
ID		Task Lead	Task Name	Duration	Start	Finish															
							Qtr 3, 2013			Qtr 4, 2013			Qtr 1, 2014			Qtr 2, 2014			Qtr 3, 2014		
							Aug	Sep		Oct	Nov	Dec		Jan	Feb	Mar		Apr	May	Jun	
0	 		WFU & VIRUS I&C	1086.21 days?	Wed 4/21/10	Thu 7/10/14															
1			Phase 1 - Installation: Preliminary Tasks	812 days	Mon 8/2/10	Thu 9/12/13															
2			Purchase Laser Tracker	0 days	Fri 10/29/10	Fri 10/29/10															
3	 		Move Control Room Upstairs	35 days	Mon 10/4/10	Fri 11/19/10															
4	 		Purchase New Manlift	135 days	Mon 8/2/10	Fri 2/4/11															
7	 		Commission High Resolution WFS & Evaluate Performance	85 days	Mon 1/3/11	Fri 4/29/11															
8	 		Identify Interconnects	31 days	Thu 9/1/11	Thu 10/13/11															
9			Determine if 500KVA Transformer Upgrade is Required for Phase 2	156 days	Mon 1/3/11	Mon 8/8/11															
10	 		Deal With Fire Safety Issues	55 days	Mon 1/9/12	Fri 3/23/12															
11			Refine Installation Plan	423 days	Wed 9/1/10	Fri 4/13/12															
17			Unload VSS at HET	13 days	Tue 8/21/12	Thu 9/6/12															
20	 		Prepare LER for WFU	120 days	Mon 1/16/12	Fri 6/29/12															
21	 		Provide Storage Space at MDO	556 days	Fri 10/1/10	Fri 11/16/12															
28	 		Create Salvage Parts List	30 days	Mon 1/14/13	Fri 2/22/13															
29	 		Modify Floor to Accommodate New Manlift	237 days	Tue 11/1/11	Wed 9/26/12															
34	 		Pier Protection	68 days	Mon 1/9/12	Wed 4/11/12															
37	 		Obtain TXDOT & DPS Approval to Close Road to HET	40 days	Mon 4/1/13	Fri 5/24/13															
38	 	Wesley	Inspect Aerogo, SI & GD Satcom Shipments at HET	5 days	Mon 7/8/13	Fri 7/12/13															
39	 		Annulus Floor Protection	99 days	Mon 1/14/13	Thu 5/30/13															
42	 		Primary Mirror Cover	406 days	Mon 1/9/12	Tue 7/30/13															
47	 		Primary Mirror Segment Storage	378 days	Fri 2/17/12	Wed 7/31/13															
52	 		Identify Scaffold to be used in Spectrograph Room	18 days	Wed 5/1/13	Fri 5/24/13															
53	 		Determine if Facility Air System Needs to be Upgraded	268 days	Mon 8/1/11	Wed 8/8/12															
63			Install LER AC & Reroute UER AC Interconnects	702 days	Mon 1/3/11	Thu 9/12/13															
64			Develop Specification & SOW	6 days	Mon 1/3/11	Mon 1/10/11															
65			Identify Vendors & Obtain Quotations	30 days	Tue 1/11/11	Mon 2/21/11															
66	 		Install LER AC & Reroute UER AC Interconnects	30 days	Thu 8/1/13	Thu 9/12/13															
67		Spencer	Paint Lower X-Beam Stiffner C-Channels Black	8 hrs	Mon 7/1/13	Mon 7/1/13															
68		Schoolcraft	Sort out SAMS constraint issues on 2nd from outer ring for mirror removal	12 hrs	Mon 7/29/13	Tue 7/30/13															
69	 	Kriel	HET Goes Offline (Shut Down HET Operations)	0 days	Mon 8/12/13	Mon 8/12/13															
70	 	Barnes	Install Access Road Barrier	1 day	Mon 8/12/13	Mon 8/12/13															
71	 	Barnes	Access Road Shutdown to Visitor Traffic	0 days	Mon 8/12/13	Mon 8/12/13															
72	 	Barnes	Visitor Gallery Shutdown to Visitor Traffic	0 days	Mon 8/12/13	Mon 8/12/13															
73			Phase 2 - Installation: HET is Offline	477.21 days	Mon 7/2/12	Mon 5/19/14															
74		Barnes	Clean Out Hangar 18	15 days	Mon 8/12/13	Fri 8/30/13															
75		Savage	Give AL Lodging Requirements	1 day	Mon 8/12/13	Mon 8/12/13															
76			Disassemble New Tracker at CEM & Ship to HET	36.48 days	Mon 8/12/13	Wed 10/2/13															
77		Good	Start New Tracker Disassembly at CEM	0 days	Mon 8/12/13	Mon 8/12/13															
78	 	Good	Disassemble New Tracker at CEM & Load Trucks	36.48 days	Mon 8/12/13	Wed 10/2/13															
79		Good	Truck 1 loaded, drives to HET & unloaded: UX & LX work platforms, LX support channels, cable trays to be welded to structure, bearing adapter plates, X drive bearing rails, sensors, drive systems & assembly documentation & tooling for these components.	3 days	Fri 9/13/13	Tue 9/17/13															
80		Good	Truck 2 loaded, drives to HET & unloaded: all electrical hardware cables, energy chains and auxiliaries. This will not be second truck ready but it is second truck they need at HET.	3 days	Wed 9/18/13	Fri 9/20/13															
81		Good	Truck 3 loaded, drives to HET & unloaded: Bridge (will be oversized load)	3 days	Fri 9/13/13	Tue 9/17/13															
82		Good	Truck 4 loaded, drives to HET & unloaded: Y-Drive, CFD, PFIP, Hexapod, WFC Test mass	3 days	Tue 9/3/13	Thu 9/5/13															

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						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
83		Good	Truck 5 loaded, drives to HET & unloaded: assembly stands, work platforms, hexapod and bridge assembly tooling and JLG.	3 days	Wed 9/4/13	Fri 9/6/13																	
84		Good	Truck 6 loaded, drives to HET & unloaded: Upper X-Beam	3 days	Thu 9/5/13	Mon 9/9/13																	
85		Good	Truck 7 loaded, drives to HET & unloaded: Lower X-Beam	3 days	Fri 9/6/13	Tue 9/10/13																	
86		Schoolcraft	Primary Mirror	95 days	Mon 8/12/13	Mon 1/6/14																	
87			Remove mirrors from array and place in storage boxes and move boxes into containers	40 hrs	Mon 8/12/13	Fri 8/16/13																	
88			Coat Primary Mirror Segments	90 days	Mon 8/19/13	Mon 1/6/14																	
89			Prepare Telescope, Last night of science	0.15 days	Mon 8/19/13	Mon 8/19/13																	
90			Power Off FLI and FLI Guide Cameras	0.5 hrs	Mon 8/19/13	Mon 8/19/13																	
91			Power Off TTC and DMI	0.1 hrs	Mon 8/19/13	Mon 8/19/13																	
92			Prepare LRS	0.05 days	Mon 8/19/13	Mon 8/19/13																	
93			Power Off Electronics	0.1 hrs	Mon 8/19/13	Mon 8/19/13																	
94			Vacuum Gage Off	0.1 hrs	Mon 8/19/13	Mon 8/19/13																	
95			Ion Pump Off	0.1 hrs	Mon 8/19/13	Mon 8/19/13																	
96			Cryotiger off and warming, test dark started to allow warmup	0.1 hrs	Mon 8/19/13	Mon 8/19/13																	
97			Prepare Apogee	0.08 days	Mon 8/19/13	Mon 8/19/13																	
98			Warm up CCD	0.5 hrs	Mon 8/19/13	Mon 8/19/13																	
99			Power down boost	0.1 hrs	Mon 8/19/13	Mon 8/19/13																	
100		Prepare FIF	0.03 days	Mon 8/19/13	Mon 8/19/13																		
101		Shetrone	Retract and stow both arms (check if this is what we want to remove fibers)	0.1 hrs	Mon 8/19/13	Mon 8/19/13																	
102		Shetrone	Power off FIF	0.1 hrs	Mon 8/19/13	Mon 8/19/13																	
103		Damm	Modify DMI	130.9 days	Tue 7/30/13	Thu 2/13/14																	
104		Fowler	Create & Issue Fogale PO	4 hrs	Tue 7/30/13	Tue 7/30/13																	
105		Fowler	Locate Shipping Box	1 hr	Tue 7/30/13	Tue 7/30/13																	
106		Fowler	Remove DMI Components from UER and PFIP and Ship to Fogale	10 hrs	Mon 8/19/13	Tue 8/20/13																	
107		Fowler	Pack Shipping Boxes	1 hr	Tue 8/20/13	Tue 8/20/13																	
108		Fowler	Ship to Fogale	1 hr	Tue 8/20/13	Tue 8/20/13																	
109		Fowler	DMI Components in Transit from MDO to Fogale	10 days	Tue 8/20/13	Wed 9/4/13																	
110		Fowler	Fogale Modifies DMI Components	30 days	Wed 9/4/13	Wed 10/16/13																	
111		Fowler	DMI Components in Transit from Fogale to MDO	74 days	Wed 10/16/13	Wed 2/12/14																	
112		Damm	Receive DMI from Fogale	0.25 days	Wed 2/12/14	Wed 2/12/14																	
113		Damm	Install DMI Equipment In UER	1 day	Wed 2/12/14	Thu 2/13/14																	
114		Martin	Install Mirror Safety Net	2.5 days	Mon 8/19/13	Wed 8/21/13																	
115		Martin	Install Remaining Net Fixtures	4 hrs	Mon 8/19/13	Mon 8/19/13																	
116		Martin	Install Primary Mirror Cover Safety Net	8 hrs	Mon 8/19/13	Tue 8/20/13																	
117		Martin	Install Tarps Over Primary Mirror Safety Net	4 hrs	Tue 8/20/13	Tue 8/20/13																	
118		Martin	Test CO2 Cleaning Procedures	0.5 days	Wed 8/21/13	Wed 8/21/13																	
119		Balderrama	Install Pier Protection	0.5 days	Mon 8/19/13	Mon 8/19/13																	
120		Balderrama	Confirm use of structure lockout procedure for when pier cover is in use	1 hr	Mon 8/19/13	Mon 8/19/13																	
121		Schoolcraft	Stage Pier Covers for Use	4 hrs	Mon 8/19/13	Mon 8/19/13																	
122		Terrazas	Paint Upper Hex Black	2.56 days	Wed 8/21/13	Mon 8/26/13																	
123		Spencer	Install Pier Cover (Two Layers)	2 hrs	Wed 8/21/13	Wed 8/21/13																	
124		Spencer	Install Large JLG Basket	0.5 hrs	Wed 8/21/13	Wed 8/21/13																	
125		Spencer	Prep inside of Upper Hex for painting and allow to dry	8 hrs	Wed 8/21/13	Thu 8/22/13																	
126		Spencer	Paint inside and bottom of Upper Hex Black (except inside of lower X)	10 hrs	Thu 8/22/13	Mon 8/26/13																	
127		Balderrama	Gather Tools and equipment for PFIP removal	0.63 days	Mon 8/26/13	Mon 8/26/13																	
128		Busby	Move LRS science camera removal fixture to PFIP work area	1 hr	Mon 8/26/13	Mon 8/26/13																	
129		Spencer	Locate all covers for electronics and optics for LRS, PFIP and pellicle	1 hr	Mon 8/26/13	Mon 8/26/13																	
130		Spencer	Gather all tools necessary	2 hrs	Mon 8/26/13	Mon 8/26/13																	
131		Spencer	Move PFIP stands into position, inspect stands and fixturing	1 hr	Mon 8/26/13	Mon 8/26/13																	

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132	Balderrama	Test dome crane, home dome, test critical e-stops including wireless unit	3 hrs	Mon 8/26/13	Mon 8/26/13																
133	Balderrama	Remove PFIP	6.5 days	Mon 8/26/13	Thu 9/5/13																
134	Terrazas	Move structure to eng N and Install all layers of the pier cover	1 hr	Mon 8/26/13	Mon 8/26/13																
135	Balderrama	Raise FIF lifting apparatus with crane	1 hr	Mon 8/26/13	Mon 8/26/13																
136	Balderrama	Remove Equipment	3.38 days	Mon 8/26/13	Fri 8/30/13																
137	Balderrama	Remove FIF to structure platform	3 hrs	Mon 8/26/13	Tue 8/27/13																
138	Balderrama	Remove FIF Ebox to Wooden Platform on Structure	3 hrs	Tue 8/27/13	Tue 8/27/13																
139	Balderrama	Remove wiring harnesses, mics, cal fibers, cryotiger, accessible from the north	4 hrs	Tue 8/27/13	Wed 8/28/13																
140	Martin	Remove LRS/SF1 and cables	4 hrs	Wed 8/28/13	Wed 8/28/13																
141	Balderrama	Remove LRS tophat, lower to cart on floor, stow in lab	2 hrs	Wed 8/28/13	Thu 8/29/13																
142	Balderrama	Remove electronics cable-cameras (guide + acq),stow carefully on dome floor	3 hrs	Thu 8/29/13	Thu 8/29/13																
143	Balderrama	Remove FLI equipment	3 hrs	Thu 8/29/13	Thu 8/29/13																
144	Balderrama	Decable and lower snuffy box to ground	3 hrs	Thu 8/29/13	Fri 8/30/13																
145	Balderrama	Decable PFIP	0.75 days	Fri 8/30/13	Fri 8/30/13																
146	Balderrama	Remove wiring harnesses, mics, accessible from the south	3 hrs	Fri 8/30/13	Fri 8/30/13																
147	Balderrama	Tie back harness so no interference with tracker motion	3 hrs	Fri 8/30/13	Fri 8/30/13																
148	Balderrama	Lift PFIP	4.5 days	Wed 8/28/13	Thu 9/5/13																
149	Terrazas	Rotate telescope to the south in a clockwise direction, must be clockwise to enable moving counter clockwise out of the way for PFIP lower	0.5 hrs	Fri 8/30/13	Fri 8/30/13																
150	Balderrama	Raise lifting fixture	2 hrs	Tue 9/3/13	Tue 9/3/13																
151	Balderrama	Attach to PFIP	2 hrs	Tue 9/3/13	Tue 9/3/13																
152	Balderrama	Insert stop blocks	2 hrs	Tue 9/3/13	Tue 9/3/13																
153	Balderrama	Loosen bolts	2 hrs	Tue 9/3/13	Tue 9/3/13																
154	Balderrama	Take weight of PFIP on crane	2 hrs	Wed 9/4/13	Wed 9/4/13																
155	Balderrama	remove bolts	1 hr	Wed 9/4/13	Wed 9/4/13																
156	Balderrama	Lift PFIP	1 hr	Wed 9/4/13	Wed 9/4/13																
157	Balderrama	Move PFIP to end of crane travel	0.5 hrs	Wed 9/4/13	Wed 9/4/13																
158	Balderrama	Rotate telescope out of the way in counter clockwise direction	0.5 hrs	Wed 9/4/13	Wed 9/4/13																
159	Balderrama	Lower PFIP to rotation cart on dome floor	0.5 hrs	Wed 9/4/13	Wed 9/4/13																
160	Balderrama	Rotate PFIP vertical	0.5 hrs	Wed 9/4/13	Wed 9/4/13																
161	Balderrama	Move PFIP to back side of structure to be out of drop zone	0.5 hrs	Wed 9/4/13	Wed 9/4/13																
162	Balderrama	Readjust lifting straps	0.5 hrs	Wed 9/4/13	Wed 9/4/13																
163	Balderrama	Lift PFIP out of rotation stand	0.5 hrs	Wed 9/4/13	Wed 9/4/13																
164	Balderrama	Replace rotation stand with fixed stand	0.5 hrs	Wed 9/4/13	Wed 9/4/13																
165	Balderrama	Lower into fixed stand	0.5 hrs	Thu 9/5/13	Thu 9/5/13																
166	Balderrama	Ground FIF Work	2.38 days	Wed 8/28/13	Fri 8/30/13																
167	Martin	Remove the HRS probe head from HRS probe arm	4 hrs	Wed 8/28/13	Thu 8/29/13																
168	Martin	Thread all HRS fibers through pintel bearing and place on top of HRS enclosure	6 hrs	Thu 8/29/13	Thu 8/29/13																
169	Martin	Cut MRS fibers off the MRS fiber probes	3 hrs	Thu 8/29/13	Fri 8/30/13																
170	Martin	Thread all MRS fibers through pintel bearing and place on top of MRS enclosure	6 hrs	Fri 8/30/13	Fri 8/30/13																
171	Balderrama	Ground PFIP Work	3.75 days	Thu 9/5/13	Tue 9/10/13																
172	Martin	Lower LRS Camera (locate camera holder and fixtures)	2 hrs	Thu 9/5/13	Thu 9/5/13																
173	Martin	Lift LRS out from PFIP (Locate holder)	2 hrs	Thu 9/5/13	Thu 9/5/13																
174	Martin	Stow LRS to be shipped to Austin	8 hrs	Thu 9/5/13	Fri 9/6/13																
175	Balderrama	Remove Snuffy Box Components	1.25 days	Thu 9/5/13	Fri 9/6/13																
176	Fowler	Remove Snuffy Box Electronics	6 hrs	Thu 9/5/13	Thu 9/5/13																
177	Fowler	Organize and Stow Electronics	4 hrs	Thu 9/5/13	Fri 9/6/13																
178	Balderrama	Remove PFIP Components	1.25 days	Fri 9/6/13	Mon 9/9/13																
179	Martin	Remove Optical Bench	2 hrs	Fri 9/6/13	Fri 9/6/13																

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180		Martin	Removed Moving Baffle	1 hr	Fri 9/6/13	Fri 9/6/13			Martin												
181		Martin	Remove Counterweights	1 hr	Fri 9/6/13	Mon 9/9/13			Martin												
182		Martin	Remove Cal Screen	1 hr	Mon 9/9/13	Mon 9/9/13			Balderrama,Martin												
183		Martin	Remove Floating Baffle	1 hr	Mon 9/9/13	Mon 9/9/13			Martin												
184		Martin	Disassemble Optical Bench	4 hrs	Mon 9/9/13	Mon 9/9/13			Martin												
185			Remove M2-M5	1 day	Mon 9/9/13	Tue 9/10/13															
186		Martin	Remove Alignment Fixture	2 hrs	Mon 9/9/13	Tue 9/10/13			Martin,Schoolcraft,Busby												
187		Martin	Remove M2 through M5	6 hrs	Tue 9/10/13	Tue 9/10/13			Martin,Schoolcraft,Busby												
188			Remove Obsolete Electronics & Computer Equipment, Pack & Move to Storage Area	20.94 days	Mon 9/9/13	Mon 10/7/13															
189			Remove Obsolete Control Room Equipment & Pack	1.88 days	Thu 9/12/13	Mon 9/16/13															
190		Fowler	Remove Tracker Diagnostic System	1 hr	Thu 9/12/13	Thu 9/12/13			Lavender,Terrazas,Balderrama,Fowler												
191		Fowler	Remove TDS Fiber Cable (Remove or Reroute to LER?)	7 hrs	Thu 9/12/13	Fri 9/13/13			Lavender,Terrazas,Balderrama,Fowler												
192		Fowler	Remove Tracker Power & Reset Switch Cables	7 hrs	Fri 9/13/13	Mon 9/16/13			Terrazas,Balderrama,Fowler,Lavender												
193			Remove Obsolete UER Equipment & Pack	1.5 days	Mon 9/16/13	Tue 9/17/13															
194		Fowler	TCS (Spares)	8 hrs	Mon 9/16/13	Tue 9/17/13			Fowler												
195		Fowler	Baffle Computer (Spare for Smoke)	1 hr	Tue 9/17/13	Tue 9/17/13			Fowler												
196		Fowler	Baffle Electronics (Storage)	2 hrs	Tue 9/17/13	Tue 9/17/13			Fowler												
197		Fowler	Coma (Spare)	1 hr	Tue 9/17/13	Tue 9/17/13			Fowler												
198			Remove LRS UER Equipment (Return to Gary Hill)	1.63 days	Tue 9/17/13	Thu 9/19/13															
199		Fowler	LRS Computer, External Disk, RS232 Breakout	1 hr	Tue 9/17/13	Tue 9/17/13			Fowler,Lavender,Terrazas												
200		Fowler	HP Power Supplies	1 hr	Tue 9/17/13	Tue 9/17/13			Fowler,Lavender,Terrazas												
201		Fowler	Controller	1 hr	Tue 9/17/13	Tue 9/17/13			Fowler,Lavender,Terrazas												
202			Optical Bench	1.25 days	Tue 9/17/13	Thu 9/19/13															
203		Fowler	Remove & Store Calibration Equipment	1 hr	Tue 9/17/13	Wed 9/18/13			Fowler,Lavender,Terrazas												
204		Fowler	Remove Legs	1 hr	Wed 9/18/13	Wed 9/18/13			Fowler,Lavender,Terrazas												
205		Fowler	Remove Table Top (Heavy)	8 hrs	Wed 9/18/13	Thu 9/19/13			Fowler,Lavender,Terrazas												
206			Remove All Obsolete Igloo Cabling & Pack	1.38 days	Thu 9/19/13	Fri 9/20/13															
207		Fowler	Crockett (Spares)	1 hr	Thu 9/19/13	Thu 9/19/13			Terrazas,Fowler												
208		Fowler	Dinah (with Fiber to USB Converter)(Spares)	1 hr	Thu 9/19/13	Thu 9/19/13			Terrazas,Fowler												
209		Fowler	Fiber (Storage & Disposal in Austin)	1 hr	Thu 9/19/13	Thu 9/19/13			Terrazas,Fowler												
210		Fowler	Tracker Electronics (Do We Need to Clear This Space?)	8 hrs	Thu 9/19/13	Fri 9/20/13			Terrazas,Fowler												
211		Balderrama	Remove LRS CryoTiger and lines	4 hrs	Tue 9/17/13	Wed 9/18/13			Balderrama,PhysicalPlant1,PhysicalPlant2												
212		Damm	Remove Obsolete Emergency Breaker Panel Room Equipment & Pack	16 hrs	Thu 10/3/13	Mon 10/7/13			Edwards,Damm												
213			Modify HET Structure	3 days	Mon 9/9/13	Wed 9/11/13															
214		Wesley	Weld Mounts for Temporary Lower X-Beam Platform then Lift & Install	1.5 days	Mon 9/9/13	Tue 9/10/13			Wesley,CraneD,Manlift (old),WelderCertified,WeldHelp,PhysicalPlant1												
215		Wesley	Weld Mounts for Temporary Upper X-Beam Platform then Lift & Install	1.5 days	Tue 9/10/13	Wed 9/11/13			Wesley,CraneD,Manlift (old),WelderCertified,WeldHelp,PhysicalPlant1												
216			Strip Upper Hex Equipment	6.25 days	Wed 9/18/13	Thu 9/26/13															
217		Balderrama	Remove E-stop on Tracker Y drive	2 hrs	Wed 9/18/13	Wed 9/18/13			Tracker,Balderrama												
218		Spencer	Secure Y with straps at balance point (center)	2 hrs	Wed 9/18/13	Wed 9/18/13			Tracker,Busby,Schoolcraft,Spencer												
219		Balderrama	Drain glycol from ground and force air through system	8 hrs	Wed 9/18/13	Thu 9/19/13			Tracker,Balderrama,Spencer												
220		Spencer	Remove Upper-X Drive, Encoder, End Stops	8 hrs	Thu 9/19/13	Fri 9/20/13			Tracker,Structure,Manlift (old),Spencer,PhysicalPlant3,PhysicalPlant4												
221		Spencer	Remove Lower-X Drive, Encoder, End Stops	8 hrs	Fri 9/20/13	Mon 9/23/13			Structure,Tracker,Manlift (old),Spencer,PhysicalPlant3,PhysicalPlant4												
222		Spencer	Remove Upper-X Cable Wrap	9 hrs	Mon 9/23/13	Wed 9/25/13			Structure,Tracker,Manlift (old),Busby,Schoolcraft,Spencer,PhysicalPlant3												
223		Spencer	Remove Lower-X Cable Wrap	9 hrs	Wed 9/25/13	Thu 9/26/13			Manlift (old),Structure,Tracker,Busby,Schoolcraft,PhysicalPlant3,PhysicalPlant2												
224		Spencer	Remove Snuffy Hoses Along Back of Structure Down to Igloo	4 hrs	Thu 9/26/13	Thu 9/26/13			Manlift (old),Structure,Tracker,Busby,Schoolcraft,PhysicalPlant2,Spencer												
225			Remove Obsolete Interconnects	25 days	Thu 9/26/13	Thu 10/31/13															
226		Balderrama	Obtain Scaffold & Install in Spectrograph Room	2 days	Thu 9/26/13	Mon 9/30/13			PhysicalPlant2,PhysicalPlant3												
227		Balderrama	Remove Obsolete Interconnects from Structure & Upper Hex	16 hrs	Thu 9/26/13	Mon 9/30/13			Balderrama,PhysicalPlant5,PhysicalPlant4												
228		Balderrama	Remove All Obsolete Interconnects from Glycol, Power & Air Systems on Ground	10 hrs	Mon 9/30/13	Tue 10/1/13			Balderrama,PhysicalPlant2												
229		Fowler	Pack Obsolete Interconnects & Move to Storage Area	4 hrs	Tue 10/1/13	Wed 10/2/13			Schoolcraft,Busby,Fowler												
230		Terrazas	Pack Obsolete Equipment & Move to Storage Area	16 hrs	Wed 10/2/13	Fri 10/4/13			TO,Terrazas,Fowler,Schoolcraft												

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231			Install VIRUS Spectrograph Enclosure Support Structure	25 days	Thu 9/26/13	Thu 10/31/13																	
232		Wesley	Install Air Bearing & Corner Supports to Base 1	1 day	Thu 9/26/13	Fri 9/27/13			Wesley, Spencer														
233		Wesley	Install Air Bearing & Corner Supports to Base 2	1 day	Fri 9/27/13	Mon 9/30/13			Wesley, Spencer														
234		Wesley	Install Front Cross Member	2 days	Mon 9/30/13	Wed 10/2/13			Rigger 1, Rigger 2, Wesley, Spencer														
235		Wesley	Secure Materials for Securing Rear Cross Member	1 day	Mon 9/30/13	Tue 10/1/13			PhysicalPlant1														
236		Wesley	Install Rear Cross Member	3 days	Wed 10/2/13	Mon 10/7/13			Rigger 1, Rigger 2, Wesley, Spencer														
237		Wesley	Move Lower Base 1 to HET	0.5 days	Mon 10/7/13	Tue 10/8/13			PhysicalPlant4, PhysicalPlant5, Wesley														
238		Wesley	Power Wash Lower Base 1 then Put on Pier & Secure to HET Structure	0.5 days	Tue 10/8/13	Tue 10/8/13			Rigger 1, Rigger 2, CraneX, Wesley, Spencer														
239		Wesley	Mover Lower Base 2 to HET	0.5 days	Tue 10/8/13	Tue 10/8/13			PhysicalPlant4, PhysicalPlant5														
240		Wesley	Power Wash Lower Base 2 then Put on Pier & Secure to HET Structure	0.5 days	Tue 10/8/13	Wed 10/9/13			Rigger 1, Rigger 2, CraneX, Wesley, Spencer														
241		Schroeder	Remove Old Tracker Bridge With Carriage, Hexapod & Rho Stage	16 hrs	Wed 10/9/13	Fri 10/11/13			CraneX, Rigger 1, Rigger 2, Schroeder, Smith, Spencer, Manlift (old), Manlift (new), Wesley														
242		Schroeder	Put Tracker Upper X-Beam Assembly Into Dome	0.5 days	Fri 10/11/13	Fri 10/11/13			CraneX, Rigger 1, Rigger 2, Schroeder, Smith, Spencer, Manlift (old), Manlift (new), Wesley														
243		Schroeder	Put Tracker Lower X-Beam Assembly Into Dome	0.5 days	Fri 10/11/13	Mon 10/14/13			CraneX, Rigger 1, Rigger 2, Schroeder, Smith, Spencer, Manlift (old), Manlift (new), Wesley														
244		Wesley	Install VIRUS Support Structure Interfaces	3 days	Mon 10/14/13	Thu 10/17/13			Welder, WeldHelp, Wesley, Spencer														
245		Wesley	Install Base 1 Linkages to Telescope Structure	0.5 days	Thu 10/17/13	Thu 10/17/13			Wesley, Spencer														
246		Wesley	Install Base 1 Overturn Prevention Members	1 day	Thu 10/17/13	Fri 10/18/13			Wesley, Spencer														
247		Wesley	Install Base 2 Linkages to Telescope Structure	0.5 days	Fri 10/18/13	Mon 10/21/13			Wesley, Spencer														
248		Wesley	Install Base 2 Overturn Prevention Members	1 day	Mon 10/21/13	Tue 10/22/13			Wesley, Spencer														
249		Wesley	Install Front & Rear Stabilizer Bars	1.5 days	Tue 10/22/13	Wed 10/23/13			CraneD, Welder, Wesley, Spencer														
250		Edmundo	Install Air Bearing Air Supply Equipment	10 days	Tue 10/8/13	Tue 10/22/13			Balderrama, PhysicalPlant1														
251		Wesley	Remove Pier Cover, Tune & Test Azimuth Axis	3 days	Wed 10/23/13	Mon 10/28/13			Wesley, Spencer, Damm														
252		Wesley	Install Larger Air Line for Spectrograph Room Air Tanks if Necessary	3 days	Mon 10/28/13	Thu 10/31/13			PhysicalPlant1, PhysicalPlant4														
253			Remove Old Tracker X-Beam Equipment	8.5 days	Mon 10/28/13	Fri 11/8/13																	
254		Schroeder	Clean & Inspect Upper-X Critical Surfaces	6 hrs	Mon 10/28/13	Tue 10/29/13			Smith, Schroeder, Spencer														
255		Schroeder	Measure Upper Hex X-rail Adapter Surface	1 day	Tue 10/29/13	Wed 10/30/13			Schroeder, Smith, Spencer														
256		Schroeder	Clean & Inspect Lower-X Critical Surfaces	6 hrs	Wed 10/30/13	Thu 10/31/13			Smith, Schroeder, Spencer														
257		Schroeder	Measure Lower Hex X-rail Adapter Surface	1 day	Thu 10/31/13	Fri 11/1/13			Schroeder, Smith, Spencer														
258		Schroeder	Finish X-rail Adapter & Upper Hex Machining	5 days	Fri 11/1/13	Fri 11/8/13			Schroeder, Good[25%], Manlift (old)														
259			Paint Upper Hex inside of lower X Black	1.63 days	Fri 11/1/13	Mon 11/4/13																	
260		Spencer	Prep Inside of Upper Hex for Painting and Allow to Dry	8 hrs	Fri 11/1/13	Mon 11/4/13			Manlift (old), Structure, Tracker, Smith, Schoolcraft, Busby														
261		Spencer	Paint Inside of Upper Hex Black	5 hrs	Mon 11/4/13	Mon 11/4/13			Manlift (old), Structure, Tracker, Smith, Schoolcraft, Busby														
262			Install New Electronics & Computer Equipment	20.56 days	Fri 10/4/13	Fri 11/1/13																	
263		Fowler	Install New UER Equipment	7 days	Fri 10/4/13	Tue 10/15/13			Fowler, Lavender														
264		Fowler	Install New Control Room Equipment	5 days	Tue 10/15/13	Tue 10/22/13			Fowler, Lavender														
265			Install New Igloo Equipment	7 days	Thu 10/24/13	Fri 11/1/13																	
266			Install New Breaker Panel Room Equipment	14 days	Fri 10/4/13	Thu 10/24/13			ElectricalContractor														
267			Tracker Upgrade	103.63 days	Tue 10/22/13	Tue 4/1/14																	
268		Balderrama	Install Tracker Cabinets in LER Including LER Interconnects	7 days	Tue 10/22/13	Thu 10/31/13			Balderrama, Edwards, Fowler														
269			Perform Welding Operations on Upper Hex	26 days	Mon 11/4/13	Thu 12/12/13																	
270		Good	Define Coordinate System for Future Machining and Installation Steps (set-up laser tracker and reference points to enable tie-in from upper hex to lower hex (PM) and base square, perform measurements of upper hex))	5 days	Mon 11/4/13	Mon 11/11/13			LT, Manlift (old), Good[75%], Wesley														
271		Good	Weld C-Channel to Lower X-Beam	5 days	Mon 11/11/13	Mon 11/18/13			Welder, WeldHelp, CraneD, Good, Manlift (new), Manlift (old)														
272		Good	Weld Stops, Tray Hangers, Bearing Mounts, Drive Mounts & Stops (Includes Welding for Cable Management)	10 days	Mon 11/18/13	Wed 12/4/13			Welder, WeldHelp, LT, Good, Manlift (new), Manlift (old)														
273		Good	Measure As-Built Locations of All Weldments	1 day	Wed 12/4/13	Thu 12/5/13			LT, Good, Manlift (old), Schroeder														
274		Good	Perform Machining Tasks on Upper Hex	2 days	Thu 12/5/13	Mon 12/9/13			Good, Schroeder, PhysicalPlant2, Manlift (old)														
275		Good	Prepare & Paint Modified Areas of Structure	3 days	Mon 12/9/13	Thu 12/12/13			Good, Schroeder, Manlift (old), PhysicalPlant3														
276		Good	Clean-Up	3 days	Mon 12/9/13	Thu 12/12/13			PhysicalPlant1, PhysicalPlant2														
277			Install HET Structure Interconnect Management Hardware	15 days	Mon 11/4/13	Mon 11/25/13																	



HX0017-01-XX SYSTEM I&C PLAN (R102 8-7-2013 DELAYED VSS INSTALLATION).mpp																				
ID		Task Lead	Task Name	Duration	Start	Finish	Qtr 3, 2013		Qtr 4, 2013			Qtr 1, 2014			Qtr 2, 2014			Qtr 3, 2014		
							Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
376		Vattiat	Align LIP to WFC	1 day	Mon 2/10/14	Mon 2/10/14														
377		Vattiat	Test PFIP in Low Temperature Enviornment	5 days	Tue 2/11/14	Mon 2/17/14														
378			Install WFC Assembly	12.4 days	Tue 4/8/14	Thu 4/24/14														
379		Good	Take Down PFIP/Strongback/Rho Assembly	1 day	Tue 4/8/14	Wed 4/9/14									CraneD,Good,Schroeder,Smith,Spencer,Manlift (old)					
380		Good	Take Down WFC Test Mass	0.5 days	Wed 4/9/14	Wed 4/9/14									CraneD,Good,Schroeder,Smith,Spencer,Manlift (old)					
381		Vattiat	Install DMI, TTCAM & WFC Instrumentation Panel	1 day	Tue 4/8/14	Wed 4/9/14									Vattiat,Martin					
382		Vattiat	Install PPA Mount on Strongback	1 day	Wed 4/9/14	Thu 4/10/14									Vattiat,Good,Smith					
383		Good	Lift WFC & Secure to Temporary Supports	1 day	Thu 4/10/14	Fri 4/11/14									CraneD,Good,Schroeder,Smith,Spencer,Vattiat,Manlift (old)					
384		Good	Lift PFIP/Strongback/Rho Assembly & Secure to Hexapod	1 day	Fri 4/11/14	Mon 4/14/14									CraneD,Good,Schroeder,Smith,Spencer,Vattiat,Manlift (old)					
385		Good	Secure WFC to Strongback, Connect Air Purge & Interconnects	0.5 days	Mon 4/14/14	Tue 4/15/14									CraneD,Good,Smith,Vattiat,Manlift (old)					
386		Vattiat	Check Distance Between WFC SIRP & M1	0.5 days	Tue 4/15/14	Tue 4/15/14									LT,Vattiat,Smith,Manlift (old)					
387		Vattiat	Install PFIP Lower Electrical Boxes	0.5 days	Tue 4/15/14	Wed 4/16/14									CraneD,Vattiat,Schroeder,Smith,Manlift (old)					
388		Vattiat	Install Rho & PFIP Interconnects	2 days	Wed 4/16/14	Fri 4/18/14									CraneD,Schroeder,Smith,Manlift (old)					
389		Good	Test Rho Axis	1 day	Fri 4/18/14	Mon 4/21/14									LT,Vattiat,Good,Smith,Manlift (old),Leck					
390		Good	Conduct Motion & Clearance Tests	3 days	Mon 4/21/14	Thu 4/24/14									LT,Good,Smith,Vattiat,Manlift (old),Leck					
391			Install Single Port Focal Plane Assembly	2 days	Thu 4/24/14	Mon 4/28/14														
392		Vattiat	Lift Focal Plane Assembly & Secure to Rho Stage	0.5 days	Thu 4/24/14	Thu 4/24/14									CraneD,Vattiat,Smith,Spencer					
393		Vattiat	Install Focal Plane Assembly Interconnects	0.5 days	Thu 4/24/14	Fri 4/25/14									CraneD,Vattiat,Smith,Spencer,Manlift (old)					
394		Vattiat	Test SWLIP & PFIP Actuators/Sensors	1 day	Fri 4/25/14	Mon 4/28/14									Vattiat,Smith,Spencer,Manlift (old)					
395			Start-Up Facility	4.5 days	Mon 4/28/14	Fri 5/2/14														
396		Schroeder	Remove Tarps from Primary Mirror Safety Net	4 hrs	Mon 4/28/14	Mon 4/28/14									Manlift (old),Structure,Busby,Schoolcraft					
397		Schroeder	Remove Primary Mirror Safety Net	8 hrs	Mon 4/28/14	Tue 4/29/14									Manlift (old),Structure,Tracker,Fowler,Smith,Martin,Busby,Schoolcraft,Balderrama					
398			Remove Annulus Floor Steel Plate	0.5 days	Tue 4/29/14	Wed 4/30/14									CraneD,Schroeder,Smith,Spencer					
399		Schroeder	Remove Spectrograph Room Scaffold	0.5 days	Wed 4/30/14	Wed 4/30/14									Schroeder,Smith,Spencer					
400		Schroeder	Cleanup Facility	2 days	Wed 4/30/14	Fri 5/2/14									Schroeder,Smith,Spencer					
401		Damm	Retest All Safety Equipment	1 day	Tue 4/29/14	Wed 4/30/14									Damm,Balderrama,Good					
402			Install Primary Mirror Segments	12.25 days	Wed 4/30/14	Mon 5/19/14														
403		Martin	Wash Primary Mirror	1 day	Wed 4/30/14	Thu 5/1/14									Martin,Busby,Schoolcraft,Manlift (new),Structure					
404		Martin	Install Segments	11.25 days	Thu 5/1/14	Mon 5/19/14									Martin,Busby,Schoolcraft,CraneD					
405			Upgrade Instrument Air System	162 days	Thu 8/1/13	Tue 4/1/14														
406		Good	Tracker Purge Air Flow Rate Measured @ CEM	0 days	Thu 8/1/13	Thu 8/1/13														
407		Perry	VIRUS Spectrograph Enclosure Purge Air Flow Rate Measured @ TAMU	0 days	Mon 1/13/14	Mon 1/13/14														
408		Vattiat	Measure PFIP Purge Air Flow Rate @ RLM	1 day	Mon 1/13/14	Mon 1/13/14									Vattiat					
409		Savage	Specify Instrument Air System Requirements	5 days	Wed 1/22/14	Tue 1/28/14									Savage					
410		Savage	Purchase Equipment	35 days	Wed 1/29/14	Tue 3/18/14									Savage[5%]					
411		Balderrama	Install & Test Equipment	10 days	Wed 3/19/14	Tue 4/1/14									PhysicalPlant1,PhysicalPlant2,Damm,Balderrama					
412			Install Glycol Cooling Equipment	407 days	Mon 7/2/12	Fri 2/7/14														
413			Specify Requirements	94 days	Mon 7/2/12	Thu 11/8/12														
414			Perform Design	188 days	Fri 11/9/12	Wed 7/31/13														
415			Identify Vendors, Obtain Bids, & Issue POs	30 days	Thu 8/1/13	Thu 9/12/13														
416			Prepare Ground	23 days	Fri 9/13/13	Tue 10/15/13														
417			Pour Slab Concrete	23 days	Wed 10/16/13	Fri 11/15/13														
418			Purchase Equipment & Deliver to MDO	55 days	Fri 9/13/13	Mon 12/2/13														
419			Install & Commission Equipment	40 days	Tue 12/3/13	Fri 2/7/14														
420			Glycol Equipment Installation Complete	0 days	Fri 2/7/14	Fri 2/7/14														
421			Phase 3 - Commission Telescope	44 days	Wed 5/7/14	Thu 7/10/14														
422			First order mount model generation	2 days	Wed 5/7/14	Fri 5/9/14														
423			Perform 97 point mount model data collection	1 day	Wed 5/7/14	Thu 5/8/14														
424			Mount model data analysis and implement in TCS	0.5 days	Thu 5/8/14	Thu 5/8/14														
425			Confirm mount model implementation	0.5 days	Thu 5/8/14	Fri 5/9/14														
426			Align PFIP to WFC	3 days	Fri 5/9/14	Wed 5/14/14														
427			Set up VAT in mount on bottom of WFC	0.25 days	Fri 5/9/14	Fri 5/9/14														

ID	Task Lead	Task Name	Duration	Start	Finish																
						Qtr 3, 2013			Qtr 4, 2013			Qtr 1, 2014			Qtr 2, 2014			Qtr 3, 2014			
						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
428		Check VAT alignment against M4 center reference	0.25 days	Fri 5/9/14	Fri 5/9/14																
429		Set up LT in PPA mount	0.25 days	Fri 5/9/14	Fri 5/9/14																
430		Align FPA to WFC with fixed hexapod leg adjustment	1.5 days	Fri 5/9/14	Tue 5/13/14																
431		Mount PPA first light assembly	0.25 days	Tue 5/13/14	Tue 5/13/14																
432		Align PPA to WFC	0.5 days	Tue 5/13/14	Wed 5/14/14																
433		Check deflections of FPA with tracker position	1 day	Wed 5/14/14	Thu 5/15/14																
434		Deflection of FPA as a function of tracker position (hexapod tilt)	0.5 days	Wed 5/14/14	Wed 5/14/14																
435		Deflection of FPA as a function of rho axis angle	0.5 days	Wed 5/14/14	Thu 5/15/14																
436		Align WFC to M1	1 day	Thu 5/15/14	Fri 5/16/14																
437		Swap orientation of VAT to point at M1 center segment	0.1 days	Thu 5/15/14	Thu 5/15/14																
438		Set up LT on carriage mount	0.15 days	Thu 5/15/14	Thu 5/15/14																
439		Adjust tracker position until centered on M1 and normal; record offsets in TCS	0.75 days	Thu 5/15/14	Fri 5/16/14																
440		Align DMI and TTCAM	2 days	Fri 5/16/14	Tue 5/20/14																
441		Stack primary mirror using SAMS in CCAS tower	0.25 days	Fri 5/16/14	Fri 5/16/14																
442		Adjust TTCAM head to get return spot and check focus	0.75 days	Fri 5/16/14	Mon 5/19/14																
443		Stack primary mirror using SAMS in CCAS tower	0.25 days	Mon 5/19/14	Mon 5/19/14																
444		Adjust DMI primary head to get return	0.25 days	Mon 5/19/14	Mon 5/19/14																
445		Adjust two secondary DMI heads to get return	0.5 days	Mon 5/19/14	Tue 5/20/14																
446		Refine mount model with DMI & TTCAM	1.7 days	Tue 5/20/14	Wed 5/21/14																
447		Stack primary mirror using SAMS in CCAS tower	0.1 days	Tue 5/20/14	Tue 5/20/14																
448		Use DMI and TTCAM to record deviations from sphere over 97 points	0.5 days	Tue 5/20/14	Tue 5/20/14																
449		Mount model data analysis and implement in TCS	0.5 days	Tue 5/20/14	Wed 5/21/14																
450		Stack primary mirror using SAMS in CCAS tower	0.1 days	Wed 5/21/14	Wed 5/21/14																
451		Confirm mount model implementation	0.5 days	Wed 5/21/14	Wed 5/21/14																
452		Acquire star field for first time	1.05 days	Wed 5/21/14	Thu 5/22/14																
453		Set up VAT in mount below WFC	0.1 days	Wed 5/21/14	Thu 5/22/14																
454		Stack primary mirror using SAMS in CCAS tower	0.1 days	Thu 5/22/14	Thu 5/22/14																
455		observe star field at center of track to determine pointing center of WFC axis	0.25 days	Thu 5/22/14	Thu 5/22/14																
456		Enter zero point offsets in mount model and confirm pointing	0.25 days	Thu 5/22/14	Thu 5/22/14																
457		Remove VAT	0.1 days	Thu 5/22/14	Thu 5/22/14																
458		Check pointing with ACAM - FIRST LIGHT!	0.25 days	Thu 5/22/14	Thu 5/22/14																
459		Install LIP	0.25 days	Thu 5/22/14	Fri 5/23/14																
460		On sky pointing mount model	4 days	Fri 5/23/14	Fri 5/30/14																
461		Measure pointing offsets for stars near track center at multiple azimuths (declinations)	2 days	Fri 5/23/14	Wed 5/28/14																
462		Measure pointing offsets for stars over range of track at 5 azimuths	2 days	Wed 5/28/14	Fri 5/30/14																
463		Commission astronomer tools	1 day	Fri 5/30/14	Mon 6/2/14																
464		Commission CWFS and AWFS	4 days	Mon 6/2/14	Fri 6/6/14																
465		Observe target with AWFS mounted in IHMP and CWFS to determine focus offset	0.5 days	Mon 6/2/14	Mon 6/2/14																
466		Evaluate focus of ACAM (check with different filters)	0.5 days	Mon 6/2/14	Tue 6/3/14																
467		Adjust CWFS focus shim if needed	1 day	Tue 6/3/14	Wed 6/4/14																
468		Evaluate performance of focus metrology loop	1 day	Wed 6/4/14	Thu 6/5/14																
469		Evaluate performace of TTCAM metrology loop	1 day	Thu 6/5/14	Fri 6/6/14																
470		Commission ACAM, Guiders and OWFS	3 days	Fri 6/6/14	Wed 6/11/14																
471		Evaluate plate scale and rotation of ACAM field	0.5 days	Fri 6/6/14	Fri 6/6/14																
472		Check coordinate system for GPA	1 day	Fri 6/6/14	Mon 6/9/14																
473		Commission GP guiding	1 day	Mon 6/9/14	Tue 6/10/14																
474		Calibrate GP and WFS against AWF and CWFS	0.5 days	Tue 6/10/14	Wed 6/11/14																
475		Contingency take-down of FPA to adjust GPA or other subsystems	3 days	Wed 6/11/14	Mon 6/16/14																
476		Verification of adjustments	1 day	Mon 6/16/14	Tue 6/17/14																

