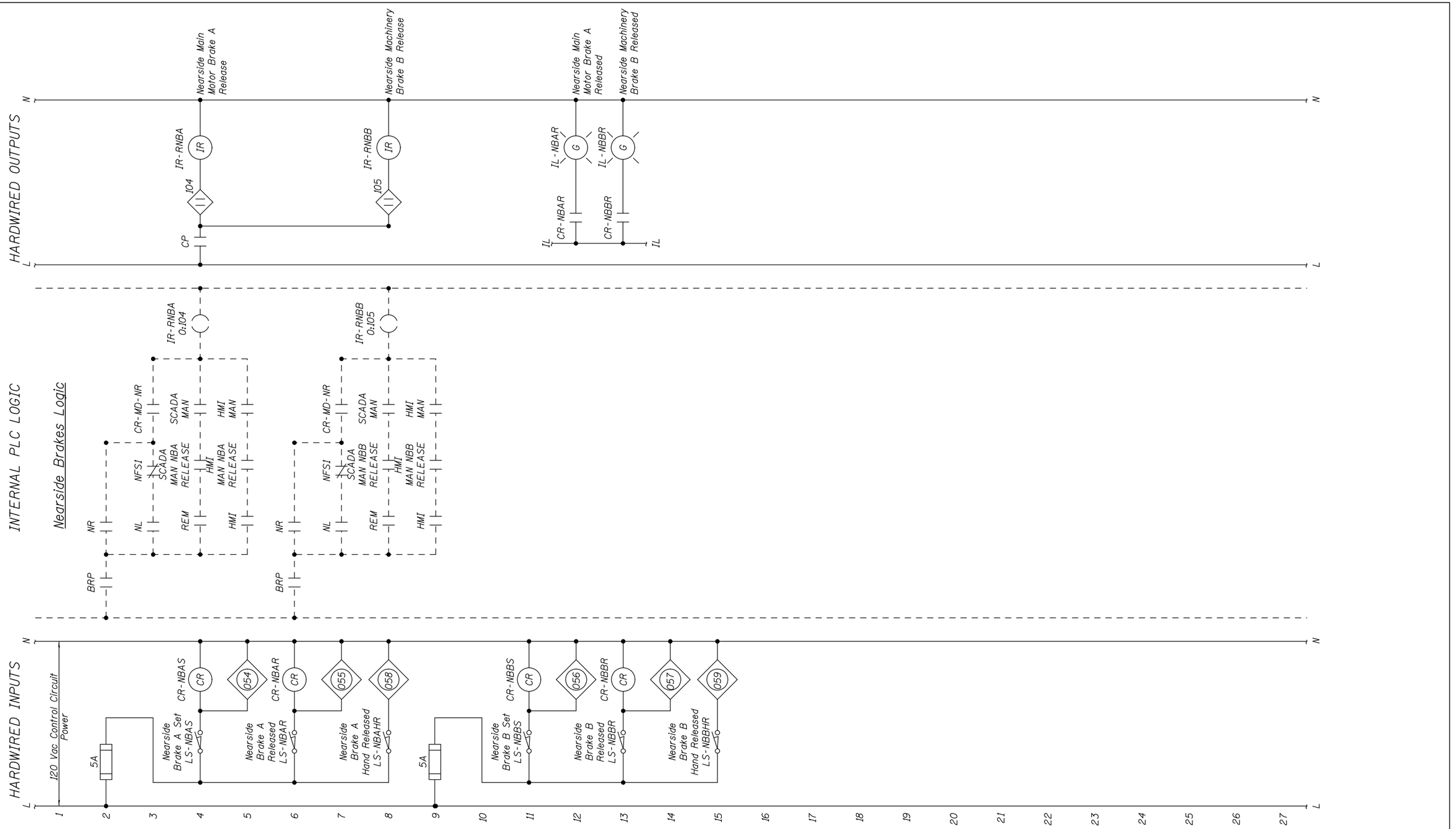


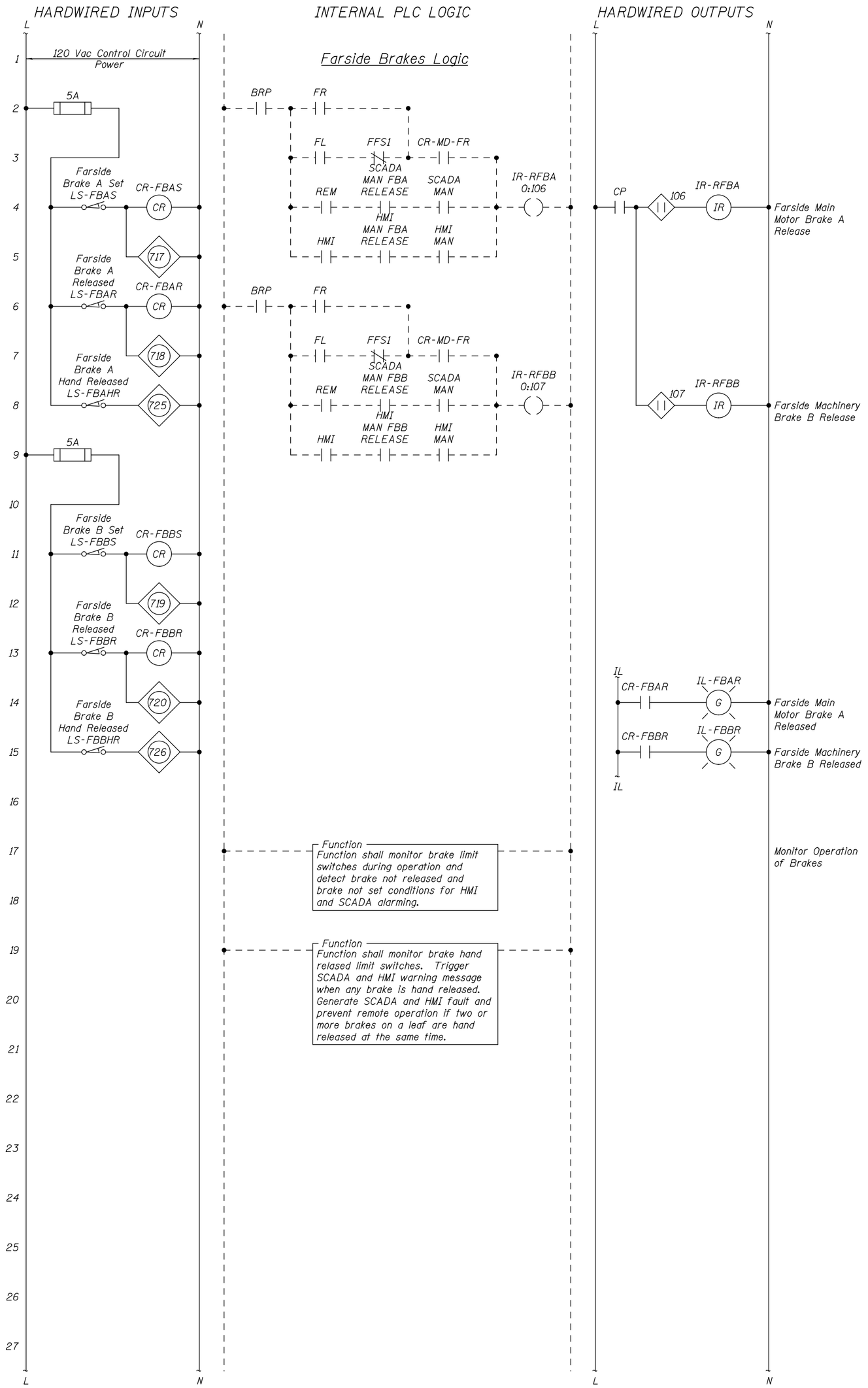
BRANDON, Drawing 06-076

MODJESKI and MASTERS Experience great bridges.	USER NAME =	DESIGNED - R.I. PETERS	REVISED ___
		CHECKED - J.G. STRENKOSKI	REVISED ___
	PLOT SCALE =	DRAWN - R.I. PETERS	REVISED ___
	PLOT DATE =	CHECKED - J.G. STRENKOSKI	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – CONTROL CIRCUIT – 43
SHEET NO. 76 OF 93 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	401
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



MODJESKI-MASTERS
Experience you can trust.

USER NAME =	
PLOT SCALE =	
PLOT DATE =	

DESIGNED	-	R.I. PETERS
CHECKED	-	J.G. STRENKOSKI
DRAWN	-	R.I. PETERS
CHECKED	-	J.G. STRENKOSKI

REVISED		
REVISED		
REVISED		
REVISED		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

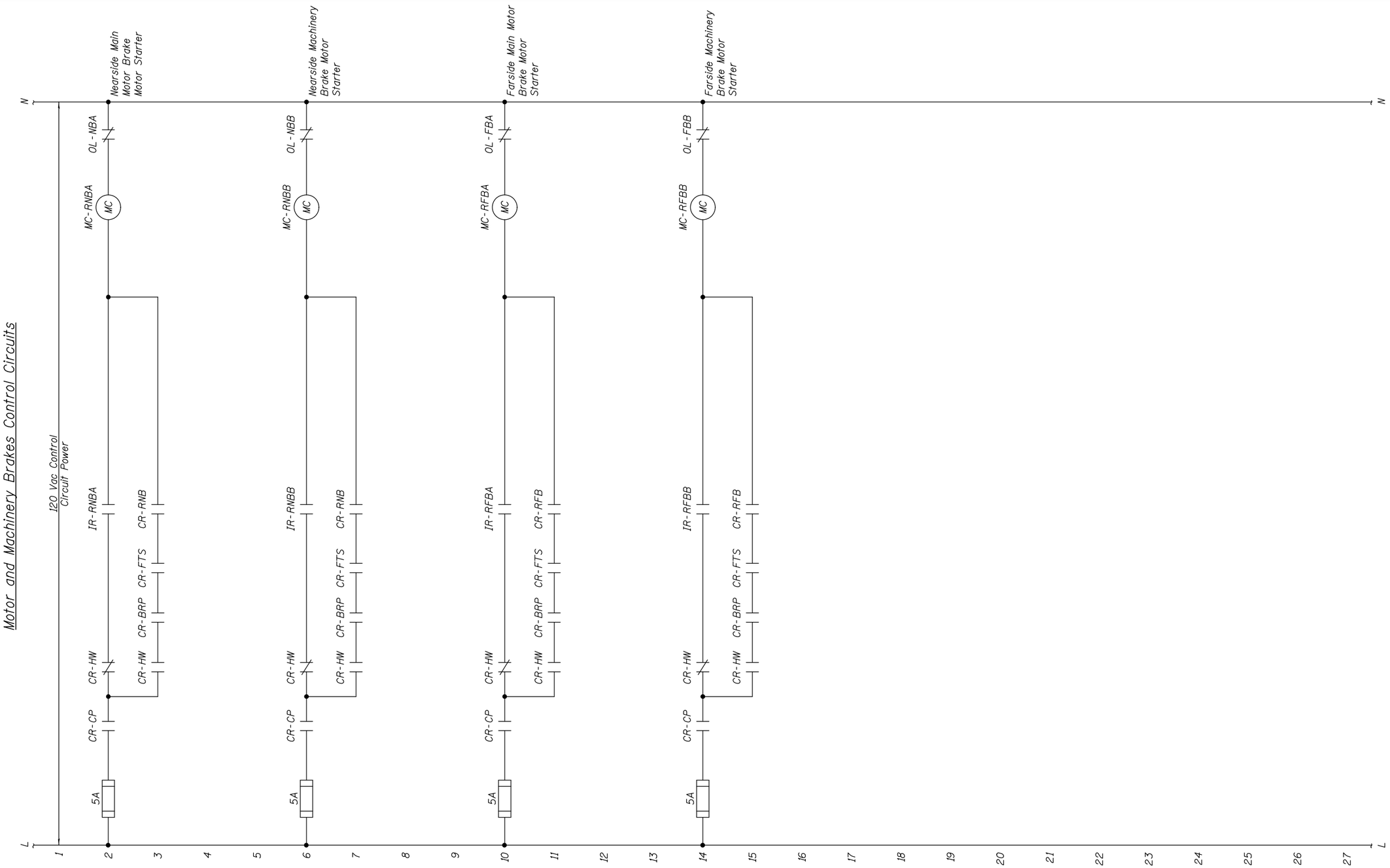
VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – CONTROL CIRCUIT – 44

SHEET NO. 77 OF 93 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	402
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

BRANDON, Drawing 06-077

Motor and Machinery Brakes Control Circuits



NOTES:

1. Brake motor starters and overloads are new.

BRANDON, Drawing 06-078

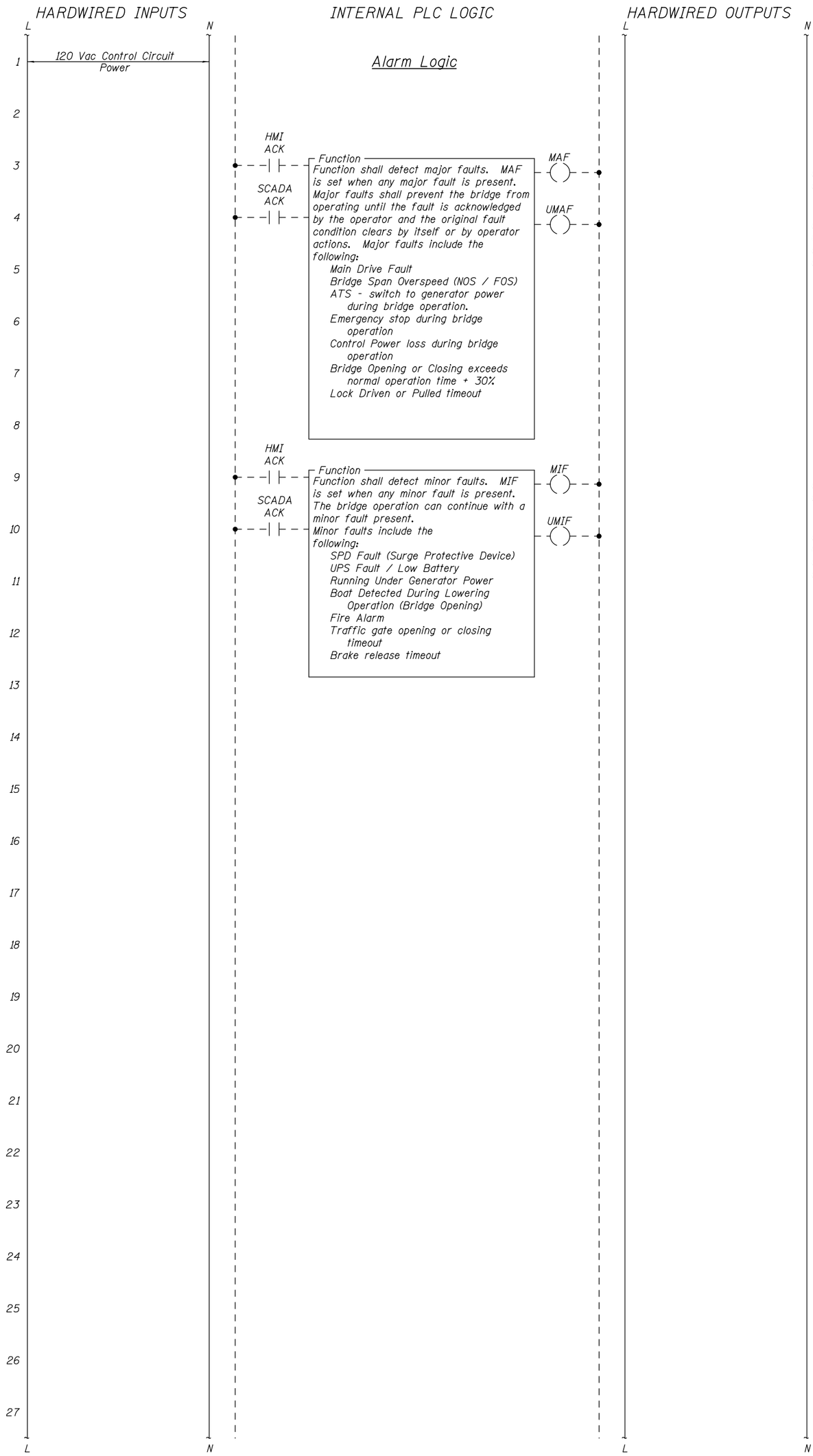
USER NAME =	DESIGNED - R.I. PETERS	REVISED	
	CHECKED - J.G. STRENKOSKI	REVISED	
PLOT SCALE =	DRAWN - R.I. PETERS	REVISED	
PLOT DATE =	CHECKED - J.G. STRENKOSKI	REVISED	

MODJESKI and MASTERS
Experience great bridges.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – CONTROL CIRCUIT – 45
SHEET NO. 78 OF 93 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	403
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



MODJESKI-MASTERS
Experience great bridges.

USER NAME =		DESIGNED - R.I. PETERS	REVISED ___
		CHECKED - J.G. STRENKOSKI	REVISED ___
PLOT SCALE =		DRAWN - R.I. PETERS	REVISED ___
PLOT DATE =		CHECKED - J.G. STRENKOSKI	REVISED ___

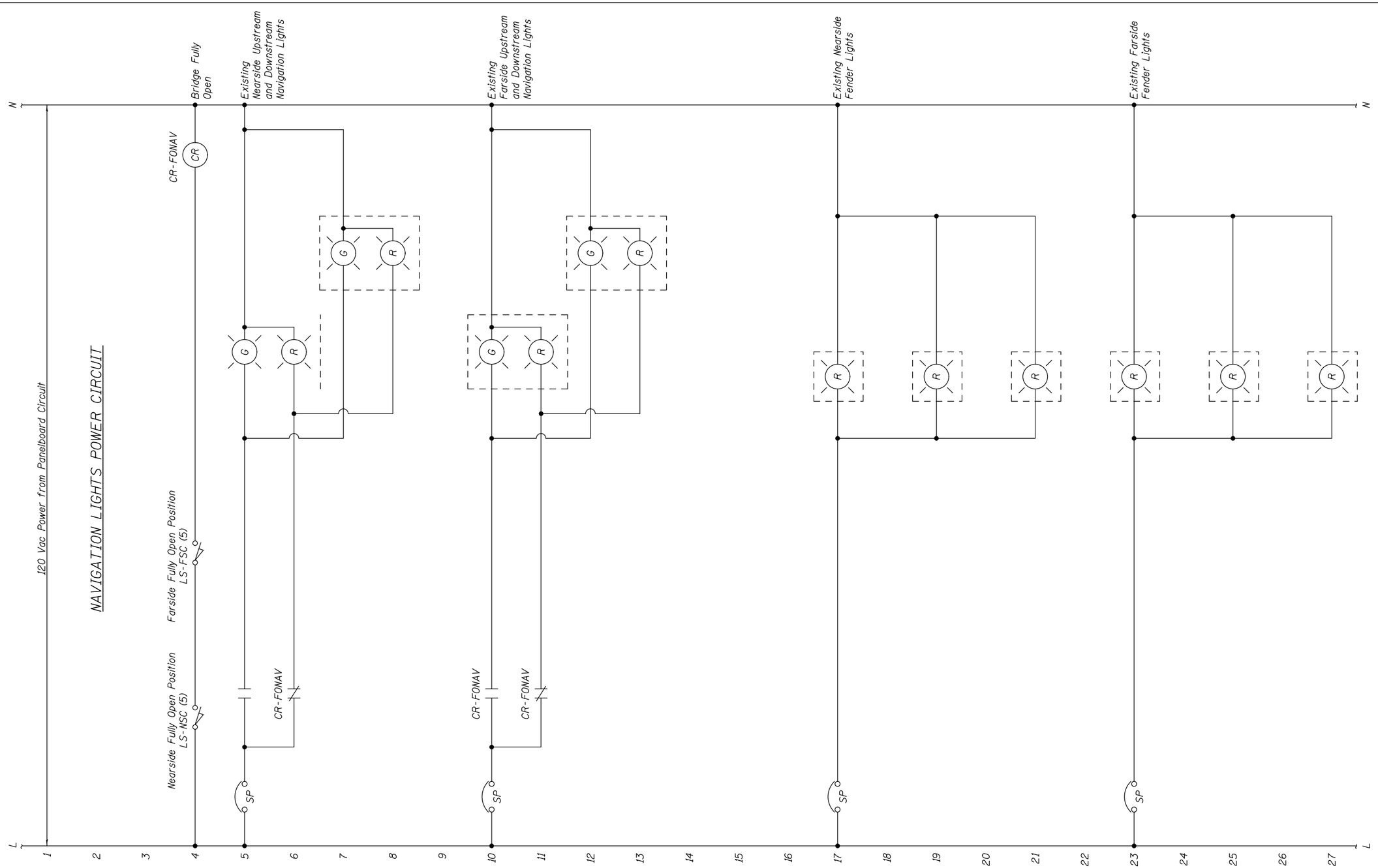
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD - CONTROL CIRCUIT - 46

SHEET NO. 79 OF 93 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	404
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

BRANDON, Drawing 06-079



NOTES:

1. Wire all limit switch sensor contacts back to main PLC cabinet for ease of maintenance and troubleshooting. Do not field "daisy chain" contacts device-to-device.
2. Existing navigation and fender (pier) lights shall be reused.

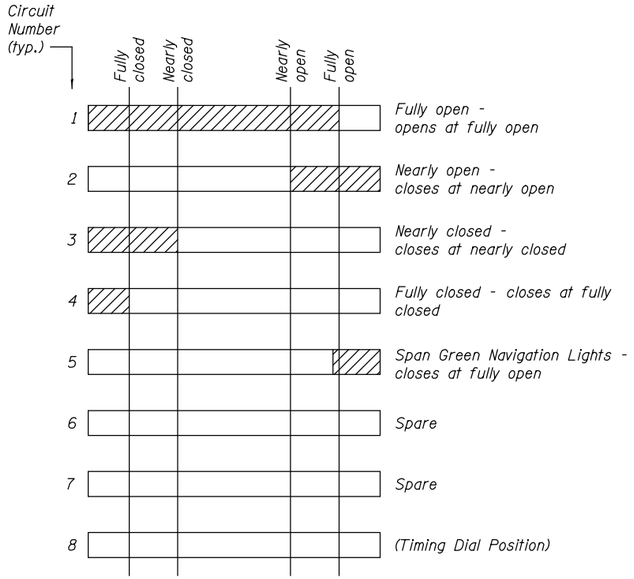
BRANDON, Drawing 06-080

MODJESKI and MASTERS Experience great bridges.	USER NAME =	DESIGNED - R.I. PETERS	REVISED ___
		CHECKED - J.G. STRENKOSKI	REVISED ___
	PLOT SCALE =	DRAWN - R.I. PETERS	REVISED ___
	PLOT DATE =	CHECKED - J.G. STRENKOSKI	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

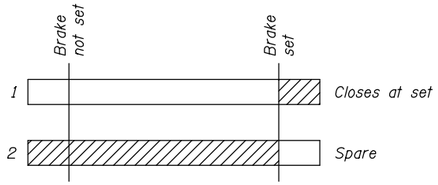
VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – CONTROL CIRCUIT – 47
SHEET NO. 80 OF 93 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	405
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



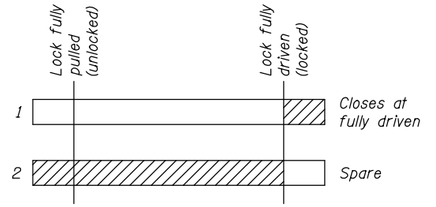
SPAN CONTROL ROTARY CAM LIMIT SWITCH

LS-FSC, LS-NSC



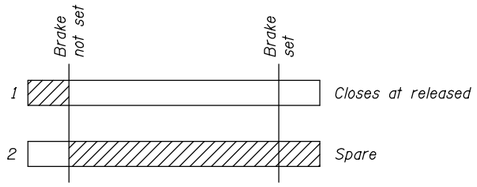
BRAKE SET LIMIT SWITCH

LS-FBAS, LS-FBBS, LS-NBAS, LS-NBBS



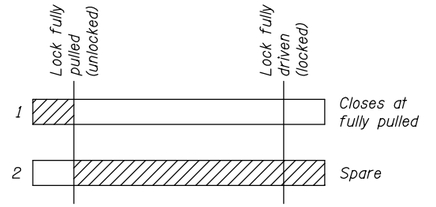
SPAN AND TAIL LOCK DRIVEN LIMIT SWITCH

(LS-DSLD, LS-USLD)
(LS-FDTLD, LS-FUTLD,
LS-NDTLD, LS-NUTLD)



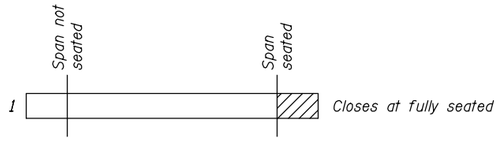
BRAKE RELEASED LIMIT SWITCH

LS-FBAR, LS-FBBR, LS-NBAR,
LS-NBBR



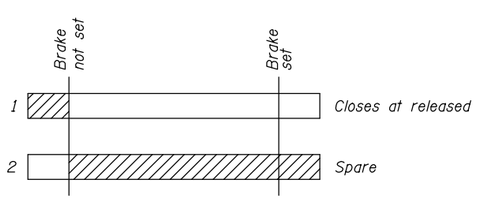
SPAN AND TAIL LOCK PULLED LIMIT SWITCH

(LS-DSLP, LS-USLP)
(LS-FDTLP, LS-FUTLP,
LS-NDTLP, LS-NUTLP)



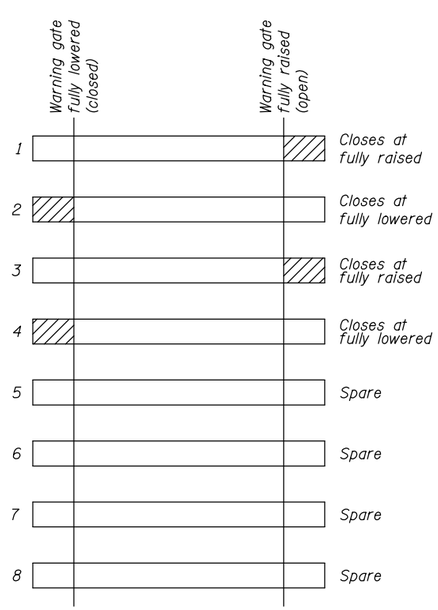
SPAN FULLY SEATED LIMIT SWITCH

LS-FFS, LS-NFS



BRAKE HAND-RELEASED LIMIT SWITCH

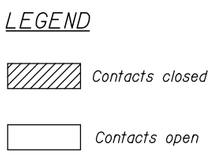
LS-FBAHR, LS-FBBHR, LS-NBAHR,
LS-NBBHR



TRAFFIC GATE LIMIT SWITCH

(see drawing 02-092 for repair details)

LS-NGR/L, LS-FGR/L



NOTES:

1. Span Lock driven and pulled limit switches are part of item E111.
2. Tail Lock driven and pulled limit switches are part of item E112.

BRANDON, Drawing 06-081

MODJESKI and MASTERS
Experience great bridges.

USER NAME =	DESIGNED - R.I. PETERS	REVISED ___
	CHECKED - L.V. BORDEN	REVISED ___
PLOT SCALE =	DRAWN - R.I. PETERS	REVISED ___
PLOT DATE =	CHECKED - K.M. GABLE	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – LIMIT SWITCH CHARTS
SHEET NO. 81 OF 93 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	406
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

GROUP 100 EQUIPMENT			
Item No.	Quantity	Item Name	Description
E101	1	Surge Protective Device (SPD)	Bridge electrical service SPD
E102	1	Power Monitor	Bridge electrical service power and energy meter
E103	1	Bus Monitor	Bridge electrical service ABC phase sequencing monitor
E104	N/A		
E105	2	100A Motor Disconnect Switch	Main drive motors
E106	10	30A Motor Disconnect Switch	Brake, span lock, and tail lock motors

GROUP 200 EQUIPMENT			
Item No.	Quantity	Item Name	Description
E201	2	Traffic Gate Warning Gong	For existing traffic gates
E202	2	Machinery Warning Horn/Light	Machinery area startup warning
E203	2	Outdoor Warning Horn	Operator house exterior warning
E204	N/A		
E205	2	Boat Detection Sensor	Microwave transmitter and receiver sensor
E206	2	Rotary Cam Limit Switch/Resolver	Bridge position sensing
E207	4	Inclinometer	Bridge open angle sensing
E208	14	Magnetic Proximity Switch	Span fully seated and brake position sensing
E209	N/A		
E210	6	Door Switch	Two piece magnetic contact switch for entry doors
E211	1	Fire Alarm & Security System	Monitor operator house for fire and intrusion
E212	2	Span Lock Linear Actuator	Replace existing span lock actuator in kind
E213	4	Tail Lock Linear Actuator	Replace existing tail lock actuator in kind

NOTES:

1. These equipment schedules are provided for reference and do not provide an exhaustive listing of all equipment required.
2. The Contractor shall be responsible for developing a complete bill of materials of equipment required.

BRANDON, Drawing 06-082

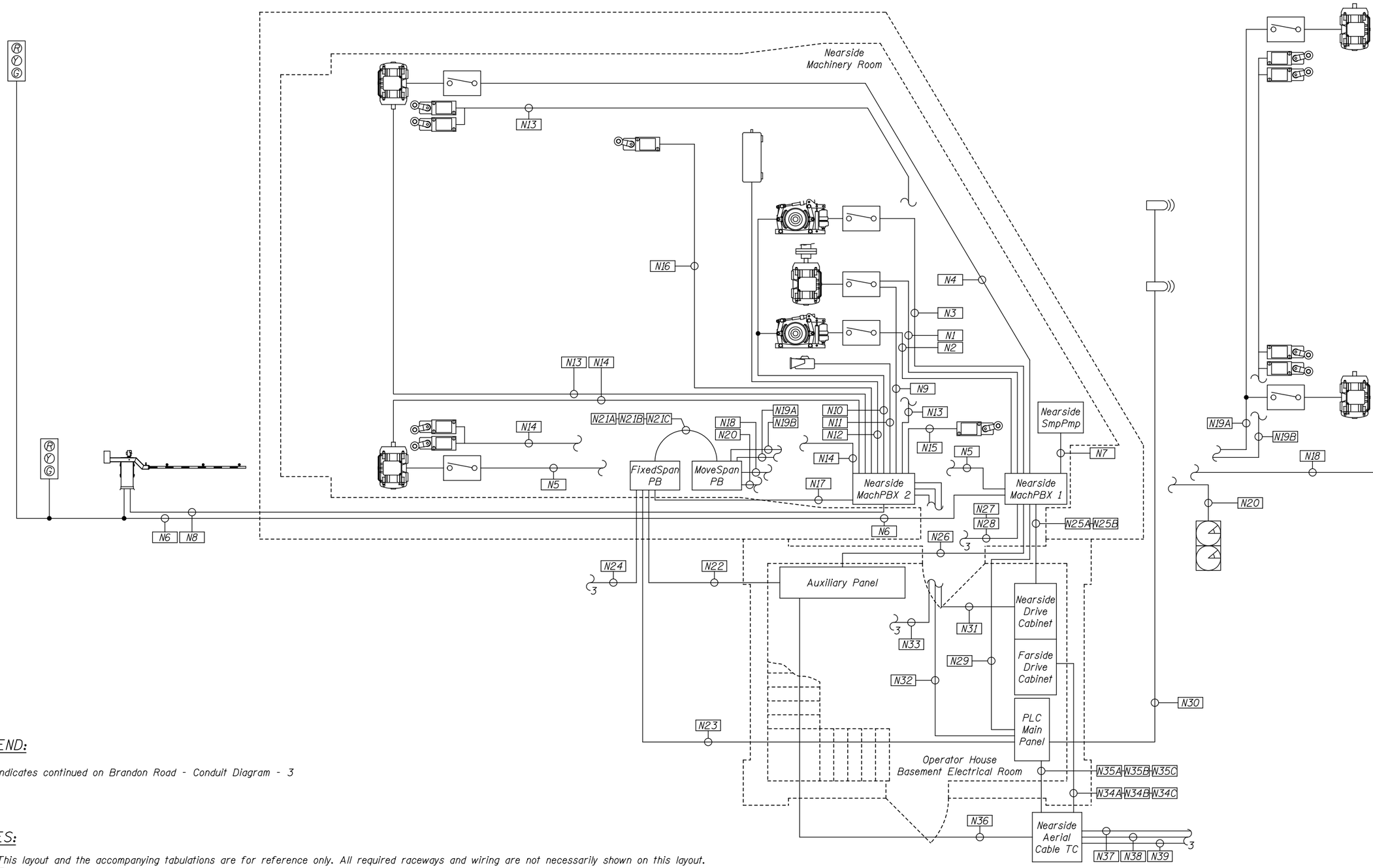
MODJESKI and MASTERS
Experience great bridges.

USER NAME =	DESIGNED - R.I. PETERS	REVISED ___	
	CHECKED - L.V. BORDEN	REVISED ___	
PLOT SCALE =	DRAWN - R.I. PETERS	REVISED ___	
PLOT DATE =	CHECKED - K.M. GABLE	REVISED ___	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – ELECTRICAL EQUIPMENT SCHEDULE
SHEET NO. 82 OF 93 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	407
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



LEGEND:

3 *Indicates continued on Brandon Road - Conduit Diagram - 3*

NOTES:

1. *This layout and the accompanying tabulations are for reference only. All required raceways and wiring are not necessarily shown on this layout.*
2. *The Contractor shall be responsible for developing a complete wiring and conduit tabulations for all conductors and cables.*

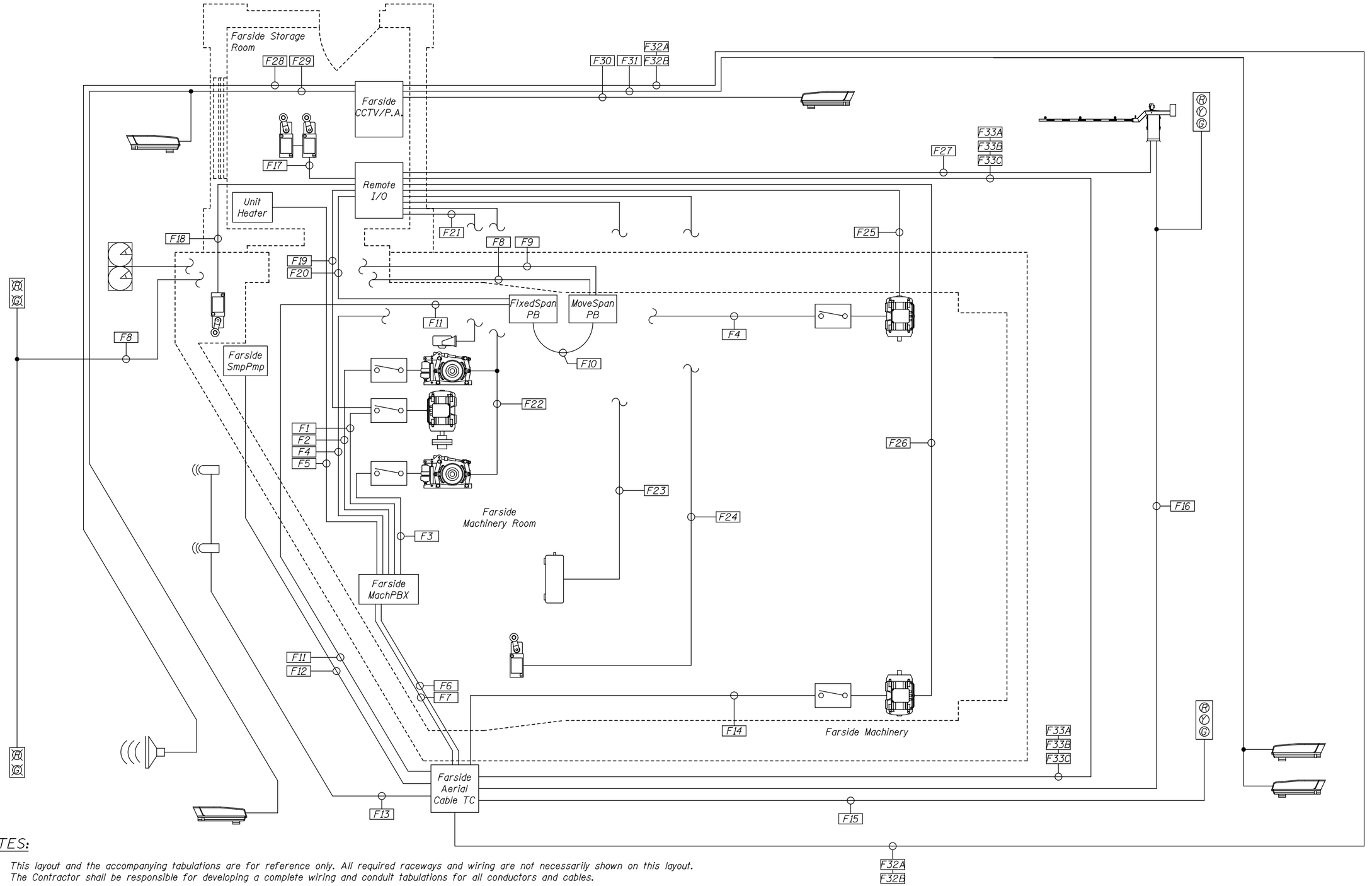
BRANDON, Drawing 06-083

MODJESKI and MASTERS Experience great bridges.	USER NAME =	DESIGNED - K.M. GABLE	REVISED ___
		CHECKED - L.V. BORDEN	REVISED ___
	PLOT SCALE =	DRAWN - K.M. GABLE	REVISED ___
	PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – CONDUIT DIAGRAM – 1
SHEET NO. 83 OF 93 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	408
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



NOTES:

1. This layout and the accompanying tabulations are for reference only. All required raceways and wiring are not necessarily shown on this layout.
2. The Contractor shall be responsible for developing a complete wiring and conduit tabulations for all conductors and cables.

BRANDON, Drawing 06-084

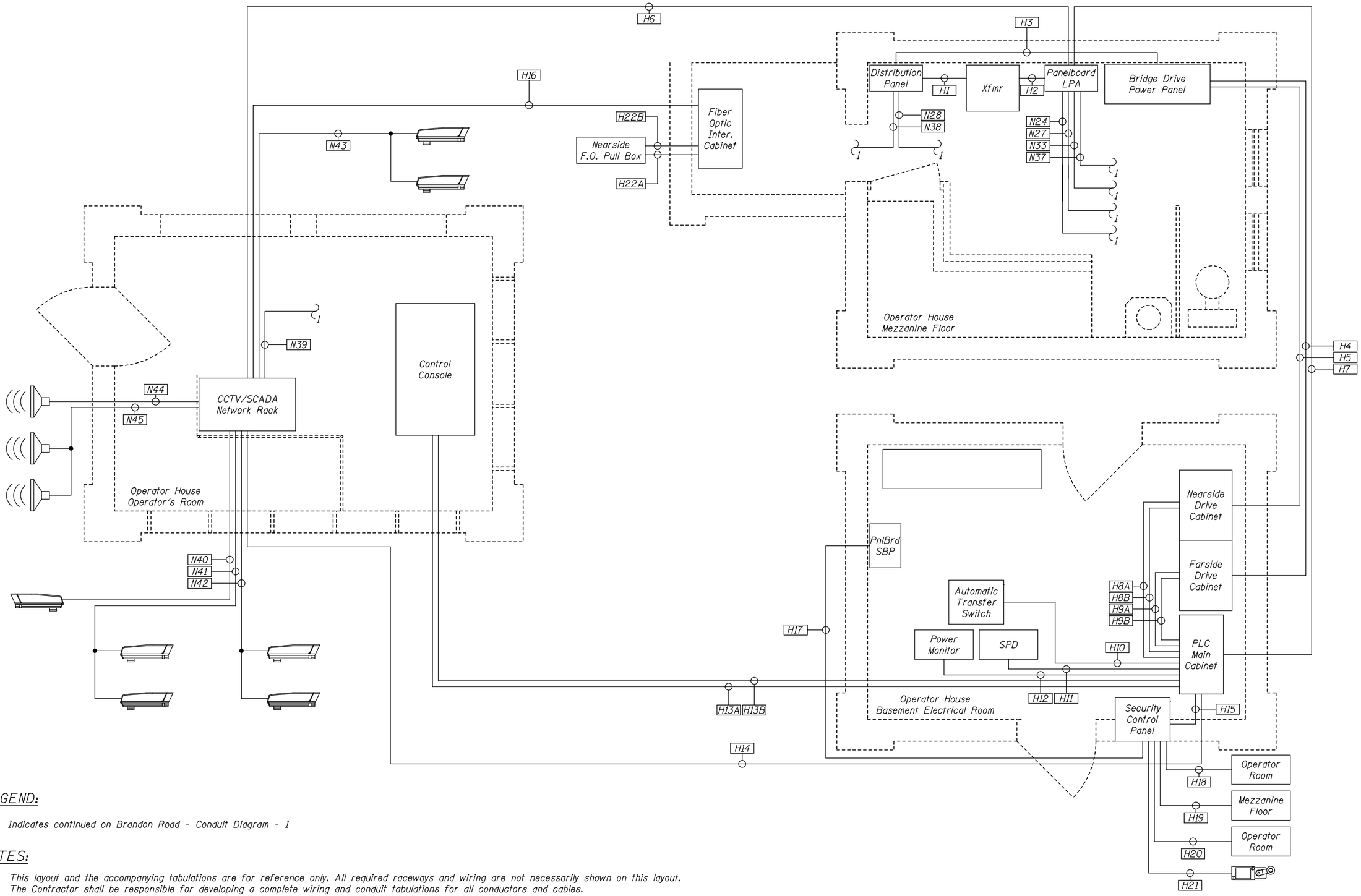
MODJESKI and MASTERS
Experience great bridges.

USER NAME =	DESIGNED - K.M. GABLE	REVISED ___	
	CHECKED - L.V. BORDEN	REVISED ___	
PLOT SCALE =	DRAWN - K.M. GABLE	REVISED ___	
PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – CONDUIT DIAGRAM – 2
SHEET NO. 84 OF 93 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	409
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



LEGEND:

1 *Indicates continued on Brandon Road - Conduit Diagram - 1*

NOTES:

1. *This layout and the accompanying tabulations are for reference only. All required raceways and wiring are not necessarily shown on this layout.*
2. *The Contractor shall be responsible for developing a complete wiring and conduit tabulations for all conductors and cables.*

BRANDON, Drawing 06-085

MODJESKI and MASTERS
Experience great bridges.

USER NAME =	DESIGNED - K.M. GABLE	REVISED ___
	CHECKED - L.V. BORDEN	REVISED ___
PLOT SCALE =	DRAWN - K.M. GABLE	REVISED ___
PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – CONDUIT DIAGRAM – 3
SHEET NO. 85 OF 93 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	410
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

BRANDON ROAD FARSIDE CONDUIT SCHEDULE

Run No.	Circuit Terminations		Conduit		Length of Run	Wire		
	To	From	Type	Size		Use	Count	Size
F1	Farside Machinery Pull Box	Farside Motor Disconnect	PVC RMC	2½"	25	480 VFD	1	(3) 2AWG
F2*	Farside Machinery Pull Box	Farside Motor Brake Disconnect	PVC RMC	1"	25	480 P	3	10AWG
						GND	1	10AWG
F3*	Farside Machinery Pull Box	Farside Machinery Brake Disconnect	PVC RMC	1"	25	480 P	3	10AWG
						GND	1	10AWG
F4	Farside Machinery Pull Box	Upstream Tail Lock	PVC RMC	¾"	75	480 P	3	10AWG
						GND	1	10AWG
F5	Farside Machinery Pull Box	Farside Unit Heater	PVC RMC	¾"	40	480 P	3	10AWG
						GND	1	10AWG
F6	Farside Aerial Cable Terminal Cabinet	Farside Machinery Pull Box	PVC RMC	2½"	25	480 VFD	1	(3) 2AWG
F7*	Farside Aerial Cable Terminal Cabinet	Farside Machinery Pull Box	PVC RMC	1"	25	480 P	12	10AWG
						GND	1	10AWG
F8	Movable Span Pull Box	Center Span Navigation Lights	PVC RMC	1"	150	120 P	6	10AWG
						GND	2	10AWG
F9	Movable Span Pull Box	Inclinometer	PVC RMC	1"	25	Instrum.	2	2-Pair
						GND	1	12AWG
F10	Fixed Span Pull Box	Movable Span Pull Box	FLEX	1½"	15	120 P	6	10AWG
						Instrum.	2	2-Pair
						GND	1	10AWG
F11	Farside Aerial Cable Terminal Cabinet	Fixed Span Pull Box	PVC RMC	1"	50	120 P	6	10AWG
						GND	1	10AWG
F12	Farside Aerial Cable Terminal Cabinet	Farside Sump Pump Panel	PVC RMC	¾"	40	480 P	3	10AWG
						GND	1	10AWG
F13	Farside Aerial Cable Terminal Cabinet	Farside Boat Detection	PVC RMC	¾"	50	12VDC	2	12AWG
						GND	1	12AWG
F14	Farside Aerial Cable Terminal Cabinet	Downstream Tail Lock	PVC RMC	¾"	75	480 P	3	10AWG
						GND	1	10AWG
F15**	Farside Aerial Cable Terminal Cabinet	SW Traffic Signals	PVC RMC	1"	75	120 P	4	10AWG
						SP	2	10AWG
						GND	3	10AWG
F16**	Farside Aerial Cable Terminal Cabinet	Farside Traffic Gate/SE Traffic Signals	PVC RMC	2"	125	480 P	3	10AWG
						120 P	16	10AWG
						SP	6	10AWG
						GND	7	10AWG
F17	Farside PLC I/O Rack	Farside Door Switches	PVC RMC	¾"	25	120 C	4	12AWG
						GND	2	12AWG
F18	Farside PLC I/O Rack	Farside Fully Seated Limit Switch	PVC RMC	¾"	25	120 C	2	12AWG
						GND	1	12AWG
F19	Farside PLC I/O Rack	Farside Motor & Disconnect	PVC RMC	¾"	40	120 P	2	10AWG
						120 C	3	12AWG
						GND	1	10AWG
F20	Farside PLC I/O Rack	Fixed Span Pull Box	PVC RMC	1"	40	Instrum.	2	2-Pair
						GND	1	12AWG
F21	Farside PLC I/O Rack	Farside Motor Encoder	PVC RMC	1½"	40	Instrum.	4	2-Pair
						GND	1	12AWG
F22	Farside PLC I/O Rack	Farside Motor & Machinery Brakes	PVC RMC	1½"	40	120 P	4	12AWG
						120 C	14	12AWG
						GND	2	12AWG
F23	Farside PLC I/O Rack	Farside Rotary Cam Limit Switch	PVC RMC	2"	60	120 C	9	12AWG
						Instrum.	1	6-Pair
						GND	1	12AWG
F24	Farside PLC I/O Rack	Farside Max Open Limit Switch	PVC RMC	¾"	75	120 C	2	12AWG
						GND	1	12AWG
F25	Farside PLC I/O Rack	Upstream Tail Lock	PVC RMC	¾"	50	120 C	5	12AWG
						GND	1	12AWG
F26	Farside PLC I/O Rack	Downstream Tail Lock	PVC RMC	¾"	75	120 C	5	12AWG
						GND	1	12AWG
F27**	Farside PLC I/O Rack	Farside Traffic Gate	PVC RMC	1"	100	120 C	5	12AWG
						SP	4	12AWG
						GND	1	12AWG

BRANDON ROAD FARSIDE CONDUIT SCHEDULE (CONTINUED)

Run No.	Circuit Terminations		Conduit		Length of Run	Wire		
	To	From	Type	Size		Use	Count	Size
F28	Farside CCTV/P.A. Cabinet	Farside P.A. Speaker	PVC RMC	¾"	125	Speaker	2	Audio
						GND	1	12AWG
F29	Farside CCTV/P.A. Cabinet	Lower PTZ Cameras 2 & 4	PVC RMC	1½"	100	Power	6	12AWG
						Ethernet	4	CAT-6
						GND	2	12AWG
F30**	Farside CCTV/P.A. Cabinet	Pedestrian Camera 2	PVC RMC	1"	100	Power	3	12AWG
						Ethernet	2	CAT-6
						GND	1	12AWG
F31**	Farside CCTV/P.A. Cabinet	Traffic Camera 2 /Upper PTZ Camera 2	PVC RMC	1½"	125	Power	6	12AWG
						Ethernet	4	CAT-6
						GND	2	12AWG
F32A	Farside Aerial Cable Terminal Cabinet	Farside CCTV/P.A. Cabinet	PVC RMC	1"	75	FO	2	12 Fiber
F32B	Farside Aerial Cable Terminal Cabinet	Farside CCTV/P.A. Cabinet	PVC RMC	1½"	75	120 P	2	6AWG
						120 P	2	10AWG
						SP	4	10AWG
						GND	1	6AWG
F33A	Farside Aerial Cable Terminal Cabinet	Farside PLC I/O Rack	PVC RMC	1"	75	120 P	10	10AWG
						120 C	9	12AWG
						GND	3	10AWG
F33B	Farside Aerial Cable Terminal Cabinet	Farside PLC I/O Rack	PVC RMC	3"	75	120 C	40	12AWG
						Instrum.	6	2-Pair
						Instrum.	1	6-Pair
						GND	1	2AWG
F33C	Farside Aerial Cable Terminal Cabinet	Farside PLC I/O Rack	PVC RMC	1"	75	Ethernet	2	CAT-6

BRANDON ROAD NEARSIDE CONDUIT SCHEDULE

Run No.	Circuit Terminations		Conduit		Length of Run	Wire		
	To	From	Type	Size		Use	Count	Size
N1	Nearside Machinery Pull Box 1	Nearside Motor Disconnect	PVC RMC	2½"	25	480 VFD	1	(3) 2AWG
N2*	Nearside Machinery Pull Box 1	Nearside Motor Brake Disconnect	PVC RMC	1"	25	480 P	3	10AWG
						GND	1	10AWG
N3*	Nearside Machinery Pull Box 1	Nearside Machinery Brake Disconnect	PVC RMC	1"	25	480 P	3	10AWG
						GND	1	10AWG
N4	Nearside Machinery Pull Box 1	Upstream Tail Lock	PVC RMC	¾"	75	480 P	3	10AWG
						GND	1	10AWG
N5	Nearside Machinery Pull Box 1	Downstream Tail Lock	PVC RMC	¾"	50	480 P	3	10AWG
						GND	1	10AWG
N6**	Nearside Machinery Pull Box 1	Nearside Traffic Gate/Signals	PVC RMC	2"	125	480 P	3	10AWG
						120 P	20	10AWG
						SP	6	10AWG
						GND	8	10AWG
N7	Nearside Machinery Pull Box 1	Nearside Sump Pump Panel	PVC RMC	¾"	10	480 P	3	10AWG
						GND	1	10AWG
N8**	Nearside Machinery Pull Box 2	Nearside Traffic Gate	PVC RMC	1"	75	120 C	5	12AWG
						SP	4	12AWG
						GND	1	12AWG
N9	Nearside Machinery Pull Box 2	Nearside Motor & Disconnect	PVC RMC	¾"	25	120 P	2	12AWG
						120 C	3	12AWG
						GND	1	12AWG
N10	Nearside Machinery Pull Box 2	Nearside Motor & Machinery Brakes	PVC RMC	1"	25	120 P	4	12AWG
						120 C	14	12AWG
						GND	2	12AWG

NOTES:

1. * Indicates that conduit and wiring was replaced under previous Contract 62A22 and shall not be included as work to be completed under this Contract.
2. ** Portions of conduits shall be direct buried.
3. Fiber optic conduit bend radius shall be greater than minimum bend radius of fiber optic cable.

BRANDON ROAD NEARSIDE CONDUIT SCHEDULE (CONTINUED)

Run No.	Circuit Terminations		Conduit		Length of Run	Wire		
	To	From	Type	Size		Use	Count	Size
N11	Nearside Machinery Pull Box 2	Nearside Motor Encoder	PVC RMC	1 1/2"	15	Instrum.	4	2-Pair
						GND	1	12AWG
N12	Nearside Machinery Pull Box 2	Nearside Rotary Cam Limit Switch	PVC RMC	2"	40	120 C	9	12AWG
						Instrum.	1	6-Pair
						GND	1	6AWG
N13	Nearside Machinery Pull Box 2	Upstream Tail Lock	PVC RMC	3/4"	75	120 C	5	12AWG
						GND	1	12AWG
N14	Nearside Machinery Pull Box 2	Downstream Tail Lock	PVC RMC	3/4"	50	120 C	5	12AWG
						GND	1	12AWG
N15	Nearside Machinery Pull Box 2	Nearside Fully Seated Limit Switch	PVC RMC	3/4"	15	120 C	2	12AWG
						GND	1	12AWG
N16	Nearside Machinery Pull Box 2	Nearside Max Open Limit Switch	PVC RMC	3/4"	75	120 C	2	12AWG
						GND	1	12AWG
N17	Nearside Machinery Pull Box 2	Fixed Span Pull Box	PVC RMC	1"	25	Instrum.	2	2-Pair
						GND	1	12AWG
N18	Movable Span Pull Box	Center Span Navigation Lights	PVC RMC	1"	150	120 P	6	10AWG
						GND	2	10AWG
N19A	Movable Span Pull Box	Center Span Lock Disconnect Switches	PVC RMC	1"	150	480 P	6	10AWG
						GND	2	10AWG
N19B	Movable Span Pull Box	Center Span Locks	PVC RMC	1"	150	120 C	10	12AWG
						GND	2	12AWG
N20	Movable Span Pull Box	Inclinometers	PVC RMC	1"	50	Instrum.	2	2-Pair
						GND	1	12AWG
N21A	Fixed Span Pull Box	Movable Span Pull Box	FLEX	1 1/2"	15	120 P	6	10AWG
						Instrum.	2	2-Pair
						GND	2	10AWG
N21B	Fixed Span Pull Box	Movable Span Pull Box	FLEX	1"	15	480 P	6	10AWG
						GND	2	10AWG
N21C	Fixed Span Pull Box	Movable Span Pull Box	FLEX	1"	15	120 C	10	12AWG
						GND	2	12AWG
N22	Auxiliary Panel	Fixed Span Pull Box	PVC	1"	20	480 P	6	10AWG
						GND	2	10AWG
N23	PLC Main Panel	Fixed Span Pull Box	PVC	1"	30	120 C	10	12AWG
						GND	2	12AWG
N24	Panelboard LPA	Fixed Span Pull Box	PVC	1"	30	120 P	6	10AWG
						GND	2	10AWG
N25A	Nearside Drive Cabinet	Nearside Machinery Pull Box 1	PVC	2 1/2"	20	480 VFD	1	(3) 2AWG
N25B	Nearside Drive Cabinet	Nearside Machinery Pull Box 1	PVC	1"	20	480 P	6	10AWG
						GND	1	10AWG
N26	Auxiliary Panel	Nearside Machinery Pull Box 1	PVC	1"	20	480 P	9	10AWG
						GND	1	10AWG
N27	Panelboard LPA	Nearside Machinery Pull Box 1	PVC	1"	30	120 P	4	10AWG
						GND	1	10AWG
N28	Distribution Panel	Nearside Machinery Pull Box 1	PVC	3/4"	30	480 P	3	10AWG
						GND	1	10AWG
N29	PLC Main Panel	Nearside Machinery Pull Box 1	PVC	1 1/2"	30	120 P	16	10AWG
						GND	1	10AWG
N30	PLC Main Panel	Nearside Boat Detection	PVC RMC	3/4"	60	12VDC	6	12AWG
						GND	1	12AWG
N31	Nearside Drive Cabinet	Nearside Machinery Pull Box 2	PVC	2"	20	120 C	9	12AWG
						Instrum.	4	2-Pair
						GND	1	6AWG
N32	PLC Main Panel	Nearside Machinery Pull Box 2	PVC	3"	30	120 C	36	12AWG
						Instrum.	2	2-Pair
						Instrum.	1	6-Pair
						GND	1	6AWG
N33	Panelboard LPA	Nearside Machinery Pull Box 2	PVC	1"	30	120 P	6	10AWG
						GND	1	10AWG
N34A	Farside Drive Cabinet	Nearside Aerial Cable Terminal Cabinet	PVC	2 1/2"	20	480 VFD	1	(3) 2AWG
N34B	Farside Drive Cabinet	Nearside Aerial Cable Terminal Cabinet	PVC	1"	20	480 P	6	10AWG
						GND	2	10AWG

BRANDON ROAD NEARSIDE CONDUIT SCHEDULE (CONTINUED)

Run No.	Circuit Terminations		Conduit		Length of Run	Wire		
	To	From	Type	Size		Use	Count	Size
N34C	Farside Drive Cabinet	Nearside Aerial Cable Terminal Cabinet	PVC	2 1/2"	20	120 C	9	12AWG
						SP	3	12AWG
						Instrum.	4	2-Pair
						SP	2	2-Pair
						GND	1	6AWG
N35A	PLC Main Panel	Nearside Aerial Cable Terminal Cabinet	PVC	1 1/2"	15	120 P	22	10AWG
						GND	1	10AWG
N35B	PLC Main Panel	Nearside Aerial Cable Terminal Cabinet	PVC	3"	15	120 C	26	12AWG
						120 C	16	12AWG
						SP	4	12AWG
						Instrum.	1	6-Pair
						Instrum.	2	2-Pair
						GND	1	6AWG
N35C	PLC Main Panel	Nearside Aerial Cable Terminal Cabinet	PVC	1"	15	FO	2	12 Fiber
N36	Auxiliary Panel	Nearside Aerial Cable Terminal Cabinet	PVC	1"	25	480 P	9	10AWG
						GND	1	10AWG
N37	Panelboard LPA	Nearside Aerial Cable Terminal Cabinet	PVC	1 1/2"	40	120 P	2	6AWG
						120 P	15	10AWG
						GND	1	6AWG
N38	Distribution Panel	Nearside Aerial Cable Terminal Cabinet	PVC	1"	40	480 P	6	10AWG
						GND	1	10AWG
N39	CCTV/SCADA Network Rack	Nearside Aerial Cable Terminal Cabinet	PVC	1"	60	FO	2	12 Fiber
N40**	CCTV/SCADA Network Rack	Pedestrian Camera 1	PVC RMC	1"	75	Power	3	12AWG
						Ethernet	2	CAT-6
						GND	1	12AWG
N41**	CCTV/SCADA Network Rack	Traffic Camera 1 /Upper PTZ Camera 1	PVC RMC	1 1/2"	100	Power	6	12AWG
						Ethernet	4	CAT-6
						GND	2	12AWG
N42	CCTV/SCADA Network Rack	Thermal Imaging Camera 1/Lower PTZ Camera 3	PVC RMC	1 1/2"	100	Power	6	12AWG
						Ethernet	4	CAT-6
						GND	2	12AWG
N43	CCTV/SCADA Network Rack	Thermal Imaging Camera 2/Lower PTZ Camera 1	PVC RMC	1 1/2"	100	Power	6	12AWG
						Ethernet	4	CAT-6
						GND	2	12AWG
N44	CCTV/SCADA Network Rack	Nearside One-way P.A. Speaker	PVC RMC	3/4"	75	Speaker	2	Audio
						GND	1	12AWG
N45	CCTV/SCADA Network Rack	Nearside Two-way P.A. Speakers	PVC RMC	1"	75	Speaker	6	Audio
						GND	2	12AWG

BRANDON ROAD OPERATOR HOUSE CONDUIT SCHEDULE

Run No.	Circuit Terminations		Conduit		Length of Run	Wire		
	To	From	Type	Size		Use	Count	Size
H1	Distribution Panel	Transformer	RMC	1 1/2"	10	480 P	3	1/0
						GND	1	6AWG
H2	Transformer	Panelboard LPA	RMC	2 1/2"	10	120 P	3	250KCMIL
						GND	1	2AWG
H3	Distribution Panel	Bridge Drive Power Panel	RMC	2"	25	480 P	3	3/0
						GND	1	6AWG
H4	Bridge Drive Power Panel	Nearside Drive Cabinet	RMC	2"	30	480 P	3	2AWG
						GND	1	4AWG

NOTES:

1. * Indicates that conduit and wiring was replaced under previous Contract 62A22 and shall not be included as work to be completed under this Contract.
2. ** Portion of conduits shall be direct buried.
3. Fiber optic conduit bend radius shall be greater than minimum bend radius of fiber optic cable.

BRANDON, Drawing 06-087

MODJESKI and MASTERS
Experience great bridges.

USER NAME =	DESIGNED - K.M. GABLE	REVISED	___
	CHECKED - L.V. BORDEN	REVISED	___
PLOT SCALE =	DRAWN - R.L. REED	REVISED	___
PLOT DATE =	CHECKED - R.I. PETERS	REVISED	___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD - CONDUIT TABULATION - 2
SHEET NO. 87 OF 93 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	412
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		

BRANDON ROAD OPERATOR HOUSE CONDUIT SCHEDULE (CONTINUED)

Run No.	Circuit Terminations		Conduit		Length of Run	Wire		
	To	From	Type	Size		Use	Count	Size
H5	Bridge Drive Power Panel	Farside Drive Cabinet	RMC	2"	30	480 P	3	2AWG
						GND	1	4AWG
H6	Panelboard LPA	CCTV/SCADA Network Rack	RMC	$\frac{3}{4}$"	40	120 P	4	10AWG
						GND	1	10AWG
H7	Panelboard LPA	PLC Main Panel	RMC	$1\frac{1}{2}$"	40	120 P	16	10AWG
						GND	8	10AWG
H8A	Nearside Drive Cabinet	PLC Main Panel	RMC	1"	20	120 C	14	12AWG
						GND	1	12AWG
H8B	Nearside Drive Cabinet	PLC Main Panel	RMC	1"	20	Instrum.	2	2-Pair
						Ethernet	1	CAT-6
H9A	Farside Drive Cabinet	PLC Main Panel	RMC	1"	15	120 C	14	12AWG
						GND	1	12AWG
H9B	Farside Drive Cabinet	PLC Main Panel	RMC	1"	15	Instrum.	2	2-Pair
						Ethernet	1	CAT-6
H10	Auto Transfer Switch	PLC Main Panel	RMC	$\frac{3}{4}$"	20	120 C	5	12AWG
						GND	1	12AWG
H11	SPD / BUS Monitor	PLC Main Panel	RMC	$\frac{3}{4}$"	20	120 C	4	12AWG
						GND	2	12AWG
H12	Power Monitor	PLC Main Panel	RMC	1"	20	Ethernet	1	CAT-6
H13A	Control Console	PLC Main Panel	RMC	$2\frac{1}{2}$"	50	120 P	4	10AWG
						120 C	60	12AWG
						GND	1	10AWG
H13B	Control Console	PLC Main Panel	RMC	$2\frac{1}{2}$"	50	120 C	60	12AWG
						Instrum.	2	2-Pair
						Ethernet	3	CAT-6
						GND	1	10AWG
H14	CCTV/SCADA Network Rack	PLC Main Panel	RMC	1"	50	120 C	3	12AWG
						Ethernet	2	CAT-6
H15	PLC Main Panel	Fire Alarm and Security System Control Panel	RMC	$\frac{3}{4}$"	15	120 C	6	12AWG
						GND	1	12AWG
H16	CCTV/SCADA Network Rack	Fiber Optic Interconnect Cabinet	RMC	1"	25	FO	2	12 Fiber
H17	Panelboard SBP	Fire Alarm and Security System Control Panel	RMC	$\frac{3}{4}$"	30	120 P	2	10AWG
						GND	1	10AWG
H18	Fire Alarm and Security System Control Panel	Operator Room Detectors	RMC	1"	100	120 C	9	12AWG
						GND	3	12AWG
H19	Fire Alarm and Security System Control Panel	Mezzanine Floor Detectors	RMC	$\frac{3}{4}$"	80	120 C	6	12AWG
						GND	2	12AWG
H20	Fire Alarm and Security System Control Panel	Electrical Room Detectors	RMC	1"	60	120 C	12	12AWG
						GND	4	12AWG
H21	Fire Alarm and Security System Control Panel	Nearside Machinery Room Door Switch	RMC	$\frac{3}{4}$"	30	120 C	3	12AWG
						GND	1	12AWG
H22A	Fiber Optic Interconnect Cabinet	Nearside F.O. Pull Box	PVC RMC	2"	15	Empty (note 3)		
H22B	Fiber Optic Interconnect Cabinet	Nearside F.O. Pull Box	PVC RMC	2"	15	Empty (note 3)		

NOTES:

1. * Indicates that conduit and wiring was replaced under previous Contract 62A22 and shall not be included as work to be completed under this Contract.
2. Fiber optic conduit bend radius shall be greater than minimum bend radius of fiber optic cable.
3. Provide and install empty conduit for future fiber connection under separate Fiber Optic Contract.

BRANDON, Drawing 06-088

MODJESKI and MASTERS
Experience great bridges.

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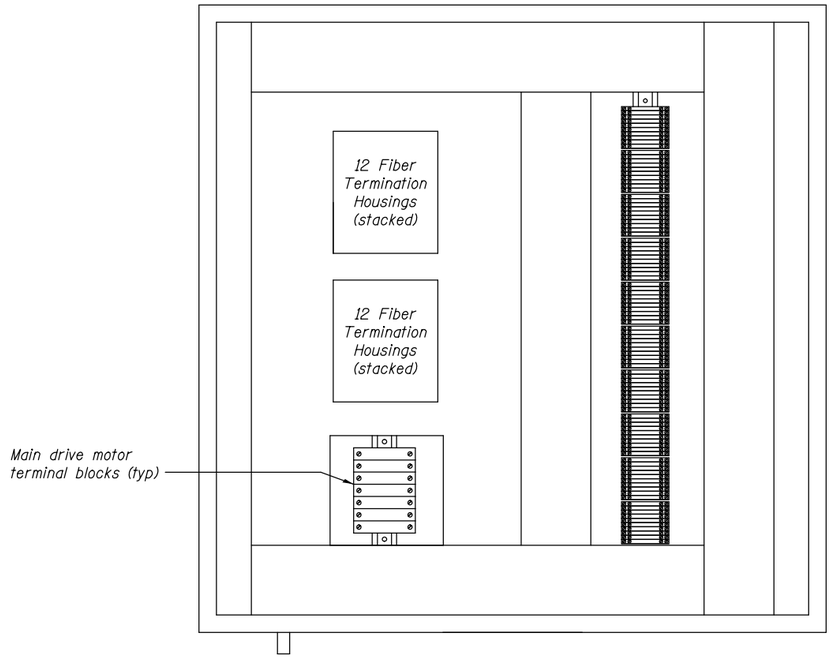
	CHECKED - L.V. BORDEN	REVISED ___	
PLOT SCALE =	DRAWN - R.L. REED	REVISED ___	
PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___	

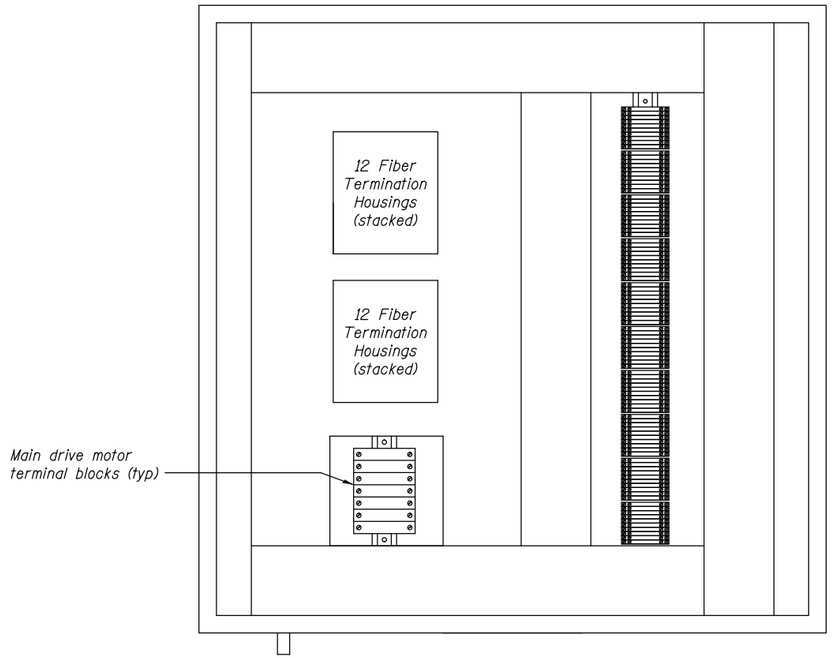
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – CONDUIT TABULATION – 3
SHEET NO. 88 OF 93 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	413
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



NEARSIDE AERIAL CABLE TERMINAL CABINET LAYOUT, 36"H x 36"W x 12"D



FARSIDE AERIAL CABLE TERMINAL CABINET LAYOUT, 36"H x 36"W x 12"D

PROPOSED AERIAL CONTROL AND COMMUNICATIONS CABLE		
Description	Quantity	Size/ Type
Fiber Optic Communications, Local Bridge PLC and CCTV Networks	2	12 Fiber
Farside Motor Encoder	4	1 pair,shielded 12AWG
Farside Inclinometer and Spares	4	1 pair,shielded 12AWG
Farside Traffic Gate Limit Switches	6	10 AWG
Farside Fully Seated Limit Switch	2	10 AWG
Farside Rotary Cam Limit Switch	9	10 AWG
Farside Brake Limit Switches	8	10 AWG
Farside Boat Detection	2	10 AWG
Motor Heater Control and Thermostat Contacts	4	10 AWG
Spare	10	10 AWG
Ground	1	6 AWG

PROPOSED AERIAL MAIN DRIVE CABLE		
Description	Quantity	Size/ Type
Farside Main Drive Motor - Shielded Symmetrical VFD Cable	1	(3) - 2AWG (3) - Ground

NOTES

1. Aerial cables content, cabinet sizes, and cabinet layouts shown are conceptual. The Contractor shall be responsible for determining the requirements of the aerial cable system necessary to support the Intergrated Bridge Controls System, the Bridge Control CCTV system, and all other related systems and components.
2. Refer to Special Provisions for additional requirements for aerial cables and cabinets.
3. Provide fiber optic termination housings as required to terminate aerial cable fiber optic cables associated with bridge local networks and to interconnect all associated bridge devices and networked components.

BRANDON, Drawing 06-089

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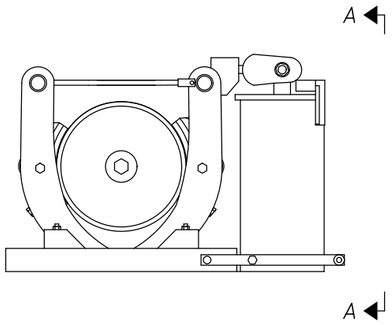
PLOT SCALE =	DRAWN - R.I. PETERS	REVISED ___	
PLOT DATE =	CHECKED - K.M. GABLE	REVISED ___	

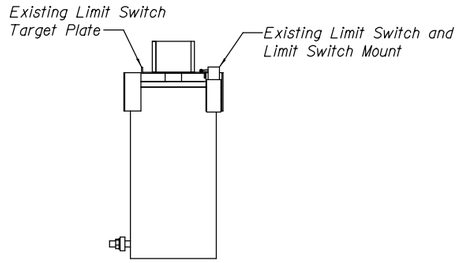
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – AERIAL CABLE DETAILS
SHEET NO. 89 OF 93 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	414
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		

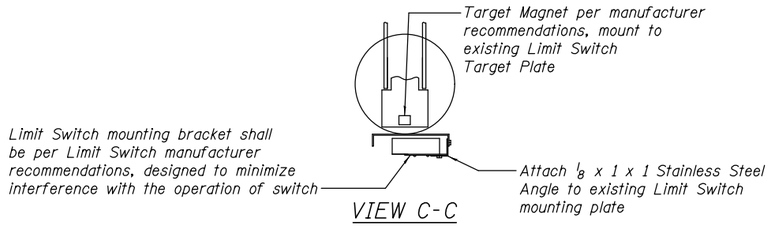


FRONT VIEW

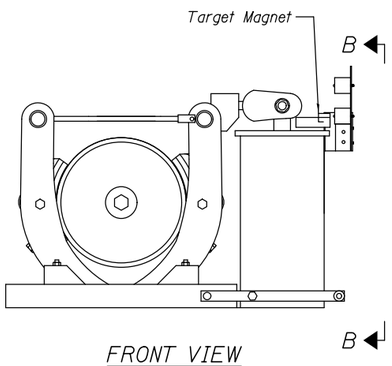


VIEW A-A

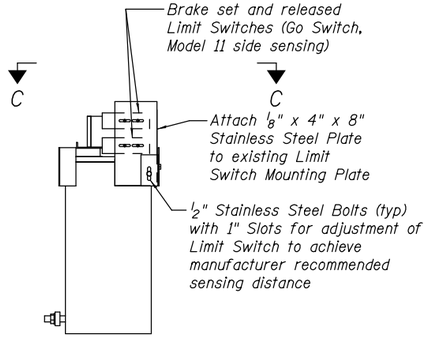
EXISTING BRANDON ROAD BRAKES
LIMIT SWITCHES



VIEW C-C



FRONT VIEW



VIEW B-B

PROPOSED BRANDON ROAD BRAKES LIMIT SWITCHES

(Typical of Brandon Road and McDonough Street Motor and Machinery Brake Limit Switches)

NOTES

1. All measurements are to be field verified prior to fabrication.
2. The Contractor shall submit Limit Switch mounting details to the Engineer for approval prior to ordering any materials or completing any work.

BRANDON, Drawing 06-090

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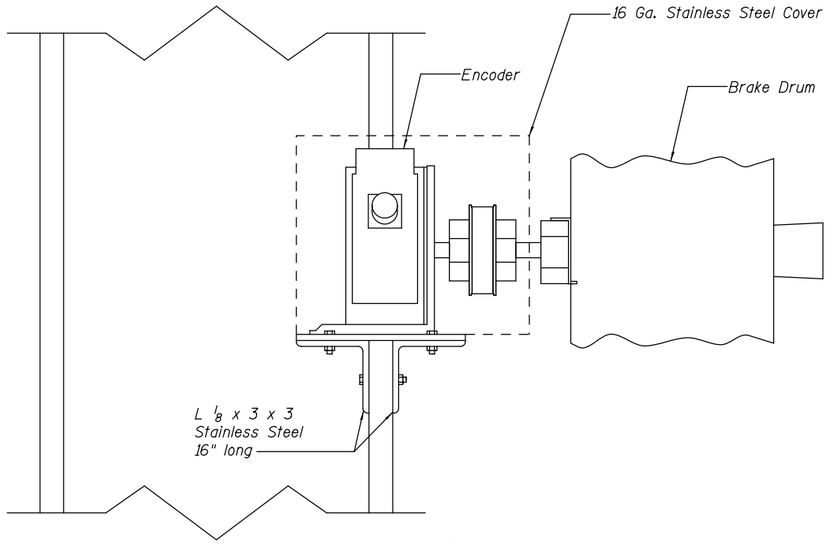
	PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___

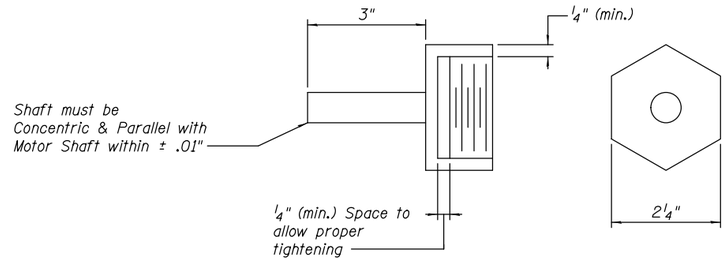
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – MISCELLANEOUS ELECTRICAL DETAILS – 1
SHEET NO. 90 OF 93 SHEETS

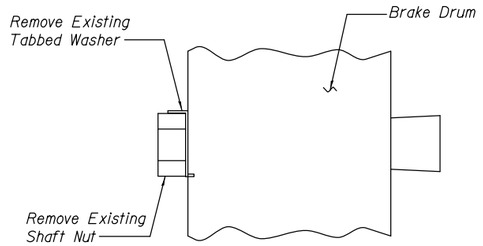
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	415
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



PROPOSED BRANDON ROAD MOTOR ENCODER DETAIL



DETAIL B



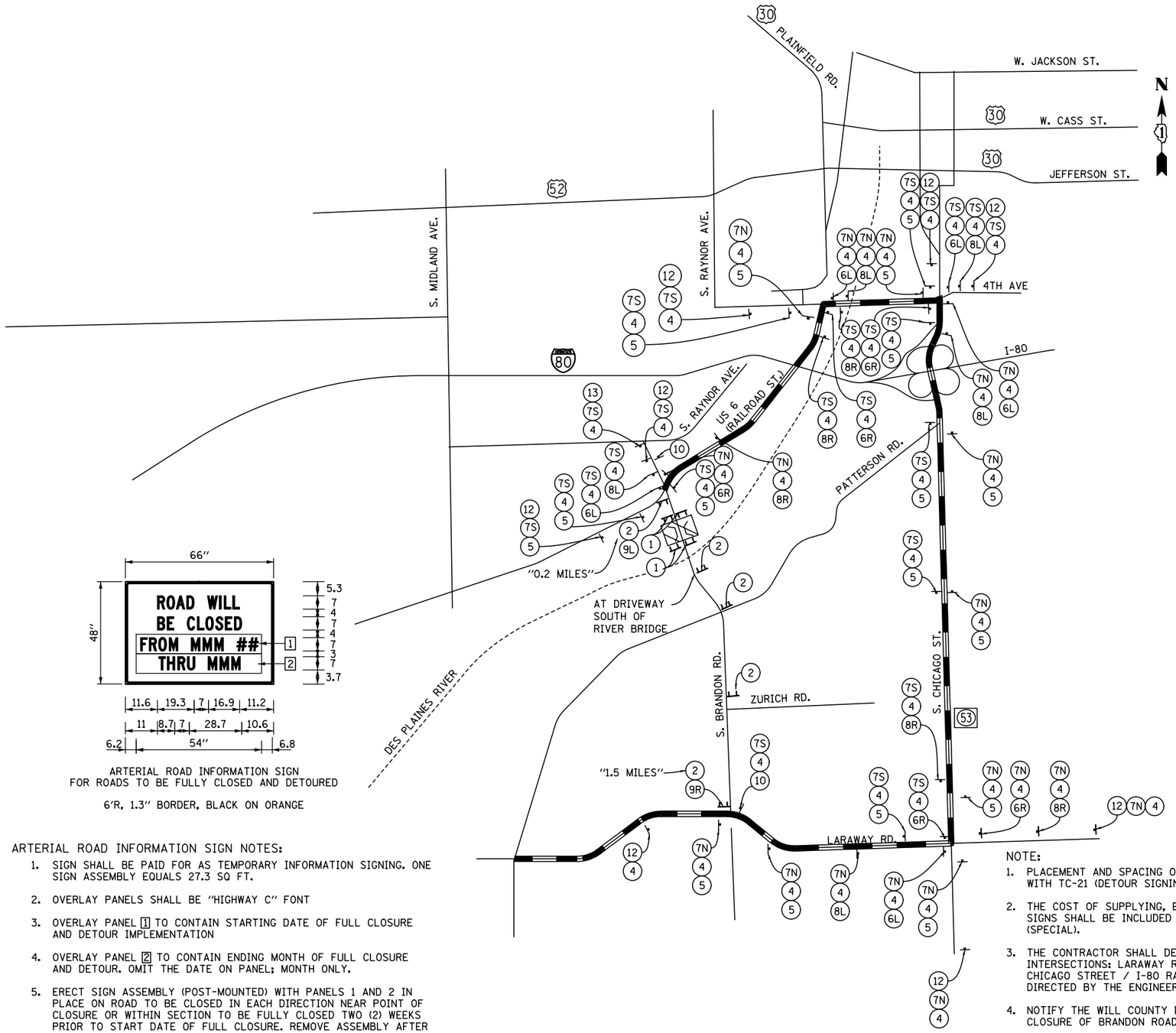
EXISTING MOTOR BRAKE

NOTES

1. All measurements are to be field verified prior to fabrication.

BRANDON, Drawing 06-091

MODJESKI and MASTERS Experience great bridges.	USER NAME =	DESIGNED - R.I. PETERS	REVISED ___	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	VARIOUS MOVABLE BRIDGES LOCAL CENTRALIZED CONTROL AND OPERATION BRANDON ROAD – MISCELLANEOUS ELECTRICAL DETAILS – 2	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - L.V. BORDEN	REVISED ___			0341	2011-045-I	WILL	466	416
	PLOT SCALE =	DRAWN - A.M. MARINO	REVISED ___					CONTRACT NO. 60P55		
	PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___		SHEET NO. 91 OF 93 SHEETS			ILLINOIS	FED. AID PROJECT	



ARTERIAL ROAD INFORMATION SIGN
FOR ROADS TO BE FULLY CLOSED AND DETOURED

6"R, 1.3" BORDER, BLACK ON ORANGE

ARTERIAL ROAD INFORMATION SIGN NOTES:

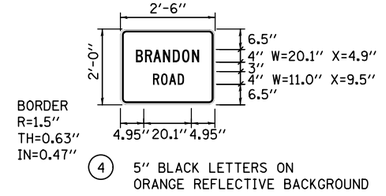
1. SIGN SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING. ONE SIGN ASSEMBLY EQUALS 27.3 SQ FT.
2. OVERLAY PANELS SHALL BE "HIGHWAY C" FONT
3. OVERLAY PANEL [1] TO CONTAIN STARTING DATE OF FULL CLOSURE AND DETOUR IMPLEMENTATION
4. OVERLAY PANEL [2] TO CONTAIN ENDING MONTH OF FULL CLOSURE AND DETOUR. OMIT THE DATE ON PANEL; MONTH ONLY.
5. ERECT SIGN ASSEMBLY (POST-MOUNTED) WITH PANELS 1 AND 2 IN PLACE ON ROAD TO BE CLOSED IN EACH DIRECTION NEAR POINT OF CLOSURE OR WITHIN SECTION TO BE FULLY CLOSED TWO (2) WEEKS PRIOR TO START DATE OF FULL CLOSURE. REMOVE ASSEMBLY AFTER CLOSURE.

BRIDGE CLOSED

(1) R11-2 (48" x 30")

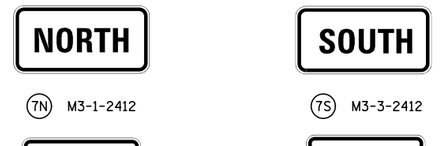
BRIDGE CLOSED
XX MILES AHEAD
LOCAL TRAFFIC ONLY

(2) R11-3a (60" x 30")

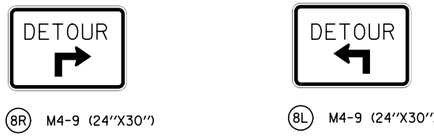


(4) 5" BLACK LETTERS ON ORANGE REFLECTIVE BACKGROUND

(5) M4-9 (24"X30") (6L) M4-9 (24"X30") (6R) M4-9 (24"X30")



(7N) M3-1-2412 (7S) M3-3-2412



(8R) M4-9 (24"X30") (8L) M4-9 (24"X30")

(9R) M4-10R (48"x18") (9L) M4-10R (48"x18")

(10) M4-8A (24" x 18")

(13) W20-3 (48" X 48")

(12) W20-2 (48" X 48")

NOTE:

1. PLACEMENT AND SPACING OF SIGNS AND BARRICADES SHALL BE IN ACCORDANCE WITH TC-21 (DETOUR SIGNING FOR CLOSING STATE HIGHWAYS).
2. THE COST OF SUPPLYING, ERECTING AND MAINTAINING BARRICADES, WARNING LIGHTS AND SIGNS SHALL BE INCLUDED IN THE CONTRACT COST OF TRAFFIC CONTROL AND PROTECTION (SPECIAL).
3. THE CONTRACTOR SHALL DEVELOP AND MAINTAIN APPROPRIATE SIGNAL TIMINGS FOR THE FOLLOWING INTERSECTIONS: LARAWAY RD. / CHICAGO ST., CHICAGO ST. / US 52 (MCDONOUGH ST), CHICAGO STREET / I-80 RAMPS (SOUTH), AND CHICAGO ST. / I-80 RAMPS (NORTH), OR AS DIRECTED BY THE ENGINEER.
4. NOTIFY THE WILL COUNTY DIVISION OF TRANSPORTATION A MINIMUM OF TWO WEEKS PRIOR TO CLOSURE OF BRANDON ROAD.

LEGEND:

- DETOUR ROUTE
- CONSTRUCTION ZONE
- TYPE III BARRICADE
- AMBER FLASHING LIGHT

BRANDON, Drawing 06-092

MODJESKI and MASTERS
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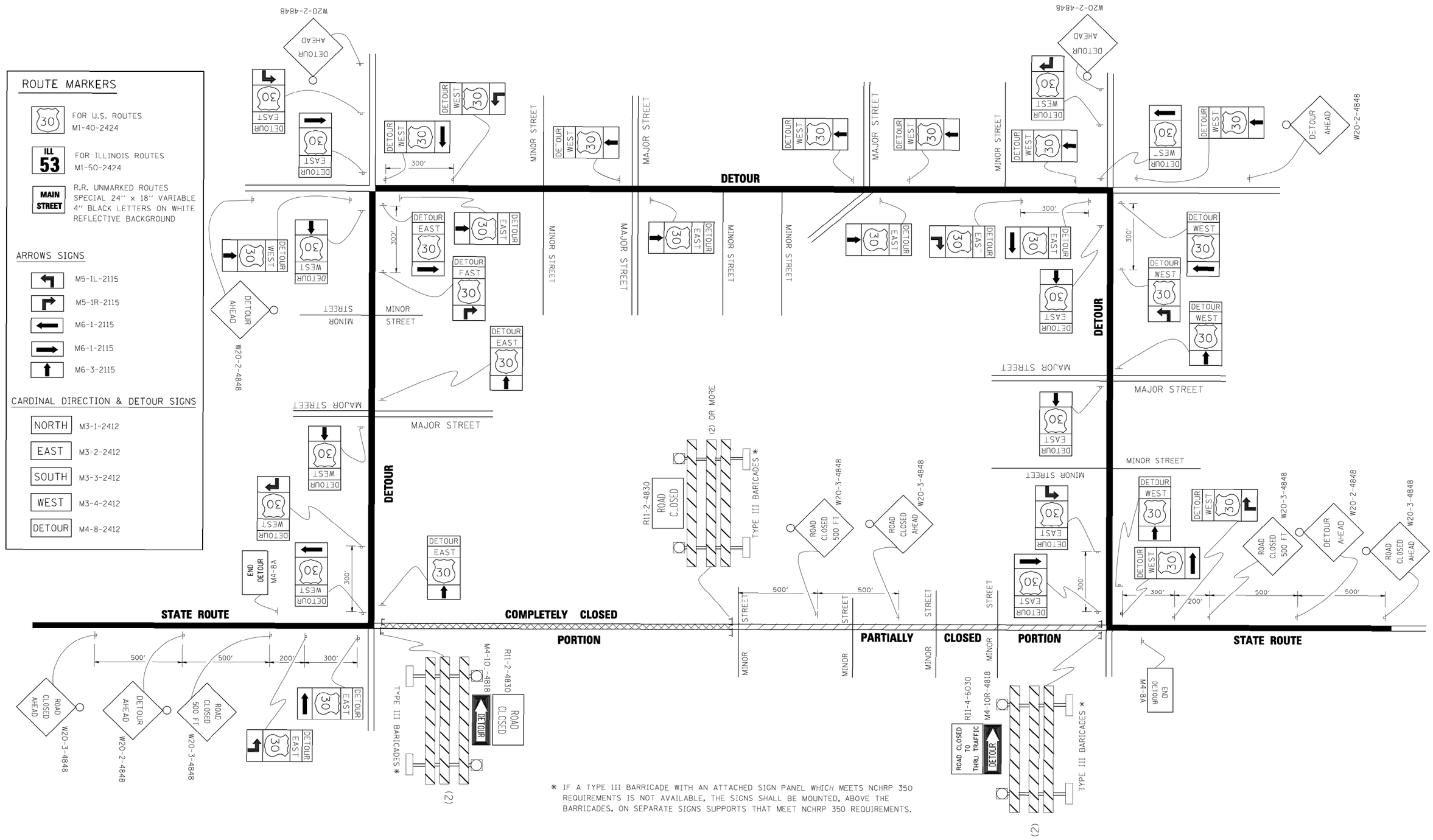
USER NAME =	DESIGNED - T.P. LAVIN	REVISED	
	CHECKED - T.P. LAVIN	REVISED	
PLOT SCALE =	DRAWN - J.A. BOWEN	REVISED	
PLOT DATE =	CHECKED - T.P. LAVIN	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRANDON ROAD – S.N. 099-9903 DETOUR ROUTE – 1
SHEET NO. 92 OF 93 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	417
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



IDOT DISTRICT 1 STANDARD TC-21

BRANDON, Drawing 06-093

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		CHECKED -	REVISED
	PLOT SCALE =	DRAWN -	REVISED
	PLOT DATE =	CHECKED -	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
DETOUR SIGNING FOR CLOSING STATE HIGHWAYS
SHEET NO. 93 OF 93 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	418
	TC-21	CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

INDEX OF SHEETS

WIRELESS BACKUP NETWORK, Drawing 07-001

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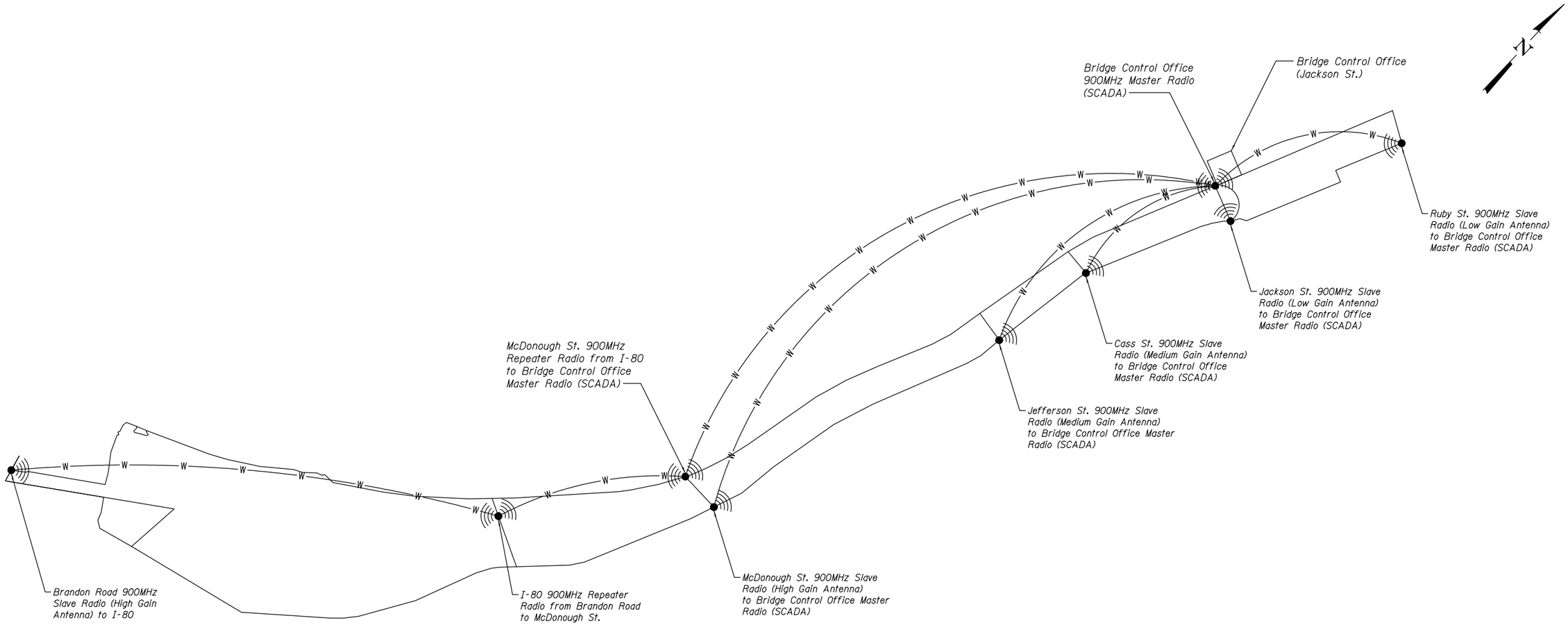
USER NAME =	DESIGNED - K.M. GABLE	REVISED ___
	CHECKED - L.V. BORDEN	REVISED ___
PLOT SCALE =	DRAWN - R.L. REED	REVISED ___
PLOT DATE =	CHECKED - K.M. GABLE	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – INDEX OF SHEETS
SHEET NO. 1 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VARIES	2011-045-I	WILL	466	419
		CONTRACT NO. 6OP55		
	ILLINOIS	FED. AID PROJECT		



900MHz (SCADA) WIRELESS BACKUP NETWORK

LEGEND:

- Master/Repeater Radio Antenna (Omnidirectional type)
- Slave Radio Antenna (Directional yagi type)
- W——W— Wireless connection

NOTES:

1. All locations shown in this layout shall utilize 900MHz TWE radios, configured for master, repeater, or slave as indicated.
2. SCADA Wireless Network shall utilize a separate network ID and frequency from all CCTV Wireless Network radios/antennas.
3. SCADA and CCTV Wireless Network antennas shall be seperated by minimum horizontal distance of 10 feet or minimum vertical distance of 6 feet. These minimum antenna clearances shall be maintained for all antenna installations in close proximity to existing antenna structures.

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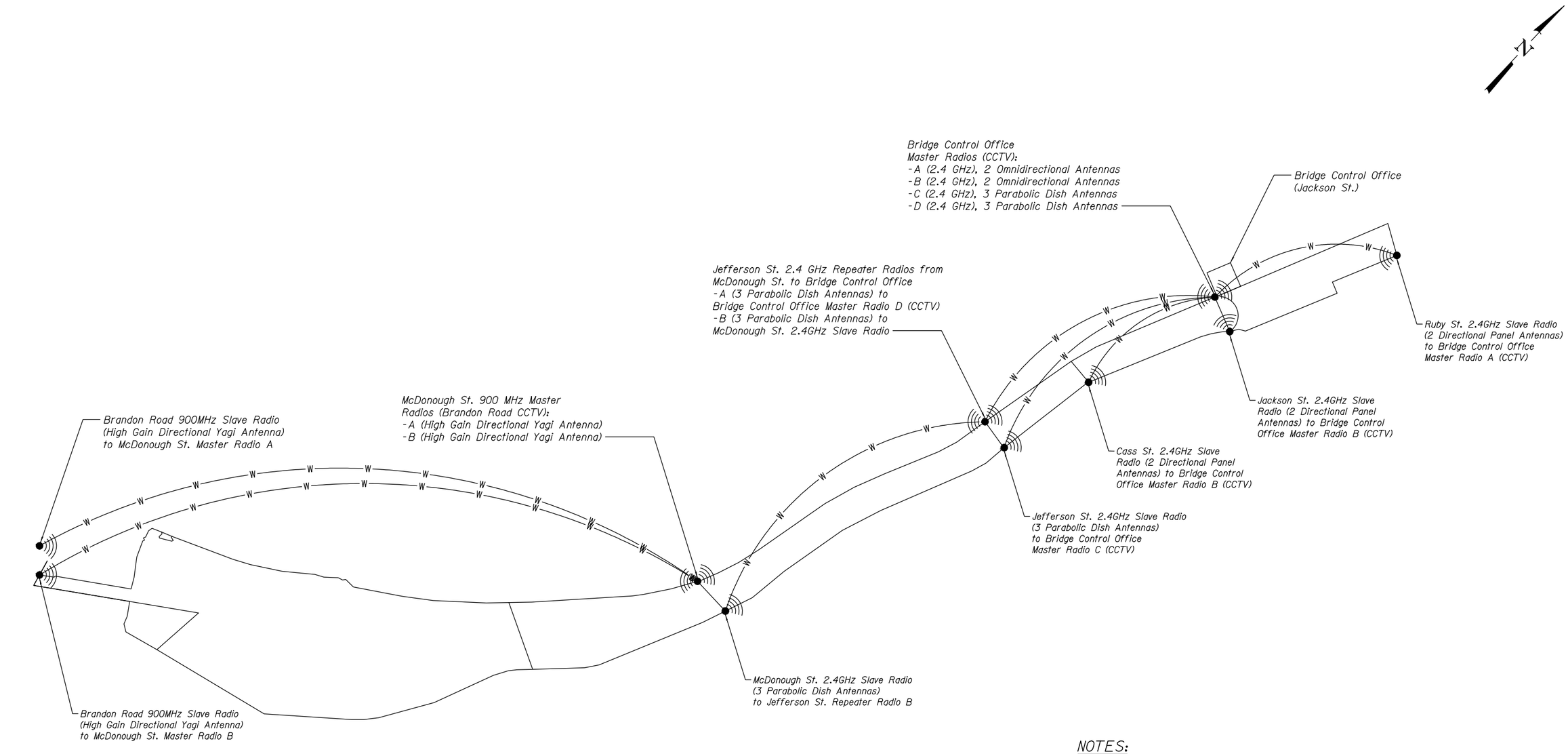
USER NAME =	DESIGNED - K.M. GABLE	REVISED ___
	CHECKED - L.V. BORDEN	REVISED ___
PLOT SCALE =	DRAWN - R.L. REED	REVISED ___
PLOT DATE = ___	CHECKED - K.M. GABLE	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – 900MHz (SCADA)
SHEET NO. 2 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VARIES	2011-045-I	WILL	466	420
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



LEGEND:

Master/Repeater Radio Antenna
(type as noted)

Slave Radio Antenna
(type as noted)

W———W— Wireless connection

900MHz/2.4GHz (CCTV)
WIRELESS BACKUP NETWORK

NOTES:

1. All locations shown in this layout shall utilize 900MHz TWE or 2.4GHz WLAN radios, configured for master, repeater, or slave as indicated.
2. Separate network IDs and frequencies shall be utilized for all 900 MHz radio/antenna networks (including SCADA Wireless Network radios/antennas).
3. All antennas (including SCADA antennas) shall be seperated by minimum horizontal distance of 10 feet or minimum vertical distance of 6 feet. These minimum antenna clearances shall be maintained for all antenna installations in close proximity to existing antenna structures.
4. Antenna separation requirements noted above do not apply to antennas connected to the same radio. Antennas connected to the same radio shall be mounted at the same vertical height and separated by 4 - 8 cm.
5. (2) Point-to-point 900 MHz Wireless from Brandon Road to McDonough St. shall send Brandon Road Upper PTZ Cameras 1 & 2 feeds to McDonough St. Brandon Road Camera feeds shall be tied into McDonough St. server to allow viewing capablilites over the Wireless Network via the McDonough St. server.

WIRELESS BACKUP NETWORK, Drawing 07-003

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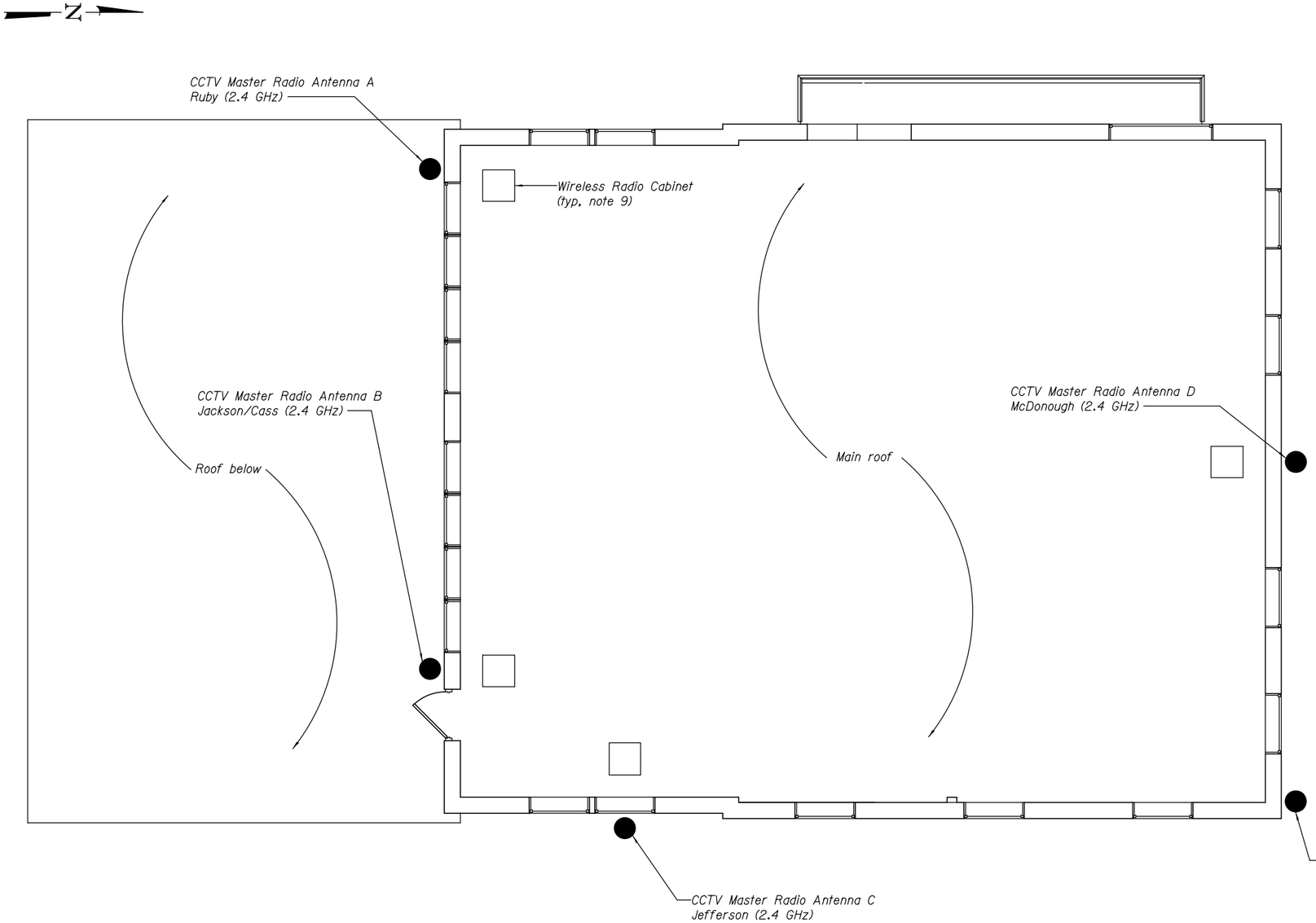
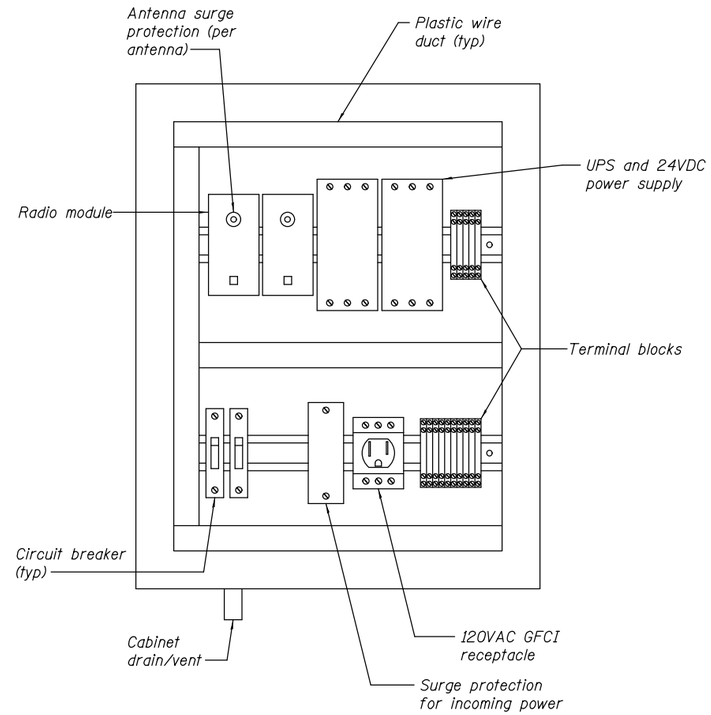
	CHECKED - L.V. BORDEN	REVISED	___
PLOT SCALE =	DRAWN - R.L. REED	REVISED	___
PLOT DATE = ___	CHECKED - K.M. GABLE	REVISED	___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – 900MHz/2.4GHz (CCTV)
SHEET NO. 3 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VARIES	2011-045-I	WILL	466	421
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			





TYPICAL WIRELESS RADIO CABINET

Scale: None

(Nema 4X stainless steel cabinet 20" H x 16" W x 8" D)

NOTES:

1. All locations shown are approximate. The Contractor shall field verify antenna mounting locations and submit proposed mounting locations and details to the Engineer for approval.
2. All antennas shall be seperated by minimum horizontal distance of 10 feet or minimum vertical distance of 6 feet. These minimum antenna clearances shall be maintained for all antenna installations in close proximity to existing antenna structures.
3. Antenna separation requirements noted above do not apply to antennas connected to the same radio. Antennas connected to the same radio shall be mounted at the same vertical height and separated by 4 - 8 cm.
4. The antennas shall be electrically bonded to a well grounded structure for lightning protection.
5. Additional antenna installation instructions shall be per the manufacturer recommendations.
6. Refer to drawings 07-002 and 07-003 for additional details on the Wireless Backup Network.
7. Refer to drawing 07-011 for antenna mounting details.
8. 2.4GHz antenna cables shall not exceed 25 feet in length to radio.
9. Provide and install (3) #12 and (1) CAT6 shielded ethernet in $\frac{3}{4}$" PVC coated conduit to each radio cabinet from the CCTV network rack.

WIRELESS BACKUP NETWORK, Drawing 07-004

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	CHECKED - L.V. BORDEN	REVISED ___
PLOT SCALE =	DRAWN - R.L. REED	REVISED ___
PLOT DATE =	CHECKED - K.M. GABLE	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – BRIDGE CONTROL OFFICE PLAN
SHEET NO. 4 OF 12 SHEETS

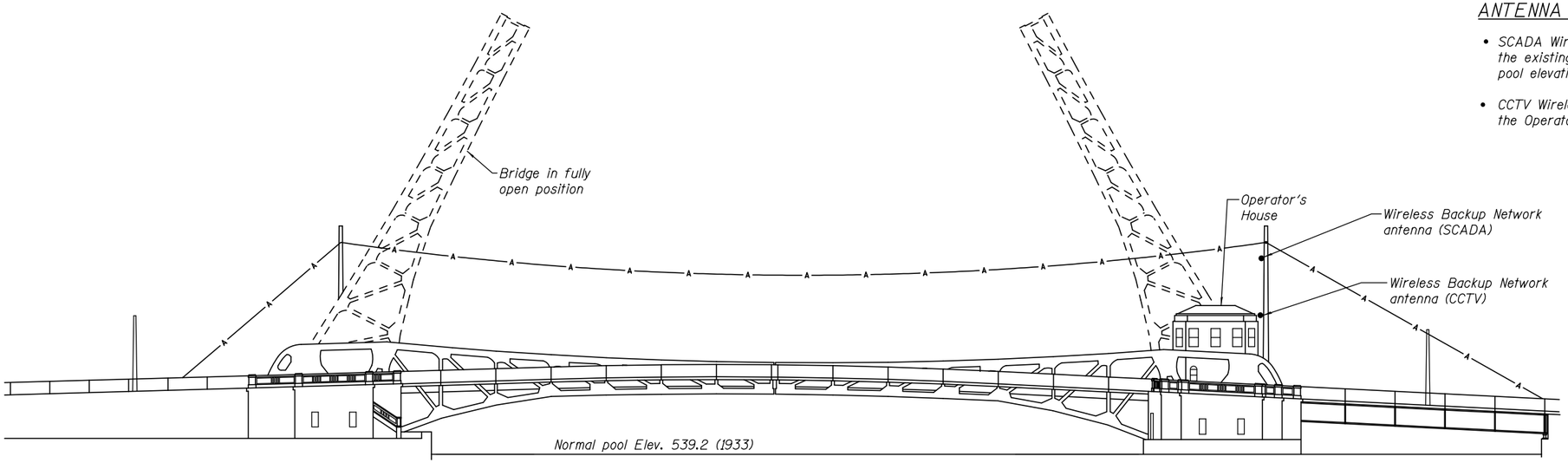
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	422
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

ANTENNA LOCATIONS AND DESCRIPTIONS

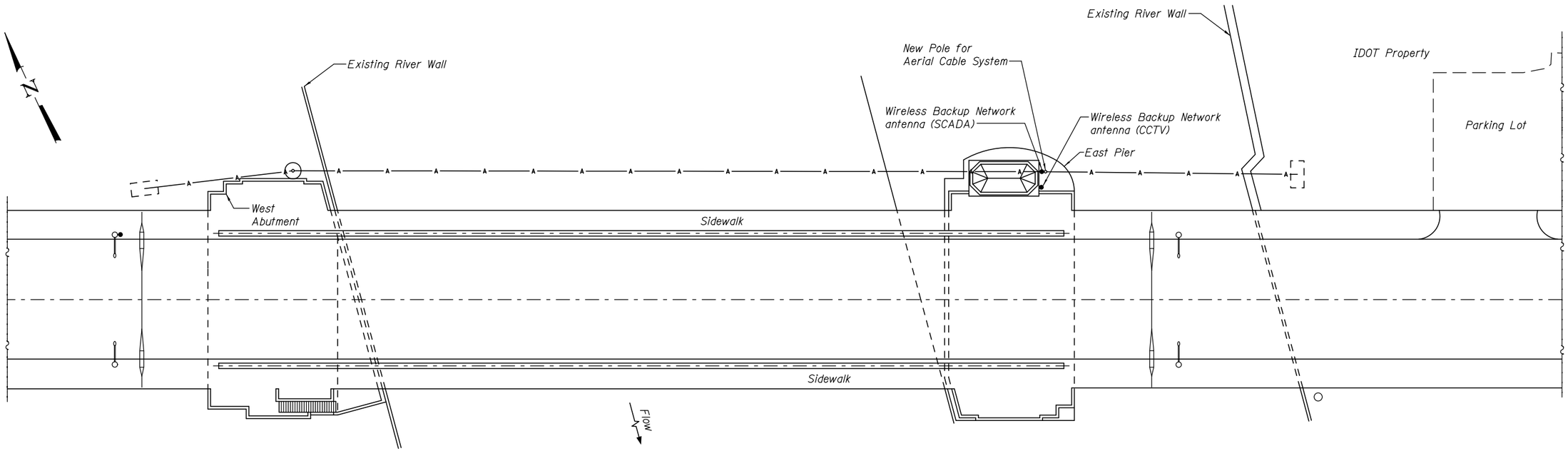
- SCADA Wireless Backup Network antenna shall be mounted to the existing East aerial cable pole approximately 56′ above pool elevation.
- CCTV Wireless Backup Network antenna shall be mounted to the Operator's House approximately 40′ above pool elevation.

NOTES:

1. All locations shown are approximate. The Contractor shall field verify antenna mounting locations and submit proposed mounting locations and details to the Engineer for approval.
2. SCADA and CCTV Wireless Backup Network antennas shall have a 6′ minimum elevation difference and shall be mounted on opposite sides of the aerial cable pole.
3. The antennas shall be electrically bonded to a well grounded structure for lightning recommendations.
4. Additional antenna installation instructions shall be per the manufacturer recommendations.
5. Refer to drawings 07-002 and 07-003 for additional details on the Wireless Backup Network.
6. Refer to drawing 07-011 for antenna mounting details.
7. 2.4 GHz antenna cable shall not exceed 25 feet in length to radio.



ELEVATION



PLAN

WIRELESS BACKUP NETWORK, Drawing 07-005

USER NAME =	DESIGNED - K.M. GABLE	REVISED ___	
	CHECKED - L.V. BORDEN	REVISED ___	
PLOT SCALE =	DRAWN - K.M. GABLE	REVISED ___	
PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___	

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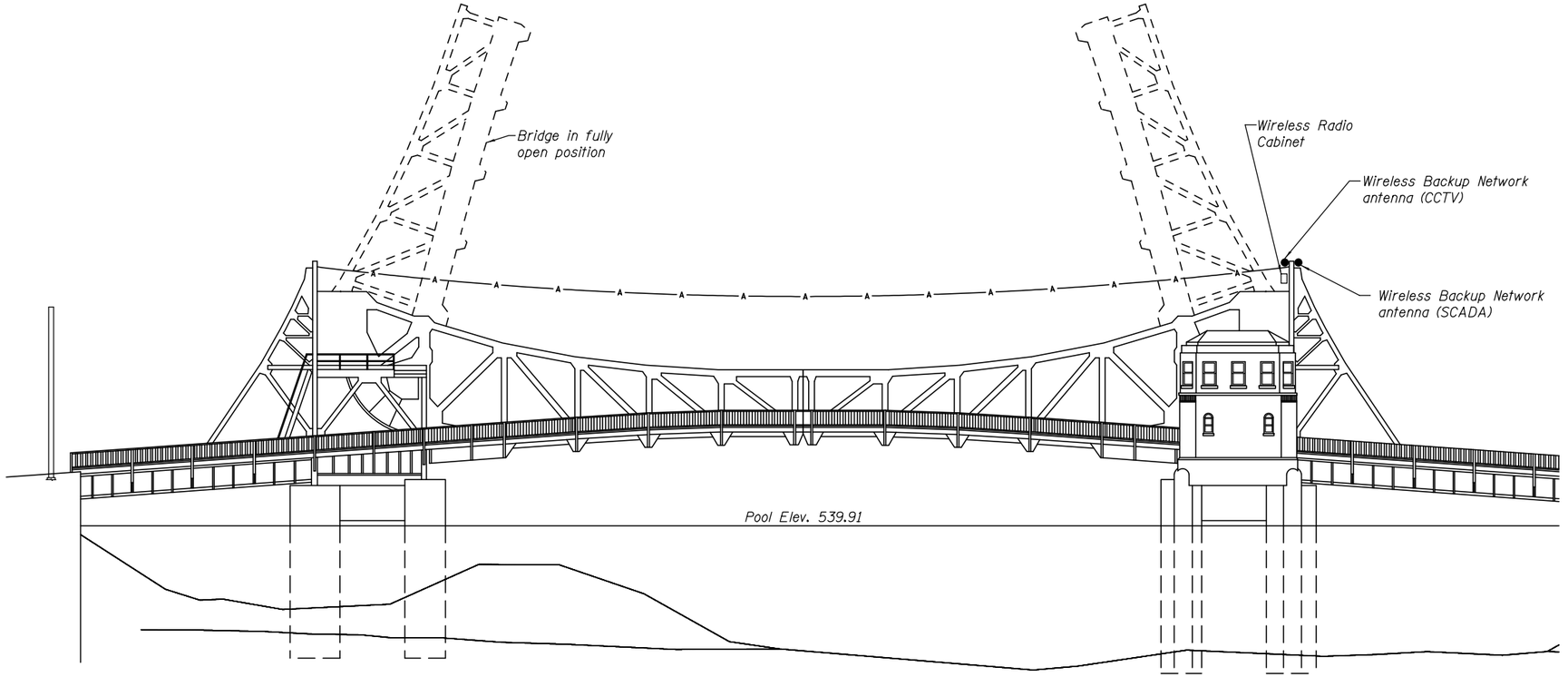
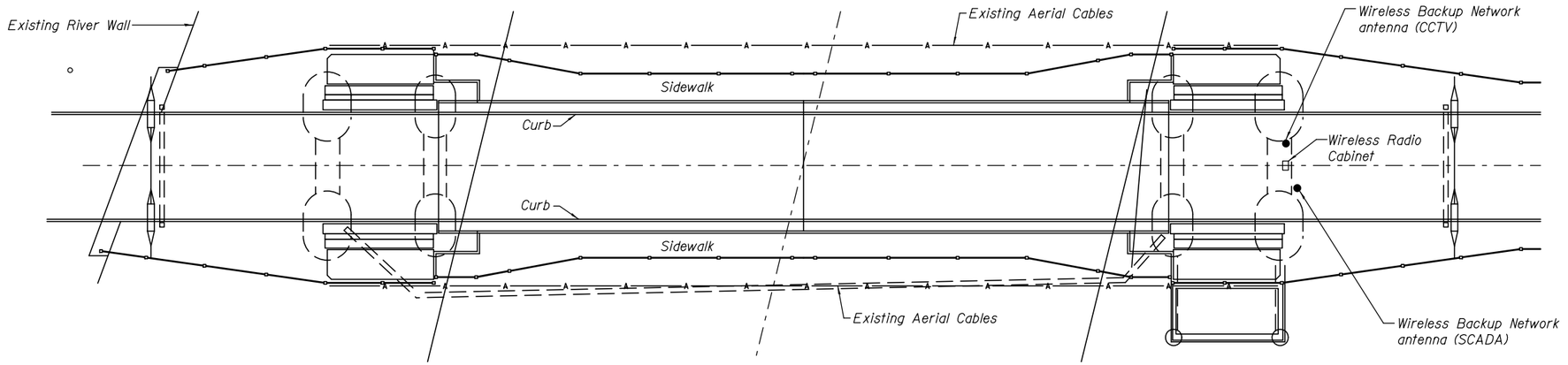
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – RUBY PLAN AND ELEVATION
SHEET NO. 5 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
112	2011-045-I	WILL	466	423
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



ELEVATION



PLAN

ANTENNA LOCATIONS AND DESCRIPTIONS

- CCTV Wireless Backup Network antennas shall be mounted on top of the fixed span structure approximately 66' above pool elevation.
- SCADA Wireless Backup Network antennas shall be mounted on top of the fixed span structure approximately 60' above pool elevation.

NOTES:

1. Unless noted otherwise, all antenna locations are tyical of Jackson and Cass St Bridges.
2. All locations shown are approximate. The Contractor shall field verify antenna mounting locations and submit proposed mounting locations and details to the Engineer for approval.
3. SCADA and CCTV Wireless Backup Network antennas shall have a minimum 6' elevation difference or 10' horizontal separation from each other and any existing antennas.
4. The antennas shall be electrically bonded to a well grounded structure for lightning protection.
5. Additional antenna installation instructions shall be per the manufacturer recommendations.
6. Refer to drawings 07-002 and 07-003 for additional details on the Wireless Backup Network.
7. Refer to drawing 07-011 for antenna mounting details.

MODJESKI and MASTERS
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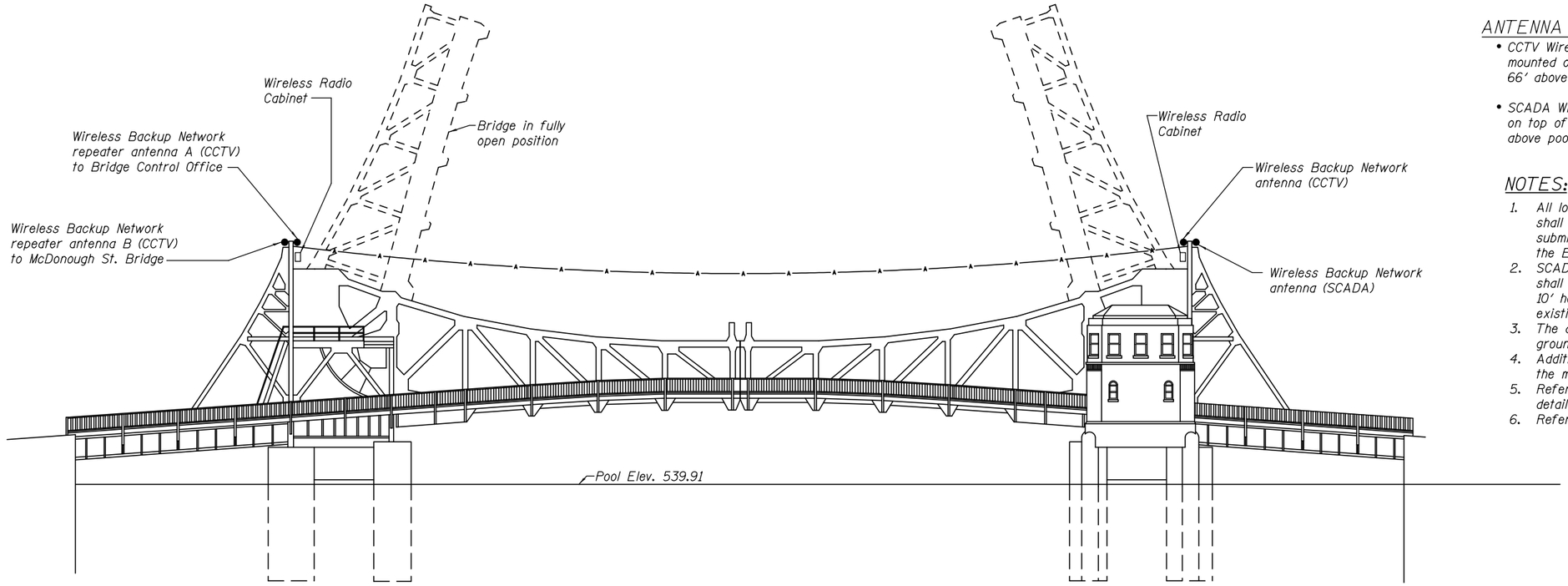
USER NAME =	DESIGNED - K.M. GABLE	REVISED	___
	CHECKED - L.V. BORDEN	REVISED	___
PLOT SCALE =	DRAWN - K.M. GABLE	REVISED	___
PLOT DATE =	CHECKED - R.I. PETERS	REVISED	___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

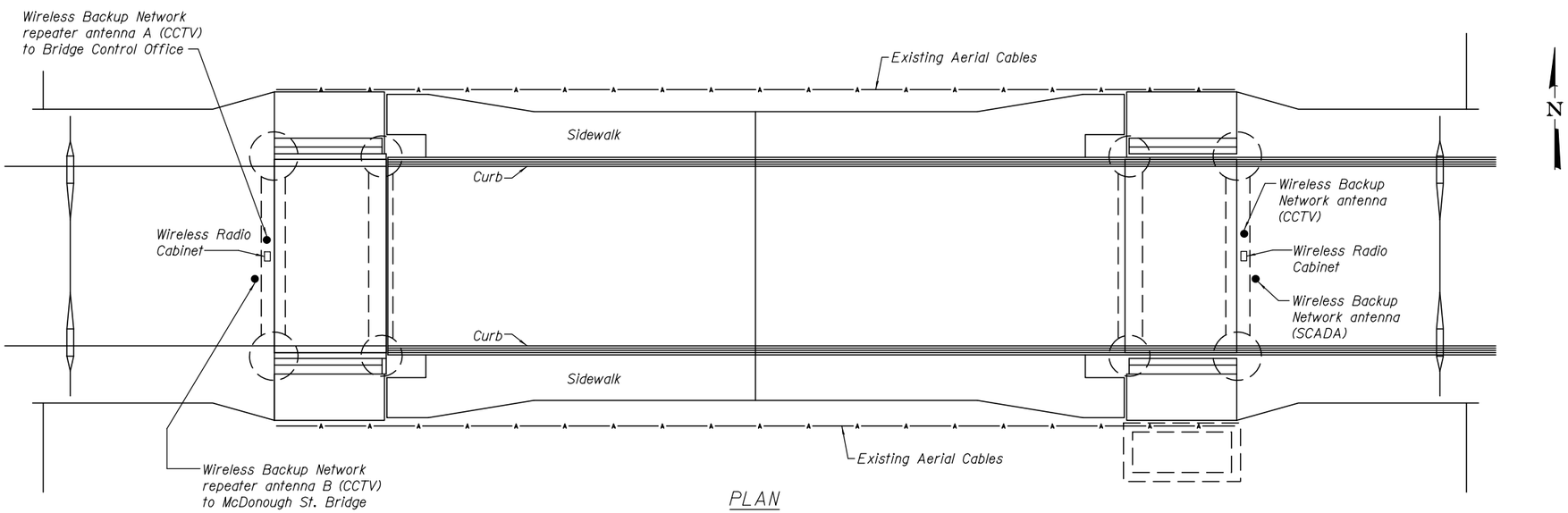
VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – TYPICAL ANTENNA PLAN AND ELEVATION
SHEET NO. 6 OF 12 SHEETS

WIRELESS BACKUP NETWORK, Drawing 07-006

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0313	2011-045-I	WILL	466	424
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



ELEVATION



PLAN

ANTENNA LOCATIONS AND DESCRIPTIONS

- CCTV Wireless Backup Network antennas shall be mounted on top of the fixed span structure approximately 66' above pool elevation.
- SCADA Wireless Backup Network antennas shall be mounted on top of the fixed span structure approximately 60' above pool elevation.

NOTES:

1. All locations shown are approximate. The Contractor shall field verify antenna mounting locations and submit proposed mounting locations and details to the Engineer for approval.
2. SCADA and CCTV Wireless Backup Network antennas shall have a minimum 6' elevation difference or 10' horizontal separation from each other and any existing antennas.
3. The antennas shall be electrically bonded to a well grounded structure for lightning protection.
4. Additional antenna installation instructions shall be per the manufacturer recommendations.
5. Refer to drawings 07-002 and 07-003 for additional details on the Wireless Backup Network.
6. Refer to drawing 07-011 for antenna mounting details.

MODJESKI and MASTERS
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USER NAME =	DESIGNED - K.M. GABLE	REVISED ___	
	CHECKED - L.V. BORDEN	REVISED ___	
PLOT SCALE =	DRAWN - R.L. REED	REVISED ___	
PLOT DATE =	CHECKED - K.M. GABLE	REVISED ___	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – JEFFERSON PLAN AND ELEVATION
SHEET NO. 7 OF 12 SHEETS

WIRELESS BACKUP NETWORK, Drawing 07-007

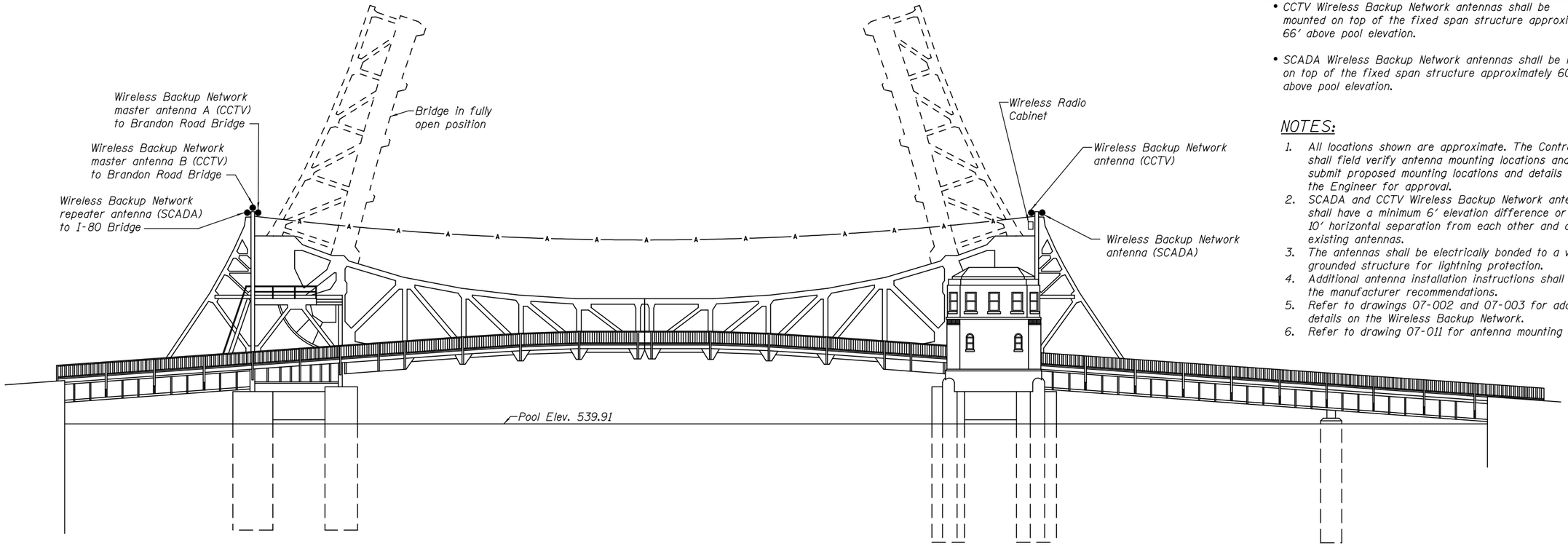
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0313	2011-045-I	WILL	466	425
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

ANTENNA LOCATIONS AND DESCRIPTIONS

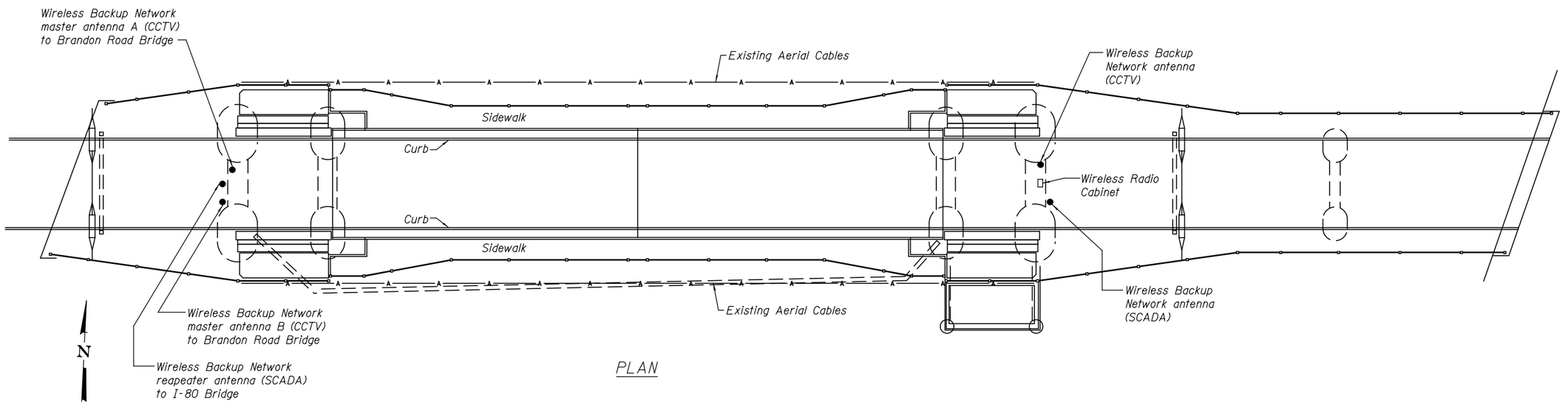
- CCTV Wireless Backup Network antennas shall be mounted on top of the fixed span structure approximately 66' above pool elevation.
- SCADA Wireless Backup Network antennas shall be mounted on top of the fixed span structure approximately 60' above pool elevation.

NOTES:

1. All locations shown are approximate. The Contractor shall field verify antenna mounting locations and submit proposed mounting locations and details to the Engineer for approval.
2. SCADA and CCTV Wireless Backup Network antennas shall have a minimum 6' elevation difference or 10' horizontal separation from each other and any existing antennas.
3. The antennas shall be electrically bonded to a well grounded structure for lightning protection.
4. Additional antenna installation instructions shall be per the manufacturer recommendations.
5. Refer to drawings 07-002 and 07-003 for additional details on the Wireless Backup Network.
6. Refer to drawing 07-011 for antenna mounting details.



ELEVATION



PLAN

WIRELESS BACKUP NETWORK, Drawing 07-008

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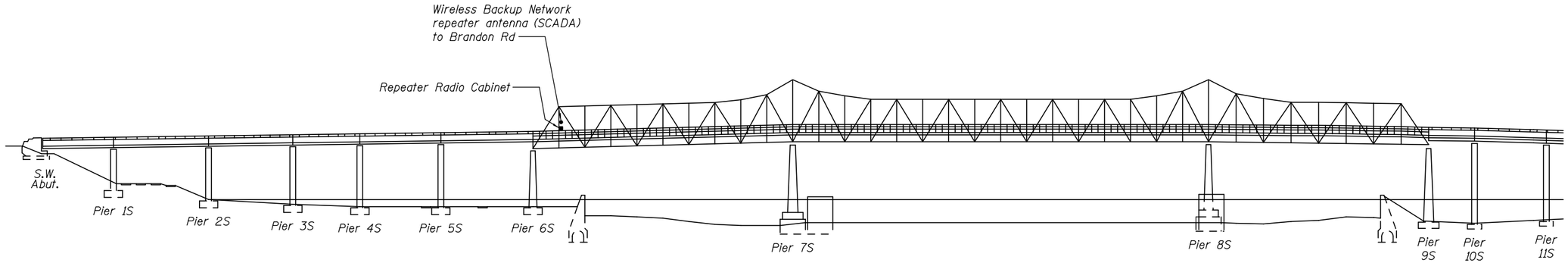
		CHECKED - L.V. BORDEN	REVISED ___
	PLOT SCALE =	DRAWN - R.L. REED	REVISED ___
	PLOT DATE =	CHECKED - K.M. GABLE	REVISED ___

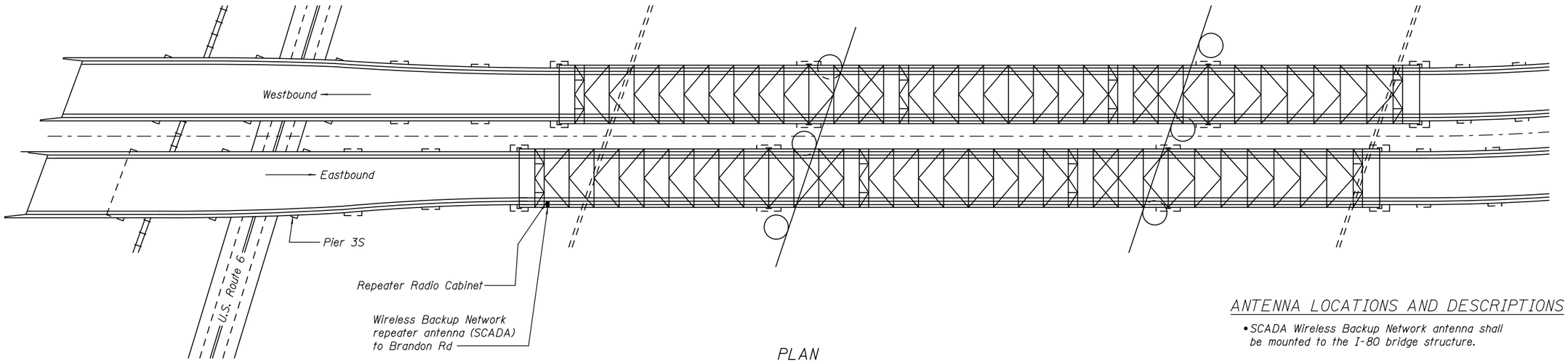
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – McDONOUGH PLAN AND ELEVATION
SHEET NO. 8 OF 12 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0313	2011-045-I	WILL	466	426
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



ELEVATION



PLAN

ANTENNA LOCATIONS AND DESCRIPTIONS

- SCADA Wireless Backup Network antenna shall be mounted to the I-80 bridge structure.
- Repeater antenna radio cabinet shall be mounted to the backside of exit 132A ($\frac{1}{2}$ mile) roadway sign.

NOTES:

1. All locations shown are approximate. The Contractor shall field verify antenna mounting locations and submit proposed mounting locations and details to the Engineer for approval.
2. The antennas shall be electrically bonded to a well grounded structure for lightning protection.
3. Additional antenna installation instructions shall be per the manufacturer recommendations.
4. Refer to drawings 07-002 and 07-003 for additional details on the Wireless Backup Network.
5. Refer to drawing 07-011 for antenna mounting and repeater cabinet details.

WIRELESS BACKUP NETWORK, Drawing 07-009

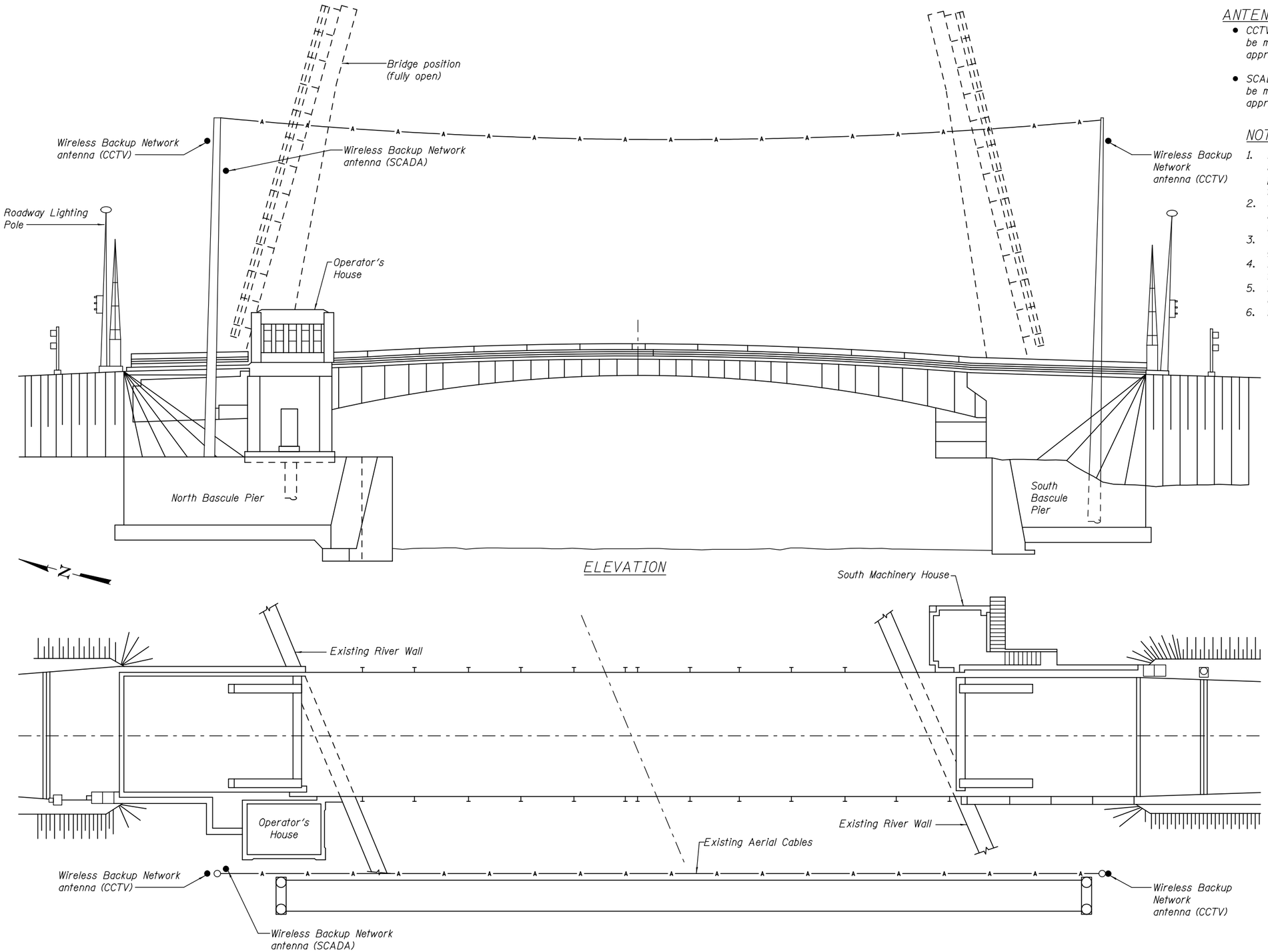
MODJESKI and MASTERS
Experience great bridges.

USER NAME =	DESIGNED - K.M. GABLE	REVISED ___
	CHECKED - L.V. BORDEN	REVISED ___
PLOT SCALE =	DRAWN - R.L. REED	REVISED ___
PLOT DATE =	CHECKED - K.M. GABLE	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – I-80 BRIDGE PLAN AND ELEVATION
SHEET NO. 9 OF 12 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
(I-80)	2011-045-I	WILL	466	427
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



ANTENNA LOCATIONS AND DESCRIPTION

- *CCTV Wireless Backup Network antenna shall be mounted to the existing North aerial cable pole approximately 70' above pool elevation.*
- *SCADA wireless Backup Network antenna shall be mounted to the existing North aerial cable pole approximately 60' above pool elevation.*

NOTES

1. *All locations shown are approximate. The Contractor shall field verify antenna mounting locations and submit proposed mounting locations and details to the Engineer for approval.*
2. *SCADA and CCTV Wireless Backup Network antennas shall have a 6' minimum elevation difference and shall be mounted on opposite sides of the aerial cable pole.*
3. *The antennas shall be electrically bonded to a well grounded structure for lightning protection.*
4. *Additional antenna installation instructions shall be per the manufacturer recommendations.*
5. *Refer to drawings 07-002 and 07-003 for additional details on the Wireless Backup Network.*
6. *Refer to drawing 07-011 for antenna mounting details.*

WIRELESS BACKUP NETWORK, Drawing 07-010

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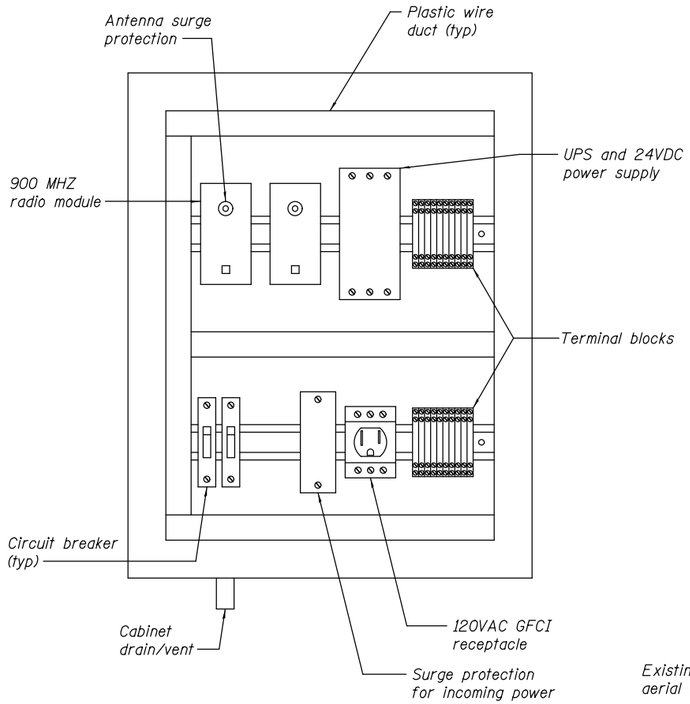
		CHECKED - L.V. BORDEN	REVISED ___
	PLOT SCALE =	DRAWN - K.M. GABLE	REVISED ___
	PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – BRANDON RD PLAN AND ELEVATION
SHEET NO. 10 OF 12 SHEETS

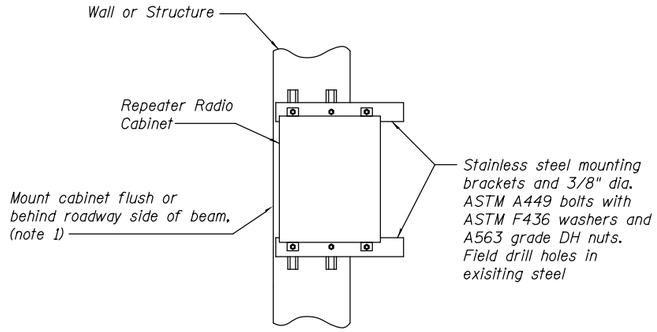
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0341	2011-045-I	WILL	466	428
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



I-80 REPEATER RADIO CABINET

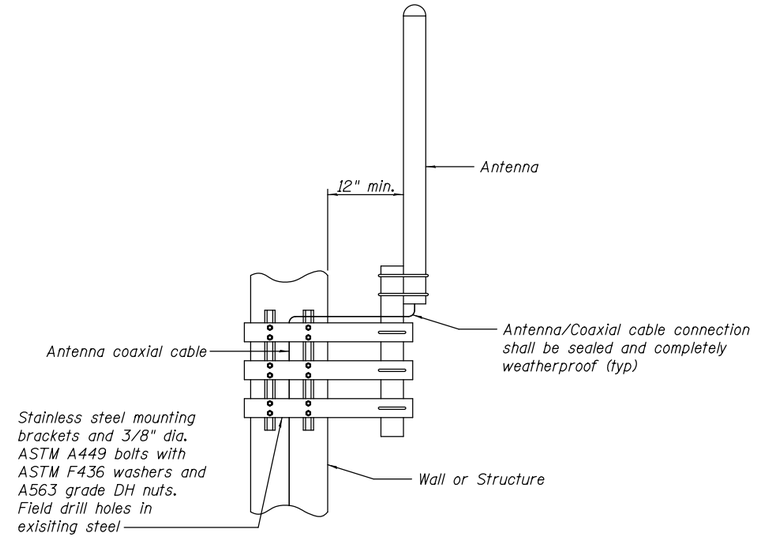
Scale: None

(Nema 4X stainless steel cabinet 20" H x 16" W x 8" D)



DETAIL B

Scale: None



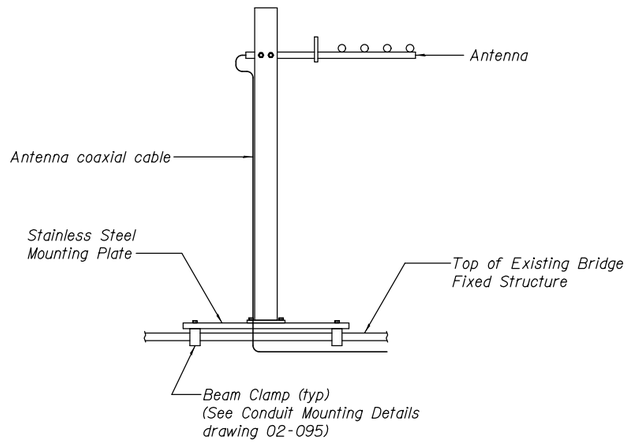
DETAIL A

Scale: None

(typical of omnidirectional antennas)

I- 80 REPEATER ANTENNA

Scale: None



TYPICAL DIRECTIONAL ANTENNA DETAIL

Scale: None

WIRELESS BACKUP NETWORK EQUIPMENT		
Item No.	Quantity	Item Description
1	2	900 MHz Ethernet radio
2	1	900 MHz omnidirectional antenna with installation hardware & accessories
3	2	Antenna surge suppressor
4	1	Surge Protective Device
5	2	Circuit breaker
6	1	24VDC power supply
7	as req.	Accessories and installation hardware

* Equipment listed for I-80 repeater location only

NOTES:

1. Cabinet shall be mounted on the vertical beam below location shown for antenna. Cabinet and antenna shall be mounted so as not to protrude beyond the roadway side of the beam and high enough to not interfere with bridge inspection work.
2. The Contractor shall submit mounting details and locations to the Engineer for approval.
3. Antenna coaxial cable shall enter the bottom of cabinet and connection sealed and completely weatherproof.
4. The Contractor shall coordinate and provide a ComEd electrical service (flat rate account) for the radio equipment. Refer to drawing 07-012.
5. Incoming power conduit shall be securely fastened to bridge structure with stainless steel conduit supports. Spacing as required by NEC. Electrogalvanized conduit supports shall not be permitted.
7. Antennas shall be electrically bonded to bridge structure.
8. Antenna coaxial cable shall be secured to the structure at a minimum of 3' intervals.
9. Final testing of the wireless signal shall be tested prior to installation of the antenna and associated components.
10. Antenna mounting details are conceptual only, and antenna type may vary per location. Refer to drawings 07-002 and 07-003 for additional details on Wireless Backup Network.
11. Work shall be performed using man lift equipment from ground level under the I-80 Eastbound approach span within the IDOT right-of-way.
12. Welding on existing steel shall not be permitted.

NOTES:

1. Provide excess slack in Aerial Cable to run wiring through conduit from weatherhead to Electrical Service Disconnect

DETAIL A
Scale: None

PLAN

WIRELESS BACKUP NETWORK, Drawing 07-012

USER NAME =	DESIGNED - R.I. PETERS	REVISED ___	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - L.V. BORDEN	REVISED ___	
PLOT SCALE =	DRAWN - R.L. REED	REVISED ___	
PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___	

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VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
WIRELESS BACKUP NETWORK – UTILITY POWER
SHEET NO. 12 OF 12 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
(I-80)	2011-045-I	WILL	466	430
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		

INDEX OF SHEETS

SHEET	LOCAL SHEET	DESCRIPTION
431	08-001	BRIDGE OFFICE BUILDING INDEX OF SHEETS
432	08-002	SECOND FLOOR ARCHITECTURAL PLAN - DEMOLITION
433	08-003	SECOND FLOOR ARCHITECTURAL PLAN - NEW WORK
434	08-004	SECOND FLOOR ARCHITECTURAL REFLECTED CEILING PLAN - DEMO
435	08-005	SECOND FLOOR ARCHITECTURAL REFLECTED CEILING PLAN - NEW
436	08-006	ARCHITECTURAL DOOR SCHEDULE AND DETAILS
437	08-007	ENLARGED ARCHITECTURAL PLANS, INTERIOR ELEVATIONS AND DETAILS
438	08-008	SECOND FLOOR PLUMBING PLAN - DEMOLITION
439	08-009	SECOND FLOOR PLUMBING DOMESTIC WATER PLAN - NEW WORK
440	08-010	SECOND FLOOR PLUMBING WASTE AND VENT PLAN - NEW WORK
441	08-011	GENERAL PLUMBING NOTES, DETAILS AND SCHEDULES
442	08-012	GENERAL MECHANICAL NOTES AND SCHEDULES
443	08-013	SECOND FLOOR MECHANICAL PLAN - DEMOLITION
444	08-014	SECOND FLOOR MECHANICAL PLAN - NEW WORK
445	08-015	MECHANICAL DETAILS
446	08-016	ELECTRICAL LEGEND AND ABBREVIATIONS
447	08-017	ELECTRICAL GENERAL NOTES AND LIGHT FIXTURE SCHEDULES
448	08-018	ELECTRICAL SITE PLAN
449	08-019	FIRST FLOOR ELECTRICAL PLAN - DEMOLITION AND NEW WORK
450	08-020	LIGHTING PLAN - SECOND FLOOR - DEMOLITION AND NEW WORK
451	08-021	POWER PLAN - SECOND FLOOR - DEMOLITION AND NEW WORK
452	08-022	SPECIAL SYSTEMS - SECOND FLOOR - NEW WORK
453	08-023	ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION
454	08-024	ELECTRICAL ONE -LINE DIAGRAM - NEW WORK
455	08-025	ELECTRICAL PANELBOARD SCHEDULE - EXISTING
456	08-026	ELECTRICAL PANELBOARD SCHEDULE - NEW WORK - 1
457	08-027	ELECTRICAL PANELBOARD SCHEDULE - NEW WORK - 2
458	08-028	CONTROL ROOM FLOOR PLAN
459	08-029	CONTROL ROOM ELEVATION
460	08-030	FIBER OPTIC INTERCONNECT CABINET
461	08-031	SCADA ONE-LINE
462	08-032	CCTV ONE-LINE
463	08-033	NETWORK CABINET DETAILS
464	08-034	GENERATOR PAD DETAILS - 1
465	08-035	GENERATOR PAD DETAILS - 2
466	08-036	GENERATOR PAD DETAILS - 3

LICENSED ARCHITECT
NELSON E. MORALES
001-021357
STATE OF ILLINOIS

SIGNED: 01/28/2015
SHEETS: 431-437

LICENSED PROFESSIONAL ENGINEER
JOSEPH DOYLE
062-065276
STATE OF ILLINOIS

EXPIRES: 11/30/2019
SIGNED: 02/19/2018
SHEETS: 438-445

RYAN D. NATION
062-055391
REGISTERED PROFESSIONAL ENGINEER
OF
ILLINOIS
EXPIRES 11/30/19
Signed: 2/19/18

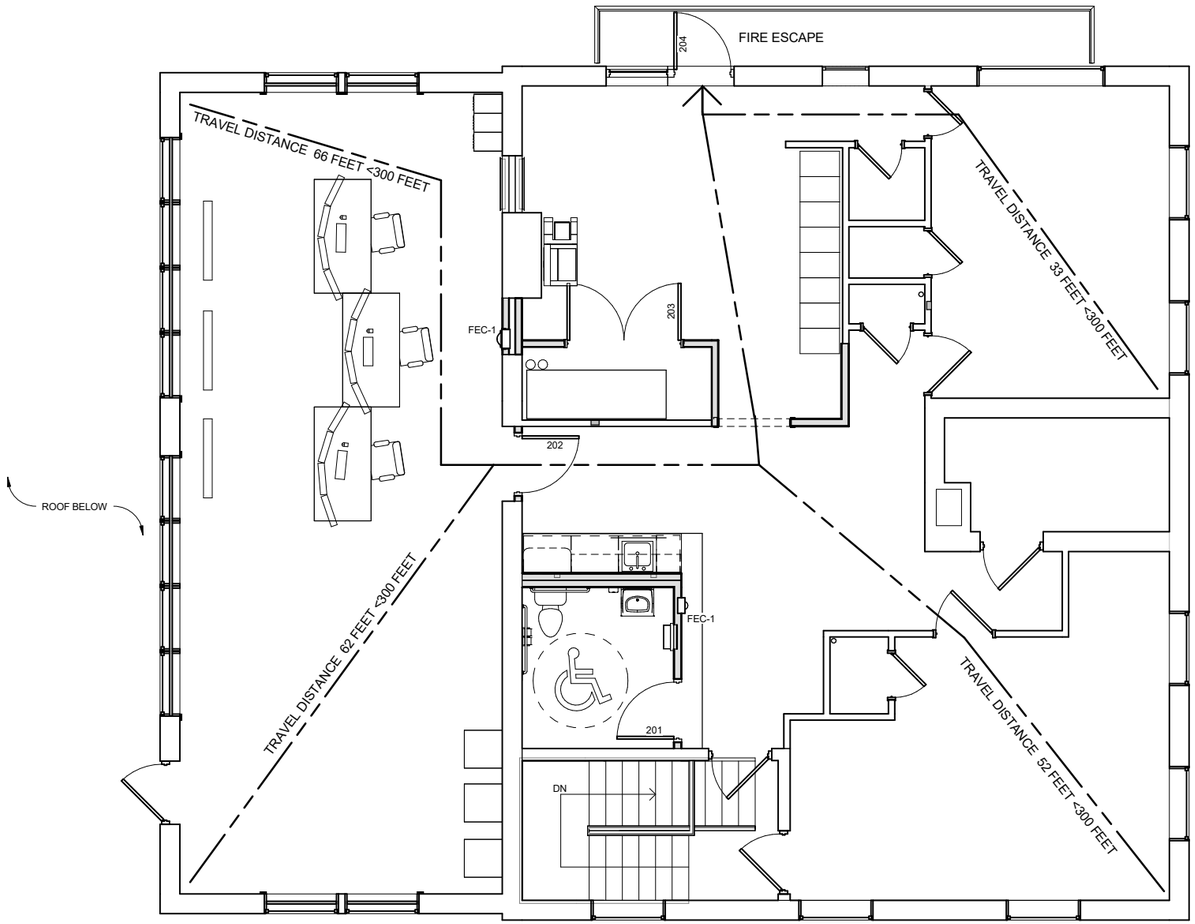
SHEETS: 446-457

LEGEND

- EGRESS PATH OF TRAVEL
- FEC — FIRE EXTINGUISHER CABINET
- FIRE RESISTIVE RATE LINE, 1 HOUR
- FIRE RESISTIVE RATE LINE, 2 HOUR
- FIRE RESISTIVE RATE LINE, 3 HOUR
- FIRE RESISTIVE RATE LINE, 4 HOUR
- FIRE-RATED, SMOKE BARRIER, 1 HOUR
- FIRE-RATED, SMOKE BARRIER, 2 HOUR
- FIRE-RATED, SMOKE BARRIER, 3 HOUR
- FIRE-RATED, SMOKE BARRIER, 4 HOUR
- SMOKE BARRIER LINE

GENERAL FLOOR PLAN NOTES

1. REFER TO DOOR SCHEDULE FOR FIRE-RATING OF DOORS.
2.



1 LIFE SAFETY FLOOR PLAN
1/4" = 1'-0"

N

FINAL SUBMITTAL 02/19/18

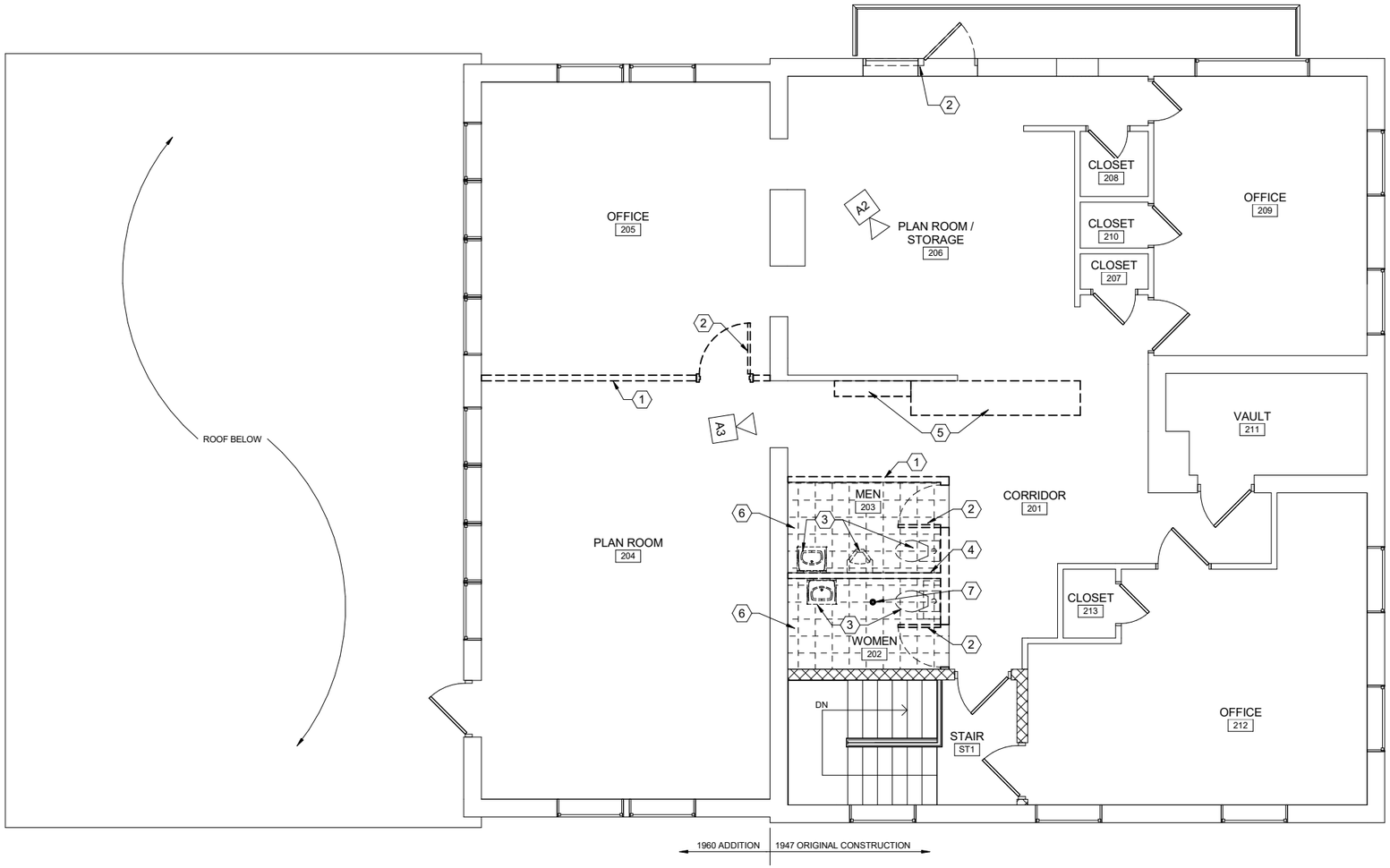
BRIDGE CONTROL OFFICE, Drawing 08-001

HANSON. Hanson Professional Services Inc.	USER NAME =	DESIGNED - Designer	REVISED
		DRAWN - Author	REVISED
	PLOT SCALE=	CHECKED - Checker	REVISED
	PLOT DATE =	APPROVED - Approver	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
BRIDGE OFFICE BUILDING INDEX OF SHEETS
SHEET NO. 1 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	431
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



A1 2ND FLOOR PLAN - DEMOLITION

1/4" = 1'-0"

A2 PHOTOGRAPH

NO SCALE

A3 PHOTOGRAPH

NO SCALE

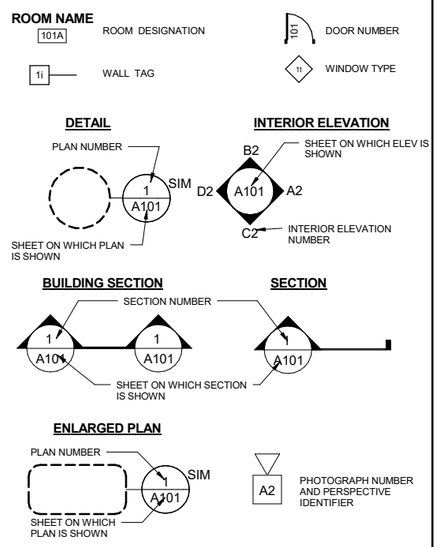
GENERAL SHEET NOTES

1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS

SHEET KEYNOTES

1. EXISTING WALL TO BE REMOVED.
2. EXISTING DOOR AND FRAME TO BE REMOVED.
3. EXISTING TOILETS, URINAL, SINKS, PAPER TOWEL DISPENSERS AND ALL OTHER RESTROOM ACCESSORIES TO BE REMOVED. (COST INCLUDED WITH "PLUMBING WORK - BRIDGE OFFICE".)
4. EXISTING UPPER CABINET TO BE REMOVED.
5. EXISTING COUNTER AND CASEWORK TO BE REMOVED.
6. EXISTING FLOOR TILE TO BE REMOVED.
7. CORING / PATCHING FOR FLOOR DRAIN.

SYMBOLS LEGEND



ARCH. BILL OF MATERIALS

ITEMS	UNIT	TOTAL
FURNITURE REMOVAL, PROTECTION, RETURN	LS	1
DEMOLITION - INTERIOR	LS	1
WALL ASSEMBLY	LS	1
EXTERIOR DOOR AND WINDOW ASSEMBLY	LS	1
DOORS, FRAMES AND HARDWARE	LS	1
FINISHES	LS	1
CASEWORK	LS	1
TOILET ACCESSORIES	LS	1
FIRE EXTINGUISHERS	LS	1
WINDOW BLINDS	LS	1

FINAL SUBMITTAL 02/19/18

Hanson Professional Services Inc.

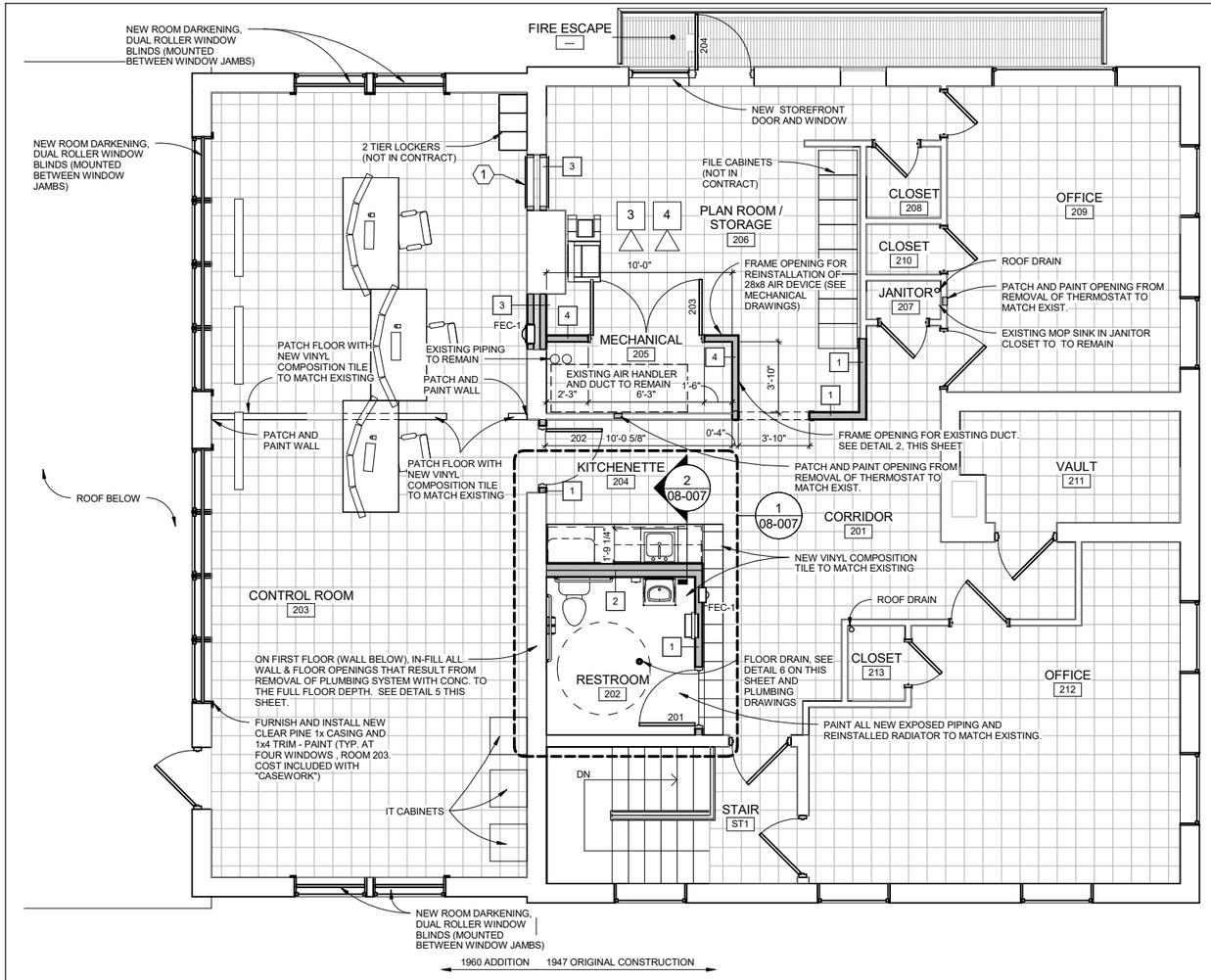
USER NAME =	DESIGNED - L. FRANKE	REVISED
	DRAWN - C. REED	REVISED
PLOT SCALE=	CHECKED - N. MORALES	REVISED
PLOT DATE =	APPROVED - G. CLACK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
SECOND FLOOR ARCHITECTURAL PLAN - DEMOLITION
SHEET NO. 2 OF 36 SHEETS

BRIDGE CONTROL OFFICE, Drawing 08-002

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	432
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



1 2ND FLOOR PLAN - NEW WORK

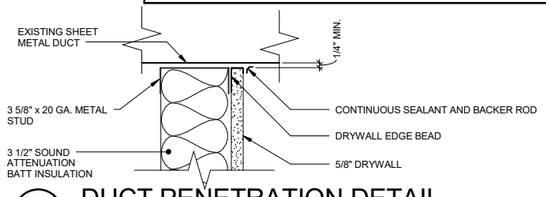
1/4" = 1'-0"

0 2' 4' 8'

N

SHEET KEYNOTES

1. INSTALL TRANSFER GRILLES AND FIRE DAMPER AT TOP OF EXISTING DOORWAY OPENING PER MECHANICAL DRAWINGS. FIR OUT SIDES OF OPENING TO ROUGH OPENING DIMENSIONS OF AIR DEVICE AND COMPLETE WALL ASSEMBLY IN-FILL OF DOORWAY OPENING.



2 DUCT PENETRATION DETAIL

SCALE: 3" = 1'-0"

3 PHOTOGRAPH

NO SCALE

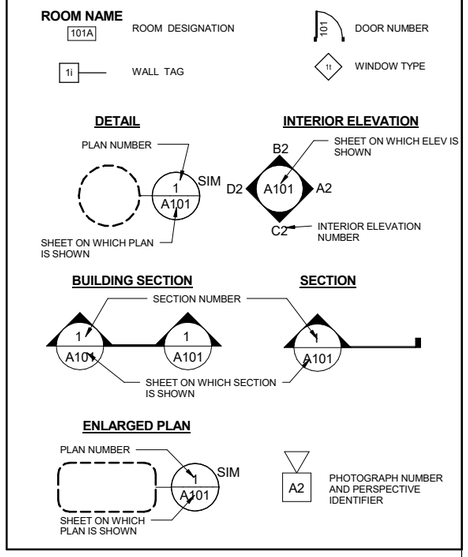
4 PHOTOGRAPH

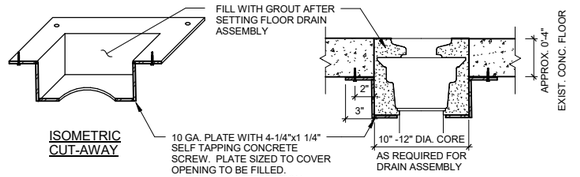
NO SCALE

GENERAL SHEET NOTES

1. DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
2. PROVIDE 2x12 YELLOW PINE #2 OR BETTER BLOCKING BETWEEN METAL STUDS AT AREAS TO RECEIVE WALL MOUNTED CABINETS, GRAB BARS, ETC. SEE INTERIOR ELEVATION FOR HEIGHT OF WALL MOUNTED ITEMS.
3. COORDINATE INSTALLATION OF WALL MOUNTED ACCESSORIES WITH ELECTRICAL AND PLUMBING WORK.
4. CAULK BETWEEN CEILING AND CROWN MOLDING AND PAINT. TYPICAL FOR ENTIRE 2ND FLOOR. (COST INCLUDED WITH "FINISHES")
5. SEE SHEET 08-006 FOR ROOM FINISH SCHEDULE AND DOOR SCHEDULE. SEE SHEET 08-007 FOR ROOM ELEVATIONS AND ACCESSORY MOUNTING HEIGHTS.
6. UN-NUMBERED DOORS ARE EXISTING TO REMAIN.
7. EXTERIOR WALLS AND SOUTH WALL OF CONTROL ROOM ARE MULTI-WYTHE BRICK MASONRY WITH PAINTED PLASTER.
8. CONTRACTOR TO PATCH AND PAINT ALL WALLS ASSOCIATED WITH THE REMOVAL AND RELOCATION OF MECH. AND ELECT. EQUIPMENT AND DEVICES TO MATCH EXISTING. CONTRACTOR TO PAINT EXPOSED DUCTWORK AND PIPING TO MATCH EXISTING, REFER TO DRAWING 08-014 FOR DUCT AND PIPE TO BE PAINTED. (COST INCLUDED WITH "FINISHES")

SYMBOLS LEGEND



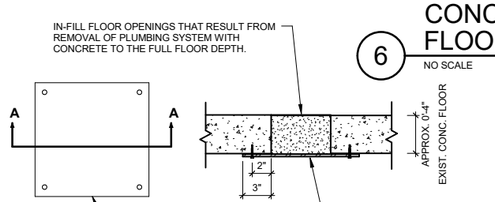


6 CONCRETE FLOOR PATCHING AT FLOOR DRAIN ASSEMBLY

NO SCALE

0 3" 6" 1'

COST OF CONCRETE FLOOR PATCHING, INCLUDED WITH "DEMOLITION - INTERIOR".

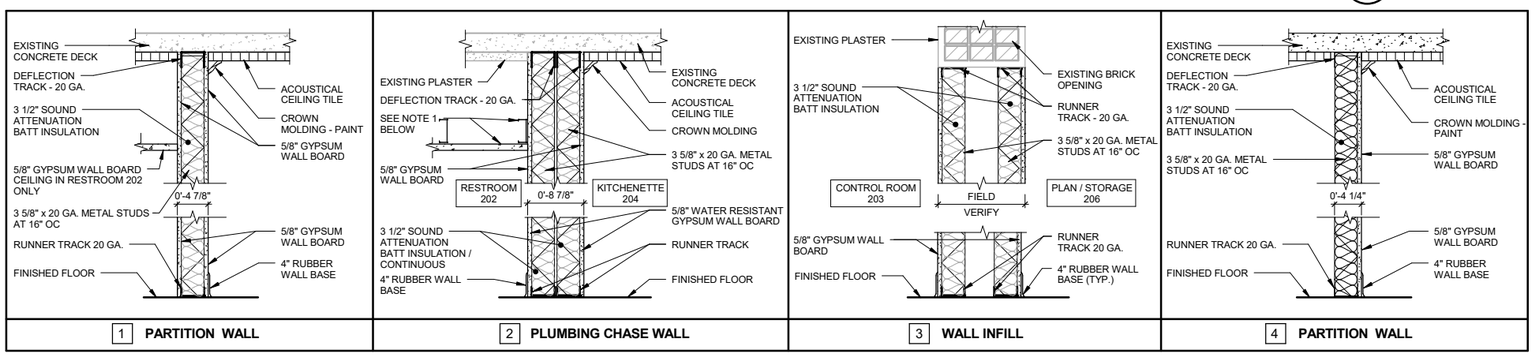


5 CONCRETE FLOOR PATCHING DETAIL

1 1/2" = 1'-0"

0 3" 6" 1'

COST OF CONCRETE FLOOR PATCHING, INCLUDED WITH "DEMOLITION - INTERIOR."



NOTES:
1. 5/8" GYPSUM WALL BOARD CEILING ON 3 5/8"x20 GAGE METAL JOISTS. JOISTS ARE TO BE SPACED AT NO GREATER THAN 16" O.C. AND ARE TO BE SUPPORTED AT NORTH AND SOUTH WALLS OF RESTROOM 202
2. FOR WORK DEPICTED BY THESE WALL SECTIONS:
   * PAY ITEM "WALL ASSEMBLY" INCLUDES WALL AND CEILING FRAMING, INSULATION, GYPSUM BOARD AND GYPSUM BOARD FINSHING.
   * PAY ITEM "FINISHES" INCLUDES CAULKING, PAINTING, PATCHING ACOUSTICAL CEILING TILE, PATCHING EXISTING PLASTER AND RUBBER (RESILIENT) WALL BASE.

FINAL SUBMITTAL 02/19/18

HANSON
Hanson Professional Services Inc.

USER NAME =	DESIGNED - L. FRANKE	REVISED
	DRAWN - C. REED	REVISED
PLOT SCALE=	CHECKED - N. MORALES	REVISED
PLOT DATE =	APPROVED - G. CLACK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

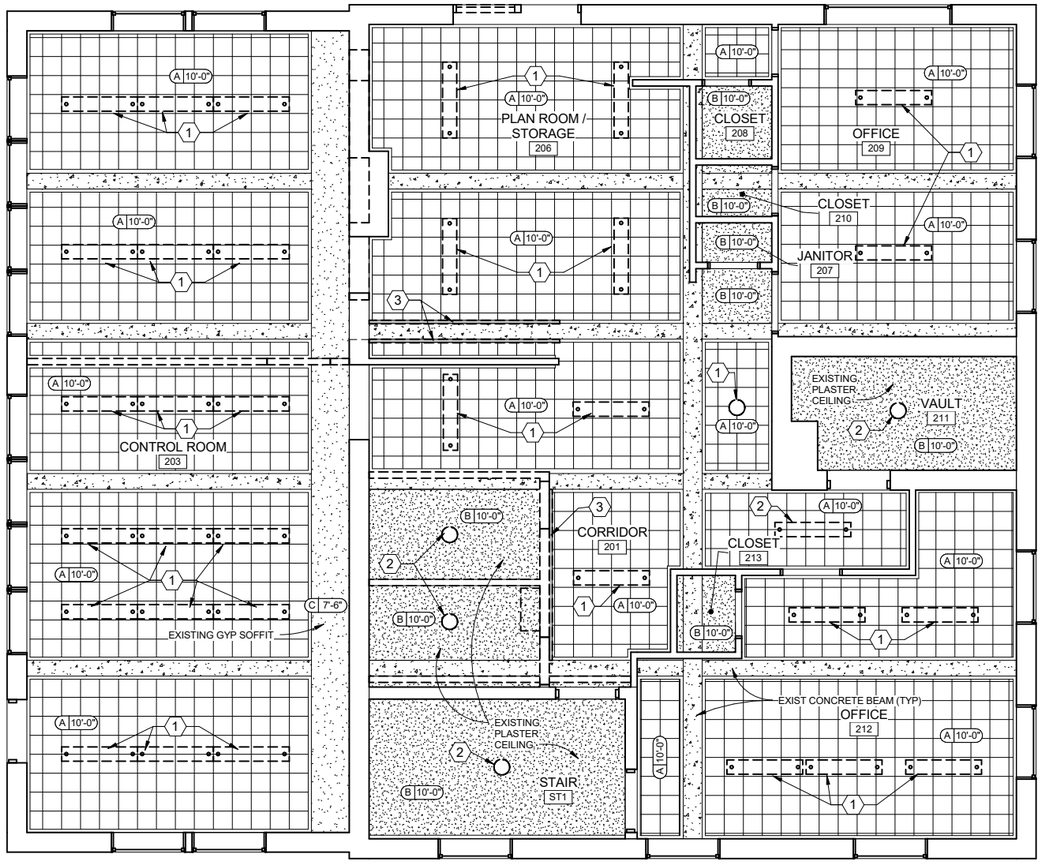
VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
SECOND FLOOR ARCHITECTURAL PLAN - NEW WORK
SHEET NO. 3 OF 36 SHEETS

BRIDGE CONTROL OFFICE, Drawing 08-003

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	433
	JUNE 26, 2012	CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

LEGEND

- DESIGNATES HEIGHT OF CEILING / DESIGNATES MATERIAL OF CEILING (A | 9' - 0")
- 2x4 CEILING SURFACE MOUNTED LIGHT FIXTURE
- WALL MOUNTED LED FIXTURE
- CEILING GRILLE/RETURN AIR
- EXHAUST/GRILLE
- OS — OCCUPANCY SENSOR
- EXIT FIXTURE
- EMERGENCY BATTERY PACK FIXTURE
- HD F — HEAT DETECTOR, FIXED TEMPERATURE
- S — SMOKE DETECTOR
- H — HEAT / SMOKE DETECTOR
- A - 12"x12" SURFACE APPLIED ACOUSTIC CEILING
- B - PLASTER CEILING
- C - GYPSUM BOARD CEILING / SOFFIT



1 2ND FLOOR REFLECTED CEILING PLAN - DEMOLITION
1/4" = 1'-0"
0 2' 4' 8' N

2 EXISTING LIGHT FIXTURE
NO SCALE

GENERAL SHEET NOTES

1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS
2. UNLESS NOTED OTHERWISE, EXISTING CROWN MOLDING TO REMAIN
3. COORDINATE EXTENT OF EXISTING ELECTRICAL, MECHANICAL AND PLUMBING ITEMS TO BE REMOVED WITH SHEETS 08-008, 08-020 AND 08-021.
4. CONTRACTOR SHALL MATCH NEW ACOUSTICAL CEILING TILE TO EXISTING BUILDING CEILING TILES
5. CEILING HEIGHTS ARE FROM FINISHED FLOOR OF RELATED ROOMS; UNLESS NOTED OTHERWISE

SHEET KEYNOTES

1. REMOVE EXISTING LIGHT FIXTURES AND PATCH CEILING TILES AND REPLACE CEILING TILE AT JUNCTION BOX MOUNTING LOCATIONS.
2. REMOVE EXISTING LIGHT FIXTURE
3. REMOVE EXISTING CROWN MOLDING

FINAL SUBMITTAL 02/19/18

BRIDGE CONTROL OFFICE, Drawing 08-004

HANSON. Hanson Professional Services Inc.

USER NAME =	DESIGNED - L. FRANKE	REVISED
	DRAWN - C. REED	REVISED
PLOT SCALE=	CHECKED - N. MORALES	REVISED
PLOT DATE =	APPROVED - G. CLACK	REVISED

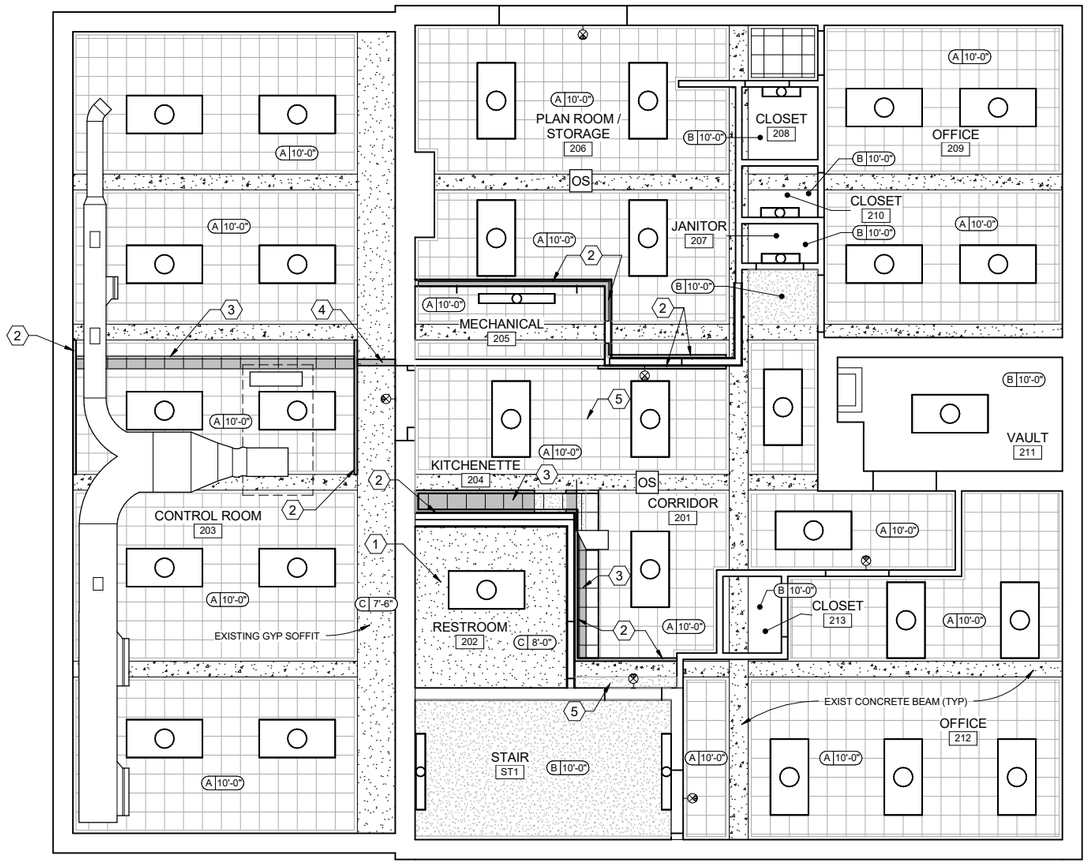
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
SECOND FLOOR ARCH REFLECTED CLNG PLAN - DEMO
SHEET NO. 4 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	434
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

LEGEND

A 9' - 0" — DESIGNATES HEIGHT OF CEILING / DESIGNATES MATERIAL OF CEILING	
	2x4 CEILING SURFACE MOUNTED LIGHT FIXTURE
	WALL MOUNTED LED FIXTURE
	CEILING GRILLE/RETURN AIR
	EXHAUST/GRILLE
OS	OCCUPANCY SENSOR
	EXIT FIXTURE
	EMERGENCY BATTERY PACK FIXTURE
HD F	HEAT DETECTOR, FIXED TEMPERATURE
S	SMOKE DETECTOR
H	HEAT / SMOKE DETECTOR
	A - 12"x12" SURFACE APPLIED ACOUSTIC CEILING
	B - PLASTER CEILING
	C - GYPSUM BOARD CEILING / SOFFIT



1 2ND FLOOR REFLECTED CEILING PLAN - NEW WORK
1/4" = 1'-0"
0 2' 4' 8'
N

GENERAL SHEET NOTES

1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS
2. UNLESS NOTED OTHERWISE, ALL EXISTING CROWN MOLDING TO REMAIN
3. REFER TO REFLECTED CEILING PLANS FOR LAYOUTS AND FIXTURE LOCATIONS AND COORDINATE WITH MECHANICAL, ELECTRICAL AND PLUMBING SHEETS. IN CASE OF CONFLICT, THE REFLECTED CEILING PLAN TAKES PRECEDENCE.
4. CONTRACTOR SHALL MATCH NEW ACOUSTICAL CEILING TILE TO EXISTBUILDING CEILING TILES
5. CEILING HEIGHTS ARE FROM FINISHED FLOOR OF RELATED ROOMS; UNLESS NOTED OTHERWISE

SHEET KEYNOTES

1. 5/8" GYPSUM WALL BOARD CEILING IN RESTROOM 202. (COST INCLUDED WITH "WALL ASSEMBLY")
2. INSTALL NEW CROWN MOLDING, CAULK BETWEEN CEILING AND MOLDING AND PAINT TO MATCH EXISTING. (COST INCLUDED WITH "FINISHES")
3. IN-FILL 12"X12" SURFACE APPLIED ACOUSTICAL TILE TO MATCH EXISTING. (COST INCLUDED WITH "FINISHES")
4. PATCH AND REPAIR GYPSUM SOFFIT TO MATCH EXISTING. (COST INCLUDED WITH "FINISHES")
5. PAINT NEW DUCTWORK TO MATCH EXISTING. PATCH AND PAINT WALLS ASSOCIATED IN THE RELOCATION OF DUCTWORK TO MATCH EXISTING. (COST INCLUDED WITH "FINISHES")

FINAL SUBMITTAL 02/19/18

BRIDGE CONTROL OFFICE, Drawing 08-005

HANSON. Hanson Professional Services Inc.

USER NAME =	DESIGNED - L. FRANKE	REVISED
	DRAWN - C. REED	REVISED
PLOT SCALE=	CHECKED - N. MORALES	REVISED
PLOT DATE =	APPROVED - G. CLACK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
SECOND FLOOR ARCH REFLECTED CEILING PLAN - NEW
SHEET NO. 5 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	435
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR			BASE		WALLS												CEILING			COMMENTS
							NORTH			EAST			SOUTH			WEST						
		SUBSTRATE	FLOORING	COLOR	MAT'L	COLOR	MAT'L	FINISH	COLOR	MAT'L	FINISH	COLOR	MAT'L	FINISH	COLOR	MAT'L	FINISH	COLOR	MAT'L	FINISH	COLOR	
201	CORRIDOR	CONC	EXIST VCT	-	NEW RWB	SEE NOTE 1	EXIST PLST & NEW GWB	PAINT	SEE NOTE 1	NEW GWB	PAINT	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	EXIST GWB	PAINT	SEE NOTE 1	EXIST/NEW SAAT *	PAINT	SEE NOTE 1	
202	RESTROOM	CONC	NEW VCT	SEE NOTE 1	NEW RWB	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	NEW GWB	PAINT	SEE NOTE 1	NEW GWB	PAINT	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	NEW GWB	PAINT	SEE NOTE 1	
203	CONTROL ROOM	CONC	EXIST/NEW VCT	SEE NOTE 1	NEW RWB	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	EXIST PLST & NEW GWB	PAINT	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	EXIST SAAT	PAINT	SEE NOTE 1	
204	KITCHENETTE	CONC	EXIST/NEW VCT	SEE NOTE 1	NEW RWB	SEE NOTE 1	EXIST PLST & NEW GWB	PAINT	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	N/A	N/A	N/A	NEW GWB	PAINT	SEE NOTE 1	EXIST SAAT	PAINT	SEE NOTE 1	
206	PLAN ROOM / STORAGE	CONC	EXIST VCT	-	NEW RWB	SEE NOTE 1	EXIST PLST & NEW GWB	PAINT	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	EXIST PLST & NEW GWB	PAINT	SEE NOTE 1	NEW GWB	PAINT	SEE NOTE 1	EXIST SAAT	PAINT	SEE NOTE 1	
ST1	STAIR	CONC	EXIST	-	EXIST	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 2	EXIST PLST	PAINT	SEE NOTE 2	EXIST PLST	PAINT	SEE NOTE 2	EXIST PLST	PAINT	SEE NOTE 2	EXIST SAAT	PAINT	SEE NOTE 2	
207,208,213,210	CLOSETS	CONC	EXIST VCT	-	NEW RWB	SEE NOTE 1	EXIST GWB	PAINT	SEE NOTE 1	EXIST GWB	PAINT	SEE NOTE 1	EXIST GWB	PAINT	SEE NOTE 1	EXIST GWB	PAINT	SEE NOTE 1	EXIST SAAT	PAINT	SEE NOTE 1	
209 & 212	OFFICES	CONC	EXIST VCT	-	NEW RWB	SEE NOTE 1	EXIST GWB	PAINT	SEE NOTE 1	EXIST PLSTR & EXIST GWB	PAINT	SEE NOTE 1	EXIST PLSTR	PAINT	SEE NOTE 1	EXIST PLSTR	PAINT	SEE NOTE 1	EXIST SAAT	PAINT	SEE NOTE 1	
211	VAULT	CONC	EXIST VCT	-	NEW RWB	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	EXIST PLST	PAINT	SEE NOTE 1	EXIST PLASTER	PAINT	SEE NOTE 1	

NOTES:

1. MATCH COLORS OF EXISTING ADJOINING SURFACES AND SURROUNDING ROOMS. COLOR SELECTION TO BE APPROVED BY ENGINEER.
2. PAINT CEILING, WALLS, STAIR RISERS, HANDRAIL AND BALUSTERS TO MATCH EXISTING COLOR AND FINISH. COLOR SELECTION TO BE APPROVED BY ENGINEER. SEE REFERENCE PHOTOGRAPH #1 THIS SHEET.
3. SEE SHEET 08-014 KEYNOTES FOR DUCTWORK, RADIATOR AND PIPING TO BE PAINTED.

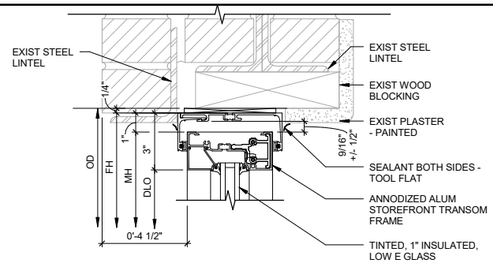
* SAAT = SURFACE APPLIED ACOUSTICAL TILE

DOOR SCHEDULE

DOOR NO.	LOCATION FROM ROOM	LOCATION FROM NO.	LOCATION TO ROOM	LOCATION TO NO.	TYPE	W	HT	THK	HARDWARE GROUP	MATERIAL	DOOR GLAZING	FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	DETAIL HEAD	DETAIL JAMB	DETAIL THRESHOLD	FIRE RATING LABEL	COMMENTS
201	CORRIDOR	201	RESTROOM	202	1	3'-0"	7'-0"	0'-1 3/4"	SEE SPEC. PROVISIONS	WOOD	NONE	PAINT	A	HM	PAINT, SEE NOTE 2	--	--	--	1 HR	
202	CONTROL ROOM	203	KITCHENETTE	204	3	3'-0"	7'-0"	0'-1 3/4"	SEE SPEC. PROVISIONS	WOOD	VISION GLASS, SEE NOTE 3	PAINT	A	HM	PAINT, SEE NOTE 2			--	1 HR	
203	MECHANICAL	205	PLAN ROOM / STORAGE	206	1	6'-0"	7'-0"	0'-1 3/4"	SEE SPEC. PROVISIONS	WOOD	NONE	PAINT	B	HM	PAINT, SEE NOTE 2	--	--	--	1 HR	
204	PLAN ROOM / STORAGE	206	FIRE ESCAPE	---	2	3'-0"	7'-0"	0'-1 3/4"	SEE SPEC. PROVISIONS	ALUM	SEE DETAL 7/08-006	ANODIZED	C	ALUM	ANODIZED	2 / 08-007	3 / 08-007	6 / 08-007	1 HR	

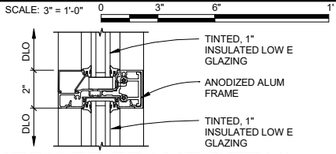
NOTES:

1. DOORS 201, 202 AND 203 ARE UNDER PAY ITEM "DOORS, FRAMES AND HARDWARE". DOOR AND WINDOW ASSEMBLY 204 ARE UNDER PAY ITEM "EXTERIOR DOOR AND WINDOW ASSEMBLY".
2. PRIME PAINTING INCLUDED WITH "DOORS, FRAMES AND HARDWARE", FINISH PAINTING (2 COATS) INCLUDED WITH "FINISHES".
3. VISION GLASS (CLEAR) 4 " x 25 " (VERTICAL) PANEL WITH FIRE RESISTANCE RATED GLAZING AND FRAME MATCHING SPECIFIED FIRE RATING LABEL.



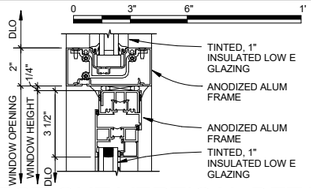
1 WINDOW HEAD DETAIL

SCALE: 3" = 1'-0"



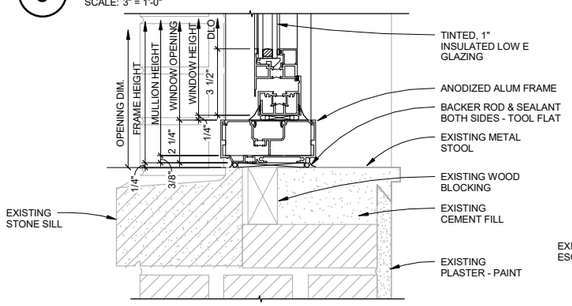
2 INTERMEDIATE FRAME DETAIL

SCALE: 3" = 1'-0"



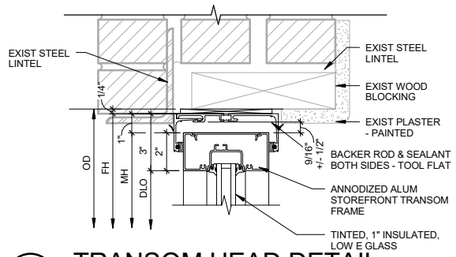
3 PROJECT-OUT VERTICAL DETAIL

SCALE: 3" = 1'-0"



4 WINDOW SILL DETAIL

SCALE: 3" = 1'-0"

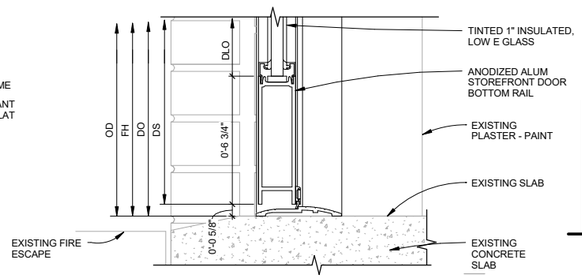


5 TRANSOM HEAD DETAIL

SCALE: 3" = 1'-0"

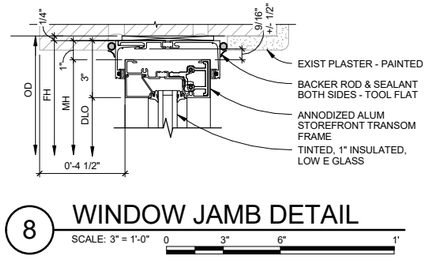
6 TRANSOM BAR DETAIL

SCALE: 3" = 1'-0"



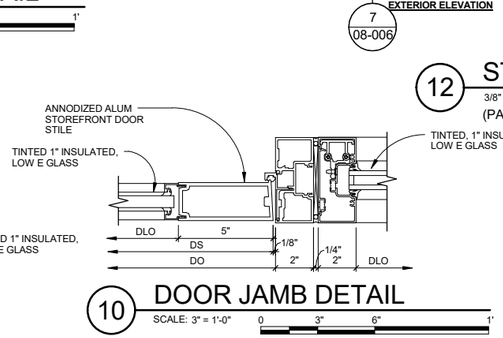
7 DOOR THRESHOLD DETAIL

SCALE: 3" = 1'-0"



8 WINDOW JAMB DETAIL

SCALE: 3" = 1'-0"

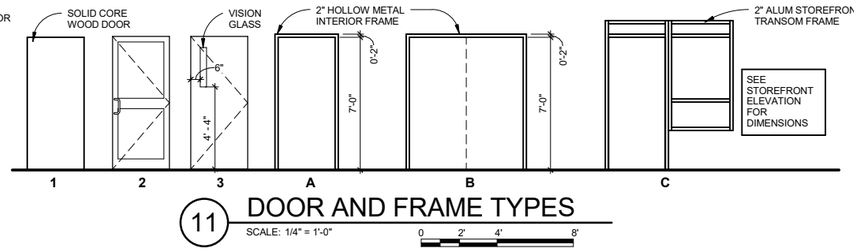


10 DOOR JAMB DETAIL

SCALE: 3" = 1'-0"

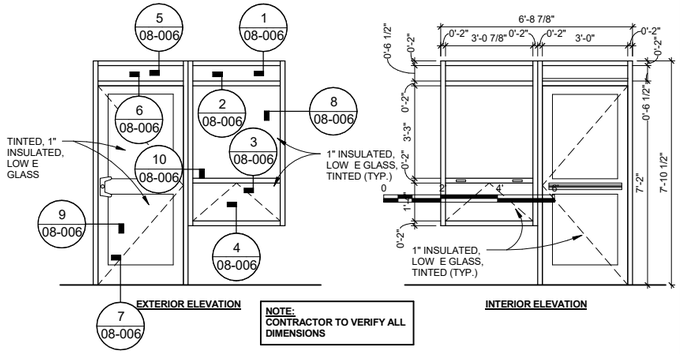
9 DOOR JAMB DETAIL

SCALE: 3" = 1'-0"



11 DOOR AND FRAME TYPES

SCALE: 1/4" = 1'-0"



NOTE:
CONTRACTOR TO VERIFY ALL DIMENSIONS

12 STOREFRONT ELEVATION

3/8" = 1'-0"

(PAY ITEM- "EXTERIOR DOOR AND WINDOW ASSEMBLY")

13 PHOTOGRAPH #1

NO SCALE

FINAL SUBMITTAL 02/19/18

BRIDGE CONTROL OFFICE, Drawing 08-006

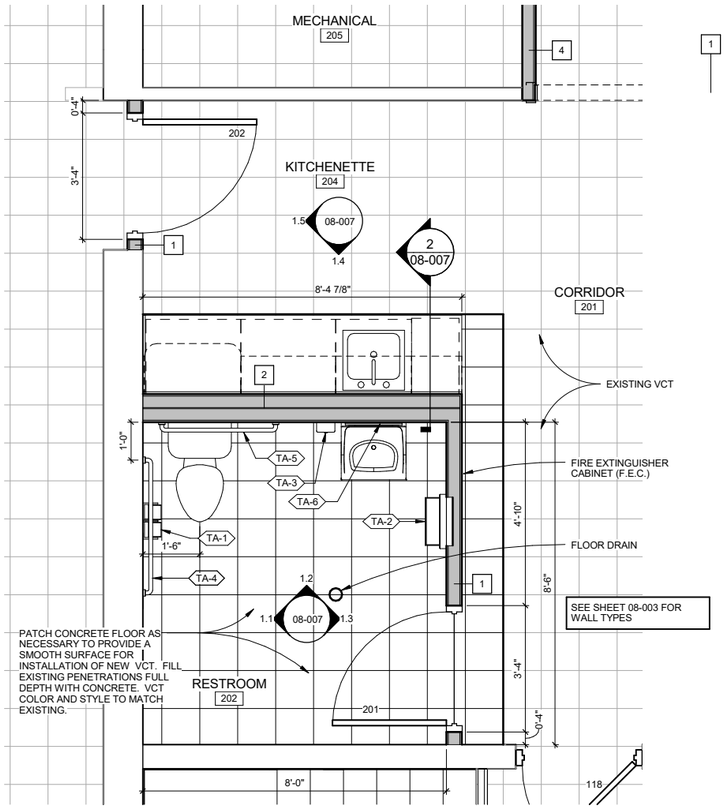
HANSON. Hanson Professional Services Inc.

USER NAME =	DESIGNED - L. FRANKE	REVISED
	DRAWN - C. REED	REVISED
PLOT SCALE=	CHECKED - N. MORALES	REVISED
PLOT DATE =	APPROVED - G. CLACK	REVISED

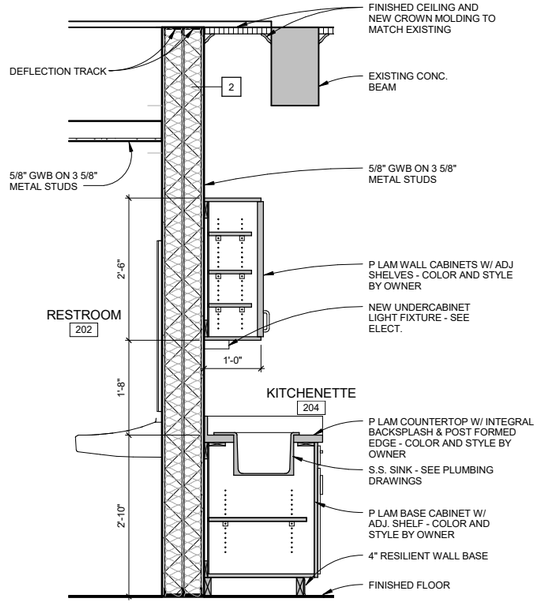
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
ARCHITECTURAL DOOR SCHEDULE AND DETAILS
SHEET NO. 6 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	436
		CONTRACT NO. 60P55		
		ILLINOIS FED. AID PROJECT		



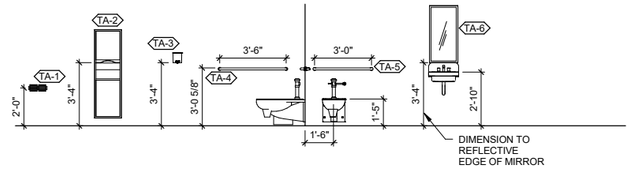
1 2ND FLOOR PLAN - NEW WORK
1/2" = 1'-0"



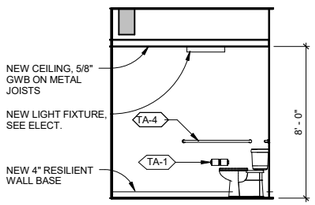
2 CASEWORK SECTION
SCALE: 3/4" = 1'-0"

TOILET ACCESSORIES

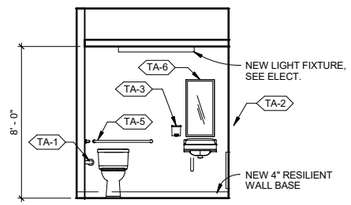
TA-1	SURFACE MOUNTED DOUBLE TOILET TISSUE DISPENSER
TA-2	RECESSED PAPER TOWEL DISPENSER & WASTE RECEPTACLE
TA-3	LIQUID SOAP DISPENSER
TA-4	42" GRAB BAR
TA-5	36" GRAB BAR
TA-6	TILT MIRROR



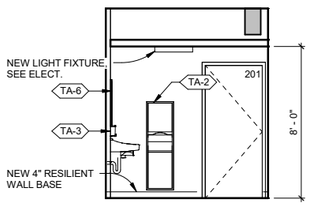
3 TOILET ACCESSORY MOUNTING HEIGHTS
1/4" = 1'-0"



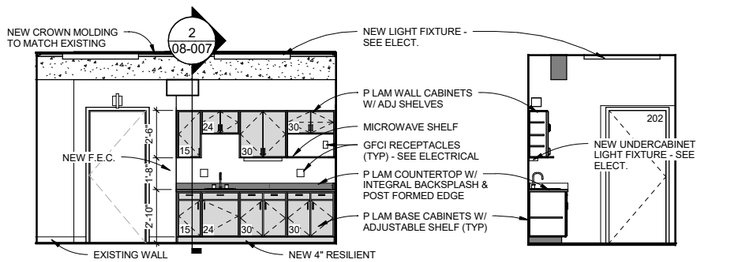
1.1 RESTROOM 202
1/4" = 1'-0"



1.2 RESTROOM 202
1/4" = 1'-0"



1.3 RESTROOM 202
1/4" = 1'-0"



1.4 KITCHENETTE 204
1/4" = 1'-0"

1.5 BREAK AREA 204
1/4" = 1'-0"

FINAL SUBMITTAL 02/19/18

BRIDGE CONTROL OFFICE, Drawing 08-007

HANSON
Hanson Professional Services Inc.

USER NAME =	DESIGNED - L. FRANKE	REVISED
	DRAWN - C. REED	REVISED
PLOT SCALE=	CHECKED - N. MORALES	REVISED
PLOT DATE =	APPROVED - G. CLACK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

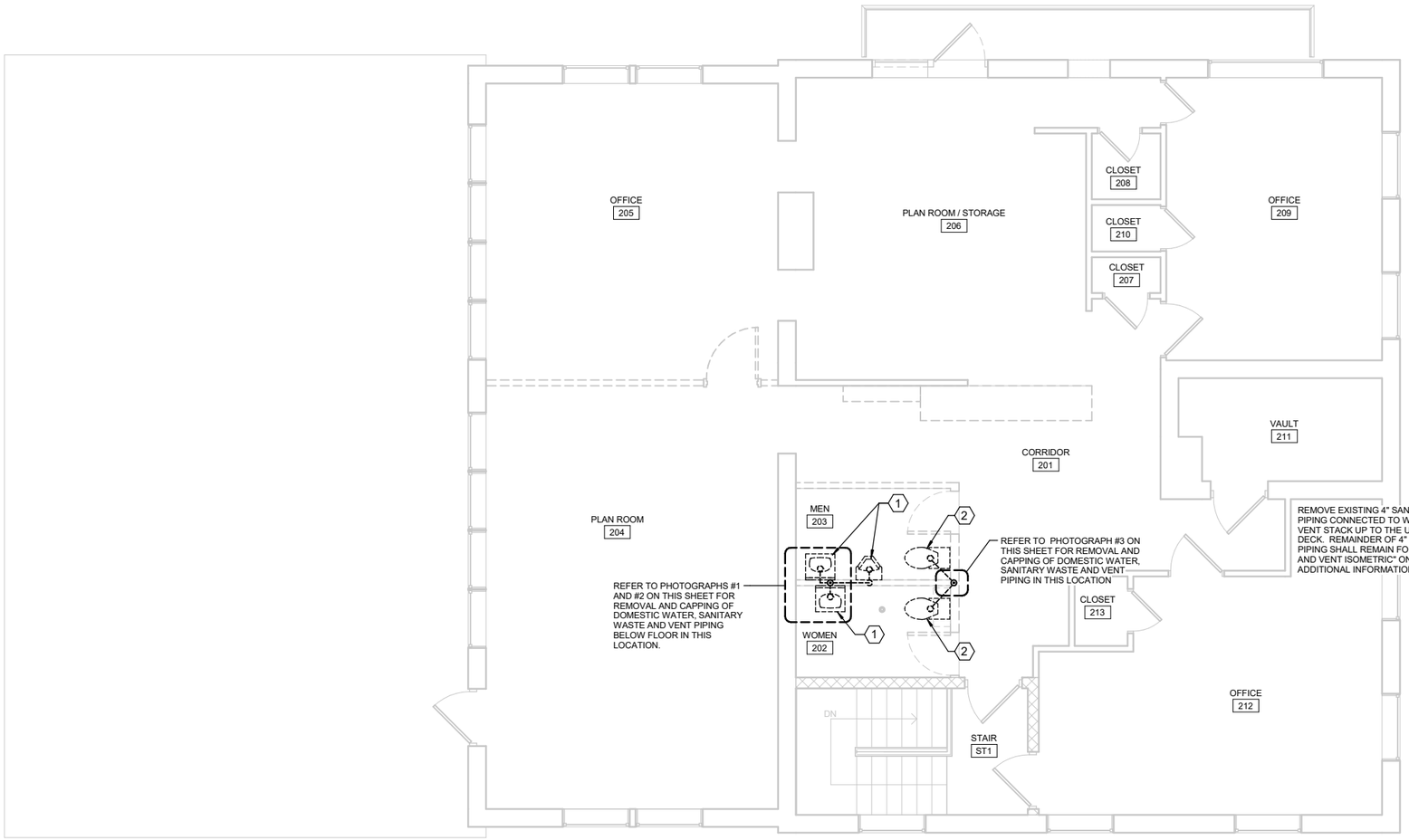
VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
ENLARGED ARCH PLANS, INTERIOR ELEVATIONS & DETAILS
SHEET NO. 7 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	437
		CONTRACT NO. 60P55		
		ILLINOIS	FED. AID PROJECT	

SHEET KEYNOTES

1. REMOVE AND DISPOSE OF EXISTING PLUMBING FIXTURE. ASSOCIATED DOMESTIC WATER PIPING SHALL BE REMOVED TO BELOW THE SECOND FLOOR AND TEMPORARILY CAPPED AT THE MAIN. ASSOCIATED SANITARY WASTE AND VENT BRANCH PIPING SHALL BE REMOVED AND DISPOSED OF. EXISTING 2" SANITARY WASTE STACK LOCATED BELOW THE SECOND FLOOR AND THE EXISTING 4" VENT PIPING INSTALLED THROUGH THE ROOF SHALL REMAIN FOR REUSE UNDER THE NEW WORK SCOPE. THE REMAINING SANITARY WASTE AND VENT PIPING BETWEEN THESE TWO LOCATIONS SHALL BE REMOVED AND DISPOSED OF. REFER TO PHOTOGRAPHS #1 AND #2 ON THIS SHEET AND THE "WASTE AND VENT ISOMETRIC" ON SHEET 08-010 FOR ADDITIONAL INFORMATION. EXISTING PIPING FLOOR AND WALL PENETRATIONS SHALL BE PATCHED. SEE DETAIL 5/08-003 FOR FLOOR PATCHING.

2. REMOVE AND DISPOSE OF EXISTING PLUMBING FIXTURE. ASSOCIATED DOMESTIC WATER PIPING SHALL BE REMOVED TO BELOW THE SECOND FLOOR AND CAPPED AT THE MAIN. ASSOCIATED SANITARY WASTE BRANCH PIPING SHALL BE REMOVED AND DISPOSED OF. EXISTING 4" SANITARY WASTE STACK LOCATED BELOW THE SECOND FLOOR AND THE EXISTING 4" VENT INSTALLED THROUGH THE ROOF SHALL REMAIN FOR REUSE UNDER THE NEW WORK SCOPE. THE REMAINING SANITARY WASTE AND VENT PIPING BETWEEN THESE TWO LOCATIONS SHALL BE REMOVED AND DISPOSED OF. REFER TO PHOTOGRAPH #3 ON THIS SHEET AND THE "WASTE AND VENT ISOMETRIC" ON SHEET 08-010 FOR ADDITIONAL INFORMATION. EXISTING PIPING FLOOR AND WALL PENETRATIONS SHALL BE PATCHED. SEE DETAIL 5/08-003 FOR FLOOR PATCHING.



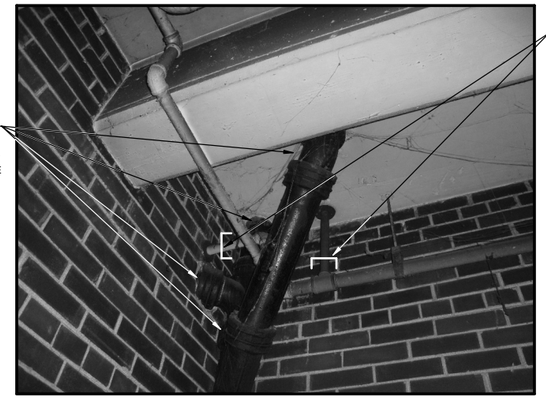
1 SECOND FLOOR PLUMBING PLAN - DEMOLITION

1/4" = 1'-0"

0 2' 4' 8'

N

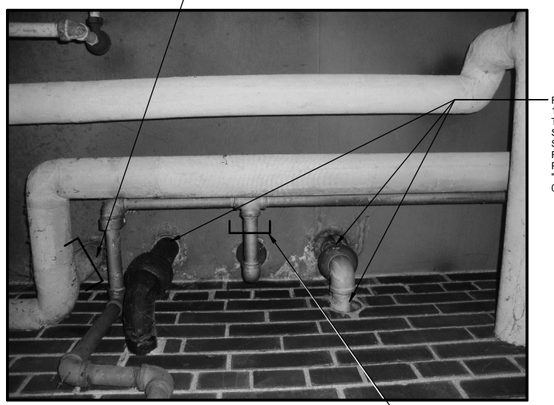
REMOVE EXISTING 4" SANITARY WASTE BRANCH PIPING CONNECTED TO WATER CLOSETS AND THE 4" VENT STACK UP TO THE UNDERSIDE OF THE ROOF DECK. REMAINDER OF 4" SANITARY WASTE AND VENT PIPING SHALL REMAIN FOR REUSE. REFER TO "WASTE AND VENT ISOMETRIC" ON SHEET 08-010 FOR ADDITIONAL INFORMATION.



CAP CW PIPING SERVING EXISTING WATER CLOSETS AT THESE LOCATIONS

PHOTOGRAPH #3

TEMPORARILY CAP HW PIPING SERVING EXISTING LAVATORIES AT THIS LOCATION. PIPING IS TO BE EXTENDED UNDER NEW WORK AND RECONNECTED TO NEW PLUMBING FIXTURES



REMOVE EXISTING 2" SANITARY WASTE AND 1 1/2" SANITARY VENT PIPING INSTALLED THRU THE WALL AND FLOOR OF THE SECOND LEVEL. REMAINDER OF THE SANITARY WASTE AND VENT PIPING SHALL REMAIN FOR REUSE. REFER TO PHOTOGRAPH #2 ON THIS SHEET AND THE "WASTE AND VENT ISOMETRIC" ON SHEET 08-010 FOR ADDITIONAL INFORMATION.

TEMPORARILY CAP CW PIPING SERVING EXISTING LAVATORIES AND URINAL AT THIS LOCATION. PIPING IS TO BE EXTENDED AND RECONNECTED TO NEW PLUMBING FIXTURES. SEE NEW WORK SHEET 08-010.

PHOTOGRAPH #1

EXISTING 2" SANITARY WASTE PIPING AND 1 1/2" SANITARY VENT PIPING SHALL REMAIN FOR REUSE. REFER TO NEW WORK SHEET 08-010 FOR CONTINUATION.

PHOTOGRAPH #2

PLUMBING BILL OF MATERIALS

ITEMS	UNIT	TOTAL
PLUMBING WORK - BRIDGE OFFICE	LS	1

FINAL SUBMITTAL FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-008

HANSON
Hanson Professional Services Inc.

USER NAME =	DESIGNED - J. DOYLE	REVISED
	DRAWN - C. REED	REVISED
PLOT SCALE=	CHECKED - A. KADIANI	REVISED
PLOT DATE =	APPROVED - G. CLACK	REVISED

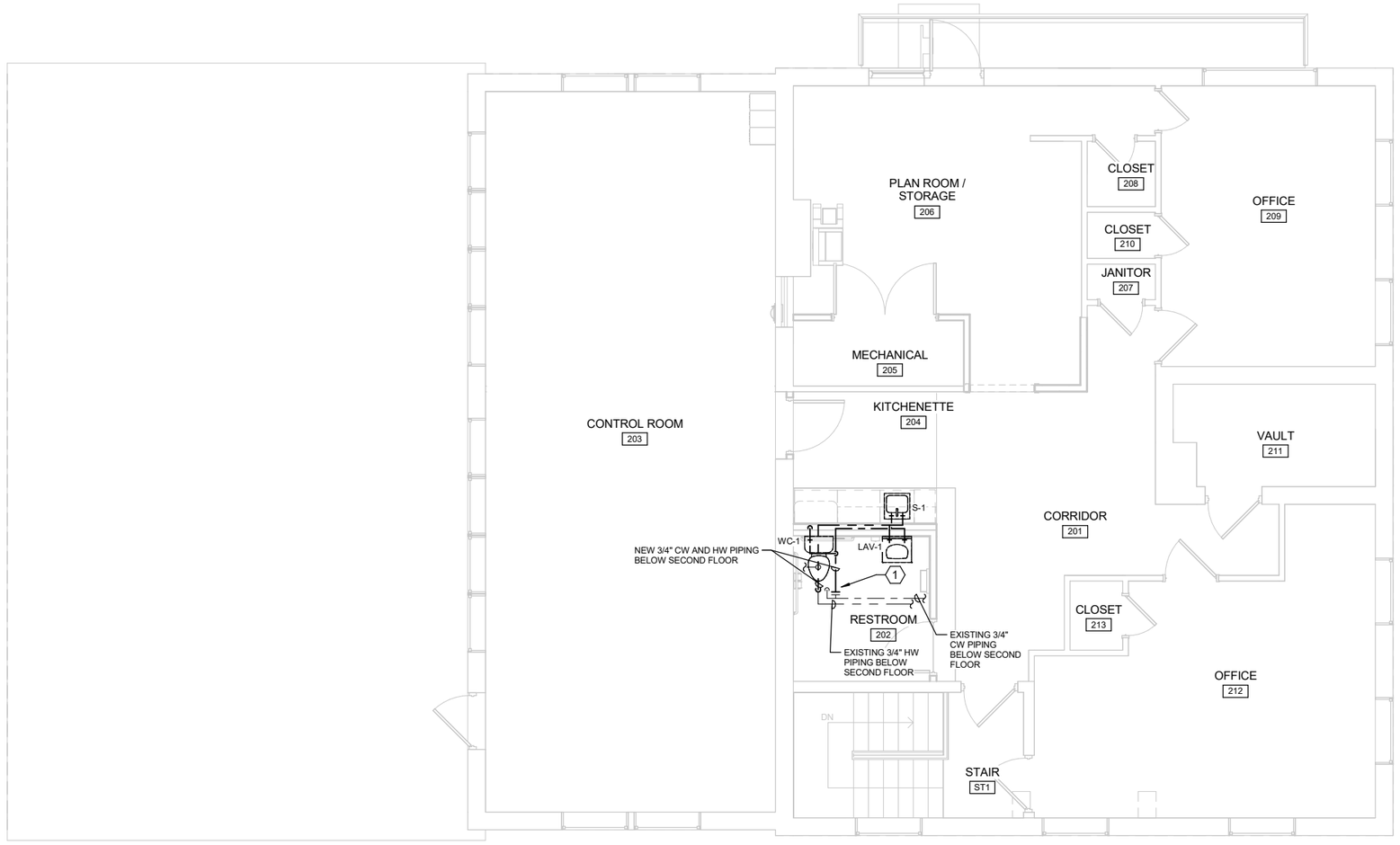
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
SECOND FLOOR PLUMBING PLAN - DEMOLITION
SHEET NO. 8 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	438
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

SHEET KEYNOTES

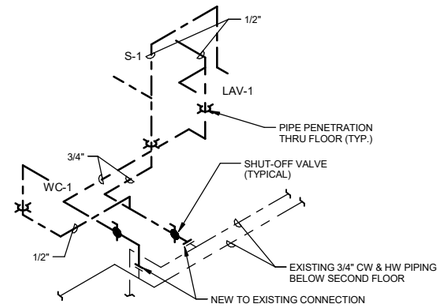
1. EXTEND EXISTING HOT AND COLD WATER PIPING LOCATED ON THE FIRST FLOOR FROM THESE LOCATIONS TO SUPPLY NEW PLUMBING FIXTURES LOCATED ON THE SECOND FLOOR. REFER TO "DOMESTIC WATER ISOMETRIC" BELOW FOR ADDITIONAL INFORMATION.



1 SECOND FLOOR DOMESTIC WATER PLAN - NEW WORK
1/4" = 1'-0"

0 2' 4' 8'

N



2 DOMESTIC WATER ISOMETRIC
NO SCALE

FINAL SUBMITTAL FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-009

HANSON. Hanson Professional Services Inc.	USER NAME =	DESIGNED - J. DOYLE	REVISED
		DRAWN - C. REED	REVISED
	PLOT SCALE=	CHECKED - A. KADIANI	REVISED
	PLOT DATE =	APPROVED - G. CLACK	REVISED

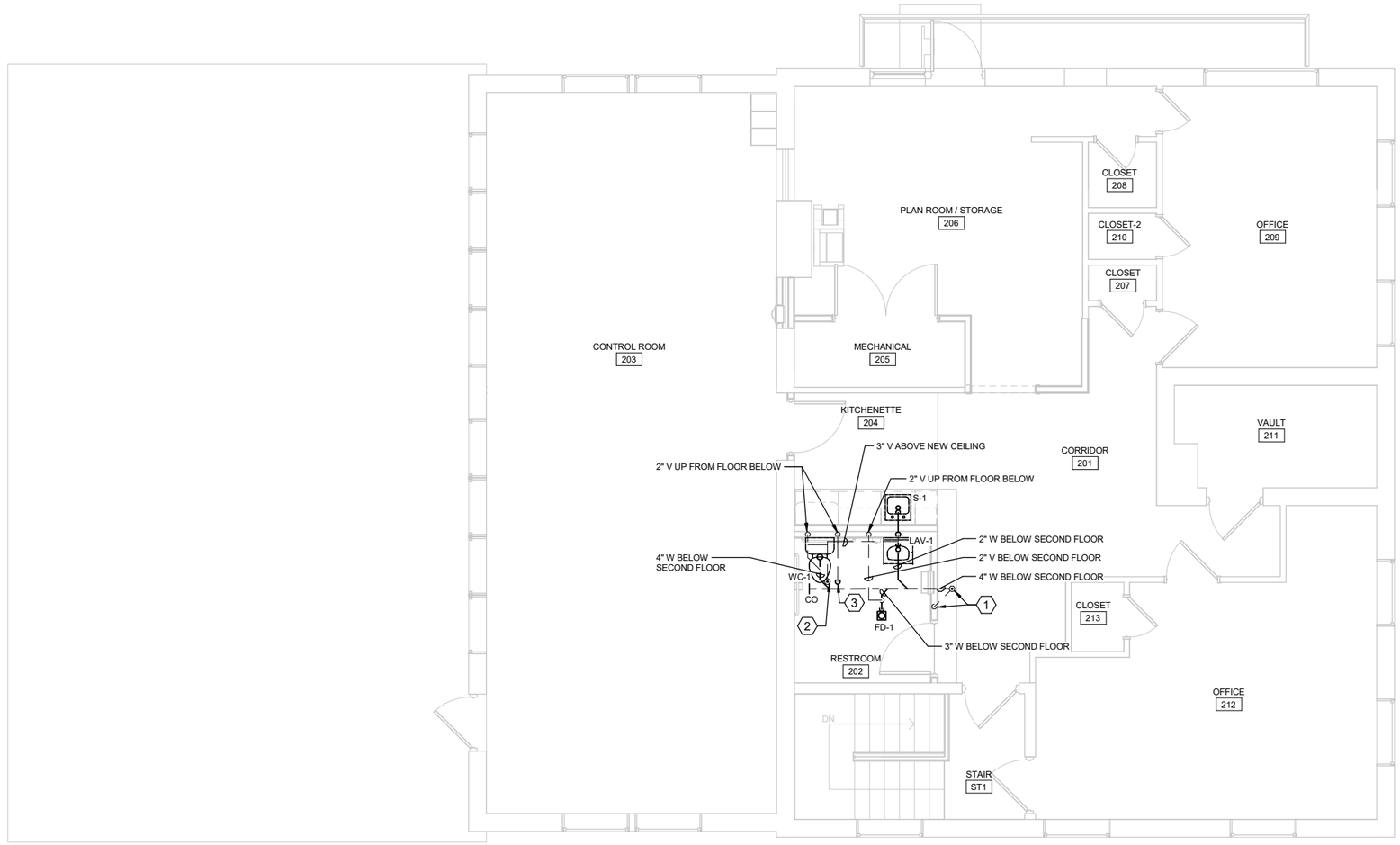
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
SECOND FLOOR DOMESTIC WATER PLAN - NEW WORK
SHEET NO. 9 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	439
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		

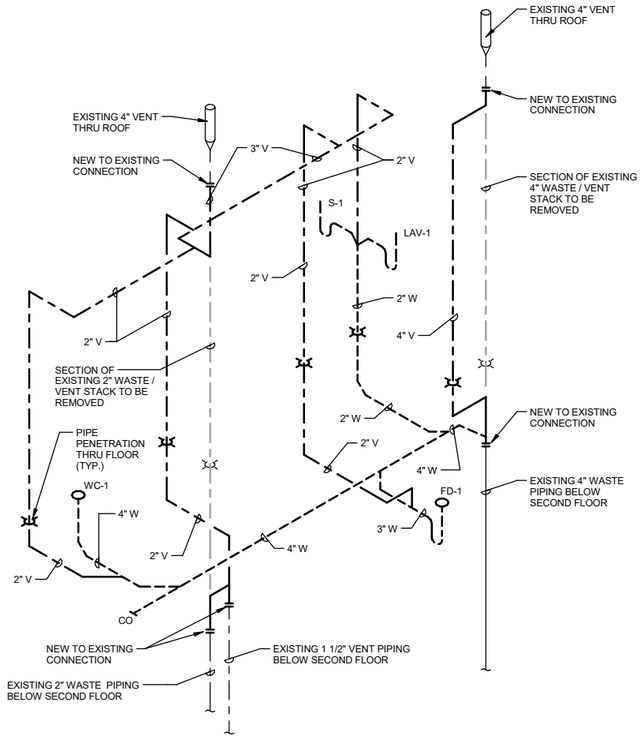
SHEET KEYNOTES

1. CONNECT 4" VENT FROM FLOOR BELOW TO THE EXISTING 4" VENT THRU ROOF.
2. CONNECT 3" VENT TO THE EXISTING 4" VENT THRU ROOF.
3. EXISTING 1 1/2" VENT LOCATED BELOW THE SECOND FLOOR SHALL EXTEND AS A 2" VENT AFTER CONNECTING TO THE EXISTING 2" WASTE / VENT STACK. NEW 2" VENT SHALL EXTEND UP THRU THE RESTROOM WALL AND CONNECT TO THE VENT HEADER AS SHOWN.



1 SECOND FLOOR WASTE & VENT PLAN - NEW WORK
1/4" = 1'-0"

N



2 WASTE AND VENT ISOMETRIC
NO SCALE

FINAL SUBMITTAL FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-010

HANSON. Hanson Professional Services Inc.	USER NAME =	DESIGNED - J. DOYLE	REVISED
		DRAWN - C. REED	REVISED
	PLOT SCALE=	CHECKED - A. KADIANI	REVISED
	PLOT DATE =	APPROVED - G. CLACK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

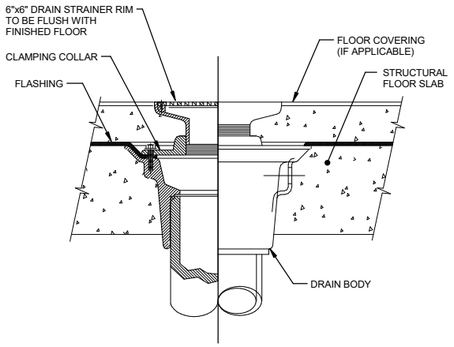
VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
SECOND FLOOR WASTE & VENT PLAN - NEW WORK
SHEET NO. 10 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	440
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

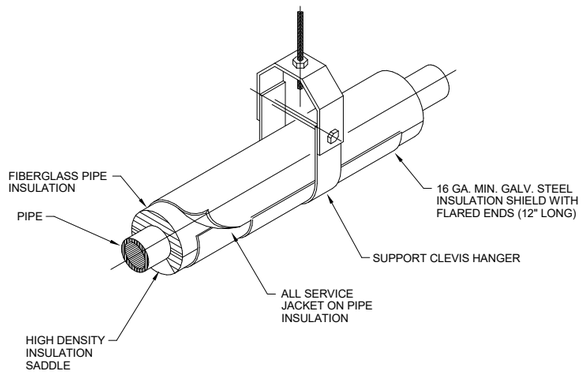
PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	ACCESSORIES	SOIL OR WASTE	MINIMUM VENT	TRAP	COLD WATER	HOT WATER	REMARKS
WC-1	WHITE VITREOUS CHINA TWO PIECE TOILET, FLOOR MOUNT BOTTOM OUTLET WITH 12" ROUGH-IN DIMENSION, ADA COMPLIANT (16 1/2" RIM HEIGHT), SIPHON JET DESIGN, ELONGATED BOWL, 1.6 GPF, KOHLER MODEL NO. K-3589-RA	OPEN FRONT LESS COVER, ELONGATED, HEAVY DUTY, WHITE COLORED INJECTION MOLDED ANTIMICROBIAL SOLID PLASTIC TOILET SEAT WITH MOLDED-IN BUMPERS, NON-SELF SUSTAINING CHECK HINGES WITH 300 SERIES STAINLESS STEEL POSTS AND PINTLES - CHURCH SEATS MODEL NO. 2155CT	4"	2"	INTEGRAL	1/2"	-	TOILET TANK ACTUATOR TO BE ON WIDE SIDE OF RESTROOM
LAV-1	WHITE VITREOUS CHINA LAVATORY, WALL HUNG, ADA COMPLIANT, 20" L x 18" W OVERALL DIMENSIONS WITH OVERFLOW AND 4" CENTER SET FAUCET HOLES - KOHLER MODEL NO. K-2032	FOOT SUPPORTED LAVATORY CARRIER WITH CONCEALED ARM SUPPORTS - ZURN MODEL NO. Z1231. DECK MOUNTED 4" FIXED CENTERS HOT AND COLD WATER ADA COMPLIANT LAVATORY FAUCET, 0.5 GPM NON-AERATING OUTLET, 4" WRISTBLADE HANDLES AND CHROME PLATED CAST BRASS CONSTRUCTION - CHICAGO FAUCETS MODEL NO. 802-VE2805-317ABCP CHROME PLATED BRASS GRID DRAIN WITH 1-1/4" DIA. CHROME PLATED BRASS TAILPIECE, 1-1/4" DIA. CHROME PLATED BRASS P-TRAP (17 GAUGE), CHROME PLATED BRASS ANGLE STOPS (WHEEL HANDLE), CHROME PLATED BRASS ESCUTCHEONS, CHROME PLATED COPPER RIGID SUPPLY RISERS AND SUPPLY/WASTE PIPING PROTECTIVE COVERS UNDER LAVATORY.	2"	2"	1 1/4"	1/2"	1/2"	REFER TO ARCHITECTURAL DRAWINGS FOR LAVATORY INSTALLATION HEIGHT.
S-1	SINGLE BOWL TOP MOUNT SELF-RIMMING ADA COMPLIANT SINK, 18 GAUGE TYPE 304 STAINLESS STEEL CONSTRUCTION, 19 1/2" L x 19" W x 6 1/2" D OVERALL DIMENSIONS, UNDERSIDE OF BOWL FULLY SPRAYED WITH SOUND DEADENING COATING AND FAUCET HOLES FOR 8" CENTER SET FAUCET - ELKAY MODEL NO. LRAD191965	DECK MOUNTED 8" FIXED CENTERS HOT AND COLD WATER ADA COMPLIANT SINK FAUCET, 8" LONG SWING GOOSENECK SPOUT WITH 2.2 GPM AERATOR, 4" WRISTBLADE HANDLES AND CHROME PLATED CAST BRASS CONSTRUCTION - CHICAGO FAUCETS MODEL NO. 1100-GN8AE3-317AB. TYPE 304 STAINLESS STEEL BASKET STRAINER WITH RUBBER STOPPER AND 1-1/2" DIA. CHROME PLATED BRASS TAILPIECE - ELKAY MODEL NO. LK35. CHROME PLATED BRASS P-TRAP. (17 GAUGE), CHROME PLATED BRASS ANGLE STOPS (WHEEL HANDLE), CHROME PLATED BRASS ESCUTCHEONS AND CHROME PLATED COPPER RIGID SUPPLY RISERS.	2"	2"	1 1/2"	1/2"	1/2"	
FD-1	CAST IRON BODY FLOOR DRAIN, BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS AND POLISHED NICKEL BRONZE SQUARE HEEL-PROOF 6" x 6" STRAINER. ZURN MODEL NO. Z415S	DEEP SEAL TRAP	3"	2"	3"	-	-	FLOOR DRAIN STRAINER SHALL BE INSTALLED FLUSH WITH FINISHED FLOOR.

MANUFACTURERS ARE LISTED FOR BASIS OF DESIGN. SEE SPECIAL PROVISIONS FOR ALTERNATE SUPPLIERS.



1 FLOOR DRAIN (FD-1)
NO SCALE



2 INSULATED PIPE SUPPORT DETAIL
NO SCALE

GENERAL PLUMBING NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER CONSTRUCTION TRADES AND PROPER INSTALLATION OF THE SYSTEM.
2. NEW PLUMBING FIXTURES SHALL BE MAINTAINED DUST AND GRIT FREE DURING THE CONSTRUCTION PERIOD. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING OF ALL COMPONENTS TO A/E SATISFACTION PRIOR TO COMPLETION OF THE PROJECT.
3. EXPOSED INSULATED DOMESTIC WATER PIPING SHALL HAVE A 20 MILS-THICK WHITE COLORED PVC JACKET INSTALLED OVER THE MINERAL-FIBER PIPE INSULATION FACTORY APPLIED ASJ.
4. ALL PIPING PENETRATIONS THROUGH WALLS AND FLOORS SHALL BE MADE THROUGH NEATLY CUT OPENINGS. MASONRY / CONCRETE WALL AND FLOOR PENETRATIONS SHALL BE CORE DRILLED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING PIPING SYSTEM LINE SIZES PRIOR TO PROCUREMENT OF NEW MATERIALS.
6. FLOOR PIPING PENETRATIONS SHALL BE SEALED WITH A 3M FIRE BARRIER SYSTEM FIRE CAULK.
7. IN LOCATIONS WHERE DOMESTIC WATER PIPING IS ROUTED THROUGH A METAL STUD, A GROMMET SHALL BE USED TO PROTECT THE PIPING FROM ABRASION.

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
	TEE - UP, BRANCH OUT OF TOP
	TEE - DOWN, BRANCH OUT OF BOTTOM
	ELBOW - UP
	ELBOW - DOWN
	RISE OR DROP IN PIPING
	DIRECTION OF FLOW
	CAP ON END OF PIPE
	BALL VALVE
	PIPE PENETRATION THRU FLOOR
	VENT THRU ROOF

PLUMBING PIPE DESIGNATIONS

LINETYPE	DESCRIPTION
	SANITARY OR WASTE LINE
	VENT LINE
	COLD WATER (CW)
	HOT WATER (HW)

PLUMBING ABBREVIATIONS

ABBREVIATION	DESCRIPTION
LAV	LAVATORY
WC	WATER CLOSET
S	SINK
FD	FLOOR DRAIN
CW	COLD WATER
HW	HOT WATER
W	WASTE
V	VENT
VTR	VENT THRU ROOF
CO	CLEANOUT

FINAL SUBMITTAL FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-011

HANSON. Hanson Professional Services Inc.

USER NAME =	DESIGNED - J. DOYLE	REVISED
	DRAWN - C. REED	REVISED
PLOT SCALE=	CHECKED - A. KADIANI	REVISED
PLOT DATE =	APPROVED - G. CLACK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
GENERAL PLUMBING NOTES, DETAILS & SCHEDULES
SHEET NO. 11 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	441
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

ROOF TOP UNIT SCHEDULE

THIS EQUIPMENT SCHEDULE IS PROVIDED FOR REFERENCE PURPOSES ONLY TO ASSIST WITH AIR TEST AND BALANCE PROCEDURES. EQUIPMENT WAS PREVIOUSLY INSTALLED UNDER A SEPARATE CONTRACT.

MARK	ACCEPTABLE MANUF.	MODEL	CONFIG.	SERVICE	UNIT LOCATION	SYSTEM TYPE	SUPPLY AIR FAN				EXH FAN		COOLING (95°F AMB)				MIN O.A. CFM (FOR UNIT SIZING ONLY)	HEAT PUMP MBH AT 47°F	HEATING	FILTER			ELECTRICAL			ACCESS.	NOTES
							CFM	ESP (NOTE 1)		ESTIMATED MOTOR HP	CFM	ESP	EAT DB/WB°F	LAT DB/WB°F (IN SUPPLY DUCT)	TOTAL MBH	SENS MBH				TYPE	THICK	EFFCY	V/Ø/HZ	MCA	MOCP		
								SUP	RET																			
RTU-1 (HEAT PUMP)	AAON	RQ-005	DOWN FLOW	CONTROL ROOM	ROOF	SINGLE ZONE	1950	0.5	0.25	2.0	1800	.25	78/65	57/55	57	46	200	58	NO GAS HEAT FOR SPACE WINTER HTG IN THIS UNIT	T.A.	2"	30%	208/3/60	44	50	1-24	1-10
	VALENT	VPRX-110-5J																									

ACCESSORIES

1. DRY BULB ECONOMIZER WITH 100% MODULATION AND POWER EXHAUST.
2. ULTRA LOW LEAKAGE TYPE ECONOMIZER DAMPERS.
3. EXTENDED HEIGHT FULL PERIMETER, SLOPED, INSULATED ROOF CURB (14"-18" HIGH). SLOPE TO BE DETERMINED BY CONTRACTOR.
4. PRE-WIRED ELECTRICAL DISCONNECT/S.
5. ANTISHORT CYCLE FOR COMPRESSOR AND TIME DELAY BETWEEN COMPRESSOR STARTS.
6. TWO EXTRA SETS OF AIR FILTERS.
7. UNIT MOUNTED INLET HOOD OR MOISTURE ELIMINATOR WITH BIRD SCREEN.
8. HIGH EFFICIENCY MOTORS, VFD RATED.
9. TERMINAL CONTACTS FOR WIRING RETURN SMOKE DETECTOR IN RTU SAFETY CIRCUIT. SMOKE DETECTOR SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR.
10. FURNISH CO2 SENSOR AND CONTROLLER (SENSORS MOUNTED IN SPACE) FOR CONTROLLING OUTDOOR AIR DAMPER. CO2 SENSOR MAY BE MOUNTED IN RA DUCT.
11. HOT GAS REHEAT (FOR HUMIDITY CONTROL).
12. AVERAGING TYPE LOW LIMIT CONTROL STAT WITH MANUAL RESET FOR DISCHARGE AIR TEMP. (40° ADJ).
13. PHASE AND BROWN OUT PROTECTION WITH AUTORESET FEATURE.
14. DOUBLE WALL CONSTRUCTION. USE MINIMUM 1"/1.5 PCF INSULATION.
15. SLOPED STAINLESS STEEL OR POLYCARBONATE DRAIN PAN.
16. SPRING TYPE ANTIVIBRATION RAIL (2" DEFLECTION) UNDER ENTIRE UNIT.
17. HUMIDITY CONTROL (IN SUMMER) SHALL BE EFFECTED VIA RH SENSOR IN RETURN AIR SYSTEM. CO2 SENSOR MAY ALSO BE MOUNTED IN RETURN AIR SYSTEM.
18. EXTENDED GREASE LINES.
19. HINGED SERVICE PANELS.
20. HAIL GUARD FOR CONDENSER COIL.
21. SAFETY GRATES OVER SUPPLY AND RETURN OPENINGS.
22. THROUGH THE BASE ELECTRICAL CONNECTION IS PREFERRED. COORDINATE THIS ITEM WITH ELECTRICAL CONTRACTOR.
23. PROGRAMMABLE (7 DAY) WITH AUTO CHANGE OVER. PROVIDE LOCKABLE COVER.
24. PROVIDE ELECTRIC HEAT (EST 7.5-10 KW, MULTISTAGE OR SCR CONTROLLED) FOR OPERATION ONLY DURING DEFROST CYCLE TO MAINTAIN NEUTRAL AIR TEMPERATURE.

NOTES:

1. ESP INCLUDES SUPPLY AND RETURN DUCT. LOSSES AT CURB AND WITHIN THE UNIT SHALL BE FACTORED IN BY RTU MANUFACTURER.
2. RTU SHALL BE EQUIPPED WITH FACTORY FURNISHED DDC CONTROLS FOR ECONOMIZER, BUILDING PRESSURE, CO2 BASED CONTROL OF FRESH AIR, OA/RA/RAH/SA SENSORS, PROGRAMMABLE DAT RESET CONTROL, COMPRESSOR STAGING, ETC.
3. LOCATE CO2 SENSOR IN OCCUPIED SPACE OR IN RA DUCT. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD INSTALLATION OF CO2SENSOR AND CONTROLLER.
4. CONTRACTOR SHALL INCLUDE COST FOR CONDUIT AND WIRING BETWEEN ALL FIELD INSTALLED DEVICES AND THE RTU.
5. NEW DUCT MOUNTED SMOKE DETECTOR SHALL BE WIRED INTO FAN SAFETY CIRCUIT. DETECTOR SHALL BE FIELD FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR. SEE ELECTRICAL DRAWINGS. PROVIDE DETECTOR ON MAIN RETURN OF RTU.
6. EQUIPMENT MANUFACTURERS MUST MEET SCHEDULED PERFORMANCE CRITERIA.
7. ELECTRICAL DISCONNECT/S SHALL BE PROVIDED BY RTU MANUFACTURER.
8. IF MANUFACTURER'S EQUIPMENT REQUIRES A SEPARATE POWER FEED FOR DEFROST HEATER, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THIS FEATURE (INCLUDING SEPARATE DISCONNECT FOR HEATER).
9. SINCE START-UP OF RTU IS DEFERRED TO NEXT PHASE OF PROJECT, DEVICES SUCH AS THERMOSTATS, ETC. THAT ARE NOT INSTALLED SHALL BE TURNED OVER TO OWNER'S REPRESENTATIVE.
10. WARRANTY SHALL COMMENCE 6 MONTHS AFTER FACTORY SHIP DATE OR AT START-UP OF RTU, WHICHEVER IS EARLIER. SEE GENERAL NOTE #4 ON SHEET 0011E FOR EXTENDED WARRANTY.

GENERAL EXHAUST FAN SCHEDULE

THIS EQUIPMENT SCHEDULE IS PROVIDED FOR REFERENCE PURPOSES ONLY TO ASSIST WITH AIR TEST AND BALANCE PROCEDURES. EQUIPMENT WAS PREVIOUSLY INSTALLED UNDER A SEPARATE CONTRACT.

MARK		EF-1	
SERVICE		RESTROOM	
MANUFACTURER/MODEL (BASIS OF DESIGN)		GREENHECK/G080-D	
LOCATION		ROOF	
CFM		275	
EXT S.P.		0.4	
FAN RPM (APPROX.)		1550	
MAX. BHP		0.06	
MOTOR	HP/WATTS	1/15	
	VOLT	120	
	PHASE	1	
	RPM	1550	
ACCESSORIES		1 THRU 6	
REMARKS		1, 2	

ACCESSORIES:

1. PREFAB INSULATED ROOF CURB (18" H) WITH WELDED SEAM.
2. ALUMINUM BIRD SCREEN.
3. GRAVITY BACK DRAFT DAMPER
4. INERNAL VIBRATION ISOLATION
5. PREWIRED DISCONNECT
6. SOLID STATE SPEED CONTROLLER. IF CONTROLLER IS SHIPPED LOOSE, CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD INSTALLATION OF SPEED CONTROLLER AT ACCESSIBLE LOCATION.

REMARKS:

1. MAGNETIC STARTER / RELAY SHALL BE PROVIDED BY E.C. COORDINATE WITH EC FOR FAN OPERATION VIA LIGHT SWITCH IN RESTROOM
2. OTHER ACCEPTAVLE MANUFACTURERS:
   - COOK
   - PENN

AIR DEVICE SCHEDULE

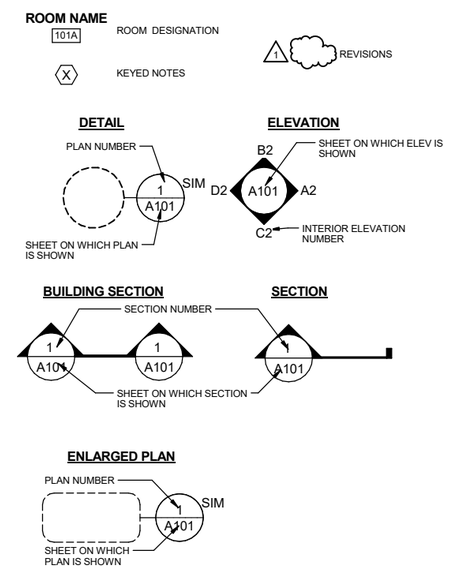
MARK	S1	R1	E1	T1
MANUFACTURER	TITUS	TITUS	TITUS	TITUS
MODEL	300FL	350ZFL	50F	350FL
SERVICE	SUPPLY	RETURN	EXHAUST	TRANSFER
MAXIMUM CFM	-	-	-	-
MAX. APD (IN. WG)	0.1	0.1	0.1	0.1
THROW (FT/50 FPM)	-	-	-	-
MAXIMUM NC	25	25	25	25
ADAPTER SIZE	-	-	-	-
NOMINAL NECK SIZE	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS
MODULE SIZE	-	-	-	-
PATTERN	DOUBLE DEFLEC.	0° FIXED DEFLECTION	EGGCRATE	35° FIXED DEFLECTION
FRAME	SIDEWALL/SURFACE	SIDEWALL/SURFACE	SIDEWALL/SURFACE	SIDEWALL/SURFACE
FINISH	WHITE	WHITE	WHITE	WHITE
MATERIAL	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
ACCESSORIES	1	-	1	-
REMARKS	-	-	-	-

ACCESSORIES
1. OPPOSED BLADE DAMPER.

GENERAL MECHANICAL NOTES

1. ENTIRE AIR DISTRIBUTION SYSTEM INCLUDING SUPPLY/RETURN DUCTWORK, GRILLES AND DIFFUSERS SHALL BE MAINTAINED DUST AND GRIT FREE DURING CONSTRUCTION PERIOD. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING OF ALL COMPONENTS TO ENGINEER'S SATISFACTION PRIOR TO STARTUP OF THE SYSTEM.
2. DUCT INSTALLATION HEIGHTS WHENEVER PROVIDED ON THE DRAWINGS ARE INTENDED FOR GUIDANCE PURPOSES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR SHOP DRAWINGS, COORDINATION AND PROPER INSTALLATION OF SYSTEM.
3. DUCTWORK ARRANGEMENT SHOWN ON DRAWINGS HAS BEEN DESIGNED TO MINIMIZE NOISE IN THE SYSTEM. ALL TAKE-OFF'S SHALL BE EXTENDED PLENUM. ALL SIZE CHANGES SHALL BE WITH GRADUAL TRANSITION. GRILLES AND DIFFUSERS SHALL BE SIZED FOR MAX. NC OF 25. ALL ELBOWS SHALL BE OF RADIUS TYPE. NO SQUARE ELBOWS SHALL BE ALLOWED UNLESS INDICATED ON PLANS OR APPROVED BY ENGINEER.
4. ALL PIPING PENETRATIONS THROUGH FLOOR AND WALLS SHALL BE MADE THROUGH NEATLY CUT OR DRILLED OPENINGS. ALL PIPING FLOOR PENETRATIONS SHALL BE SEALED WITH 3M FIRE BARRIER SYSTEM FIRE CAULK.
5. PROVIDE PROPER GRADIENTS FOR STEAM AND CONDENSATE PIPING.
6. ALL SUPPLY AND RETURN DUCT JOINTS SHALL BE CONSTRUCTED USING SLIP AND DRIVE CONNECTIONS. ALL DUCT JOINTS AND PENETRATIONS SHALL BE SEALED.
7. SUPPLY AND RETURN DUCTS SHALL BE 20 GAUGE (FOR LONGEST SIDE L ≥30") AND 22 GAUGE (FOR L <30").
8. SUPPLY DUCTS SHALL BE INSULATED AS SPECIFIED:
   A. RTU-1 SUPPLY DUCTWORK: 1.5" THICK 3.0 PCF DENSITY RIGID FIBERGLASS BOARD INSULATION WITH ALL SERVICE JACKET
   B. EXISTING DX SPLIT SYSTEM SUPPLY DUCTWORK (WHERE INDICATED): 1" THICK (EST.), 3.0 PCF ARMAFLEX AP COILFLEX CONFORMABLE ELASTOMERIC DUCT LINER OR EQUIVALENT. THICKNESS OF INTERNAL LINING SHALL MATCH EXISTING.
9. RETURN DUCT AND PLENUM SHALL BE INSULATED AS SPECIFIED: PROVIDE 1" THICK/3.0 PCF ARMAFLEX AP COILFLEX CONFORMABLE ELASTOMERIC DUCT LINER OR EQUIVALENT.
10. INSTALL DUCT LINER WITH 100% ADHESIVE COVERAGE PLUS WASHERS AT MAXIMUM OF 12" ON CENTERS AND MAXIMUM OF 3" TO CORNER OF DUCT. PROVIDE METAL NOSING FOR TRANSITIONS FROM LINED TO UNLINED DUCTWORK.
11. ROOFTOP UNIT (RTU-1) AND EXHAUST FAN (EF-1) EQUIPMENT WERE INSTALLED UNDER A PREVIOUS SEPARATE CONTRACT AND REMAIN UNDER WARRANTY BY THE PREVIOUS CONTRACT. THEREFORE, SUPPLEMENTAL EQUIPMENT WARRANTIES ARE NOT REQUIRED TO BE PROVIDED BY THIS CONTRACTOR. HOWEVER, THIS CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A TECHNICIAN WHO IS FACTORY TRAINED AND AUTHORIZED BY THE RTU-1 MANUFACTURER (AAON) PERFORM START-UP OF THE ROOFTOP UNIT.
12. TO ASSIST CONTRACTOR WITH THE AIR SYSTEM TESTING AND BALANCING PROCEDURES FOR RTU-1 AND EF-1, THE ASSOCIATED EQUIPMENT SCHEDULES THAT WERE INCLUDED UNDER THE PREVIOUS SEPARATE CONTRACT ARE INCLUDED ON THIS SHEET FOR REFERENCE PURPOSES ONLY.
13. SPACE TEMPERATURE SENSOR, HUMIDITY SENSOR, CO2 SENSOR, BUILDING STATIC PRESSURE SENSOR, DUCT MOUNTED SUPPLY AIR TEMPERATURE SENSOR AND SPACE MOUNTED AAON RTU ORION CONTROL SYSTEM TOUCH SCREEN SYSTEM MANAGER TS II WERE PROVIDED TO THE DEPARTMENT UNDER A PREVIOUS SEPARATE CONTRACT FOR PROVISION TO THIS CONTRACTOR FOR INSTALLATION UNDER THIS CONTRACT. THE DEPARTMENT WILL PROVIDE THE SENSORS TO THIS CONTRACTOR FOR INSTALLATION BY THIS CONTRACTOR AS SHOWN ON THESE PLANS. EACH WALL MOUNTED RTU CONTROL DEVICE SHALL HAVE AN RTU-1 IDENTIFICATION LABEL ATTACHED AND A LABEL IDENTIFYING THE SENSOR'S FUNCTION.
14. DUCT TAKE-OFF'S FOR ALL AIR DEVICE CONNECTIONS SHALL BE A MINIMUM 150% AREA INCREASE.
15. CONTRACTOR SHALL PROVIDE ONE, TWO HOUR TRAINING SESSION TO THE DEPARTMENT ON THE OPERATION AND MAINTENANCE OF RTU-1 AND IT'S ASSOCIATED USER INTERFACE CONTROLS.

MECHANICAL SYMBOLS (GENERAL)



SEQUENCE OF OPERATION - RTU-1

A. FACILITY IS OCCUPIED 24 HOURS A DAY, 7 DAYS A WEEK, 365 DAYS A YEAR.

B. CYCLE - COOLING:
1.) DISCHARGE AIR TEMPERATURE (DAT) AT RTU:
COOLING: 55°F (MIN) AND 65°F (MAX)

a.) DAT RESET SHALL BE BASED ON SPACE TEMP DEVIATION FROM SETPOINT. DAT RESET SHALL COMMENCE ONLY AFTER FAN SPEED HAS REACHED ITS LOWEST LIMIT.

2.) FANS: RUN CONTINUOUSLY.

3.) ECONOMIZER (1ST STAGE OF COOLING):
CASE 1: OAT>64°F (ADJ), MAINTAIN O.A. DAMPER TO SATISFY SPACE CO2 SETPOINT.
CASE 2: OAT≤64°F (ADJ), MODULATE O.A. DAMPER AND R.A. DAMPER TO ACHIEVE DAT SETPOINT. IF CO2 LEVELS EXCEED SETPOINT, INCREASE FRESH AIR QUANTITY TO SATISFY SPACE CO2 SETPOINT.
4.) DX COOLING: STAGE REFRIGERATION SYSTEM TO SATISFY DAT. IF RETURN (OR SPACE) AIR RH EXCEEDS 60 PERCENT, OVERRIDE DAT FOR ADDITIONAL COOLING STAGES UNTIL RH FALLS BELOW 50 PERCENT.

5.) SUPPLY FAN SPEED: MODULATE FAN SPEED BASED ON SPACE TEMP DEVIATION FROM SETPOINT.

6.) EXHAUST FAN SPEED: MODULATE EXHAUST FAN SPEED TO MAINTAIN BUILDING PRESSURE OF 0 IN. TO 0.03 IN. WG.

7.) SPACE TEMP SET POINT: 74°F.

C. CYCLE - HEATING WITH RTU HEAT PUMP (INTENDED FOR SPRING AND FALL WHEN OAT>20°F (ADJ.) AND EXISTING BUILDING STEAM HEATING SYSTEM IS INACTIVE):

1.) DISCHARGE AIR TEMPERATURE (DAT) AT RTU:
HEATING: 55°F (MIN) AND 105°F (MAX)
a.) DAT RESET SHALL BE BASED ON SPACE TEMP DEVIATION FROM SETPOINT. DAT RESET SHALL COMMENCE ONLY AFTER FAN SPEED HAS REACHED ITS LOWEST LIMIT.

2.) WHEN OAT≤50°F (ADJ.) RTU CONTROLLER SHALL AUTOMATICALLY INDEX FOR HEATING MODE.

3.) STAGE HEAT PUMP WHEN SPACE TEMPERATURE IS BELOW SETPOINT.

4.) FANS: RUN CONTINUOUSLY.

5.) SPACE TEMP SET POINT: 70°F.

D. CYCLE - HEATING WITH BUILDING STEAM HEATING SYSTEM (INTENDED DURING PEAK WINTER WHEN HEAT PUMP CANNOT MAINTAIN SPACE TEMP SETPOINT AND EXISTING BUILDING STEAM HEATING SYSTEM IS ACTIVE):

1.) RTU-1 IS TO BE MANUALLY DISABLED BY BUILDING PERSONNEL VIA SPACE MOUNTED AAON RTU ORION CONTROL SYSTEM TOUCH SCREEN SYSTEM MANAGER. EXISTING STEAM BASEBOARD INSTALLED IN CONTROL ROOM 203 WILL BE THE SOLE SOURCE FOR PROVIDING SPACE HEATING.

MECHANICAL ABBREVIATIONS

OA	OUTDOOR AIR
SA	SUPPLY AIR
EA	EXHAUST AIR
RA	RETURN AIR
AFF	ABOVE FINISHED FLOOR
TYP	TYPICAL
VCD	VOLUME CONTROL DAMPER
EST	ESTIMATED

MECHANICAL SYMBOLS (HVAC)

SYMBOL	DESCRIPTION
36x18	DUCT SIZE
	LINED DUCT
S1-200 10x6	AIR DEVICE — S1 = MARK, 200 = CFM, 10x6 = NECK SIZE
T	TEMPERATURE SENSOR
H	HUMIDITY SENSOR
CO_2	CO_2 SENSOR
SP	BUILDING STATIC PRESSURE SENSOR
SM	RTU CONTROLS TOUCH SCREEN SYSTEM MANAGER
M	MOTORIZED DAMPER
24X12 (OR Ø X")	DUCT SIZE DESIGNATION. SIDE SHOWN IS FIRST DIMENSION. SIZE SHOWN IS INTERNAL CLEAR OPENING. SHEET METAL SIZE MUST BE INCREASED FOR INTERNAL INSULATION, WHERE SPECIFIED
	TURNING VANES (NUMBER OF VANES SHALL BE BASED ON ACTUAL DUCT SIZE & NOT ON SCHEMATIC SYMBOL ON DRAWING)
	EXHAUST DUCT
	RETURN OR OUTSIDE AIR DUCT
	DISCHARGE OR SUPPLY DUCT
	FLEXIBLE DUCT CONNECTION
	VOLUME CONTROL DAMPER (VCD)
R	INCLINE RISE IN DIRECTION OF ARROW

MECHANICAL SYMBOLS (PIPING)

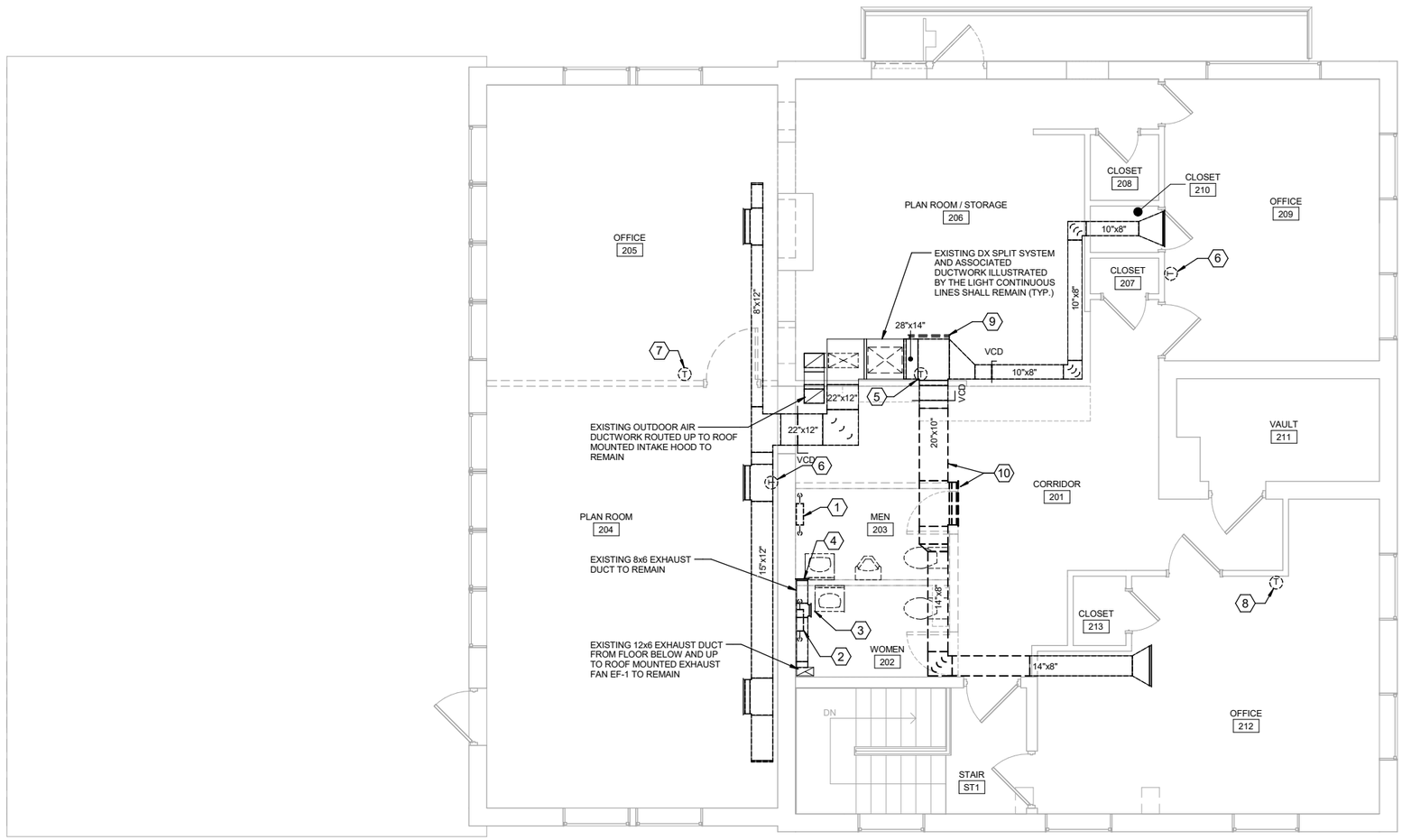
SYMBOL	DESCRIPTION
	TEE - UP, BRANCH OUT OF TOP
	TEE - DOWN, BRANCH OUT OF BOTTOM
	ELBOW - UP
	ELBOW - DOWN
	RISE OR DROP
	DIRECTION OF FLOW
	SLEEVE THRU WALL
	CAP ON END OF PIPE
	BALL VALVE

MECHANICAL BILL OF MATERIALS

ITEMS	UNIT	TOTAL
MECHANICAL HVAC WORK - BRIDGE OFFICE	LS	1

FINAL SUBMITTAL FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-012



1 SECOND FLOOR MECHANICAL PLAN - DEMOLITION

1/4" = 1'-0"

0 2' 4' 8' N

SHEET KEYNOTES

1. EXISTING STEAM RADIATOR ILLUSTRATED BY THE DARK DASHED LINES SHALL BE REMOVED AND DISPOSED OF. ASSOCIATED STEAM AND CONDENSATE PIPING SHALL BE REMOVED, DISPOSED OF AND CAPPED AT THE MAINS LOCATED BELOW THE SECOND FLOOR. PATCHING OF EXISTING STEAM AND CONDENSATE PIPING FLOOR PENETRATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. EXISTING STEAM RADIATOR ILLUSTRATED BY THE DARK DASHED LINES SHALL BE TEMPORARILY REMOVED AND REINSTALLED IN THE LOCATION SHOWN ON THE NEW WORK PLAN. ASSOCIATED STEAM AND CONDENSATE PIPING AND PIPING ACCESSORIES SHALL BE REMOVED, DISPOSED OF AND EXISTING BRANCH PIPING SHALL BE TEMPORARILY CAPPED AT THE MAINS LOCATED BELOW THE SECOND FLOOR. PATCHING OF THE EXISTING STEAM AND CONDENSATE PIPING FLOOR PENETRATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. EXISTING EXHAUST GRILLE ILLUSTRATED BY THE DARK DASHED LINES SHALL BE REMOVED AND DISPOSED OF. OPENING IN THE DUCT SHALL BE PATCHED AND SEALED AIR TIGHT.
4. EXISTING EXHAUST GRILLE ILLUSTRATED BY THE DARK DASHED LINES SHALL BE REMOVED AND DISPOSED OF. REFER TO NEW WORK PLAN FOR THE EXTENSION OF EXISTING EXHAUST DUCT TO NEW EXHAUST GRILLE.
5. EXISTING DX SPLIT SYSTEM WALL MOUNTED THERMOSTAT SHALL BE TEMPORARILY REMOVED AND REINSTALLED IN THE LOCATION SHOWN ON THE NEW WORK PLAN. PATCHING OF THE WALL TO MATCH EXISTING FINISH SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. EXISTING WALL MOUNTED THERMOSTAT SHALL BE REMOVED AND DISPOSED OF. PATCHING OF THE WALL TO MATCH EXISTING FINISH SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. EXISTING WALL MOUNTED THERMOSTAT SHALL BE REMOVED AND DISPOSED OF.
8. EXISTING WALL MOUNTED THERMOSTAT SHALL BE REMOVED AND DISPOSED OF. EXISTING SURFACE MOUNTED WIREMOLD SHALL REMAIN FOR REUSE. PATCHING OF THE WALL TO MATCH EXISTING FINISH SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
9. EXISTING AIR DEVICE SHALL BE REMOVED TO ACCOMMODATE THE INSTALLATION OF A NEW ENCLOSURE AROUND THE DX SPLIT SYSTEM AIR HANDLING UNIT. THE INTENT IS FOR THE EXISTING AIR DEVICE TAKE-OFF TO BE EXTENDED THROUGH THE NEW ENCLOSURE AND FOR THE EXISTING AIR DEVICE TO BE REINSTALLED ON THE PLAN ROOM / STORAGE SIDE OF THE ENCLOSURE. REFER TO THE NEW WORK DRAWINGS FOR ADDITIONAL INFORMATION.
10. EXISTING DUCTWORK ILLUSTRATED BY THE DARK DASHED LINES SHALL BE REMOVED AND DISPOSED OF. ASSOCIATED AIR DEVICE SHALL BE SAVED FOR REINSTALLATION. REFER TO THE NEW WORK DRAWINGS FOR RECONNECTION OF THE DUCT SYSTEM

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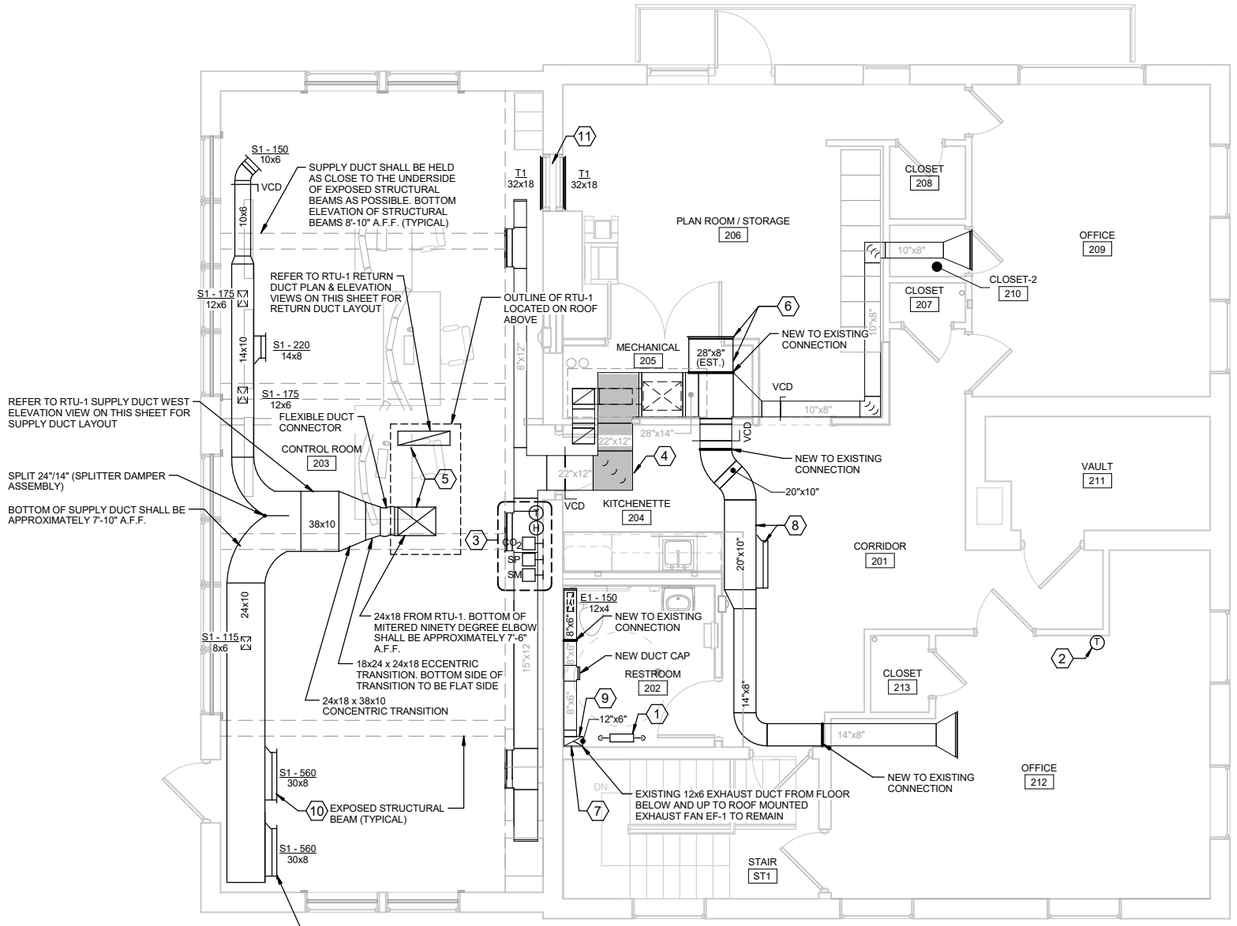
BRIDGE CONTROL OFFICE, Drawing 08-013

HANSON. Hanson Professional Services Inc.	USER NAME =	DESIGNED - J. DOYLE	REVISED
		DRAWN - C. REED	REVISED
	PLOT SCALE=	CHECKED - A. KADIANI	REVISED
	PLOT DATE =	APPROVED - G. CLACK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
SECOND FLOOR MECHANICAL PLAN - DEMOLITION
SHEET NO. 13 OF 36 SHEETS

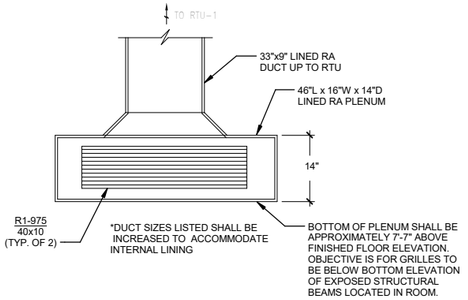
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	443
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



1 SECOND FLOOR MECHANICAL PLAN - NEW WORK

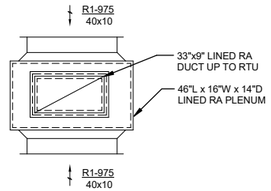
1/4" = 1'-0"

N



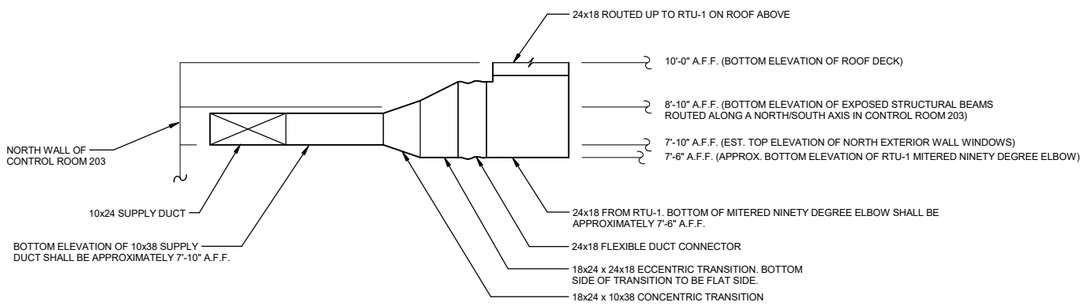
3 RTU-1 RETURN DUCT EAST ELEVATION

NO SCALE



4 RTU-1 RETURN DUCT PLAN VIEW

NO SCALE



2 RTU-1 SUPPLY DUCT WEST ELEVATION

NO SCALE

SHEET KEYNOTES

1. EXISTING STEAM RADIATOR REMOVED DURING THE DEMOLITION PHASE SHALL BE REINSTALLED IN THE LOCATION SHOWN. NEW STEAM AND CONDENSATE PIPING SHALL BE INSTALLED FROM THE EXISTING BRANCH TAPS AT THE MAINS LOCATED BELOW THE SECOND FLOOR TO THE RELOCATED RADIATOR. AT THE RADIATOR TERMINATION CONNECTIONS A NEW BALANCED PRESSURE THERMOSTATIC TYPE STEAM TRAP AND THERMOSTATIC RADIATOR CONTROL VALVE SHALL BE INSTALLED. STEAM TRAP SHALL BE EQUIVALENT TO ARMSTRONG MODEL # TS-3 ANGLE VALVE BODY WAFER TYPE TRAP. CONTROL VALVE SHALL BE EQUIVALENT TO HONEYWELL MODEL #V110F HORIZONTAL ANGLE VALVE BODY WITH INTEGRAL HONEYWELL MODEL #T104A TEMPERATURE SENSOR AND MANUALLY ADJUSTABLE SET POINT DIAL WITH POSITIVE SHUTOFF SETTING. CLEAN AND PAINT EXISTING RADIATOR. PAINT NEW STEAM AND CONDENSATE LINES.

2. EXISTING DX SPLIT SYSTEM WALL MOUNTED THERMOSTAT REMOVED DURING THE DEMOLITION PHASE SHALL BE REINSTALLED IN THE LOCATION SHOWN. LOW VOLTAGE WIRING INSTALLED BETWEEN THE RELOCATED THERMOSTAT AND DX SPLIT SYSTEM AIR HANDLING UNIT SHALL BE CONCEALED IN EMT CONDUIT INSTALLED ACROSS THE CEILING OF THE FIRST FLOOR. EXISTING SURFACE MOUNTED WIREMOLD INSTALLED IN OFFICE 212 BETWEEN THE FLOOR AND LOCATION OF THERMOSTAT REMOVED DURING THE DEMOLITION PHASE SHALL BE REUSED TO CONCEAL NEW LOW VOLTAGE WIRING INSTALLED IN THIS AREA.

3. SPACE TEMPERATURE SENSOR, HUMIDITY SENSOR, CO2 SENSOR, BUILDING STATIC PRESSURE SENSOR AND THE AAON RTU ORION CONTROL SYSTEM TOUCH SCREEN SYSTEM MANAGER TS II SHALL BE INSTALLED IN THE LOCATION SHOWN. SINGLE OR MULTIPLE GANG SURFACE MOUNTED DEVICE BOXES INSTALLED AT 48"- 54" ABOVE FINISHED FLOOR SHALL BE PROVIDED FOR INSTALLATION OF THE RTU CONTROL DEVICES (DEVICE BOXES SHALL BE EQUIVALENT TO WIREMOLD/ LEGRAND SERIES 5748WH). LOW VOLTAGE CONTROL WIRING INSTALLED BETWEEN THE RTU CONTROL DEVICE LOCATIONS AND THE RTU SHALL BE CONCEALED IN A ONE PIECE STEEL SURFACE MOUNTED WIREWAY (WIREWAY SHALL BE EQUIVALENT TO WIREMOLD / LEGRAND SERIES 700WH). CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE COMPATIBILITY OF THE DEVICE BOX AND WIREWAY SPECIFIED ABOVE (PRIOR TO PROCUREMENT) WITH THE RTU CONTROL DEVICES AND ASSOCIATED CONTROL WIRING BEING INSTALLED.

4. A PARALLEL BLADE CONTROL DAMPER (RUSKIN MODEL #CD60 OR EQUIVALENT) WITH INTEGRAL 120V, TWO POSITION ELECTRONIC ACTUATOR SHALL BE INSTALLED WITHIN THE SHADED REGION OF THE EXISTING DX SPLIT SYSTEM SUPPLY DUCTWORK. INSTALLATION LOCATION OF DAMPER SHALL PERMIT SERVICE ACCESSIBILITY TO DAMPER ACTUATOR. DAMPER SHALL BE CONTROLLED BY A WALL MOUNTED SUMMER/WINTER SWITCH INSTALLED IN CONTROL ROOM 203. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING SUMMER/WINTER SWITCH AND WIRING BETWEEN SWITCH AND DAMPER ACTUATOR. THE CONTROL DAMPER SHOULD BE IN THE OPEN POSITION DURING "SUMMER MODE" AND CLOSED POSITION DURING "WINTER MODE".

5. UNDER A PREVIOUS SEPARATE CONTRACT RTU-1 WAS INSTALLED ON THE ROOF ABOVE CONTROL ROOM 203. AS PART OF THIS INSTALLATION, THE SUPPLY AND RETURN DUCTS WERE INSTALLED DOWN THROUGH THE ROOF TO AN ELEVATION OF APPROXIMATELY 12" BELOW THE ROOF DECK AND TEMPORARILY TERMINATED WITH HARDWARE CLOTH/WIRE MESH. IN AN EFFORT TO MAXIMIZE HEAD CLEARANCE IN THE SPACE, CONTRACTOR SHALL REDUCE THE LENGTH THAT THESE DUCTS EXTEND INTO THE ROOM TO THE GREATEST EXTENT POSSIBLE PRIOR TO THE INSTALLATION OF THE REMAINING DUCT SYSTEM. PAINT RETURN DUCT TO MATCH COLOR OF SUPPLY DUCT INSULATION JACKET.

6. NEW SUPPLY DUCTWORK FOR THE EXISTING DX SPLIT SYSTEM SHALL BE INTERNALLY LINED. EXISTING SUPPLY AIR DEVICE (28"x8" EST.) REMOVED DURING THE DEMOLITION PHASE SHALL BE CLEANED AND REINSTALLED IN THE DUCTWORK AT THE LOCATION SHOWN.

7. A VOLUME CONTROL DAMPER SHALL BE INSTALLED IN THE EXISTING 12x6 EXHAUST DUCT BELOW THE CONNECTION POINT OF THE EXISTING 8x6 EXHAUST DUCT.

8. NEW SUPPLY DUCTWORK FOR THE EXISTING DX SPLIT SYSTEM SHALL BE INTERNALLY LINED. NEW, EXPOSED DUCTWORK IN CORRIDOR 201 AND KITCHENETTE 204 SHALL BE PAINTED. EXISTING SUPPLY AIR DEVICE (30"x8" EST.) REMOVED DURING THE DEMOLITION PHASE SHALL BE CLEANED AND REINSTALLED IN THE DUCTWORK AT THE LOCATION SHOWN.

9. PAINT THE ENTIRE VERTICAL SECTIONS OF EXHAUST DUCTWORK IN RESTROOM 202.

10. ALL NEW AIR DEVICES INSTALLED IN CONTROL ROOM 203 SHALL HAVE THEIR INDIVIDUALLY ADJUSTABLE BACK BLADES ADJUSTED TO DEFLECTION ANGLE OF APPROXIMATELY 45°. THE AIR DEVICES' FRONT BLADES SHALL REMAIN AT A DEFLECTION ANGLE OF 0°.

11. FURNISH AND INSTALL A CURTAIN TYPE, DYNAMIC RATED FIRE DAMPER HAVING A 1 1/2 HOUR FIRE RATING AND BLADES LOCATED OUTSIDE OF THE AIRSTREAM. FIRE DAMPER SHALL BE PROVIDED WITH A REPLACABLE 165°F FUSIBLE LINK AND HAVE A CLOSING RATING IN DUCTS UP TO 4" Wg STATIC PRESSURE CLASS AND MINIMUM 2000 fpm VELOCITY. FIRE DAMPER SHALL BE PROVIDED WITH A FACTORY-INSTALLED GLAVANIZED SHEET STEEL SLEEVE THAT IS INSTALLED FLUSH ON BOTH SIDES OF THE WALL FOR A TRANSFER OPENING INSTALLATION APPLICATION. GRILLES FURNISHED BY THE CONTRACTOR WILL BE INSTALLED ON BOTH SIDES OF THE FIRE DAMPER WALL SLEEVE. THE FIRE DAMPER AND ASSOCIATED GRILLES SHALL BE INSTALLED TIGHT TO THE UNDERSIDE OF THE EXISTING WALL OPENING THAT IS BEING INFILLED. FIRE DAMPER SHALL BE EQUIVALENT TO RUSKIN MODEL #DIBD2. ALTERNATIVE FIRE DAMPER MANUFACTURERS INCLUDE GREENHECK, AIRE TECHNOLOGIES AND NAILOR INDUSTRIES.

FINAL SUBMITTAL FEBRUARY 2018

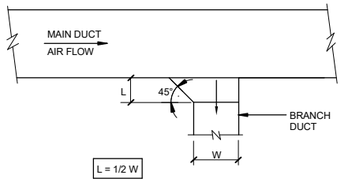
BRIDGE CONTROL OFFICE, Drawing 08-014

Hanson Professional Services Inc.	USER NAME =	DESIGNED - J. DOYLE	REVISED
		DRAWN - C. REED	REVISED
	PLOT SCALE=	CHECKED - A. KADIANI	REVISED
	PLOT DATE =	APPROVED - G. CLACK	REVISED

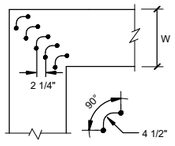
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
SECOND FLOOR MECHANICAL PLAN - NEW WORK
SHEET NO. 14 OF 36 SHEETS

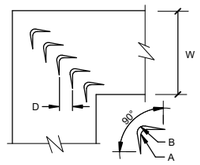
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	444
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



SUPPLY DUCT BRANCH TAKE-OFF

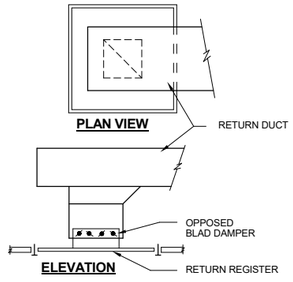


SINGLE VANE ELBOW W/ LESS THAN 20"

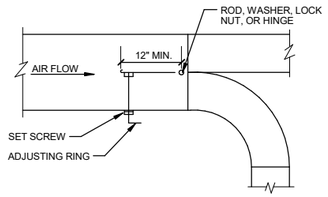


DOUBLE VANE ELBOW W/ GREATER THAN 20"

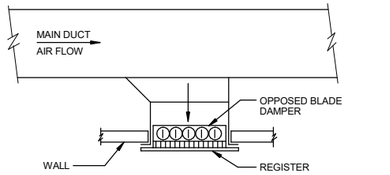
W	A	B	D
20" TO 36"	2"	1"	1 1/8"
36" AND LARGER	4"	2"	2 1/4"



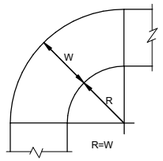
CEILING RETURN OR EXHAUST



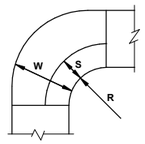
SPLITTER DAMPER TAKE-OFF



SUPPLY DUCT BRANCH TAKE-OFF TO REGISTER

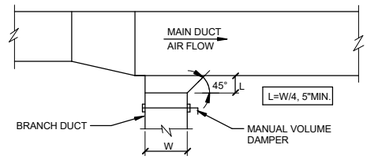


STANDARD RADIUS ELBOW

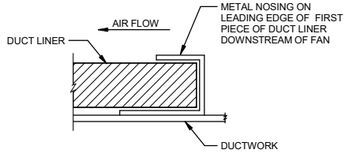


SHORT RADIUS ELBOW

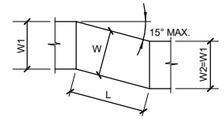
R/W	S
.05	3.59 R
.10	2.31 R
.15	1.77 R
.20	1.45 R
.25	1.24 R
.30	1.08 R
.35	.96 R
.40	.87 R
.45	.80 R
.50	.73 R



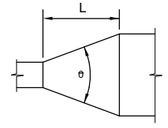
EXHAUST AND/OR RETURN BRANCH DUCT



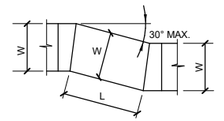
DUCT LINER RETAINER



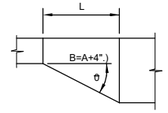
OFFSET TYPE 1 (ANGLED)



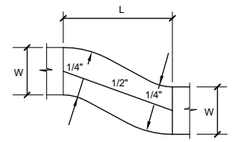
CONCENTRIC TRANSITION Ø MAX. 45° DIVERGING, 60° CONVERGING



OFFSET TYPE 2 (MITERED)



ECCENTRIC TRANSITION Ø MAX. 30° (EXCEPT 45° IS PERMITTED AT ROUND TO FLAT OVAL)



OFFSET TYPE 3 (RADIUSSED OR OGEE)

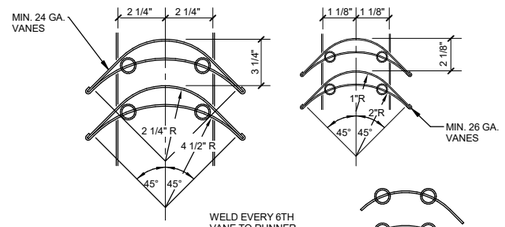
OFFSETS 2 AND 3 AND TRANSITIONS MAY HAVE EQUAL OR UNEQUAL INLET AND OUTLET AREAS. TRANSITIONS MAY CONVERT DUCT PROFILES TO ANY COMBINATION RECTANGULAR, ROUND OR FLAT OVAL SHAPES

3 OFFSETS AND TRANSITIONS

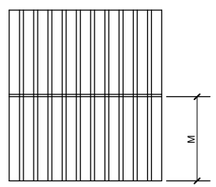
NO SCALE

1 SHEET METAL DUCTWORK DETAILS

NO SCALE



RUNNER TYPE 1



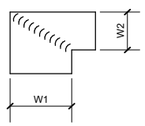
M = MAXIMUM UNSUPPORTED VANE LENGTH

SMALL SINGLE VANE 36"
LARGE SINGLE VANE 36"
SMALL DOUBLE VANE 60"
LARGE DOUBLE VANE 72"

INSTALL VANES IN SECTIONS OR USE TIE RODS TO LIMIT THE UNBRACED VANE LENGTH

VANES SHALL BE SECURELY FASTENEND TO RUNNERS

ALL VANES SHALL BE SECURE AND STABLE IN INSTALLED OPERATING POSITION



IF W2 DOES NOT EQUAL W1 SPECIAL PROVISIONS MUST BE MADE IN VANE SHAPE OR ANGLE OF ENTRY AND EXIT. APPLIES TO ALL TYPES OF VANES. CONSTRUCT VANE EDGES TO PROJECT TANGENTS PARALLEL TO DUCT SIDES

2 TURNING VANES, RUNNERS AND SUPPORTS

NO SCALE

FINAL SUBMITTAL FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-015

HANSON
Hanson Professional Services Inc.

USER NAME =	DESIGNED - J. DOYLE	REVISED
	DRAWN - C. REED	REVISED
PLOT SCALE=	CHECKED - A. KADIANI	REVISED
PLOT DATE =	APPROVED - G. CLACK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
MECHANICAL DETAILS
SHEET NO. 15 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	445
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		

ELECTRICAL LIGHTING LEGEND

X–Y / (A) / z	FIXTURE LABELING WHEN NOT SHOWING CONDUIT AND WIRE. "X" INDICATES PANEL, "Y" INDICATES CIRCUIT NUMBER(S), "z" INDICATES SWITCHING, HEXAGON INDICATES FIXTURE TYPE, (TYPICAL FOR ALL LIGHT FIXTURE SYMBOLS).
X–Yz	FIXTURE LABELING WHEN SHOWING CONDUIT AND WIRE. "X" INDICATES FIXTURE TYPE, "Y" INDICATES CIRCUIT NUMBER(S), "z" INDICATES SWITCHING, (TYPICAL FOR ALL LIGHT FIXTURE SYMBOLS).
	2'x4' LIGHT FIXTURE.
	WALL MOUNTED LIGHT FIXTURE.
	1'x4' LIGHT FIXTURE.
	1'x2' LIGHT FIXTURE.
	RECESSED DOWNLIGHT OR PENDANT MOUNTED FIXTURE.
	UNIVERSAL MOUNT EXIT SIGN WITH BATTERY POWERED EMERGENCY OPERATION. SHADING INDICATES NUMBER OF FACES, ARROWS INDICATE DIRECTIONAL CHEVRONS.
	WALL MOUNTED LIGHT FIXTURE, (TYPICAL FOR ALL LIGHT FIXTURE SYMBOLS).
	WALL MOUNTED LED EXIT SIGN. SHADING INDICATED NUMBER OF FACES.
	EMERGENCY LIGHT FIXTURE – SWITCHED
	EMERGENCY LIGHT FIXTURE – UNSWITCHED
$a	20 AMP, 120/277 VOLT SINGLE POLE TOGGLE SWITCH MOUNTED 48" AFF, UNLESS OTHERWISE NOTED. LOWER CASE LETTER INDICATES SWITCH–LEG, (TYPICAL FOR ALL SWITCH SYMBOLS).
$K	20 AMP, 120/277 VOLT SINGLE POLE KEY SWITCH MOUNTED 48" AFF, UNLESS OTHERWISE NOTED. FURNISH ONE KEY FOR EACH SWITCH MINIMUM.
$D	0–10 VOLT DIMMER SWITCH MOUNTED 48" AFF, UNLESS OTHERWISE NOTED.
OS	WALL MOUNTED 120/277 VOLT DUAL TECHNOLOGY OCCUPANCY SENSOR 48" AFF, UNLESS OTHERWISE NOTED. PROVIDE ON/OFF SWITCH.
OS	CEILING MOUNTED 120/277 VOLT DUAL TECHNOLOGY OCCUPANCY SENSOR.
PP	POWER PACK

ELECTRICAL SCHEMATIC LEGEND

	CIRCUIT BREAKER.
	FUSED SWITCH OR BOLTED PRESSURE SWITCH.
	TRANSFORMER.
	GROUND OR GROUND ROD.

ELECTRICAL POWER LEGEND

X / Y,Y,Y	HOMERUN TO PANEL. "X" INDICATES PANEL, "Y" INDICATES CIRCUIT NUMBER(S).
	CONDUIT RUN CONCEALED IN WALL OR CEILING.
	CONDUIT RUN CONCEALED IN OR UNDER FLOOR SLAB.
	CONDUIT RUN EXPOSED.
	LONG SLASHES INDICATE NEUTRAL, SHORT SLASHES INDICATE HOT OR SWITCHED LEG, LONG SLASHES WITH DOT INDICATE GROUND.
X–Y	RECEPTACLE LABELING WHEN NOT SHOWING CONDUIT AND WIRE. "X" INDICATES PANEL, "Y" INDICATES CIRCUIT NUMBER(S), (TYPICAL FOR ALL POWER SYMBOLS).
X	RECEPTACLE LABELING WHEN SHOWING CONDUIT AND WIRE. "X" INDICATES CIRCUIT NUMBER(S), (TYPICAL FOR ALL POWER SYMBOLS).
	20 AMP, 125 VOLT SINGLE RECEPTACLE, MOUNTING HEIGHT PER SPEC. UNLESS OTHERWISE NOTED.
	20 AMP, 125 VOLT DUPLEX RECEPTACLE, MOUNTING HEIGHT PER SPEC. UNLESS OTHERWISE NOTED.
	20 AMP, 125 VOLT DOUBLE DUPLEX RECEPTACLE, MOUNTING HEIGHT PER SPEC. UNLESS OTHERWISE NOTED.
	20 AMP, 125 VOLT DOUBLE DUPLEX RECEPTACLE MOUNTED ABOVE COUNTERTOP 42"± AFF, UNLESS OTHERWISE NOTED.
	20 AMP, 125 VOLT SINGLE RECEPTACLE IN A ONE–GANG FULLY ADJUSTABLE CAST IRON FLOOR BOX, BRASS CARPET FLANGE AND BRASS COVER PLATE WITH SCREW PLUGS.
	20 AMP, 125 VOLT DUPLEX RECEPTACLE IN A ONE–GANG FULLY ADJUSTABLE CAST IRON FLOOR BOX, BRASS CARPET FLANGE AND BRASS COVER PLATE WITH SCREW PLUGS.
	20 AMP, 125 VOLT DOUBLE DUPLEX RECEPTACLE IN A TWO–GANG FULLY ADJUSTABLE CAST IRON FLOOR BOX, BRASS CARPET FLANGE AND BRASS COVER PLATE WITH SCREW PLUGS.
X	SINGLE SPECIAL PURPOSE RECEPTACLE. MOUNTING HEIGHT PER SPEC. UNLESS OTHERWISE NOTED. "X" INDICATES NEMA CONFIGURATION, SEE TABLE ON DRAWINGS.
J	JUNCTION BOX MOUNTED IN OR ABOVE CEILING.
J	FLOOR MOUNTED JUNCTION BOX.
J	WALL MOUNTED JUNCTION BOX, MOUNTING HEIGHT PER SPEC. UNLESS OTHERWISE NOTED.
J_P	JUNCTION BOX MOUNTED ABOVE CEILING FOR MODULAR FURNITURE POWER POLE. COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
	SURFACE MOUNTED POWER OR APPLIANCE PANELBOARD.
	FLUSH MOUNTED POWER OR APPLIANCE PANELBOARD.
T	120 VAC/24 VAC TRANSFORMER, LOCATED ABOVE CEILING.
	ELECTRICAL DISCONNECT
X	MOTOR OUTLET, "X" INDICATES ESTIMATED HORSEPOWER.
	PUSH BUTTON OPERATOR

ELECTRICAL SPECIAL SYSTEMS LEGEND

H	CEILING MOUNTED PROGRAMMABLE COMBINATION FIXED TEMPERATURE AND RATE OF RISE HEAT DETECTOR.
SD	CEILING MOUNTED PROGRAMMABLE SMOKE DETECTOR.
F	SINGLE ACTION MANUAL PULL STATION MOUNTED 48" AFF, UNLESS OTHERWISE NOTED.
X	FIRE ALARM HORN AND VISUAL UNIT MOUNTED AT 80" AFF, UNLESS OTHERWISE NOTED. "X" INDICATES CANDELA INTENSITY.
SX	FIRE ALARM VISUAL UNIT ONLY MOUNTED AT 80" AFF, UNLESS OTHERWISE NOTED. "X" INDICATES CANDELA INTENSITY.
FS	INTELLIGENT SINGLE INPUT MODULE WITH ADDRESSABLE RELAY MOUNTED IN A DOUBLE–GANG OUTLET BOX FOR SUPERVISION OF FLOW SWITCH.
TS	INTELLIGENT SINGLE INPUT MODULE WITH ADDRESSABLE RELAY MOUNTED IN A DOUBLE–GANG OUTLET BOX FOR SUPERVISION OF TAMPER SWITCH.
SD	DUCT MOUNTED SMOKE DETECTOR WITH CLEAR HOUSING AND SAMPLING TUBES. SAMPLING TUBE LENGTH AS REQUIRED.
RTS	KEY OPERATED REMOTE TEST STATION WITH INDICATOR LIGHT FOR DUCT MOUNTED SMOKE DETECTOR.
FACP	FIRE ALARM CONTROL PANEL.
FAA	FIRE ALARM ANNUNCIATOR PANEL.
DL	ELECTRIC DOOR LOCK MOUNTED 48" AFF, UNLESS OTHERWISE NOTED.
ES	INTELLIGENT SINGLE INPUT MODULE WITH ADDRESSABLE RELAY MOUNTED IN A DOUBLE–GANG OUTLET BOX FOR SUPERVISION OF DOOR ELECTRIC STRIKE.
S_x	CEILING MOUNTED SPEAKER. "x"" INDICATES THE DIAMETER OF THE SPEAKER.
	WALL MOUNTED SPEAKER.
	CLOSED CIRCUIT TELEVISION CAMERA.
X–Y	4 PORT COMMUNICATIONS OUTLET MOUNTED 18" AFF, UNLESS OTHERWISE NOTED. PROVIDE 4" x 4" x 2 1/8" BOX WITH SINGLE GANG PLASTER RING AND 1"C. TO TTB. "X" INDICATES IDF, "Y" INDICATES OUTLET NUMBER (SEE PATCH PANEL SCHEDULES).
	FLOOR BOX COMMUNICATIONS OUTLET.

ELECTRICAL ABBREVIATIONS

@	AT
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT
A/E	ARCHITECT/ENGINEER
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLER UNIT
AIC	AMPS INTERRUPTING CAPACITY
AL	ALUMINUM
AM	AMMETER
AMP	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BPS	BOLTED PRESSURE SWITCH
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS PER HOUR
C	CONDUIT
CB	CIRCUIT BREAKER
CBM	CERTIFIED BALLAST MANUFACTURERS
CD	CANDELA
CFM	CUBIC FEET PER MINUTE
CKT	CIRCUIT
C/L	CENTER LINE
CLG	CEILING
COMP	COMPRESSOR
COND	CONDUIT
CONN	CONNECTION
CONT	CONTINUOUS
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CRI	COLOR RENDERING INDEX
CT	CURRENT TRANSFORMER
CTR	COUNTER
CU	COPPER OR CONDENSER UNIT
CW	COLD WATER
DB	DIRECT BURIED
DC	DIRECT CURRENT
DISC	DISCONNECT
DISC SW	DISCONNECT SWITCH
DN	DOWN
DPST	DOUBLE POLE SINGLE THROW
DS	DISCONNECT SWITCH
EA	EACH
ECB	ENCLOSED CIRCUIT BREAKER
EC	ELECTRICAL CONTRACTOR
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
ELEV	ELEVATION OR ELEVATOR
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
EST	ESTIMATE
ETD	EXISTING TO BE DEMOLISHED
ETR	EXISTING TO BE RELOCATED
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX OR EXIST	EXISTING
F/A	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FC	FOOTCANDLES
FLA	FULL LOAD AMPERES
FLR	FLOOR
FT	FEET
FTB	FAN TERMINAL BOX
FVNR	FULL VOLTAGE NON–REVERSING
G OR GND	GROUND
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTING
GFP	GROUND FAULT PROTECTION
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRS	GALVANIZED RIGID STEEL
HID	HIGH INTENSITY DISCHARGE
HH	HAND HOLE
HO	HIGH OUTPUT
HP	HORSEPOWER OR HEAT PUMP
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HR	HOUR
HS	HEAT STRIP
HT	HEIGHT
HTR	HEATER
HZ	HERTZ
IG	ISOLATED GROUND
IMC	INTERMEDIATE METALLIC CONDUIT
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR
LAHJ	LOCAL AUTHORITY HAVING JURISDICTION
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET
LLD	LAMP LUMEN DEPRECIATION
LLF	LIGHT LOSS FACTOR
LPF	LOW POWER FACTOR
LT	LIGHT
LTG	LIGHTING
LTS	LIGHTS
LV	LOW VOLTAGE
M	METER
MAINT	MAINTENANCE
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MFG	MANUFACTURER
MH	MANHOLE OR METAL HALIDE
MIN	MINIMUM
MLO	MAIN LUG ONLY
MM	MILIMETER
MOCP	MAXIMUM OVERCURRENT PROTECTION
MPH	MILES PER HOUR
MTD	MOUNTED
MV	MEDIUM VOLTAGE
#	NUMBER
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE (NFPA 70)
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NON–FUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT, NOT SWITCHED
NO	NORMALLY OPEN OR NUMBER
NPT	NATIONAL PIPE THREAD
OD	OUTSIDE DIAMETER
OL	OVERLOAD
OS&Y	OUTSIDE SCREW AND YOKE
%	PERCENT
P	POLE
PB	PULL BOX
PH OR ø	PHASE
PL	COMPACT FLUORESCENT LAMP
PNL	PANEL OR PANELBOARD
PR	PAIR
PRI	PRIMARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RECEPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RPM	REVOLUTIONS PER MINUTE
RS	RAPID START
RTU	ROOF TOP UNIT
SCA	SHORT CIRCUIT AMPERES
SEC	SECONDARY
SF	SQUARE FOOT OR SUPPLY FAN
S/N	SOLID NEUTRAL
SPST	SINGLE POLE SINGLE THROW
SS	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
SYS	SYSTEM
TEMP	TEMPERATURE
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TVTC	TELEVISION TERMINAL CABINET
TVEC	TELEVISION EQUIPMENT CABINET
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITER'S LABORATORIES
UON	UNLESS OTHERWISE NOTED
VE	VALUE ENGINEER
VFD	VARIABLE FREQUENCY DRIVE
VHF	VERY HIGH FREQUENCY
VHO	VERY HIGH OUTPUT
V	VOLT
VA	VOLT AMPERE
VAV	VARIABLE AIR VOLUME
VM	VOLT METER
VOL	VOLUME
W	WATT OR WIRE
WP	WEATHERPROOF
WSA	WIRE SIZE AMPERES
WW	WIREWAY OR AUXILIARY GUTTER
XFMR	TRANSFORMER
Y	WYE

ELECTRICAL BILL OF MATERIALS

ITEMS	UNIT	TOTAL
ELECTRICAL WORK – BRIDGE OFFICE	LS	1

BRIDGE CONTROL OFFICE, Drawing 08-016

FINAL SUBMISSION FEBRUARY 2018

Hanson Professional Services Inc.

USER NAME =	DESIGNED - J. COUEY	REVISED
	DRAWN - R. NATION	REVISED
PLOT SCALE =	CHECKED - J. COUEY	REVISED
PLOT DATE =	APPROVED - R. NATION	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
ELECTRICAL LEGEND AND ABBREVIATIONS
SHEET NO. 16 OF 36 SHEETS

F. A. U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	446
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

ELECTRICAL GENERAL NOTES

1. THE DRAWINGS AND APPLICABLE SPECIFICATIONS SHALL BE CONSIDERED SUPPLEMENTARY, ONE TO THE OTHER AND ARE CONSIDERED THE "CONTRACT DOCUMENTS." ALL WORKMANSHIP, METHODS, AND/OR MATERIALS DESCRIBED OR IMPLIED BY ONE AND NOT DESCRIBED OR IMPLIED BY THE OTHER SHALL BE PROVIDED, FURNISHED, OR PERFORMED AS IF IT HAD APPEARED IN BOTH SECTIONS. THE TERM "CONTRACT DOCUMENTS" DESCRIBED HEREIN IS NOT LIMITED SOLELY TO THE ELECTRICAL PORTION OF THE DRAWINGS AND SPECIFICATIONS, BUT ENCOMPASSES THE DRAWINGS AND SPECIFICATIONS OF ALL DIVISIONS AS A WHOLE.

2. WHERE A DISCREPANCY OR CONFLICT IS FOUND BETWEEN ONE DRAWING AND ANOTHER, OR BETWEEN A DRAWING AND APPLICABLE SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IN WRITTEN FORM. CONTRACTOR SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL A WRITTEN DIRECTIVE HAS BEEN RETURNED. IN GENERAL, THE MOST STRINGENT REQUIREMENT SHALL GOVERN UNLESS THE DISCREPANCY CONFLICTS WITH APPLICABLE CODES, WHEREIN THE CODE SHALL GOVERN.

3. THE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EVERY DETAIL OF CONSTRUCTION, METHODS, MATERIALS AND EQUIPMENT, OR EXACT LOCATIONS, ROUTING, ETC. THEY INDICATE THE RESULT TO BE ACHIEVED BY THE ASSEMBLAGE OF SEVERAL SYSTEMS FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM. DO NOT SCALE THE CONTRACT DOCUMENTS. COORDINATE EXACT EQUIPMENT LOCATIONS WITH THE ARCHITECTURAL AND STRUCTURAL PORTIONS OF THE CONTRACT DOCUMENTS, AS WELL AS FIELD CONDITIONS, APPROVED SHOP DRAWINGS, AND WORK OF ALL OTHER DIVISIONS/TRADES.

4. THE TERM "PROVIDE" USED IN THE CONTRACT DOCUMENTS INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL MATERIALS, INCLUDING ALL COST FOR SHIPPING, UNLOADING, STORAGE, UNPACKING, ERECTION, ANCHORING, ETC. REQUIRED FOR CORRECT INSTALLATION OF A COMPLETE SYSTEM, UNLESS SPECIFICALLY NOTED OTHERWISE.

5. UNLESS NOTED AS EXISTING, ALL ELECTRICAL INDICATED IN THE CONTRACT DOCUMENTS SHALL BE NEW, SHALL BE U.L. LISTED, AND SHALL BEAR A U.L. LABEL. WHERE NO U.L. LABEL OR LISTING IS AVAILABLE THE MATERIAL SHALL BE LISTED WITH AN APPROVED, NATIONALLY RECOGNIZED ELECTRICAL TESTING AGENCY. WHERE NO LABELING OR LISTING IS AVAILABLE FOR MATERIAL, TEST DATA SHALL BE SUBMITTED TO THE ENGINEER AS EVIDENCE THAT THE MATERIAL MEETS OR EXCEEDS AVAILABLE STANDARDS. EQUIPMENT SHALL BE INSTALLED AND USED IN ACCORDANCE WITH ANY INSTRUCTIONS INCLUDED IN THE LISTING OR LABELING.

6. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), ALL APPLICABLE LOCAL CODES, ORDINANCES AND ALL REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION (AHJ), AS A MINIMUM.

7. THE CONTRACTOR SHALL PROVIDE EXPERIENCED, QUALIFIED, AND RESPONSIBLE SUPERVISION FOR ALL WORK REQUIRED BY THE CONTRACT DOCUMENTS. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, TO THE SATISFACTION OF THE ENGINEER AND DEPARTMENT. ALL WORK SHALL BE PERFORMED IN A FIRST-CLASS MANNER.

8. THE CONTRACTOR SHALL CARRY ALL INSURANCE REQUIRED TO PROTECT AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THIS PROJECT.

9. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP ARE FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE ENGINEER AND DEPARTMENT. THE CONTRACTOR, AT NO ADDITIONAL COSTS, SHALL PROVIDE THE CORRECTION OF ANY DEFECTS INCLUDING REPAIR OR REPLACEMENT.

10. THE CONTRACTOR SHALL INCLUDE ALL COSTS ASSOCIATED WITH PERMITS, LICENSES, FEES, INSPECTIONS, TESTING AND TEMPORARY POWER IN HIS PROPOSAL, UNLESS SPECIFICALLY NOTED OTHERWISE.

11. THE CONTRACTOR SHALL VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND/OR SITE AFFECTED BY THIS WORK PRIOR TO SUBMITTING PROPOSALS, SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT MAY AFFECT EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT AND/OR MATERIALS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED THAT COULD HAVE REASONABLY BEEN OBSERVED BY THE CONTRACTOR WILL NOT BE RECOGNIZED.

12. THE CONTRACTOR SHALL COORDINATE ALL PROJECT SCHEDULING AND PHASING REQUIREMENTS WITH ENGINEER AND DEPARTMENT PRIOR TO SUBMITTING PROPOSAL. THIS PROJECT MAY REQUIRE PHASING SEQUENCES AND POTENTIAL PREMIUM TIME WORK AND ALL COSTS FOR SUCH SHALL BE INCLUDED IN THE CONTRACTOR'S PROPOSAL. THE CONTRACTOR SHALL PROVIDE ADEQUATE WORK FORCE, EQUIPMENT, AND SHALL WORK SUCH HOURS INCLUDING PREMIUM TIME AS MAY BE REQUIRED IN ORDER TO ADHERE TO THE PROJECT SCHEDULE. ADDITIONALLY, THE CONTRACTOR SHALL ENSURE THAT LONG-LEAD ITEMS DO NOT IMPACT THE PROJECT'S SCHEDULE OR PHASING.

13. ALL TEMPORARY DOWNTIME REQUIRED FOR SYSTEM TIE-IN OR SWITCHOVER FOR ANY PORTION OF THE ELECTRICAL SYSTEM SHALL BE PRE-APPROVED BY THE DEPARTMENT AND SCHEDULED IN ADVANCE.

14. THE CONTRACTOR SHALL COORDINATE THE EXACT REQUIREMENTS WITH ALL LOCAL UTILITY COMPANIES (ELECTRIC, TELEPHONE, CABLE TV, ETC.) AND INCLUDE ALL COSTS FOR PROVIDING TEMPORARY AND PERMANENT SERVICES REQUIRED FOR THIS PROJECT IN HIS BID. CONTRACTOR'S PROPOSAL SHALL INCLUDE, BUT IS NOT LIMITED TO: EXCAVATION, RACEWAYS, BACKFILL, EQUIPMENT, EQUIPMENT PADS, BACKBOARDS, METERS, GROUNDING AND IMPACT FEES.

15. THE CONTRACTOR SHALL INCLUDE ALL COST FOR THE PROPER STORAGE, TRANSPORT, DISPOSAL, AND/OR RECYCLING OF ALL WASTE MATERIALS GENERATED BY THIS WORK. CONTRACTOR SHALL COMPLY WITH ALL RULES, REGULATIONS AND GUIDELINES THAT APPLY. REMOVE DEBRIS, RUBBISH, ETC. RESULTING FROM THIS WORK FROM THE SITE DAILY.

16. IF HAZARDOUS MATERIALS ARE ENCOUNTERED, THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES, REGULATIONS AND GUIDELINES CONCERNING REMOVAL, HANDLING, DISPOSAL, AND PROTECTION AGAINST ENVIRONMENTAL EXPOSURE OR POLLUTION. CONTRACTOR SHALL PROVIDE DOCUMENTATION OF SAID COMPLIANCE.

17. CONDUCT WORK OPERATIONS AND DEBRIS REMOVAL IN A MANNER THAT ENSURES MINIMUM INTERFERENCE WITH NORMAL BUSINESS OPERATIONS, TRAFFIC, PARKING, ETC. ONGOING IN ADJACENT OCCUPIED SPACES OR FACILITIES. PROVIDE ALL THAT IS REQUIRED TO EFFECTIVELY PROTECT SURROUNDING OCCUPANTS, EQUIPMENT, FINISHES, FURNITURE, ETC. FROM DAMAGE OR EXCESSIVE NOISE THROUGHOUT THE DURATION OF THIS PROJECT. ANY DAMAGE TO SURROUNDING ELEMENTS RESULTING FROM THE CONTRACTOR'S FAILURE TO ADHERE TO THIS REQUIREMENT SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR, TO THE SATISFACTION OF THE ENGINEER AND DEPARTMENT, AT NO ADDITIONAL COSTS. REPORT ANY SUCH OCCURRENCE TO THE ENGINEER AND DEPARTMENT IMMEDIATELY AND AWAIT WRITTEN DIRECTION PRIOR TO PROCEEDING WITH REPAIRS.

18. THE ELECTRICAL PORTION OF THE CONTRACT DOCUMENTS ARE COORDINATED WITH THE DESIGN BASIS EQUIPMENT SPECIFIED. WHERE THE CONTRACTOR ELECTS TO SUBSTITUTE A PRODUCT IN LIEU OF PROVIDING THE DESIGN BASIS, AND SAID SUBSTITUTION IS ACCEPTED BY THE ENGINEER AND DEPARTMENT, THE CONTRACTOR SHALL MAKE ALL CORRECTIONS TO THE ELECTRICAL SYSTEM NECESSARY IN ORDER TO ENSURE A COMPLETE AND OPERATIONAL INSTALLATION OF THE EQUIPMENT AT NO ADDITIONAL COSTS. WHERE THE CONTRACTOR'S DECISION TO SUBSTITUTE PRODUCTS RESULTS IN THE NEED FOR THE ENGINEER TO REVISE THE CONTRACT DOCUMENTS, THE ENGINEER RESERVES THE RIGHT TO REQUEST COMPENSATION FROM THE CONTRACTOR FOR SAID SERVICES.

19. CONTRACTOR SHALL MAINTAIN A CURRENT ACCURATE SET OF PROJECT RECORD DOCUMENTS (AS-BUILTS) AT THE SITE THROUGHOUT THE DURATION OF THIS PROJECT. RECORD DRAWINGS SHALL BE UPDATED EACH DAY TO REFLECT THE ACTUAL LOCATIONS, SIZES, ROUTING, ETC. OF EACH PORTION OF THE ELECTRICAL SYSTEM AFFECTED BY THIS WORK. A FINAL SET OF RECORD DOCUMENTS SHALL BE ISSUED TO THE ENGINEER FOR REVIEW AND THEN SUBMITTED TO THE DEPARTMENT AT THE CONCLUSION OF THE PROJECT.

20. ALL 120V, 20A BRANCH CIRCUITS OVER 80'-0" IN LENGTH SHALL BE #10 AWG CU. CONDUCTORS MINIMUM TO ACCOMMODATE VOLTAGE DROP. WHERE A CONFLICT EXISTS BETWEEN THIS REQUIREMENT AND CONDUCTOR SIZES INDICATED ELSEWHERE IN THE CONTRACT DOCUMENTS, THIS REQUIREMENT SHALL TAKE PRECEDENCE.

21. ALL 277V, 20A BRANCH CIRCUITS OVER 150'-0" IN LENGTH SHALL BE #10 AWG CU. CONDUCTORS MINIMUM TO ACCOMMODATE VOLTAGE DROP. WHERE A CONFLICT EXISTS BETWEEN THIS REQUIREMENT AND CONDUCTOR SIZES INDICATED ELSEWHERE IN THE CONTRACT DOCUMENTS, THIS REQUIREMENT SHALL TAKE PRECEDENCE.

22. IN GENERAL, VOLTAGE DROP FOR ANY BRANCH CIRCUIT SHALL NOT EXCEED 3%. VOLTAGE DROP FOR ANY FEEDER SHALL NOT EXCEED 2%. WHERE VOLTAGE DROP EXCEEDS THESE REQUIREMENTS, THE CONTRACTOR SHALL INCREASE THE SIZE OF THE CONDUCTORS AND RACEWAY AS REQUIRED.

23. CONTRACTOR SHALL PROVIDE ALL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS. COORDINATE LOCATIONS AND SIZES WITH THE ARCHITECTURAL AND STRUCTURAL PORTIONS OF THE CONTRACT DOCUMENTS, FIELD CONDITIONS, AND WORK OF ALL OTHER DIVISIONS/TRADES. ALL OPENINGS SHALL BE SEALED WATERTIGHT.

24. WHERE OPENINGS PENETRATE A FIRE RATED FLOOR, WALL, CEILING, OR ROOF, FIRESTOPPING SHALL BE PROVIDED. MEET ALL REQUIREMENTS FOR THE U.L. ASSEMBLY AND RACEWAYS INVOLVED.

ELECTRICAL GENERAL NOTES (CONT.)

25. CONTRACTOR SHALL INCLUDE ALL COSTS FOR EXCAVATION, SAW CUTTING, DIRECTIONAL BORING, CORE DRILLING, BACKFILL, SURFACE RESTORATION, REPAIR OF FINISHES, ETC. THAT IS REQUIRED IN ORDER TO MEET THE PROJECT REQUIREMENTS.

26. CONTRACTOR SHALL LOCATE, IDENTIFY, PROTECT, AND DOCUMENT ALL UTILITY LINES LOCATED WITHIN THE PROJECT BOUNDARY UTILIZING APPROPRIATE LOCAL LOCATING SERVICES.

27. ALL COMPONENTS OF THE ELECTRICAL SYSTEM LOCATED OUTDOORS OR INDOORS WHERE EXPOSED TO SIGNIFICANT MOISTURE SHALL BE RAINPROOF TYPE NEMA 3R (MINIMUM), WHETHER INDICATED ON CONTRACT DOCUMENTS OR NOT.

28. ALL COMPONENTS OF THE ELECTRICAL SYSTEM LOCATED IN A HAZARDOUS (CLASSIFIED) LOCATION SHALL BE APPROVED FOR USE IN SAID LOCATION WHETHER INDICATED ON THE CONTRACT DOCUMENTS OR NOT.

29. ALL WORK ON THE ELECTRICAL SYSTEM REQUIRED BY THE CONTRACT DOCUMENTS SHALL BE COORDINATED WITH THE WORK OF ALL OTHER DIVISIONS/TRADES PRIOR TO THE COMMENCEMENT OF WORK. AVOID INTERFERENCES WITH THE PROGRESS OF OTHER DIVISIONS/TRADES.

30. COORDINATE THE EXACT LOCATIONS OF ALL DEVICES (RECEPTACLES, TELECOMMUNICATIONS OUTLETS, FIRE ALARM, SECURITY, ETC.) WITH THE ARCHITECTURAL PLANS, APPROVED MILLWORK SHOP DRAWINGS, AND FIELD CONDITIONS.

31. COORDINATE THE EXACT REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO PREPARING SUBMITTALS (PRODUCT DATA & SHOP DRAWINGS). THE CONTRACTOR SHALL PROVIDE ALL RACEWAYS, CONDUCTORS, BOXES, EQUIPMENT, DISCONNECT SWITCHES, CIRCUIT BREAKERS, CONTROL CIRCUITS, CONTROL TRANSFORMERS, FIRE ALARM SHUTDOWN, ETC. REQUIRED FOR A COMPLETE AND OPERATIONAL DIVISION 15 SYSTEM. VERIFY EXACT LOCATION OF ALL MECHANICAL EQUIPMENT PRIOR TO COMMENCEMENT OF WORK.

32. COORDINATE THE EXACT REQUIREMENTS OF ALL MISCELLANEOUS EQUIPMENT (COPIERS, FAX MACHINES, PRINTERS, KITCHEN APPLIANCES, LAUNDRY APPLIANCES, PROJECTION SCREENS, SHOP TOOLS, MACHINERY, ELEVATORS, ETC..) WITH APPROVED SHOP DRAWINGS, MANUFACTURER'S INSTRUCTIONS, AND EQUIPMENT NAME PLATE AND PROVIDE ALL ELECTRICAL REQUIRED.

33. THE USE OF ALUMINUM CONDUCTORS, RACEWAYS, BOXES, BUSSING, WINDINGS, ETC. ARE PROHIBITED UNLESS SPECIFICALLY NOTED OTHERWISE, OR UNLESS ENGINEER AND DEPARTMENT GRANTS WRITTEN PERMISSION.

34. THE USE OF ELECTRICAL NON-METALLIC TUBING (ENT), AND LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT (LFNC) ARE PROHIBITED UNLESS SPECIFICALLY NOTED OTHERWISE, OR UNLESS ENGINEER AND DEPARTMENT GRANTS WRITTEN PERMISSION.

35. ALL FEEDER AND BRANCH CIRCUIT CONDUCTORS, INCLUDING LOW VOLTAGE SYSTEMS, SHALL BE INSTALLED IN A COMPLETE RACEWAY SYSTEM UNLESS SPECIFICALLY NOTED OTHERWISE.

36. ALL RACEWAYS THAT RISE UP FROM UNDERGROUND SHALL BE GALVANIZED RIGID STEEL (RGS) WITH BITUMASTIC COATING FOR AT LEAST THE FINAL 18" IN LENGTH. USE OF NONMETALLIC CONDUIT ABOVE GRADE IS NOT ACCEPTABLE.

37. PROVIDE A SEPARATE DEDICATED NEUTRAL CONDUCTOR FOR ALL 120-VOLT RECEPTACLE BRANCH CIRCUITS (INCLUDING MODULAR FURNITURE), AND ALL LIGHTING BRANCH CIRCUITS. SHARED NEUTRALS ARE NOT ACCEPTABLE.

38. ALL BRANCH CIRCUITS SHALL BE INSTALLED IN 3/4" TRADE SIZE RACEWAY MINIMUM, INCLUDING FLEXIBLE METAL CONDUIT AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT (FMC & LFMC).

39. FLEXIBLE METAL CONDUIT AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT (FMC & LFMC) SHALL NOT BE USED IN LENGTHS THAT EXCEED 6'-0" UNLESS SPECIFICALLY NOTED OTHERWISE, OR UNLESS ENGINEER AND DEPARTMENT GRANTS WRITTEN PERMISSION.

40. PANEL SCHEDULES INDICATE DEDICATED HOMERUNS FOR EACH BRANCH CIRCUIT. AT HIS DISCRETION, THE CONTRACTOR MAY GROUP BRANCH CIRCUITS INTO A COMMON HOMERUN WHERE THE HOMERUN DOES NOT EXCEED 3 PHASE CONDUCTORS, 3 NEUTRAL CONDUCTORS, 1 EQUIPMENT GROUND AND 1 ISOLATED GROUND (8 WIRES MAXIMUM). THE CONTRACTOR SHALL INCREASE THE HOMERUN RACEWAY SIZE AS NECESSARY TO COMPLY WITH THE N.E.C. RACEWAY FILL REQUIREMENTS.

41. PROVIDE PLASTIC LAMINATE NAME TAGS ON EACH SWITCHGEAR, SWITCHBOARD, PANELBOARD, MOTOR CONTROL CENTER, SAFETY SWITCH, CONTROL PANEL, CABINET, AND ANY OTHER MAJOR COMPONENT OF THE ELECTRICAL SYSTEM.

42. PROVIDE TYPED PANEL DIRECTORIES FOR ALL PANELBOARDS. DIRECTORIES SHALL REFLECT TRUE PROJECT AS-BUILT CONDITIONS FOR ALL BRANCH CIRCUITS. DIRECTORIES SHALL INCLUDE WHERE EACH PANEL IS FED FROM. ADDITIONALLY, EACH BRANCH CIRCUIT LOAD DESCRIPTION SHALL INCLUDE THE ROOM NUMBERS FOR EACH LOAD SERVED (i.e. "RECEPTACLES – 501, 503"). ROOM NUMBERS SHALL BE BASED ON ACTUAL ROOM SIGNAGE INSTALLED IN FIELD. COORDINATE EXACT ROOM NUMBERS WITH ENGINEER AND DEPARTMENT PRIOR TO COMPLETION OF PANEL DIRECTORIES.

43. FOR SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS AND OTHER DISTRIBUTION EQUIPMENT THAT DOES NOT HAVE PROVISIONS FOR ATTACHMENT OF A PANEL DIRECTORY, PROVIDE PLASTIC LAMINATE NAME TAGS FOR EACH BRANCH CIRCUIT BREAKER. NAME TAG SHALL INCLUDE LOAD DESCRIPTION AND ROOM NUMBERS FOR EACH LOAD SERVED.

44. ALL DEVICE OUTLET BOXES, JUNCTION BOXES, PULL BOXES, AND RACEWAYS SHALL BE CONCEALED IN CEILINGS, WALLS OR BELOW SLAB UNLESS SPECIFICALLY NOTED OTHERWISE, OR UNLESS ENGINEER AND DEPARTMENT GRANTS WRITTEN PERMISSION.

45. ALL LIGHTING FIXTURES SHALL BE PROVIDED COMPLETE WITH LAMPS.

46. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY NORMAL LIGHTING, EMERGENCY LIGHTING, AND EXIT SIGNAGE REQUIRED FOR THE DURATION OF THIS PROJECT.

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	DESCRIPTION	MODEL	LAMP	MOUNTING	INPUT WATTS	VOLTS	NOTE 1
Ⓐ	▭	2 FT. X 4 FT. VOLUMETRIC LED LIGHTING FIXTURE SURFACE MOUNTED, CURVED ACRYLIC PRISMATIC REFLECTOR. HIGH EFFICIENCY 0-10V DIMMING SOLID STATE DRIVER AND 6" STEM MOUNTS, 4 STEMS PER FIXTURE.	Lithonia Lighting, 2RTLX4 COLUMBIA: EPC METALUX: 2AC OR APPROVED EQUAL	(1) LED, 4300 LUMNES, 4000 DEG. K	SURFACE	49	120V 1P 2W	SHADED FIXTUTES TO INCLUDE EMERGENCY BATTERY PACK RATED FOR 1400 LUMENS FOR A MINIMUN OF 90 MINUTES.
Ⓑ	▬	4 FT. LED WALL BRACKET, OPAL ACRYLIC REFRACTOR, UNIFORM LIGHT DISTRIBUTION, WHITE POWDER FINISH AND HIGH EFFICIENCY SOLID STATE DRIVER.	LITHONIA LIGHTING: WL4 METALUX: COLUMBIA: OR APPROVED EQUAL	(1) LED, 2500 LUMENS, 4000 DEG. K.	SURFACE	24	120V 1P 2W	SHADED FIXTUTES TO INCLUDE EMERGENCY BATTERY PACK RATED FOR 1400 LUMENS FOR A MINIMUN OF 90 MINUTES.
Ⓒ	▭	2 FT. LED WALL BRACKET, OPAL ACRYLIC REFRACTOR, UNIFORM LIGHT DISTRIBUTION, WHITE POWDER FINISH AND HIGH EFFICIENCY SOLID STATE DRIVER.	LITHONIA LIGHTING: WL2 METALUX: COLUMBIA: OR APPROVED EQUAL	(1) LED, 1200 LUMENS, 4000 DEG. K	SURFACE	13	120V 1P 2W	
Ⓓ	⊗	LED EXIT SIGN, WHITE ALUMINUM HOUSING AND FACE. STENCIL STYLE FACE WITH 6 INCH HIGH BY 3/4 INCH STROKE RED LETTERS ON A WHITE BACKGROUND. SOLID STATE VOLTAGE CHARGER, BROWN OUT CIRCUIT PROTECTION, TEST SWITCH, INDICATOR LIGHTING AND SELF DIAGNOSTICS.	LITHONIA LIGHTING: LE COOPER LIGHTING: CX OR APPROVED EQUAL	(1) LED'S	WALL	1	120V 1P 2W	
Ⓔ	○	12" DIAMETER LED SHALLOW CYLINDER ROUND ALUMINUM HOUSING WITH WHITE FLINISH. HIGH EFFICIENCY SOLID STATE DRIVER.	SPECTRUM LIGHTING: GV SERIES OR APPROVED	(1) LED, 2700 LUMENS, 4000 DEG. K	SURFACE	26	120V 1P 2W	
Ⓕ	▭	14" LONG LED UNDERCABINET LIGHT FIXTURE WITH ROCKER SWITCH. HI EFFICIENCY SOLID STATE DRIVER. LINEAR PRISMATIC ACRYLIC LENS A CODE GAUGE STEEL HOUSING.	JUNO: UPLED 14 OR APPROVED EQUAL	(1) LED, 239 LUMENS, 4000 DEG. K.	SURFACE	6.5	120V 1P 2W	

FINAL SUBMISSION FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-017

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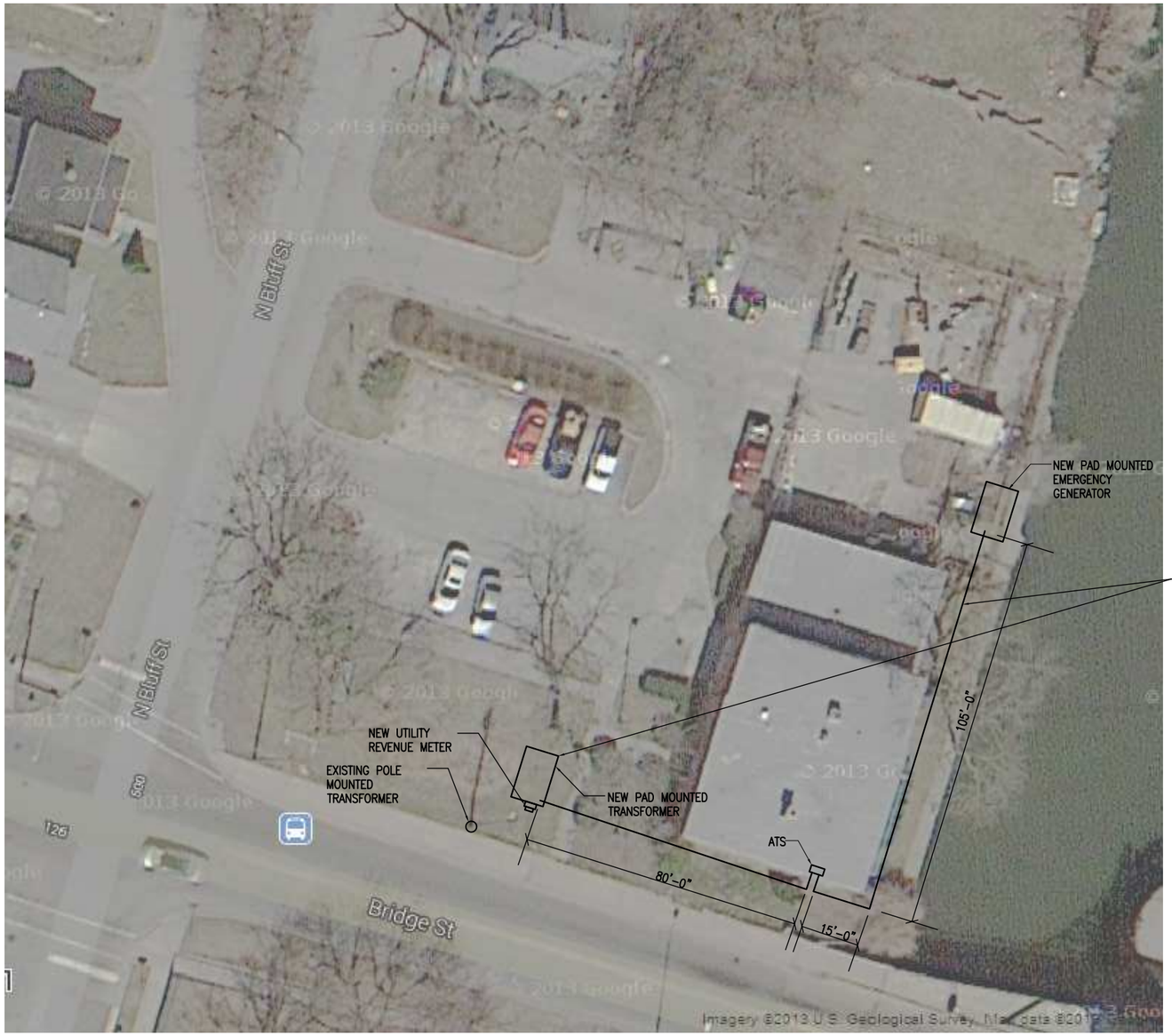
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
ELECTRICAL GENERAL NOTES AND LIGHT FIXTURE SCHEDULE
SHEET NO. 17 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	447
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



N

SITE PLAN - NEW WORK
NO SCALE

GENERAL NOTES:

1. DRAIN GRATE AND UNDERGROUND DRAINAGE PIPES IN THE AREA. CONTRACTOR TO COORDINATE WITH UTILITIES AND WITH DRAWINGS 08-034 FOR CONDUIT ROUTE FROM ATS TO GENERATOR AND FROM UTILITY PAD MOUNTED TRANSFORMER TO BUILDING.

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BRIDGE CONTROL OFFICE, Drawing 08-018

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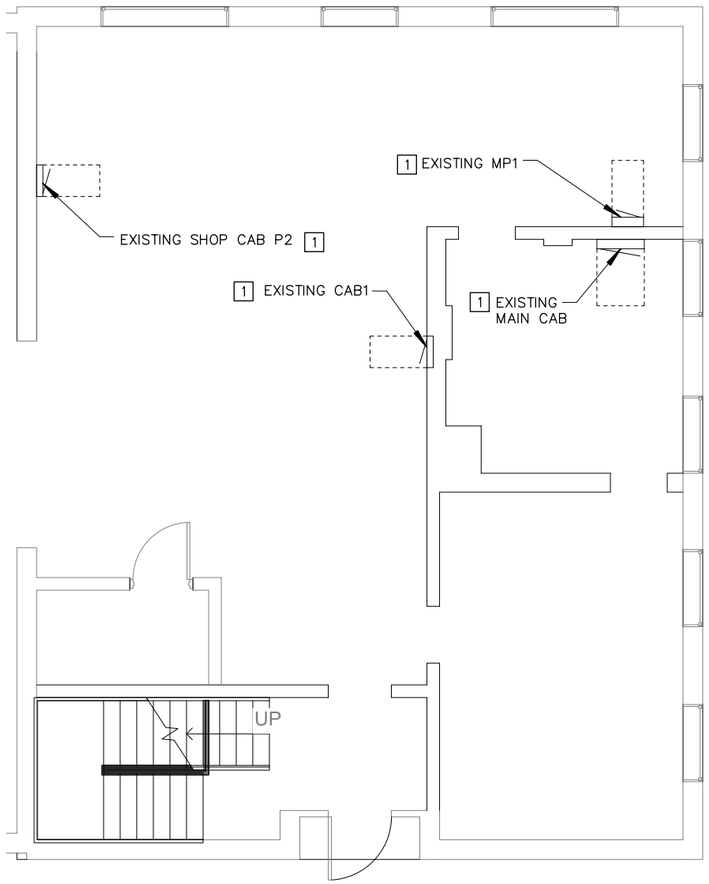
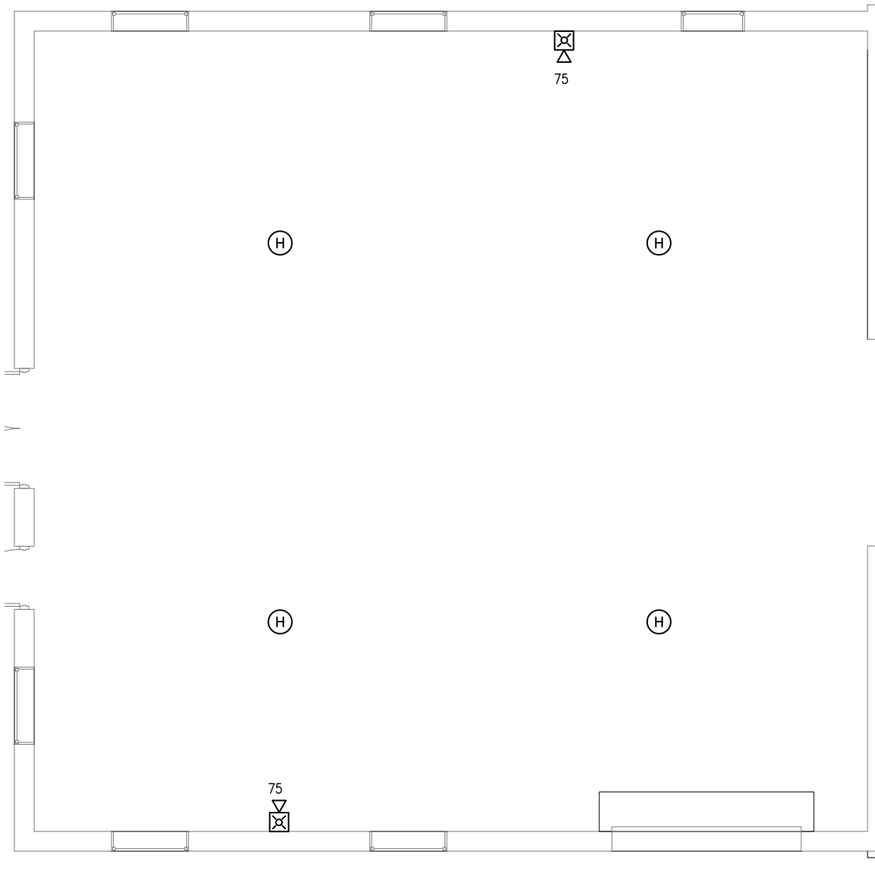
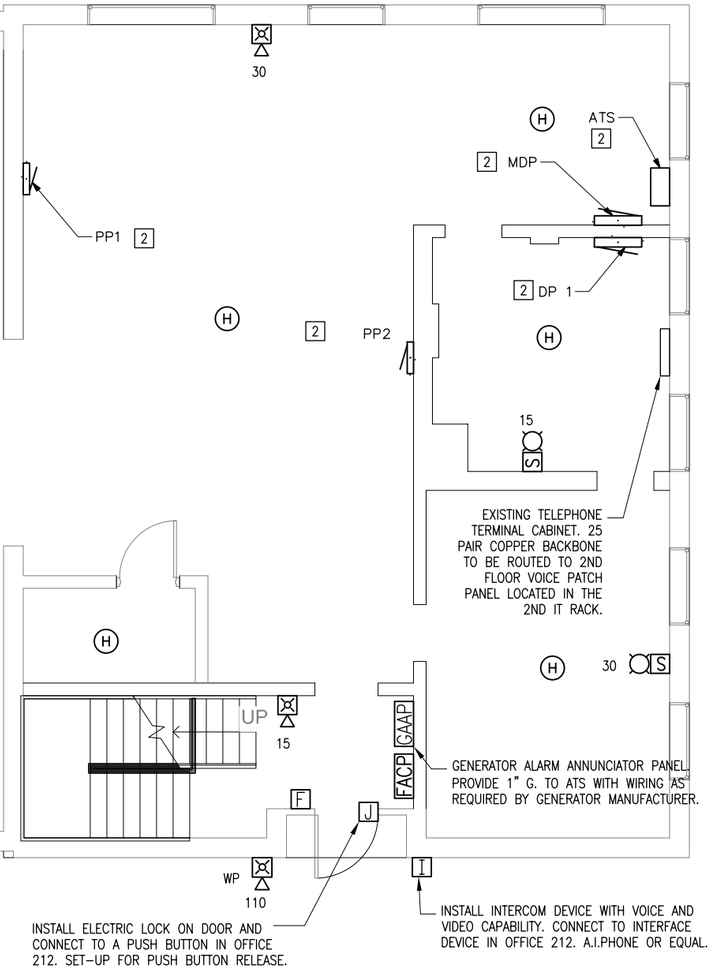
VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
ELECTRICAL SITE PLAN
SHEET NO. 18 OF 36 SHEETS

F. A. U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	448
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		







1ST FLOOR - DEMOLITION

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

1ST FLOOR POWER PLAN - NEW WORK

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

1. ALL EXISTING ABANDONED ITEMS ABOVE CEILING INCLUDING HANGERS, SUPPORTS, CONDUIT, PIPING, WIRING, ETC., TO BE REMOVED BACK TO SOURCE AND CAPPED.
2. REMOVE ALL EXISTING ELECTRICAL MATERIALS AND ASSOCIATED ITEMS AS SHOWN OR NOTED ON THE DRAWINGS AND AS REQUIRED BY THE WORK.
3. REMOVE ALL ABANDONED WIRING, CONDUIT, FITTINGS, ETC., IN THE PROJECT AREA. CAP ALL STUBS, AND SEAL PENETRATIONS THROUGH WALLS AND FLOORS.
4. ALL CONDITIONS SHALL BE CAREFULLY FIELD DETERMINED AND VERIFIED PRIOR TO REMOVAL.
5. ALL EXISTING ITEMS REQUIRING POWER TO REMAIN, SHALL BE RE-CONNECTED TO THEIR EXISTING CIRCUITS IF INTERRUPTED BY AN ADJACENT ITEM TO BE DEMOLISHED.
6. EXISTING CONDUIT TO BE RE-USED AS MUCH AS POSSIBLE. ADD NEW CONDUIT AS NEEDED.
7. ALL WIRE FEEDING MICROPHONE WALL INPUTS TO BE REMOVED COMPLETELY.
8. CONTRACTOR TO FIELD VERIFY ALL CIRCUIT NUMBERS AND UPDATE PLANS TO REFLECT CORRECT NUMBERS DURING AS-BUILT DRAWING PHASE.

ELECTRICAL KEYED NOTES:

1 EXISTING 120/240V, 3PHASE HIGH LEG DELTA PANELBOARD TO BE REMOVED AND REPLACED. SEE ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR DETAILS OF THE WORK.

2 NEW PANELS SEE ONE-LINE DIAGRAM AND PANEL SCHEDULES FOR ADDITIONAL DETAILS.

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BRIDGE CONTROL OFFICE, Drawing 08-019

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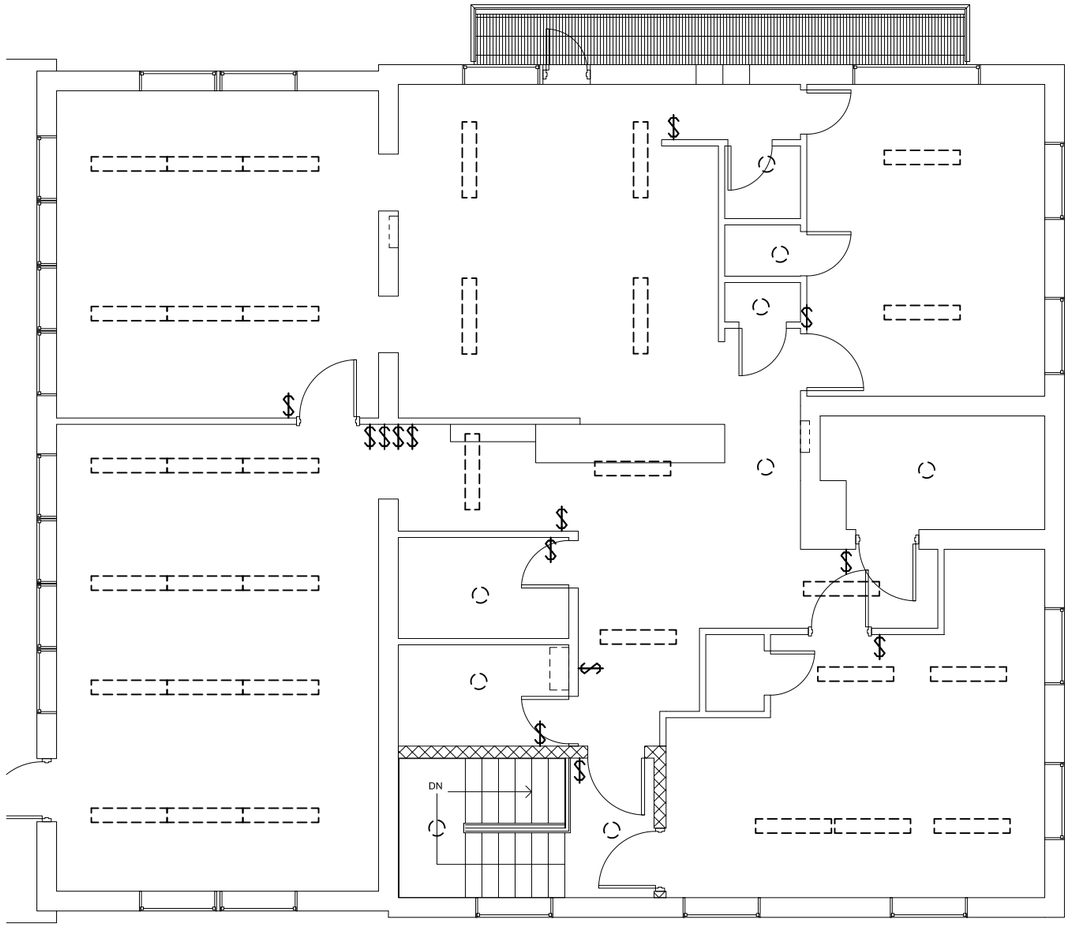
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
FIRST FLOOR ELECT. PLAN - DEMOLITION AND NEW WORK
SHEET NO. 19 OF 36 SHEETS

F. A. U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	449
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

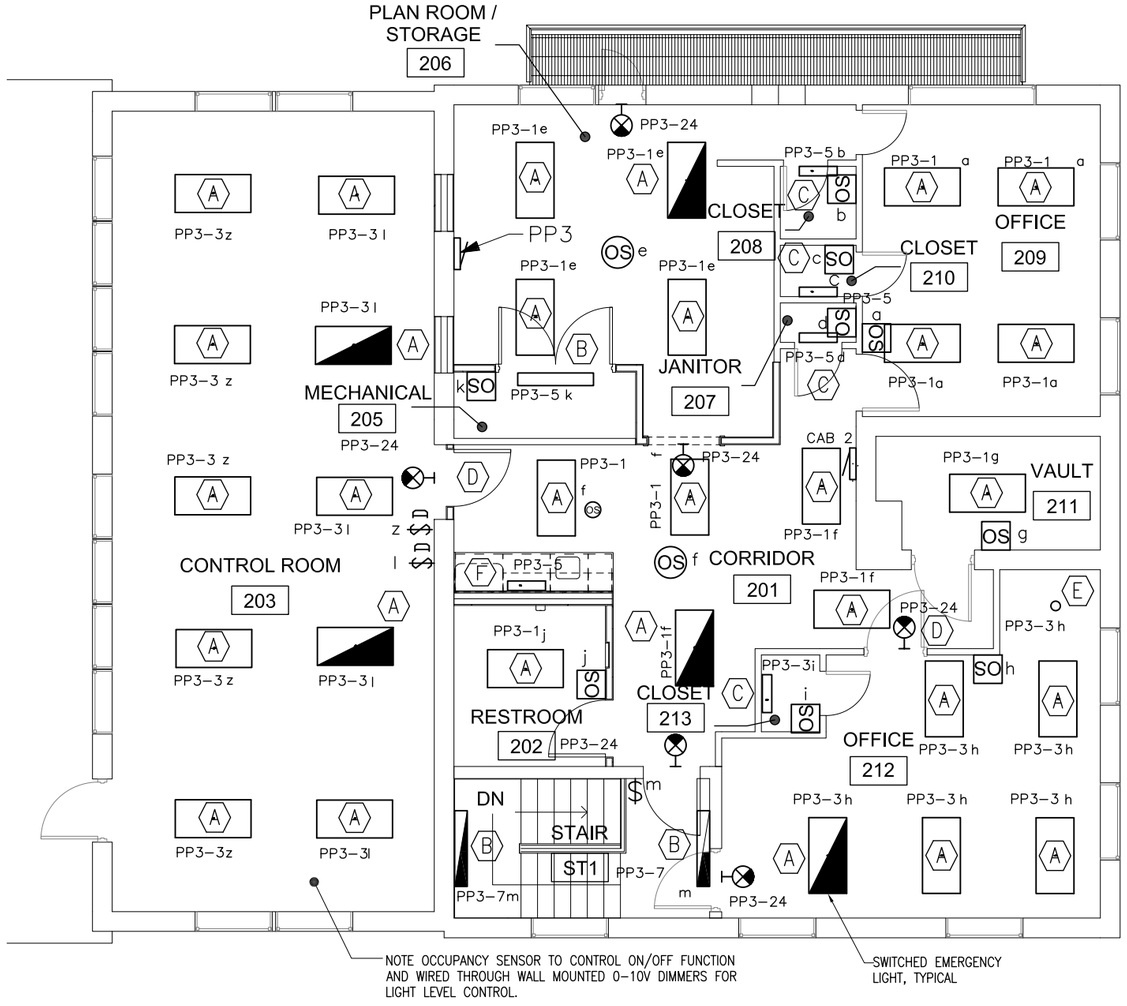


N

2ND FLOOR LIGHTING PLAN - DEMOLITION

0 2' 4' 8'

SCALE: 1/4" = 1'-0"



N

2ND FLOOR LIGHTING PLAN - NEW WORK

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

1. ALL EXISTING ABANDONED ITEMS ABOVE CEILING INCLUDING HANGERS, SUPPORTS, CONDUIT, PIPING, WIRING, ETC., TO BE REMOVED BACK TO SOURCE AND CAPPED.
2. REMOVE ALL EXISTING ELECTRICAL MATERIALS AND ASSOCIATED ITEMS AS SHOWN OR NOTED ON THE DRAWINGS AND AS REQUIRED BY THE WORK.
3. REMOVE ALL ABANDONED WIRING, CONDUIT, FITTINGS, ETC., IN THE PROJECT AREA. CAP ALL STUBS, AND SEAL PENETRATIONS THROUGH WALLS AND FLOORS.
4. ALL CONDITIONS SHALL BE CAREFULLY FIELD DETERMINED AND VERIFIED PRIOR TO REMOVAL.
5. ALL EXISTING ITEMS REQUIRING POWER TO REMAIN, SHALL BE RE-CONNECTED TO THEIR EXISTING CIRCUITS IF INTERRUPTED BY AN ADJACENT ITEM TO BE DEMOLISHED.
6. EXISTING CONDUIT TO BE RE-USED AS MUCH AS POSSIBLE. ADD NEW CONDUIT AS NEEDED.
7. ALL WIRE FEEDING MICROPHONE WALL INPUTS TO BE REMOVED COMPLETELY.
8. CONTRACTOR TO FIELD VERIFY ALL CIRCUIT NUMBERS AND UPDATE PLANS TO REFLECT CORRECT NUMBERS DURING AS-BUILT DRAWING PHASE.
9. LOCATIONS FOR CONTROL ROOM LIGHTING AND POWER SHALL BE COORDINATED WITH THE SYSTEMS INTEGRATOR.

FINAL SUBMISSION FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-020

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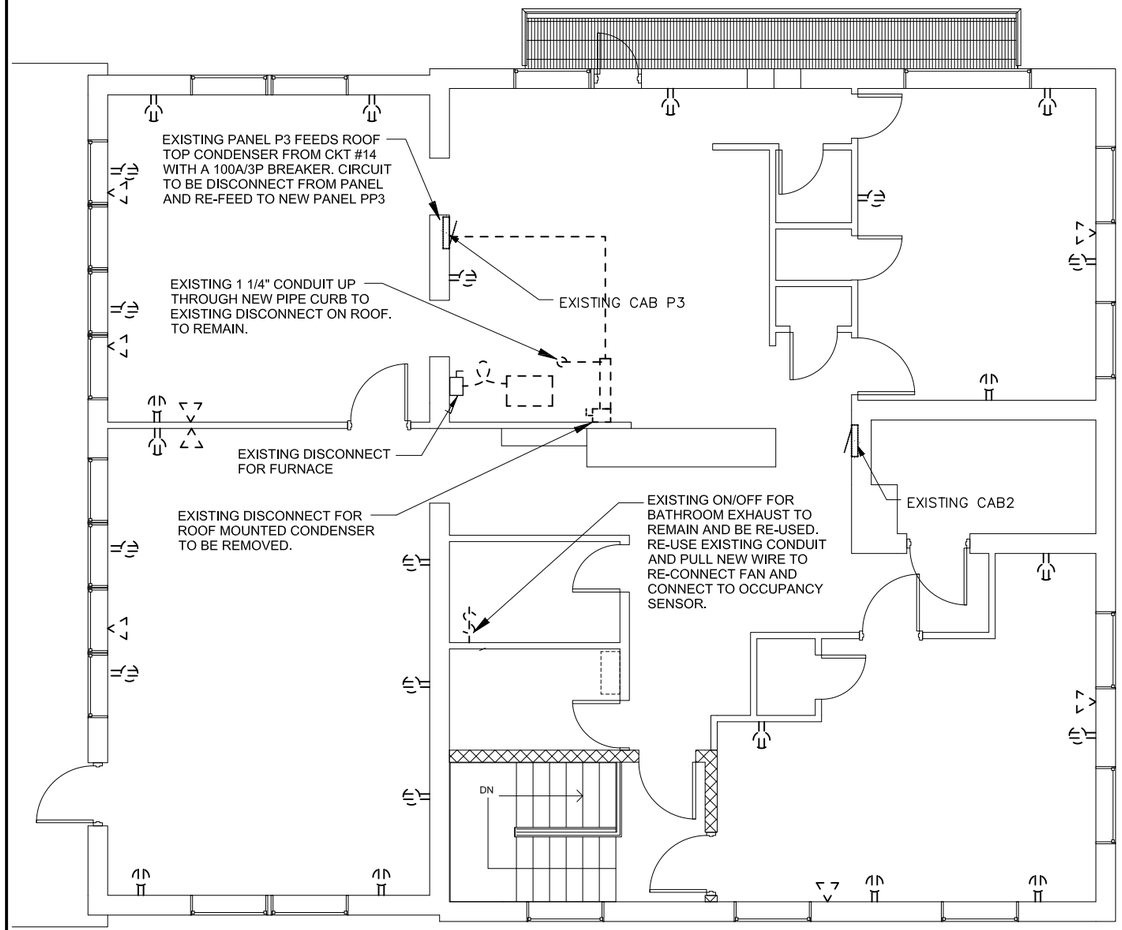
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
LIGHTING PLAN-SECOND FLOOR-DEMOLITION AND NEW WORK
SHEET NO. 20 OF 36 SHEETS

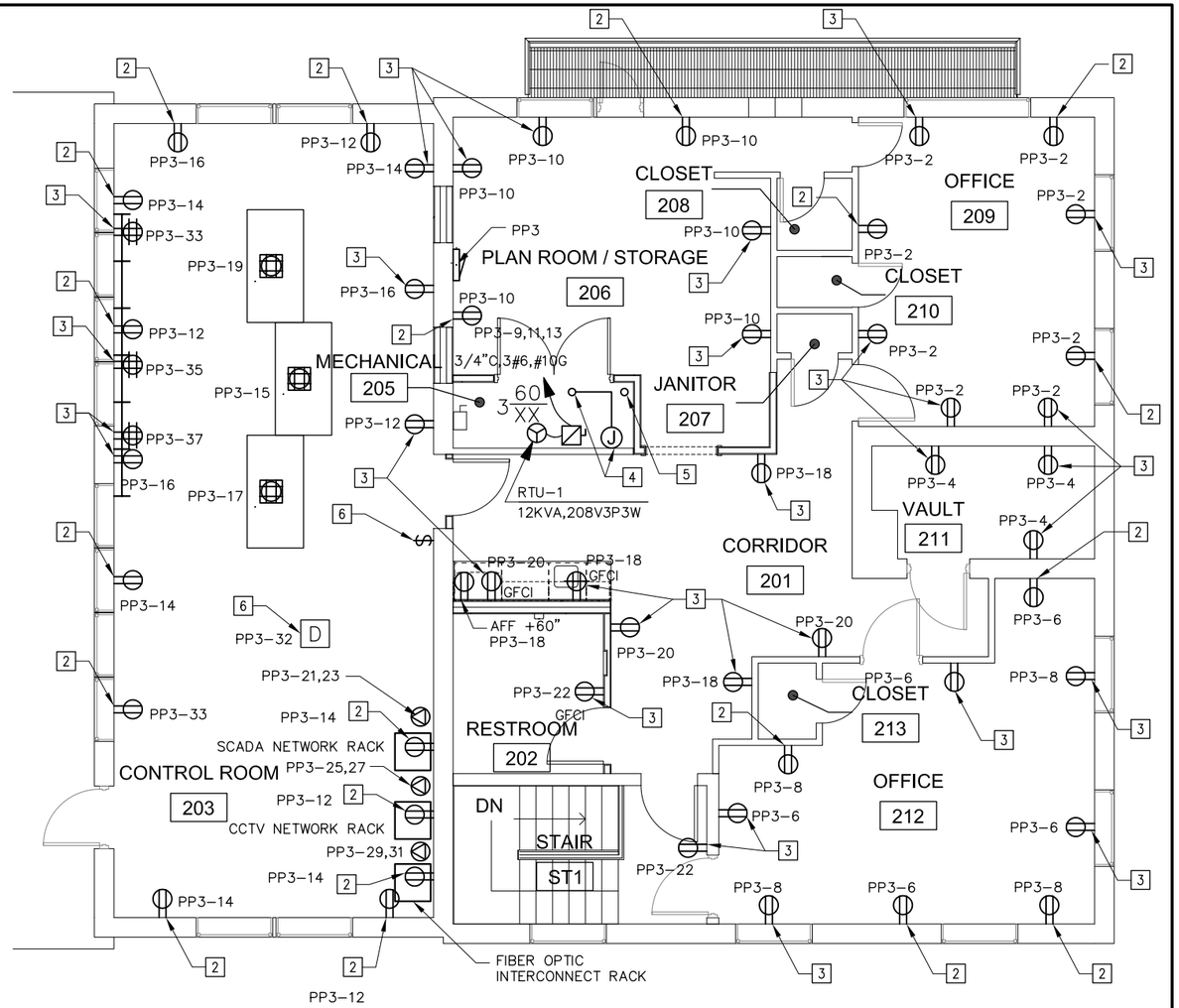
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	450
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



2ND FLOOR DEMOLITION PLAN

0 2' 4' 8'

SCALE: 1/4" = 1'-0"



2ND FLOOR POWER PLAN - NEW WORK

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

1. ALL EXISTING ABANDONED ITEMS ABOVE CEILING INCLUDING HANGERS, SUPPORTS, CONDUIT, PIPING, WIRING, ETC., TO BE REMOVED BACK TO SOURCE AND CAPPED.
2. REMOVE ALL EXISTING ELECTRICAL MATERIALS AND ASSOCIATED ITEMS AS SHOWN OR NOTED ON THE DRAWINGS AND AS REQUIRED BY THE WORK.
3. REMOVE ALL ABANDONED WIRING, CONDUIT, FITTINGS, ETC., IN THE PROJECT AREA. CAP ALL STUBS, AND SEAL PENETRATIONS THROUGH WALLS AND FLOORS.
4. ALL CONDITIONS SHALL BE CAREFULLY FIELD DETERMINED AND VERIFIED PRIOR TO REMOVAL.
5. ALL EXISTING ITEMS REQUIRING POWER TO REMAIN, SHALL BE RE-CONNECTED TO THEIR EXISTING CIRCUITS IF INTERRUPTED BY AN ADJACENT ITEM TO BE DEMOLISHED.
6. EXISTING CONDUIT TO BE RE-USED AS MUCH AS POSSIBLE. ADD NEW CONDUIT AS NEEDED.
7. ALL WIRE FEEDING MICROPHONE WALL INPUTS TO BE REMOVED COMPLETELY.
8. CONTRACTOR TO FIELD VERIFY ALL CIRCUIT NUMBERS AND UPDATE PLANS TO REFLECT CORRECT NUMBERS DURING AS-BUILT DRAWING PHASE.
9. LOCATIONS FOR CONTROL ROOM LIGHTING AND POWER SHALL BE COORDINATED WITH THE SYSTEMS INTEGRATOR.

ELECTRICAL KEYED NOTES:

1. EXISTING CONDUITS IN THIS AREA SERVED LIGHTING FIXTURES AND RECEPTACLES FROM PANEL CAB2, THESE ARE TO BE EXTENDED THROUGH THE FLOOR AND ROUTED TO THE LOCATION OF NEW PANEL PP3.
2. RE-USE CONDUIT FOR NEW RECEPTACLES.
3. SURFACE MOUNTED CONDUIT TO BE USED FOR NEW RECEPTACLES. WIREMOLD PLASTIC SINGLE CHANNEL OR EQUAL. PROVIDE MATCHING WIREMOLD BOX OR EQUAL..
4. REMOVE AND REPLACE EXISTING 60A DISCONNECT FOR ROOF MOUNTED CONDENSER AND CONNECT IT TO CIRCUITS 28 AND 30 IN PANEL PP3. CONTRACTOR TO USE EXISTING 1 ¼" CONDUIT COMING THROUGH THE CEILING WHEN WIRING CONDENSER, CONDUIT INSTALLED UNDER PHASE 1 OF PROJECT.
5. EXISTING ¾" CONDUIT STUB IN CEILING FOR ROOF TOP RECEPTACLE, CONNECT TO CIRCUIT 26 IN PANEL PP3.
6. CONTRACTOR TO PROVIDE AND INSTALL A "SUMMER/WINTER" TOGGLE SWITCH TO OPEN/CLOSE DAMPER. ELECTRICAL CONTRACTOR TO WIRE COMPLETE THE DAMPER FOR CONTROL AND POWER.

FINAL SUBMISSION FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-021

HANSON. Hanson Professional Services Inc.

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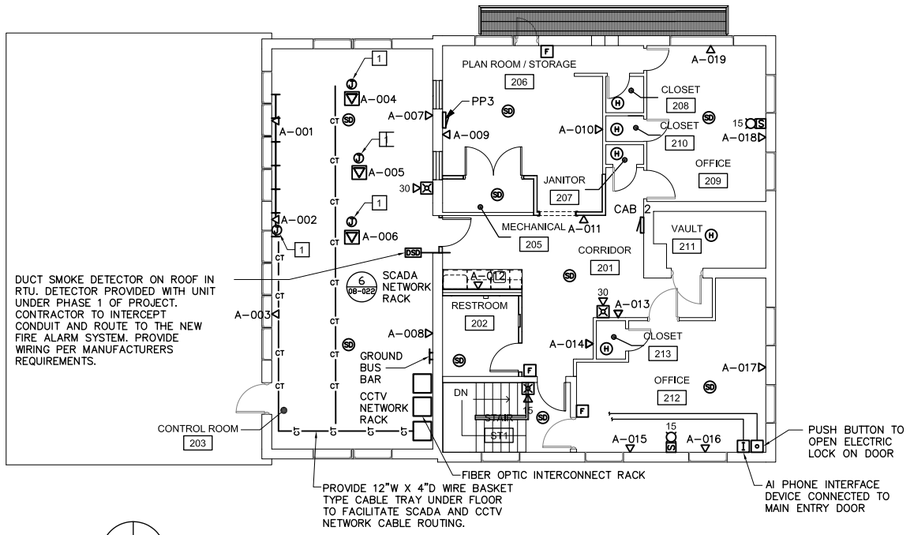
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
POWER PLAN-SECOND FLOOR-DEMOLITION & NEW WORK
SHEET NO. 21 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	451
		CONTRACT NO. 60P55		
		ILLINOIS	FED. AID PROJECT	



2ND FLOOR SPECIAL SYSTEMS PLAN - NEW WORK

0 4' 8' 16'

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

KEYED NOTES:

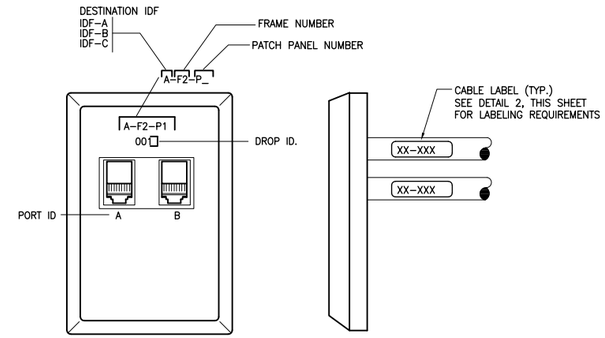
1 ROUTE 2" CONDUIT TO CABLE TRAY BELOW FLOOR AND TERMINATE CONDUIT TO TRAY. UTILIZE CABLE TRAY TO ROUTE CCTV AND SCADA CABLES BETWEEN THE DESKS AND VIDEO WALL TO THE NETWORK CABINETS. THIS BOX IS TO BE COMBINED WITH THE DATA OUTLET AND RECEPTACLE INTO A SINGLE POKE THROUGH STYLE DEVICE. LEGRAND EVOLUTION SERIES OR EQUAL. COORDINATE LOCATIONS AND ROUTES WITH THE SYSTEMS INTEGRATOR.

NOTE:
INSTALL PATCH PANEL IN FIBER OPTIC INTERCONNECT RACK SEE SHEET 08-028 & 08-033.

NEW PATCH PANEL

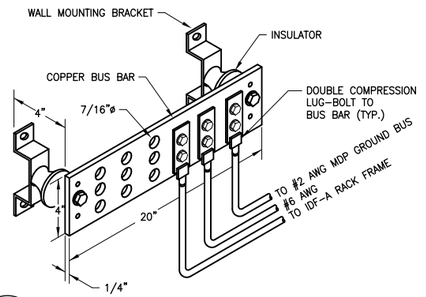
IDF-A				
OUTLET ID.	OUTLET JACK ID.	TERMINATION FRAME NO. / PANEL ID.	PANEL PORT ID.	REMARKS
A-001	A	F1 - P1	1	*
	B		2	*
A-002	A		3	*
	B		4	*
A-003	A		5	*
	B		6	*
A-004	A		7	*
	B		8	*
A-005	A		9	*
	B		10	*
A-006	A		11	*
	B		12	*
A-007	A		13	*
	B		14	*
A-008	A		15	*
	B		16	*
A-009	A		17	*
	B		18	*
A-010	A		19	*
	B		20	*
A-011	A		21	*
	B		22	*
A-012	A		23	*
	B		24	*
A-013	A		25	*
	B		26	*
A-014	A		27	*
	B		28	*
A-015	A		29	*
	B		30	*
A-016	A		31	*
	B		32	*
A-017	A		33	*
	B		34	*
A-018	A		35	*
	B		36	*
A-019	A		37	*
	B		38	*
SPARE	A		39	**
	B		40	**
SPARE	A		41	**
	B		42	**
SPARE	A		43	**
	B		44	**
SPARE	A		45	**
	B		46	**
SPARE	A		47	**
	B		48	**

* PROVIDE CAT 6 HORIZONTAL CABLE BETWEEN WALL BOX AND PATCH PANEL.
** PROVIDE BLANK PORT IN PATCH PANEL FOR FUTURE CONNECTION.



7 TYPICAL VOICE/DATA OUTLET

08-022 NO SCALE



6 GROUND COLLECTOR BUS DETAIL

08-022 NO SCALE

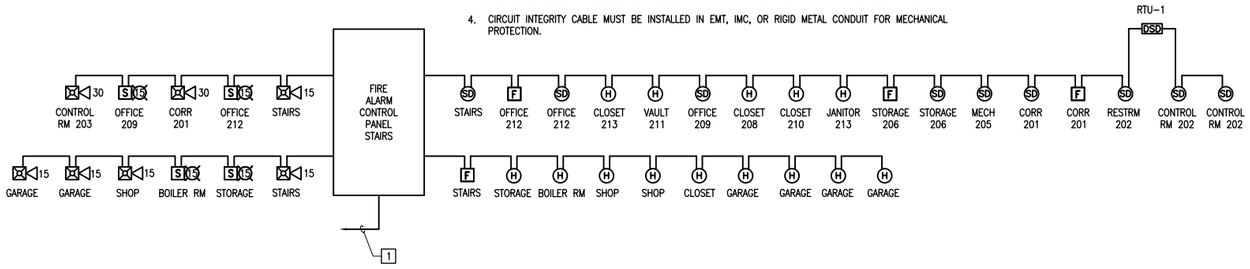
NOTE: ROUT ALL GROUND CONDUCTORS IN SCHED. 40 PVC C AND TO CONNECT TO GROUND IN PANEL MDP AT THE SERVICE ENTRANCE.

FIRE ALARM RISER DIAGRAM KEYED NOTES:

1 PROVIDE 3/4"C. WITH 2 DEDICATED PHONE LINES TO FIRE ALARM PANEL FOR DIAL OUT REPORTING.

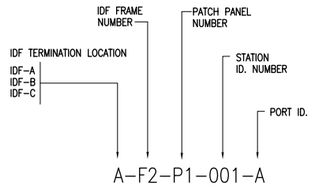
FIRE ALARM RISER DIAGRAM NOTES:

1. ALL FIRE ALARM WIRING TO BE IN EMT CONDUIT FOR INTERIOR DEVICES AND RMC TO EXTERIOR DEVICES. ALL EXPOSED BOXES TO BE PAINTED RED AND MARKED FIRE ALARM. ALL WIRING TO BE IN ACCORDANCE WITH NFPA 72 AND RESPECTIVE FIRE DETECTION MANUFACTURER'S RECOMMENDATIONS.
2. COORDINATE NUMBER OF DEVICES WITH FLOOR PLANS. CONTRACTOR RESPONSIBLE FOR DEVICES SHOWN ON PLANS THAT MAY NOT APPEAR ON ONE LINE DIAGRAM.
3. ALL ALARM SIGNALS TRANSMITTED FROM ANY FIRE ALARM SYSTEM INITIATION DEVICE MUST ACTIVATE THE RESPECTIVE BUILDING AUDIBLE AND VISIBLE NOTIFICATION APPLIANCES TO NOTIFY THE OCCUPANTS.
4. CIRCUIT INTEGRITY CABLE MUST BE INSTALLED IN EMT, IMC, OR RIGID METAL CONDUIT FOR MECHANICAL PROTECTION.



1 FIRE ALARM ONE-LINE DIAGRAM

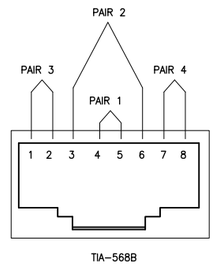
08-022 NO SCALE



NOTE:
LOCATE IDENTIFICATION MARKERS ON BOTH ENDS OF CABLES AND AS SPECIFIED ON PROJECT SPECIFICATIONS.

2 CABLE LABELING REQUIREMENT DETAIL

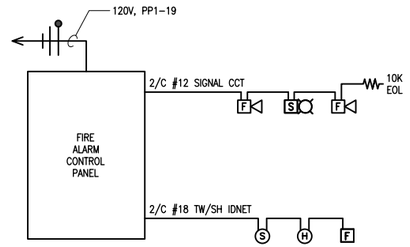
08-022 NO SCALE



TIA-568B

3 TYPICAL JACK WIRING DETAIL

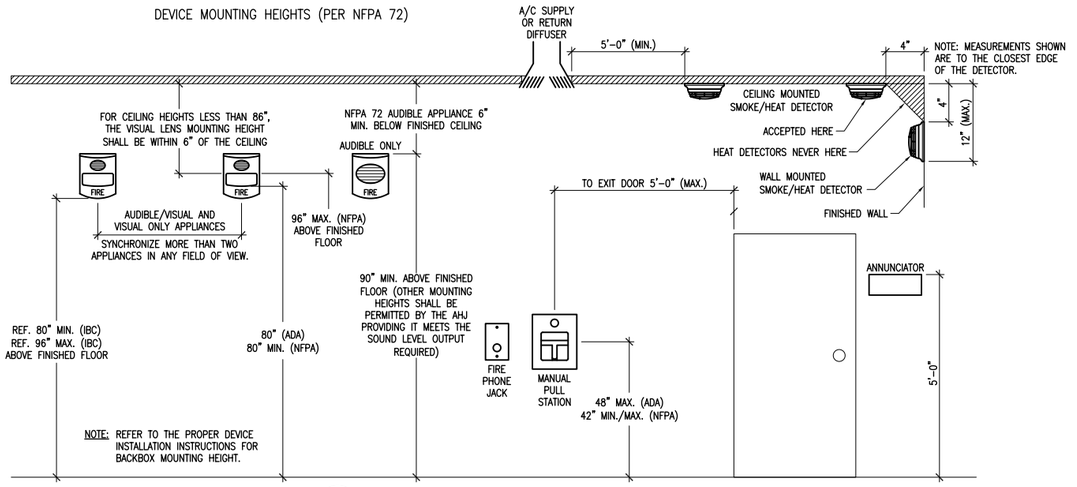
08-022 NO SCALE



NOTE: SEE FLOOR PLANS FOR DEVICE QUANTITIES AND LOCATIONS.

4 TYPICAL FIRE ALARM RISER DIAGRAM

08-022



5 FIRE ALARM DEVICE MOUNTING DETAIL

08-022

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BRIDGE CONTROL OFFICE, Drawing 08-022

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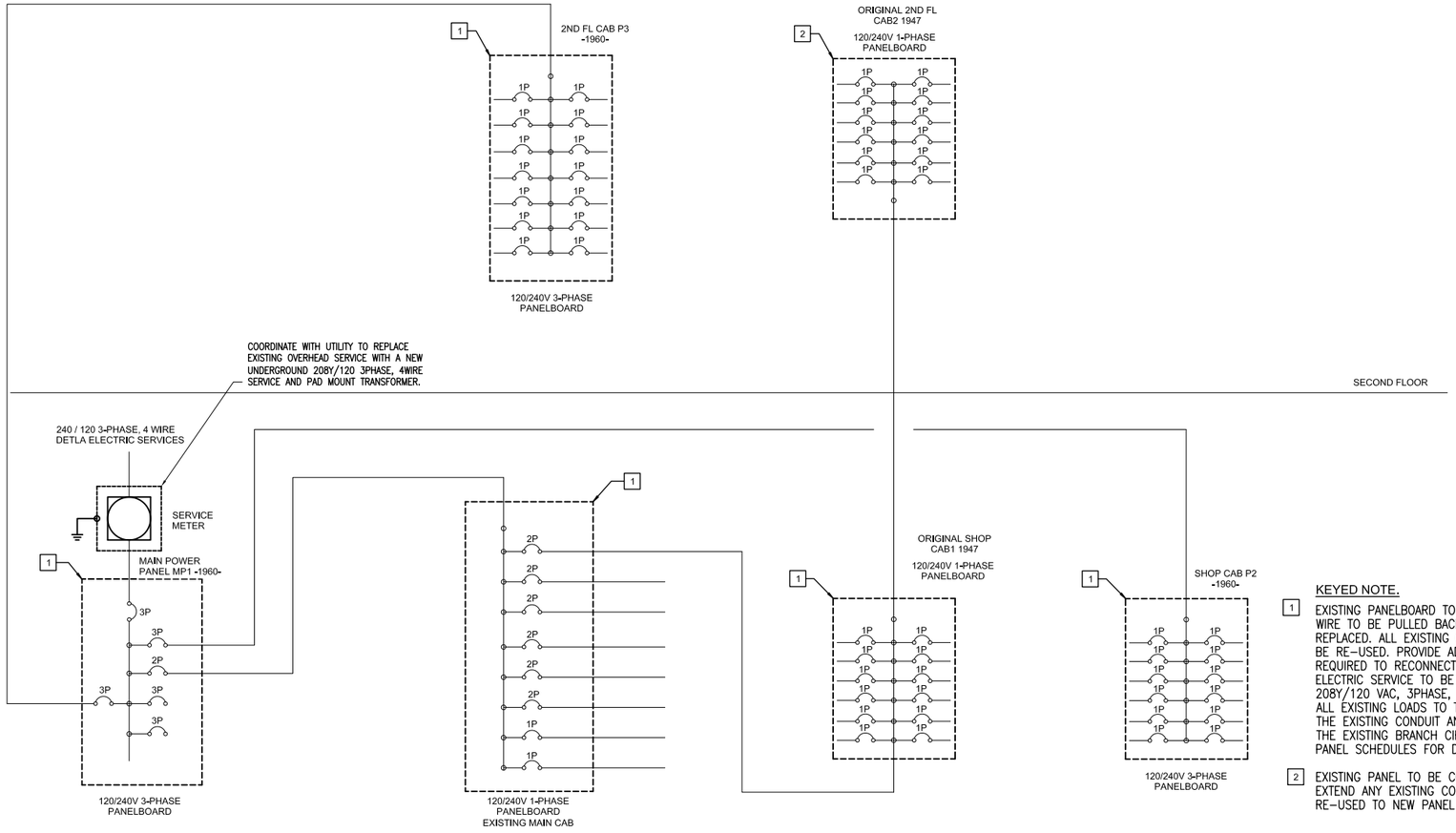
VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
SPECIAL SYSTEMS - SECOND FLOOR - NEW WORK
SHEET NO. 22 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	452
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



KEYED NOTE.

1 EXISTING PANELBOARD TO BE REMOVED. ALL FEEDER WIRE TO BE PULLED BACK TO SOURCE AND REPLACED. ALL EXISTING CONDUIT TO REMAIN AND BE RE-USED. PROVIDE ADDITIONAL CONDUIT AS REQUIRED TO RECONNECT THE PANELS. EXISTING ELECTRIC SERVICE TO BE REPLACED WITH A 400A 208Y/120 VAC, 3PHASE, 4WIRE SERVICE. RECONNECT ALL EXISTING LOADS TO THE NEW PANELS. UTILIZE THE EXISTING CONDUIT AND WIRING TO RECONNECT THE EXISTING BRANCH CIRCUITS AND FEEDERS. SEE PANEL SCHEDULES FOR DETAILS OF CIRCUITS.

2 EXISTING PANEL TO BE COMPLETELY REMOVED. EXTEND ANY EXISTING CONDUIT THAT NEEDS TO BE RE-USED TO NEW PANEL PP3 LOCATION.

FINAL SUBMISSION FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-023

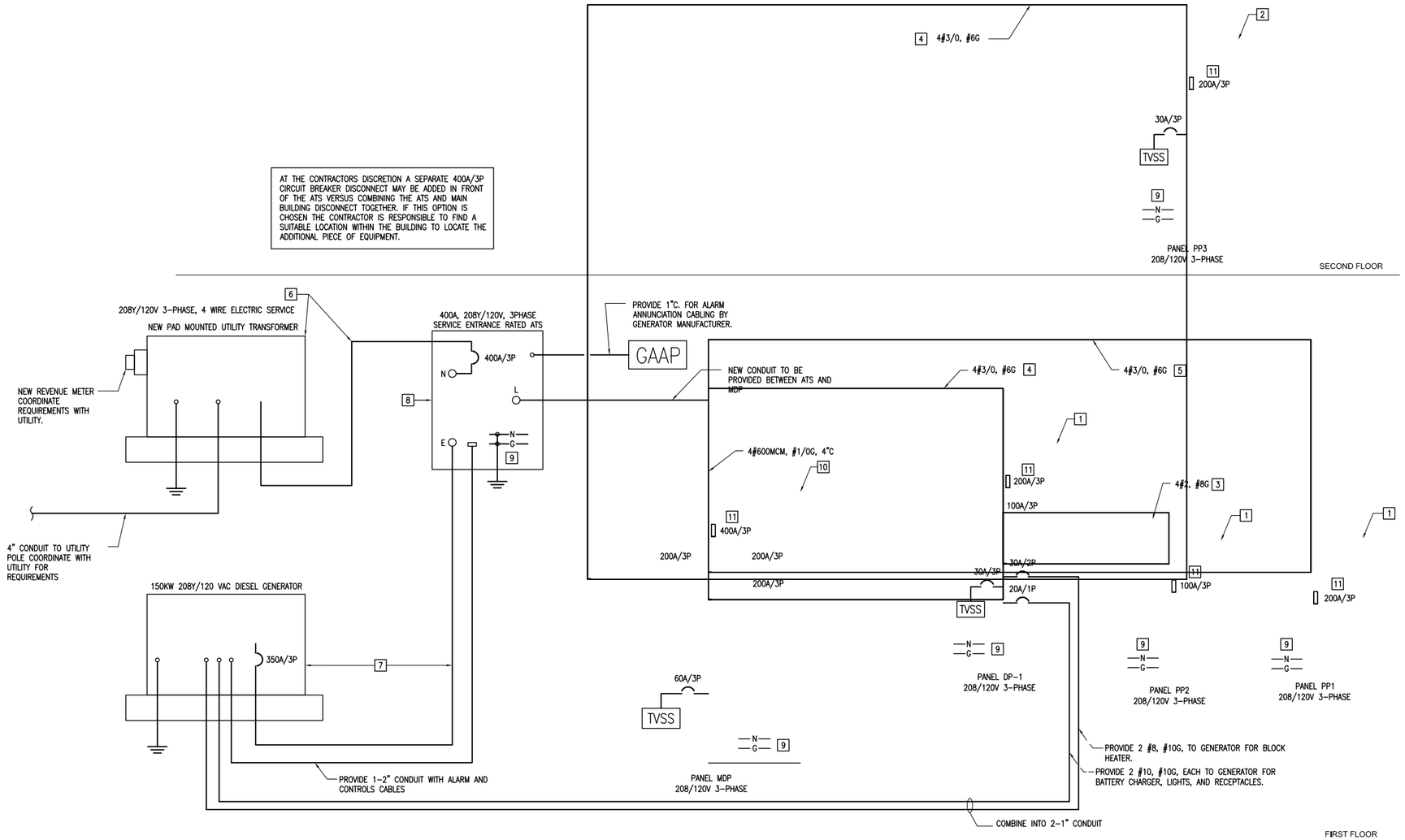
Hanson Professional Services Inc.

USER NAME =	DESIGNED - J. COUEY	REVISED
	DRAWN - R. NATION	REVISED
PLOT SCALE =	CHECKED - J. COUEY	REVISED
PLOT DATE =	APPROVED - R. NATION	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION
SHEET NO. 23 OF 36 SHEETS

F. A. U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	453
		CONTRACT NO. 60P55		
		ILLINOIS	FED. AID PROJECT	



UTILITY CONTACT INFORMATION

COM ED DESIGN AND CONSTRUCTION CONSULTANT
1910 S. BRIGGS STREET JOLIET, IL 60433
(815)-724-5970
JAMIE.FISHBECK@COMED.COM

ELECTRICAL KEYED NOTES:

1. NEW 208Y/120V 3-PHASE PANELBOARDS TO HAVE EXISTING LOADS RECONNECTED. UTILIZE EXISTING CONDUIT AND WIRE TO RE-CONNECT ALL EXISTING BRANCH CIRCUITS TO NEW PANELS.
2. NEW PANELBOARDS TO USE EXISTING CONDUIT TO RUN WIRE TO THE NEW LIGHT FIXTURES AND ELECTRICAL DEVICES. IF FIXTURE CANNOT BE REACHED BY EXISTING CONDUIT, THEN USE PLASTIC SURFACE MOUNTED CONDUIT TO RUN WIRE TO FIXTURE.
3. EXISTING CONDUIT SIZE IS 1 1/4" AND IS TO BE RE-USED.
4. EXISTING CONDUIT SIZE IS 2" AND IS TO BE RE-USED.
5. EXISTING CONDUIT SIZE IS 2 1/2" AND IS TO BE RE-USED.
6. NEW UTILITY SERVICE TRANSFORMER WITH METER COORDINATE WITH UTILITY COMPANY. PROVIDE 4#600MCM IN 4"C TO UTILITY PAD AND LEAVE ENOUGH SLACK CABLE FOR CONNECTION TO UTILITY SECONDARY.
7. NEW 100KW 208Y/120, 3PHASE, 4WIRE STANDBY DIESEL EMERGENCY GENERATOR. PROVIDE 4# 500MCM, #3G, 4"C BETWEEN GENERATOR AND ATS.
8. 400A, 208Y/120 VAC 3PHASE, 4WIRE AUTOMATIC TRANSFER SWITCH WITH SOLID NEUTRAL, OPEN TRANSITION AND SERVICE ENTRANCE RATED WITH A 400A/3P MAIN CIRCUIT BREAKER DISCONNECT.
9. NEUTRAL TO GROUND BOND TO TAKE PLACE IN ATS, NEUTRAL SHALL NOT BE BONDED TO GROUND ANYWHERE ELSE.
10. NEW 208/120V 3-PHASE DISTRIBUTION TYPE PANELBOARD TO HAVE EXISTING LOADS RECONNECTED. UTILIZE EXISTING CONDUIT AND WIRE TO RE-CONNECT ALL EXISTING CIRCUITS TO NEW PANEL.
11. PROVIDE ALL PANELS WITH A MOLDED CASE SWITCH. FOR LOCAL DISCONNECT MEANS. SWITCH TO HAVE NO THERMAL MAGNETIC TRIP CAPABILITIES.

FINAL SUBMISSION FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-024

HANSON. Hanson Professional Services Inc.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
ELECTRICAL ONE-LINE DIAGRAM - NEW WORK
SHEET NO. 24 OF 36 SHEETS

F. A. U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	454
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		

EXISTING MP1 [3]

ROOM SHOP | VOLTS 240/120V 2P 3W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR 400
FED FROM UTILITY | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B
1	125/2	SHOP PANEL (MAIN CAB), SHOP PANEL (MAIN CAB)	10		2	125/2	NEW 2ND FLOOR PANEL (CAB P3)	10	
3	|			10	4	|			10
5	20/1	SPACE	0		6	20/1	SPACE	0	
7	150/2	SHOP ADDITION PANEL (SHOP CAB P2),		11.5	8	−/1	SPACE		0
9	|	SHOP ADDITION PANEL (SHOP CAB P2)	11.5		10	−/1	SPACE	0	
11	20/1	SPACE		0	12	−/1	SPACE		0
							TOTAL CONNECTED KVA BY PHASE	31.5	31.5
							TOTAL CONNECTED AMPS BY PHASE	263	263

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	0	0	(100%)	NONCONTINUOUS	63	63	(100%)
RECEPTACLES	0	0	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
				NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	63	63	

BALANCED PHASE AMPS 263

EXISTING SHOP CAB P2 [6]

ROOM | VOLTS 240/120V 2P 3W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR MLO
FED FROM UTILITY | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B
1	20/1	S ROW − NEW SHOP	1.2		2	20/1	OUTSIDE OVER DOOR LIGHTS	0.5	
3	20/1	CENTER ROW − NEW SHOP		1.2	4	20/1	W WALL PLUGS OVERHEAD DOOR OILD ROOM		1.1
5	20/1	N. ROW NEW SHOP	1.1		6	20/1	E & N WALL PLUGS	1.1	
7	20/1	UNIT HEATERS AND S COLUMN PLUGS		1.1	8	20/1	FLOOR PLUG GENERAL OFFICE		1.1
9	20/1	N COLUMN PLUGS	1.1		10	20/1	4−THERM. IN S. OFFICES	1.1	
11	20/1	SWITCHBOARD PLUG		1.1	12	20/1	SPARE		0
13	50/2	WELDING PLUGS S. COLUMN	9		14	20/2	AIR COMP.	0.875	
15	|			9	16	|			0.875
17	20/1	SPACE	0		18	20/1	SPACE	0	
19	50/2	WELDING PLUGS N. COLUMN		9	20	−/1	SPACE		0
21	|		9		22	−/1	SPACE	0	
23	20/1	1		0	24	−/1	SPACE		0
25	−/1	SPACE	0		26	−/1	SPACE	0	
27	−/1	SPACE		0	28	−/1	SPACE		0
29	−/1	SPACE	0		30	−/1	SPACE	0	
							TOTAL CONNECTED KVA BY PHASE	25	24.5
							TOTAL CONNECTED AMPS BY PHASE	208	204

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	2.4	3	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	1.75	2.19	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	1.6	1.6	(100%)	NONCONTINUOUS	36	36	(100%)
RECEPTACLES	7.7	7.7	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
				NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	49.5	50.5	

BALANCED PHASE AMPS 210

EXISTING CAB2

ROOM 2ND FL CORRIDOR | VOLTS 240/120V 2P 3W | AIC 22,000
MOUNTING FLUSH | BUS AMPS 100 | MAIN BKR MLO
FED FROM UTILITY | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B
1	15/1	CEILLING LIGHT CAN OFFICE	0.5		2	15/1	EAST LOBBY LIGHT AND MEN TOILET	0.83	
3	15/1	CEILING LIGHTS		1	4	15/1	FAN RECEP, WALL RECEP, CLOSET LGT		1.96
5	15/1	VAULT, FAN OUTLETS, WALL RECEPTACLES	1.54		6	15/1	CEILING LIGHTS, CLOSET	1.8	
7	15/1	HALL RECEPTACLE AT FOUNTAIN		1.1	8	15/1	LADIES RR, 2F HEAD STAIRS, 1F VEST		0.83
9	15/1	WALL FAN OUTLETS, WALL RECEPTACLES	1.46		10	15/1	SPARE	0	
11	15/1	SPARE		0	12	15/1	SPARE		0
							TOTAL CONNECTED KVA BY PHASE	6.13	4.89
							TOTAL CONNECTED AMPS BY PHASE	51.1	40.8

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	5.96	7.45	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0.5	0.625	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	0.36	0.36	(100%)	NONCONTINUOUS	0	0	(100%)
RECEPTACLES	4.2	4.2	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
				NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	11	12.6	

BALANCED PHASE AMPS 52.6

EXISTING CAB P3 [7]

ROOM 2ND FL STORAGE | VOLTS 240/120V 2P 3W | AIC 22,000
MOUNTING FLUSH | BUS AMPS 225 | MAIN BKR MLO
FED FROM UTILITY | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B
1	20/1	DRAFT RM 1ST ROW FIXTURES	1		2	20/1	GENERAL OFFICE LIGHTS	1	
3	20/1	DRAFT RM 4TH ROW FIXTURES		1	4	20/1	DRAFT RM PLUGS S & W WALLS		1.1
5	20/1	DRAFT RM 3RD ROW FIXTURES	1		6	20/1	DRAFT RM PLUGS N & E WALLS	1.1	
7	20/1	DRAFT RM 2ND ROW RIXTURES		1	8	20/1	GENEARL OFFICE PLUGS		1.1
9	30/1	EXHAUST FANS IN TOILETS	2.5		10	20/1	THERM. DRAFT RM AND GENERAL OFFICE	1.1	
11	20/1	SPARE		0	12	20/1	PLUG BELOW PANEL		0.18
13	100/2	AIR CONDITIONER, AIR CONDITIONER	1.5		14	20/2	COOLING TOWER, COOLING TOWER	1.5	
15	|			1.5	16	|			1.5
17	20/1	SPACE	0		18	20/1	SPACE	0	
							TOTAL CONNECTED KVA BY PHASE	10.7	7.38
							TOTAL CONNECTED AMPS BY PHASE	89.2	61.5

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	5	6.25	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	3	3.75	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	2.5	2.5	(100%)	NONCONTINUOUS	3	3	(100%)
RECEPTACLES	4.58	4.58	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
				NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	18.1	20.1	

BALANCED PHASE AMPS 83.7

EXISTING MAIN CAB [4]

ROOM SHOP | VOLTS 240/120V 2P 3W | AIC 22,000
MOUNTING FLUSH | BUS AMPS 400 | MAIN BKR MLO
FED FROM UTILITY | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B
1	35/2	S. WALL, MACHINE SHOP, S. WALL, MACHINE SHOP	1.5		2	35/2	W. WALL, MACHINE SHOP, W. WALL, MACHINE SHOP	1.5	
3	|			1.5	4	|			1.5
5	−/1	S. WALL, MACHINE SHOP	1		6	−/1	SPACE	0	
7	35/2	N. WALL, MACHINE SHOP		1.5	8	35/2	FLOOR, MACHINE SHOP, FLOOR, MACHINE SHOP		1.5
9	|		1.5		10	|		1.5	
11	−/1	N. WALL, MACHINE SHOP		0	12	−/1	SPACE		0
13	15/1	VACUUM PUMP	2		14	15/2	VACUUM PUMP, VACUUM PUMP	0.65	
15	15/1	OIL BURNER		1	16	|			0.65
17	−/1	SPACE	0		18	20/1	SPACE	0	
19	15/1	BOILER CONTROLLER		0.5	20	70/2	FEED TO CAB1 & CAB2		4
21	15/1	OUTSIDE LTS, EXIT LTS, STAIR LTS(EMERG)	2		22	|		4	
							TOTAL CONNECTED KVA BY PHASE	15.7	12.2
							TOTAL CONNECTED AMPS BY PHASE	130	101

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	2	2.5	(125%)	CONTINUOUS	8.5	10.6	(125%)
LARGEST MOTOR	3	3.75	(125%)	HEATING	1	1	(100%)
OTHER MOTORS	13.3	13.3	(100%)	NONCONTINUOUS	0	0	(100%)
RECEPTACLES	0	0	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
				NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	27.8	31.2	

BALANCED PHASE AMPS 130

EXISTING CAB1 [5]

ROOM SHOP | VOLTS 240/120V 2P 3W | AIC 22,000
MOUNTING RECESSED | BUS AMPS 70 | MAIN BKR MLO
FED FROM UTILITY | NEUTRAL 100% | LUGS STANDARD
NOTE

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	KVA LOAD B
1	15/1	N. ROW LIGHT, MACHINE SHOP	1		2	15/1	N. CENTER CEILING LIGHTS, MACHINE SHOP	1.2	
3	15/1	S. CENTER CEILING LIGHTS, MACHINE SHOP		1	4	15/1	S. ROW LGT, MACH SHOP. LGT , BOILER RM		1.2
5	15/1	NE WALL CENTER RCP, WEST WALL RCP	1		6	15/1	TOILET,DR OPENER,OUT LGT,N. & NE RCP	1	
7	15/1	SE RCP, SW RCP, E WALL BOILER RM RCP.		1.1	8	15/1	SE & SW WALL RCP, MODINE HEATER		1.1
9	15/1	STOCKROOM CEILING LIGHTS	1		10	15/1	STOCKRM & WEST WALL & BOILER RM RCP	1.1	
11	15/1	SPARE		0	12	15/1	SPARE		0
							TOTAL CONNECTED KVA BY PHASE	6.3	4.4
							TOTAL CONNECTED AMPS BY PHASE	52.5	36.7

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	7.4	9.25	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	0	0	(100%)	NONCONTINUOUS	0	0	(100%)
RECEPTACLES	3.3	3.3	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
				NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	10.7	12.6	

BALANCED PHASE AMPS 52.3

ELECTRICAL KEYED NOTES:

[1] UTILIZE EXISTING CONDUIT AND WIRE FROM EXISTING BRANCH CIRCUITS TO REMAIN AND RECONNECT TO NEW PANELS. NEW PANELS ARE TO HAVE 42 CIRCUIT AND ARE DEFINED ON SHEET E6.1.

[2] PANEL TO BE COMPLETELY REMOVED. RE-ROUTE ANY CONDUIT TO BE RE-USED TO NEW PANEL PP3 LOCATION.

[3] PANEL TO BE REPLACED WITH PANEL MDP.

[4] PANEL TO BE REPLACED WITH PANEL DP.

[5] EXISTING PANEL TO BE REPLACED WITH PANEL PP2.

[6] EXISTING PANEL TO BE REPLACED WITH PANEL PP1.

[7] EXISTING PANEL TO BE REPLACED WITH PP3.

NOTE ALL CIRCUITS SHOWN ON THIS SHEET ARE EXISTING AND NEED TO BE RE-CONNECTED TO NEW PANELS AS INDICATED BY THE PANEL BOARD SCHEDULES-NEW SHEET.

FINAL SUBMISSION FEBRUARY 2018

HANSON. Hanson Professional Services Inc.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
ELECTRICAL PANELBOARD SCHEDULE - EXISTING
SHEET NO. 25 OF 36 SHEETS

BRIDGE CONTROL OFFICE, Drawing 08-025

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	455
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			

MDP

ROOM SHOP | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR **400** [1]
FED FROM UTILITY | NEUTRAL 100% | LUGS STANDARD
NOTE PROVIDE COPPER GROUND AND NEUTRAL BUS

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C
1	200/3	PANEL DP 1	16.9			2	225/3	PANEL PP1	9.28		
3	|			11.2		4	|			9.9	
5	|				8.15	6	|				12.1
7	225/3	PANEL PP3	19.1			8	20/1	SPACE	0		
9	|			21.2		10	20/1	SPACE		0	
11	|				20.8	12	20/1	SPACE			0
13	20/1	SPACE	0			14	20/1	SPACE	0		
15	20/1	SPACE		0		16	20/1	SPACE		0	
17	20/1	SPACE			0	18	20/1	SPACE			0
19	20/1	SPACE	0			20	20/1	SPACE	0		
21	20/1	SPACE		0		22	20/1	SPACE		0	
23	20/1	SPACE			0	24	20/1	SPACE			0
25	20/1	SPACE	0			26	20/1	SPACE	0		
27	20/1	SPACE		0		28	20/1	SPACE		0	
29	20/1	SPACE			0	30	20/1	SPACE			0
31	20/1	SPACE	0			32	20/1	SPACE	0		
33	20/1	SPACE		0		34	20/1	SPACE		0	
35	20/1	SPACE			0	36	20/1	SPACE			0
37	20/1	SPACE	0			38	20/1	SPACE	0		
39	20/1	SPACE		0		40	20/1	SPACE		0	
41	20/1	SPACE			0	42	20/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	45.3	42.3	41
								TOTAL CONNECTED AMPS BY PHASE	378	353	341

	CONN. KVA	CALC. KVA	
LIGHTING	13.3	16.6	(125%)
LARGEST MOTOR	12	15	(125%)
OTHER MOTORS	31.1	31.1	(100%)
RECEPTACLES	68.3	39.1	(50%>10)

	CONN. KVA	CALC. KVA	
CONTINUOUS	3	3.75	(125%)
HEATING	0	0	(100%)
NONCONTINUOUS	1	1	(100%)
KITCHEN EQUIP	0	0	(N/A)
NONCOIN/DIVERSE	0	0	(N/A)
TOTAL KVA	129	107	

BALANCED THREE PHASE AMPS 296

RECONN-ECTED LOADS ↓ NEW LOADS

DP 1

ROOM BOILER ROOM | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 225 | MAIN BKR **200** [1]
FED FROM MDP | NEUTRAL 100% | LUGS STANDARD
NOTE PROVIDE COPPER GROUND AND NEUTRAL BUS

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C
1	100/3	PANEL PP2	4.4			2	20/2	W. WALL MACHINE SHOP	1.5		
3	|			3.2		4	|			1.5	
5	|				2	6	20/2	FLOOR MACHINE SHOP			1.5
7	20/2	S. WALL MACHINE SHOP	1.5			8	|		1.5		
9	|			1.5		10	20/2	VACUUM PUMP		0.65	
11	20/2	N. WALL MACHINE SHOP			1.5	12	|				0.65
13	|		1.5			14	30/2	GENERATOR BLOCK HEATER	2.5		
15	20/1	OIL BURNER		1		16	|			2.5	
17	20/1	OIL CONTROLLER			0.5	18	30/1	MAINTENANCE LIGHTING			2
19	30/1	OUTSIDE LTS, EXIT LTS, STAIR, LTS	2			20	30/1	GENERATOR BATTERY TRICKLE CHARGER	2		
21	20/1	SPACE		0		22	20/1	UTILITY RECEPTACLE		0.85	
23	20/1	SPACE			0	24	20/1	SPACE			0
25	20/1	SPACE	0			26	20/1	SPACE	0		
27	20/1	SPACE		0		28	20/1	SPACE		0	
29	20/1	SPACE			0	30	20/1	SPACE			0
31	20/1	SPACE	0			32	20/1	SPACE	0		
33	20/1	SPACE		0		34	20/1	SPACE		0	
35	20/1	SPACE			0	36	20/1	SPACE			0
37	20/1	SPACE	0			38	20/1	SPACE	0		
39	20/1	SPACE		0		40	20/1	SPACE		0	
41	20/1	SPACE			0	42	20/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	16.9	11.2	8.15
								TOTAL CONNECTED AMPS BY PHASE	141	96.2	68.8

	CONN. KVA	CALC. KVA	
LIGHTING	11.4	14.3	(125%)
LARGEST MOTOR	5	6.25	(125%)
OTHER MOTORS	13.3	13.3	(100%)
RECEPTACLES	3.05	3.05	(50%>10)

	CONN. KVA	CALC. KVA	
CONTINUOUS	3	3.75	(125%)
HEATING	0	0	(100%)
NONCONTINUOUS	0.5	0.5	(100%)
KITCHEN EQUIP	0	0	(N/A)
NONCOIN/DIVERSE	0	0	(N/A)
TOTAL KVA	36.3	41.1	

BALANCED THREE PHASE AMPS 114

RECONNECTED LOADS ↕ NEW LOADS

PP1

ROOM SHOP | VOLTS 208Y/120V 3P 4W | AIC 22,000
MOUNTING SURFACE | BUS AMPS 225 | MAIN BKR **200** [1]
FED FROM MDP | NEUTRAL 100% | LUGS STANDARD
NOTE PROVIDE COPPER GROUND AND NEUTRAL BUS

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C
1	20/1	S. ROW – NEW SHOP	1.2			2	20/1	OUTSIDE OVER HEAD DOOR LIGHTS	0.5		
3	20/1	CENTER ROW – NEW SHOP		1.2		4	20/1	W. WALL PLUGS OVEREAD DOOR OIL RM		1.1	
5	20/1	N. ROW NEW SHOP			1.1	6	20/1	E & N WALL PLUGS			1.1
7	20/1	UNIT HEATERS AND S COLUMN PLUGS	1.1			8	20/1	FLOOR PLUG GENERAL OFFICE	1.1		
9	20/1	SWITCHBOARD PLUG		1.1		10	30/1	4–THERM. IN S OFFICES		2	
11	50/2	WELDING PLUGS S. COLUMN			4.5	12	20/2	AIR COMPRESSOR			0.875
13	|		4.5			14	|		0.875		
15	50/2	WELDING PLUGS N. COLUMN		4.5		16	20/1	SPACE		0	
17	|				4.5	18	20/1	SPACE			0
19	20/1	SPACE	0			20	20/1	SPACE	0		
21	20/1	SPACE		0		22	20/1	SPACE		0	
23	20/1	SPACE			0	24	20/1	SPACE			0
25	20/1	SPACE	0			26	20/1	SPACE	0		
27	20/1	SPACE		0		28	20/1	SPACE		0	
29	20/1	SPACE			0	30	20/1	SPACE			0
31	20/1	SPACE	0			32	20/1	SPACE	0		
33	20/1	SPACE		0		34	20/1	SPACE		0	
35	20/1	SPACE			0	36	20/1	SPACE			0
37	20/1	SPACE	0			38	20/1	SPACE	0		
39	20/1	SPACE		0		40	20/1	SPACE		0	
41	20/1	SPACE			0	42	20/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	9.28	9.9	12.1
								TOTAL CONNECTED AMPS BY PHASE	81.5	85.3	101

	CONN. KVA	CALC. KVA	
LIGHTING	0.5	0.625	(125%)
LARGEST MOTOR	2	2.5	(125%)
OTHER MOTORS	1.75	1.75	(100%)
RECEPTACLES	27	18.5	(50%>10)

	CONN. KVA	CALC. KVA	
CONTINUOUS	0	0	(125%)
HEATING	0	0	(100%)
NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)
NONCOIN/DIVERSE	0	0	(N/A)
TOTAL KVA	31.3	23.4	

BALANCED THREE PHASE AMPS 64.9

RECONNECTED LOADS ↑

PP2

ROOM SHOP | VOLTS 208Y/120V 3P 4W | AIC 10,000
MOUNTING SURFACE | BUS AMPS 100 | MAIN BKR **100** [1]
FED FROM DP 1 | NEUTRAL 100% | LUGS FEEDTHRU
NOTE PROVIDE COPPER GROUND AND NEUTRAL BUS

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C
1	20/1	N. ROW LIGHT, MACHINE SHOP	1			2	20/1	N. CENTER CEILING LIGHTS, MACHINE SHOP	1.2		
3	20/1	S. CENTER CEILING LIGHTS, MACHINE SHOP		1		4	20/1	S ROW LGT, MACH SHOP LGT, BOILER RM		1.2	
5	20/1	NE WALL CENTER RCP, WEST WALL RCP			1	6	20/1	TOILET, DR OPERNER, OUTSIDE LGT, N & NE RCP			1
7	20/1	SE & SW RCP, E WALL BOILER RM RCP	1.1			8	20/1	STOCKRM & WEST WALL & BOILER RM RCP	1.1		
9	20/1	STOCKRM CEILLING LGTS		1		10	20/1	SPACE		0	
11	20/1	SPACE			0	12	20/1	SPACE			0
13	20/1	SPACE	0			14	20/1	SPACE	0		
15	20/1	SPACE		0		16	20/1	SPACE		0	
17	20/1	SPACE			0	18	20/1	SPACE			0
19	20/1	SPACE	0			20	20/1	SPACE	0		
21	20/1	SPACE		0		22	20/1	SPACE		0	
23	20/1	SPACE			0	24	20/1	SPACE			0
25	20/1	SPACE	0			26	20/1	SPACE	0		
27	20/1	SPACE		0		28	20/1	SPACE		0	
29	20/1	SPACE			0	30	20/1	SPACE			0
31	20/1	SPACE	0			32	20/1	SPACE	0		
33	20/1	SPACE		0		34	20/1	SPACE		0	
35	20/1	SPACE			0	36	20/1	SPACE			0
37	20/1	SPACE	0			38	20/1	SPACE	0		
39	20/1	SPACE		0		40	20/1	SPACE		0	
41	20/1	SPACE			0	42	20/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	4.4	3.2	2
		LUG LOAD: PANEL CAB 2	0	0	0			TOTAL CONNECTED AMPS BY PHASE	36.7	26.7	16.7

	CONN. KVA	CALC. KVA	
LIGHTING	7.4	9.25	(125%)
LARGEST MOTOR	0	0	(125%)
OTHER MOTORS	0	0	(100%)
RECEPTACLES	2.2	2.2	(50%>10)

	CONN. KVA	CALC. KVA	
CONTINUOUS	0	0	(125%)
HEATING	0	0	(100%)
NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)
NONCOIN/DIVERSE	0	0	(N/A)
TOTAL KVA	9.6	11.5	

BALANCED THREE PHASE AMPS 31.8

RECONNECTED LOADS ↑

[1] KEYED NOTE:
PROVIDE ALL PANELS WITH A MOLDED CASE SWITCH. FOR LOCAL DISCONNECT MEANS. SWITCH TO HAVE NO THERMAL MAGNETIC TRIP CAPABILITY.

FINAL SUBMISSION FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-026

HANSON
Hanson Professional Services Inc.

USER NAME =	DESIGNED - J. COUEY	REVISED
	DRAWN - R. NATION	REVISED
PLOT SCALE =	CHECKED - J. COUEY	REVISED
PLOT DATE =	APPROVED - R. NATION	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
ELECTRICAL PANELBOARD SCHEDULE - NEW WORK
SHEET NO. 26 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	456
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		

PP3

ROOM 2ND FL STORAGE | VOLTS 208Y/120V 3P 4W | AIC 10,000

MOUNTING SURFACE | BUS AMPS 225 | MAIN BKR **200** [1]

FED FROM MDP | NEUTRAL 100% | LUGS STANDARD

NOTE PROVIDE COPPER GROUND AND NEUTRAL BUS

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C
1	20/1	OFFICE 209, VAULT 211. STORAGE 206, CORR. 201, RESTRM 202 LIGHTING	0.735			2	20/1	OFFICE 209 RECEPTACLE	1.44		
3	20/1	CONTROL RM LIGHTING		0.529		4	20/1	VAULT 211 RECEPTACLE		0.54	
5	20/1	MECHANICAL 205, OFFICE 212, JANITOR 207, CLOSET 210, CLOSET 208 LIGHTING			0.07	6	20/1	OFFICE 212 RECEPTACLE			0.9
7	20/1	STAIRWELL LIGHTING	0.048			8	20/1	OFFICE 212 RECEPTACLE	0.72		
9	50/3	RTU-1		4		10	20/1	PLAN RM / STORAGE RECEPTACLE		1.08	
11	|				4	12	20/1	CONTROL RM 203 RECEPTACLE			0.9
13	|		4			14	20/1	CONTROL RM 203 RECEPTACLE	1.08		
15	20/1	FI Quad		0.36		16	20/1	CONTROL RM 203 RECEPTACLE		0.54	
17	20/1	FI Quad			0.36	18	20/1	CORRIDOR 201 RECEPTACLE			0.72
19	20/1	FI Quad	0.36			20	20/1	CORRIDOR 201 RECEPTACLE	0.54		
21	40/2	IT RACK DEDICATED CKT RECEPTACLE		4.15		22	20/1	RESTROOM RECEPTACLE		0.36	
23	|				4.15	24	20/1	EXIT LIGHTING			0.006
25	40/2	IT RACK DEDICATED CKT RECEPTACLE	4.15			26	20/1	ROOF TOP RECEPTACLE	0.4		
27	|			4.15		28	60/2	ROOF TOP CONDENSING UNIT		4.5	
29	40/2	IT RACK DEDICATED CKT RECEPTACLE			4.15	30	|				4.5
31	|		4.15			32	20/1	DAMPER	0.5		
33	20/1	VIDEO WALL RECEPTACLE		1		34	20/1	SPARE		0	
35	20/1	VIDEO WALL RECEPTACLE			1	36	20/1	SPARE			0
37	20/1	VIDEO WALL RECEPTACLE	1			38	20/1	SPARE	0		
39	20/1	SPARE		0		40	20/1	SPARE		0	
41	20/1	SPARE			0	42	20/1	SPARE			0
								TOTAL CONNECTED KVA BY PHASE	19.1	21.2	20.8
								TOTAL CONNECTED AMPS BY PHASE	159	178	174

RECONNECTED LOADS

NEW LOADS

	CONN. KVA	CALC. KVA	
LIGHTING	1.39	1.73	(125%)
LARGEST MOTOR	12	15	(125%)
OTHER MOTORS	9	9	(100%)
RECEPTACLES	38.2	24.1	(50%>10)

	CONN. KVA	CALC. KVA	
CONTINUOUS	0	0	(125%)
HEATING	0	0	(100%)
NONCONTINUOUS	0.5	0.5	(100%)
KITCHEN EQUIP	0	0	(N/A)
NONCOIN/DIVERSE	0	0	(N/A)
TOTAL KVA	61.1	50.3	

BALANCED THREE PHASE AMPS 140

[1] KEYED NOTE:
PROVIDE ALL PANELS WITH A MOLDED CASE SWITCH. FOR LOCAL DISCONNECT MEANS. SWITCH TO HAVE NO THERMAL MAGNETIC TRIP CAPABILITY.

FINAL SUBMISSION FEBRUARY 2018

BRIDGE CONTROL OFFICE, Drawing 08-027

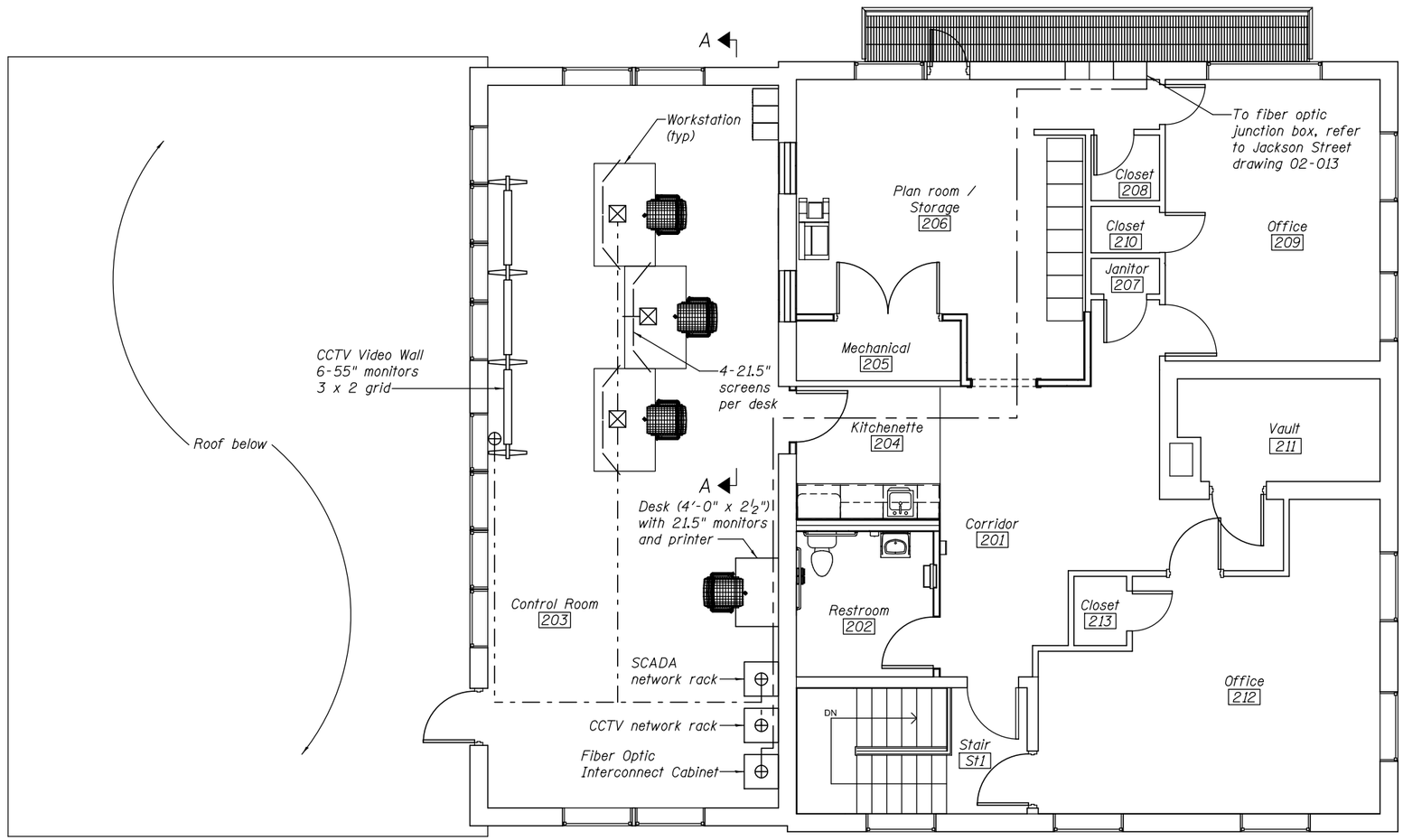
HANSON. Hanson Professional Services Inc.

USER NAME =	DESIGNED - J. COUEY	REVISED
	DRAWN - R. NATION	REVISED
PLOT SCALE =	CHECKED - J. COUEY	REVISED
PLOT DATE =	APPROVED - R. NATION	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATIONS
ELECTRICAL PANELBOARD SCHEDULE - NEW WORK
SHEET NO. 27 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	457
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



LEGEND:

⊕	Drill hole in concrete floor and install approved firestop sleeve
⊠	Poke through at workstation locations
— - — — - — -	Cable Tray suspended from ceiling below floor, with Ethernet video, & other cables as required
——— – – ———	(2) 96-fiber optic cables with pull string in 2" PVC conduit, ceiling mounted under floor

NOTES:

1. The locations shown are conceptual only. Final locations of control room equipment, workstation furniture, floor penetrations, and associated raceways shall be coordinated by the Systems Integrator and approved by the Engineer.
2. Installation of Control Room equipment, furniture, and wireways shall be coordinated with all other Bridge Control Office installations.

BRIDGE CONTROL OFFICE, Drawing 08-028

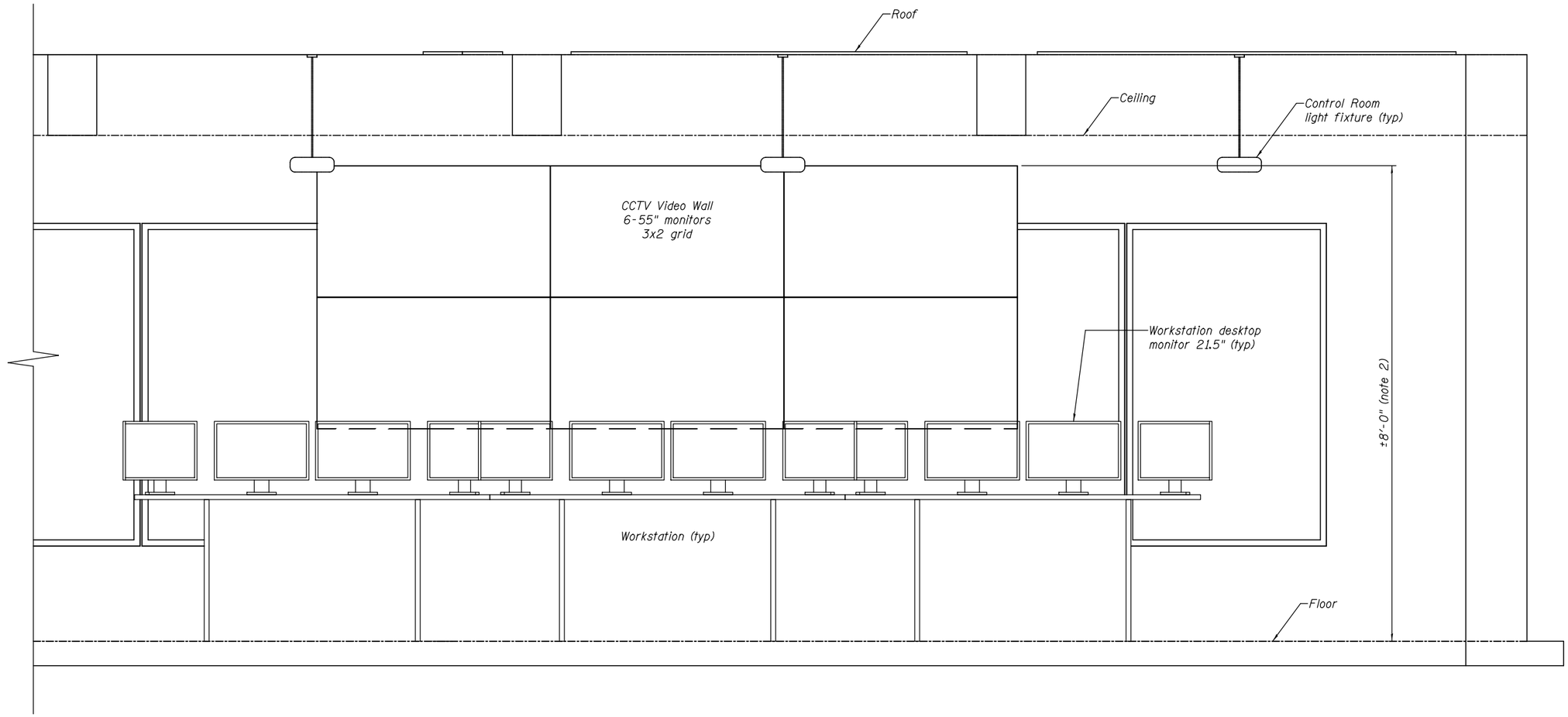
MODJESKI and MASTERS
Experience great bridges.

USER NAME =	DESIGNED - K.M. GABLE	REVISED ___
	CHECKED - L.V. BORDEN	REVISED ___
PLOT SCALE =	DRAWN - R.L. REED	REVISED ___
PLOT DATE =	CHECKED - K.M. GABLE	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRIDGE OFFICE BUILDING – CONTROL ROOM – FLOOR PLAN
SHEET NO. 28 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	458
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



VIEW A-A

NOTES:

1. Refer to drawing 08-028 for Control Room Floor Plan.
2. Approximate height from floor to top of video wall should be 8'-0". Coordinate Video Wall installation with other Control Room equipment, furniture, and light fixtures to maximize viewing capabilities of Video Wall from Control Room Workstations.

BRIDGE CONTROL OFFICE, Drawing 08-029

MODJESKI and MASTERS
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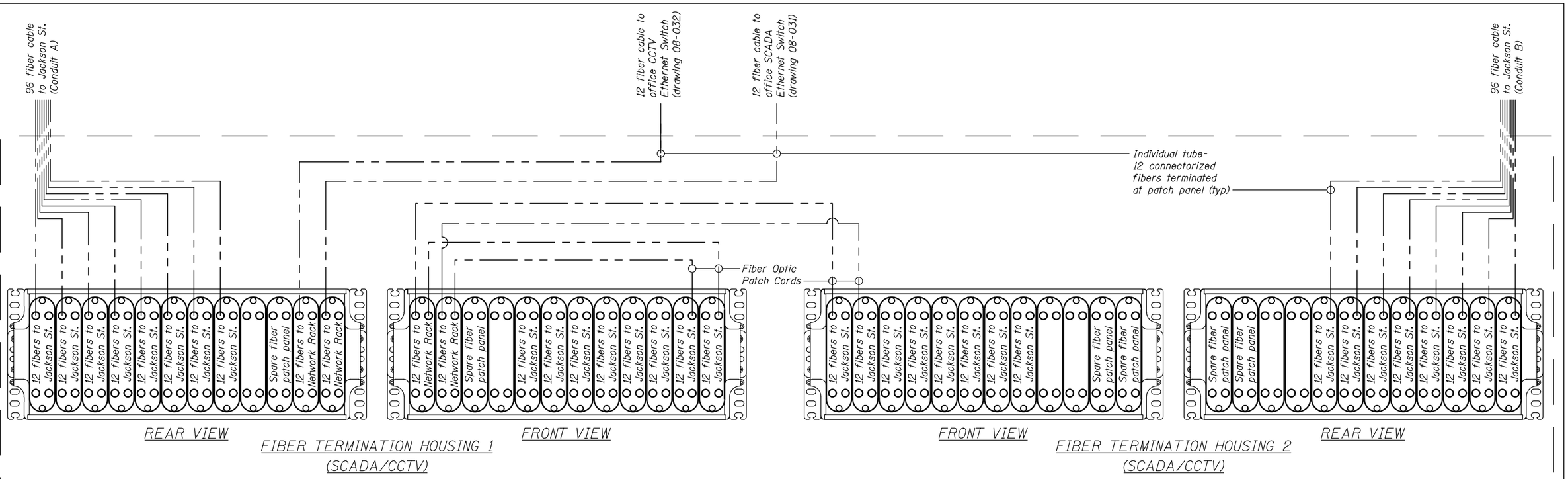
USER NAME =	DESIGNED - K.M. GABLE	REVISED ___
	CHECKED - L.V. BORDEN	REVISED ___
PLOT SCALE =	DRAWN - R.L. REED	REVISED ___
PLOT DATE =	CHECKED - K.M. GABLE	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRIDGE OFFICE BUILDING – CONTROL ROOM – ELEVATION
SHEET NO. 29 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	459
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



LEGEND

——— – – ——— Fiber optic connection

NOTES:

1. Refer to drawings 09-003 and 09-004 for fiber optic interconnections with movable bridges.
2. All fiber optic cable shown is single mode.

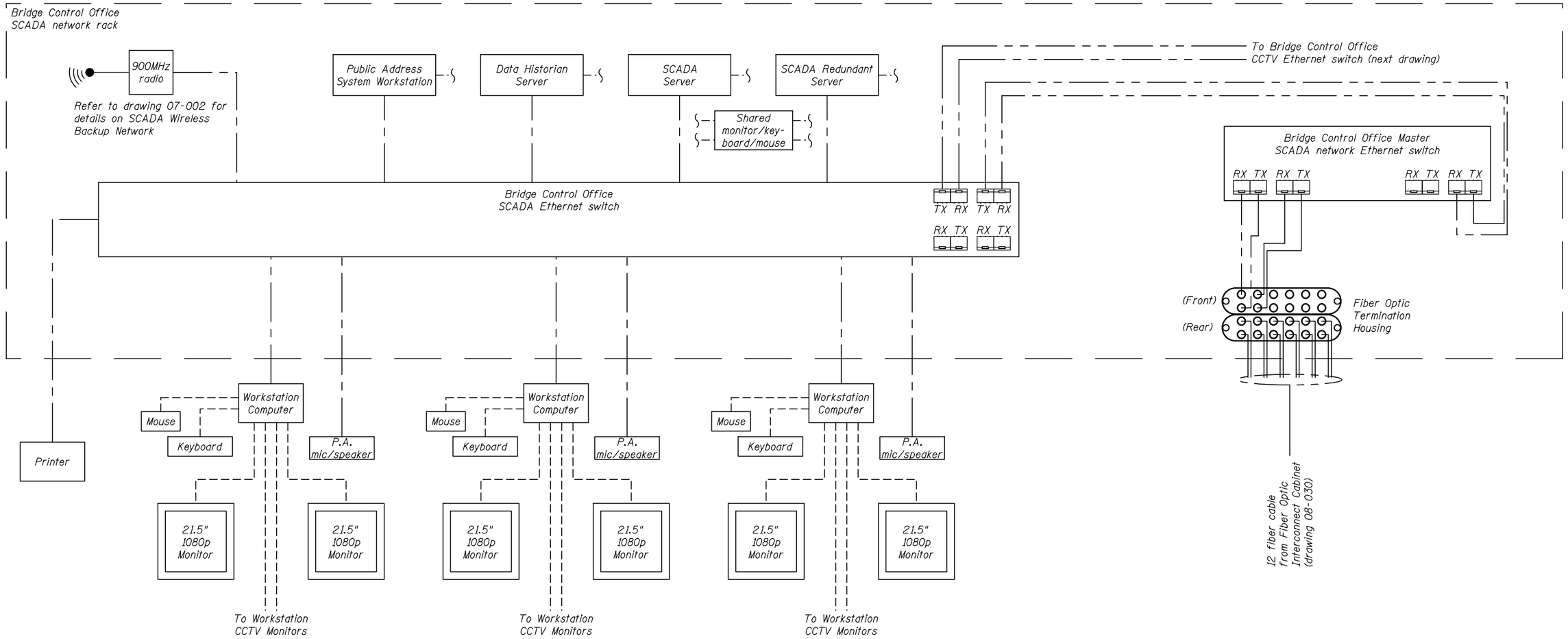
BRIDGE CONTROL OFFICE, Drawing 08-030

USER NAME =	DESIGNED - K.M. GABLE	REVISED ___	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - L.V. BORDEN	REVISED ___	
PLOT SCALE =	DRAWN - K.M. GABLE	REVISED ___	
PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___	

MODJESKI and MASTERS Experience great bridges.

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRIDGE OFFICE BUILDING – FIBER OPTIC INTERCONNECT CABINET
SHEET NO. 30 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	460
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



SCADA SYSTEM EQUIPMENT

Item No.	Quantity	Item Description
1	1	SCADA network rack
2	1	Rack mounted UPS (Uninterruptible Power Supply)
3	1	SCADA network Ethernet switch
4	1	SCADA bridge office Ethernet switch
5	4	Rack mount fiber termination housings, 12 position
6	2	SCADA Server PC
7	1	SCADA Data Historian Server PC
8	6	21.5" 1080p monitor
9	3	Workstation Computer
10	1	Printer
11	as req.	Keyboards, mice, cables, rack accessories, and hardware

WIRELESS BACKUP NETWORK EQUIPMENT

Item No.	Quantity	Item Description
1*	1	900 MHz Ethernet radio (SCADA)
2*	1	900 MHz antenna with installation hardware & accessories
3*	4	2.4 GHz Ethernet radio (CCTV)
4*	10	2.4 GHz antenna with installation hardware & accessories
5	11	Antenna surge suppressor
6	5	Surge Protective Device
7	5	Circuit breaker
8	5	24VDC power supply
9	2	UPS Power Supply
10	as req.	Accessories and installation hardware
11	4	Wireless Radio Cabinet

PUBLIC ADDRESS SYSTEMS EQUIPMENT

Item No.	Quantity	Item Description
1	3	P.A. mic/speaker
2	1	P.A. System Workstation Computer
3	1	Rackmount monitor, keyboard, mouse, cables

LEGEND

- Fiber optic connection
- Cat6 connection
- Video / Comm connection
- Wireless Network Antenna

* 900 MHz Radio and antenna for SCADA Wireless Backup Network. 2.4 GHz Radios and antennas for CCTV Wireless Backup Network, shown on drawing 08-032

NOTES:

1. These equipment schedules are provided for reference and do not provide an exhaustive listing of all equipment required.
2. The Contractor shall be responsible for developing a complete bill of materials of equipment required.

BRIDGE CONTROL OFFICE, Drawing 08-031

MODJESKI and MASTERS
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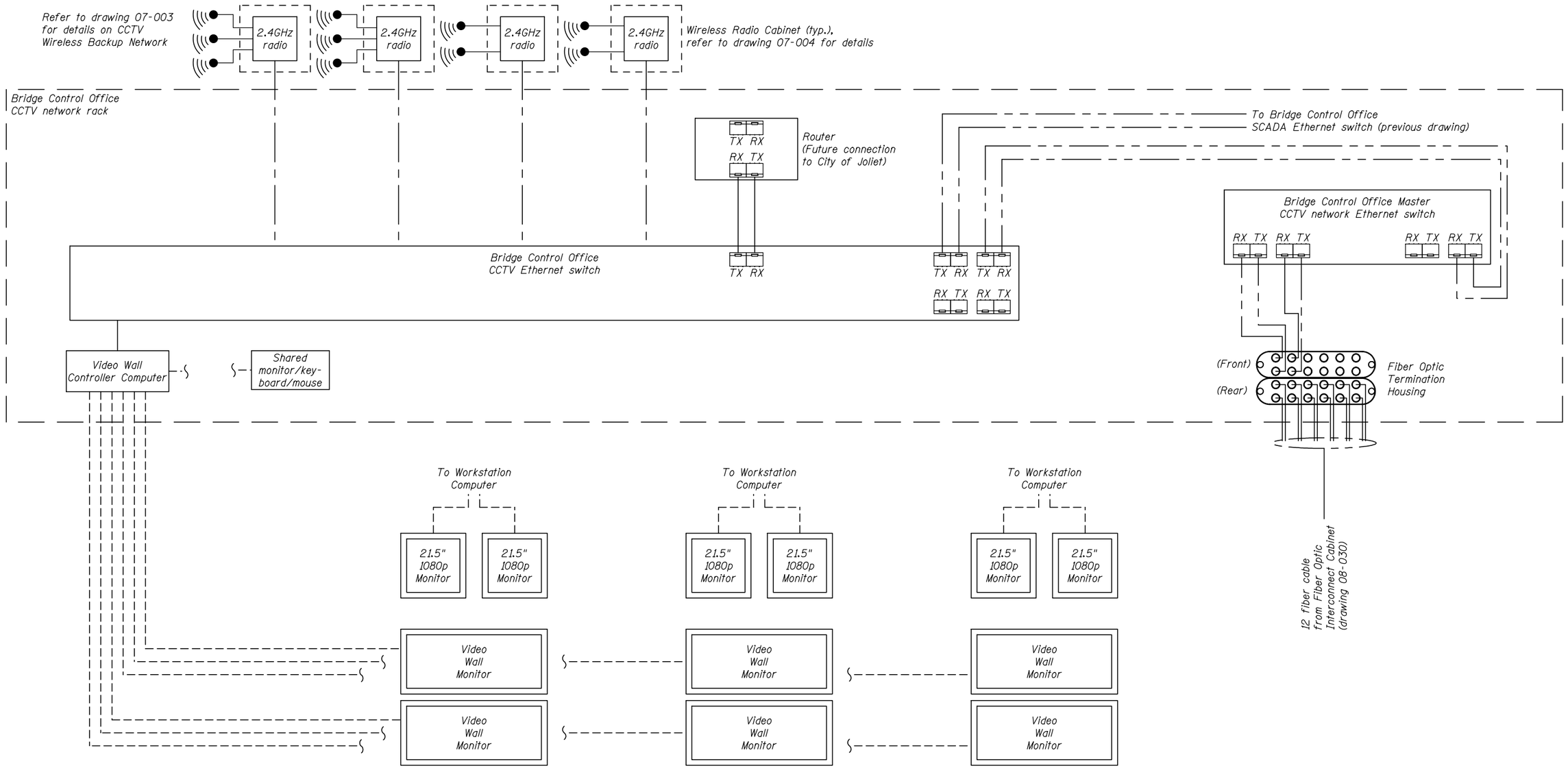
USER NAME =	DESIGNED - K.M. GABLE	REVISED ___
	CHECKED - L.V. BORDEN	REVISED ___
PLOT SCALE =	DRAWN - K.M. GABLE	REVISED ___
PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRIDGE OFFICE BUILDING – SCADA ONE-LINE
SHEET NO. 31 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	461
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



BRIDGE CONTROL CCTV SYSTEM EQUIPMENT

Item No.	Quantity	Item Description
1	1	CCTV network rack
2	1	Rack mounted UPS (Uninterruptible Power Supply)
3	1	CCTV network Ethernet switch
4	1	CCTV bridge office Ethernet switch
5	1	Rackmount monitor, keyboard, mouse, cables
6	1	Video wall controller computer and software

BRIDGE CONTROL CCTV SYSTEM EQUIPMENT (con't)

Item No.	Quantity	Item Description
7	6	55" video wall monitor
8	1	Video wall support base and framing system
9	6	21.5" 1080p desktop monitor
10	4	Rack mount fiber termination housings, 12 position
11	as req.	Rack accessories and hardware

VIDEO SERVER EQUIPMENT

Item No.	Quantity	Item Description
1	1	Router
2	1	Rack mount fiber termination housings, 12 position

LEGEND

- Fiber optic connection
- Cat6 connection
- Video / Comm connection
- Wireless Network Antenna

NOTES:

1. These equipment schedules are provided for reference and do not provide an exhaustive listing of all equipment required.
2. The Contractor shall be responsible for developing a complete bill of materials of equipment required.

BRIDGE CONTROL OFFICE, Drawing 08-032

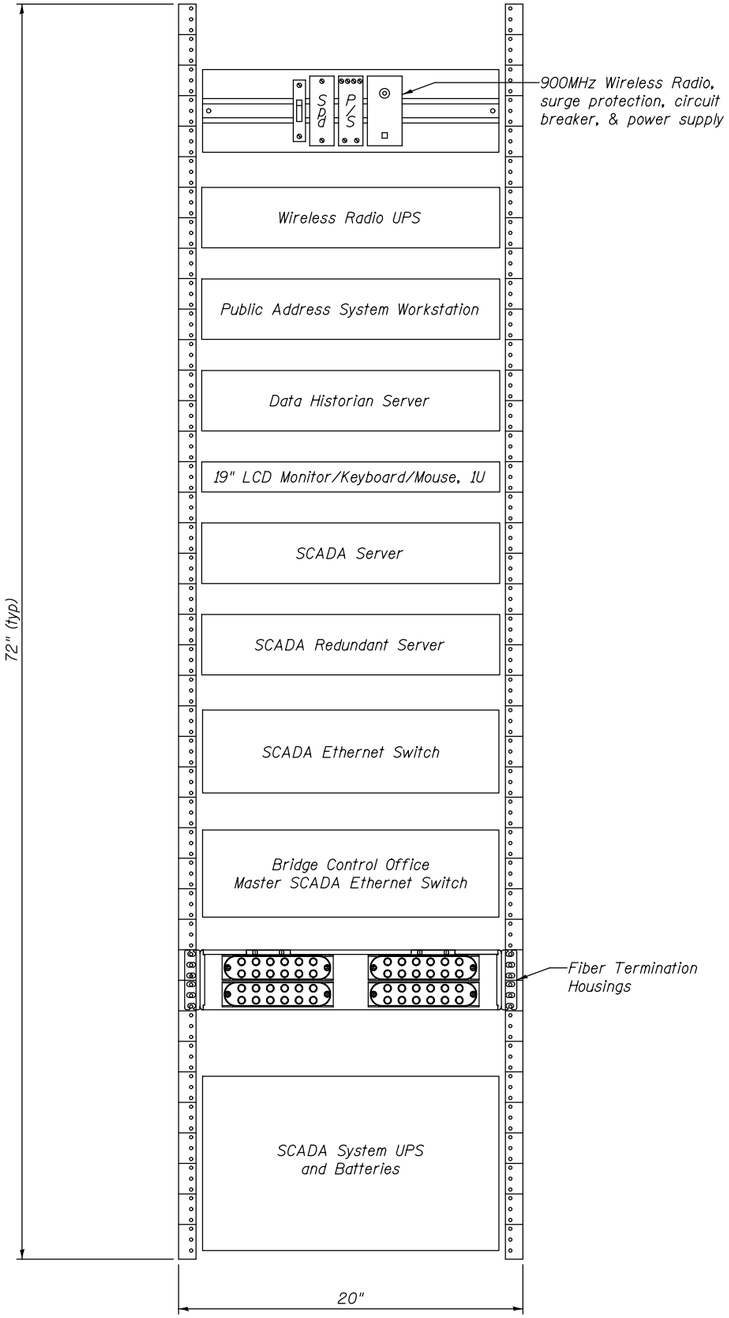
MODJESKI and MASTERS Experience great bridges.

USER NAME =	DESIGNED - K.M. GABLE	REVISED	
	CHECKED - L.V. BORDEN	REVISED	
PLOT SCALE =	DRAWN - K.M. GABLE	REVISED	
PLOT DATE =	CHECKED - R.I. PETERS	REVISED	

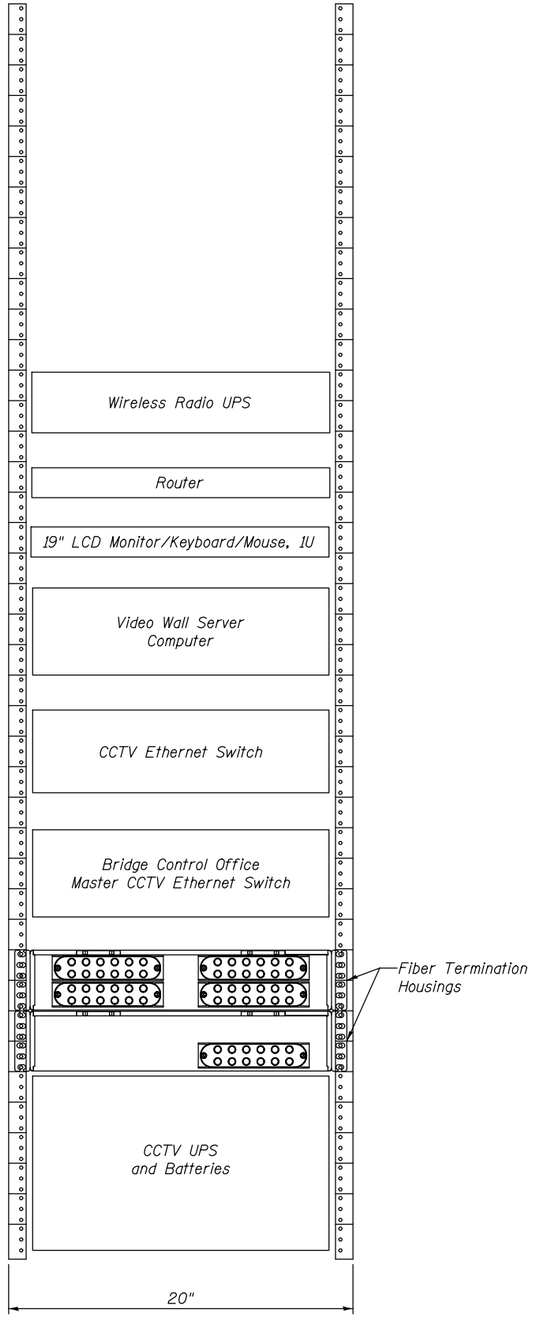
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRIDGE OFFICE BUILDING – CCTV ONE-LINE
SHEET NO. 32 OF 36 SHEETS

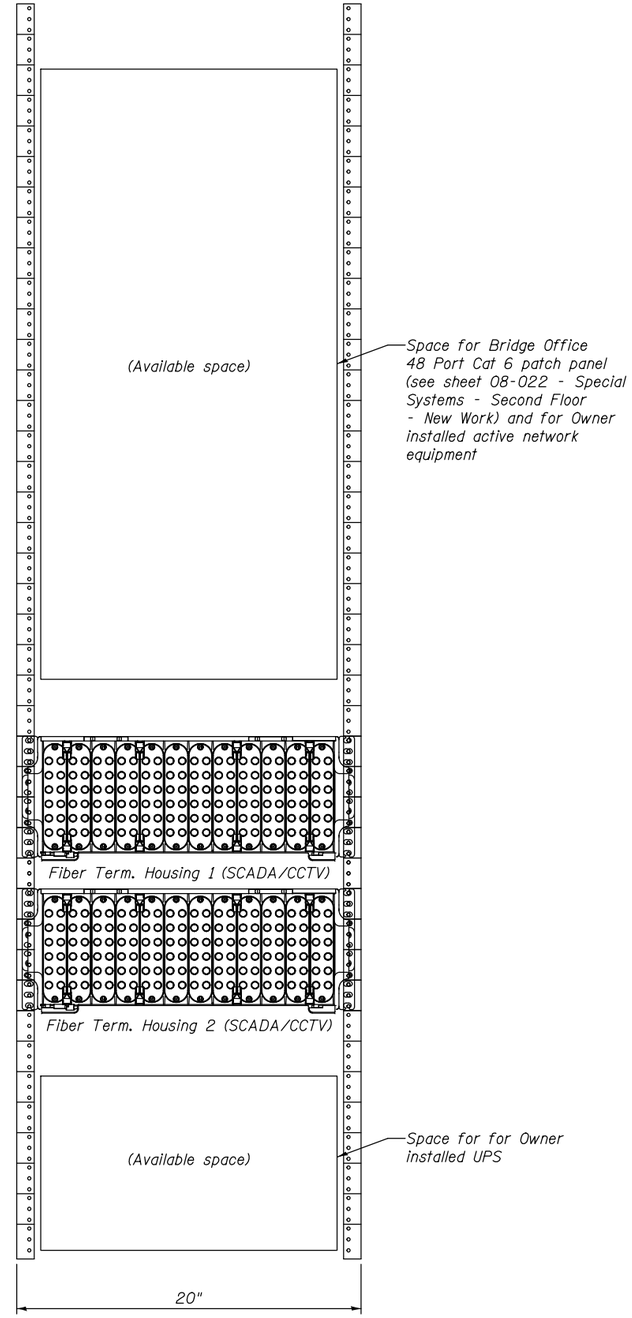
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	462
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		



SCADA SYSTEM RACK



CCTV SYSTEM RACK



FIBER OPTIC INTERCONNECT CABINET

NOTES:

1. Rack layouts shown are conceptual. The Contractor shall be responsible for developing and submitting layouts with all required components.
2. The Systems Integrator shall be responsible for coordinating cabinet sizing requirements to accomodate equipment serving all applicable systems.

BRIDGE CONTROL OFFICE, Drawing 08-033

USER NAME =	DESIGNED - K.M. GABLE	REVISED ___	
	CHECKED - L.V. BORDEN	REVISED ___	
PLOT SCALE =	DRAWN - K.M. GABLE	REVISED ___	
PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___	

MODJESKI and MASTERS
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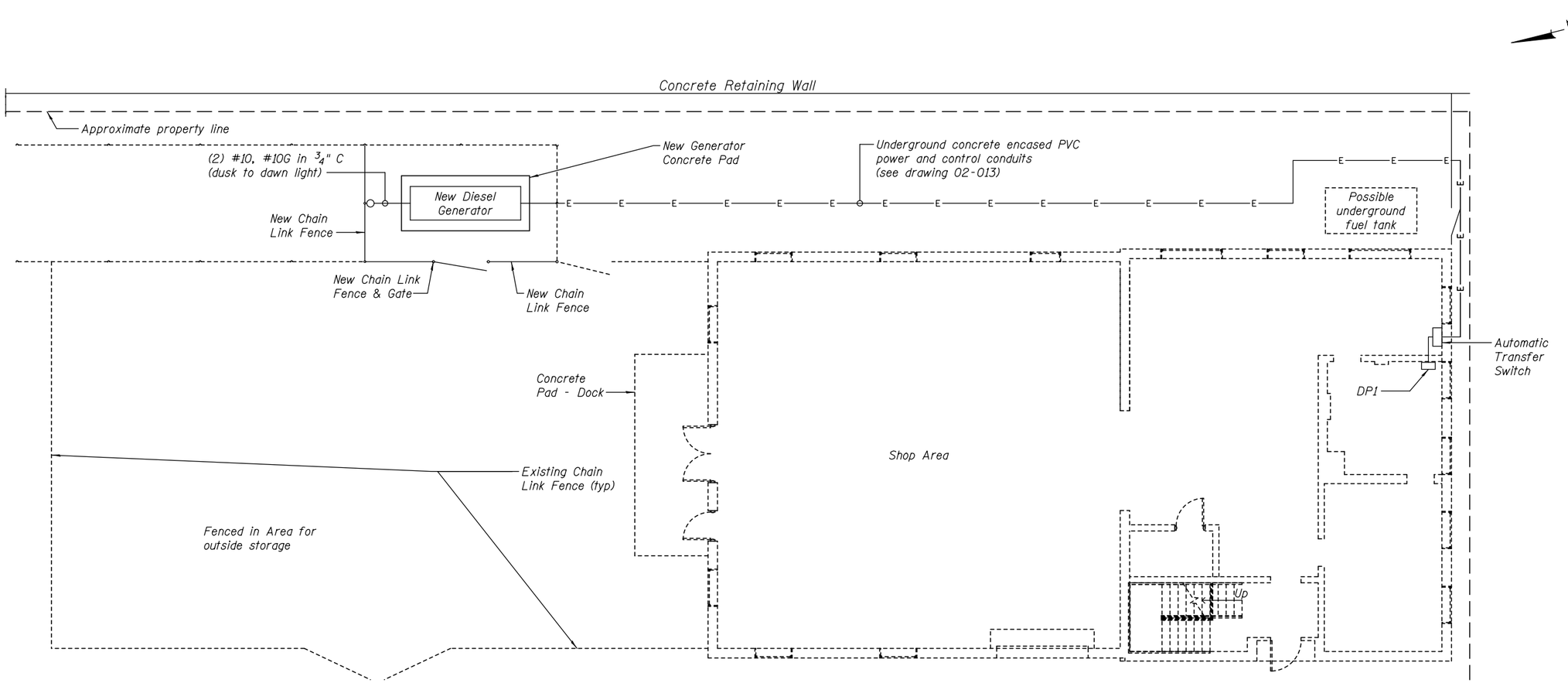
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRIDGE OFFICE BUILDING – NETWORK CABINET DETAILS
SHEET NO. 33 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	463
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



PLAN
PROPOSED GENERATOR LOCATION

NOTES:

1. Installation and testing of the new diesel engine generator and its associated components shall be as specified in the special provisions for Diesel Engine Generator
2. Coordinate underground conduit installation with underground fiber optic conduit installation shown on drawing 02-013.
3. Generator conduits shown installed inside the building shall be galvanized RMC.
4. Field adjust underground conduit locations as required to avoid existing utilities and services.
5. Refer to drawing 08-018 for overall site plan.

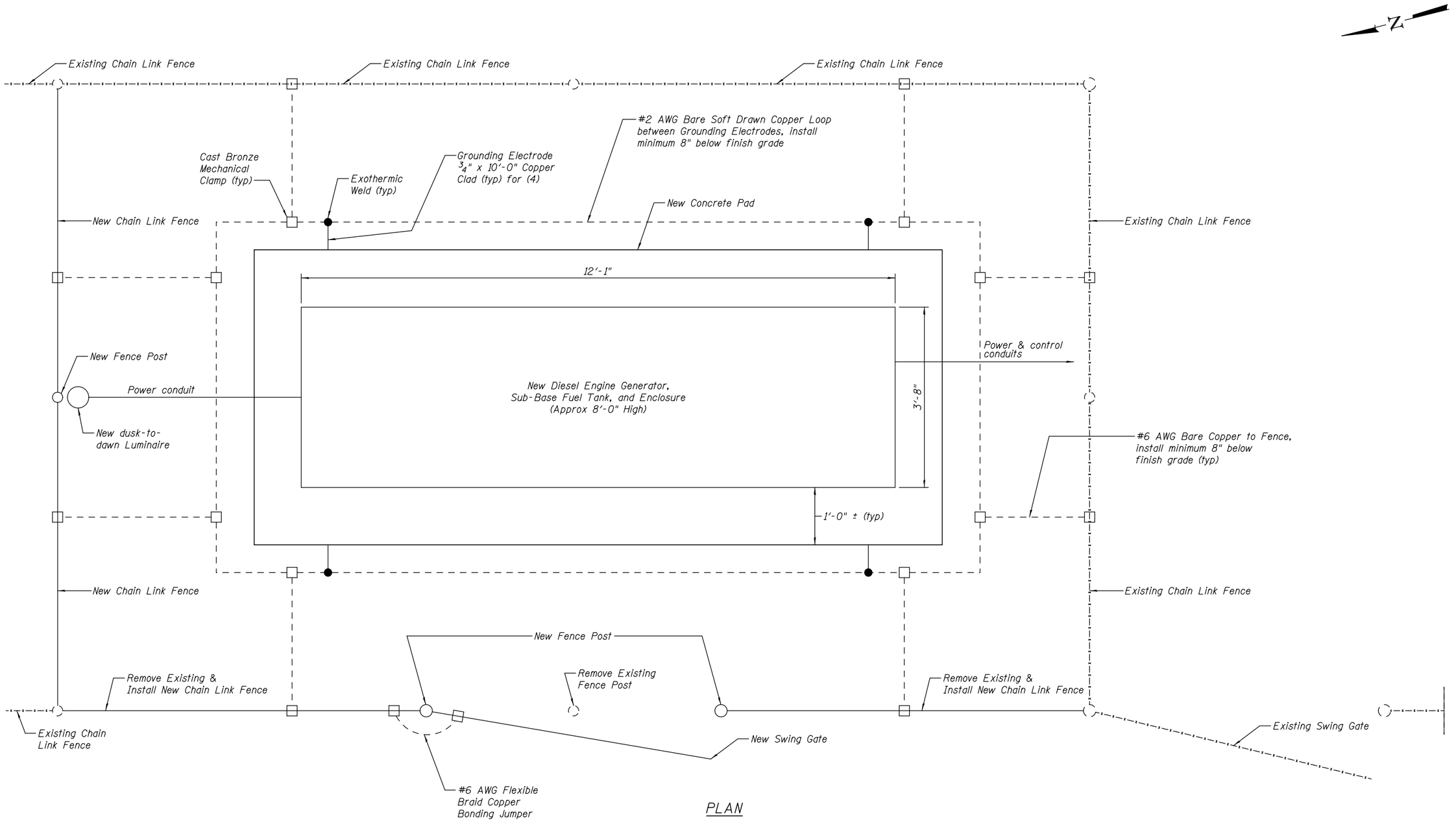
BRIDGE CONTROL OFFICE, Drawing 08-034

MODJESKI and MASTERS Experience great bridges.	USER NAME =	DESIGNED - R.I. PETERS	REVISED ___
		CHECKED - L.V. BORDEN	REVISED ___
	PLOT SCALE =	DRAWN - R.L. REED	REVISED ___
	PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRIDGE OFFICE BUILDING – GENERATOR PAD DETAILS – 1
SHEET NO. 34 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	464
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



PLAN

PROPOSED GENERATOR PAD LAYOUT

NOTES:

1. Generator enclosure size shown is approximate. The Contractor shall adjust concrete pad size as required for approved generator and enclosure. New fence shall be located to provide a minimum of 4' clearance between generator enclosure and fencing on all sides.
2. The cost of all items shown on this sheet shall be included in contract item Diesel Engine Generator unless noted otherwise.

BRIDGE CONTROL OFFICE, Drawing 08-035

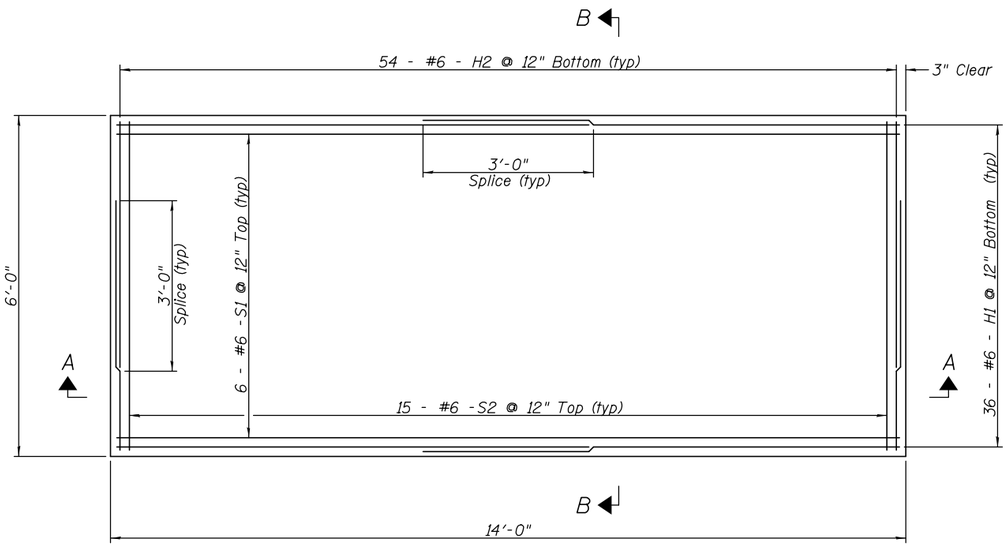
MODJESKI and MASTERS
Experience great bridges.

USER NAME =	DESIGNED - R.I. PETERS	REVISED ___
	CHECKED - L.V. BORDEN	REVISED ___
PLOT SCALE =	DRAWN - R.L. REED	REVISED ___
PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___

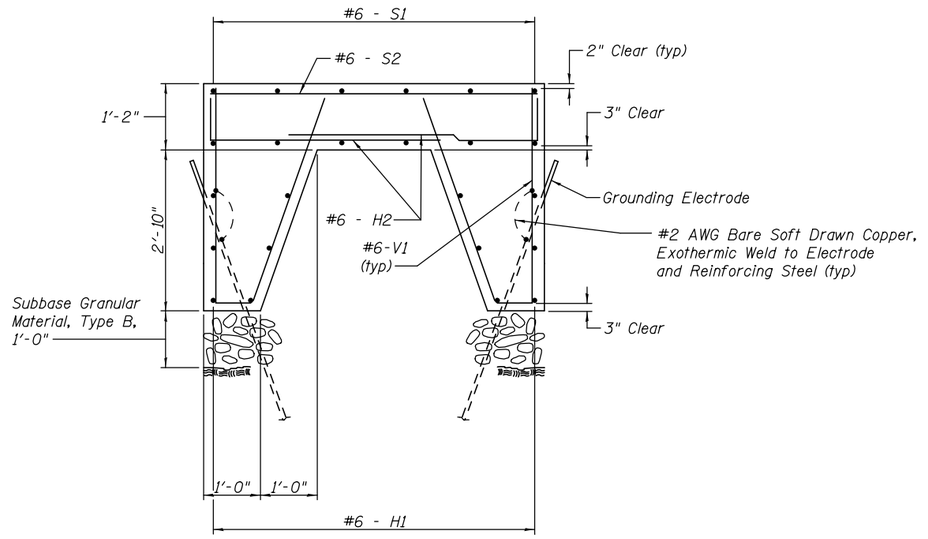
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRIDGE OFFICE BUILDING – GENERATOR PAD DETAILS – 2
SHEET NO. 35 OF 36 SHEETS

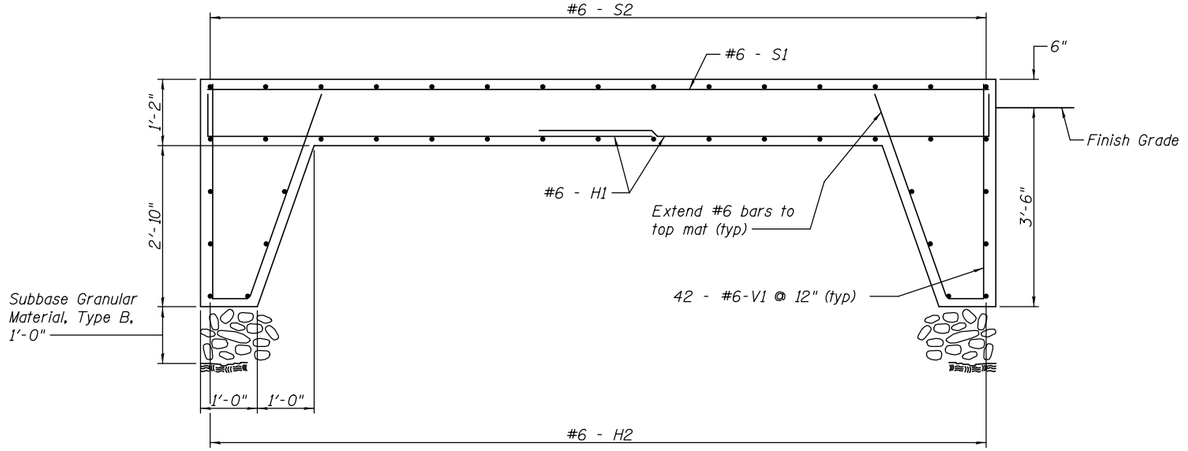
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	465
		CONTRACT NO. 60P55		
	ILLINOIS FED. AID PROJECT			



CONCEPTUAL CONCRETE PAD - PLAN



SECTION B-B



SECTION A-A

NOTES:

1. Concrete pad dimensions and reinforcing bar details are conceptual. The Contractor shall adjust as required for the approved generator.
2. Reinforcing steel to be uncoated.
3. Conduit stub-out locations not shown. Coordinate required conduit stub-out locations with generator manufacturer's approved shop drawings.
4. All costs associated with the generator concrete pad shall be included with Diesel Engine Generator.

BRIDGE CONTROL OFFICE, Drawing 08-036

MODJESKI and MASTERS Experience great bridges.	USER NAME =	DESIGNED - R.I. PETERS	REVISED ___
		CHECKED - D.W. PETERMEIER	REVISED ___
	PLOT SCALE =	DRAWN - R.L. REED	REVISED ___
	PLOT DATE =	CHECKED - R.I. PETERS	REVISED ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VARIOUS MOVABLE BRIDGES
LOCAL CENTRALIZED CONTROL AND OPERATION
BRIDGE OFFICE BUILDING – GENERATOR PAD DETAILS – 3
SHEET NO. 36 OF 36 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2011-045-I	WILL	466	466
		CONTRACT NO. 60P55		
	ILLINOIS	FED. AID PROJECT		