

PROJECT OVERVIEW

BATTERY LEWIS RESTORATION PHASE TWO, HARTSHORNE WOODS PARK

- Location:** Hartshorne Woods Park (Monmouth County Park System)
Middletown Township, Monmouth County, New Jersey
GPS Address: 1402 Portland Road, Highlands, New Jersey 07732
- Scope of Work:** Phase Two restoration of a World War II 16-inch gun battery, a historic site listed on the National Register of Historic Places. Single prime contract including general conditions; scaffolding and related building protection; selective demolition; repairs to cast-in-place concrete and architectural concrete; ferrous metal restoration (gates, doors, gun barrel, miscellaneous metals); metal fabrication (painted steel gates); paint and coatings removal and new painting; electrical service and distribution; and ventilation system as shown on the attached plans and as specified. Bidders are encouraged to visit site to familiarize themselves with conditions, and the materials and labor needed to furnish Owner with a complete scope of work.
- Special Requirements:** Contractors must demonstrate successful prior experience with projects of similar scope and budget within the past five years. All work must comply with The Secretary of the Interior's Standards for the Treatment of Historic Properties.
- Architect:**
Jan Hird Pokorny Associates, Inc.
39 West 37th Street, Floor 12A, New York, NY 10007
Contact: Kurt Hirschberg, Project Manager
(212) 759-6462
Hirschberg@jhpokorny.com
- Owner:**
Monmouth County Park System
805 Newman Spring Road, Lincroft, NJ 07738
Contact: Gail Hunton, Supervising Historic Preservation Specialist
(732) 842-4000 ext 4259
ghunton@monmouthcountyparks.com

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ARCHITECTURAL

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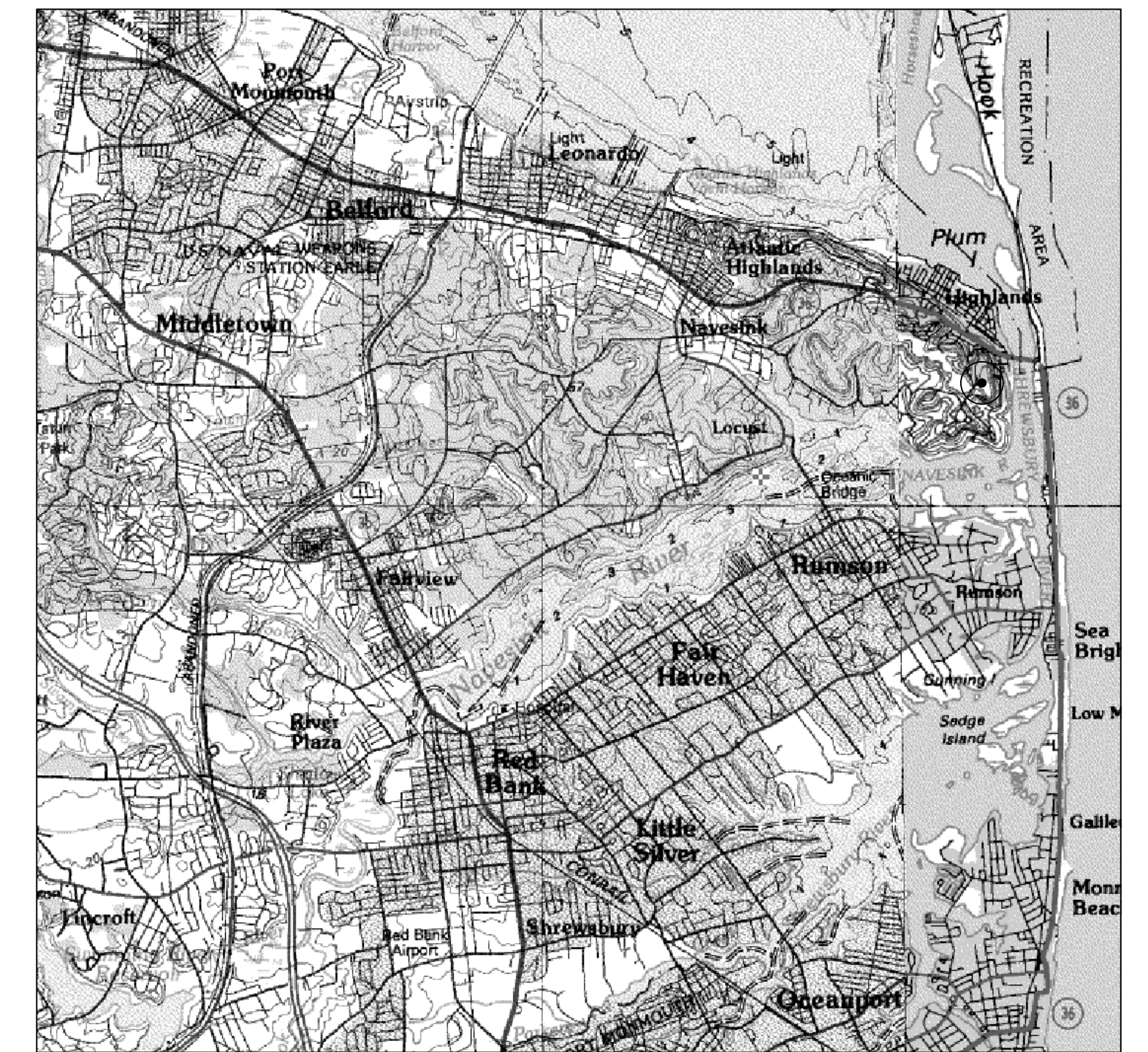
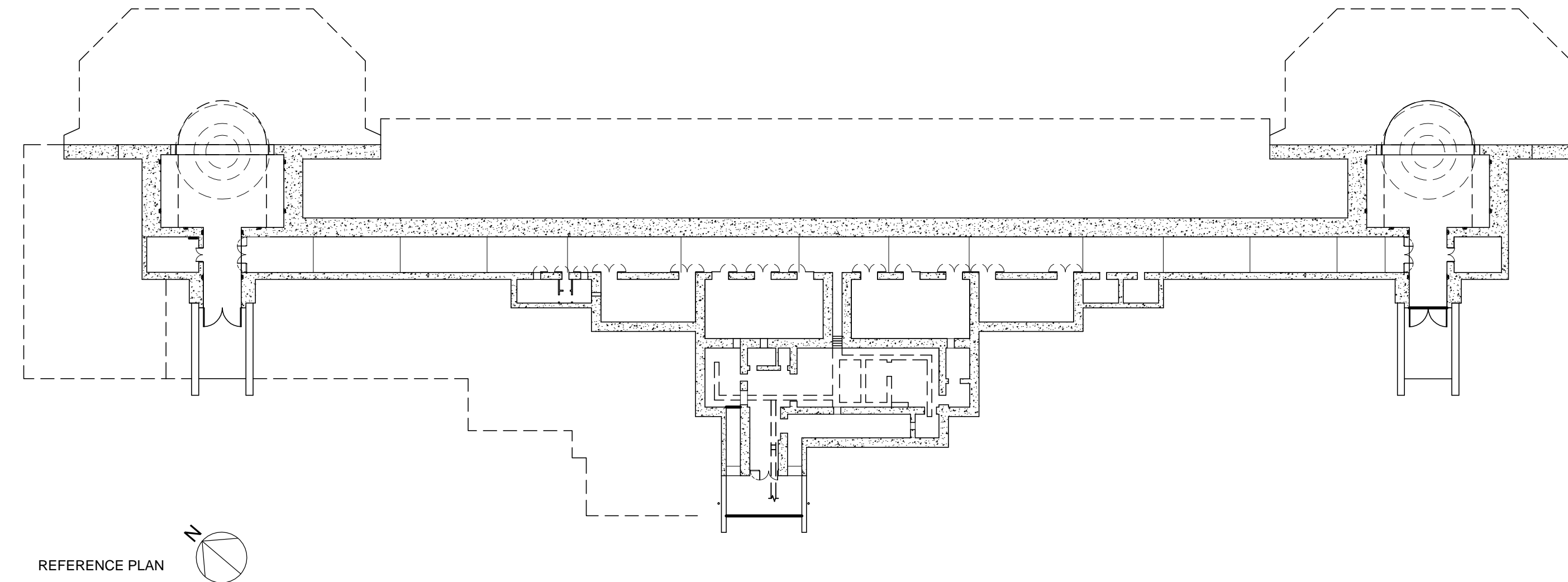
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CONSTRUCTION DOCUMENTS

BATTERY LEWIS RESTORATION PHASE TWO

HARTSHORNE WOODS PARK, HIGHLANDS MONMOUTH COUNTY, NEW JERSEY
GPS ADDRESS: 1402 PORTLAND ROAD, HIGHLANDS NJ 07732
BLOCK 783, LOT 9, TOWNSHIP OF MIDDLETOWN

Prepared for:



Monmouth County Park System
James J. Truncer, Secretary-Director
805 Newman Springs Road
Lincroft, New Jersey 07738

Prepared by:

Architect: Jan Hird Pokorny Associates, Inc.
39 West 37th Street, Floor 12A
New York, New York 10018

Mechanical Engineer: Loring Engineers
260 West 35th Street, Suite 501
New York, New York 10007

Date:

23 APRIL 2015

ARCHITECTURAL ABBREVIATIONS

&	AND	JT.	JOINT
@	AT	K.D.A.T.	KILN DRIED AFTER TREATMENT
€	CENTER LINE	K.D.B.T.	KILN DRIED BEFORE TREATMENT
%	PERCENT	LAM.	LAMINATE
#	FOUND OR NUMBER	L.F.	LINEAR FEET
+/-	PLUS OR MINUS	L.P.	LOW POINT
A/C	AIR CONDITIONER	LT.	LIGHT
A.D.	AREA DRAIN	MANUF.	MANUFACTURER
ADJ.	ADJUSTABLE	MAT.	MATERIAL
A.F.F.	ABOVE FINISH FLOOR	L.F.	LINEAR FEET
AGGR.	AGGREGATE	M.C.H.	MAXIMUM
ALUM.	ALUMINUM	MECH.	MECHANICAL
ALT.	ALTERNATE	MEMB.	MEMBRANE
APPROX.	APPROXIMATELY	M.H.	MAN HOLE
ARCH.	ARCHITECTURAL	MIN.	MINIMUM
		MISC.	MISCELLANEOUS
BD.	BOARD	MNTD.	MOUNTED
BLDG.	BUILDING	M.R.G.B.	MOISTURE RESISTANT GYP. BD.
BLK'G.	BLOCKING	M.O.	MASONRY OPENING
BOT.	BOTTOM	M.P.	METAL PANEL
BTWN.	BETWEEN	MTD.	MOUNTED
		MTL.	METAL
C.J.	CONTROL JOINT	N.	NORTH
CLG.	CEILING	N/A.	NOT APPLICABLE
CLKG.	CAULKING	N.I.C.	NOT IN CONTRACT
CLR.	CLEAR	NO.	NUMBER
C.M.U.	CONCRETE MASONRY UNIT	NOM.	NOMINAL
C.O.	CLEAN OUT	N.T.S.	NOT TO SCALE
COL.	COLUMN	NUM.	NUMBER
CONC.	CONCRETE	O.A.	OVERALL
CONSTR.	CONSTRUCTION	OBSC.	OBSCURE
CONT.	CONTINUOUS	ON CENTER	
CTR.	CENTER	O.C.E.W.	ON CENTER EACH WAY
		O.D.	OUTSIDE DIAMETER
DBL.	DOUBLE	OPNG.	OPENING
DEPT.	DEPARTMENT	OPP.	OPPOSITE
DET.	DETAIL	OPP.H.	OPPOSITE HAND
DIA.	DIAMETER		
DIM.	DIMENSION	PART.	PARTITION
DN.	DOWN	PLAST.	PLASTER
DR.	DOOR	PLYWD.	PLYWOOD
D.S.	DOWNSPOUT	P.P.	PAINTED PLASTER
DWGS.	DRAWINGS	PR.	PAIR
		PROG.	PROGRAM
E.	EAST	PTD.	PAINTED
EA.	EACH		
E.J.	EXPANSION JOINT	R.	RISER
ELEV.	ELEVATION OR ELEVATOR	RAD.	RADIUS
ELEC.	ELECTRICAL	R.C.P.	REFLECTED CEILING PLAN
EMER.	EMERGENCY	R.D.	ROOF DRAIN
ENCL.	ENCLOSURE	REF.	REFERENCE
E.P.	ELECTRICAL PANEL	REIN.F.	REINFORCEMENT
EQ.	EQUAL	REQ'D.	REQUIRED
EQUIP.	EQUIPMENT	REV.	REVISE
EXIST.	EXISTING	RM.	ROOM
EXP.	EXPOSED	R.O.	ROUGH OPENING
EXPAN.	EXPANSION		
EXT.	EXTERIOR	S.	SOUTH
		S.C.	SELF-CLOSING
F.A.	FIRE ALARM	SCHED.	SCHEDULE
F.D.	FLOOR DRAIN	SECT.	SECTION
F.H.	FIRE HYDRANT	S.F.	SQUARE FEET
F.G.	FINISH GRADE	SHT.	SHEET
FIN.	FINISH	SIM.	SIMILAR
FL.	FLOOR	SPEC.	SPECIFICATION
FLASH.	FLASHING	SQ.	SQUARE
FLR.	FLOOR	S.S.	STAINLESS STEEL
FLUOR.	FLUORESCENT	STD.	STANDARD
F.O.B.	FACE OF BUILDING	STL.	STEEL
F.O.C.	FACE OF CONCRETE	STRUC.	STRUCTURAL
F.P.S.C.	FIRE PROTECTION, SELF-CLOSE	SUSP.	SUSPENDED
FT.	FOOT OR FEET	SYM.	SYMMETRICAL
FTG.	FOOTING		
FUR.	FURRING	T.	TREAD
		T.C.S.	TERNE COATED STAINLESS STEEL
GA.	GAUGE	TEL.	TELEPHONE
GALV.	GALVANIZED	T&G.	TONGUE & GROOVE
G.B.	GYPSON BOARD	THK.	THICK
GL.	GLASS	TKT.	TICKET
GR.	GRADE	T.O.	TOP OF
GRND.	GROUND	TYP.	TYPICAL
GYP.	GYPSONUM		
		U.O.N.	UNLESS OTHERWISE NOTED
H.	HIGH OR HEIGHT	VERT.	VERTICAL
H.B.	HOSE BIB	VEST.	VESTIBULE
HDWR.	HARDWARE	V.C.T.	VINYL COMPOSITION TILE
H.M.	HOLLOW METAL		
HORIZ.	HORIZONTAL	W.	WEST
H.P.	HIGH POINT	WI.	WITH
HR.	HOUR	W/C.	WATER CLOSET
HSE.	HOUSE	WD.	WOOD
HT.	HEIGHT	WIN.	WINDOW
		W/O.	WITHOUT
I.D.	INSIDE DIAMETER		
INFO.	INFORMATION		
INSUL.	INSULATION		
INT.	INTERIOR		

BUILDING DEPARTMENT NOTES

- HISTORIC AND ARCHITECTURAL SIGNIFICANCE: BATTERY LEWIS IS AN HISTORICALLY SIGNIFICANT STRUCTURE AND ALL WORK SHOULD COMPLY WITH THE REQUIREMENTS OF THE NJ STATE HISTORIC PRESERVATION OFFICE AND FOLLOW THE SECRETARY OF THE INTERIOR'S STANDARDS FOR RESTORATION, LATEST EDITION IN ADDITION TO ANY ADDITIONAL REQUIREMENTS OF MONMOUTH COUNTY OR THE MONMOUTH COUNTY PARK SYSTEM.
- ALL MATERIALS AND BUILDING COMPONENTS, REGARDLESS OF APPARENT CONDITION, ARE TO BE TREATED WITH THE UTMOST CARE.
- THE CONTRACTOR TO CHECK AND VERIFY ALL CONDITIONS, DIMENSIONS AND CLEARANCES IN THE FIELD AND NOTIFY THE ARCHITECT OF ANY APPARENT CONFLICTING CONDITIONS OR DISCREPANCIES PRIOR TO THE COMMENCEMENT OF WORK.
- DIMENSIONS ON THE DRAWINGS ARE FOR DESIGN ONLY. CONTRACTOR IS RESPONSIBLE FOR FIELD CHECKING ALL MEASUREMENTS BEFORE COMMENCEMENT OF WORK. CONTRACTOR IS NOT TO SCALE DRAWINGS FOR DIMENSIONS EXCEPT WHERE DRAWINGS ARE INDICATED AS FULL SIZE.
- INFORMATION IN THE CONSTRUCTION DOCUMENTS WHICH MAY APPEAR CONFLICTING, UNCLEAR, OR SUBJECT TO INTERPRETATION MUST BE REFERRED TO THE ARCHITECT FOR INTERPRETATION PRIOR TO THE COMMENCEMENT OF WORK.
- NO WORK IS TO BE PERFORMED BEYOND THE PROJECT LIMIT LINES EXCEPT WHERE INDICATED OTHERWISE. NO WORK IS TO BE PERFORMED BEYOND THE PROPERTY LINES.
- AT LEAST 24-HOUR WRITTEN NOTICE TO BE GIVEN TO THE OWNER, ARCHITECT AND THE BUILDING INSPECTOR FOR THE TOWN OF MIDDLETOWN PRIOR TO THE COMMENCEMENT OF ANY WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR THE SAFE MAINTENANCE OF THE SITE THROUGHOUT THE DURATION OF CONSTRUCTION INCLUDING BUT NOT LIMITED TO DAILY SITE CLEAN-UP.
- CONTRACTOR TO OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND TESTS PRIOR TO THE COMMENCEMENT OF THE WORK, INCLUDING, BUT NOT LIMITED TO, BUILDING DEPARTMENT PERMITS, CONTROLLED INSPECTIONS, AND ANY NECESSARY LEAD/ASBESTOS TESTING.
- ALL MATERIALS DESIGNATED FOR "CONTROLLED INSPECTION" TO BE INSPECTED BY A QUALIFIED ARCHITECT OR ENGINEER EMPLOYED BY THE CONTRACTOR. SAID ARCHITECT OR ENGINEER TO FILE COPIES OF ALL REQUIRED INSPECTIONS TOGETHER WITH A SIGNED STATEMENT THAT THE MATERIAL COMPLIES WITH ALL APPLICABLE CODES AND STANDARDS.
- CONTROLLED INSPECTIONS ARE REQUIRED FOR THE FOLLOWING ITEMS:
A. STABILITY AND INTEGRITY OF STRUCTURES DURING CONSTRUCTION
- FIRESTOPPING TO BE PROVIDED AT ALL CONCEALED SPACES WITHIN PARTITIONS, WALLS, FLOORS, PIPE SPACES, ETC. TO PREVENT PASSAGE OF FLAMES, SMOKE OR HOT GASES FROM PASSING FROM FLOOR TO FLOOR OR ONE SPACE TO ANOTHER. FIRESTOPPING MATERIAL TO BE "THERMAFIBER" BY USG OR ARCHITECT APPROVED EQUAL.
- ALL BUILDING EXITS TO BE KEPT READILY ACCESSIBLE AND UNOBSTRUCTED AT ALL TIMES. EXIT DOORS TO BE READILY OPERABLE AT ALL TIMES FROM THE EGRESS SIDE.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SCAFFOLDING FOR THE DURATION OF THE WORK. THE SCAFFOLDING WILL BE FILED UNDER SEPARATE PERMIT BY THE CONTRACTOR.

OCCUPANT SAFETY NOTES

- NORMAL WORK HOURS ARE TO BE BETWEEN 8:00AM AND 4:30PM WITH NO LOUD OR DISRUPTIVE ACTIVITY OCCURRING UNTIL AFTER 9AM.
- ALL DOORS ARE TO REMAIN CLEAR AND UN-OBSTRUCTED FOR THE DURATION OF THE PROJECT - PROVIDE ADEQUATE PROTECTION FROM ADJACENT CONSTRUCTION.
- ALL DEMOLITION ACTIVITIES ARE TO BE COORDINATED WITH THE OWNER AND ARCHITECT AT LEAST 72 HOURS IN ADVANCE.
- NOISE CONTROL SHALL BE PROVIDED DURING THE COURSE OF CONSTRUCTION BY THE USE OF MUFFLED MECHANICAL EQUIPMENT, AND BY THE USE OF ACOUSTICAL ISOLATION OF NOISE PRODUCING ACTIVITIES.
- DUST CONTROL SHALL BE PROVIDED BY TEMPORARY PARTITIONS OR VINYL CLOSURES TO ENSURE THAT DUST OR DEBRIS IS CONTAINED.

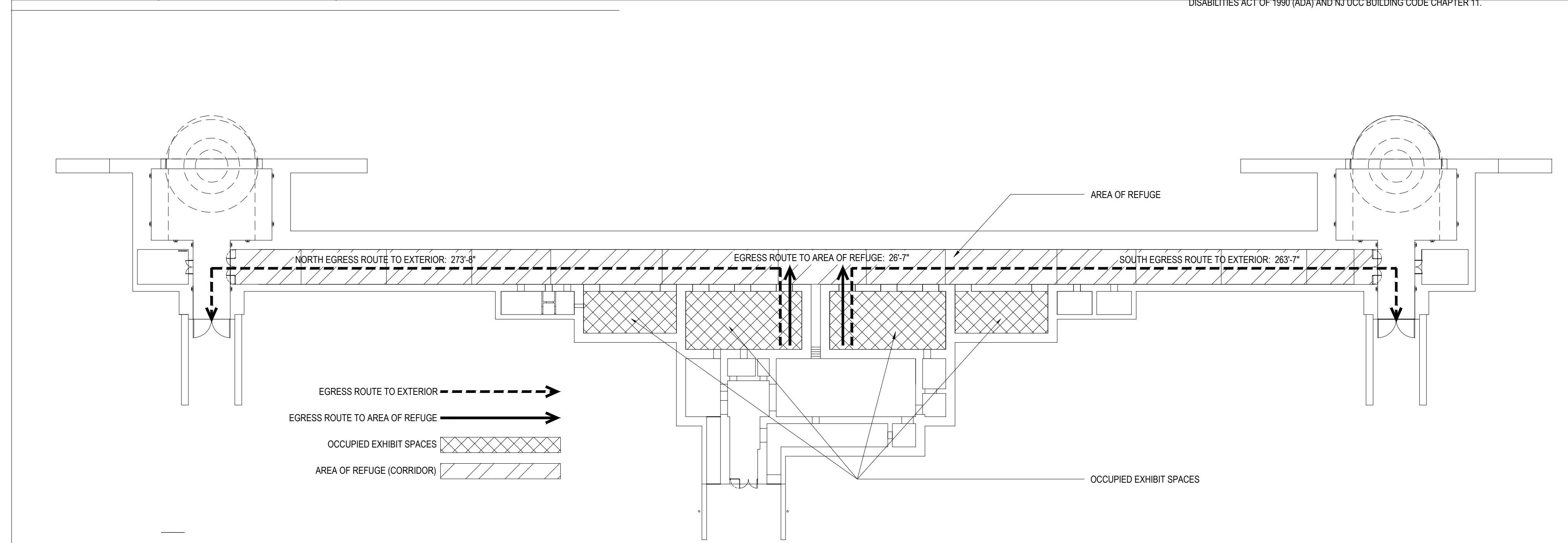
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND SPEED	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP.	ICE SHEILD UNDERLAYMENT REQUIRED	FLOOD HAZARDS
			WEATHERING	FROST LINE DEPTH	TERMITE	DECAY			
30 PSF	110 MPH	C	SEVERE	42"	MODERATE HEAVY	SLIGHT MODERATE	7 DEG. F	YES	

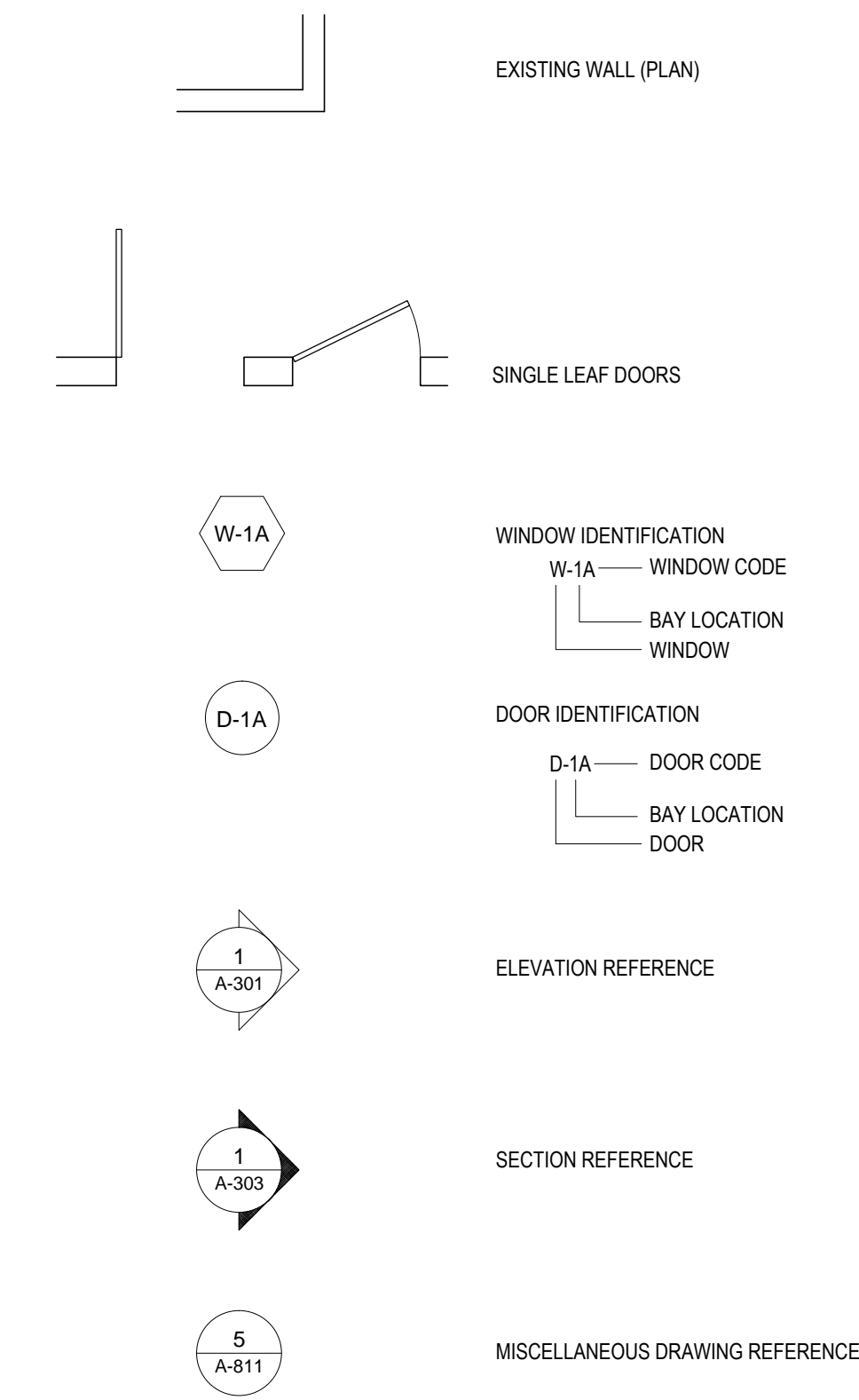
PROJECT INTENT

- IT IS THE INTENT OF THE PROJECT TO COMPLETE INTERIOR AND EXTERIOR REPAIRS AT BATTERY LEWIS TO CORRECT DEFICIENCIES AND DETERIORATION THAT HAS RESULTED IN DECAY OF THE BUILDING FABRIC - ALL WORK IS TO BE REPLICATIVE OF THE ORIGINAL USING THE SAME MATERIALS AND METHODS UNLESS INDICATED OTHERWISE.

EGRESS PLAN (SCALE 1/32" = 1'-0")



ARCHITECTURAL LEGEND



GENERAL CONSTRUCTION NOTES

- ALL HISTORIC COMPONENTS TO BE REINSTALLED ARE TO BE LABELED AS TO THEIR ORIGINAL LOCATION AND STORED IN A SECURE LOCATION.
- PRIOR TO ANY REMOVALS A LEGEND DRAWING IS TO BE PREPARED IDENTIFYING THE LABELING SYSTEM, LOCATIONS OF ALL ITEMS TO BE REMOVED FOR LATER REINSTALLATION, AND LISTING OF STORAGE LOCATIONS FOR THE ITEMS.
- AN APPROPRIATE SEPARATION MUST BE PROVIDED AT THE JUNCTURE OF ALL DISSIMILAR METALS.
- SALVAGED MATERIALS ARE TO BE PROTECTED AND STORED PER THE DIRECTION OF THE MCPS.

BUILDING CODE NOTES
 Rehabilitation Subcode, NJAC Title 5:23, 2011
 Uniform Construction Code / 2006 IBC NJ Edition

OCCUPANCY CLASSIFICATION (CHAPTER 3, SECTION 302.1) GROUP B - BUSINESS

MAXIMUM BUILDING OCCUPANCY 49 PERSONS.

MAX OCCUPANCY SIGNAGE TO BE INSTALLED AT BOTH ENTRY POINTS TO MAIN CORRIDOR.

GENERAL BUILDING HEIGHTS & AREAS (TABLE 503)

FIRST FLOOR	20,804 SF (PER 503.1.3)	CLASS I-A CONSTRUCTION
	20,804 SF-UNLIMITED SF ALLOWED	COMPLIES WITH MAXIMUM FLOOR AREA

BUILDING HEIGHT: 1 STORY ACTUAL UNLIMITED STORIES ALLOWED, CLASS I-A CONSTRUCTION COMPLIES WITH BUILDING HEIGHT REQUIREMENT

FIRE-RESISTANCE-RATED CONSTRUCTION
 1 HOUR FIRE-RATED SEPARATIONS REQUIRED BETWEEN DIFFERENT OCCUPANCIES IN GROUP B

FIRE RESISTANCE RATING REQUIREMENTS (TABLE 601)

STRUCTURAL FRAME	3 HRS	CLASS I-A CONSTRUCTION
BEARING WALLS	3 HRS	CLASS I-A CONSTRUCTION
NON-BEARING WALLS/PARTITIONS	0 HRS	CLASS I-A CONSTRUCTION
FLOOR CONSTRUCTION	2 HRS	CLASS I-A CONSTRUCTION
ROOF CONSTRUCTION	1 1/2 HRS	CLASS I-A CONSTRUCTION

COMPLIES WITH FIRE RESISTANCE RATING REQUIREMENTS

MEANS OF EGRESS (CHAPTER 10)
 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT (TABLE 1004.1.1):

LOCATION:	FLOOR AREA ALLOWANCE:	100 SF GROSS	424.5 SF/OCCUPANT
FIRST FLOOR:	TOTAL BUILDING SF:	20,804 SF	330.1 SF/OCCUPANT
	OCCUPIABLE BUILDING AREAS:	16,175 SF	49 OCCUPANTS ACTUAL

COMPLIES WITH MAX. FLOOR AREA ALLOWANCE REQUIREMENTS

MAXIMUM FLOOR AREA PER OCCUPANT (TABLE 1005.1):

LOCATION:	STAIRS:	OTHER EGRESS COMPONENTS:
FIRST FLOOR:	MIN REQ: 0.31N/OCCUPANT	MIN REQ: 0.21N/OCCUPANT
	ACTUAL: N/A - AT GRADE	ACTUAL: 360 IN/1,800 ALLOWED

MEANS OF EGRESS: (4) 7'-6" GATES 330 OCCUPANTS

330 OCCUPANTS MAX ALLOWED 49 OCCUPANTS ACTUAL
 COMPLIES WITH MAX FLOOR AREA PER OCCUPANT REQUIREMENTS

MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD (TABLE 1019.1):

LOCATION:	PROPOSED OCCUPANT LOAD:	49
FIRST FLOOR:	MIN. NUMBER OF EXITS REQUIRED FOR 1-500 OCCUPANTS:	2
	NUMBER OF EXITS REQUIRED PER REHAB SUB-CODE:	2
	NUMBER OF EXITS PROVIDED:	2

COMPLIES WITH MIN. NUMBER OF EXITS REQUIREMENTS

CORRIDOR WITH REQUIREMENTS:

LOCATION:	MIN. CORRIDOR WIDTH/50 OCCUPANTS OR LESS:	36" MIN
FIRST FLOOR:	ACTUAL CORRIDOR WIDTH:	180" ACTUAL

COMPLIES WITH MIN. CORRIDOR WIDTH REQUIREMENTS

MAXIMUM TRAVEL DISTANCE (TABLE 1016.1):

LOCATION:	MAX TRAVEL DISTANCE, PER IBC-NJ:	200'-0"
FIRST FLOOR:	TRAVEL DISTANCE TO EXTERIOR - NORTH:	273'-8"
	TRAVEL DISTANCE TO EXTERIOR - SOUTH:	263'-7"
	TRAVEL DISTANCE TO INTERIOR AREA OF REFUGE:	26'-7"

INTERIOR CORRIDOR SHALL SERVE AS AN AREA OF REFUGE
 EXITS COMPLY WITH REQUIRED MAX. TRAVEL DISTANCES TO AREA OF REFUGE

2 EXITS ARE PROVIDED WITH A TRAVEL DISTANCE IN EXCESS OF 75'-0", PER 5:23-6.17 OF THE REHAB SUB-CODE, THE TRAVEL DISTANCE IS IN COMPLIANCE WITH THE REHAB SUB-CODE.

EXIT ROUTES ARE EQUIPPED WITH EMERGENCY LIGHTING.
 EXITS ARE EQUIPPED WITH EXIT SIGNAGE.

ACCESSIBILITY (CHAPTER 11)
 BUILDING TO BE ACCESSIBLE TO THE PHYSICALLY HANDICAPPED UNDER REQUIREMENTS OF FEDERAL AMERICANS WITH DISABILITIES ACT OF 1990 (ADA) AND NJ UCC BUILDING CODE CHAPTER 11.

JHPA
 JAN HIRD POKORNY ASSOCIATES
 59 WEST 37TH STREET, NEW YORK, NY 10018
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BATTERY LEWIS RESTORATION - PHASE 2
 Hartshorne Woods Park, Highlands, NJ
 Monmouth County Park System
 805 Newman Springs Road
 Lincroft, NJ 07738

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION.

DO NOT SCALE DRAWINGS.
 JHPA Job No. 442-01

Drawing Title

GENERAL NOTES

Date: 23 APRIL 2015

Revisions

No.	Date	Description

Drawing No.

GN-001

W:\JOBS\442-01 Battery Lewis\ACAD\SP-101 Site Plan-05-19-2015.dwg



1 SITE PLAN
1/128" = 1'-0"

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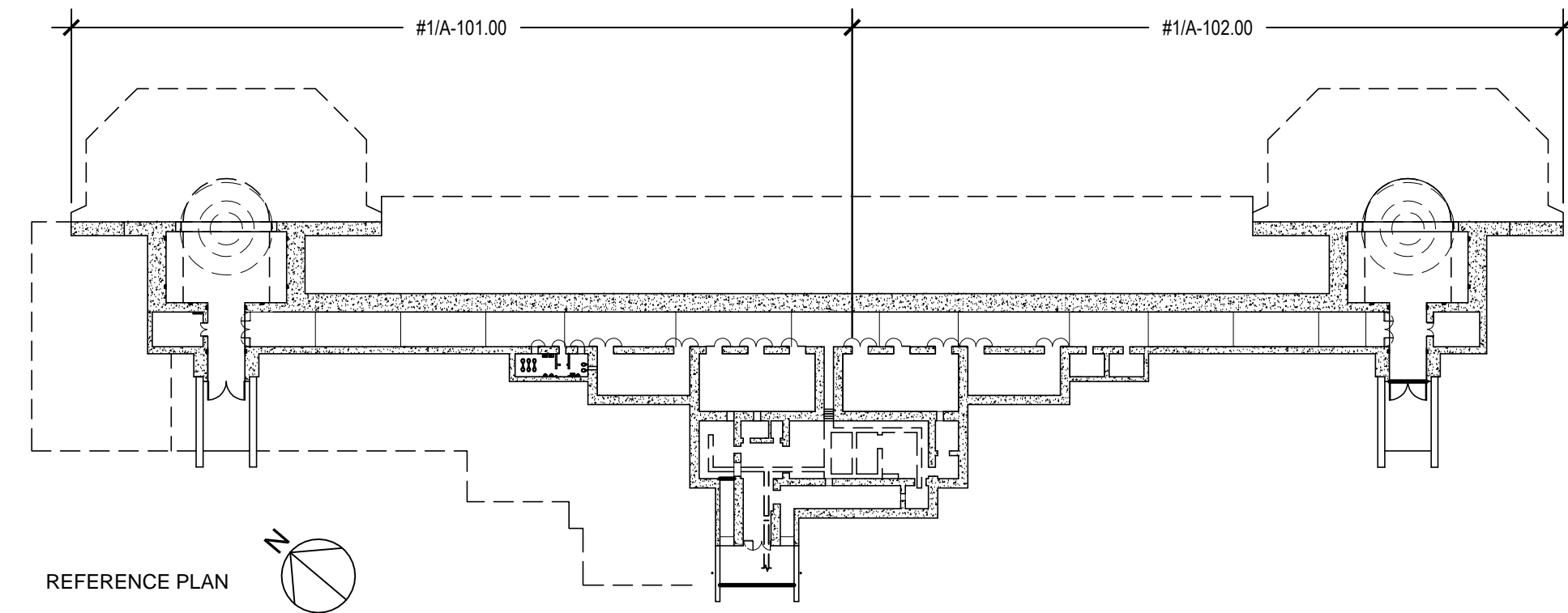
SITE SURVEY

Date: 23 APRIL 2015

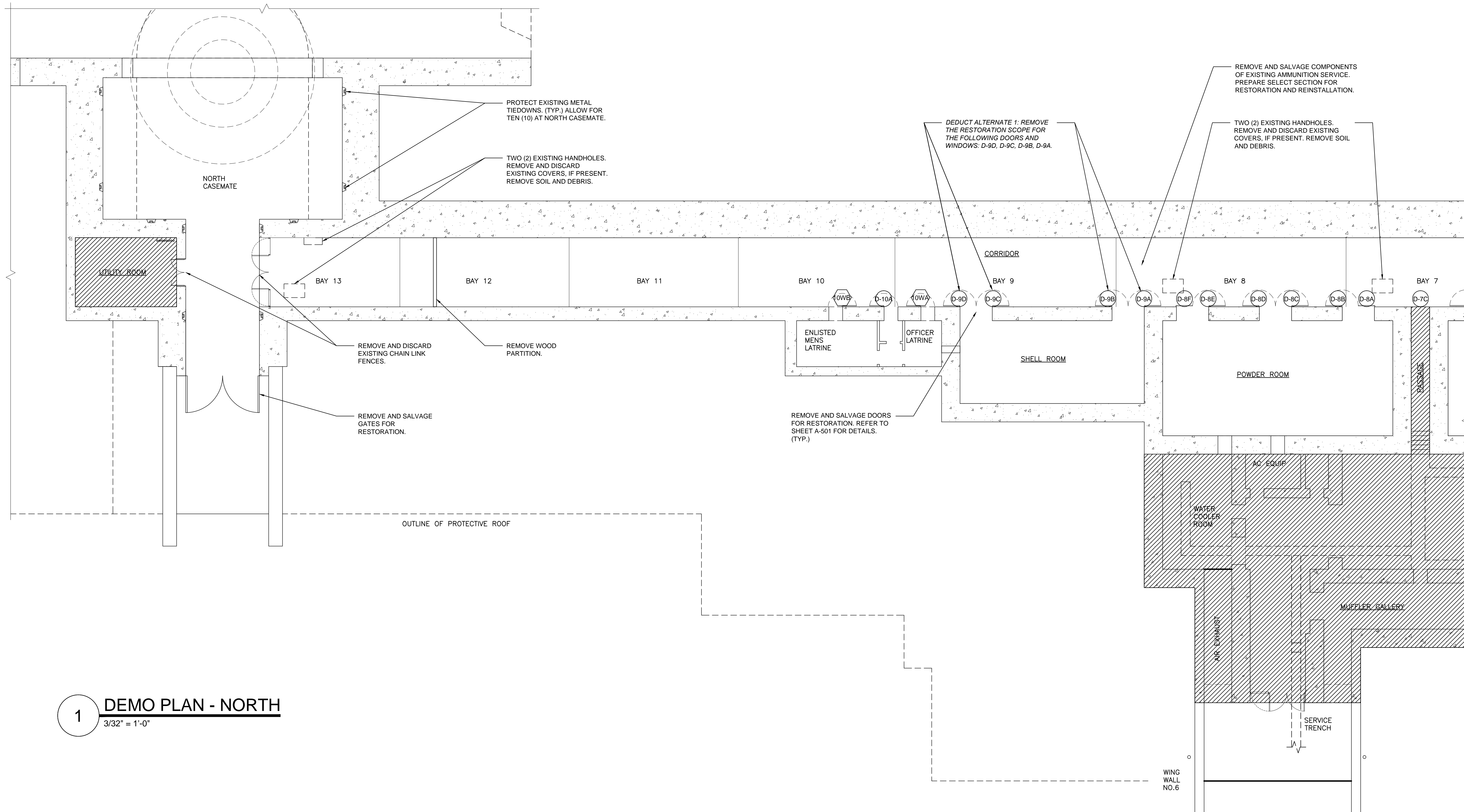
No.	Date	Description

Drawing No.
SP-101

- NOTE:**
1. PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
 2. REMOVE AND SALVAGE ALL EXISTING UNUSED LIGHT FIXTURES AND CONDUITS IN CORRIDOR, SHELL ROOMS, POWDER ROOMS, AND POWER ROOM.



INDICATES AREAS NOT WITHIN PROJECT SCOPE



1 DEMO PLAN - NORTH
3/32" = 1'-0"

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Drawing Title

DEMO PLAN (PART 1)

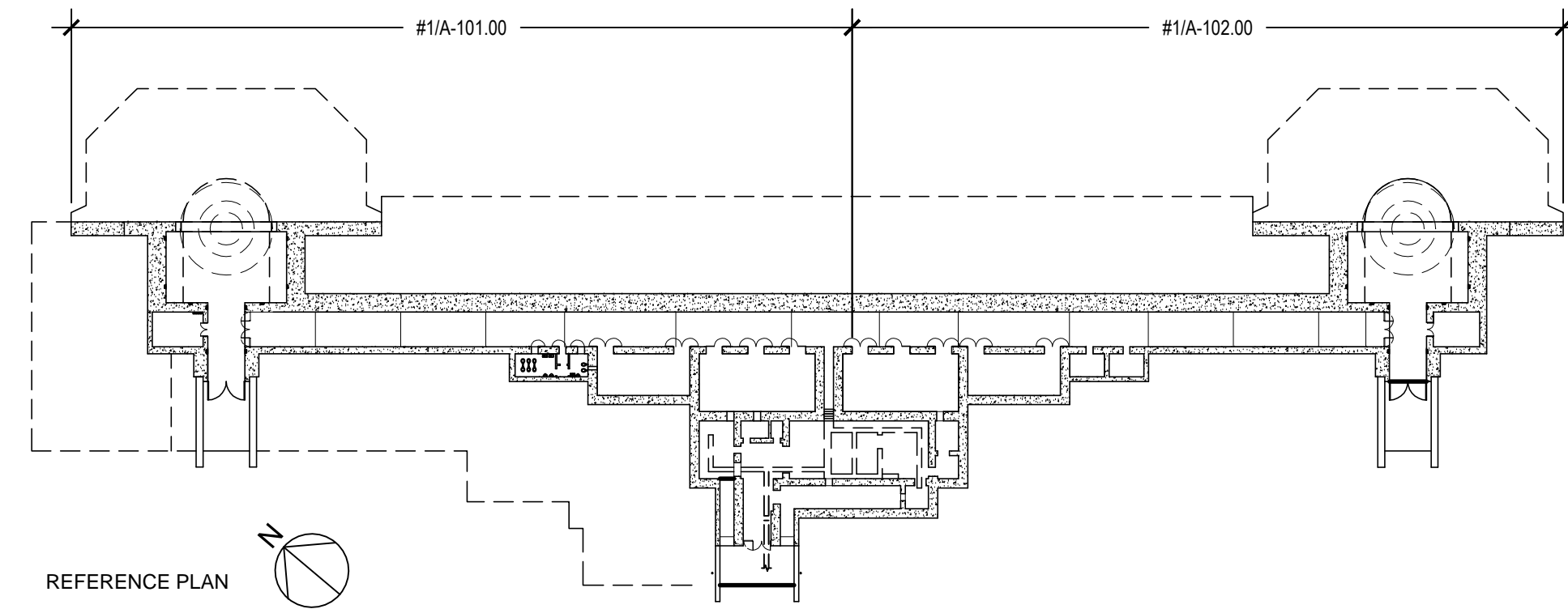
Date: 23 APRIL 2015

Revisions		
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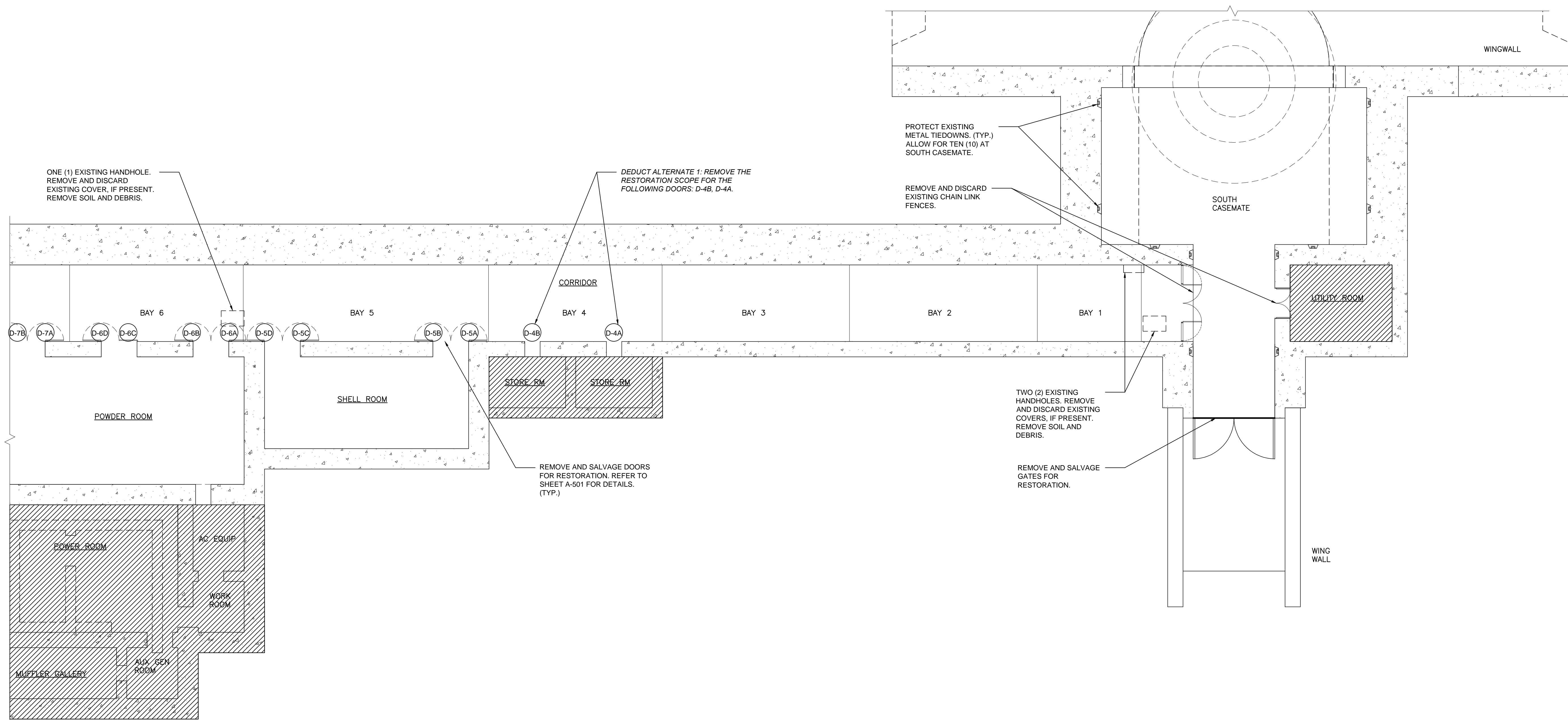
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A-101

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1 DEMO PLAN - SOUTH
3/32" = 1'-0"

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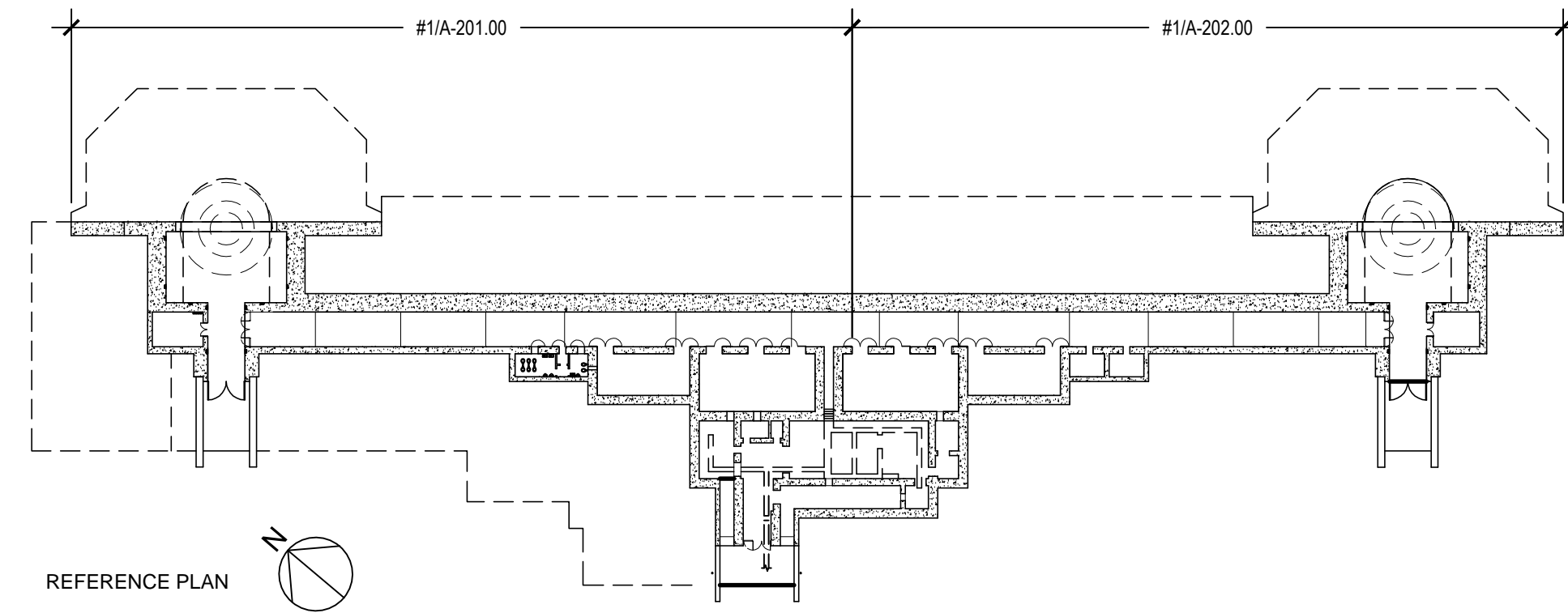
Drawing Title
DEMO PLAN (PART 2)

Date: 23 APRIL 2015

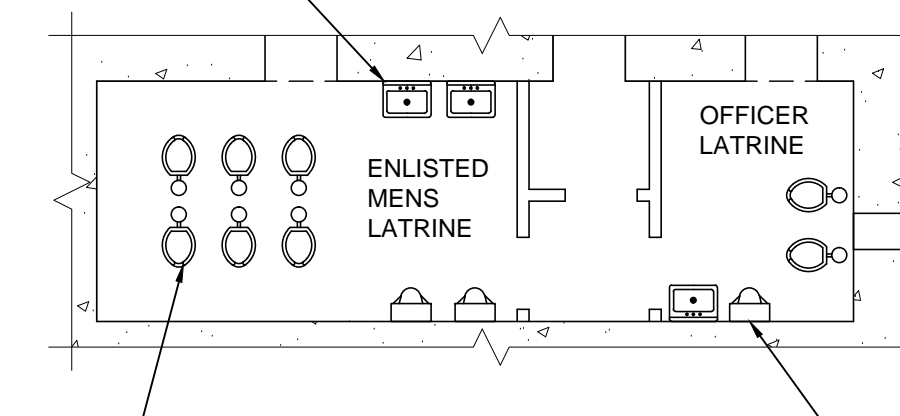
Revisions		
No.	Date	Description

Drawing No.
A-102

- NOTE:**
1. PROVIDE ALL CONCRETE AND STEEL REPAIRS AS INDICATED ON ELEVATION AND RCP MARKUPS. FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
 2. PROVIDE DOOR RESTORATION WORK AS INDICATED IN DOOR SCHEDULE. REFER TO SHEET A-601.
 3. PROVIDE GATE RESTORATION WORK AS INDICATED ON SHEETS A-402 TO A-405.
 4. POWER ROOM OUTSIDE REPAIR SCOPE. FOR LIGHTING SCOPE AT POWER ROOM REFER TO A-603/604.
 5. PROVIDE TYPE 3: HOLE REPAIRS AS NEEDED UPON REMOVAL OF EXISTING UNUSED METAL FASTENERS, ANCHORS, AND ASSOCIATED HARDWARE.



ADD ALTERNATE NO. 2:
ALLOW FOR THE RESTORATION OF THREE (3) 24"W X 18"D WALL-MOUNTED SINKS.

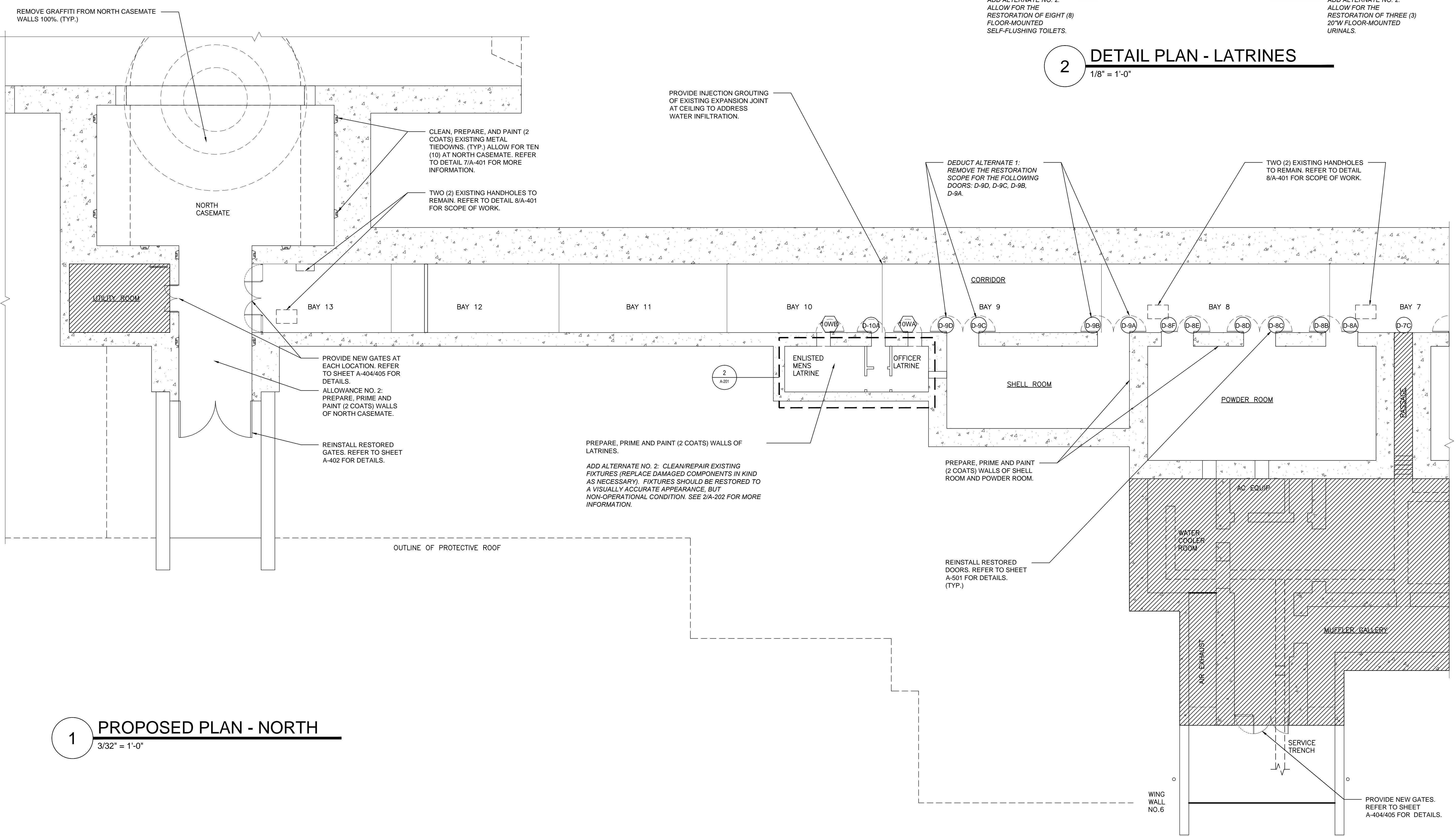


INDICATES AREAS NOT WITHIN PROJECT SCOPE

ADD ALTERNATE NO. 2:
ALLOW FOR THE RESTORATION OF EIGHT (8) FLOOR-MOUNTED SELF-FLUSHING TOILETS.

ADD ALTERNATE NO. 2:
ALLOW FOR THE RESTORATION OF THREE (3) 20"W FLOOR-MOUNTED URINALS.

2 **DETAIL PLAN - LATRINES**
1/8" = 1'-0"



1 **PROPOSED PLAN - NORTH**
3/32" = 1'-0"

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BATTERY LEWIS RESTORATION - PHASE 2
Hartshorne Woods Park, Highlands, NJ
Monmouth County Park System
805 Newman Springs Road
Lincroft, NJ 07738

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION.

DO NOT SCALE DRAWINGS.
JHPA Job No. 442-01

Drawing Title
PROPOSED PLAN (PART 1)

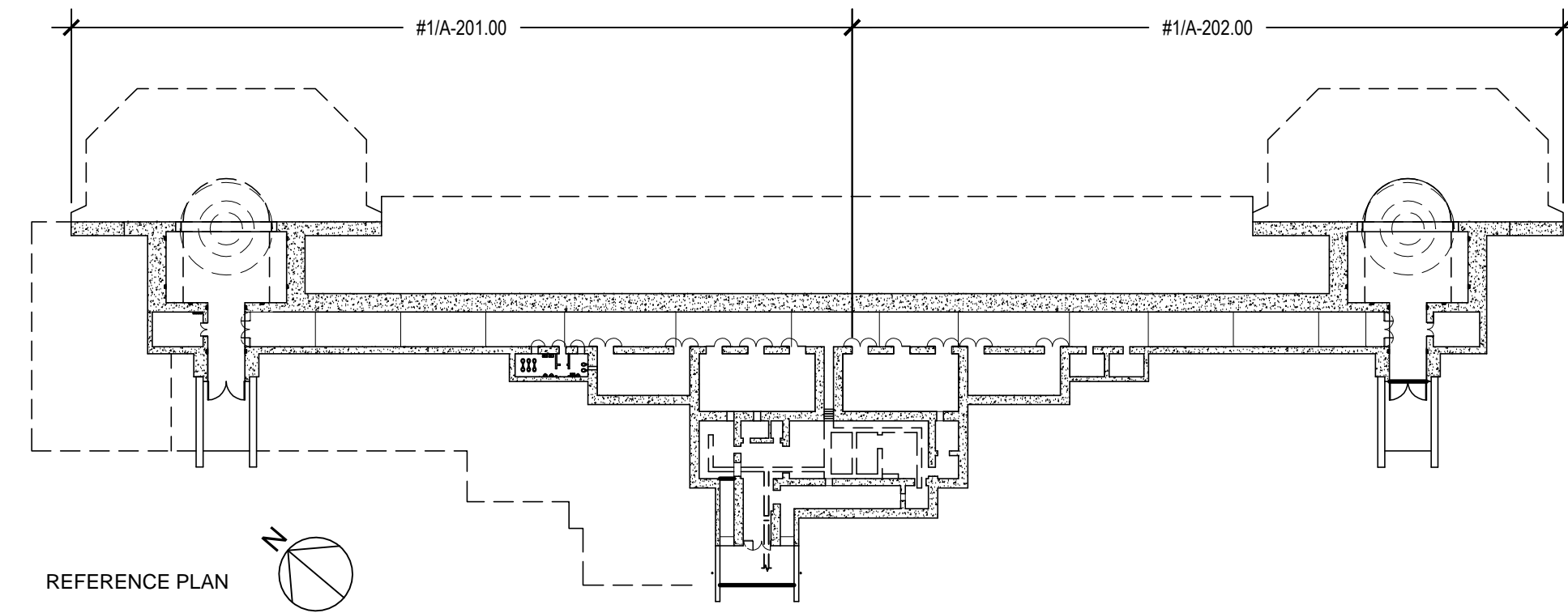
Date: 23 APRIL 2015

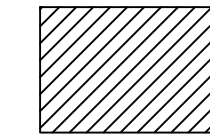
Revisions		
No.	Date	Description

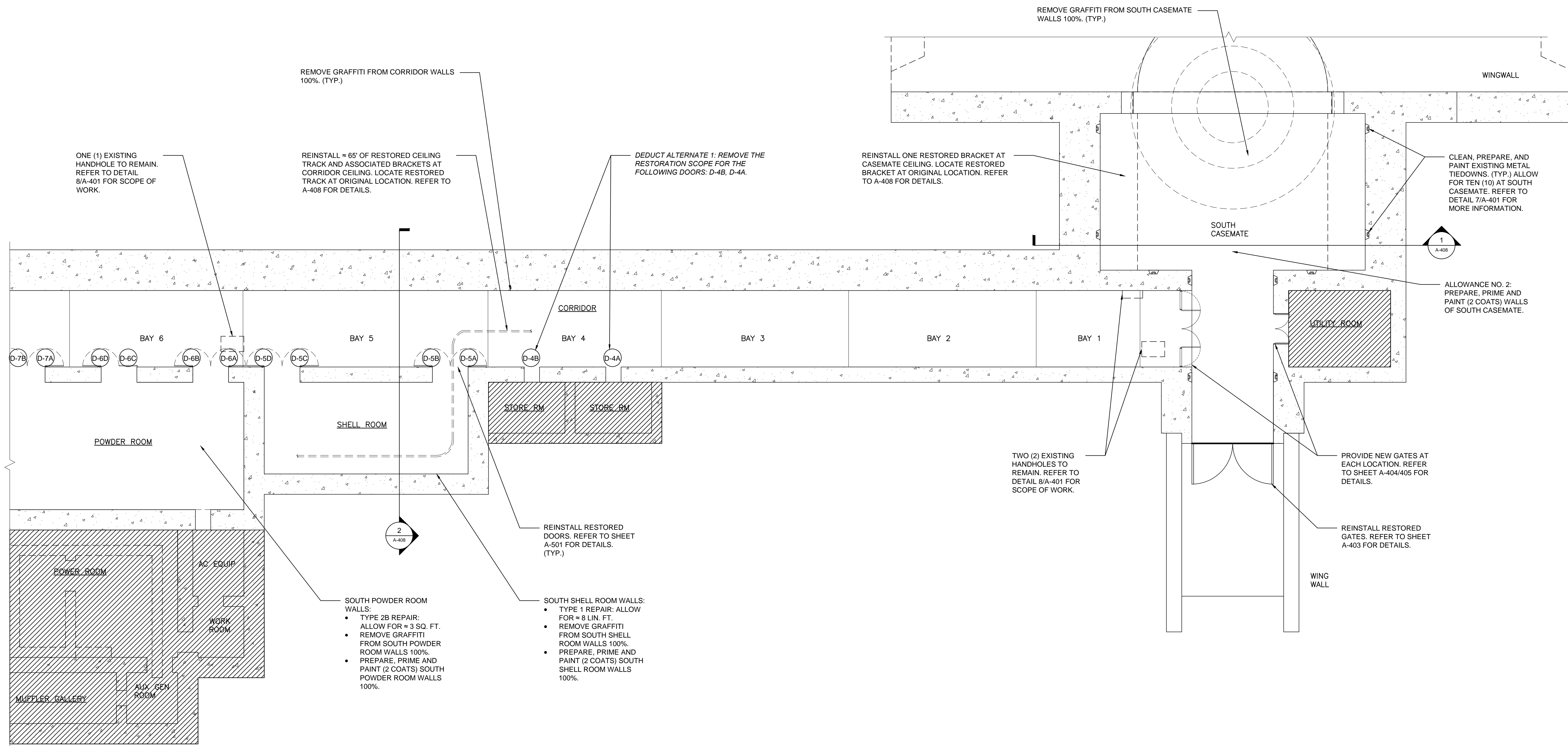
Drawing No.
A-201

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- NOTE:**
1. PROVIDE ALL CONCRETE AND STEEL REPAIRS AS INDICATED ON ELEVATION AND RCP MARKUPS. FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
 2. PROVIDE DOOR RESTORATION WORK AS INDICATED IN DOOR SCHEDULE. REFER TO SHEET A-601.
 3. PROVIDE GATE RESTORATION WORK AS INDICATED ON SHEETS A-402 TO A-405.
 4. POWER ROOM OUTSIDE REPAIR SCOPE. FOR LIGHTING SCOPE AT POWER ROOM REFER TO A-603/604.
 5. PROVIDE TYPE 3; HOLE REPAIRS AS NEEDED UPON REMOVAL OF EXISTING UNUSED METAL FASTENERS, ANCHORS, AND ASSOCIATED HARDWARE.



 INDICATES AREAS NOT WITHIN PROJECT SCOPE



1 PROPOSED PLAN - SOUTH
3/32" = 1'-0"

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JHPA Job No. 442-01

Drawing Title
PROPOSED PLAN (PART 2)

Date: 23 APRIL 2015

Revisions		
No.	Date	Description

Drawing No.
A-202

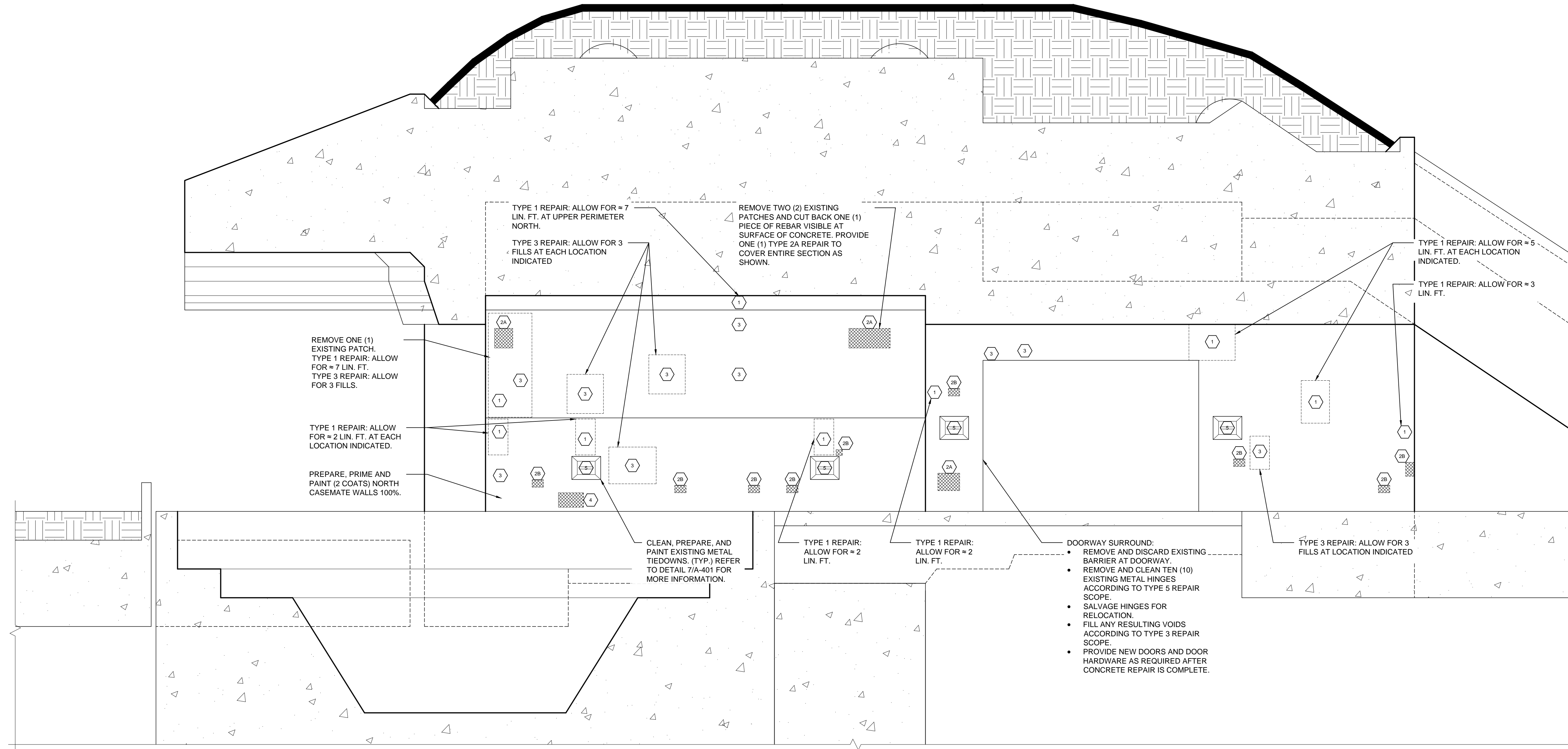
C:\Users\Whitcomb\appdata\local\temp\AcPublish_7692\A-101-102-201-202_DEMO & PROPOSED PLANS-04-14-2015.dwg

NOTE:

- FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
- PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
- ALL TAGS DENOTE A SINGLE INSTANCE OF REPAIR UNLESS STATED OTHERWISE.

LEGEND:

- 1 TYPE 1 REPAIR: CRACK REPAIR
- 2A TYPE 2A REPAIR: LARGE CONCRETE SPALL REPAIR
- 2B TYPE 2B REPAIR: SMALL CONCRETE SPALL REPAIR
- 3 TYPE 3 REPAIR: HOLE REPAIR
- 4 TYPE 4 REPAIR: CONCRETE SKIM COAT
- 5 TYPE 5 REPAIR: METAL REPAIR



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**BATTERY LEWIS
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 JHPA Job No. 442-01

Drawing Title
**NORTH
 CASEMATE,
 NORTH
 ELEVATION**

Date: 23 APRIL 2015

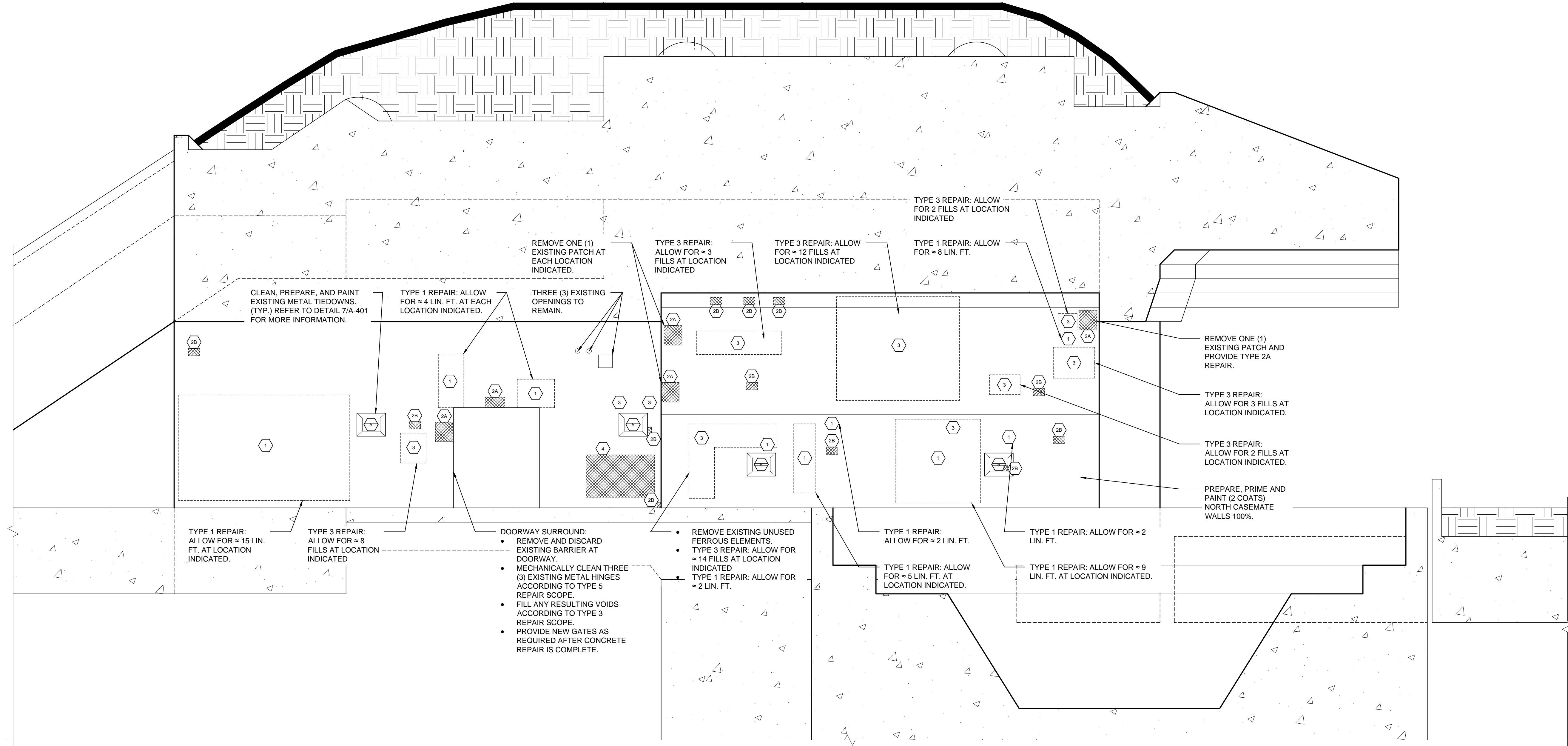
Revisions		
No.	Date	Description

Drawing No.
A-301

**1 NORTH CASEMATE:
 NORTH ELEVATION**
 1/4" = 1'-0"

- NOTE:**
- FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
 - PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
 - ALL TAGS DENOTE A SINGLE INSTANCE OF REPAIR UNLESS STATED OTHERWISE.

- LEGEND:**
- 1 TYPE 1 REPAIR: CRACK REPAIR
 - 2A TYPE 2A REPAIR: LARGE CONCRETE SPALL REPAIR
 - 2B TYPE 2B REPAIR: SMALL CONCRETE SPALL REPAIR
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 - 4 TYPE 4 REPAIR: CONCRETE SKIM COAT
 - 5 TYPE 5 REPAIR: METAL REPAIR



**NORTH CASEMATE:
SOUTH ELEVATION**

1
1/4" = 1'-0"

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**BATTERY LEWIS
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JHPA Job No. 442-01

Drawing Title
**NORTH
 CASEMATE,
 SOUTH
 ELEVATION**

Date: 23 APRIL 2015

Revisions		
No.	Date	Description

Drawing No.

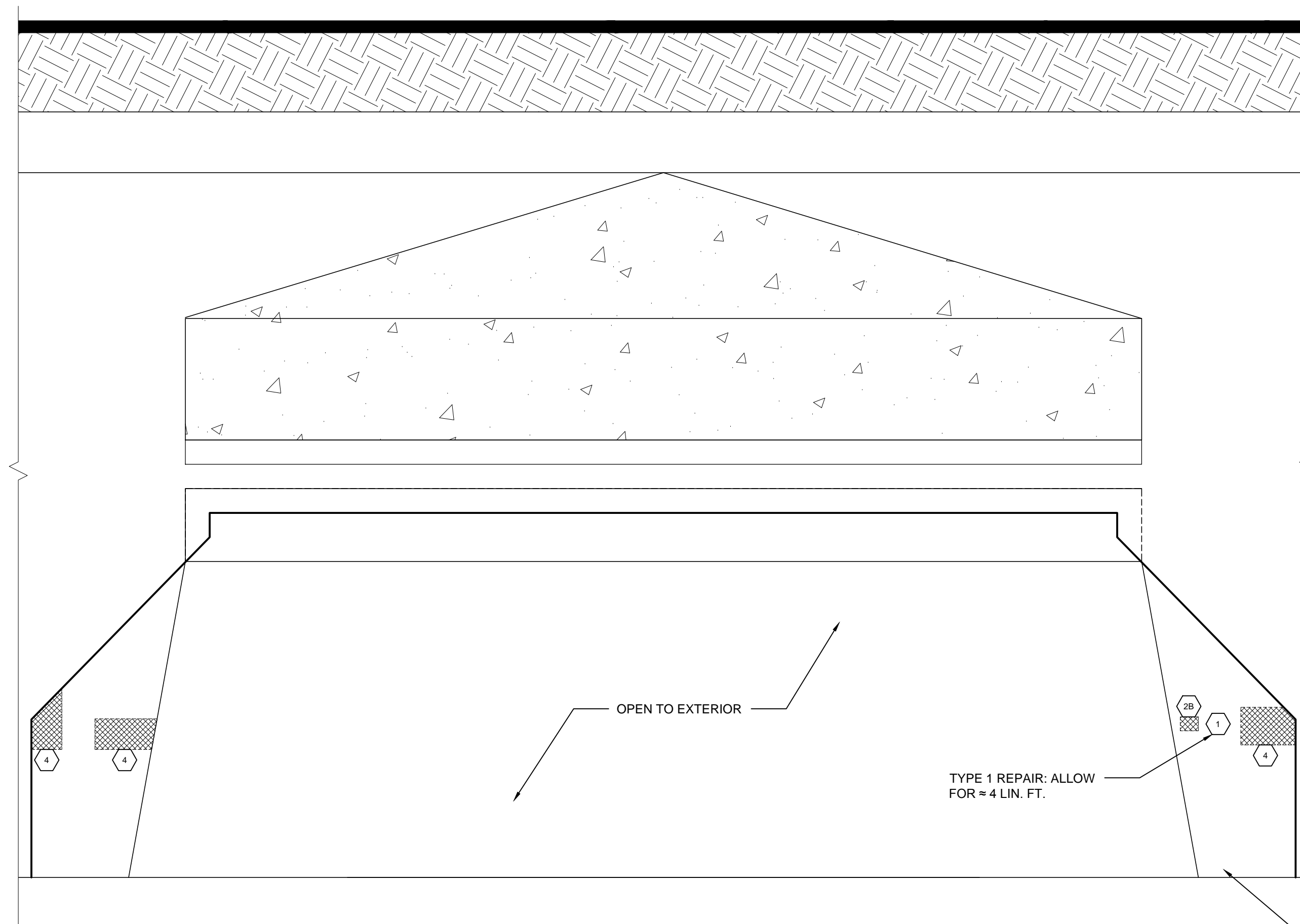
A-302

NOTE:

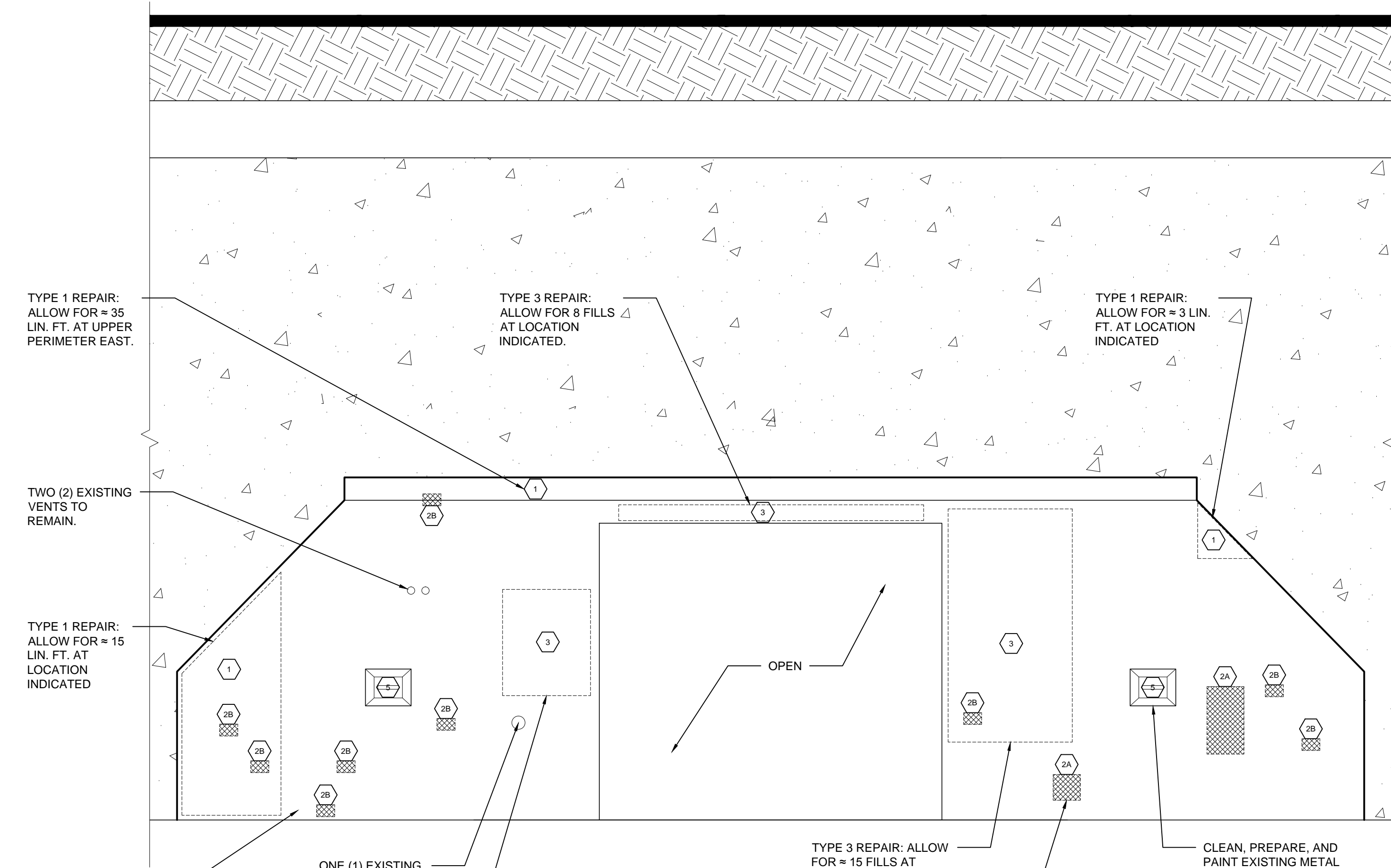
- FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
- PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
- ALL TAGS DENOTE A SINGLE INSTANCE OF REPAIR UNLESS STATED OTHERWISE.

LEGEND:

- 1 TYPE 1 REPAIR: CRACK REPAIR
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- 4 TYPE 4 REPAIR: CONCRETE SKIM COAT
- 5 TYPE 5 REPAIR: METAL REPAIR



1 NORTH CASEMATE:
WEST ELEVATION
1/4" = 1'-0"



2 NORTH CASEMATE:
EAST ELEVATION
1/4" = 1'-0"

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JHPA Job No. 442-01

Drawing Title
NORTH CASEMATE, EAST/WEST ELEVATION

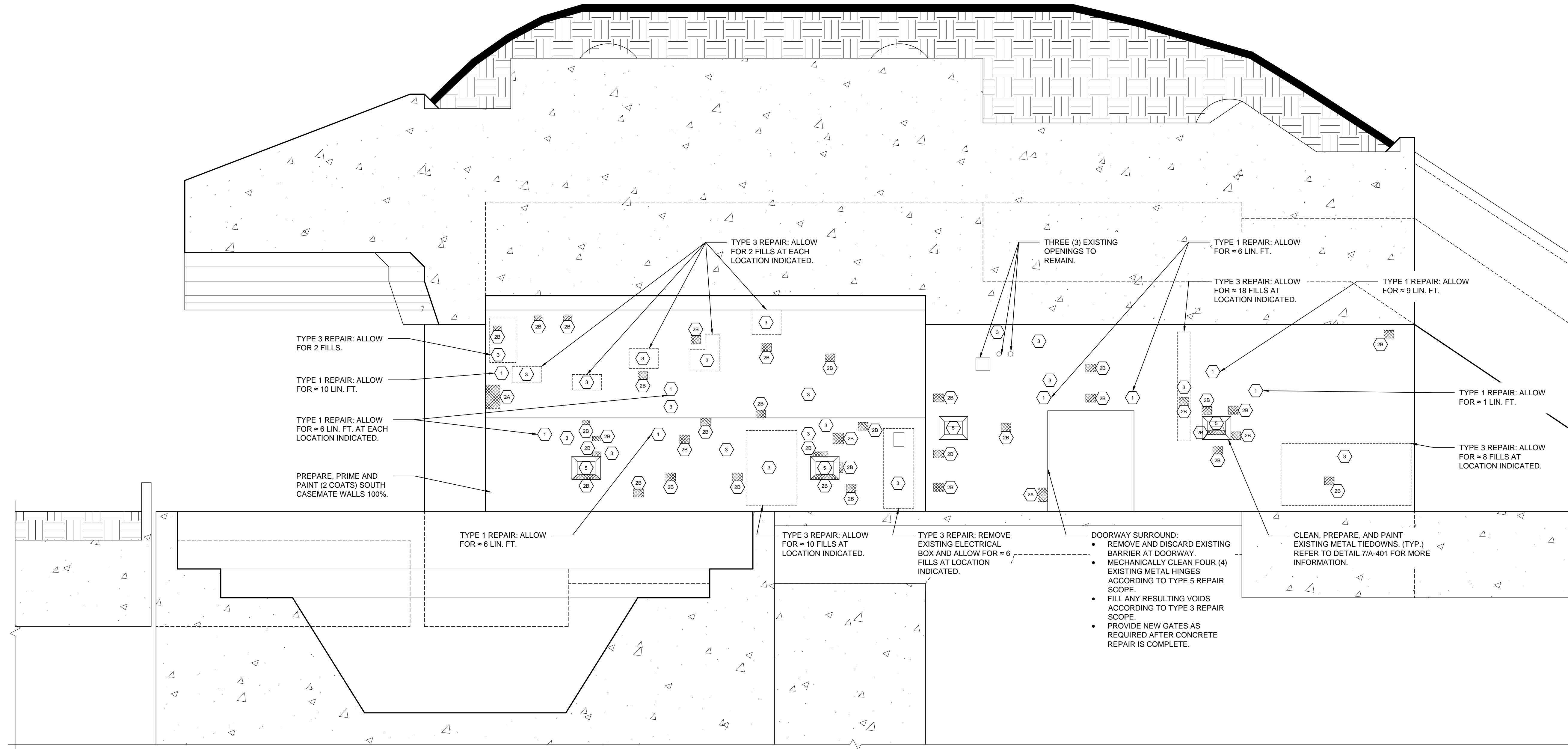
Date: 23 APRIL 2015

Revisions		
No.	Date	Description

Drawing No.
A-303

- NOTE:**
- FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
 - PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
 - ALL TAGS DENOTE A SINGLE INSTANCE OF REPAIR UNLESS STATED OTHERWISE.

- LEGEND:**
- 1 TYPE 1 REPAIR: CRACK REPAIR
 - 2A TYPE 2A REPAIR: LARGE CONCRETE SPALL REPAIR
 - 2B TYPE 2B REPAIR: SMALL CONCRETE SPALL REPAIR
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 - 4 TYPE 4 REPAIR: CONCRETE SKIM COAT
 - 5 TYPE 5 REPAIR: METAL REPAIR



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**BATTERY LEWIS
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 JHPA Job No. 442-01

Drawing Title
**SOUTH CASEMATE,
 NORTH ELEVATION**

Date: 23 APRIL 2015

Revisions		
No.	Date	Description

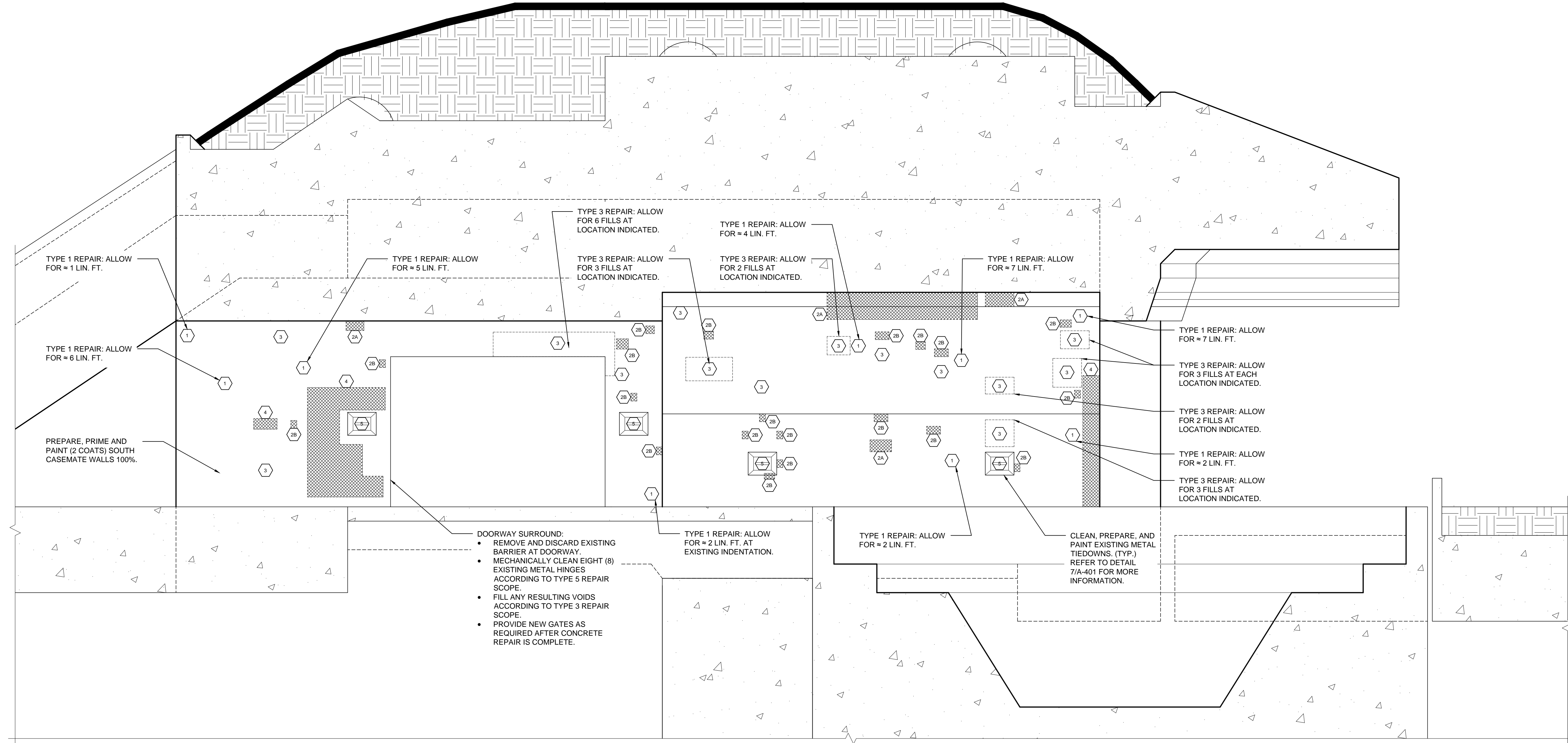
Drawing No.
A-304

**1 SOUTH CASEMATE:
 NORTH ELEVATION**
 1/4" = 1'-0"

- NOTE:**
- FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
 - PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
 - ALL TAGS DENOTE A SINGLE INSTANCE OF REPAIR UNLESS STATED OTHERWISE.

- LEGEND:**
- 1 TYPE 1 REPAIR: CRACK REPAIR
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 - 2B TYPE 2B REPAIR: SMALL CONCRETE SPALL REPAIR
 - 3 TYPE 3 REPAIR: HOLE REPAIR
 - 4 TYPE 4 REPAIR: CONCRETE SKIM COAT
 - 5 TYPE 5 REPAIR: METAL REPAIR

INDICATES NEW CONCRETE REPAIR



**SOUTH CASEMATE:
SOUTH ELEVATION**

1

1/4" = 1'-0"

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 Lincroft, NJ 07738

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DO NOT SCALE DRAWINGS.

JHPA Job No. 442-01

Drawing Title
**SOUTH CASEMATE,
 SOUTH ELEVATION**

Date: 23 APRIL 2015

Revisions		
No.	Date	Description

Drawing No.

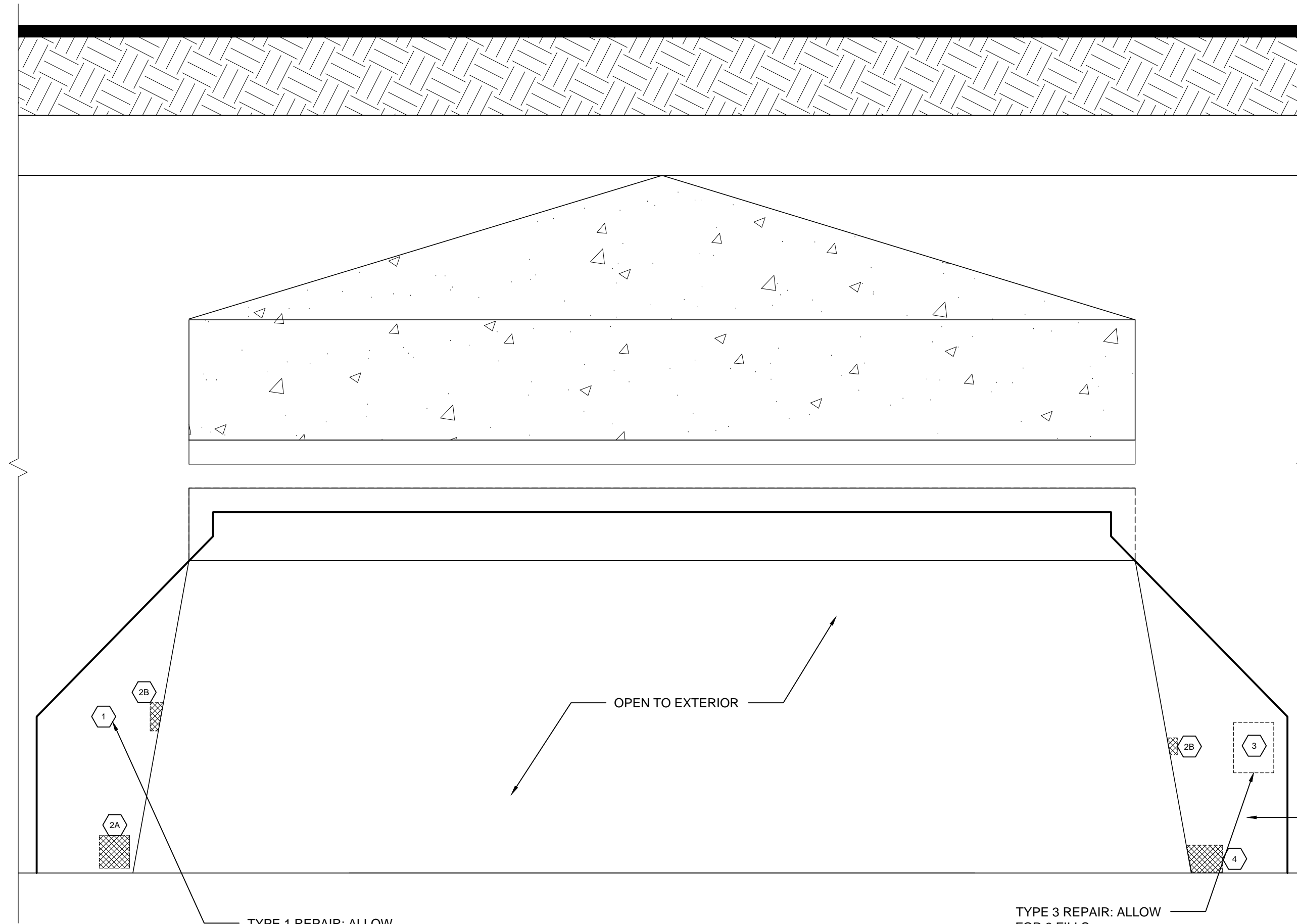
A-305

NOTE:

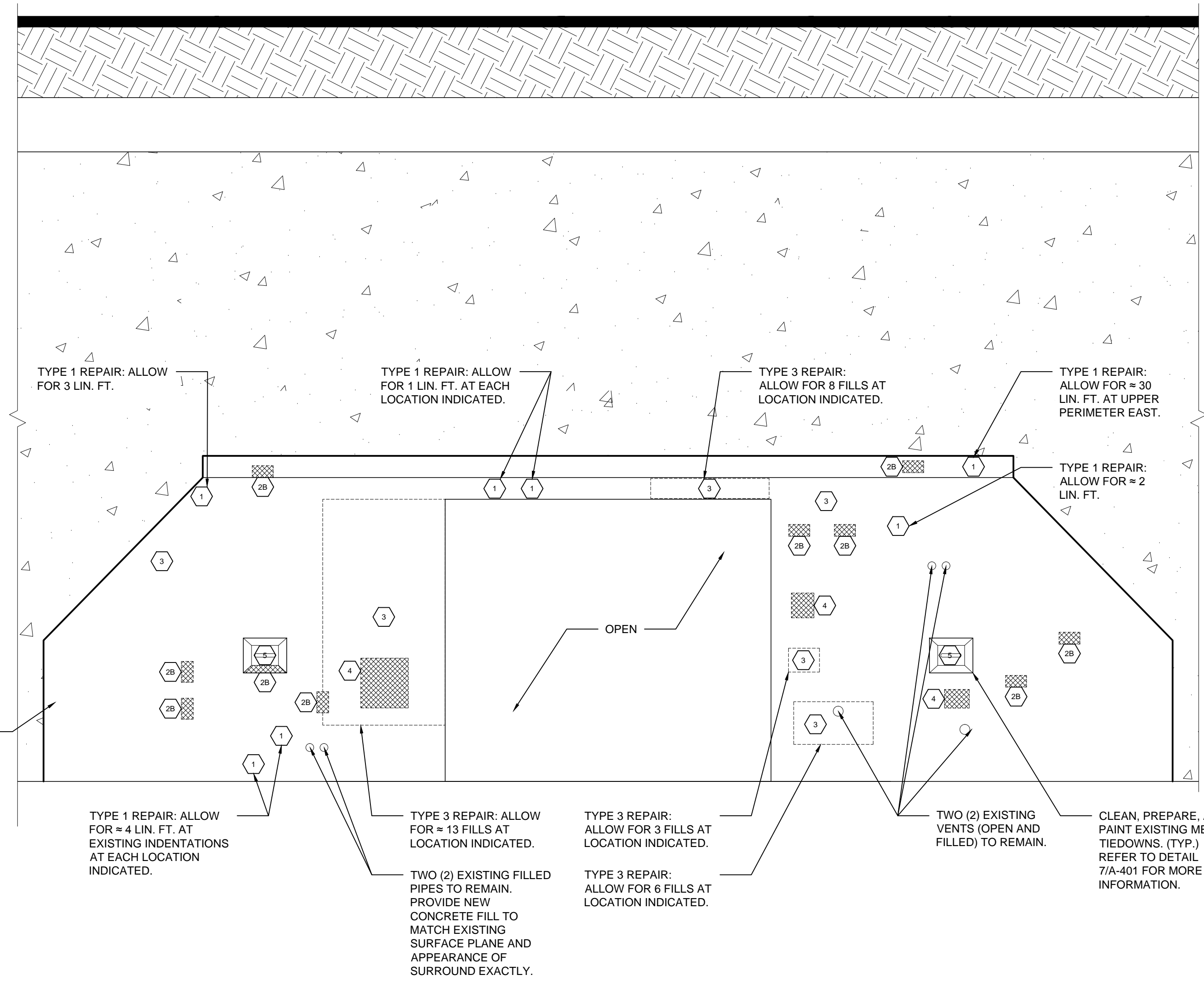
1. FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
2. PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
3. ALL TAGS DENOTE A SINGLE INSTANCE OF REPAIR UNLESS STATED OTHERWISE.

LEGEND:

- 1 TYPE 1 REPAIR: CRACK REPAIR
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- 2B TYPE 2B REPAIR: SMALL CONCRETE SPALL REPAIR
- 3 TYPE 3 REPAIR: HOLE REPAIR
- 4 TYPE 4 REPAIR: CONCRETE SKIM COAT
- 5 TYPE 5 REPAIR: METAL REPAIR



1 SOUTH CASEMATE:
WEST ELEVATION
1/4" = 1'-0"



2 SOUTH CASEMATE:
EAST ELEVATION
1/4" = 1'-0"

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BATTERY LEWIS
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Lincroft, NJ 07738

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JHPA Job No. 442-01

Drawing Title
SOUTH CASEMATE, EAST/WEST ELEVATION

Date: 23 APRIL 2015

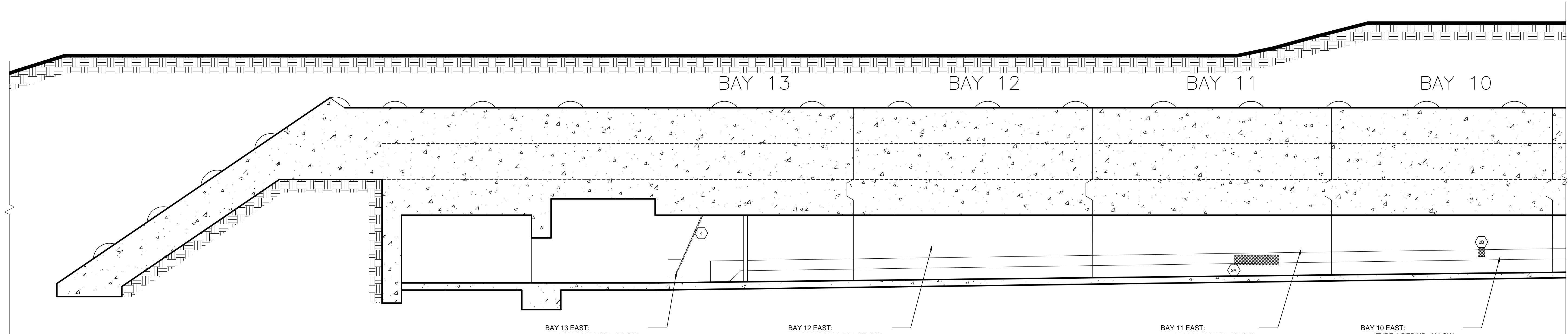
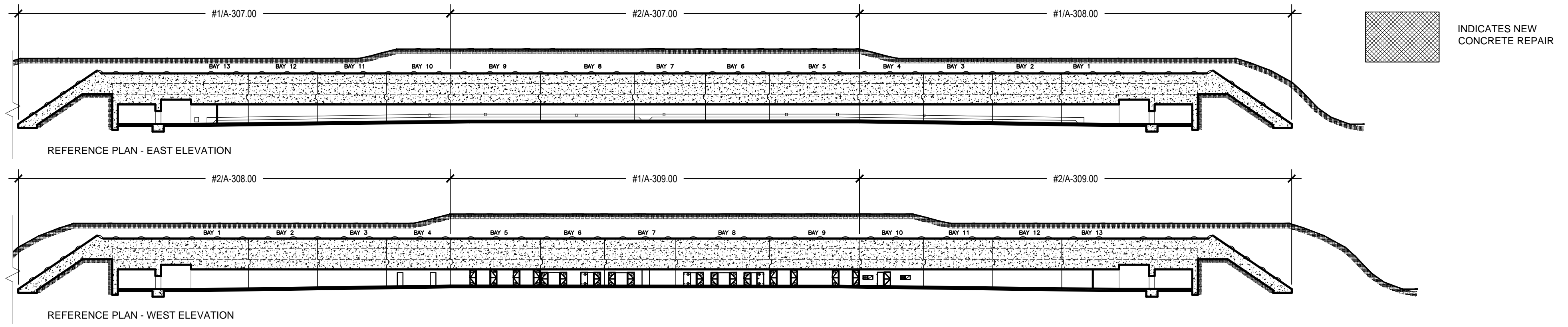
Revisions		
No.	Date	Description

Drawing No.
A-306

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- NOTE:**
- FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
 - PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
 - ALL TAGS DENOTE A SINGLE INSTANCE OF REPAIR UNLESS STATED OTHERWISE.
 - RESTORE ALL DOOR HINGE KNUCKLES IN PLACE.
 - ALLOW 100% REPLACEMENT OF ALL LOWER DOOR FRAME RAILS.
 - REPAIR ESTIMATES AT EACH SIDE OF CORRIDOR BAYS INCLUDE WORK AT THE RESPECTIVE HALF OF CORRIDOR CEILING. FOR REPAIR LOCATIONS REFER TO SHEETS A-601/A-602.
 - FOR DOOR REPAIR INFORMATION REFER TO SHEET A-501.
 - REMOVE GRAFFITI FROM CORRIDOR WALLS 100%. (TYP.)

- LEGEND:**
- 1 TYPE 1 REPAIR: CRACK REPAIR
 - 2A TYPE 2A REPAIR: LARGE CONCRETE SPALL REPAIR
 - 2B TYPE 2B REPAIR: SMALL CONCRETE SPALL REPAIR
 - 3 TYPE 3 REPAIR: FILL REPAIR
 - 4 TYPE 4 REPAIR: CONCRETE SKIM COAT
 - 5 TYPE 5 REPAIR: METAL REPAIR



**1 BAYS 13-10:
CORRIDOR EAST ELEVATION**

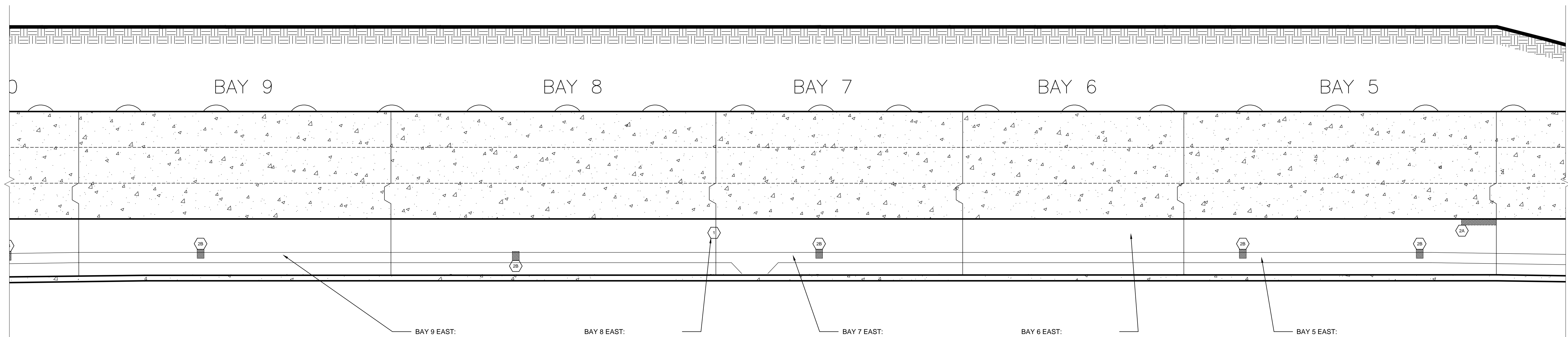
1/8" = 1'-0"

- BAY 13 EAST:**
- TYPE 4 REPAIR: ALLOW FOR = 2 SQ. FT.
 - TYPE 1 REPAIR: ALLOW FOR = 13.8 LIN. FT.

- BAY 12 EAST:**
- TYPE 1 REPAIR: ALLOW FOR = 7.6 LIN. FT.

- BAY 11 EAST:**
- TYPE 4 REPAIR: ALLOW FOR = 5.4 SQ. FT.
 - TYPE 1 REPAIR: ALLOW FOR = 10.3 LIN. FT.

- BAY 10 EAST:**
- TYPE 1 REPAIR: ALLOW FOR = 7.8 LIN. FT.
 - TYPE 4 REPAIR: ALLOW FOR = 2.7 SQ. FT.



**2 BAYS 9-5:
CORRIDOR EAST ELEVATION**

1/8" = 1'-0"

- BAY 9 EAST:**
- TYPE 1 REPAIR: ALLOW FOR = 7.6 LIN. FT.
 - TYPE 4 REPAIR: ALLOW FOR = 17.8 SQ. FT.

- BAY 8 EAST:**
- TYPE 1 REPAIR: ALLOW FOR = 5.4 LIN. FT.
 - TYPE 4 REPAIR: ALLOW FOR = 7.6 SQ. FT.

- BAY 7 EAST:**
- TYPE 1 REPAIR: ALLOW FOR = 10.3 LIN. FT.
 - TYPE 4 REPAIR: ALLOW FOR = 8.4 SQ. FT.

- BAY 6 EAST:**
- TYPE 1 REPAIR: ALLOW FOR = 31.2 LIN. FT.

- BAY 5 EAST:**
- TYPE 1 REPAIR: ALLOW FOR = 16.6 LIN. FT.
 - TYPE 2A REPAIR: ALLOW FOR = 5 SQ. FT.
 - TYPE 4 REPAIR: ALLOW FOR = 16.6 SQ. FT.

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**BATTERY LEWIS
 RESTORATION - PHASE 2**
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 Monmouth County Park System
 805 Newman Springs Road
 Lincroft, NJ 07738

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DO NOT SCALE DRAWINGS.

JHPA Job No. 442-01

Drawing Title
**CORRIDOR
 EAST
 ELEVATION
 (PART 1)**

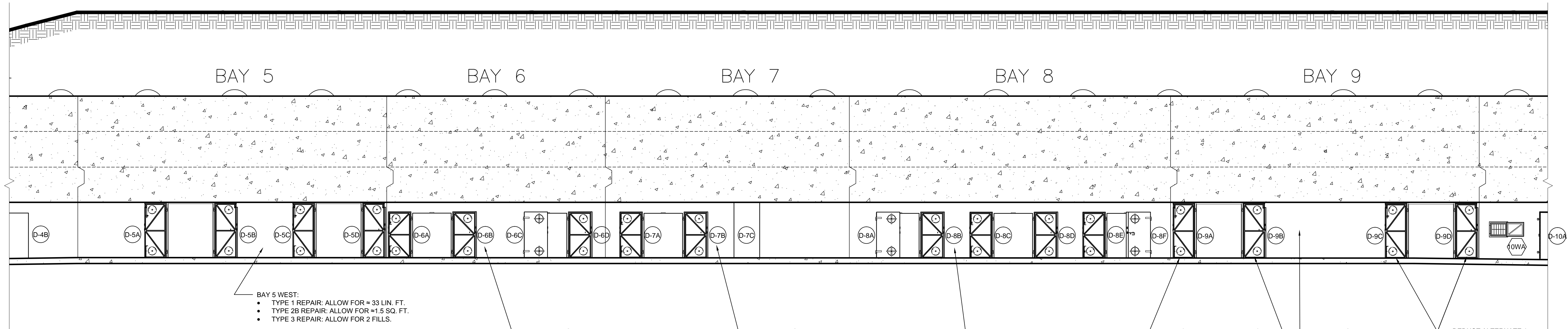
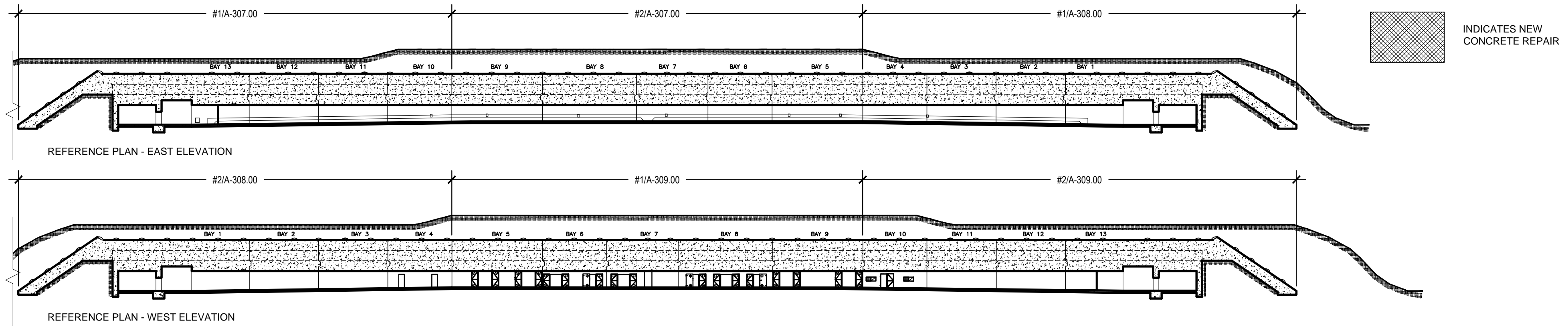
Date: 23 APRIL 2015

Revisions		
No.	Date	Description

Drawing No.
A-307

- NOTE:**
- FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
 - PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
 - ALL TAGS DENOTE A SINGLE INSTANCE OF REPAIR UNLESS STATED OTHERWISE.
 - RESTORE ALL DOOR HINGE KNUCKLES IN PLACE.
 - ALLOW 100% REPLACEMENT OF ALL LOWER DOOR FRAME RAILS.
 - REPAIR ESTIMATES AT EACH SIDE OF CORRIDOR BAYS INCLUDE WORK AT THE RESPECTIVE HALF OF CORRIDOR CEILING. FOR REPAIR LOCATIONS REFER TO SHEETS A-601/A-602.
 - FOR DOOR REPAIR INFORMATION REFER TO SHEET A-501.
 - REMOVE GRAFFITI FROM CORRIDOR WALLS 100% (TYP.)

- LEGEND:**
- 1 TYPE 1 REPAIR: CRACK REPAIR
 - 2A TYPE 2A REPAIR: LARGE CONCRETE SPALL REPAIR
 - 2B TYPE 2B REPAIR: SMALL CONCRETE SPALL REPAIR
 - 3 TYPE 3 REPAIR: FILL REPAIR
 - 4 TYPE 4 REPAIR: CONCRETE SKIM COAT
 - 5 TYPE 5 REPAIR: METAL REPAIR



1 BAYS 5-9: CORRIDOR WEST ELEVATION

1/8" = 1'-0"

- BAY 5 WEST:**
- TYPE 1 REPAIR: ALLOW FOR = 33 LIN. FT.
 - TYPE 2B REPAIR: ALLOW FOR = 1.5 SQ. FT.
 - TYPE 3 REPAIR: ALLOW FOR 2 FILLS.

- BAY 6 WEST:**
- TYPE 1 REPAIR: ALLOW FOR = 23 LIN. FT.
 - TYPE 2B REPAIR: ALLOW FOR = 2 SQ. FT.

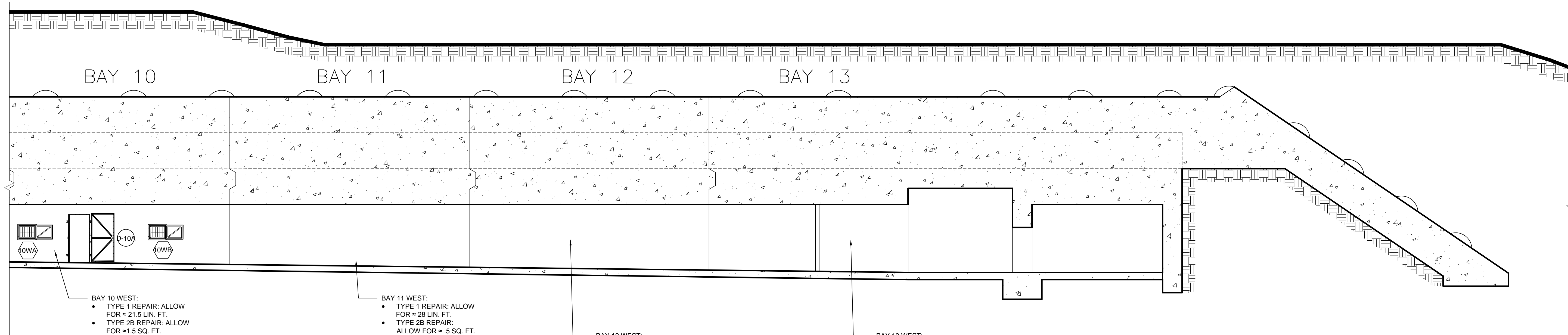
- BAY 7 WEST:**
- TYPE 1 REPAIR: ALLOW FOR = 26 LIN. FT.
 - TYPE 2B REPAIR: ALLOW FOR = 4 SQ. FT.
 - TYPE 3 REPAIR: ALLOW FOR 6 FILLS.
 - TYPE 4 REPAIR: ALLOW FOR = 8 SQ. FT.

- BAY 8 WEST:**
- TYPE 1 REPAIR: ALLOW FOR = 54 LIN. FT.
 - TYPE 2B REPAIR: ALLOW FOR = 1.5 SQ. FT.
 - TYPE 3 REPAIR: ALLOW FOR 1 FILL.

DEDUCT ALTERNATE 1: REMOVE THE RESTORATION SCOPE FOR THE FOLLOWING DOORS: D-8B, D-8A.

- BAY 9 WEST:**
- TYPE 1 REPAIR: ALLOW FOR = 42 LIN. FT.
 - TYPE 2B REPAIR: ALLOW FOR = 1.5 SQ. FT.

DEDUCT ALTERNATE 1: REMOVE THE RESTORATION SCOPE FOR THE FOLLOWING DOORS AND WINDOWS: D-9D, D-9C.



2 BAYS 10-13: CORRIDOR WEST ELEVATION

1/8" = 1'-0"

- BAY 10 WEST:**
- TYPE 1 REPAIR: ALLOW FOR = 21.5 LIN. FT.
 - TYPE 2B REPAIR: ALLOW FOR = 1.5 SQ. FT.

- BAY 11 WEST:**
- TYPE 1 REPAIR: ALLOW FOR = 28 LIN. FT.
 - TYPE 2B REPAIR: ALLOW FOR = 5 SQ. FT.

- BAY 12 WEST:**
- TYPE 1 REPAIR: ALLOW FOR = 27 LIN. FT.

- BAY 13 WEST:**
- TYPE 1 REPAIR: ALLOW FOR = 12 LIN. FT.
 - TYPE 2B REPAIR: ALLOW FOR = 1 SQ. FT.
 - TYPE 4 REPAIR: ALLOW FOR = 3 SQ. FT.

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BATTERY LEWIS RESTORATION - PHASE 2
 Hartshorne Woods Park, Highlands, NJ
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 805 Newman Springs Road
 Lincroft, NJ 07738

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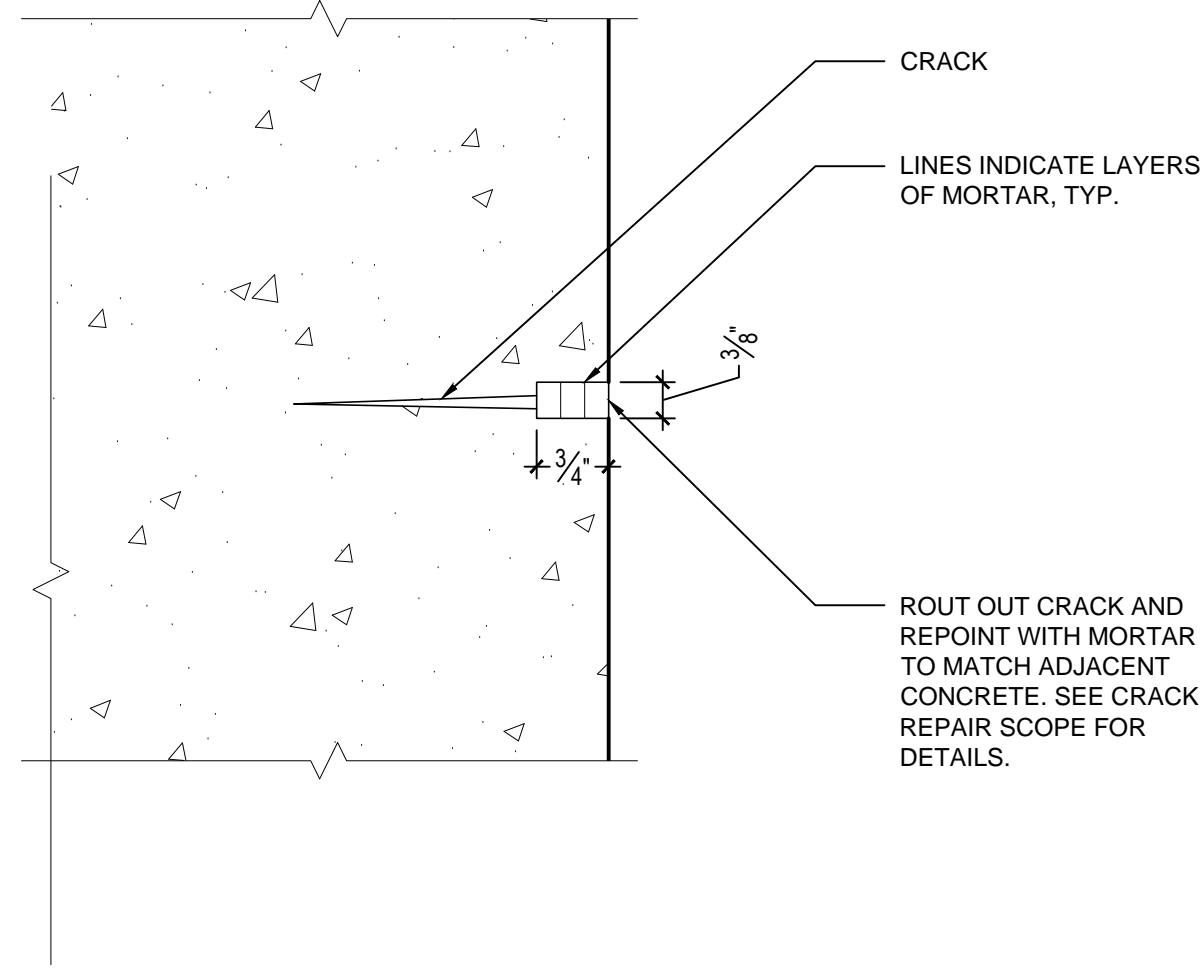
JHPA Job No. 442-01

Drawing Title
CORRIDOR WEST ELEVATION (PART 2)

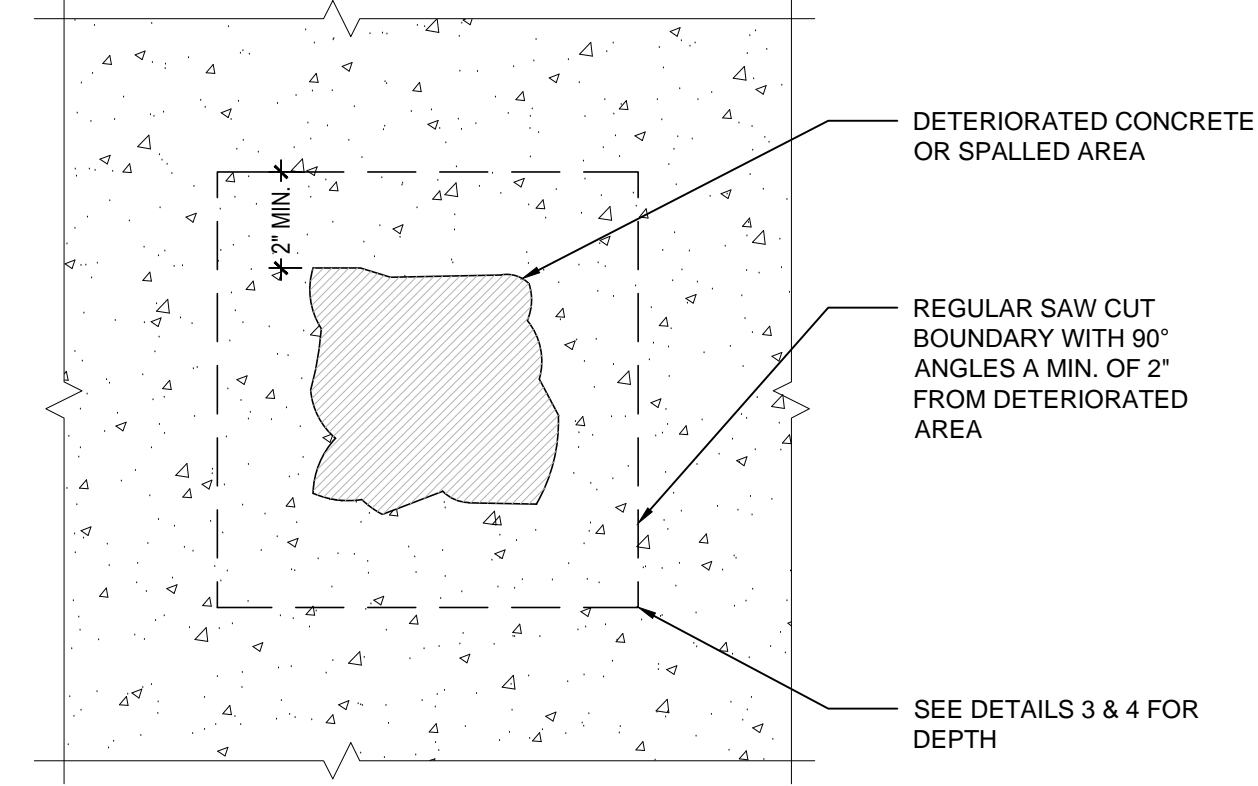
Date: 23 APRIL 2015

Revisions		
No.	Date	Description

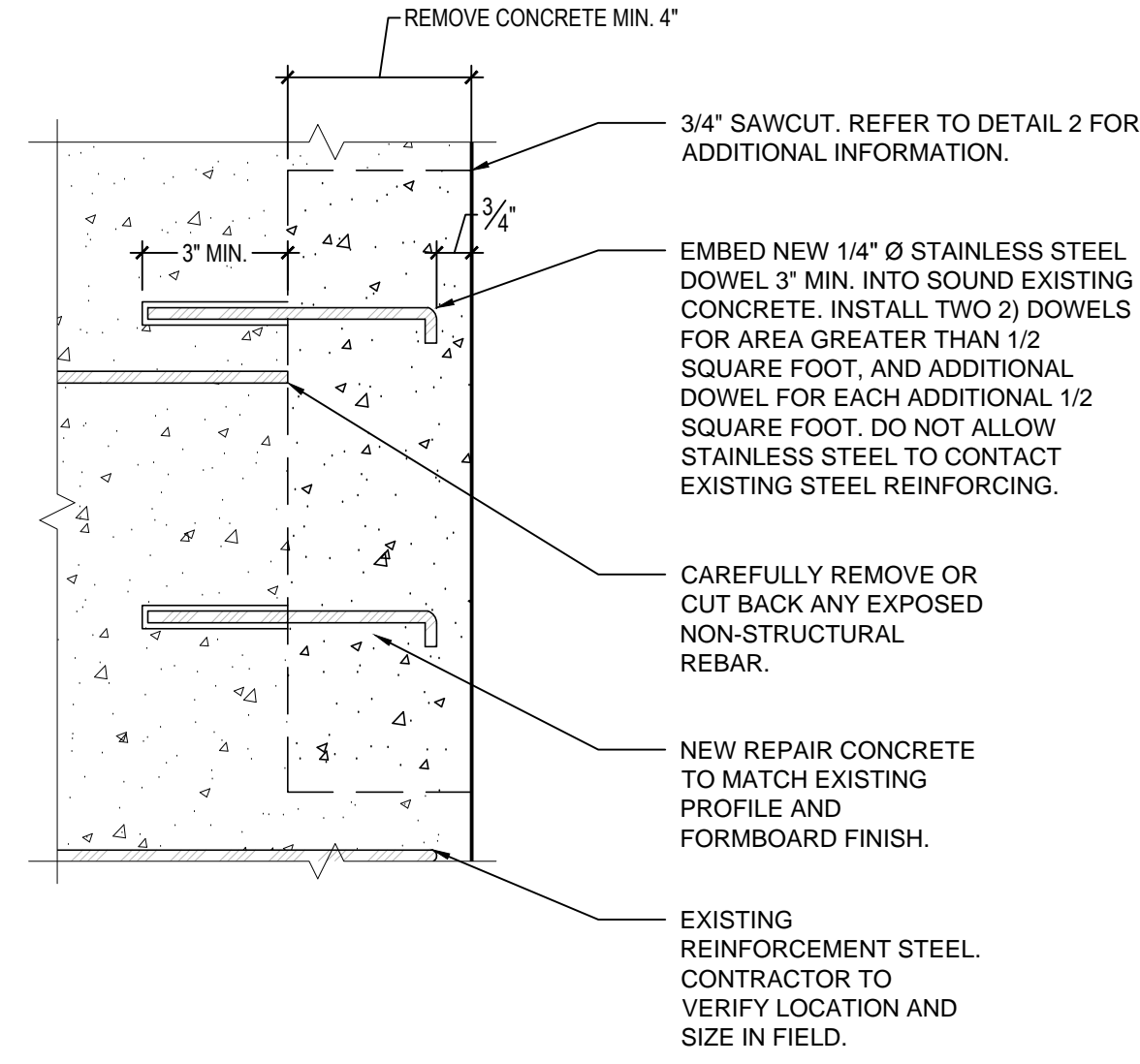
Drawing No.
A-309



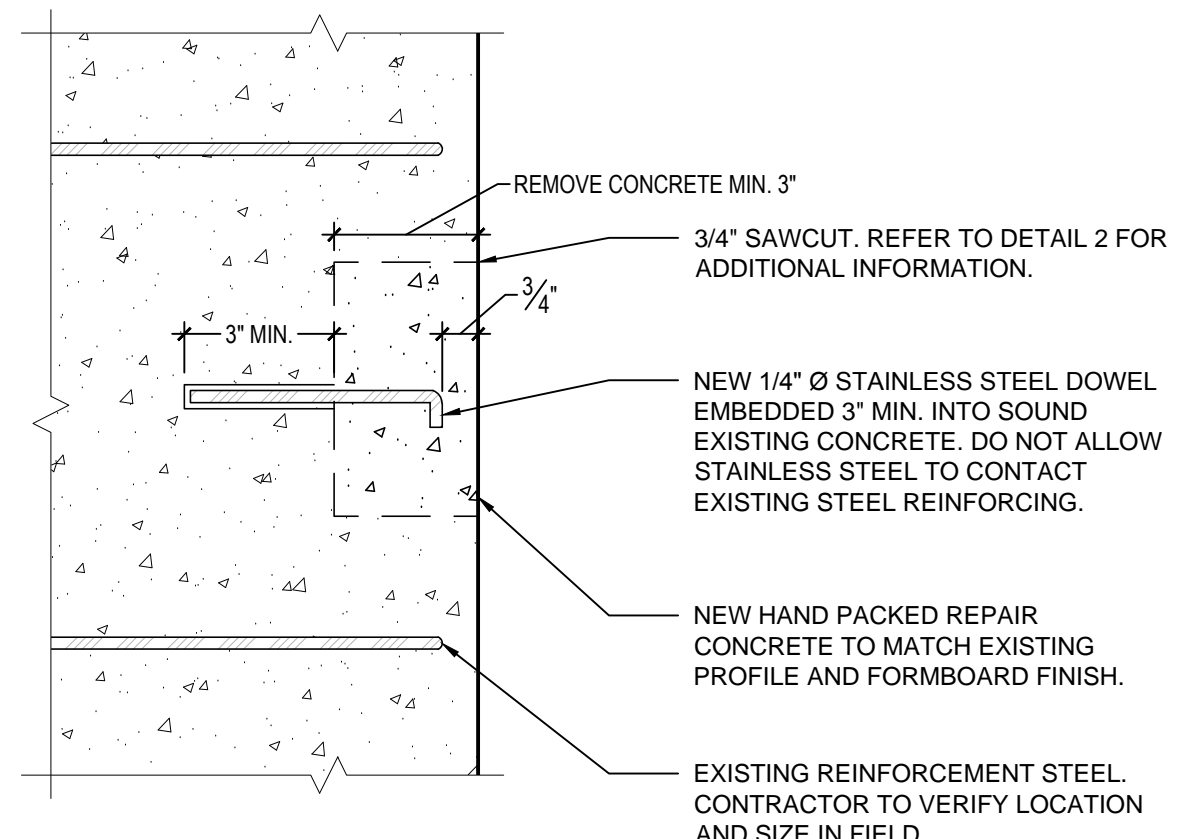
1 "TYPE 1 REPAIR": CRACK REPAIR
6" = 1'-0"



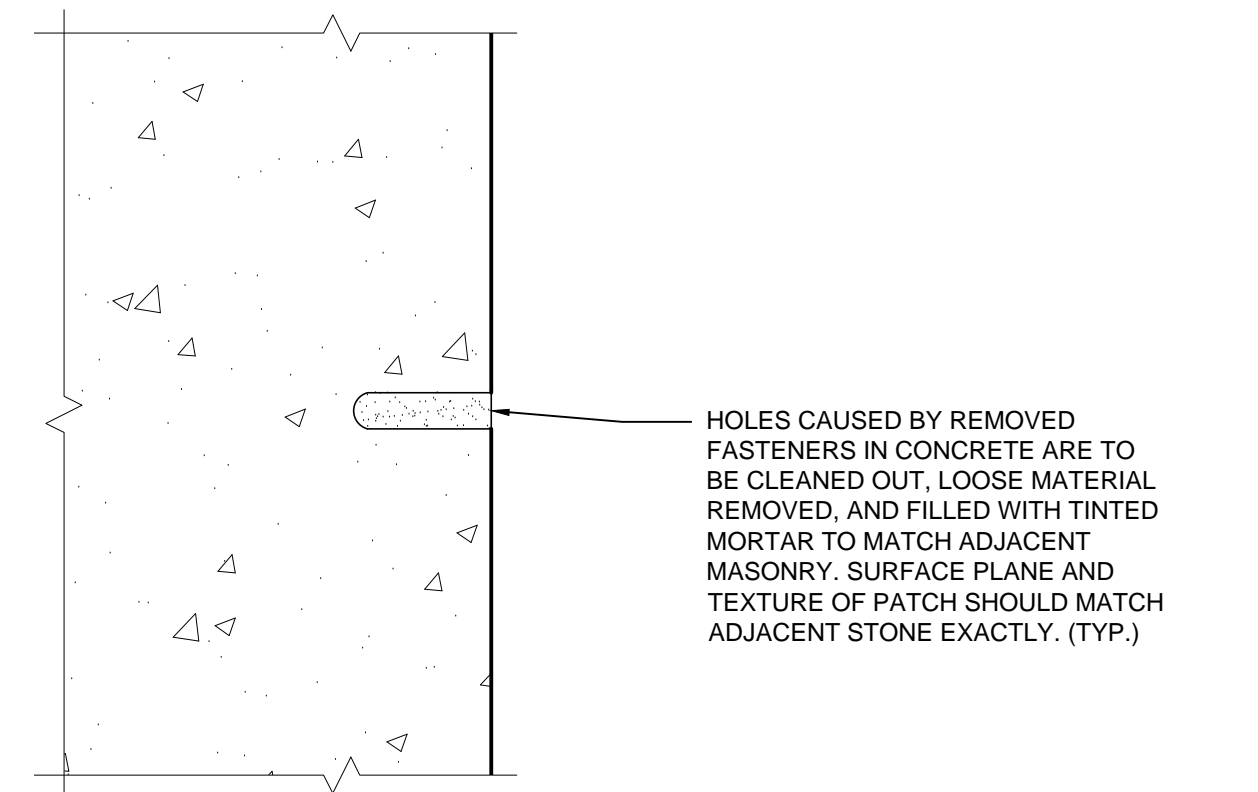
2 SAWCUTTING FOR CONCRETE PATCH TYP.
3" = 1'-0"



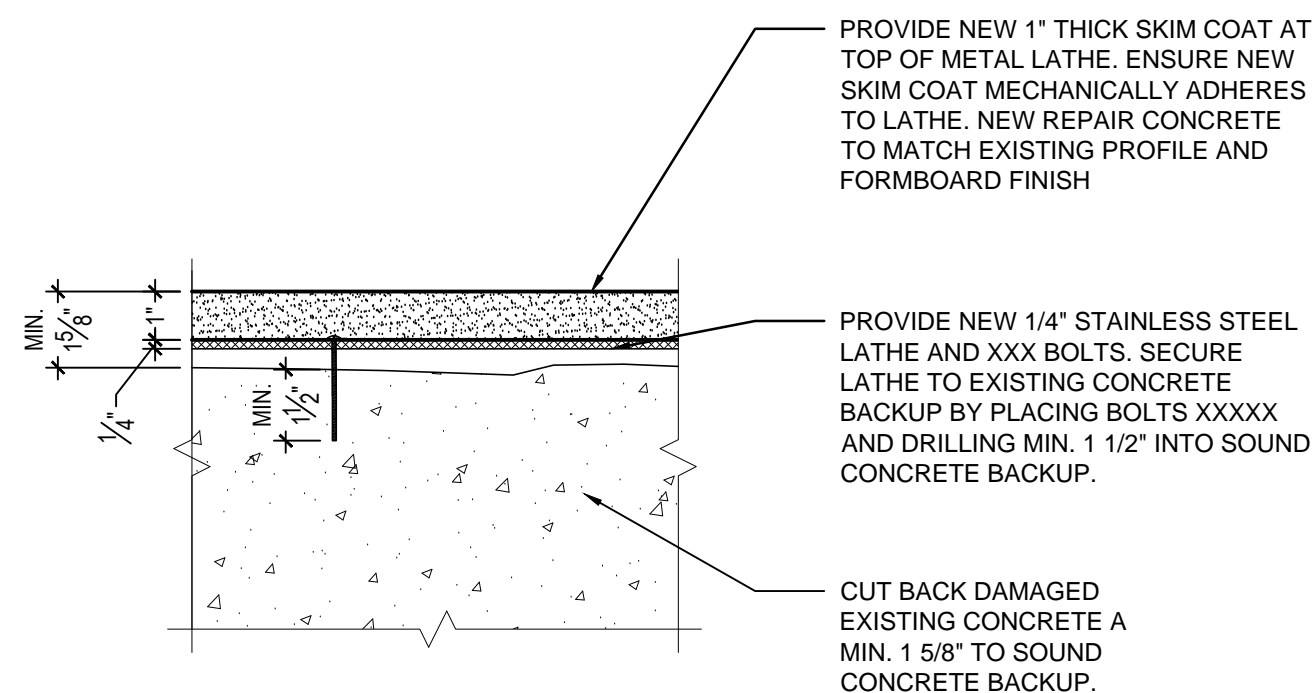
3 "TYPE 2A REPAIR": LARGE CONCRETE SPALL REPAIR
3" = 1'-0"



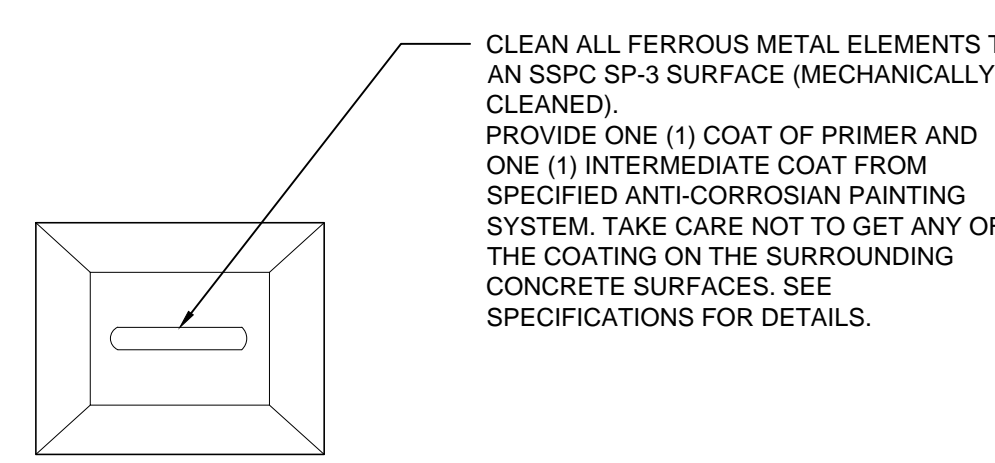
4 "TYPE 2B REPAIR": SMALL CONCRETE SPALL REPAIR
3" = 1'-0"



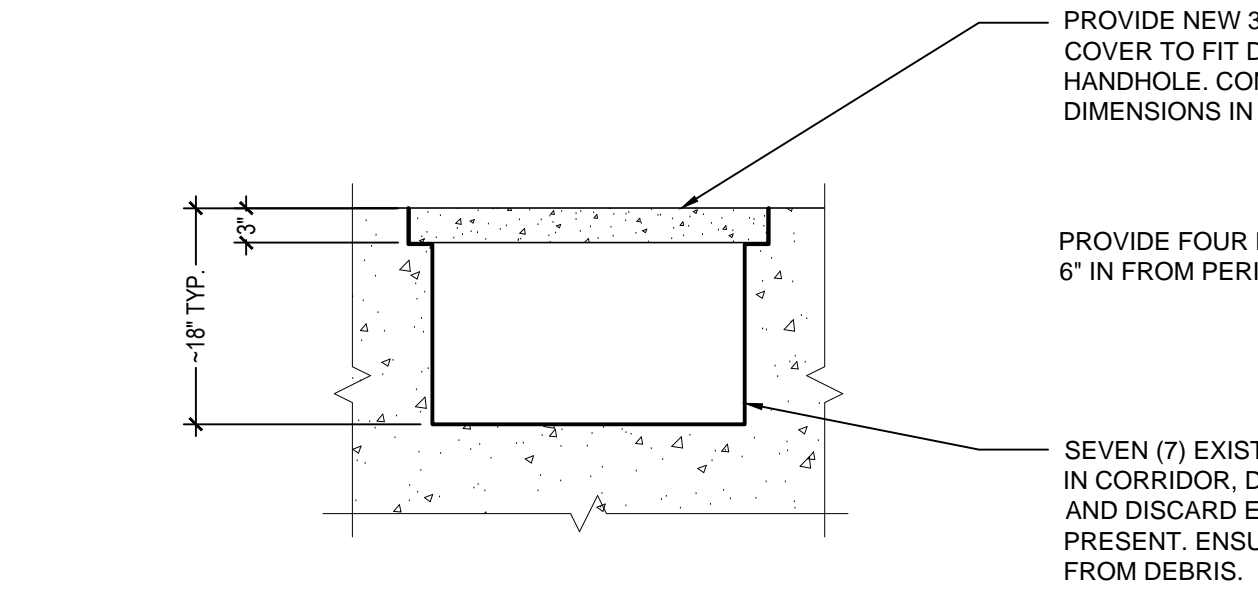
5 "TYPE 3 REPAIR": HOLE REPAIR DETAIL
6" = 1'-0"



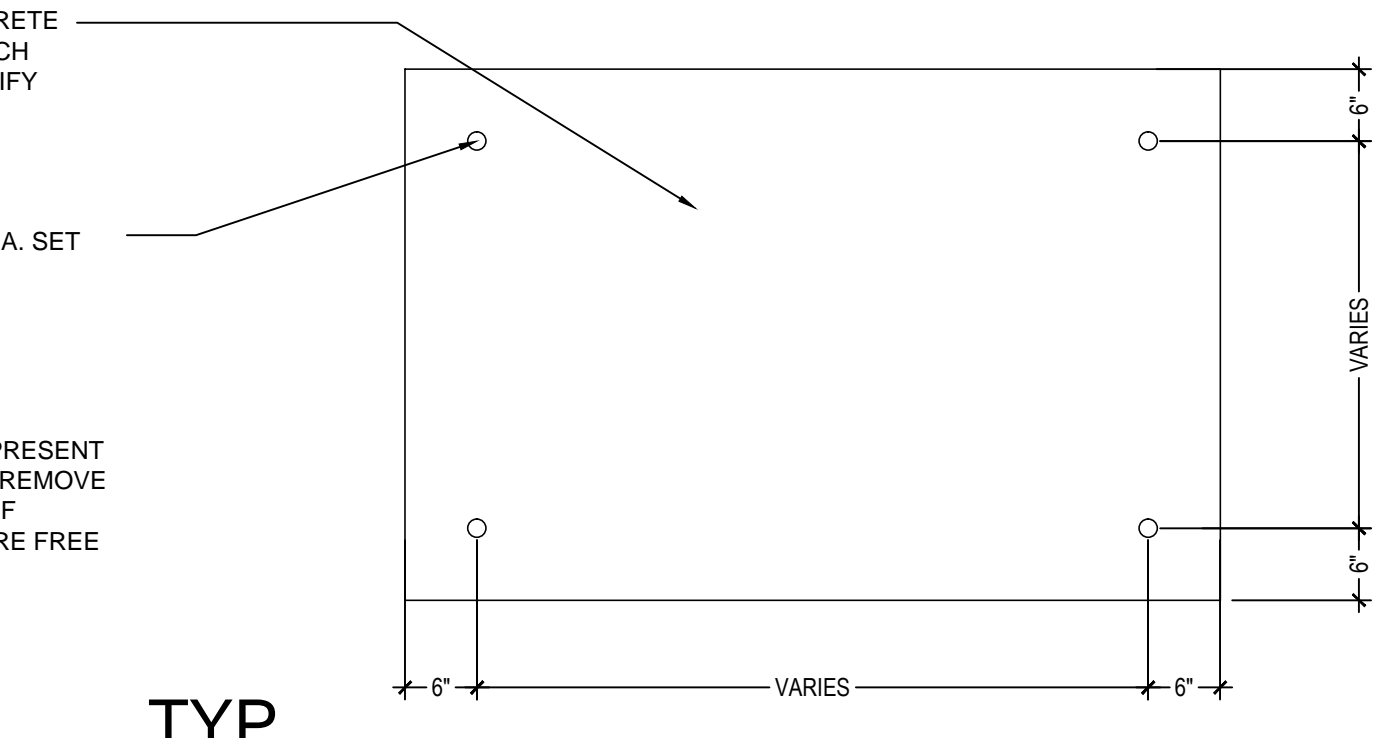
6 "TYPE 4 REPAIR": CONCRETE SKIM COAT DETAIL
3" = 1'-0"



7 "TYPE 5 REPAIR": METAL TIEDOWN REPAIR DETAIL
3/4" = 1'-0"



8 TYP. HANDHOLE REPAIR DETAIL
3/4" = 1'-0"



9 TYP. HANDHOLE REPAIR DETAIL
3/4" = 1'-0"

CONCRETE PATCH SCOPE:

- REMOVE ALL LOOSE CONCRETE FROM THE AREA DESIGNATED FOR REPAIR.
- MAKE A SAW CUT AROUND THE ENTIRE PERIMETER OF THE AFFECTED AREA NO CLOSER THAN TWO (2) INCHES TO THE PERIMETER OF THE AFFECTED AREA OF DETERIORATION. THE SHAPE OF THE REPAIR AREA SHALL BE RECTANGULAR OR A COMBINATION OF TWO RECTANGLES. THE SAW CUT SHALL BE 3/4" DEEP EXCEPT AT LOCATIONS WHERE REBAR IS CLOSER TO THE SURFACE THAN 3/4", IN WHICH CASE NO SAW CUT SHALL BE MADE. INSTEAD, THE PERIMETER OF THE AREA SHALL BE CAREFULLY CHIPPED AWAY WITH A LIGHT DUTY CHIPPING HAMMER TO ACHIEVE A SQUARE PATCH EDGE. ALL SAW CUTS AND CHIPPED EDGES SHALL BE BEVELED AWAY FROM THE CENTER OF THE PATCH.
- USE CHIPPING HAMMERS OF NOMINAL 15-LB CLASS OR LESS TO REMOVE ALL LOOSE AND UNSOUND CONCRETE IN THE AREA BOUNDED BY THE SAW CUTS OR CHIPPED EDGES. CONTINUE TO CHIP INTO THE UNDERLYING SOUND CONCRETE AND REMOVE IT TO A DEPTH OF AT LEAST 3/4" BEYOND THE FIRST MAT OF EXPOSED REINFORCING STEEL OR AS NEEDED TO ACHIEVE A MIN. PATCH DEPTH OF 3". TAKE CARE NOT TO EXCESSIVELY VIBRATE THE EXPOSED REBAR WITH THE CHIPPING HAMMER IN ORDER TO AVOID FRACTURING ANY OF THE CONCRETE THAT IS BONDED TO THE REBAR OUTSIDE THE PERIMETER OF THE PATCH.
- SANDBLAST THE EXPOSED CONCRETE SURFACES WITHIN THE AREA OF THE PATCH, INCLUDING THE SAWCUT OR CHIPPED EDGES AROUND THE PERIMETER OF THE PATCH. WHERE SANDBLASTING IS NOT ALLOWED, SUBSTRATE CONCRETE SURFACE SHALL BE FRESHLY FRACTURED SOUND CONCRETE.
- CAREFULLY REMOVE OR CUT BACK ANY EXPOSED NON-STRUCTURAL REBAR.
- TO ENSURE THAT EACH SQUARE FOOT OF PATCH AREA WILL HAVE A MECHANICAL KEY OF CONCRETE PATCH AROUND A REINFORCING METAL ELEMENT, INSTALL DOWELS TO PROVIDE AT LEAST ONE DOWEL PER SQUARE FOOT OF UN-KEYED PATCH.
- CLEAN THE ENTIRE AREA OF THE PATCH WITH HIGH PRESSURE, OIL-FREE COMPRESSED AIR.
- PLACE REPAIR CONCRETE WITHIN THE AREA OF THE PATCH TO RESTORE AND MATCH THE COLOR, FINISH, AND TEXTURE OF THE ORIGINAL SURFACE. CONCRETE SHALL BE PLACED TO ACHIEVE COMPLETE FILLING OF THE REPAIR AREAS. PLACEMENT OF THE CONCRETE TO BE BY THE FORM-AND-PLACE TECHNIQUE AS DEFINED IN THE PROJECT SPECIFICATIONS.
- WET CURE FOR 7 DAYS.
- AFTER CURING, SOUND TEST REPAIR AREAS TO DETECT ANY AREAS OF DEBONDED OR DELAMINATED REPAIR CONCRETE. REMOVE AND REPLACE ANY UNSOUND CONCRETE.
- REFER TO THE TYPICAL REPAIR DETAILS AND PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

CRACK REPAIR SCOPE:

- GRIND OUT EXISTING CRACK TO A DEPTH OF 3/8" OR DEEPER AS REQUIRED TO SOUND MORTAR. DO NOT CHIP EDGES OF EXISTING ADJACENT CONCRETE.
- FLUSH OUT LOOSE MATERIAL.
- PRE-HYDRATE TYPE "M" MORTAR (PER SPECIFICATIONS) BY MIXING MORTAR DRY, THEN MIX AGAIN WITH ONLY ENOUGH WATER TO MAKE A LOOSE, DAMP MIX. AFTER ONE (1) HOUR, ADD ENOUGH WATER TO PRODUCE A WORKABLE MIX.
- LIGHTLY WET CRACK, PACK IN NEW PRE-HYDRATED REPOINTING MORTAR IN THIN (1/4" MIN.) LAYERS UNTIL CRACK IS FILLED AND TOOL TO A SMOOTH FINISH.
- DISCARD ANY MORTAR NOT USED WITHIN THREE (3) HOURS AFTER INITIAL ADDITION OF WATER.

HOLE PATCH REPAIR SCOPE:

- HOLE PATCH REPAIR TO BE USED WHERE UNWANTED FASTENERS ARE REMOVED FROM INTERIOR AS INDICATED ON DRAWINGS.
- HOLES IN CONCRETE ARE TO BE CLEANED OUT, LOOSE MATERIAL REMOVED, AND FILLED WITH TINTED MORTAR TO MATCH ADJACENT MASONRY.
- SURFACE PLANE AND TEXTURE OF PATCH SHOULD MATCH ADJACENT STONE EXACTLY.

METAL ELEMENT REPAIR SCOPE:

- ALL METAL ELEMENTS TO BE CLEANED TO AN SSPC SP-3 SURFACE (MECHANICALLY CLEANED).
- ALL CLEANED FERROUS ELEMENTS TO RECEIVE PRIMER AND INTERMEDIATE COATS FROM SPECIFIED ANTI-CORROSIAN PAINTING SYSTEM. TAKE CARE NOT TO GET ANY OF THE COATING ON THE SURROUNDING CONCRETE SURFACES. SEE SPECIFICATIONS FOR DETAILS.
- ENSURE THE COATING HAS CURED (AS RECOMMENDED BY THE MANUFACTURER) BEFORE CONTINUING WITH SURROUNDING CONCRETE REPAIR WORK.

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BATTERY LEWIS RESTORATION - PHASE 2
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Lincroft, NJ 07738

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JHPA Job No. 442-01

Drawing Title

CONCRETE AND METAL DETAILS

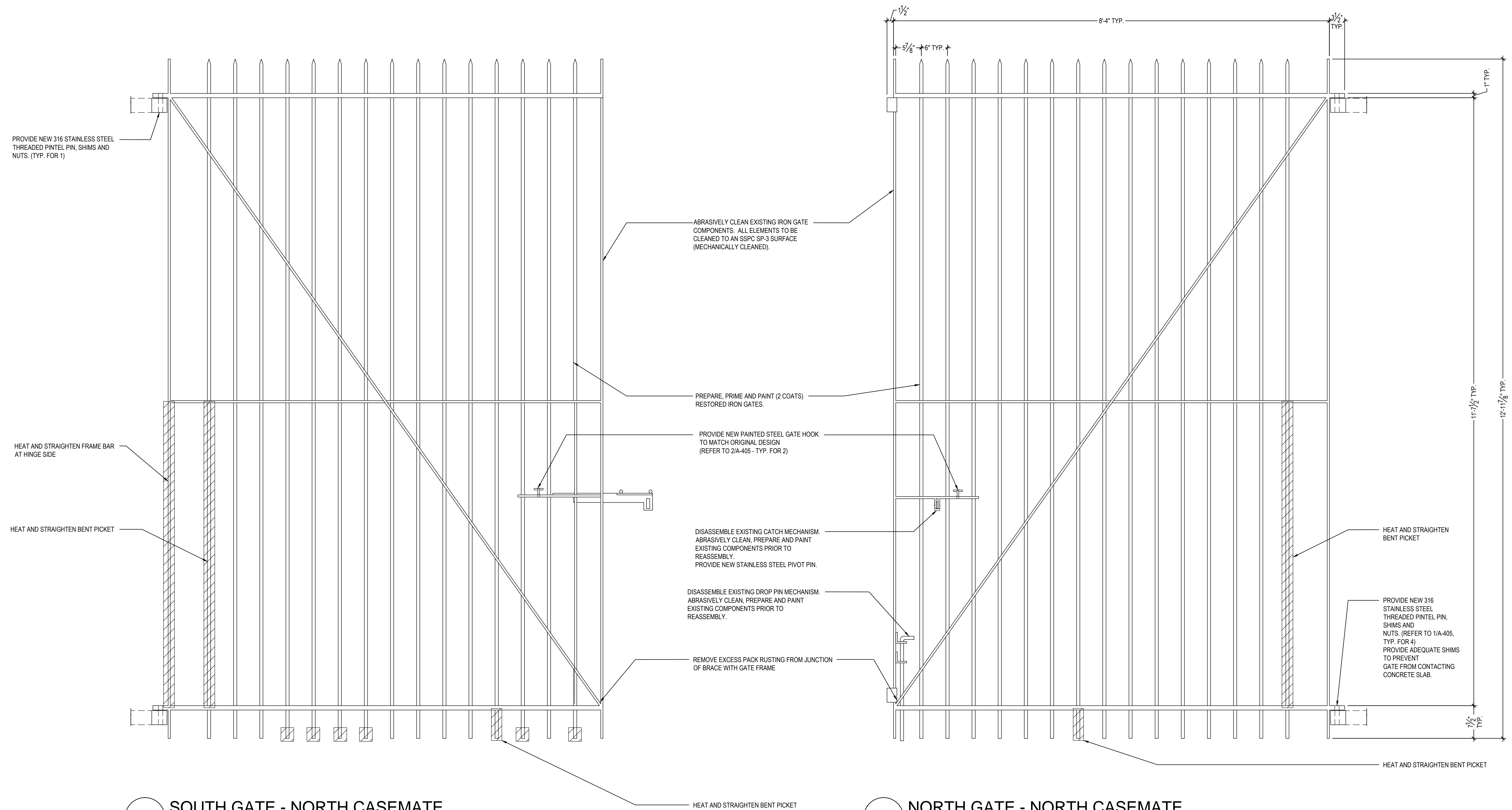
Date: 23 APRIL 2015

Revisions		
No.	Date	Description

Drawing No.

A-401

C:\Users\Whitcomb\appdata\local\temp\AcPublish_5140\A-402 - NORTH CASEMATE GATES-04-14-2015.dwg



1 SOUTH GATE - NORTH CASEMATE
SCALE: 1"=1'-0"

2 NORTH GATE - NORTH CASEMATE
SCALE: 1"=1'-0"

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Drawing Title
NORTH CASEMATE GATES

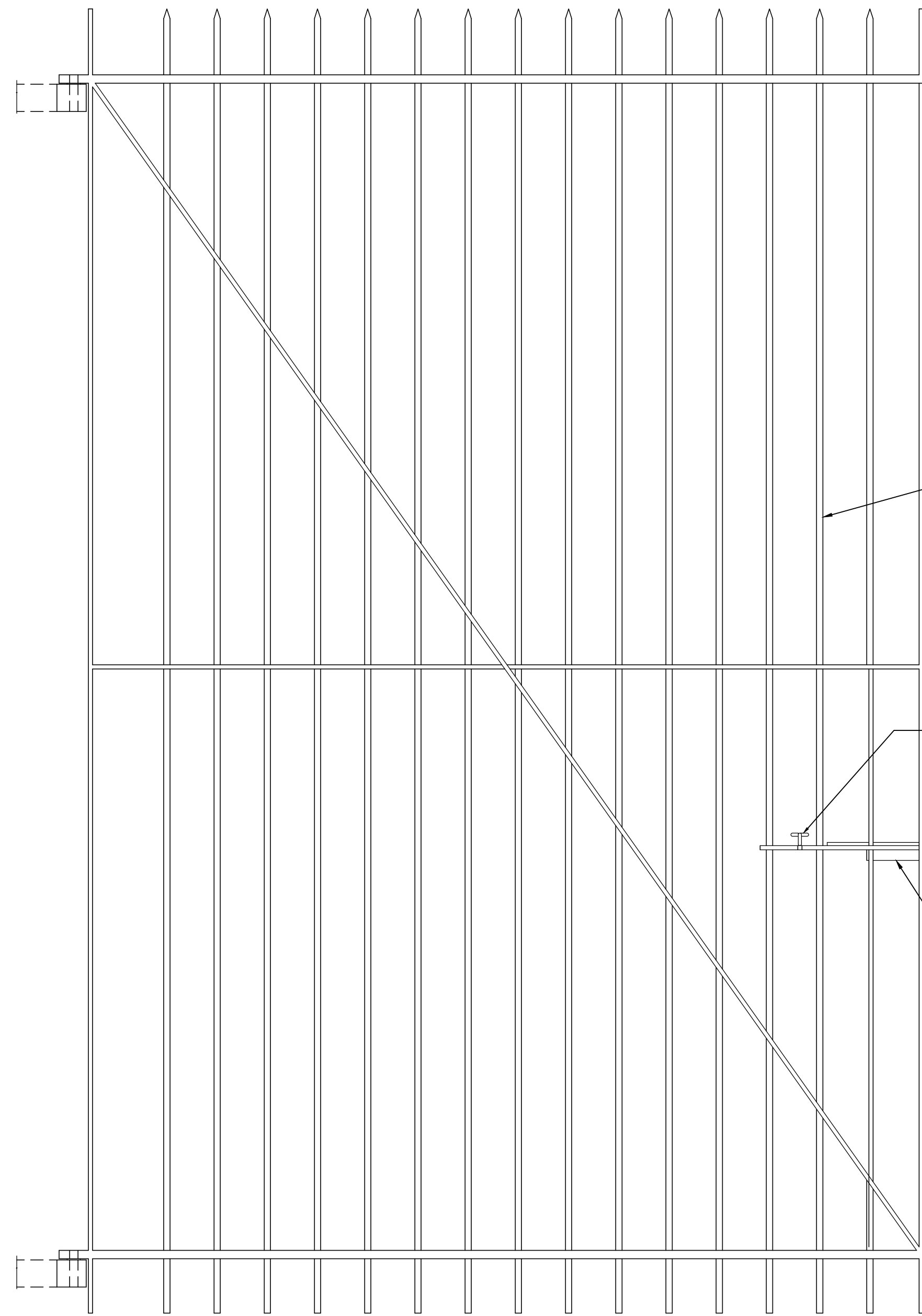
Date: 23 APRIL 2015

Revisions		
No.	Date	Description

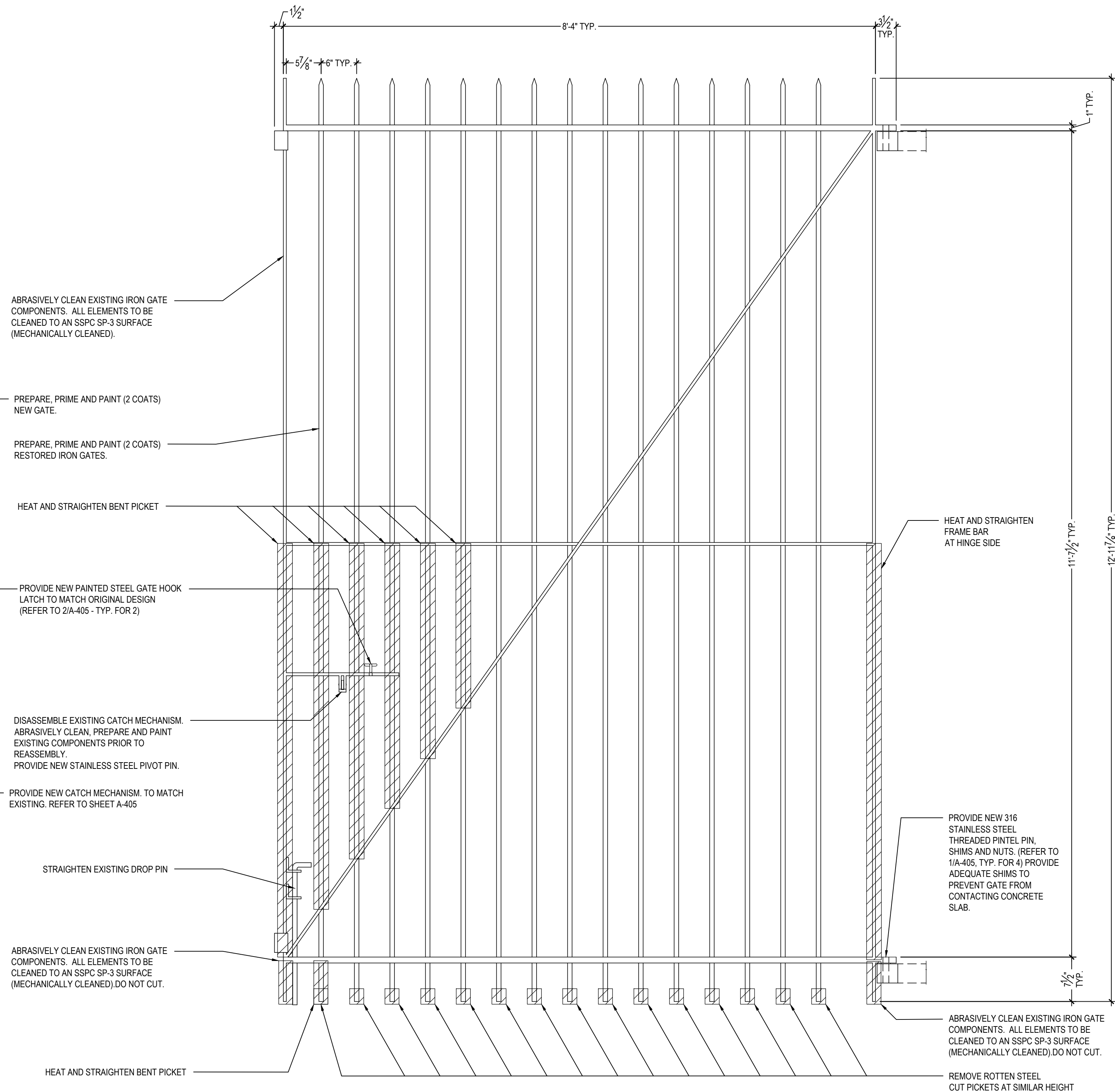
Drawing No.
A-402

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RECONSTRUCT GATE BASED ON DRAWINGS FROM THE NORTH CASEMATE



1 SOUTH GATE - SOUTH CASEMATE
SCALE: 1"=1'-0"



2 NORTH GATE - SOUTH CASEMATE
SCALE: 1"=1'-0"

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Drawing Title

**SOUTH
CASEMATE
GATES**

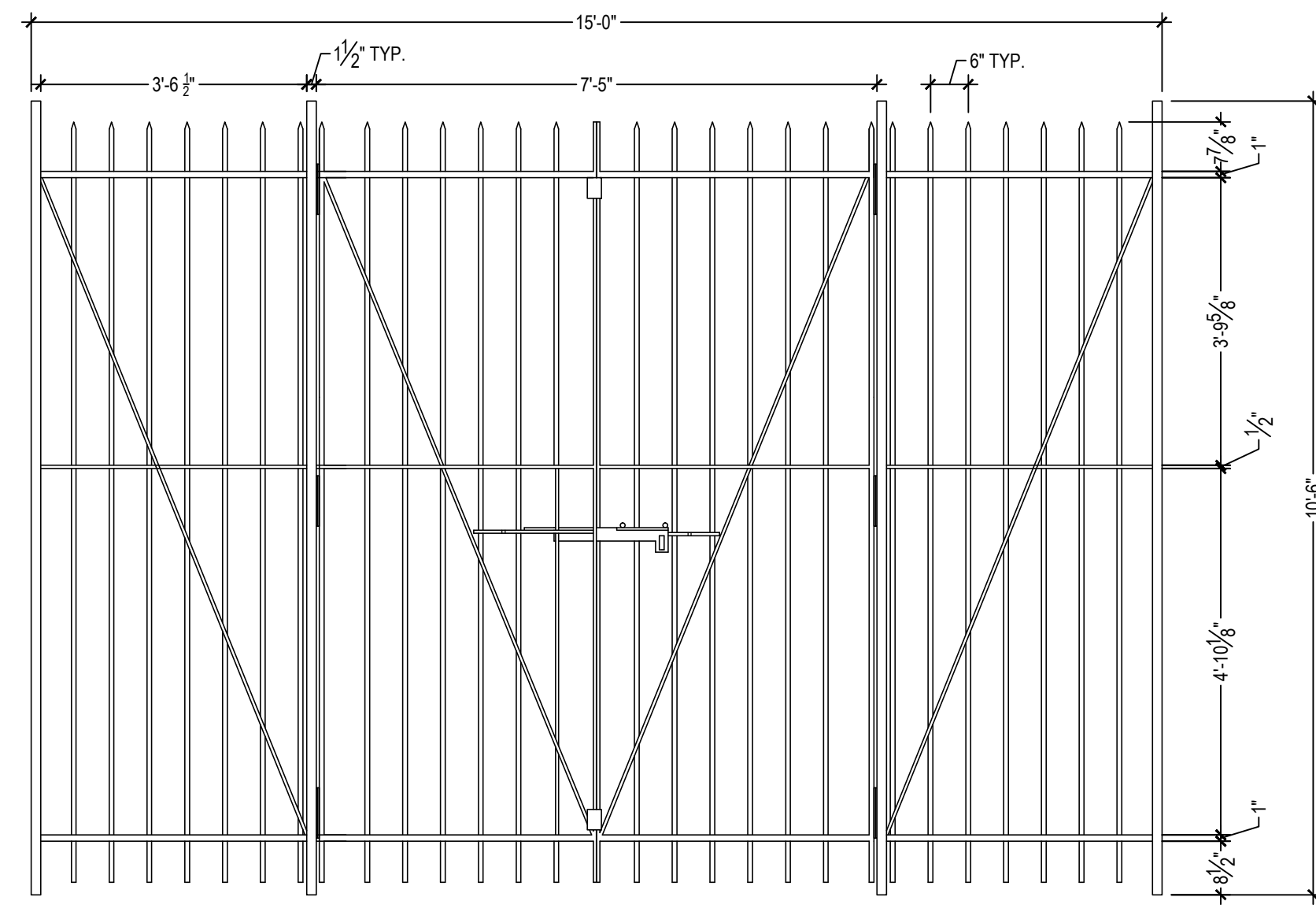
Date: 23 APRIL 2015

Revisions

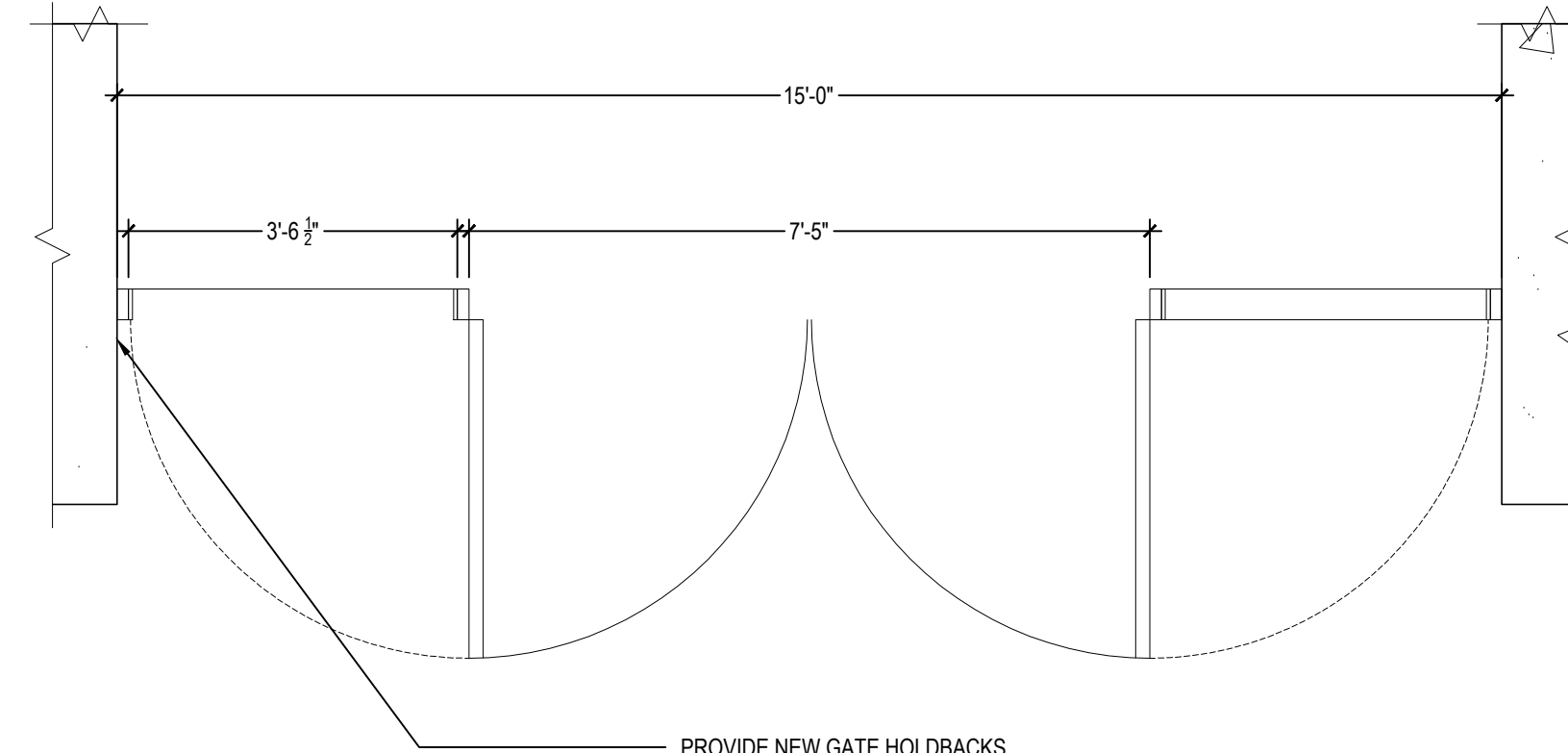
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Drawing No.

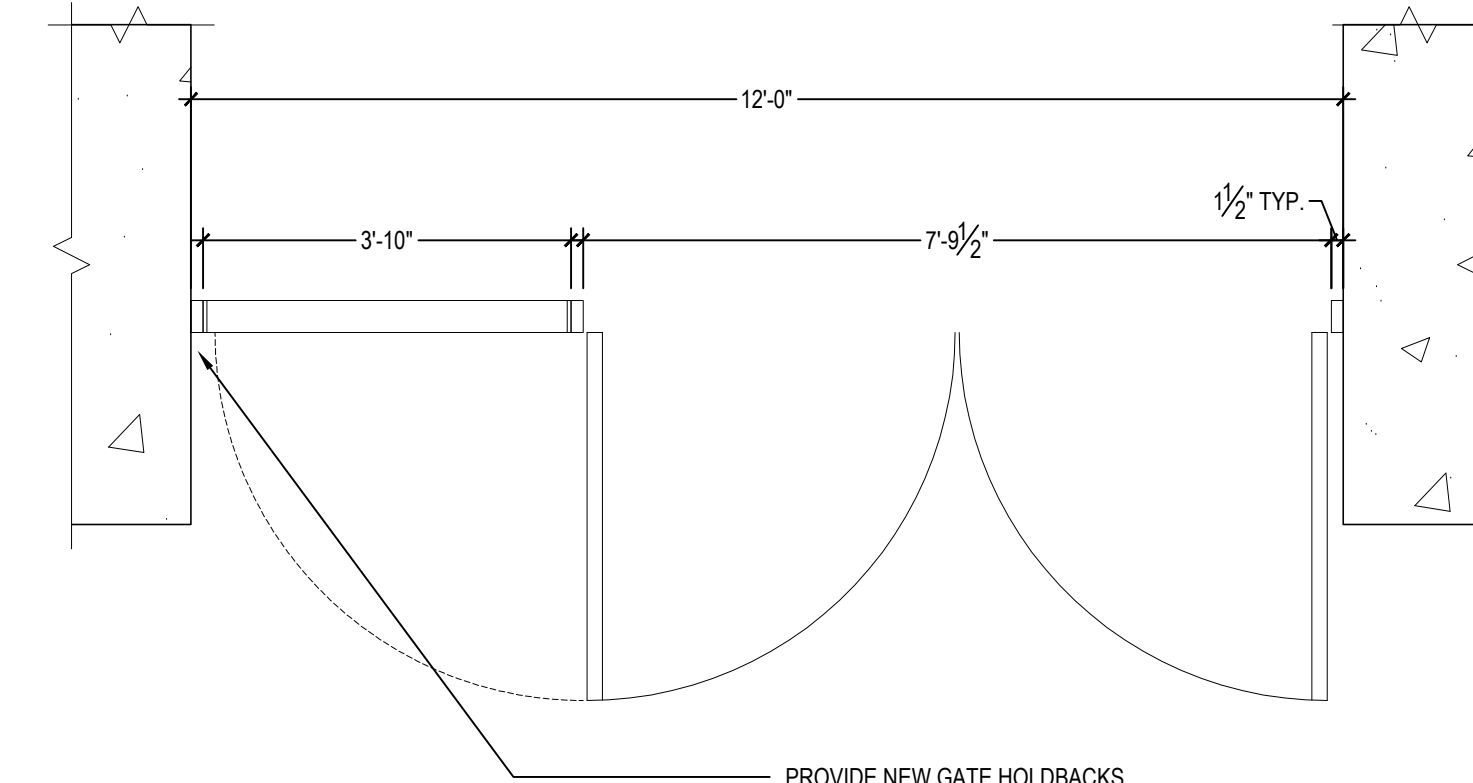
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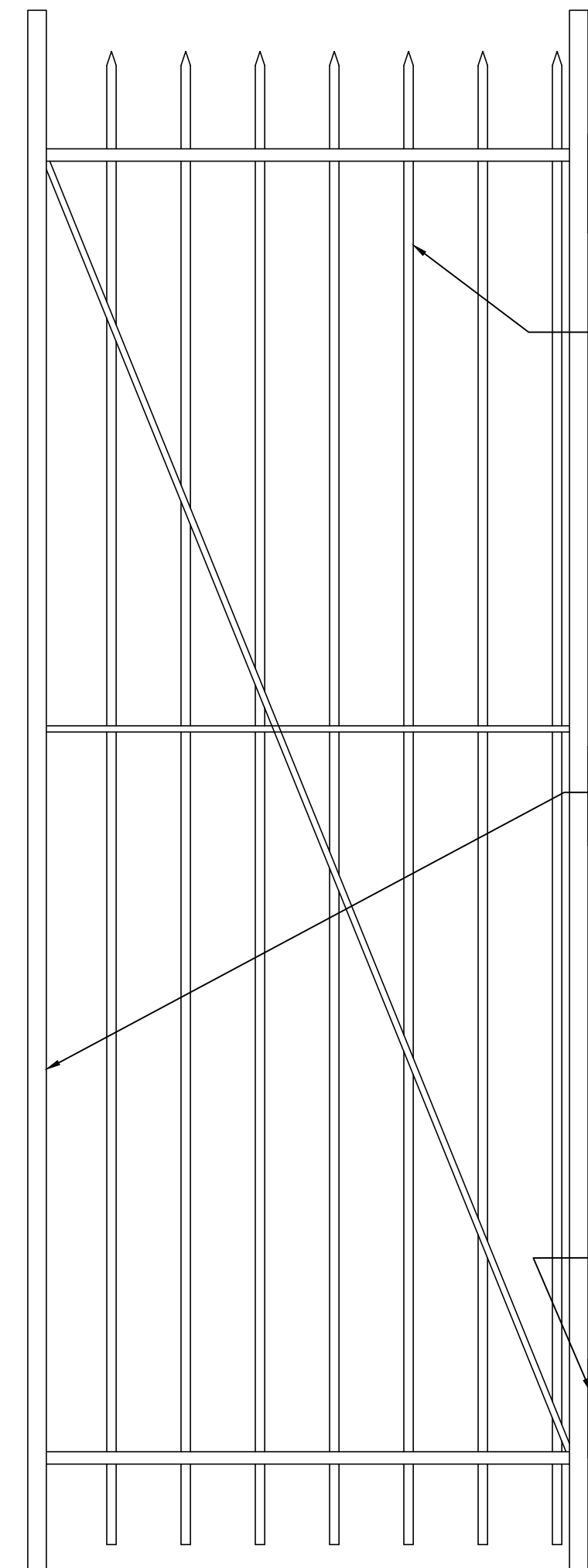
1 ELEVATION - CORRIDOR GATES
SCALE: 1/2"=1'-0"



6 PLAN - CORRIDOR GATES
SCALE: 1/2"=1'-0"



7 PLAN - MECH. AREA GATES
SCALE: 1/2"=1'-0"

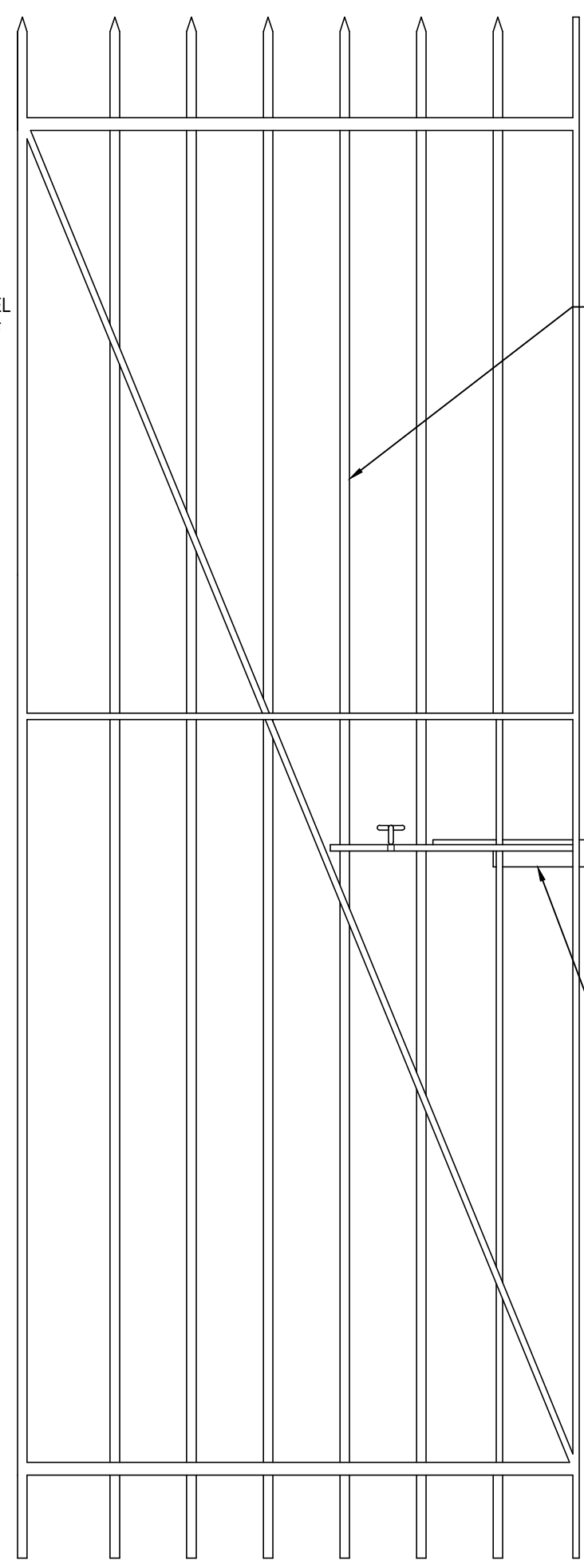


2 LH FIXED PANEL
SCALE: 1"=1'-0"

PROVIDE NEW POWDER COATED STEEL FIXED PANEL TO MATCH DETAILING OF CASEMATE GATES (TYP. FOR 2 PER GATE ASSEMBLY)

PROVIDE NEW POWDER COATED STEEL SUPPORT POSTS (TYP. FOR 4 PER GATE ASSEMBLY)

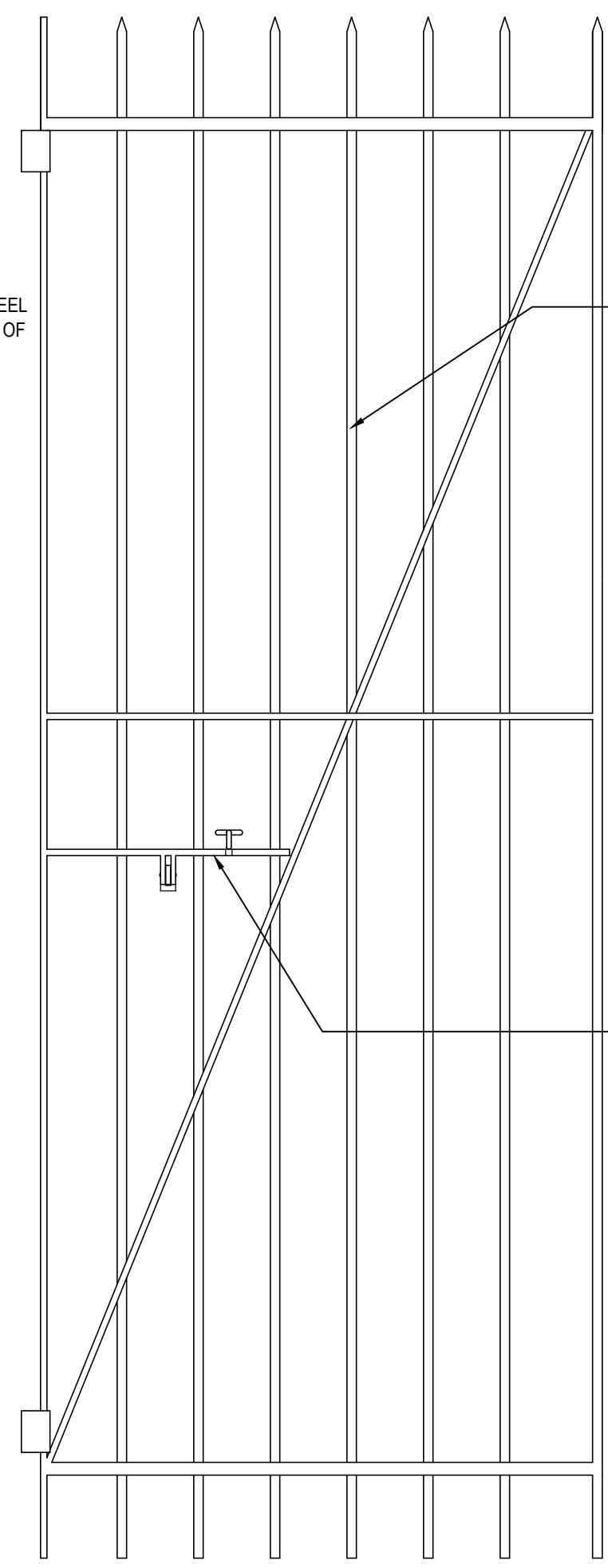
PROVIDE NEW STAINLESS STEEL BALL BEARING HINGES. PREPARE, PRIME AND PAINT. (TYP. FOR 3 PER LEAF)



3 LH GATE LEAF
SCALE: 1"=1'-0"

PROVIDE NEW POWDER COATED STEEL GATE LEAVES TO MATCH DETAILING OF CASEMATE GATES (TYP. FOR 2 PER GATE ASSEMBLY)

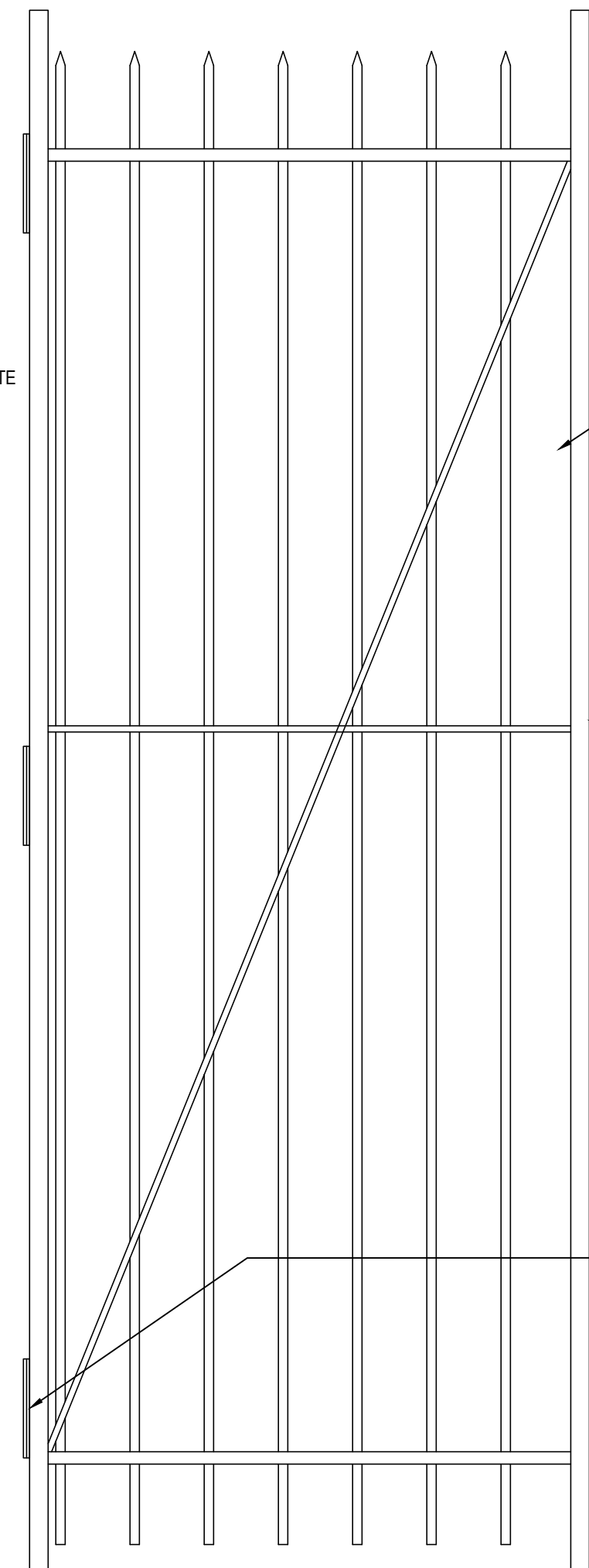
PROVIDE NEW POWDER COATED STEEL LATCH MECHANISMS TO MATCH DETAILING OF CASEMATE GATES.



4 RH GATE LEAF
SCALE: 1"=1'-0"

PROVIDE NEW POWDER COATED STEEL GATE LEAVES TO MATCH DETAILING OF CASEMATE GATES (TYP. FOR 2 PER GATE ASSEMBLY)

PROVIDE NEW POWDER COATED STEEL LATCH MECHANISMS TO MATCH DETAIL OF CASEMATE GATES.



5 RH FIXED PANEL
SCALE: 1"=1'-0"

PROVIDE NEW POWDER COATED STEEL FIXED PANEL TO DETAILING OF CASEMATE GATES (TYP. FOR 2 PER GATE ASSEMBLY)

PROVIDE NEW POWDER COATED STEEL SUPPORT POSTS (TYP. FOR 4 PER GATE ASSEMBLY)

PROVIDE NEW STAINLESS STEEL BALL BEARING HINGES. PREPARE, PRIME AND PAINT. (TYP. FOR 3 PER LEAF)

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Drawing Title

INTERIOR GATES

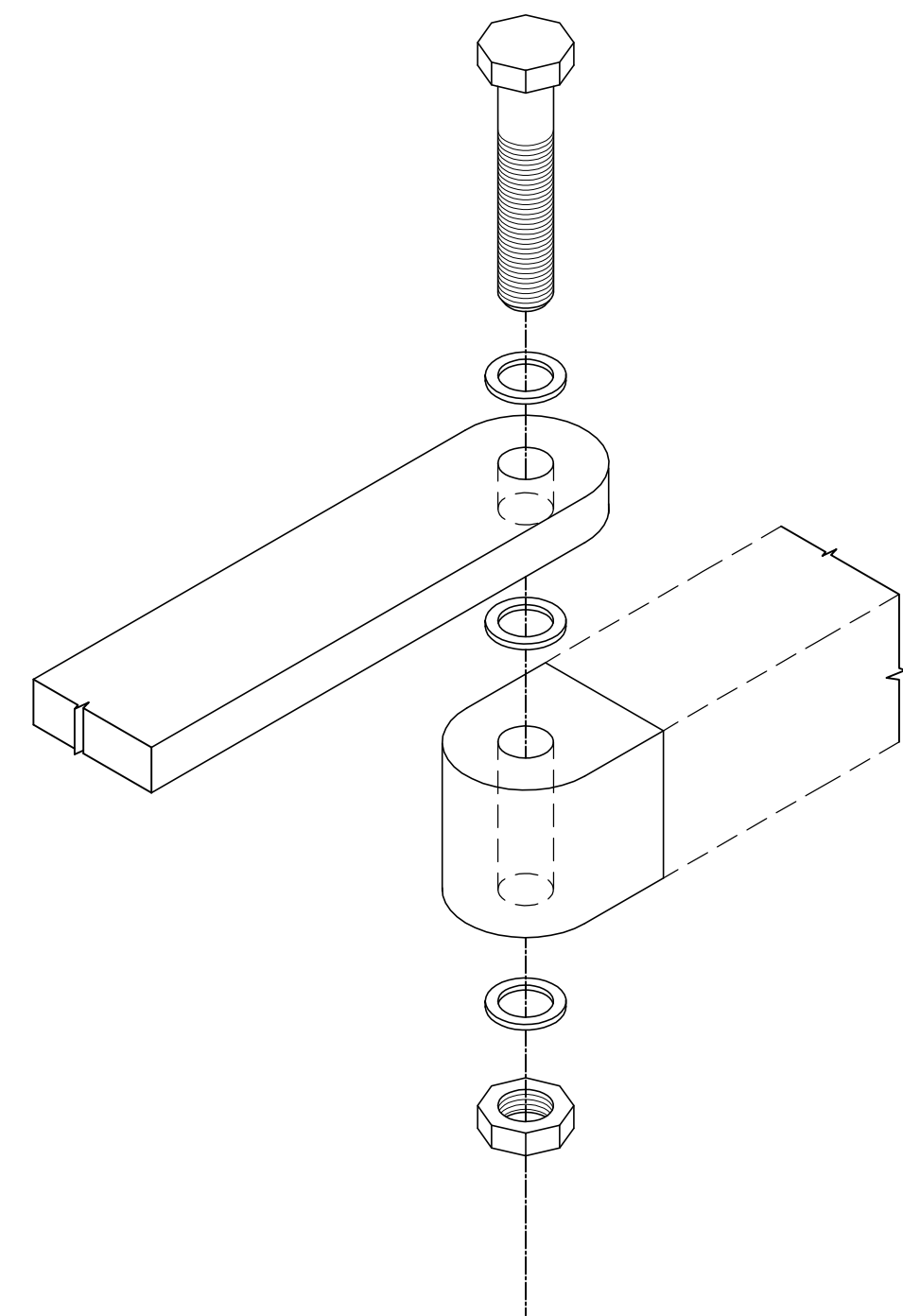
Date: 23 APRIL 2015

Revisions		
No.	Date	Description

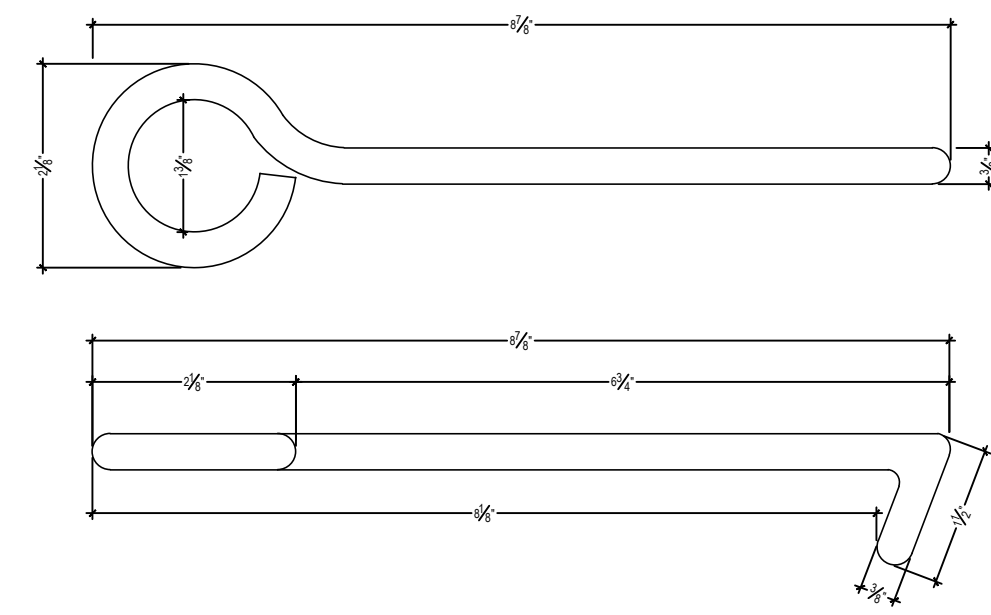
Drawing No.

A-404

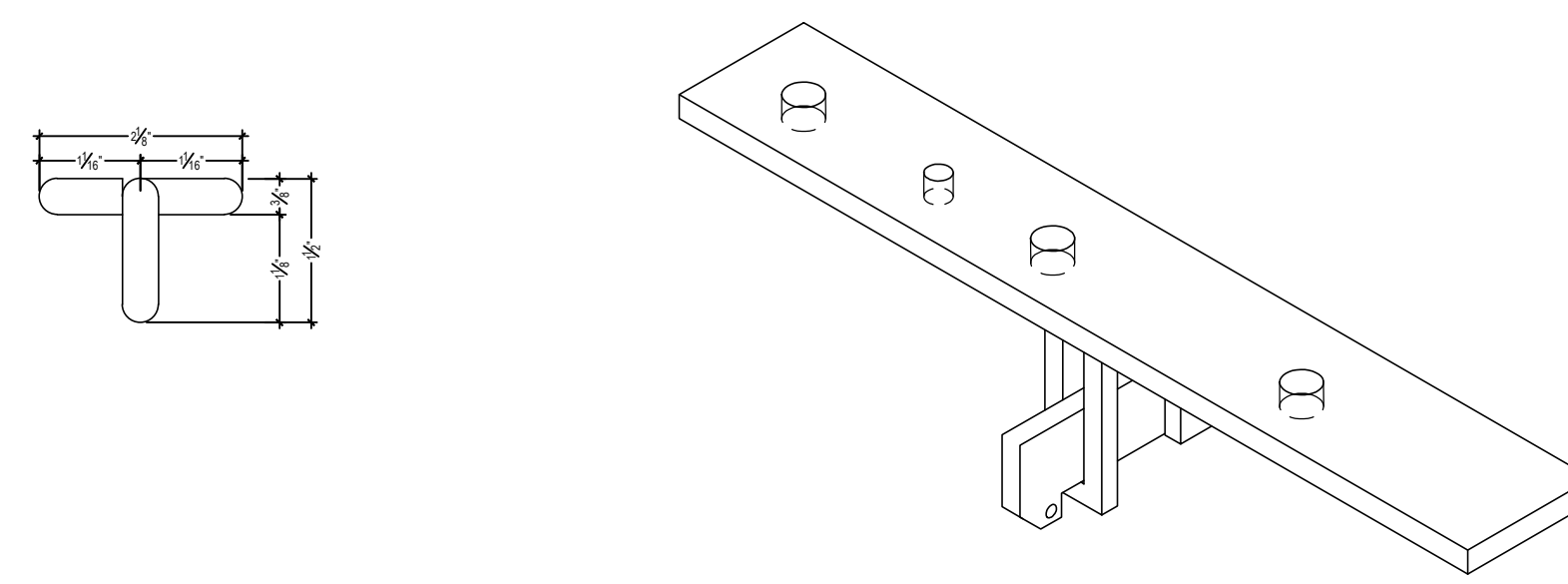
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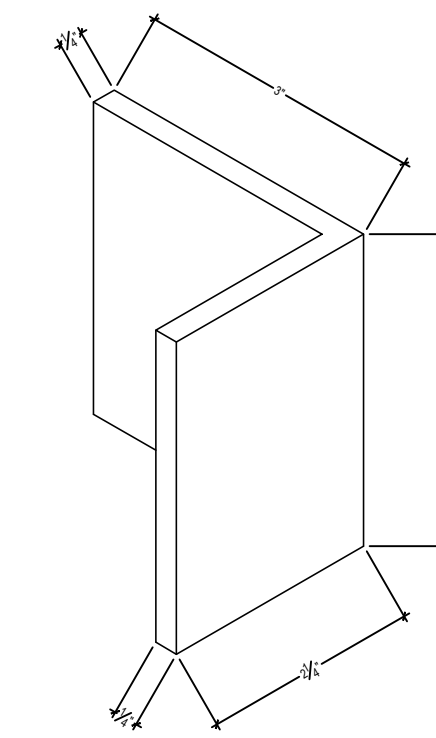
1 GATE PINTEL DETAIL
SCALE: 3"=1'-0"



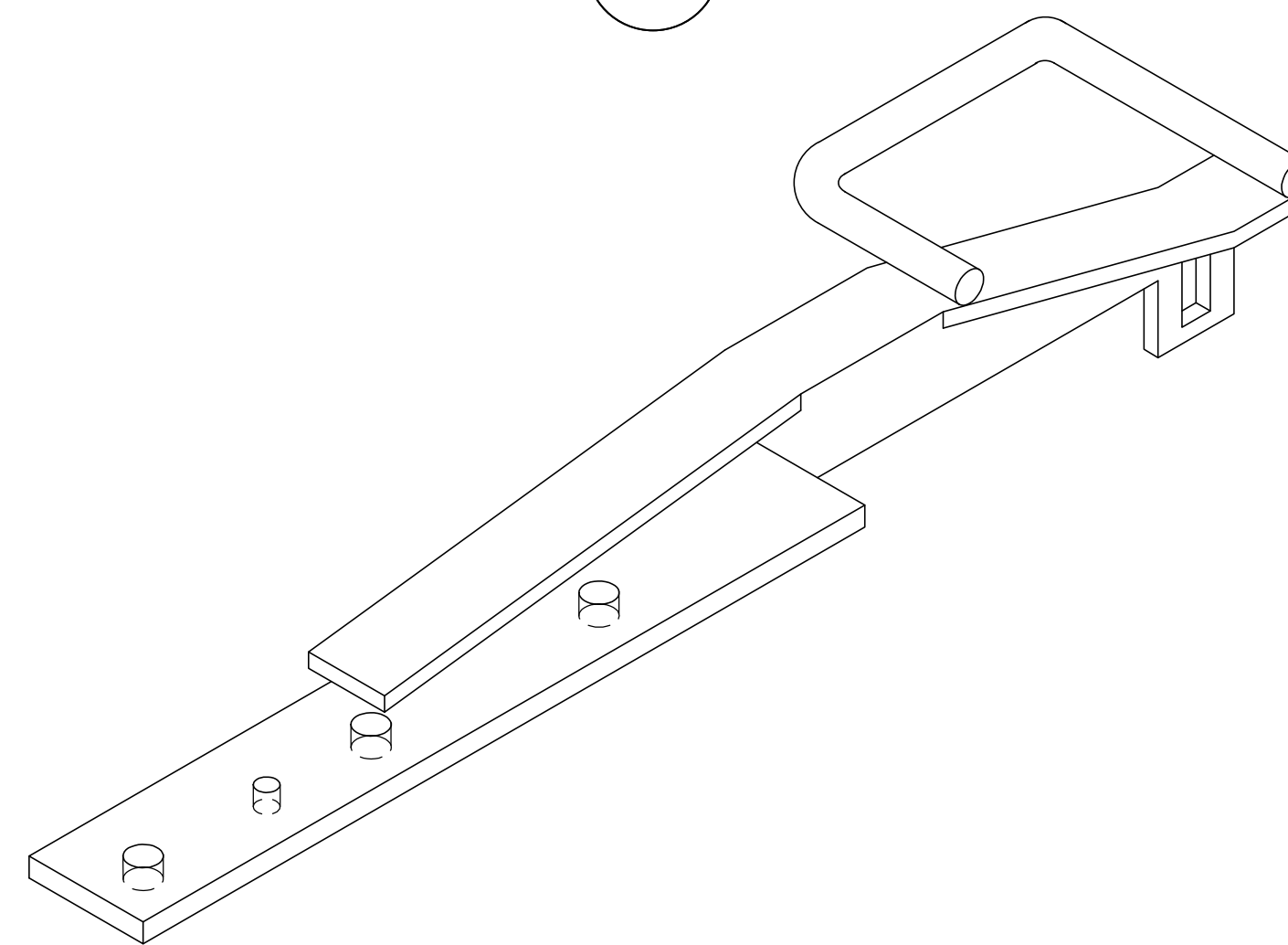
2 GATE HOLD-BACK DETAIL
SCALE: 6"=1'-0"



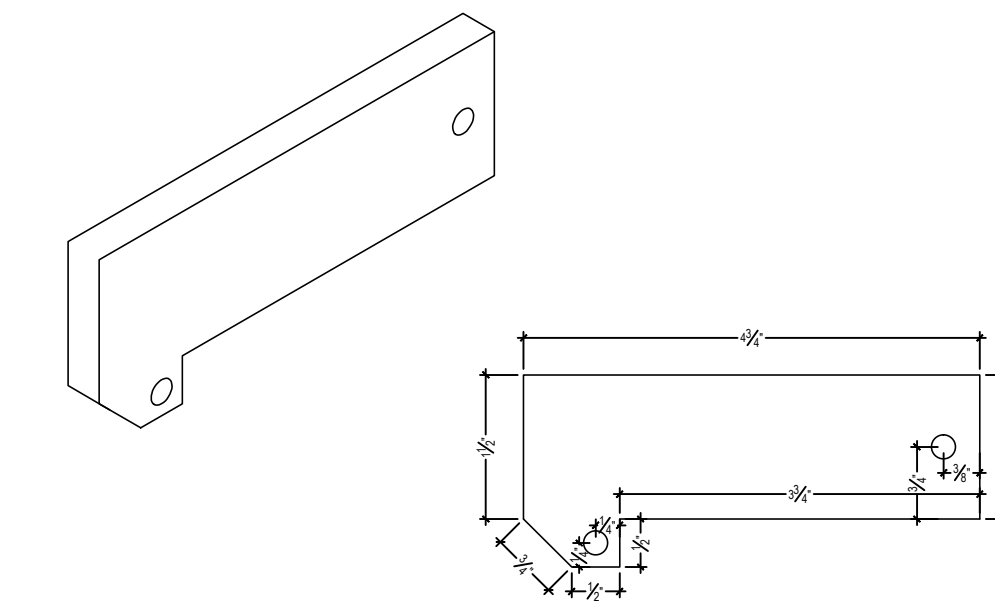
3 GATE LATCH DETAIL - LH SIDE
SCALE: 3"=1'-0"



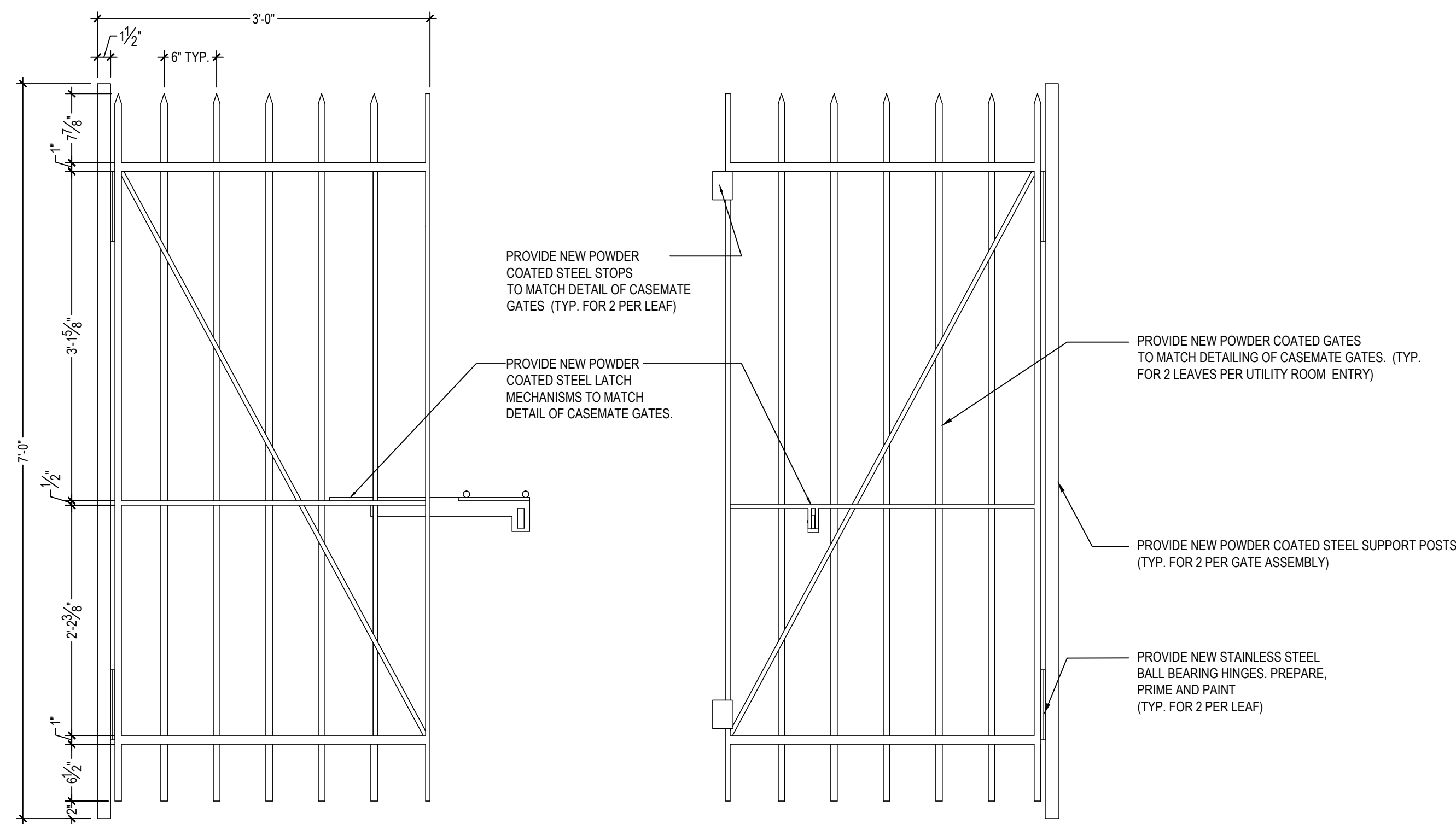
4 GATE LATCH DETAIL - STOP LH SIDE
SCALE: 6"=1'-0"



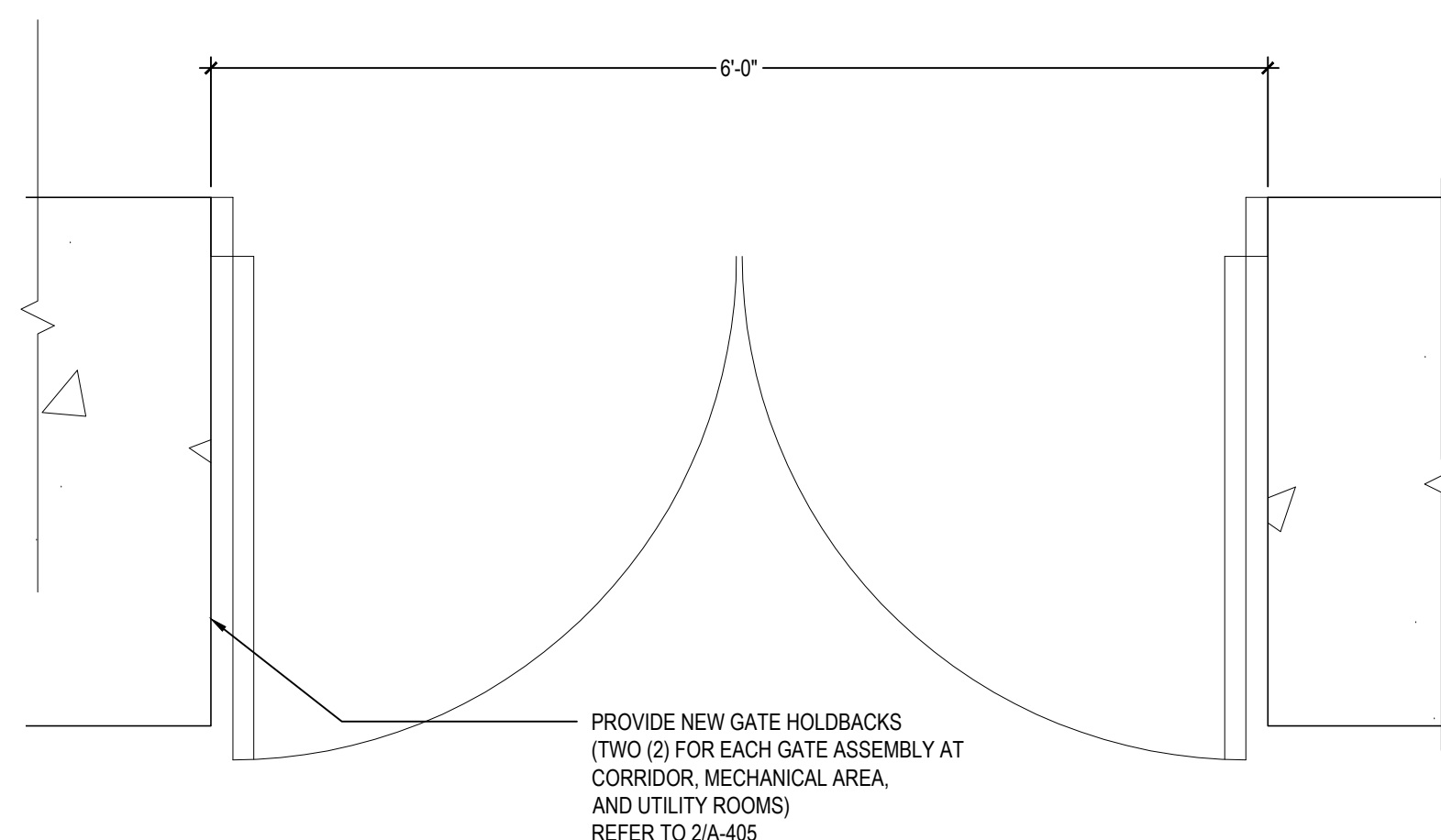
5 GATE LATCH DETAIL - RH SIDE
SCALE: 3"=1'-0"



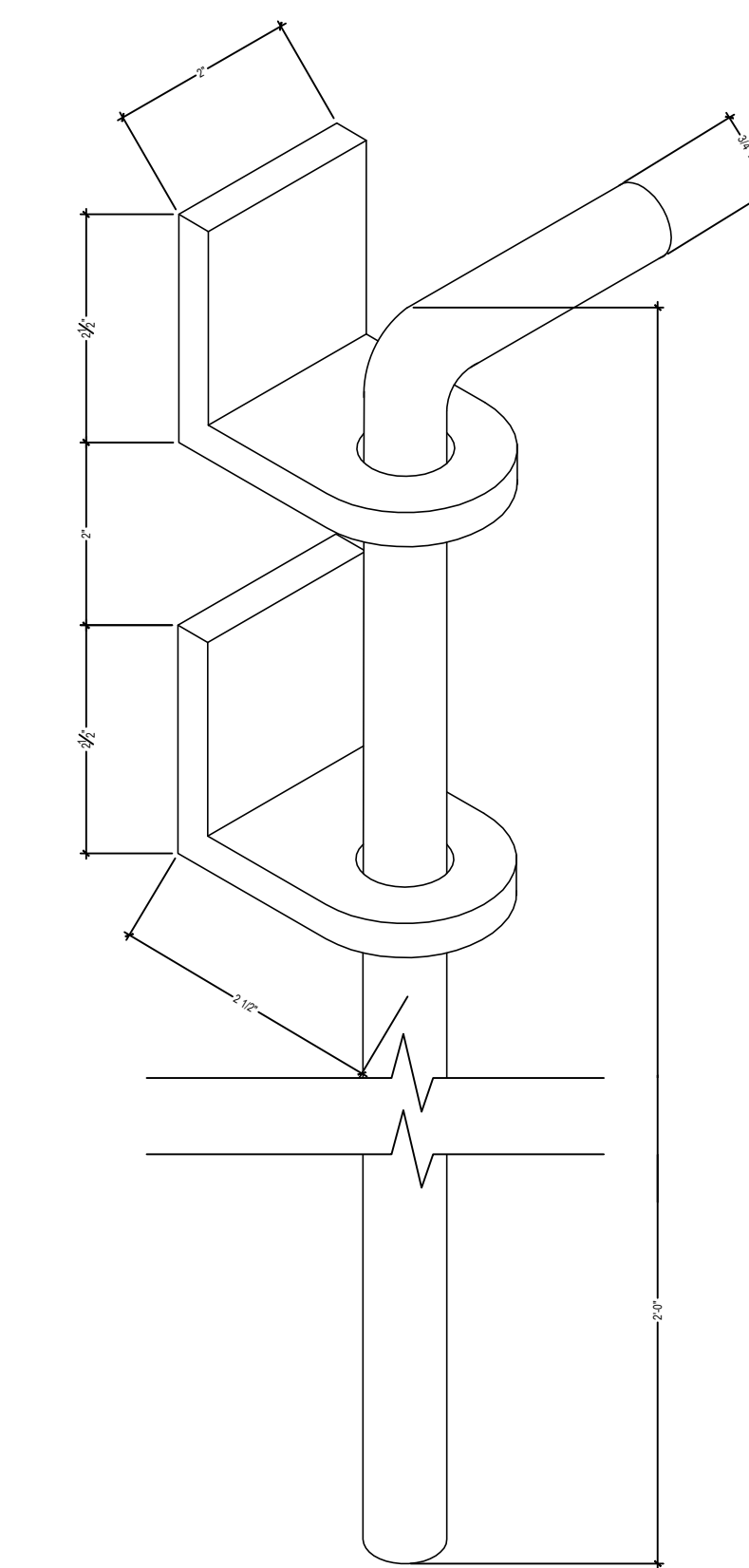
6 GATE LATCH DETAIL - LOCK LEVER LH SIDE
SCALE: 6"=1'-0"



7 UTILITY ROOM GATES - ELEVATION
SCALE: 1"=1'-0"



8 UTILITY ROOM GATES - PLAN
SCALE: 1"=1'-0"



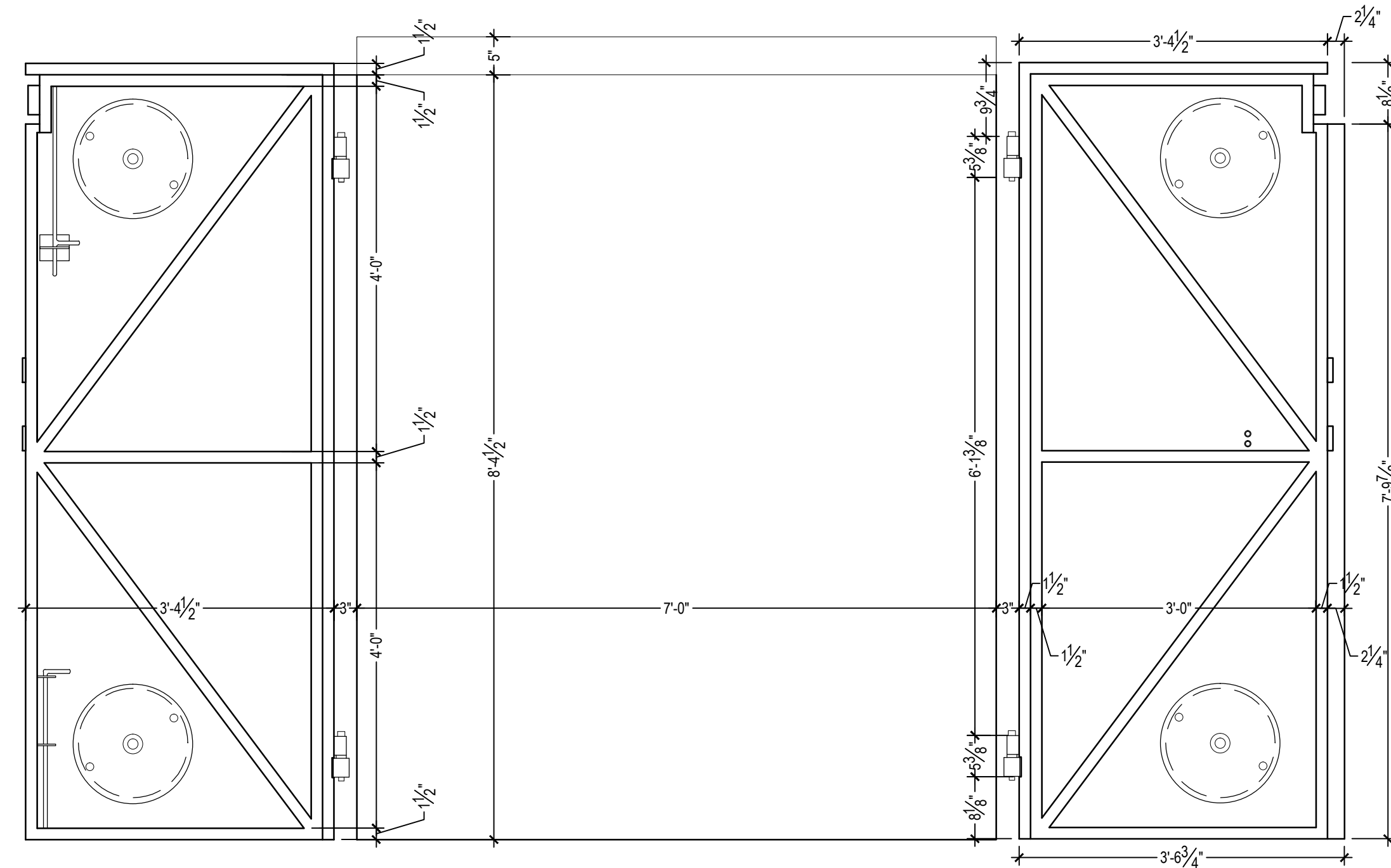
9 DROP PIN DETAIL
SCALE: 6"=1'-0"

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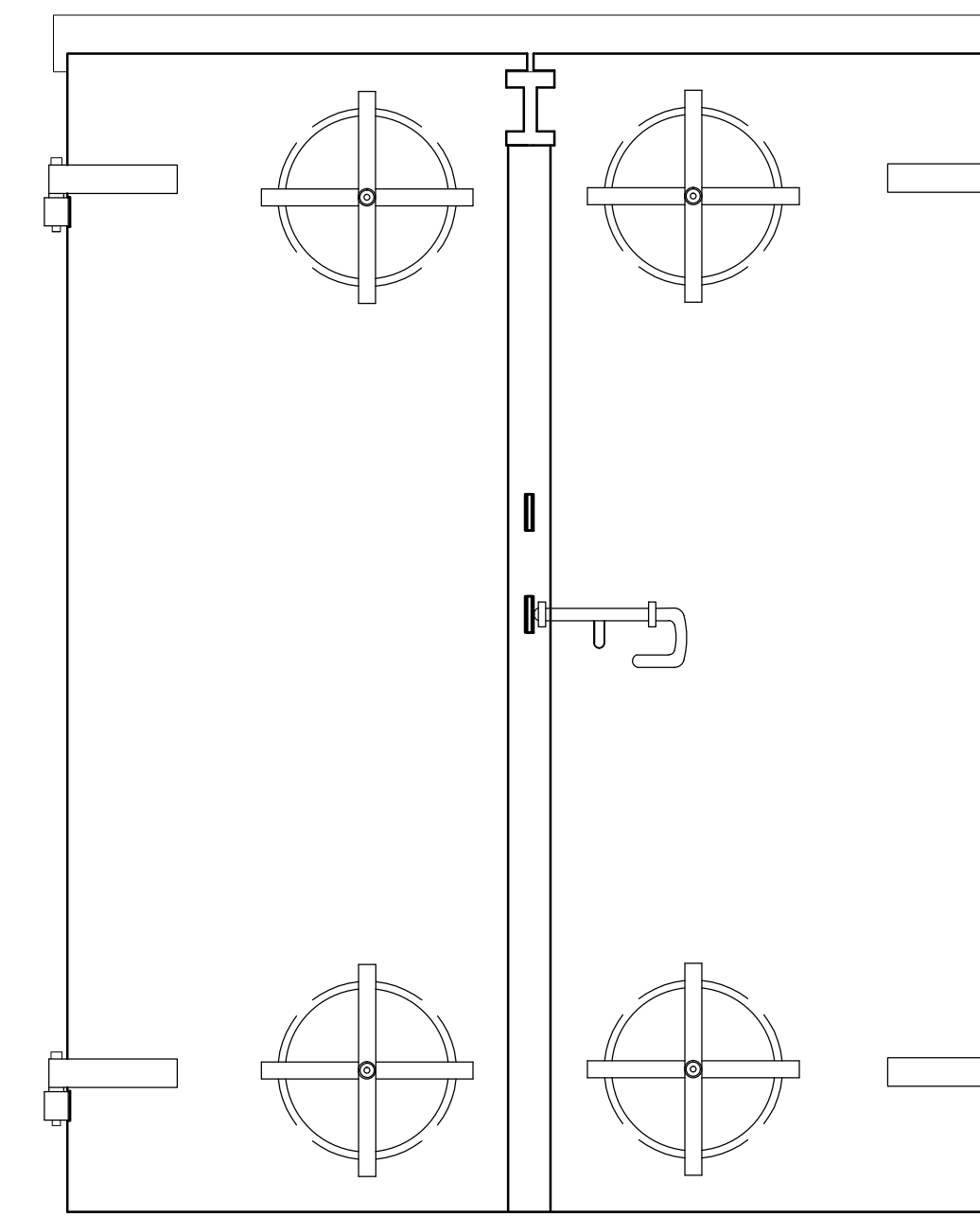
BATTERY LEWIS RESTORATION - PHASE 2
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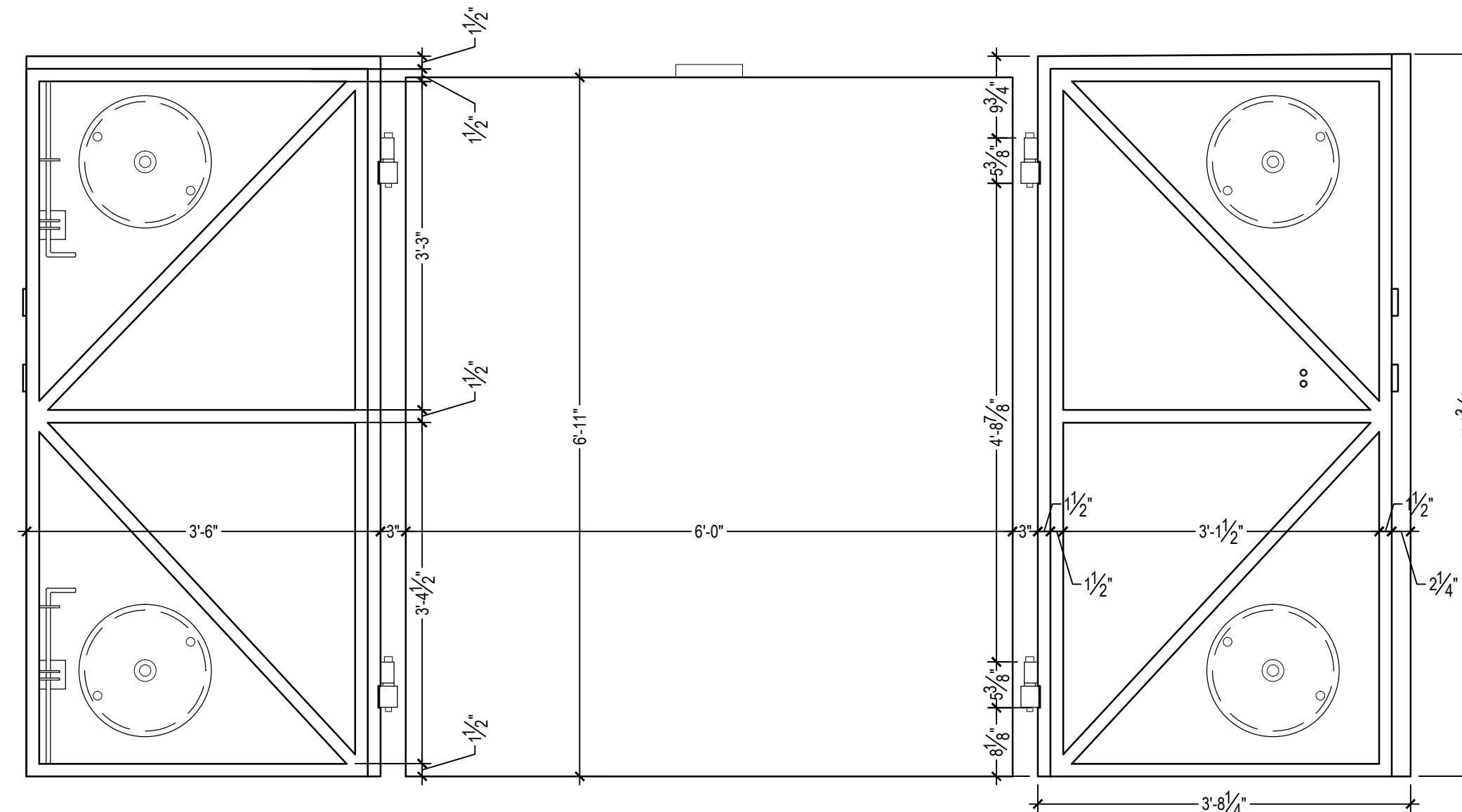
Drawing Title		
INTERIOR GATES AND DETAILS		
Date: 23 APRIL 2015		
Revisions		
No.	Date	Description
Drawing No.		
A-405		



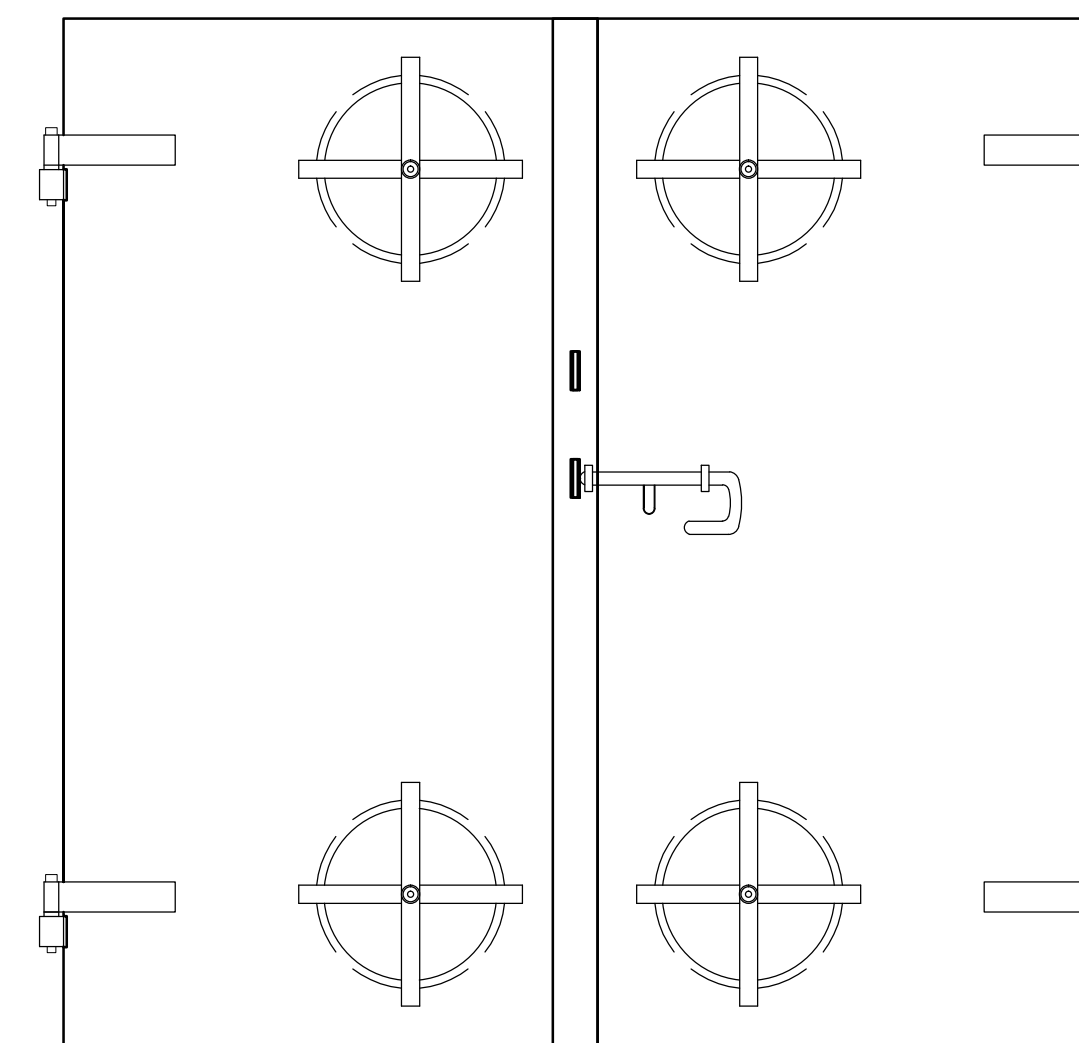
1 ELEVATION - SHELL ROOM DOORS (INTERIOR SIDE)
SCALE: 3/4"=1'-0" (DOOR TYPE 3)



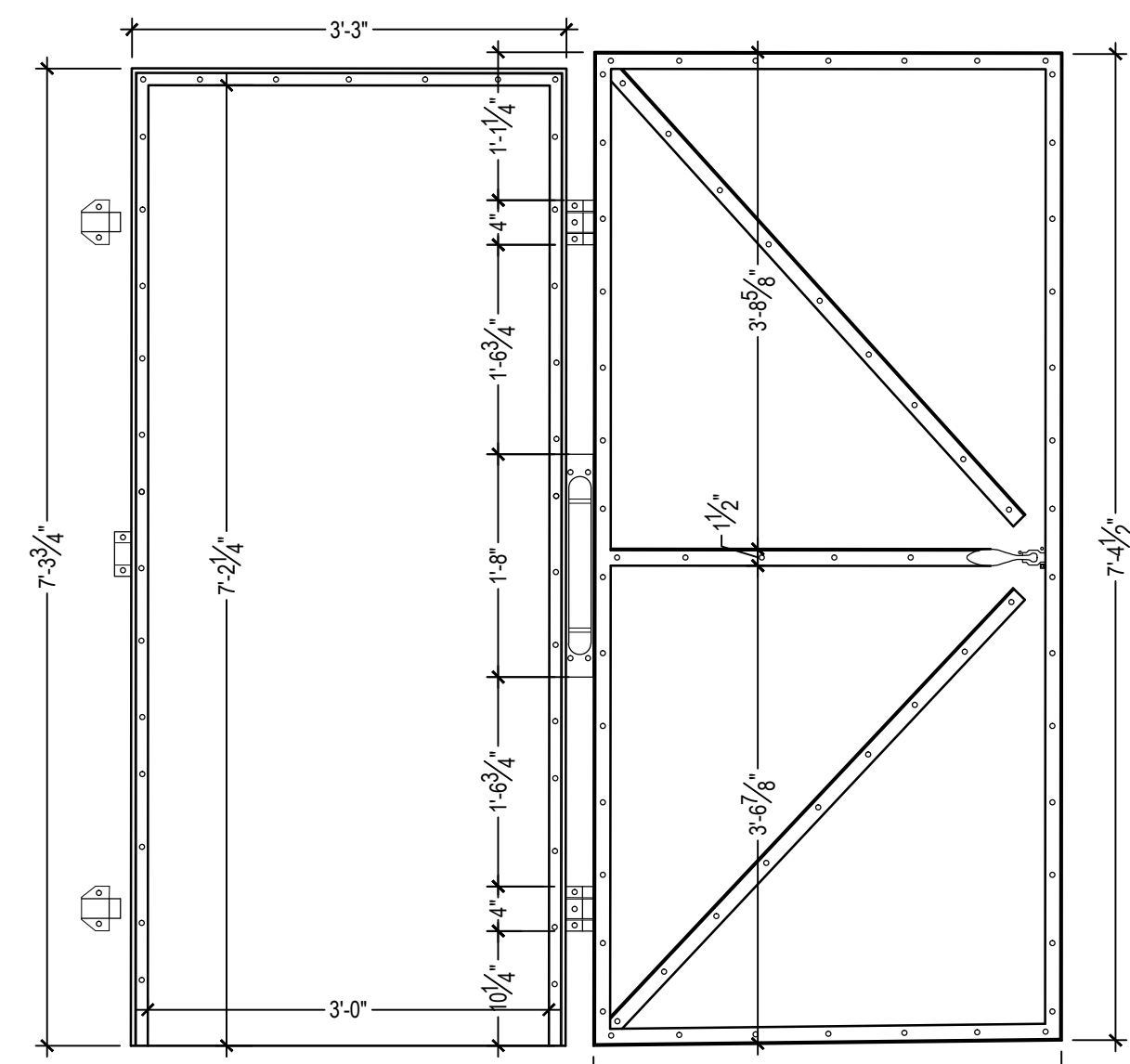
2 ELEVATION - SHELL ROOM DOORS (CORRIDOR SIDE)
SCALE: 3/4"=1'-0" (DOOR TYPE 3)



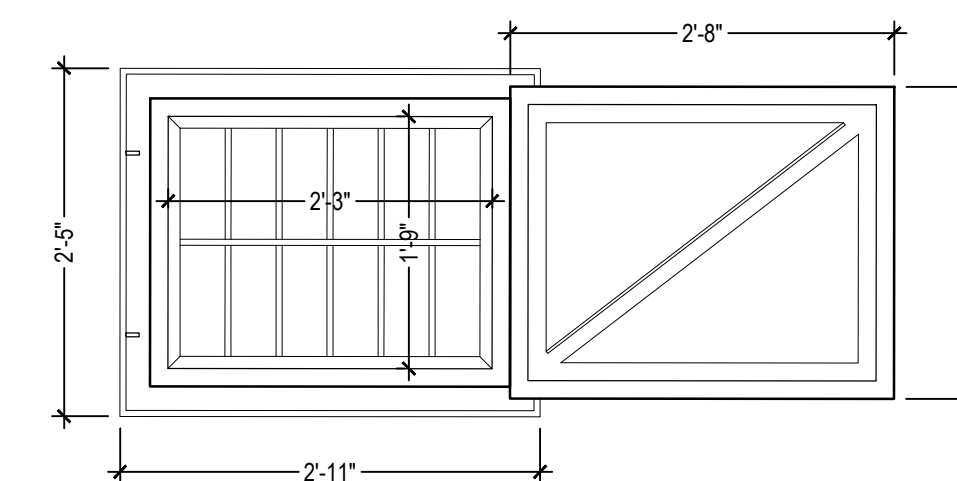
3 ELEVATION - POWDER ROOM DOORS (INTERIOR SIDE)
SCALE: 3/4"=1'-0" (DOOR TYPE 2)



4 ELEVATION - POWDER ROOM DOORS (CORRIDOR SIDE)
SCALE: 3/4"=1'-0" (DOOR TYPE 2)



5 ELEVATION - LATRINE/STORAGE ROOM DOOR
SCALE: 3/4"=1'-0" (DOOR TYPES 1 AND 5)



6 ELEVATION - LATRINE WINDOW
SCALE: 3/4"=1'-0" (TYPE: WIN)

W:\0085\442-01 Battery Lewis\ACAD\A-406 - DOOR DETAILS-04-14-2015.dwg

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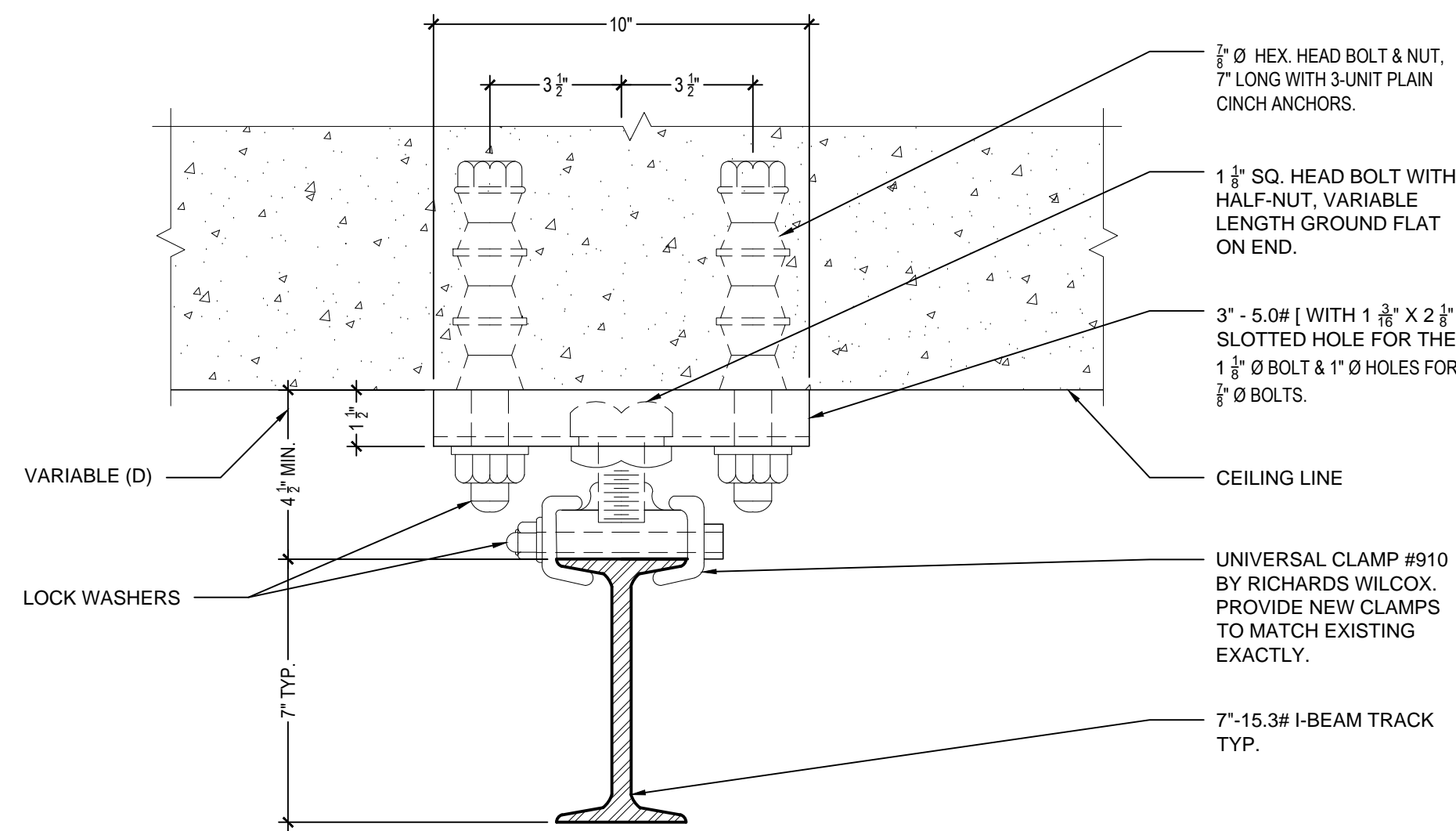
**BATTERY LEWIS
RESTORATION - PHASE 2**
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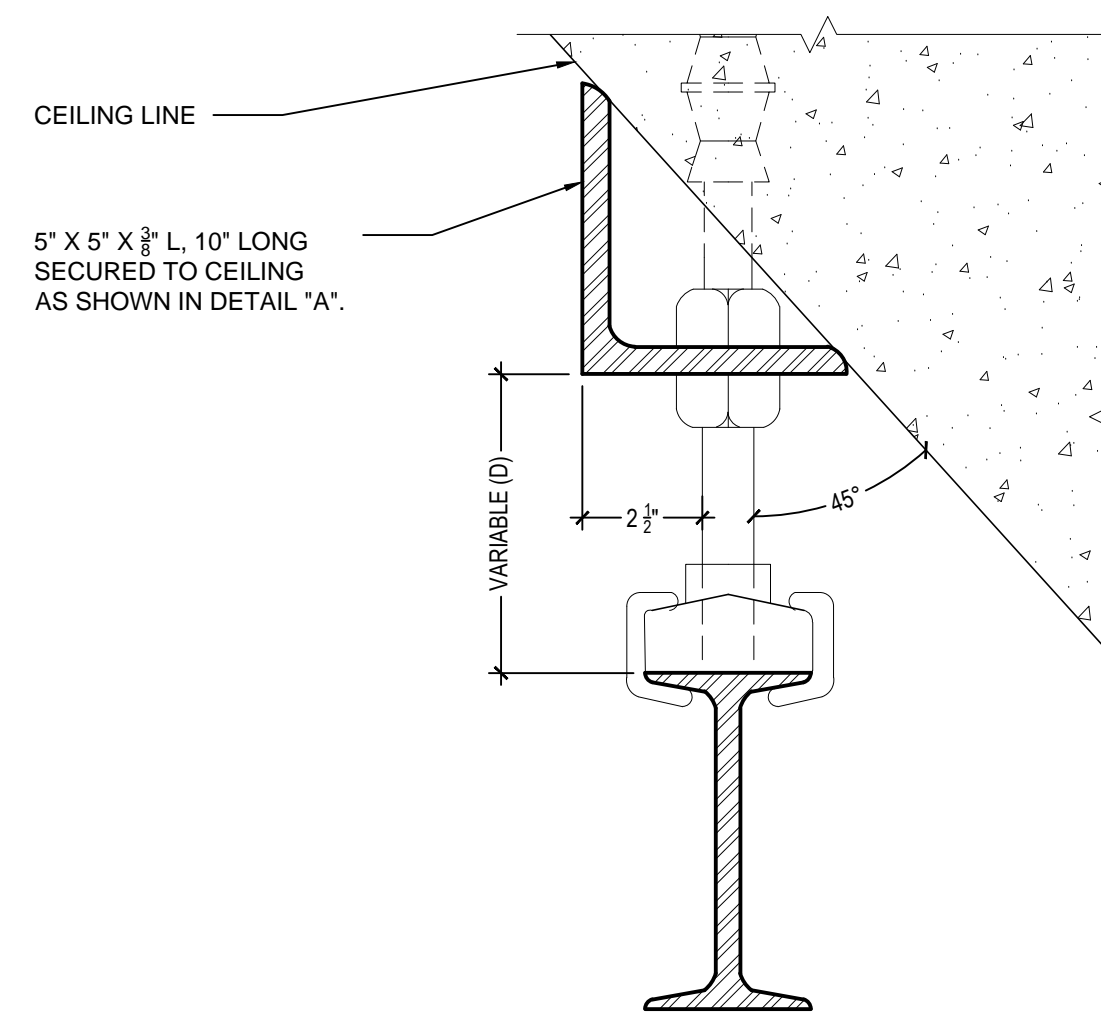
Drawing Title		
DOOR DETAILS		
Date: 23 APRIL 2015		
Revisions		
No.	Date	Description
Drawing No.		
A-406		

NOTE:

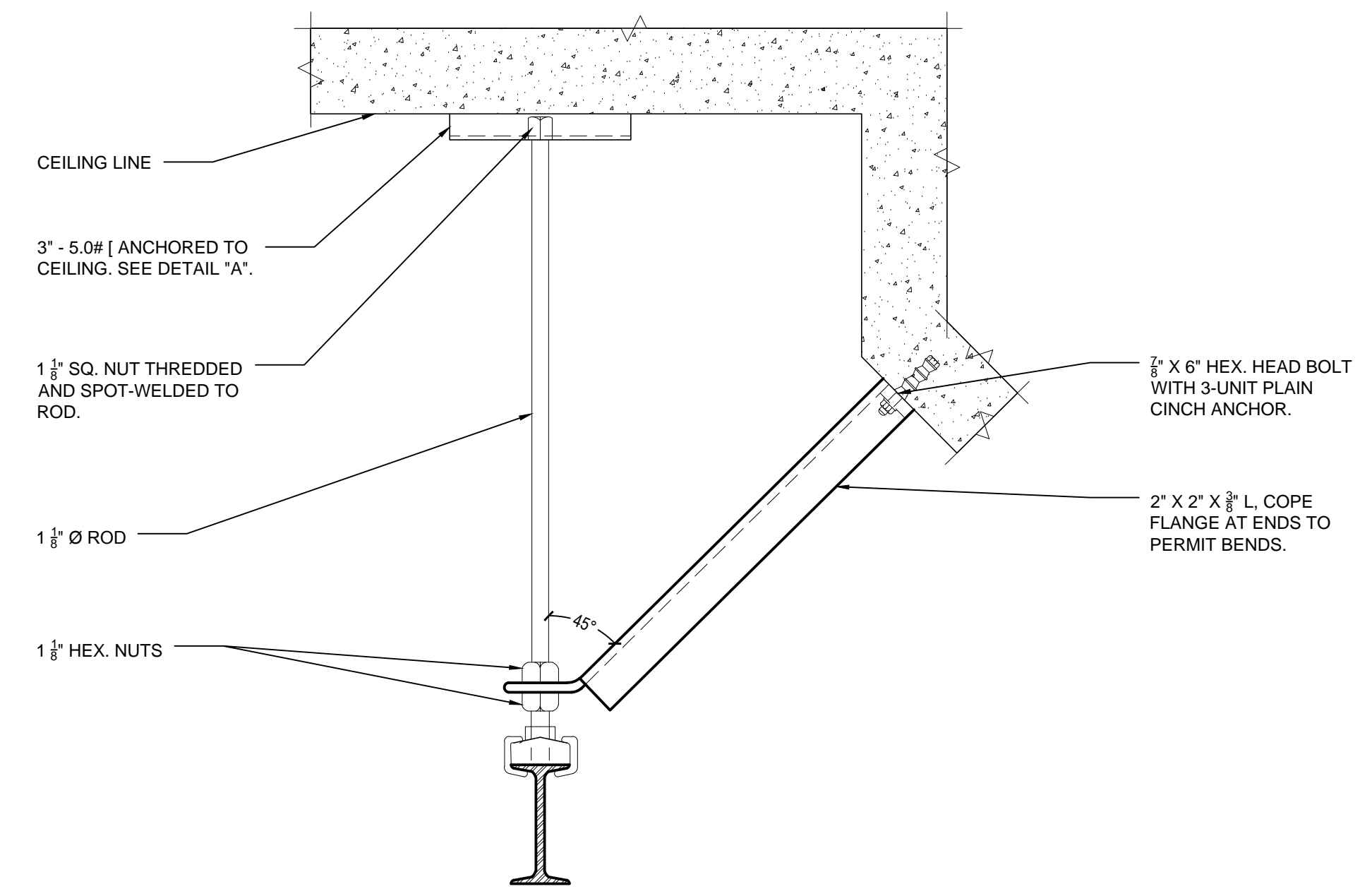
1. DETAIL "A" APPLIES WHERE DISTANCE (D) IS NOT GREATER THAN 1'-6". FOR GREATER DISTANCES DETAILS "C" AND "D" WERE USED.
2. WHERE LOCATION OF HANGER ROD OCCURED BETWEEN TWO BEAMS A LENGTH OF 6" 1 1/2 S. LBS. WAS SPANNED ACROSS LOWER FLANGES OF BEAMS TO PROVIDE FOR HANGING OF ROD.
3. PREPARE, PRIME AND PAINT (2 COATS) CEILING TRACK AND TROLLEY HOIST (TYP.).



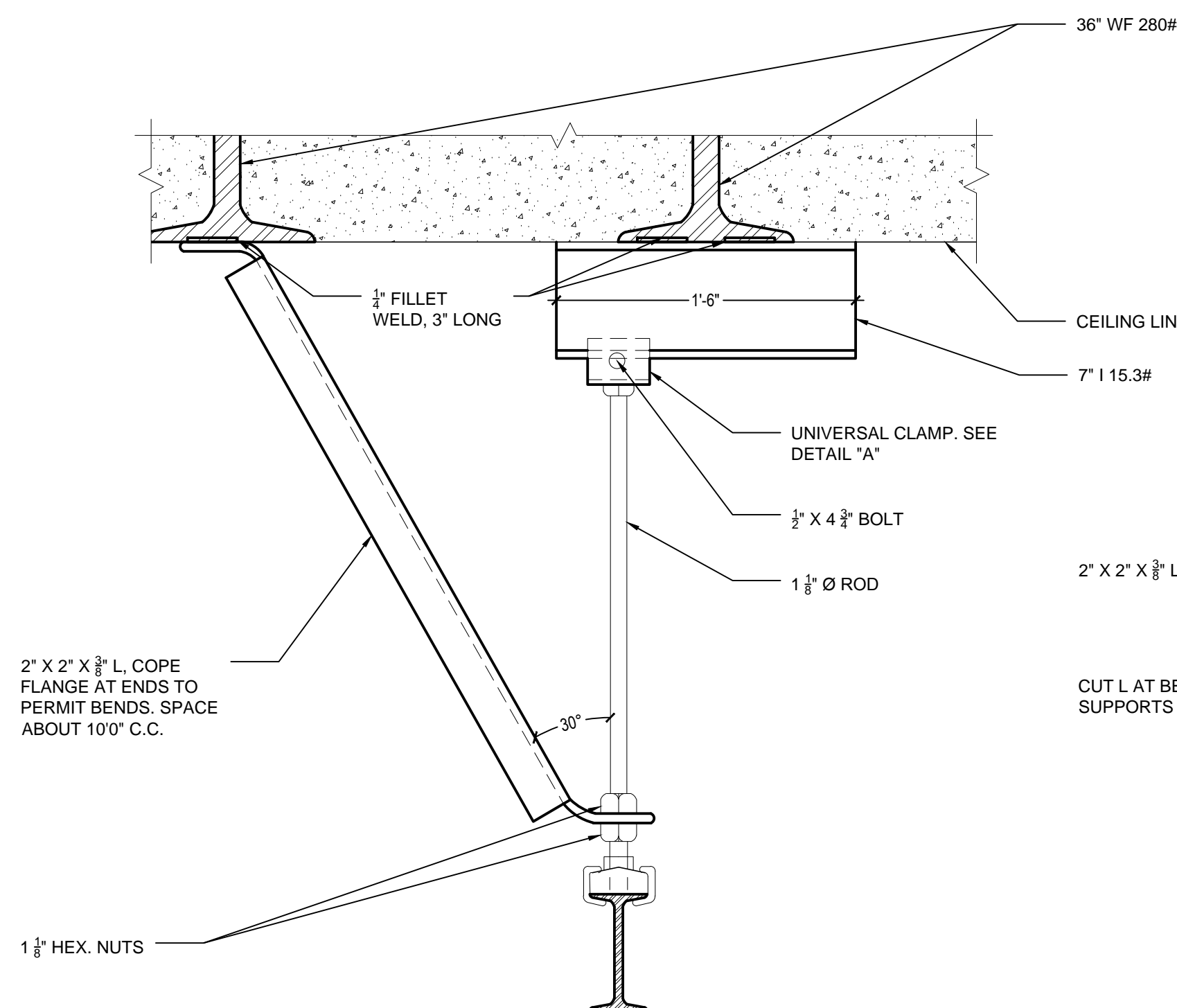
1 CEILING TRACK DETAIL "A"
3' = 1'-0"



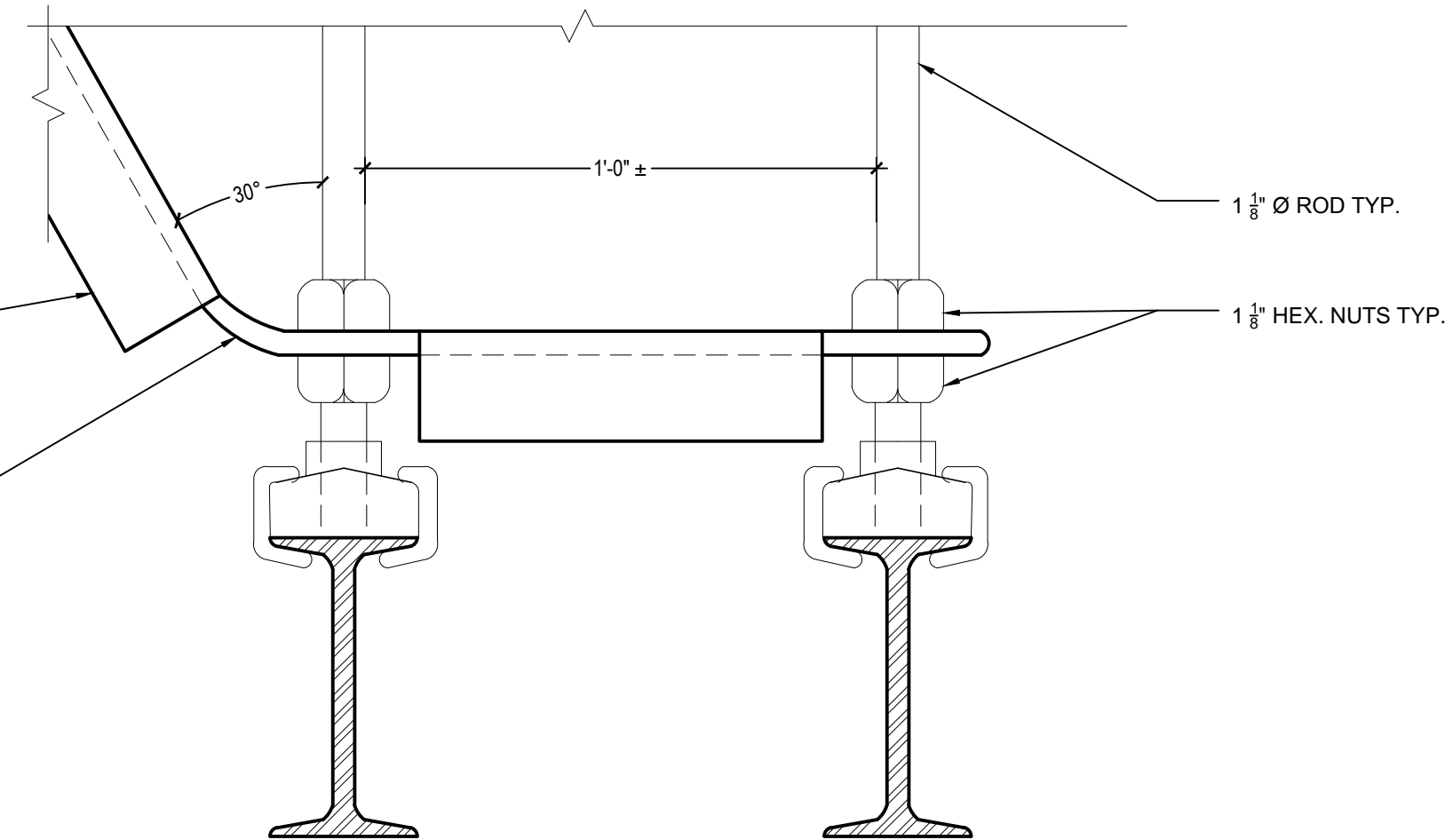
2 CEILING TRACK DETAIL "B"
3' = 1'-0"



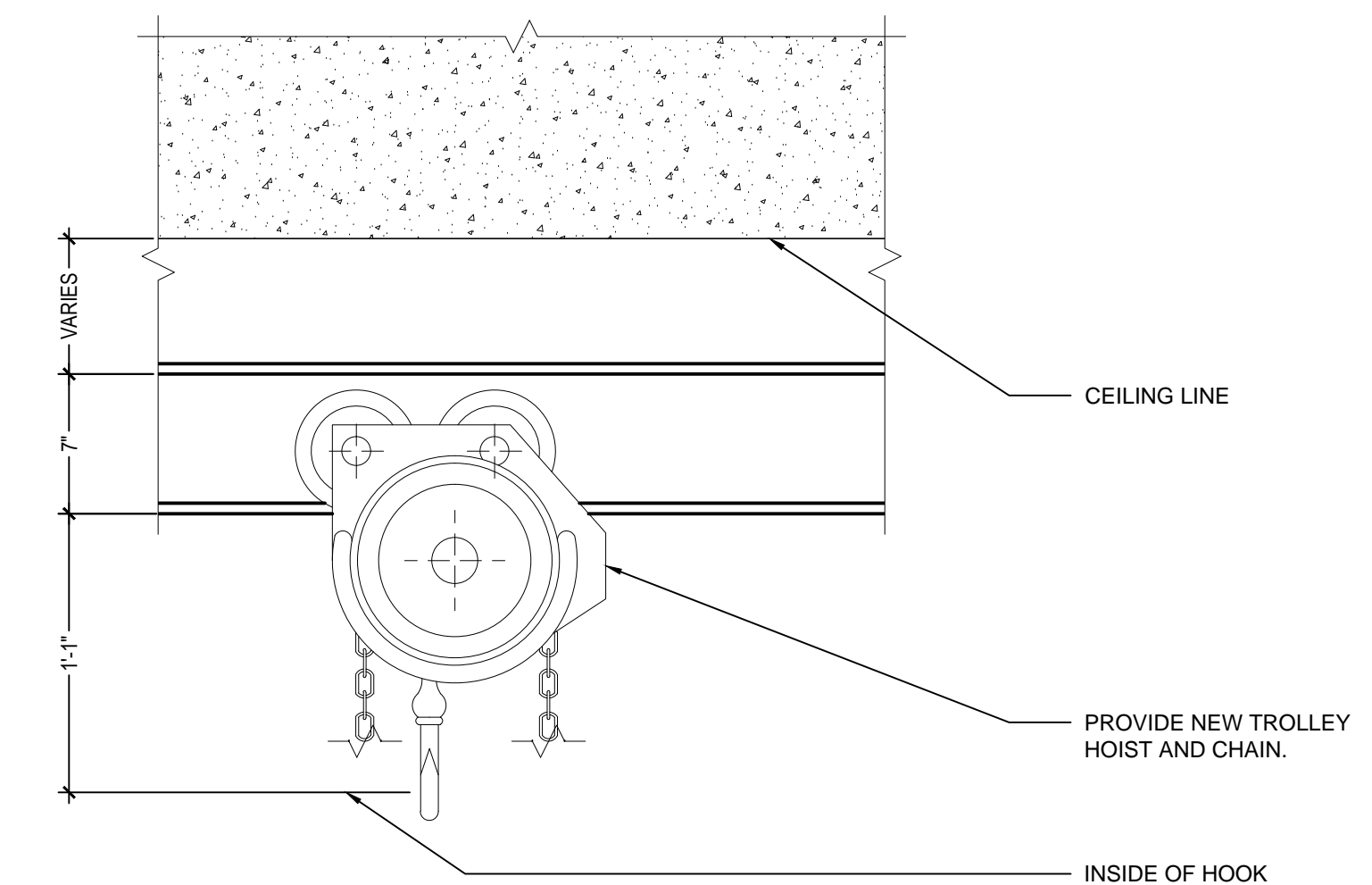
3 CEILING TRACK DETAIL "C"
1-1/2" = 1'-0"



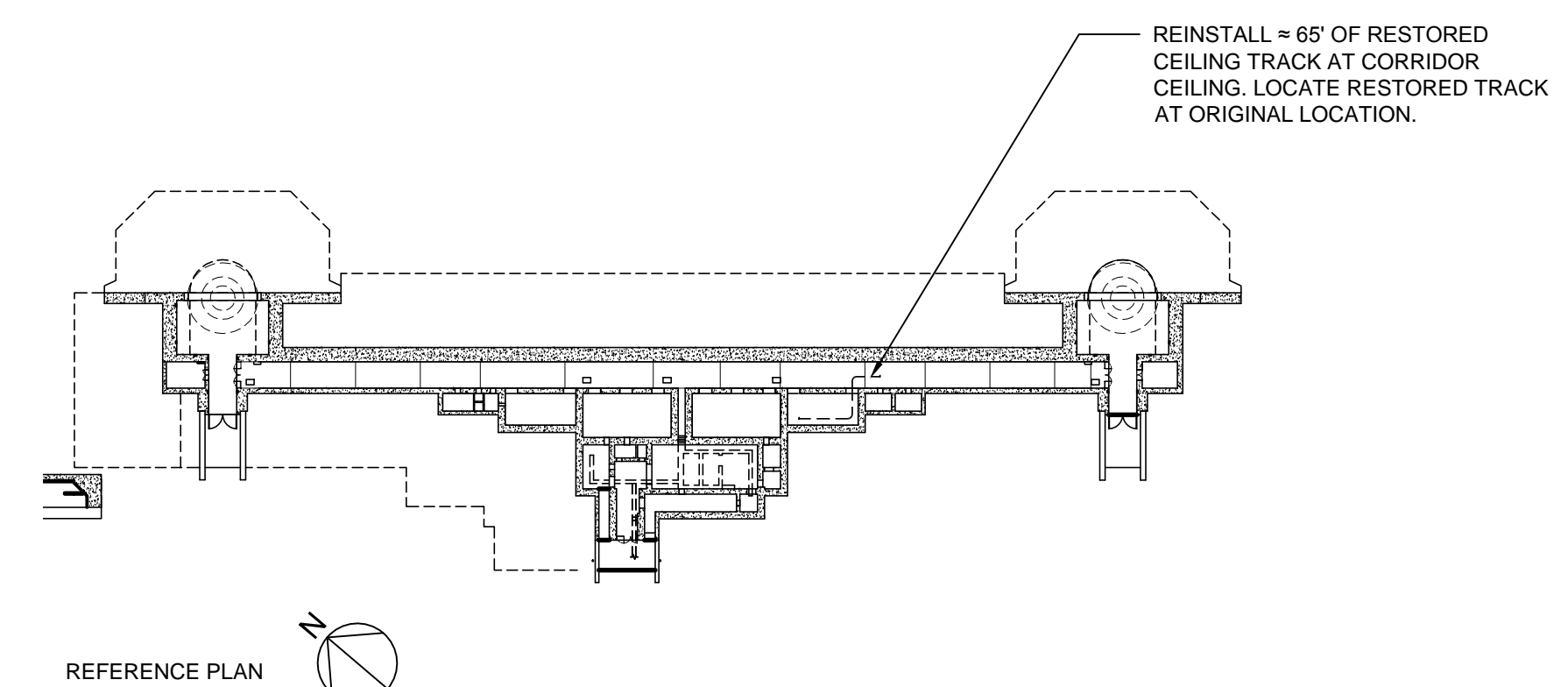
4 CEILING TRACK DETAIL "D"
1-1/2" = 1'-0"



5 CEILING TRACK DETAIL "E"
3' = 1'-0"



6 TROLLEY HOIST DETAIL
1-1/2" = 1'-0"



REFERENCE PLAN

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**BATTERY LEWIS
RESTORATION - PHASE 2**
Hartshorne Woods Park, Highlands, NJ
Monmouth County Park System
805 Newman Springs Road
Lincroft, NJ 07738

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION.

DO NOT SCALE DRAWINGS.

JHPA Job No. 442-01

Drawing Title

TRACK DETAILS

Date: 23 APRIL 2015

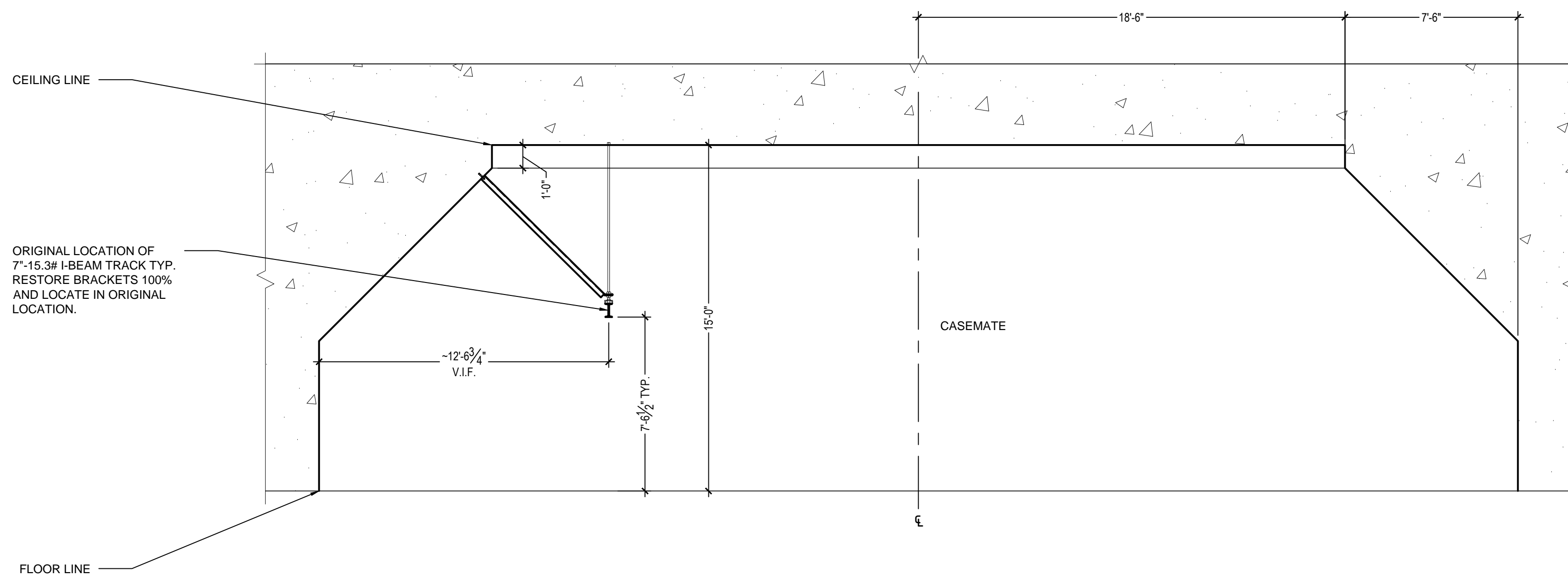
Revisions

No.	Date	Description

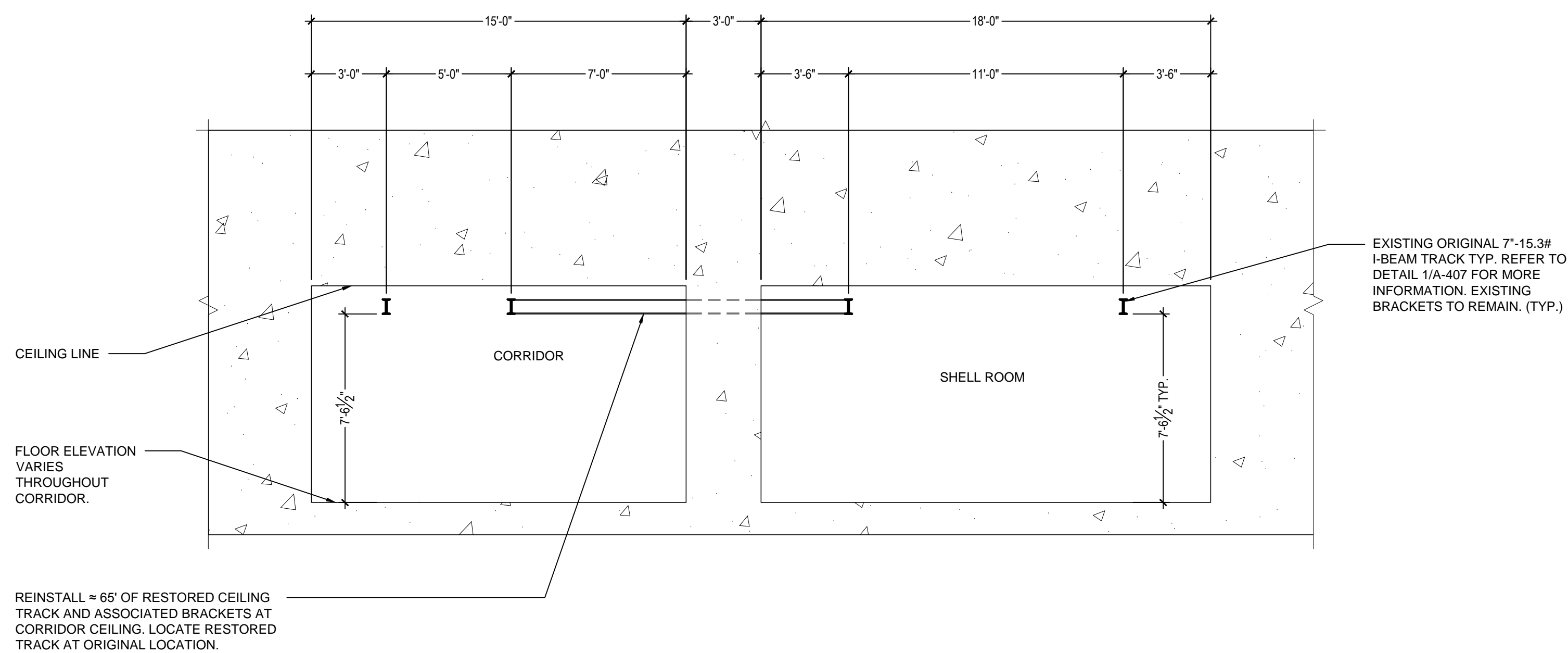
Drawing No.

A-407

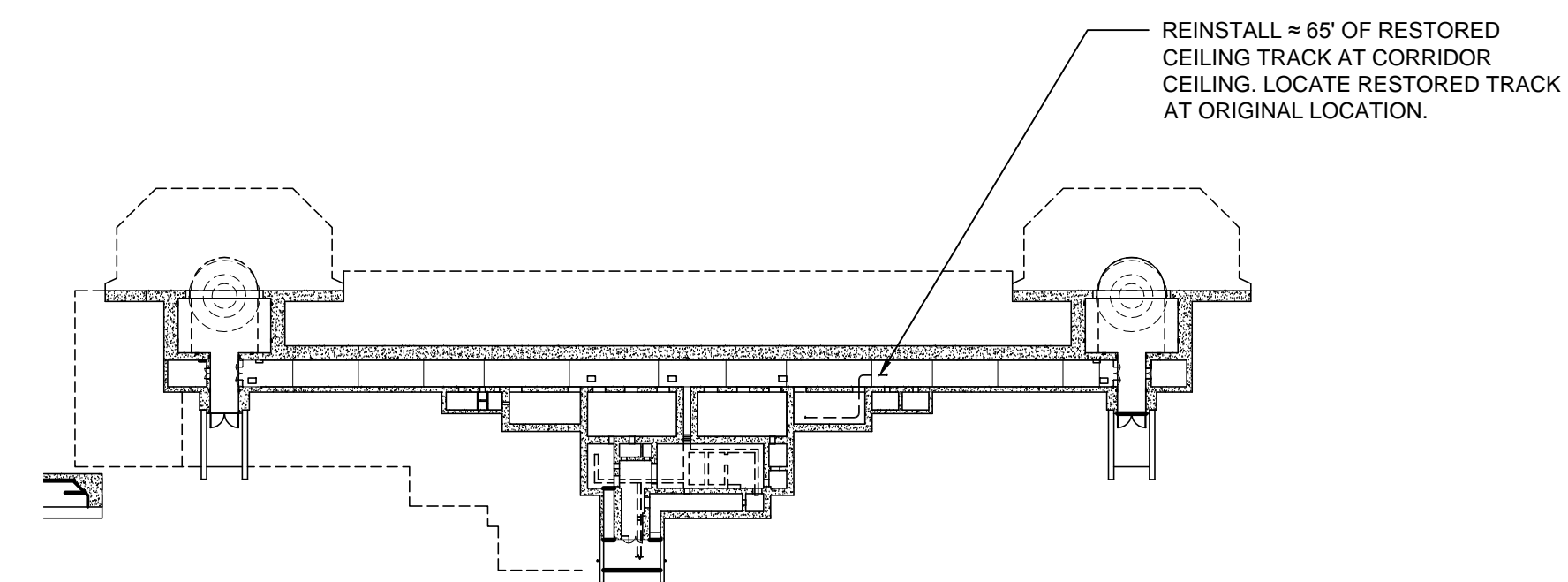
- NOTE:**
1. PREPARE, PRIME AND PAINT (2 COATS) CEILING TRACK AND TROLLEY HOIST (TYP.).



1 CASEMATE TRACK SECTION
1/4" = 1'-0"



2 SHELL ROOM AND CORRIDOR TRACK SECTION
1/4" = 1'-0"



REFERENCE PLAN

JHPA
JAN HIRD POKORNY ASSOCIATES
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JHPA Job No. 442-01

Drawing Title

TRACK DETAILS
(2)

Date: 23 APRIL 2015

Revisions

No.	Date	Description

Drawing No.

A-408

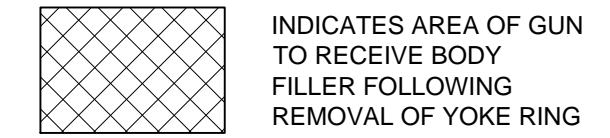
- NOTES:**
- WEIGHT OF GUN IS 237,686 LBS. OR 106.11 TONS WITHOUT BREECH MECH.
 - ALL DIMENSIONS OF YOKE RING DETAIL AND PLACEMENT ARE ESTIMATES BASED ON HISTORIC DRAWINGS. VERIFY DIMENSIONS IN FIELD.
 - FOLLOWING REMOVAL OF YOKE RING ASSEMBLIES CLEAN, REPAIR, PREPARE AND PAINT GUN 100%. REFER TO DRAWING FOR METHOD OF CLEANING AT EACH LOCATION.
 - PROVIDE FINAL COAT OF PAINT FOLLOWING INSTALLATION OF GUN.

- WORK BY OTHERS TO INCLUDE:**
- CONSTRUCTION OF THE PEDESTAL
 - REMOVAL OF THE SHIPPING YOKES
 - RELOCATION OF THE GUN BARREL TO THE PEDESTAL

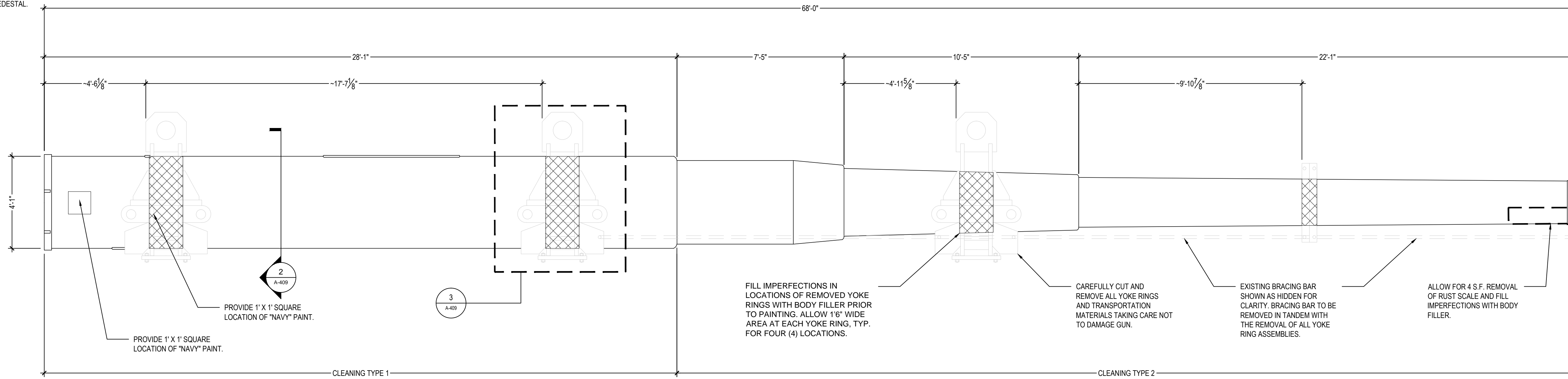
- SEQUENCE OF GUN REPAIR:**
- CLEAN/REPAIR/PRIME AND PAINT INITIAL COAT WHILE GUN IS SECURED TO SHIPPING YOKES
 - REMOVE SHIPPING YOKES AND RELOCATE GUN TO NEW PEDESTAL (YOKE REMOVAL AND PEDESTAL TO BE COMPLETED BY OTHERS)
 - COMPLETE CLEANING/REPAIRS AT LOCATIONS OF REMOVED SHIPPING YOKES. PRIME AND PAINT INITIAL COAT IN THESE LOCATIONS.
 - PAINT, INTERMEDIATE AND FINAL COATS ONCE GUN IS INSTALLED ON PEDESTAL.

- GUN CLEANING SCOPE:**
- CLEANING TYPE 1:**
 - AIR-ABRASIVELY CLEAN THE EXTERIOR SURFACE OF THE GUN TO AN SSPC SP-6 SURFACE USING THE ACS TORNADO SYSTEM. BLAST MEDIA SHOULD BE WALNUT SHELLS, WITH AN ALTERNATE MEDIA OF FINE GLASS AS NECESSARY ON MORE DIFFICULT AREAS.
 - EXISTING OPENINGS FOR WADDING SHOULD BE PLUGGED WITH RUBBER STOPPERS PRIOR TO ANY MEDIA BLASTING OPERATIONS.
 - ALL BRASS TAGS SHOULD BE PHOTO DOCUMENTED, REMOVED AND STORED WITH HARDWARE FOR REINSTALLATION PRIOR TO ANY MEDIA BLASTING OPERATIONS.
 - THE BREECH OPENING SHOULD BE FULLY SEALED PRIOR TO ANY MEDIA BLASTING OPERATIONS - NO MEDIA IS PERMITTED WITHIN THE CHAMBER OF THE GUN.
 - CLEANING TYPE 2:**
 - AIR-ABRASIVELY CLEAN THE EXTERIOR SURFACE OF THE GUN TO REMOVE GRAY PAINT USING THE ACS TORNADO SYSTEM. CLEANING SHOULD TAKE SURFACE TO YELLOW ZINC-OXIDE PRIMER. ONLY BLAST MEDIA SHOULD BE WALNUT SHELLS OR FINE GLASS, WITH AN ALTERNATE MEDIA OF BLACK BEAUTY AS NECESSARY ON MORE DIFFICULT AREAS.
 - EXISTING STENCILED PAINT TAGS AT THE FRONT OF THE GUN ARE TO BE PHOTO DOCUMENTED AND TRACED PRIOR TO ANY MEDIA BLASTING OPERATIONS.
 - THE MUZZLE OPENING SHOULD BE FULLY SEALED PRIOR TO ANY MEDIA BLASTING OPERATIONS - NO MEDIA IS PERMITTED WITHIN THE CHAMBER OF THE GUN.

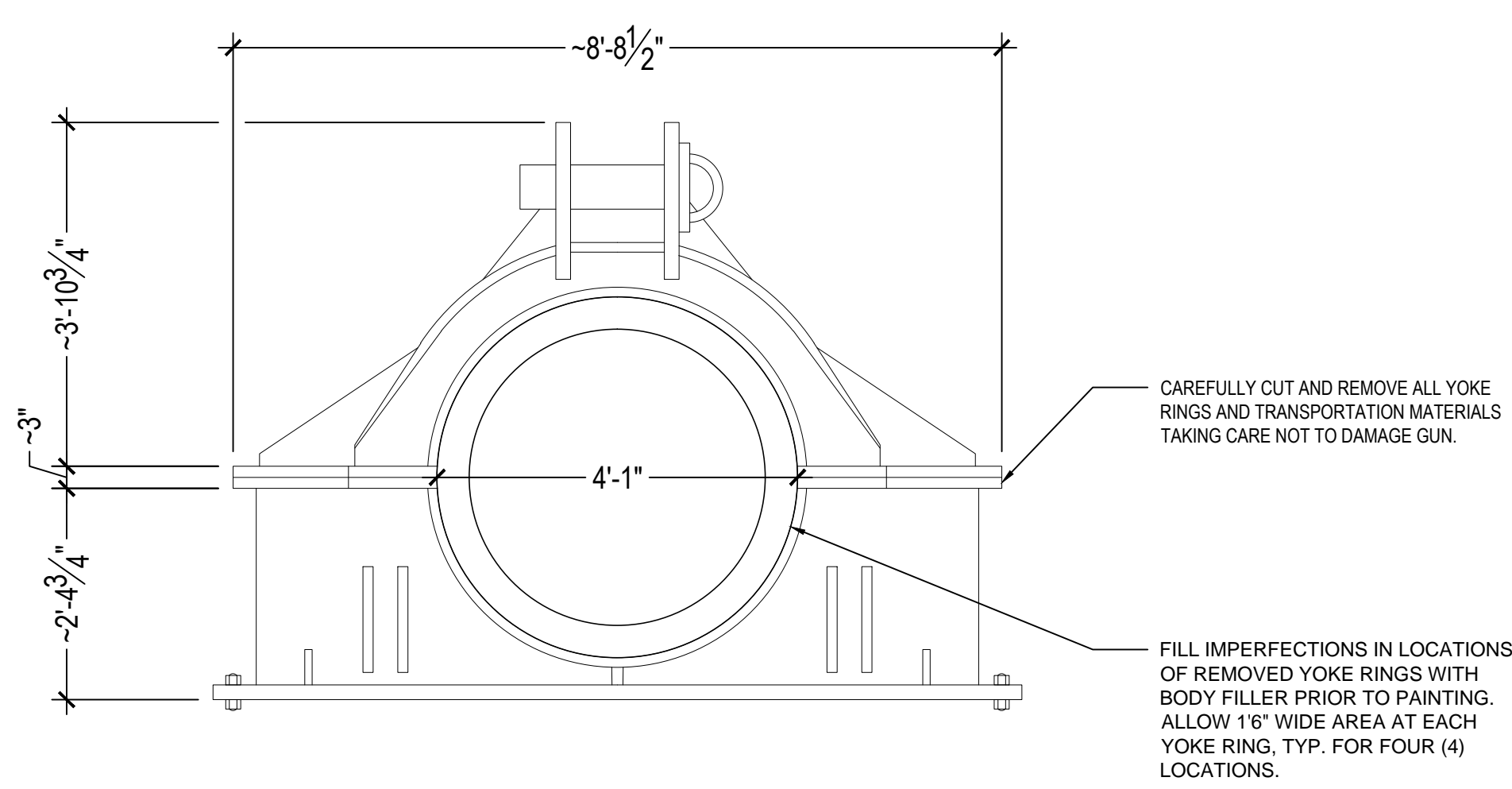
- ALTERNATE CLEANING TYPE 2:**
 - SAND EXISTING PAINT FINISHES WITH PALM SANDERS EQUIPPED WITH HEPA FILTERS TO A SMOOTH/UNIFORM SURFACE WITH SUITABLE KEY FOR PAINT ADHESION. FEATHER LOCATIONS OF CHIPPED/DAMAGED PAINT TO BLEND WITH ADJACENT SURFACES.
 - EXISTING STENCILED PAINT TAGS AT THE FRONT OF THE GUN ARE TO BE PHOTO DOCUMENTED AND TRACED PRIOR TO ANY SANDING OPERATIONS.
 - THE MUZZLE OPENING SHOULD BE FULLY SEALED PRIOR TO ANY SANDING OPERATIONS - NO PAINT DEBRIS IS PERMITTED WITHIN THE CHAMBER OF THE GUN.
 - ADEQUATE PROTECTION MUST BE PROVIDED TO COLLECT ANY/ALL PAINT CHIPS/DUST/RESIDUE FROM SANDING OPERATIONS. NO PAINT CHIPS/DUST/RESIDUE IS ALLOWED TO ACCUMULATE ON GROUND SURFACES.



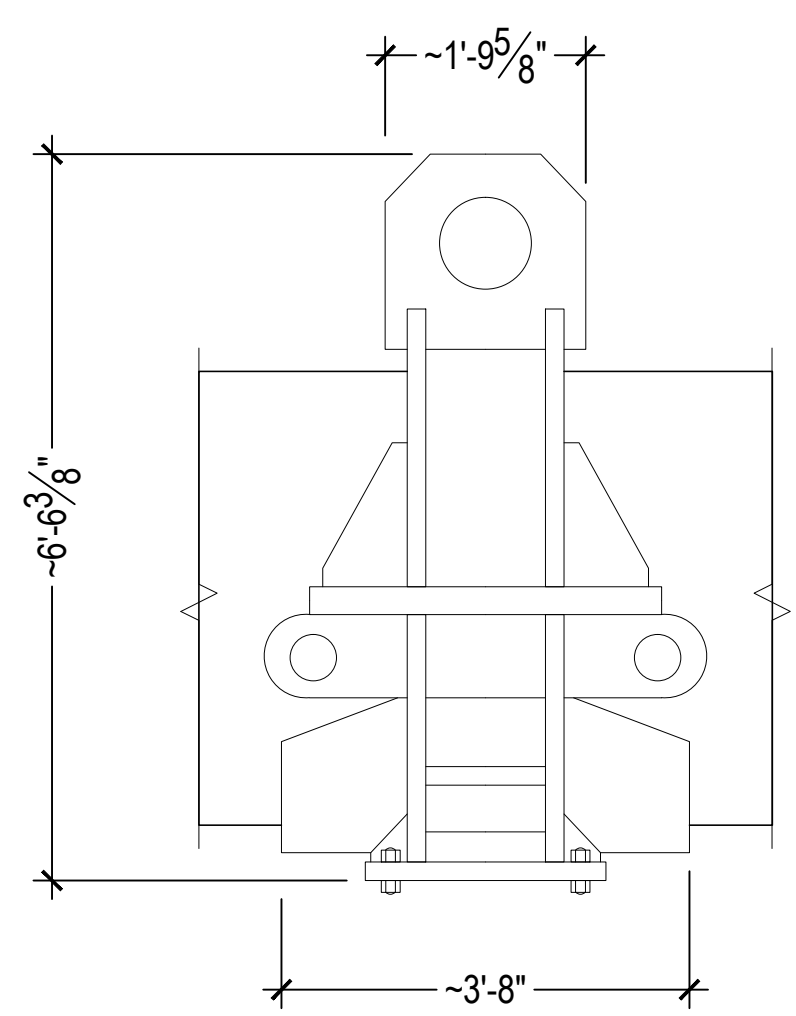
INDICATES AREA OF GUN TO RECEIVE BODY FILLER FOLLOWING REMOVAL OF YOKE RING



1 ELEVATION - CASEMATE GUN WITH YOKE RINGS
SCALE: 3/8"=1'-0"



2 SECTION - CASEMATE GUN WITH YOKE RING
SCALE: 3/8"=1'-0"



3 ELEVATION - YOKE RING DETAIL
SCALE: 3/8"=1'-0"

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JHPA Job No. 442-01

Drawing Title		
GUN DETAILS		
Date: 23 APRIL 2015		
Revisions		
No.	Date	Description

Drawing No.
A-409

NOTE:

1. DEDUCT ALTERNATE 1: REMOVE THE RESTORATION SCOPE FOR THE FOLLOWING DOORS AND WINDOWS: D-9C, D-9B, D-9A, D-4B, D-4A.

DOOR NO.	TYPE	ROOM	LOCATION	OPENING FRAME SCOPE	DOOR FRAME SCOPE	DOOR SHEET SCOPE	DOOR VENTILATOR SCOPE	HINGE KNUCKLE SCOPE	HINGE PINTEL SCOPE	LATCH SCOPE	CLOSER SCOPE	SECURITY BAR SCOPE	ADDITIONAL NOTES
4A	1	STORAGE	BAY 4	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	N/A	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
4B	1	STORAGE	BAY 4	NONE	RESTORE UPPER RAIL, PROVIDE NEW SIDE RAILS, DIAGONAL BRACE AND LOWER RAIL	PROVIDE NEW PLATE STEEL	N/A	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
5A	3	SHELL ROOM	BAY 5	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
5B	3	SHELL ROOM	BAY 5	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
5C	3	SHELL ROOM	BAY 5	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
5D	3	SHELL ROOM	BAY 5	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
6A	2	POWDER ROOM	BAY 6	NONE	PROVIDE NEW STEEL FRAME	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
6B	2	POWDER ROOM	BAY 6	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
6C	2	POWDER ROOM	BAY 6	NONE	PROVIDE NEW STEEL FRAME	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
6D	2	POWDER ROOM	BAY 6	NONE	PROVIDE NEW STEEL FRAME	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
7A	2	POWDER ROOM	BAY 7	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	RESTORE EXISTING PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
7B	2	POWDER ROOM	BAY 7	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	RESTORE EXISTING PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
7C	N/A	SERVICE CORRIDOR	BAY 7	N/A	NONE	N/A	N/A	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	NA	RESTORE EXISTING IRON GATE	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
8A	2	POWDER ROOM	BAY 8	NONE	PROVIDE NEW STEEL FRAME	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
8B	2	POWDER ROOM	BAY 8	NONE	PROVIDE NEW STEEL FRAME	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
8C	2	POWDER ROOM	BAY 8	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
8D	2	POWDER ROOM	BAY 8	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
8E	2	POWDER ROOM	BAY 8	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
8F	2	POWDER ROOM	BAY 8	NONE	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
9A	3	SHELL ROOM	BAY 9	NONE	RESTORE UPPER RAIL, PROVIDE NEW SIDE RAILS, DIAGONAL BRACE AND LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
9B	3	SHELL ROOM	BAY 9	NONE	RESTORE UPPER RAIL, PROVIDE NEW SIDE RAILS, DIAGONAL BRACE AND LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
9C	3	SHELL ROOM	BAY 9	NONE	RESTORE UPPER RAIL, PROVIDE NEW SIDE RAILS, DIAGONAL BRACE AND LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
9D	3	SHELL ROOM	BAY 9	RESTORE EXISTING IN SITU	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	PROVIDE NEW PLATE STEEL	CLEAN, AND RESTORE EXISTING	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
10WA	WIN	LATRINE	BAY 10	RESTORE EXISTING IN SITU	RESTORE EXISTING FRAME	RESTORE EXISTING PLATE STEEL	N/A	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	RESTORE EXISTING SECURITY BARS IN SITU	PREPARE, PRIME AND PAINT (2 COATS) ALL WINDOW ELEMENTS
10A	5	LATRINE	BAY 10	RESTORE EXISTING IN SITU	RESTORE UPPER RAIL, SIDE RAILS, AND DIAGONAL BRACES. REPLACE LOWER RAIL	RESTORE EXISTING PLATE STEEL	N/A	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	RESTORE EXISTING	RESTORE EXISTING	CUT CLOSER PIN AND RETAIN IN PLACE AS AN ARTIFACT	N/A	PREPARE, PRIME AND PAINT (2 COATS) ALL DOOR ELEMENTS
10WB	WIN	LATRINE	BAY 10	RESTORE EXISTING IN SITU	RESTORE EXISTING FRAME	RESTORE EXISTING PLATE STEEL	N/A	RESTORE EXISTING IN SITU, DRILL OUT EXISTING PINTEL AS NECESSARY	PROVIDE NEW STAINLESS STEEL HINGE PINTEL	RESTORE EXISTING	N/A	RESTORE EXISTING SECURITY BARS IN SITU	PREPARE, PRIME AND PAINT (2 COATS) ALL WINDOW ELEMENTS

W:\0985\442-01 Battery Lewis\ACAD\A-501 - DOOR SCHEDULE-04-14-2015.dwg

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JHPA Job No. 442-01

Drawing Title

**DOOR
SCHEDULE**

Date: 23 APRIL 2015

Revisions

No.	Date	Description

Drawing No.

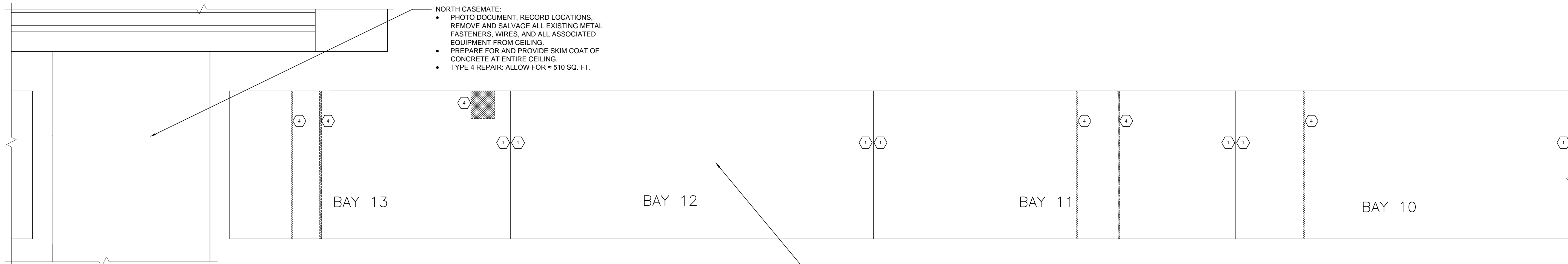
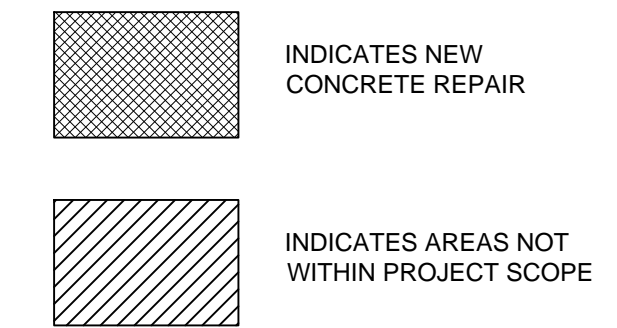
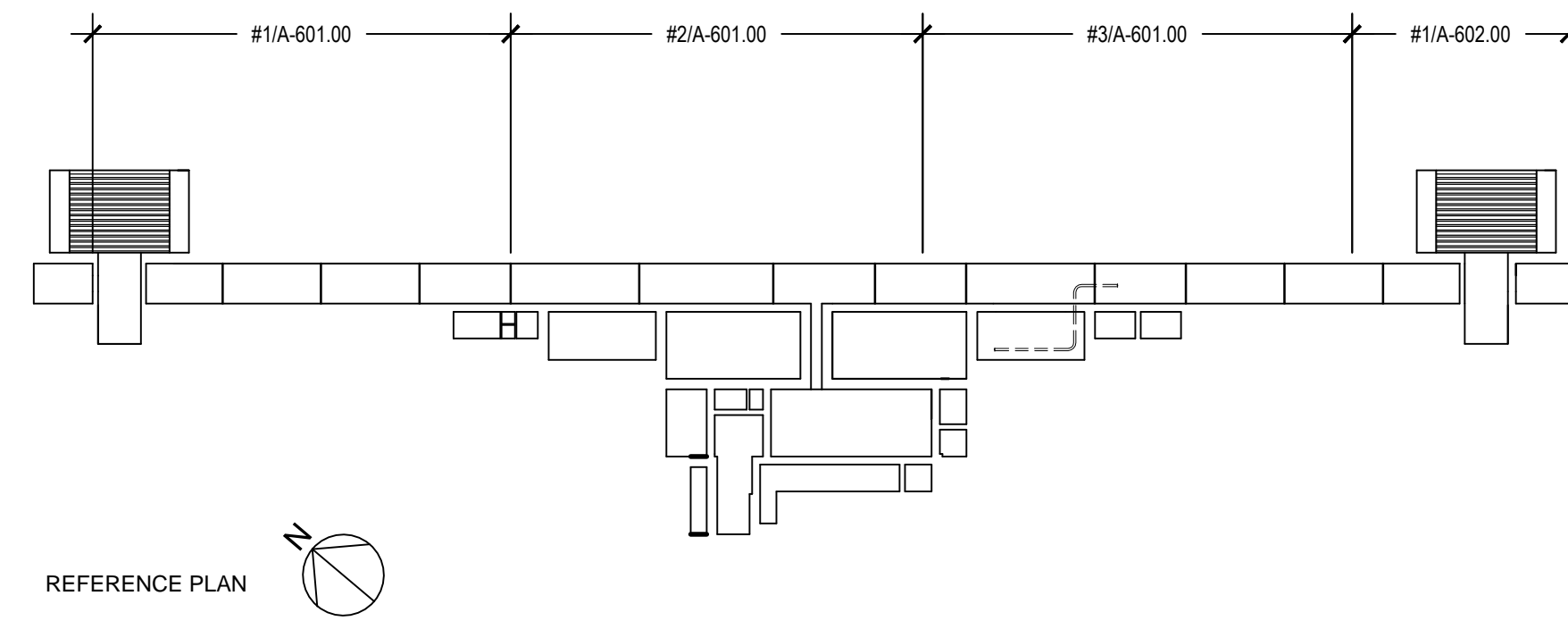
A-501

NOTE:

- FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
- PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
- ALL TAGS DENOTE A SINGLE INSTANCE OF REPAIR UNLESS STATED OTHERWISE.
- REMOVE ALL EXISTING UNUSED LIGHT FIXTURES AND ASSOCIATED CONDUITS IN CORRIDOR, SHELL ROOMS, POWDER ROOMS, AND POWER ROOM.
- POWER ROOM OUTSIDE REPAIR SCOPE. FOR LIGHTING SCOPE AT POWER ROOM REFER TO A-603/604.
- RECORD LOCATIONS, PHOTO DOCUMENT, AND REMOVE TRACK AND SUPPORTS AT CORRIDOR 100%.
- RECONSTRUCT PORTION OF TRACK AS INDICATED ON SHEET A-202.
- PROVIDE NEW LIGHT FIXTURES AND CONDUIT AS INDICATED ON LIGHTING PLAN. REFER TO SHEETS A-603/604 FOR NEW FIXTURE LOCATIONS AND ADDITIONAL DETAILS.
- FOR CONCRETE AND STEEL REPAIR ESTIMATES FOR EACH BAY AT CORRIDOR REFER TO SHEETS A-307 TO A-309.

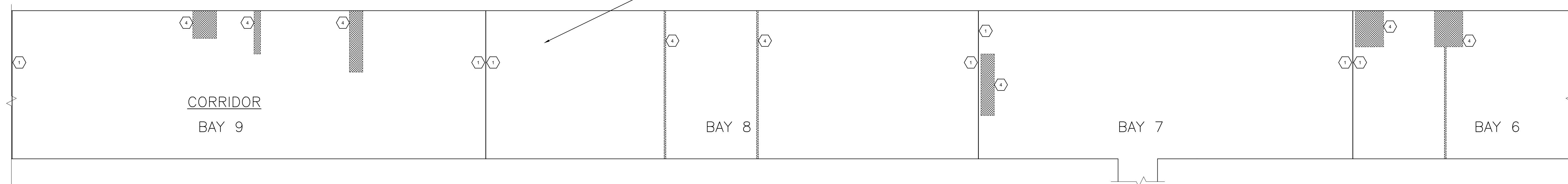
LEGEND:

- 1 TYPE 1 REPAIR: CRACK REPAIR
- 2A TYPE 2A REPAIR: LARGE CONCRETE SPALL REPAIR
- 2B TYPE 2B REPAIR: SMALL CONCRETE SPALL REPAIR
- 3 TYPE 3 REPAIR: HOLE REPAIR
- 4 TYPE 4 REPAIR: CONCRETE SKIM COAT
- 5 TYPE 5 REPAIR: METAL REPAIR



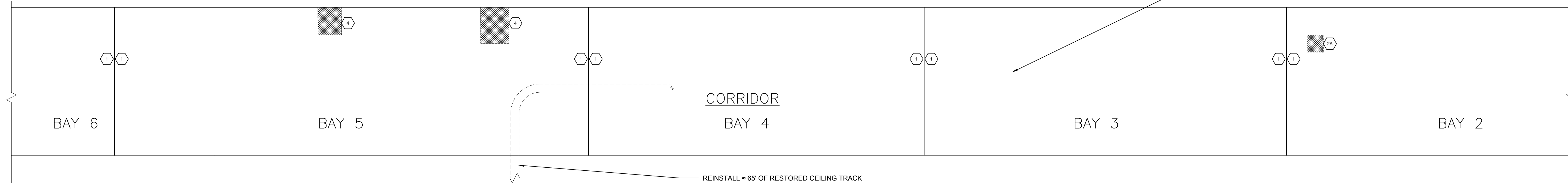
1 BAYS 13-10: CORRIDOR RCP
3/16" = 1'-0"

PHOTO DOCUMENT ENTIRE LENGTH OF CORRIDOR CEILING DOCUMENTING ALL LOCATIONS OF EXISTING AMMUNITION SERVICE HARDWARE.



2 BAYS 9-6: CORRIDOR RCP
3/16" = 1'-0"

PHOTO DOCUMENT ENTIRE LENGTH OF CORRIDOR CEILING DOCUMENTING ALL LOCATIONS OF EXISTING AMMUNITION SERVICE HARDWARE.



3 BAYS 6-2: CORRIDOR RCP
3/16" = 1'-0"

REINSTALL = 65' OF RESTORED CEILING TRACK AT CORRIDOR CEILING. LOCATE RESTORED TRACK AT ORIGINAL LOCATION. ADD ALTERNATE: PROVIDE PRICING FOR RESTORATION OF ADDITIONAL TRACK PER LINEAR FOOT.

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JHPA Job No. 442-01

Drawing Title
CORRIDOR REFLECTED CEILING PLAN (PART 1)

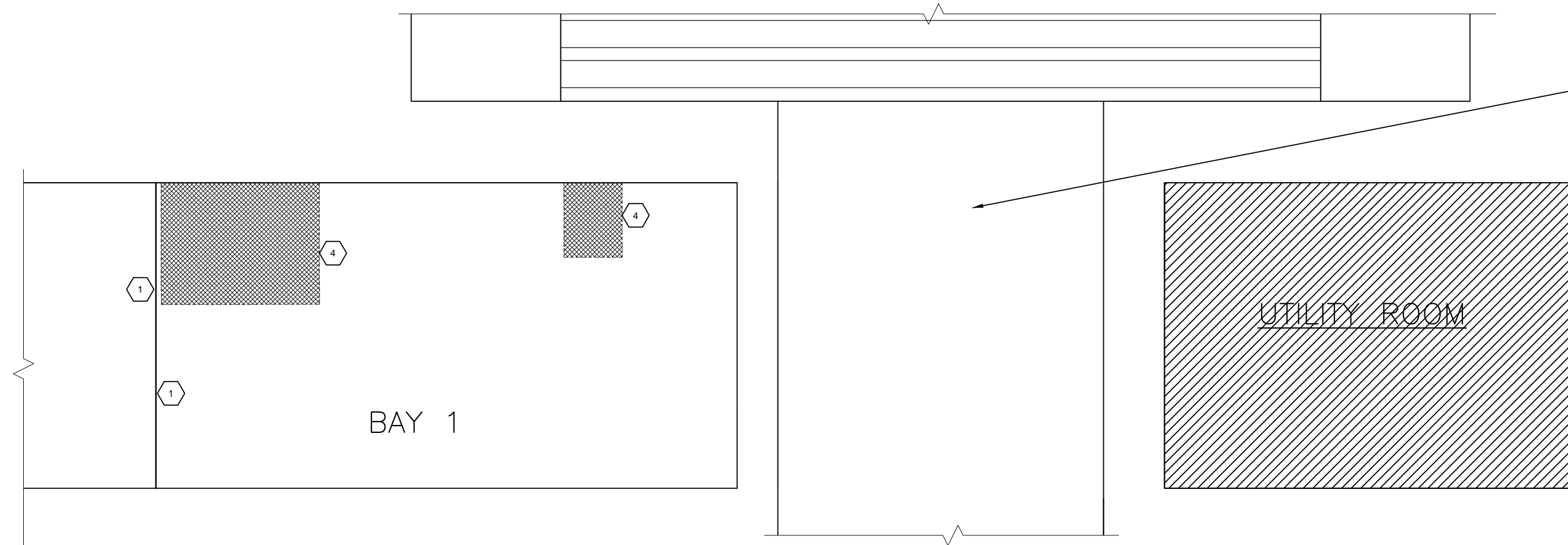
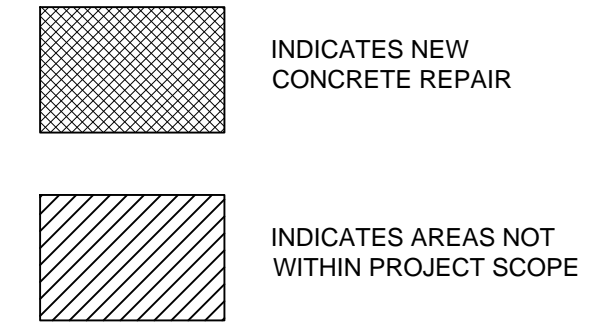
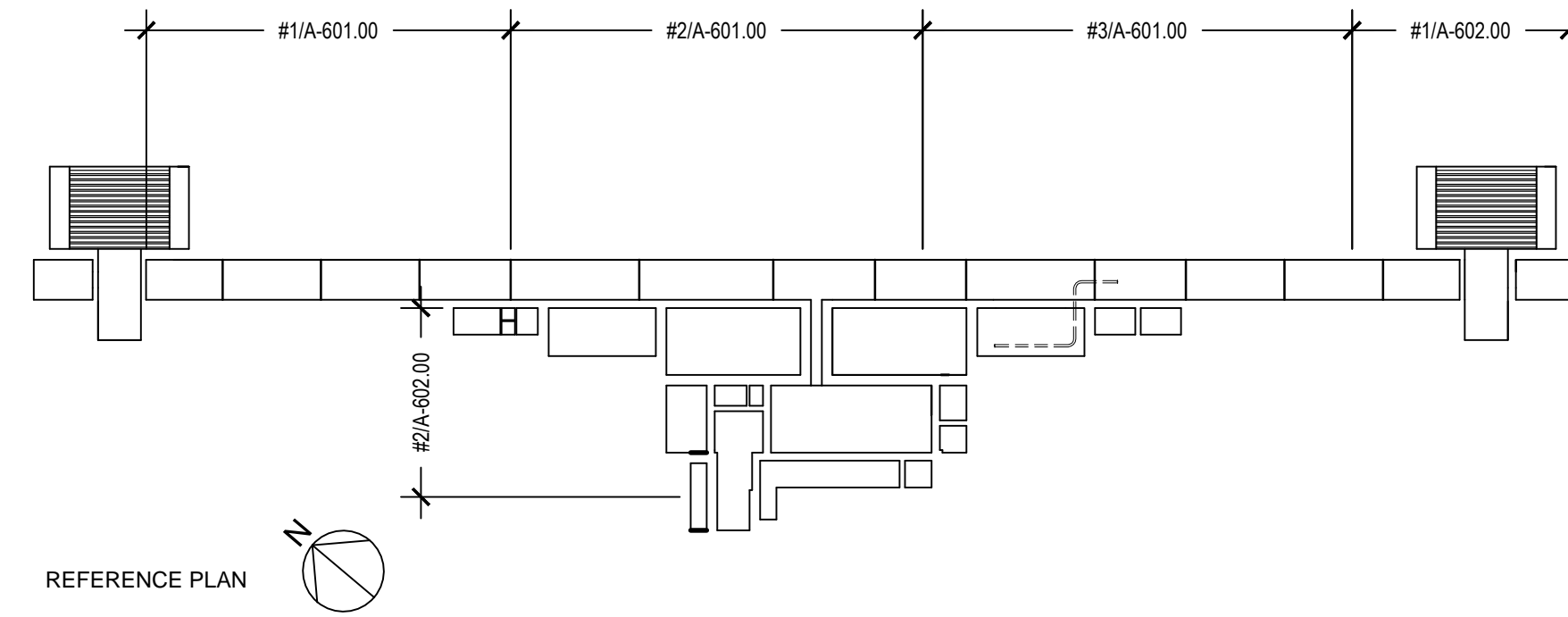
Date: 23 APRIL 2015

Revisions		
No.	Date	Description

Drawing No.
A-601

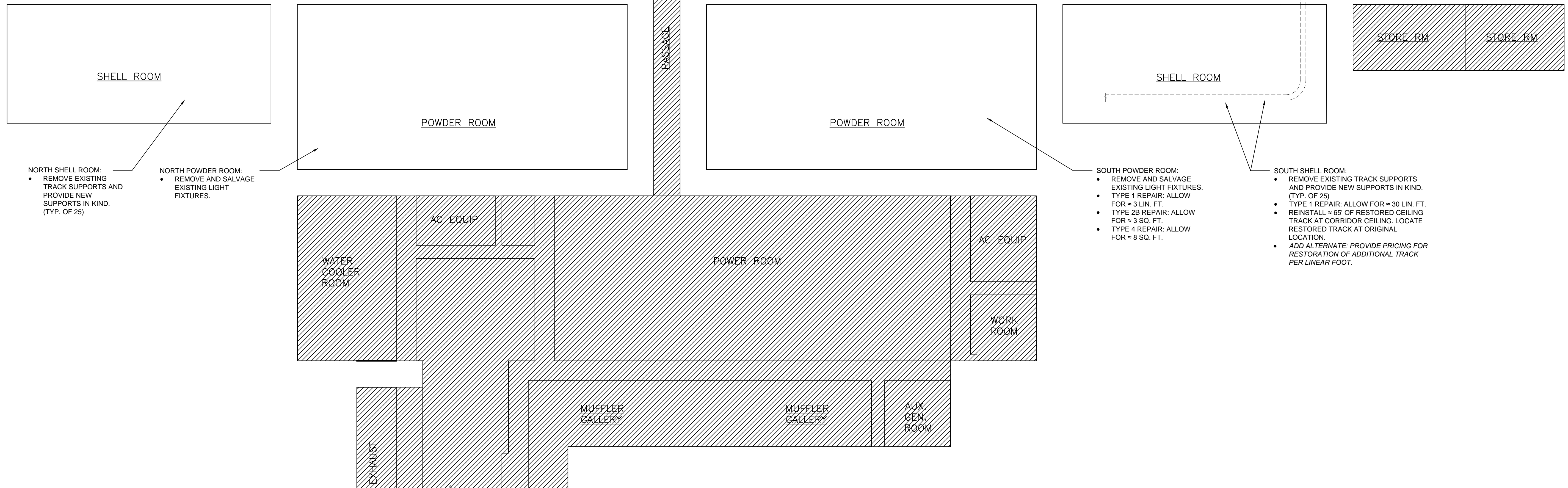
- NOTE:**
- FOR A DETAILED CONCRETE AND METAL REPAIR SCOPE REFER TO SHEET A-401.
 - PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL UNUSED METAL FASTENERS, ANCHORS, AND ALL ASSOCIATED HARDWARE BEFORE BEGINNING REPAIR WORK.
 - ALL TAGS DENOTE A SINGLE INSTANCE OF REPAIR UNLESS STATED OTHERWISE.
 - REMOVE ALL EXISTING UNUSED LIGHT FIXTURES AND ASSOCIATED CONDUITS IN CORRIDOR, SHELL ROOMS, POWDER ROOMS, AND POWER ROOM.
 - POWER ROOM OUTSIDE REPAIR SCOPE. FOR LIGHTING SCOPE AT POWER ROOM REFER TO A-603/604.
 - RECORD LOCATIONS, PHOTO DOCUMENT, AND REMOVE TRACK AND SUPPORTS AT CORRIDOR 100%. RECONSTRUCT PORTION OF TRACK AS INDICATED ON SHEET A-202.
 - PROVIDE NEW LIGHT FIXTURES AND CONDUIT AS INDICATED ON LIGHTING PLAN. REFER TO SHEETS A-603/604 FOR NEW FIXTURE LOCATIONS AND ADDITIONAL DETAILS.
 - FOR CONCRETE AND STEEL REPAIR ESTIMATES FOR EACH BAY AT CORRIDOR REFER TO SHEETS A-307 TO A-309.

- LEGEND:**
- 1 TYPE 1 REPAIR: CRACK REPAIR
 - 2A TYPE 2A REPAIR: LARGE CONCRETE SPALL REPAIR
 - 2B TYPE 2B REPAIR: SMALL CONCRETE SPALL REPAIR
 - 3 TYPE 3 REPAIR: HOLE REPAIR
 - 4 TYPE 4 REPAIR: CONCRETE SKIM COAT
 - 5 TYPE 5 REPAIR: METAL REPAIR



- SOUTH CASEMATE:**
- PHOTO DOCUMENT, RECORD LOCATIONS, REMOVE AND SALVAGE ALL EXISTING METAL FASTENERS, WIRES, AND ALL ASSOCIATED EQUIPMENT FROM CEILING.
 - PREPARE FOR AND PROVIDE SKIM COAT OF CONCRETE AT ENTIRE CEILING.
 - TYPE 4 REPAIR: ALLOW FOR = 510 SQ. FT.

1 BAYS 2-1: CORRIDOR RCP
3/16" = 1'-0"



- NORTH SHELL ROOM:**
- REMOVE EXISTING TRACK SUPPORTS AND PROVIDE NEW SUPPORTS IN KIND. (TYP. OF 25)

- NORTH POWDER ROOM:**
- REMOVE AND SALVAGE EXISTING LIGHT FIXTURES.

- SOUTH POWDER ROOM:**
- REMOVE AND SALVAGE EXISTING LIGHT FIXTURES.
 - TYPE 1 REPAIR: ALLOW FOR = 3 LIN. FT.
 - TYPE 2B REPAIR: ALLOW FOR = 3 SQ. FT.
 - TYPE 4 REPAIR: ALLOW FOR = 8 SQ. FT.

- SOUTH SHELL ROOM:**
- REMOVE EXISTING TRACK SUPPORTS AND PROVIDE NEW SUPPORTS IN KIND. (TYP. OF 25)
 - TYPE 1 REPAIR: ALLOW FOR = 30 LIN. FT.
 - REINSTALL = 65' OF RESTORED CEILING TRACK AT CORRIDOR CEILING. LOCATE RESTORED TRACK AT ORIGINAL LOCATION.
 - ADD ALTERNATE: PROVIDE PRICING FOR RESTORATION OF ADDITIONAL TRACK PER LINEAR FOOT.

2 SHELL ROOM, POWDER ROOM, & STORE ROOM RCP
1/8" = 1'-0"

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BATTERY LEWIS RESTORATION - PHASE 2
Hartshorne Woods Park, Highlands, NJ
Monmouth County Park System
805 Newman Springs Road
Lincroft, NJ 07738

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION.
DO NOT SCALE DRAWINGS.
JHPA Job No. 442-01


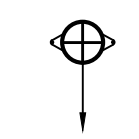

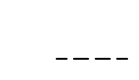
Drawing Title
CORRIDOR REFLECTED CEILING PLAN (PART 2)

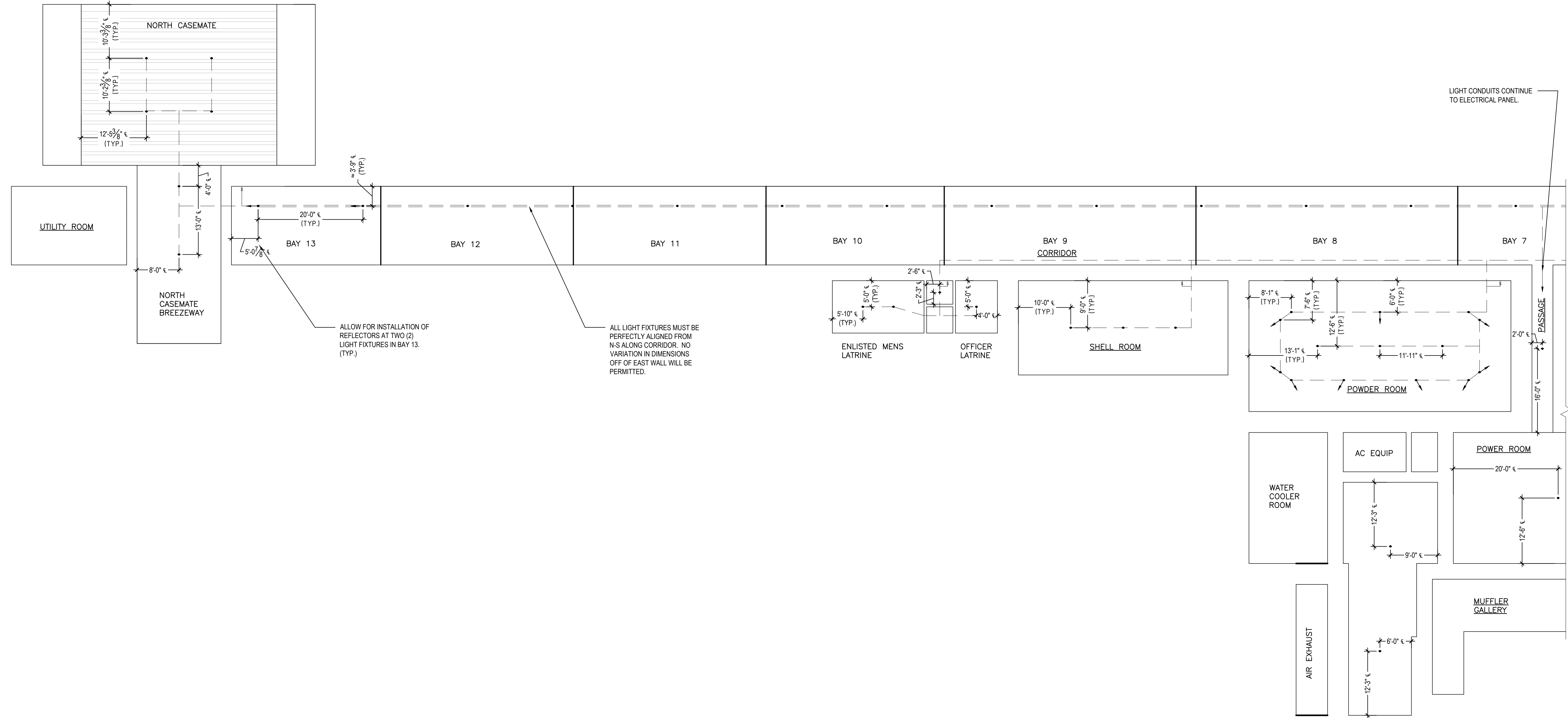
Date: 23 APRIL 2015

Revisions		
No.	Date	Description

Drawing No.
A-602

- NOTES:**
- REFER TO SPECIFICATIONS FOR LIGHT FIXTURE INFORMATION.
 - REFER TO SHEETS A-601/602 FOR CEILING REPAIR INFORMATION.
 - ALLOW FOR FOUR (4) REFLECTORS AT CORRIDOR.
 - ALLOW FOR NINE (9) REFLECTORS AT POWDER ROOMS (TYP.).

- LEGEND:**
-  SINGLE CEILING-MOUNTED LIGHT FIXTURE
 -  SINGLE CEILING-MOUNTED LIGHT FIXTURE WITH REFLECTOR - REFER TO RESPECTIVE DIRECTION ARROW
 -  SWITCH
 -  LIGHTING CONDUIT

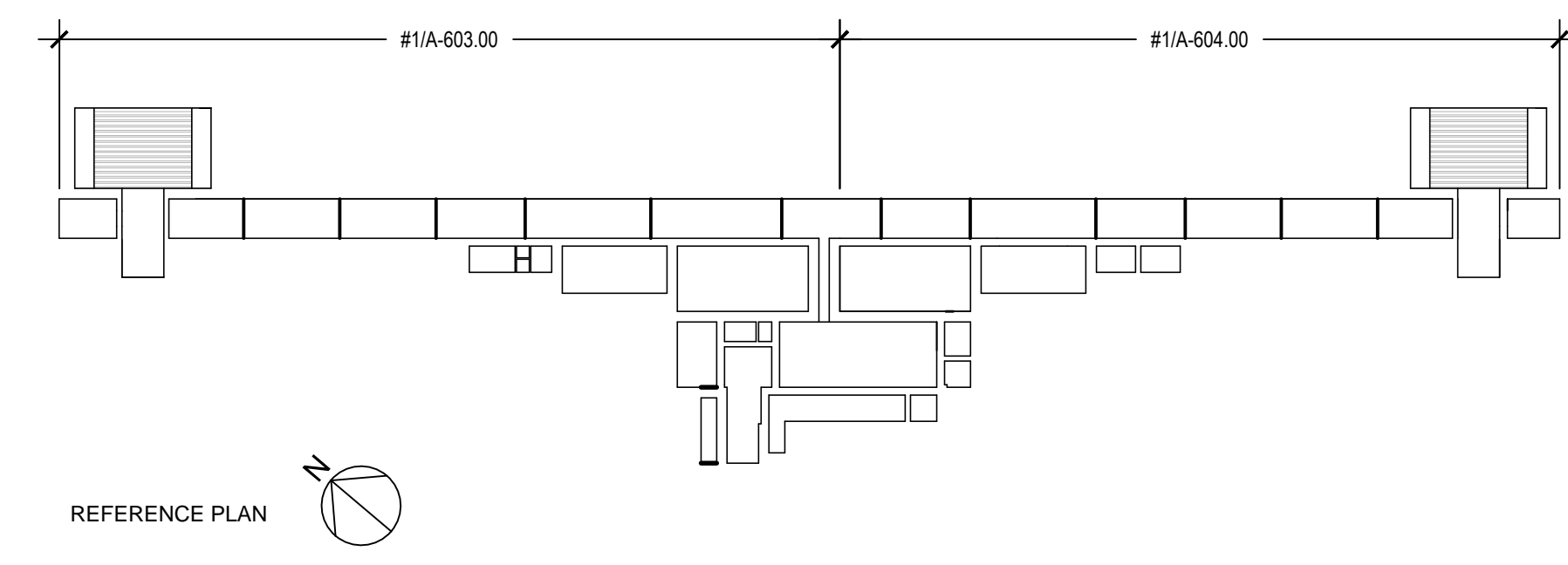


LIGHT CONDUITS CONTINUE TO ELECTRICAL PANEL.

ALLOW FOR INSTALLATION OF REFLECTORS AT TWO (2) LIGHT FIXTURES IN BAY 13. (TYP.)

ALL LIGHT FIXTURES MUST BE PERFECTLY ALIGNED FROM N-S ALONG CORRIDOR. NO VARIATION IN DIMENSIONS OFF OF EAST WALL WILL BE PERMITTED.

1 RCP - LIGHTING PLAN NORTH
3/32" = 1'-0"



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JHPA Job No. 442-01

Drawing Title
LIGHTING PLAN (PART 1)

Date: 23 APRIL 2015




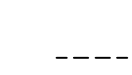
Revisions		
No.	Date	Description

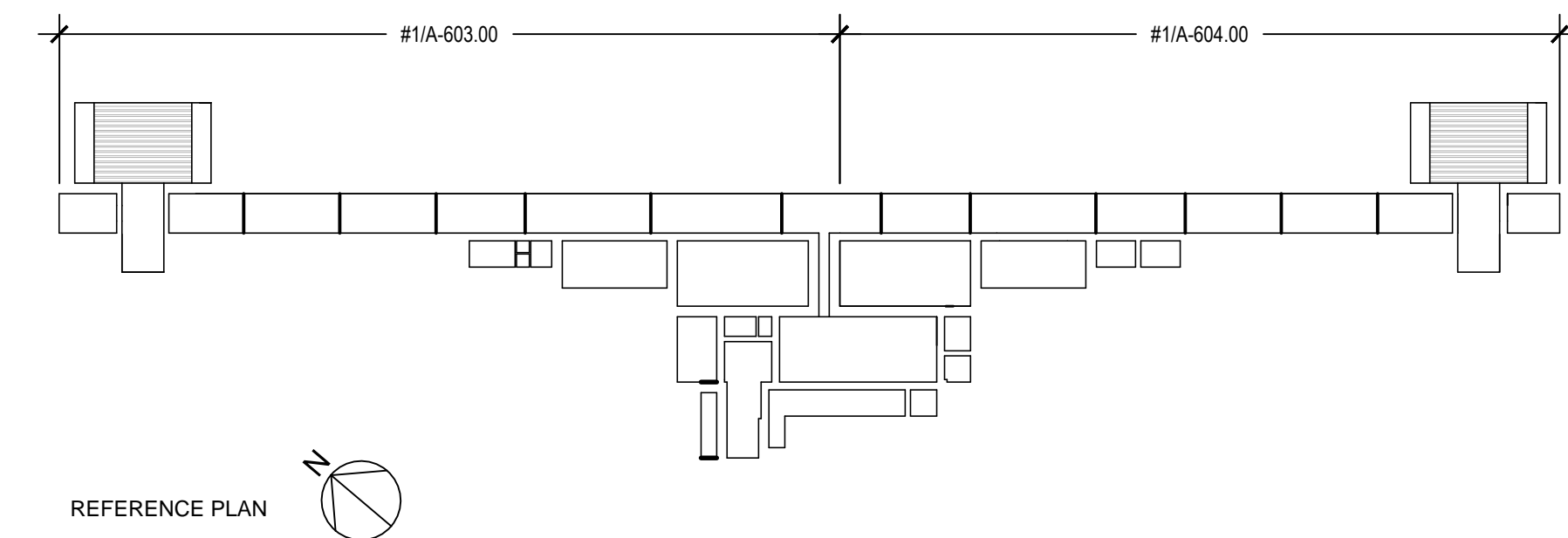
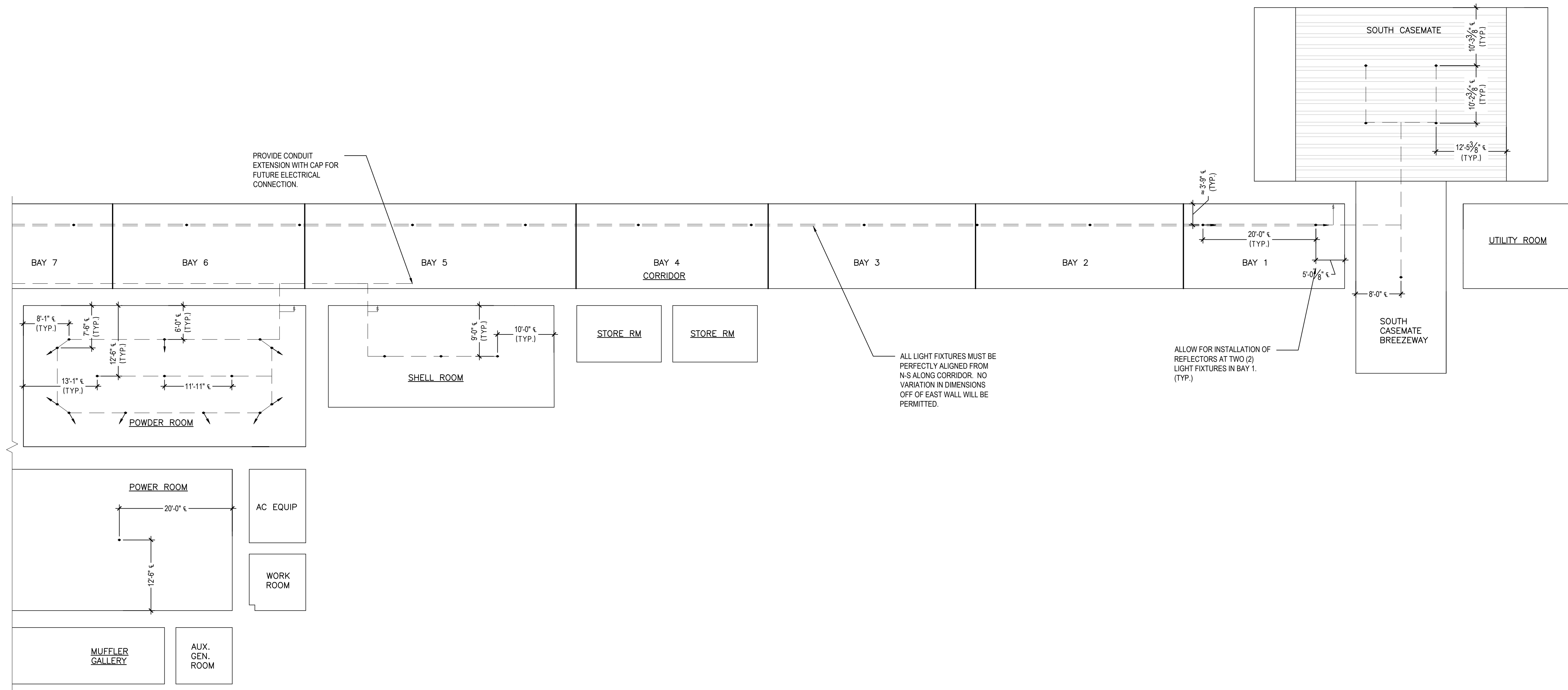
Drawing No.
A-603

NOTES:

1. REFER TO SPECIFICATIONS FOR LIGHT FIXTURE INFORMATION.
2. REFER TO SHEETS A-601/602 FOR CEILING REPAIR INFORMATION.
3. ALLOW FOR FOUR (4) REFLECTORS AT CORRIDOR.
4. ALLOW FOR NINE (9) REFLECTORS AT POWDER ROOMS (TYP.).

LEGEND:

-  SINGLE CEILING-MOUNTED LIGHT FIXTURE
-  SINGLE CEILING-MOUNTED LIGHT FIXTURE WITH REFLECTOR - REFER TO RESPECTIVE DIRECTION ARROW
-  SWITCH
-  LIGHTING CONDUIT



1 RCP - LIGHTING PLAN SOUTH
3/32" = 1'-0"

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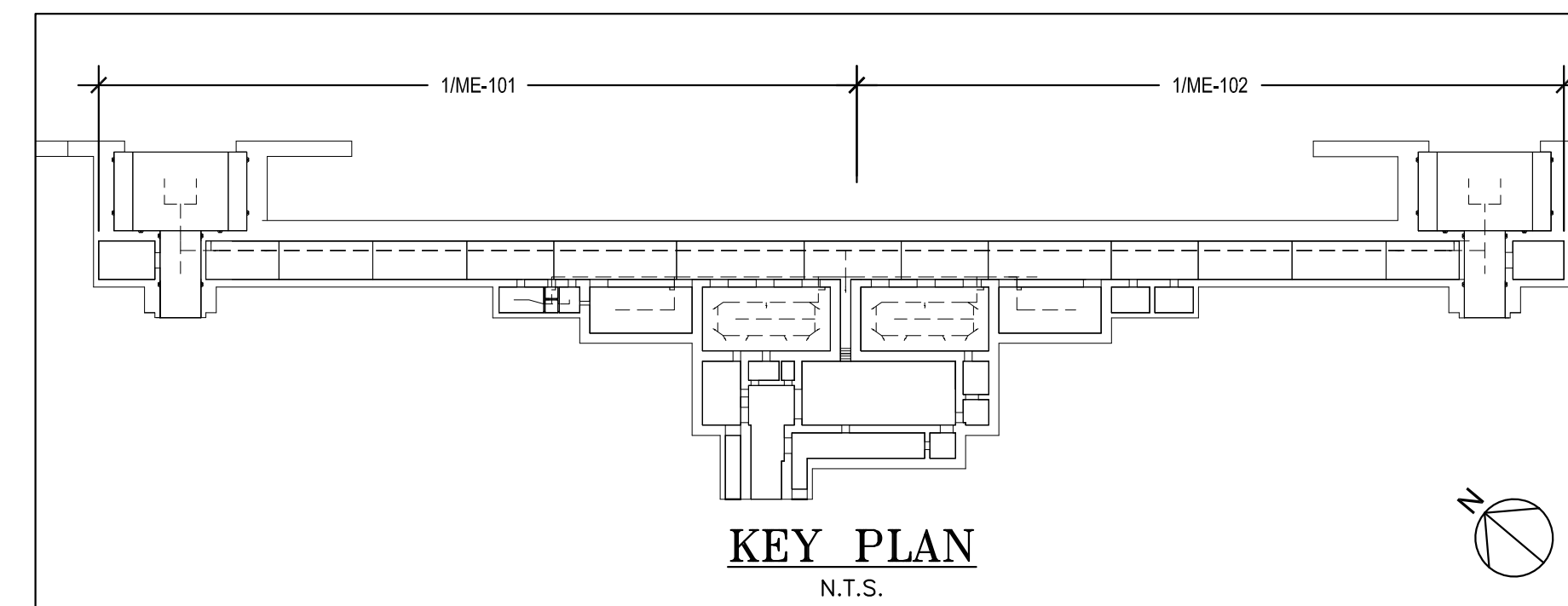
Drawing Title		
LIGHTING PLAN (PART 2)		
Date: 23 APRIL 2015		
Revisions		
No.	Date	Description
Drawing No.		
A-604		

MECHANICAL SYMBOL LIST	
SYMBOLS	
	DUCT SIZE (FIRST FIGURE INDICATES PLAN SIZE)
	SUPPLY DUCT UP (DISCHARGE SIDE OF FAN)
	SUPPLY DUCT DOWN (DISCHARGE SIDE OF FAN)
	RETURN OR EXHAUST DUCT UP (SUCTION SIDE OF FAN)
	RETURN OR EXHAUST DUCT DOWN (SUCTION SIDE OF FAN)
	ACOUSTIC LINING IN DUCT
	FLEXIBLE CONNECTION
	ELBOW WITH TURNING VANES
	RADIUS ELBOW
	VOLUME DAMPER W/DUCT ACCESS DOOR
	MOTORIZED DAMPER W/DUCT ACCESS DOOR
	FIRE DAMPER
	ACCESS DOOR IN DUCT
	ACOUSTICAL LINING
	UNDER DOOR CUT
ABBREVIATIONS	
CFM	CUBIC FEET PER MINUTE
D	DRAIN LINE
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
FC	FLEXIBLE CONNECTION
F.D./A.D.	FIRE DAMPER W/ ACCESS DOOR
FLA	FULL LOAD AMPS
NTS	NOT TO SCALE
OED	OPEN ENDED DUCTWORK
SF	SQUARE FOOT
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
WMS	WIRE MESH SCREEN
(000)	AIR QUANTITY

ELECTRICAL SYMBOL LIST	
RACEWAY SYSTEMS	
	CONDUIT RUN: - TICK MARKS INDICATE NUMBER OF WIRES CONTAINED IN CONDUIT - TICK WITH 'G' INDICATES SEPARATE INSULATED GROUND WIRE (PROVIDE IN ALL CONDUITS WHETHER SHOWN OR NOT.)
	CIRCUIT HOMERUN TO PANELBOARD AND CIRCUITS INDICATED IN CONDUIT - ARROWS DENOTE NUMBER OF CIRCUITS (R) - DENOTES CIRCUIT VIA RELAY FOR CONTROL (PC) - DENOTES VIA PHOTOCELL FOR CONTROL
	MULTI-POLE CIRCUIT HOMERUN TO PANELBOARD AND CIRCUITS INDICATED
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	CEILING, WALL MOUNTED JUNCTION BOX - TAIL DENOTES CONNECTION TO EQUIPMENT AS REQUIRED 'HR' - DENOTES HOMERUN JUNCTION BOX
	MOTOR WITH FLEXIBLE CONNECTION AND MOTOR THERMAL SWITCH FRACTIONAL HP
	MOTORIZED DAMPER
	CEILING MOUNTED LIGHT FIXTURE AND OUTLET BOX # DENOTES CIRCUIT NUMBER
	LIGHT SWITCH 'G' DENOTES CIRCUIT NUMBER '3' DENOTES 3-WAY SWITCH 'K' DENOTES KEYED SWITCH
POWER/EQUIPMENT	
	PANELBOARD
	PANEL OR CABINET, TYPE AS NOTED
	PULL BOX
WIRING DEVICES	
	DUPLEX RECEPTACLE, 20A, 125V, 2P, 3W (GROUNDED), NEMA CONFIG. 5-20R: '2' - DENOTES CIRCUIT NUMBER 'GFI' - DENOTES GROUND FAULT INTERRUPTER 'WP' - DENOTES WEATHERPROOF
	MOTOR STARTER SWITCH
	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD
	NEW WORK
	EXISTING TO REMAIN
	EXISTING TO BE REMOVED
ABBREVIATIONS	
A	- AMPS
ER	- EXISTING TO BE REMOVED
FACP	- FIRE ALARM CONTROL PANEL
G,GRD,GND	- GROUND
GFI	- GROUND FAULT INTERRUPTER
HP	- HORSE POWER
KVA	- KILOVOLT - AMPS
KW	- KILOWATT
MCB	- MAIN CIRCUIT BREAKER
RLP-GM	- DENOTES POWER PANEL DESIGNATION
TYP	- TYPICAL
V	- VOLTS
U.O.N.	- UNLESS OTHERWISE NOTED
WP	- WEATHERPROOF

GENERAL MECHANICAL NOTES:

- CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY EXHAUST FANS, DAMPERS AND CONTROLS WHERE INDICATED ON THE DRAWING.
- COORDINATE EXACT LOCATIONS OF HUMIDISTATS WITH ARCHITECTURAL DRAWINGS.
- PROVIDE BIRD SCREEN BEHIND ALL ACTIVE LOUVERS.
- CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND CONDITIONS OF THE SITE AND/OR BUILDING.
- CONTRACTOR SHALL COORDINATE THE WORK SHOWN ON THESE DRAWINGS WITH ALL OTHER TRADES (E.G., ELECTRICAL, ETC.) AND WITH ALL OWNER'S ACTIVITIES.



GENERAL ELECTRICAL NOTES:

- NOTES AND GRAPHIC REPRESENTATIONS SHALL NOT LIMIT THE EXTENT OF DEMOLITION REQUIRED. CONTRACTOR SHALL VISIT THE SITE, CAREFULLY EXAMINE EXISTING CONDITIONS AND SHALL PERFORM ALL DEMOLITION REQUIRED TO ACHIEVE THE FINAL DESIGN INTENT AS REQUIRED BY THE CONTRACT DOCUMENTS. EXTENT OF ALL DEMOLITION WORK SHALL BE COORDINATED WITH THE ARCHITECT.
- CONTRACTOR SHALL PROVIDE CIRCUITRY NECESSARY FOR POWER TO THE EXHAUST FANS, DAMPERS AND CONTROLS WHERE INDICATED ON THE DRAWING.
- EQUIPMENT AND WIRING TO BE REMOVED SHALL BE DE-ENERGIZED PRIOR TO ANY DEMOLITION WORK.
- CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED TO ACCOMMODATE BOTH REMOVAL OF EXISTING AND INSTALLATION OF NEW WORK.
- EQUIPMENT INDICATED TO BE REMOVED SHALL BE TAKEN FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS. EQUIPMENT REQUIRED TO BE TURNED OVER TO THE OWNER SHALL BE PLACED IN A MUTUALLY ACCEPTABLE LOCATION.

EF FAN SCHEDULE		BASIS OF DESIGN: GREENHECK						
TAG NO	SERVING	FAN		MOTOR		RPM	MODEL	REMARKS
		FAN FLOW RATE CFM	STATIC PRESS IN. WC.	DRIVE	ELECTR. V / PH			
EF-1	BUILDING	8,500	1.0	DIRECT	208/3	3.0	1770	AX-63-160 31"X25"X30"
EF-2	BUILDING	8,500	1.0	DIRECT	208/3	3.0	1770	AX-63-160 31"X25"X30"

- NOTE:
- PROVIDE NEMA PREMIUM EFFICIENT MOTOR
 - VFD RATED MOTOR WITH SHAFT GROUNDING PROTECTION
 - MOTOR SHALL BE PROVIDED WITH CLASS B INSULATION.
 - PROVIDE HI-PRO Z COATING, CONCRETE GRAY-RAI 7023
 - PROVIDE SPRING VIBRATION ISOLATORS
 - PROVIDE NEMA -3R SWITCH FOR INDOOR / OUTDOOR USE.
 - PROVIDE VARIABLE FREQUENCY DRIVE.

LIGHTING FIXTURE SCHEDULE							
FIXTURE TYPE	DESCRIPTION	MANUFACTURER / CAT NO.	BALLAST	VOLTAGE	LAMPS (#) TYPE	INPUT WATTS	REMARKS
A	ENCLOSED, GASKETED, NEMA 3R FIXTURE WITH GLASS GLOBE AND GUARD.	CROUSE-HINDS #VDA2759-V63-V911	-	120V	(1)A19 LED 2700K	13.5W	LAMP SHALL BE LISTED BY MANUFACTURER TO BE SUITABLE FOR ENCLOSED FIXTURES. PROVIDE LABEL READING "MAX LAMP 26W"
B	ENCLOSED, GASKETED, NEMA 3R FIXTURE WITH GLASS GLOBE AND GUARD. PROVIDE WITH ANGLED REFLECTOR.	CROUSE-HINDS #VDA2759-V63-V911-RA60	-	120V	(1)A19 LED 2700K	13.5W	LAMP SHALL BE LISTED BY MANUFACTURER TO BE SUITABLE FOR ENCLOSED FIXTURES. PROVIDE LABEL READING "MAX LAMP 26W"

LOCATION: BATTERY LEWIS				REMARKS:				PANEL DESIGNATION							
SERVICE: 208 / 120 VOLTS, 3 PHASE, 4 WIRE								RLP-1							
MAINS: 100 AMPS MAIN OVERCURRENT PROTECTION MCB															
GROUNDING: GROUND BUS: YES ISOLATED GROUND BUS: NO															
MOUNTING: SURFACE				SCCR RATING: 22 KVAIC											
CKT NO.	TRIP AMPS	REMARKS	DESCRIPTION OF LOAD	LOAD (kVA)			LOAD (kVA)	DESCRIPTION OF LOAD	REMARKS	TRIP AMPS	CKT NO.				
				A	B	C									
1	20/1	2-10G	LIGHTING - CORRIDOR	0.4	0.9		0.5	RECEPTACLES - CONVENIENCE		20/1	2				
3	20/1	2-10G	LIGHTING - CORRIDOR	0.4		1.8	1.4	LIGHTING INVERTER		20/1	4				
5	20/1	2-10G	LIGHTING - CORRIDOR	0.4			0.5	LIGHTING CONTACTOR		20/1	6				
7	20/1	2-10G	LIGHTING - SHELL RMS; POWDER RMS	0.5	0.5		0.0	SPARE		20/1	8				
9	20/1	2-10G	LIGHTING - SHELL RMS; POWDER RMS	0.5		0.5	0.0	SPARE		20/1	10				
11	20/1	2-10G	LIGHTING - BACK OF HOUSE	0.2		0.2	0.0	SPARE		20/1	12				
13	20/1		SPARE	0.0	0.0		0.0	SPARE		20/1	14				
15	20/1		SPARE	0.0		0.0	0.0	SPARE		20/1	16				
17	20/1		SPARE	0.0		0.0	0.0	SPARE		20/1	18				
19			SPACE	0.0	0.0		0.0	SPACE			20				
21			SPACE	0.0		0.0	0.0	SPACE			22				
23			SPACE	0.0		0.0	0.0	SPACE			24				
25	20/3	4-10G	EF-1	1.4	2.8		1.4	EF-2	4-10G	20/3	26				
27	-	-	-	1.4		2.8	1.4	-	-	-	28				
29	-	-	-	1.4		2.8	1.4	-	-	-	30				
TOTAL LTG.				3.3	kVA	1.00	3.3	kVA	TOTAL DEMAND		7.5	kVA	X	1.25	
TOTAL MISC.				8.4	kVA	1.00	8.4	kVA	TOTAL LOAD		9.4	kVA		26	AMPS
TOTAL RES.				0.9	kVA	PER MED	0.9	kVA							
TOTAL HVAC				0.0	kVA	1.00	0.0	kVA							
TOTAL HTG				0.0	kVA	1.00	0.0	kVA							
DEMAND FACTOR									SPARE FACTOR						
TOTAL BY PHASE				4.1	5.0	3.5									
				A	B	C									

- NOTES:
- 4-10G DENOTES 4#10+1#10G - 1°C.
 - 2-10G DENOTES 2#10+1#10G - 1°C.

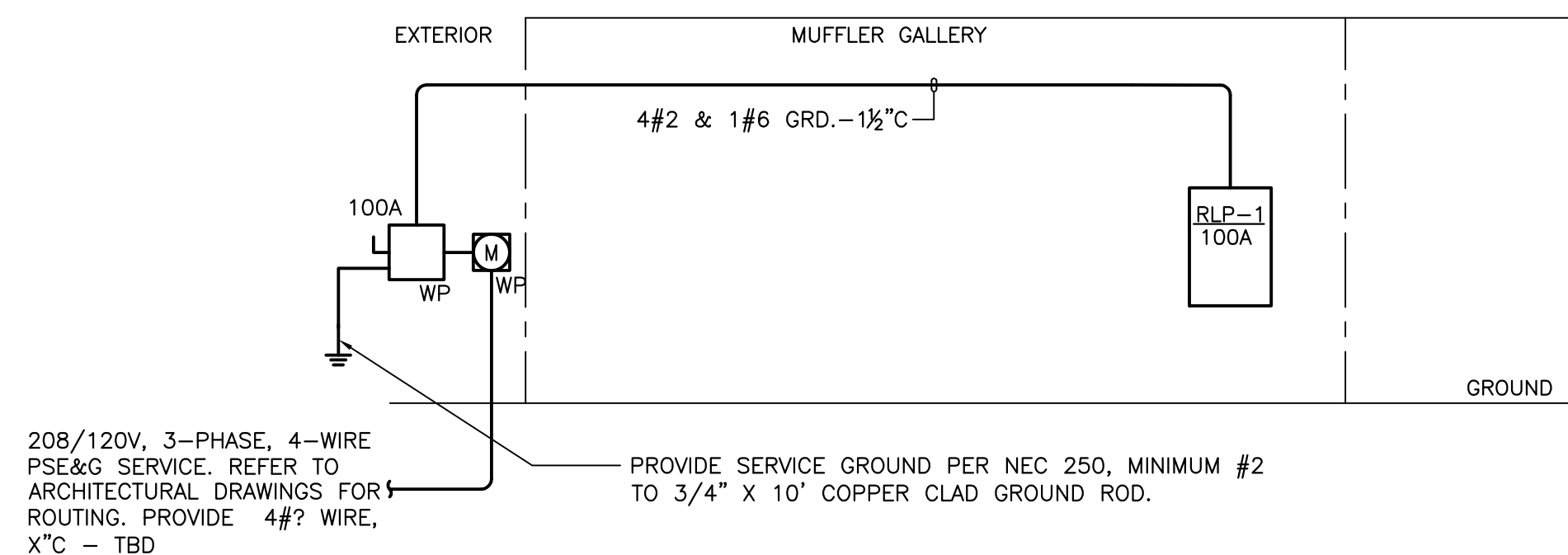
MECHANICAL/ELECTRICAL DRAWINGS

- ME-001 SYMBOLS, NOTES, ABBREVIATIONS & DETAILS
- ME-002 ELECTRICAL SPECIFICATIONS
- ME-003 MECHANICAL SPECIFICATIONS
- ME-101 ELECTRICAL FLOOR PLANS - SOUTH
- ME-102 ELECTRICAL FLOOR PLANS - NORTH
- ME-103 MECHANICAL PLAN - MID
- ME-104 MECHANICAL DETAILS

LORING CONSULTING ENGINEERS

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CERTIFICATE OF AUTHORIZATION NO. 246A27952700



1 POWER RISER DIAGRAM
NOT TO SCALE

05/01/2014 - PROGRESS SET - (NOT FOR CONSTRUCTION)

BATTERY LEWIS RESTORATION - PHASE 2
Hartshorne Woods Park, Highlands, NJ
Monmouth County Park System
805 Newman Springs Road
Lincroft, NJ 07738

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JHPA Job No. 442-01

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ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

1.01 CODES AND STANDARDS

- ALL WORK SHALL BE SYSTEMATICALLY, CAREFULLY AND NEATLY PERFORMED, TESTED AND SHALL CONFORM TO THE FOLLOWING:
 - THE NEW JERSEY UNIFORM CONSTRUCTION CODE.
 - THE 2009 INTERNATIONAL BUILDING CODE (INCLUDING SEISMIC REQUIREMENTS)
 - THE REQUIREMENTS OF UNDERWRITERS' LABORATORIES, INC.
 - THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
 - OCCUPATIONS SAFETY AND HEALTH ACT (OSHA) AND ALL AGENCIES HAVING JURISDICTION.
 - AMERICAN NATIONAL STANDARD INSTITUTE.
 - THE 2008 NATIONAL ELECTRICAL CODE.
 - COMPLY WITH APPLICABLE UTILITY COMPANY RULES AND REGULATIONS.
 - ILLUMINATING ENGINEERING SOCIETY
 - CERTIFIED BALLAST MANUFACTURERS
 - NATIONAL EQUIPMENT MANUFACTURER'S ASSOCIATION
- SECURE ALL REQUIRED PERMITS AND INSPECTION CERTIFICATES AND TRANSMIT SAME TO THE OWNER AT THE COMPLETION OF THE WORK.

1.02 WORK SCOPE

- THE SCOPE OF WORK CONSISTS OF:
- FURNISHING, INSTALLING AND CONNECTING NEW PANELBOARDS, POWER OUTLETS, LIGHT FIXTURES, SWITCHES, AND ASSOCIATED WIRING AND CONDUIT.
 - NEW ELECTRICAL SERVICE TO BUILDING. COORDINATE ALL WORK WITH UTILITY COMPANY PRIOR TO INSTALLATION.
 - OTHER WORK SHOWN ON DRAWINGS AND INDICATED IN SPECIFICATIONS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND APPROVALS AND SHALL PAY ALL ASSOCIATED COSTS AND FEES.

1.03 SUMMARY

- PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED FOR COMPLETE INSTALLATION OF ALL WORK INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.
- OBTAIN ALL PERMITS AND APPROVALS REQUIRED BY AUTHORITIES HAVING JURISDICTION AND PAY THE ASSOCIATED PRINTING AND FILING COSTS.
- VERIFY EXISTING CONDITIONS IN FIELD AND INCLUDE IN THE BID PRICE ALL WORK REQUIRED TO ACCOMMODATE THE EXISTING INSTALLATION.
- PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED BY THE GENERAL CONDITIONS. REMOVE ALL TEMPORARY SERVICES AT THE COMPLETION OF WORK.

1.04 QUALITY ASSURANCE

- MATERIALS, EQUIPMENT AND INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF ALL APPLICABLE CODES AND THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION, INCLUDING THE NATIONAL ELECTRICAL CODE, THE INTERNATIONAL BUILDING CODE AND ELECTRICAL CODE AND OSHA. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE BUILDING STANDARDS AND THE REQUIREMENTS OF THE LOCAL UTILITY COMPANY.
- MATERIALS, EQUIPMENT AND INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF THE APPLICABLE REFERENCE STANDARDS PUBLISHED BY THE NFPA, UL, ANSI, IEEE AND NEMA.
- THE CONTRACTOR SHALL HAVE COMPLETED AT LEAST TWO PROJECTS OF SIZE AND COMPLEXITY SIMILAR TO THOSE REQUIRED UNDER THIS CONTRACT. ALL WORKMEN SHALL BE SKILLED IN THEIR RESPECTIVE TRADE.
- ALL WORK SHALL BE WARRANTED IN WRITING TO BE FREE FROM DEFECTS IN MATERIALS AND/OR WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY THE STATE OF NEW JERSEY. WARRANTY SHALL INCLUDE ALL COSTS OF PARTS, LABOR, TRAVEL AND LIVING EXPENSES REQUIRED TO REPAIR OR REPLACE DEFECTIVE ITEMS.

1.05 SUBMITTALS

- SUBMIT THE FOLLOWING INFORMATION AS APPLICABLE AND AS REQUIRED FOR ALL WORK SPECIFIED UNDER THIS DIVISION:
 - MANUFACTURER'S PRODUCT DATA SHEETS AND SAMPLES WHERE REQUIRED. SHOP DRAWINGS INCLUDING DIMENSIONED EQUIPMENT LAYOUTS, POINT-TO-POINT WIRING DIAGRAMS AND SEQUENCES OF OPERATION.
 - REPRODUCIBLE MYLAR AS-BUILT DRAWINGS & CAD DISK.
 - OPERATION AND MAINTENANCE MANUALS.
 - CERTIFIED FACTORY AND FIELD TEST REPORTS.
 - MANUFACTURER'S CERTIFICATIONS, WARRANTIES AND SPARE PARTS.ALL SUBMITTALS SHALL BE CLEARLY ANNOTATED TO DEMONSTRATE COMPLIANCE WITH CONTRACT REQUIREMENTS. REFER TO OTHER SECTIONS FOR ADDITIONAL SUBMITTAL REQUIREMENTS.
- SUBSTITUTIONS TO SPECIFIED ITEMS MUST COMPLY WITH ALL INSTALLATION REQUIREMENTS AND WILL ONLY BE PERMITTED WHERE SUBMITTED AND APPROVED IN WRITING.

1.06 DELIVERY, STORAGE AND HANDLING

- ALL EQUIPMENT SHALL BE DELIVERED IN MANUFACTURER'S ORIGINAL PROTECTIVE PACKAGING AND STORED IN A CLEAN, DRY PLACE PROTECTED FROM WEATHER, FUMES, WATER, DUST AND PHYSICAL DAMAGE. TOUCH UP DAMAGED FINISHES TO MATCH THE ORIGINAL FINISH.

1.07 BASIC MATERIALS AND METHODS

- COORDINATE ALL WORK WITH THE WORK OF OTHER TRADES PRIOR TO INSTALLATION. ASSIST IN THE PREPARATION OF COORDINATION DRAWINGS AS REQUIRED BY THE GENERAL CONDITIONS.
- ALL SHUTDOWNS OF BUILDING POWER, SIGNAL ALARM SYSTEMS SHALL BE COORDINATED WITH BUILDING OPERATING PERSONNEL. WORK TO ACCOMMODATE OFF-HOUR SHUTDOWNS SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE STATE OF NEW JERSEY.
- CUT AND PATCH SURFACES AS REQUIRED. REPAIRS SHALL MATCH ORIGINAL FINISH. PENETRATIONS OF FIRE RATED PARTITIONS SHALL BE SEALED WITH APPROVED MATERIAL TO PROVIDE THE SAME RATING AS THE PARTITION. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED PARTITIONS.
- PROVIDE EXPANSION FITTINGS WHERE RACEWAYS CROSS BUILDING EXPANSION JOINTS.
- EQUIPMENT, DEVICES AND ENCLOSURES SHALL BE RATED NEMA 1 FOR INTERIOR LOCATIONS, NEMA 3R FOR DAMP LOCATIONS AND NEMA 4 FOR EXTERIOR LOCATIONS.

1.08 AS-BUILT DRAWINGS

- THE CONTRACTOR SHALL, AT THE COMPLETION OF THE PROJECT AND PRIOR TO REQUESTING FINAL PAYMENT, SUBMIT WASH-OFF MYLAR AS-BUILT DRAWINGS OF THE ACTUAL INSTALLATION OF THE ELECTRICAL WORK. THE CONTRACTOR MAY, AT HIS OWN EXPENSE, OBTAIN MYLAR COPIES OF THE CONTRACT DOCUMENTS FOR PREPARATION OF AS-BUILT DRAWINGS.

1.09 SUBSTITUTIONS

- ANY SUBSTITUTION TO ELECTRICAL ITEMS DESCRIBED IN THE CONTRACT DOCUMENTS WILL ONLY BE PERMITTED UPON WRITTEN APPROVAL OF THE ENGINEER.

1.10 INSPECTION

- ALL STAGES OF THE INSTALLATION WILL BE INSPECTED FOR COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. ANY PORTION OF THE CONSTRUCTION NOT MEETING THOSE REQUIREMENTS TO THE SATISFACTION OF THE ENGINEER SHALL BE REPLACED AT NO ADDITIONAL COST TO THE STATE OF NEW JERSEY.
- PROVIDE PROPER EQUIPMENT AND REASONABLE ASSISTANCE AS THE ENGINEER MAY REQUIRE TO FACILITATE ACCESS AND INSPECTION AT THE CONSTRUCTION SITE.

PART 2 - PRODUCTS

2.01 RACEWAYS

- RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL CONFORM TO UL 6. FITTINGS SHALL BE THREADED.
- ALL CUTTING AND PATCHING REQUIRED FOR EQUIPMENT INCLUDED IN THESE SPECIFICATIONS SHALL BE DONE BY THIS CONTRACTOR.
- THIS CONTRACTOR SHALL NOT DO ANY CUTTING THAT MAY IMPAIR THE STRENGTH OF BUILDING CONSTRUCTION. NO HOLES ARE TO BE DRILLED INTO ANY STRUCTURAL MEMBERS. CLAMPS OR OTHER APPROVED HOLDING DEVICES ARE TO BE USED.
- ALL CUTTING OF EXISTING FLOORS, CEILINGS AND WALLS SHALL BE PERFORMED IN A MANNER SO AS TO MINIMIZE DAMAGE TO ADJACENT MATERIALS. PATCHING OF ALL SURFACES SHALL BE PERFORMED IN A MANNER APPROVED BY THE ARCHITECT TO INSURE COMPLETE MATCHING WITH ADJACENT FINISHES AFTER FINAL TREATMENT OF SURFACES.
- MINIMUM RACEWAY SIZE SHALL BE 3/4", UON. RACEWAYS SHALL BE RUN PARALLEL TO BUILDING STRUCTURAL LINES. RACEWAYS SHALL NOT BE RUN HORIZONTALLY BELOW 8'-0" AFF IN PARTITIONS. ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200 LB. TEST NYLON DRAG LINE.
- CONDUIT UTILIZATION SHALL BE AS FOLLOWS:
 - RIGID GALVANIZED STEEL (RGS) - ALL EXPOSED LOCATIONS. PROVIDE BITUMASTIC COATING WHERE ENCASED IN CONCRETE OR IN DIRECT CONTACT WITH EARTH.
 - LIQUID TIGHT FLEXIBLE CONDUIT - FINAL CONNECTIONS TO LIGHT FIXTURES AND EQUIPMENT.
 - RIGID NONMETALLIC CONDUIT - UNDERGROUND INSTALLATIONS WITH RGS ELBOWS AND STUB-UPS.
- WIREWAYS AND AUXILIARY GUTTERS SHALL BE TWO PIECE STEEL CONSTRUCTION WITH ANSI 61 GRAY ENAMEL FINISH. COVERS SHALL BE COMBINATION HINGED AND SCREW-ON TYPE. HOUSINGS SHALL HAVE REGULARLY SPACED KNOCKOUTS FOR CONDUIT ENTRY. WIREWAYS SHALL BE MANUFACTURED BY SQUARE D OR APPROVED EQUAL. PROVIDE ALL END PIECES, CONNECTORS AND REQUIRED ACCESSORIES.

2.02 BOXES

- OUTLET, PULL AND JUNCTION BOXES SHALL BE FABRICATED FROM STEEL AND CONFORM TO UL 50, UL514 AND NEMA OS1. BOXES FOR EXTERIOR LOCATIONS AND/OR WHERE DENOTED "WP" SHALL BE CAST STEEL WITH GASKETED COVERS.
- BOXES SHALL CONTAIN SUITABLE KNOCKOUTS. BARRIERS SHALL BE FURNISHED AS REQUIRED BY CODE.
- BOXES SHALL BE SIZED AS REQUIRED BY CODE FOR NUMBER AND GAUGE OF LOCATIONS AND/OR DENOTED "WP" SHALL BE CAST IRON WITH GASKETED COVERS. CONDUCTORS THEREIN, EXCEPT WHERE NOTED TO BE LARGER, THE MINIMUM BOX SIZE SHALL BE 4" SQUARE BY 1-1/2" DEEP. COVERS GREATER THAN 50 LBS. SHALL BE DIVIDED INTO MULTIPLE SECTIONS.

2.03 WIRES, CABLES, SPLICES AND TERMINATIONS

- POWER AND CONTROL WIRING SHALL BE COPPER, MINIMUM 98% CONDUCTIVITY, WITH TYPE "THHN" INSULATION RATED 600 VOLTS. MINIMUM WIRE SIZE SHALL BE #12 AWG. CONDUCTORS SHALL BE SOLID FOR WIRE SIZES #10 AWG AND SMALLER AND STRANDED FOR WIRE SIZES #8 AWG AND LARGER.
- CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:

PHASE	208/120V
A	BLACK
B	RED
C	BLUE
NEUTRAL	WHITE
GROUND	GREEN
ISOLATED GROUND	GREEN W/TRACER
NEUTRAL FOR GFI CKT	WHITE W/TRACER
- CONDUCTOR SIZES SHALL BE INCREASED WHERE REQUIRED TO COMPENSATE FOR VOLTAGE DROP AND HIGH AMBIENT TEMPERATURE.
- SPLICES FOR WIRE SIZES #10 AWG AND SMALLER SHALL BE MADE WITH SPRING CONNECTORS AND TAPE. SPLICES FOR WIRE SIZES #8 AWG AND LARGER SHALL BE COMPRESSION TYPE WITH PRE-MOLDED COVER AND TAPE.
- TERMINATION OF POWER AND CONTROL WIRING SHALL BE COMPRESSION TYPE, WITH TWO-HOLE LUGS FOR WIRE SIZES #8 AWG AND LARGER. MECHANICAL LUGS MAY ONLY BE UTILIZED FOR TERMINATION AT BRANCH CIRCUIT PANELBOARDS.

2.04 WIRING DEVICES

- WIRING DEVICES SHALL BE SPECIFICATION GRADE WITH NEMA CONFIGURATIONS AS INDICATED ON THE DRAWINGS. COLOR OF DEVICES SHALL BE AS SELECTED BY THE ARCHITECT. WIRING DEVICES SHALL BE MANUFACTURED BY ARROW-HART, HUBBELL, LEVITON, PASS & SEYMOUR OR APPROVED EQUAL.
- PILOT LIGHT SWITCHES SHALL BE FURNISHED WITH LIGHTED HANDLE OR SEPARATE GLASS JEWEL INDICATING LIGHT WIRED TO BE ILLUMINATED WHEN THE SWITCH IS ON AND SHALL BE LABELED.
- FACE PLATES SHALL BE FURNISHED FOR ALL OUTLETS. DEVICES MOUNTED ADJACENT TO EACH OTHER SHALL BE FURNISHED WITH A COMMON FACE PLATE AND BE GANGED IN ONE BOX.

2.05 SAFETY SWITCHES

- SAFETY DISCONNECT SWITCHES SHALL BE 250V OR 600V AS REQUIRED, HEAVY DUTY, HORSEPOWER RATED, QUICK-MAKE, QUICK-BREAK DESIGN IN NEMA-1 ENCLOSURE. ENCLOSURES EXPOSED TO WET OR RAIN CONDITIONS SHALL BE IN NEMA 3R ENCLOSURE.
- PROVIDE INTERLOCKS TO PREVENT OPENING THE COVER WITH THE SWITCH IN THE "ON" POSITION OR CLOSING OF THE SWITCH WITH THE DOOR OPEN, EXCEPT THAT THE INTERLOCK SHALL BE TOOL RELEASABLE BY A QUALIFIED PERSON FOR INSPECTION OR THE CONTACTS OF MECHANISM.
- PROVIDE FOR PADLOCKING HANDLE IN THE OFF POSITION.
- PROVIDE NEUTRAL ASSEMBLY WHERE REQUIRED.
- PROVIDE AUXILIARY CONTACTS FOR ALL SWITCHES USED AS MOTOR DISCONNECTS. ROUTE 2, NO. 14 CONTROL WIRES FROM AUXILIARY SWITCH TO STARTER WITH POWER FEEDER AND WIRED TO BREAK THE CONTROL CIRCUIT UPON OPERATION OF THE HANDLE.
- SWITCHES SHALL BE CAPABLE OF WITHSTANDING THE AVAILABLE FAULT OR LET THROUGH CURRENT BEFORE THE FUSE OPERATES WITHOUT DAMAGE OR CHANGE IN RATING. THE SHORT CIRCUIT INTERRUPTING RATING OF THE FUSE SWITCH COMBINATION SHALL BE 100,000 RMS SYMMETRICAL AMPERES AND 12 TIMES THE CONTINUOUS CURRENT RATING WHEN UNFUSED AT RATED VOLTAGE.
- FUSE CLIPS SHALL BE OF THE REJECTION TYPE, SHALL ACCOMMODATE DUAL ELEMENT, CURRENT LIMITING FUSES ONLY AND SHALL BE SIZED TO ACCEPT FUSES OF THE PROPER AMPERE RATING FOR COORDINATION WITH OVERLOAD PROTECTION.
- PROVIDE GROUND LUG IN EACH SWITCH.

2.06 HANGERS AND SUPPORTS

- THREADED RODS SHALL BE FULLY GALVANIZED, MINIMUM 3/8" DIAMETER. MODULAR CHANNEL SUPPORTS SHALL BE GALVANIZED STEEL. SUPPORT CLIPS AND FASTENERS SHALL BE LISTED AND APPROVED FOR THE APPLICATION. STRAPS AND CLAMPS SHALL BE MALLEABLE IRON.
- SUPPORTS SHALL BE SIZED TO ACCOMMODATE THE LOAD REQUIRED. ALL WORK SHALL BE SUPPORTED INDEPENDENTLY OF THE WORK OF OTHER TRADES INCLUDING CEILING SYSTEM SUPPORTS.
- PANELS AND EQUIPMENT LOCATED ON OTHER THAN MASONRY WALLS SHALL BE MOUNTED WITH MODULAR CHANNEL SUPPORTS SECURED TO THE BUILDING STRUCTURE.
- APPROVED SEISMIC RESTRAINTS RATED TO RESIST 1/2G OF FORCE SHALL BE FURNISHED FOR ALL ELECTRICAL WORK WHERE REQUIRED BY LOCAL BUILDING CODES AND THE AUTHORITIES HAVING JURISDICTION.

2.07 PANELBOARDS

- PANELBOARDS SHALL BE 120/240V, 3 PHASE, 4 WIRE CONFIGURATION WITH COPPER BUS BARS OF RATINGS INDICATED ON CONTRACT DRAWINGS, FULL OR 200% SIZE NEUTRAL BUS BARS INDICATED ON CONTRACT DRAWINGS AND SEPARATE GROUND BUS BONDED TO PANEL ENCLOSURE. PROVIDE ADDITIONAL GROUND BUSES ELECTRICALLY ISOLATED FROM THE PANEL ENCLOSURE WHERE INDICATED ON THE PANELBOARD SCHEDULES. WHERE FEEDER NEUTRAL IS OVERSIZED, NEUTRAL BUS AMPACITY SHALL BE INCREASED ACCORDINGLY. CABLE LUGS SHALL BE MECHANICAL TYPE. FEED-THROUGH LUGS AND CABLE CONNECTIONS SHALL BE PROVIDED FOR MULTIPLE SECTION PANELS.
- PANEL BUS BARS SHALL BE PROPORTIONED FOR A CURRENT DENSITY OF 1000 AMPERES PER SQUARE INCH OF CROSS SECTIONAL AREA.
- PANELBOARD ENCLOSURES SHALL BE GALVANIZED CODE GAUGE STEEL. TRIMS SHALL BE SURFACE TYPE IN UNFINISHED SPACES AND FLUSH TYPE IN FINISHED SPACES. WITH DOOR-IN-DOOR CONSTRUCTION AND ANSI 61 GRAY ENAMEL FINISH. DOORS SHALL BE LOCKABLE AND ALL LOCKS SHALL BE KEYED ALIKE. FURNISH ONE KEY FOR EACH PANEL. FURNISH TYPEWRITTEN DIRECTORIES MOUNTED BEHIND FRAME INSIDE DOOR UNDER A PLASTIC WINDOW. ENGRAVED NAMEPLATES SHALL BE FURNISHED FOR EACH PANELBOARD.
- PANEL ENCLOSURES SHALL BE OF SUFFICIENT SIZE TO ALLOW A GUTTER AT LEAST 5-3/4" IN WIDTH ENTIRELY SURROUNDING EACH SECTION OF BOARD. INCREASE SIZE TO ACCOMMODATE FEEDER SIZE.
- CIRCUIT BREAKERS SHALL BE MOLDED CASE, BOLTED-IN-PLACE WITH THERMAL-MAGNETIC TRIP ELEMENT. MINIMUM INTERRUPTING RATINGS SHALL AS SHOWN ON DRAWINGS. CIRCUIT BREAKERS FOR UNSWITCHED LIGHTING CIRCUITS SHALL BE RATED FOR SWITCHING DUTY. MAIN CIRCUIT BREAKERS SHALL BE MOUNTED SEPARATELY FROM BRANCH BREAKERS AT TOP OR BOTTOM.
- PANELBOARDS SHALL BE MOUNTED ON MODULAR CHANNEL SUPPORTS SECURED TO THE BUILDING STRUCTURE OR MAY BE DIRECTLY SUPPORTED FROM MASONRY WALLS. COORDINATE THE DIRECTION OF FEEDER ENTRIES TO PANELBOARDS WITH FIELD CONDITIONS.
- ALL PANELBOARDS SHALL BE PHASE BALANCED TO WITHIN ±10% OF THE AVERAGE AMPS PER PHASE UPON COMPLETION OF WORK.
- ENCLOSURES FOR TERMINAL CABINETS SHALL BE THE SAME AS SPECIFIED FOR PANELBOARD ENCLOSURES.
- PANELS SHALL BE AS MANUFACTURED BY SIEMENS, GE, SQUARE D OR C-H.

2.08 CIRCUIT BREAKERS

- CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE TO THE PANELBOARD BUS BARS.
- CIRCUIT BREAKERS SHALL BE MOLDED CASE, BOLT-IN-PLACE WITH THERMAL MAGNETIC TRIP ELEMENT. MINIMUM INTERRUPTING RATINGS SHALL BE 10,000 AIC AT 120/240V.
- CIRCUIT BREAKERS SHALL BE OF THE "THERMAL-MAGNETIC" TYPE HAVING BIMETALLIC ELEMENT FOR TIME DELAY OVERLOAD PROTECTION AND MAGNETIC ELEMENT FOR SHORT CIRCUIT PROTECTION.
- CIRCUIT BREAKERS SHALL BE CONTAINED IN AN INDIVIDUAL CASE ENCLOSING ONLY THE NUMBER OF POLES REQUIRED FOR THE PARTICULAR BREAKER.

2.09 LIGHTING FIXTURES AND EQUIPMENT

- LIGHTING FIXTURES SHALL BE SPECIFICATION GRADE AND FURNISHED COMPLETE WITH ALL REQUIRED MOUNTING HARDWARE. FIXTURES SPECIFIED IN THE LIGHTING FIXTURE SCHEDULE ESTABLISH THE PERFORMANCE REQUIREMENTS. SUBSTITUTIONS MUST MEET OR EXCEED THE PERFORMANCE OF THE SPECIFIED FIXTURE.
- SUBMIT SCALED LAYOUT DRAWINGS FOR CONTINUOUS FIXTURES. SUBMIT SAMPLES WHEN REQUIRED BY THE LIGHTING FIXTURE SCHEDULE OR WHEN REQUESTED FOR SUBSTITUTIONS.
- LAMPS SHALL BE OF THE TYPES SPECIFIED IN THE LIGHTING FIXTURE SCHEDULE. ALL LAMPS OF ANY ONE TYPE SHALL BE THE PRODUCT OF ONE MANUFACTURER. FURNISH 10% SPARE LAMPS OF EACH TYPE SPECIFIED.
- BALLASTS SHALL BE CBM CERTIFIED, UL CLASS P, RAPID START, HIGH POWER FACTOR, ENERGY EFFICIENT TYPE, NEMA SOUND RATING A OR BETTER OR COMPATIBLE WITH THE LAMPS FURNISHED. ELECTRONIC BALLASTS SHALL BE FULLY SOLID STATE, HIGH FREQUENCY WITH RFI PROTECTION. THREE AND FOUR LAMP FIXTURES SHALL UTILIZE ONE AND TWO LAMP BALLASTS.
- FIXTURE LENSES AND LOUVERS SHALL BE PROTECTED FROM DUST AND DIRT DURING CONSTRUCTION AND SHALL BE CLEANED PRIOR TO PROJECT COMPLETION. REFLECTORS SHALL BE ADJUSTED AS REQUIRED.
- CONTRACTOR SHALL ENSURE COMPATIBILITY BETWEEN FIXTURE TRIMS AND CEILING SYSTEMS. FIXTURES RECESSED IN ACCESSIBLE CEILINGS SHALL BE FURNISHED WITH TWO EARTHQUAKE CLIPS. FIXTURES RECESSED IN NON-ACCESSIBLE CEILING SHALL BE DESIGNED FOR BALLAST ACCESS THROUGH THE FIXTURE OPENING.
- LAMPS AND BALLASTS FURNISHED SHALL BE APPROVED BY THE LOCAL UTILITY COMPANY FOR ANY APPLICABLE HIGH-EFFICIENCY LIGHTING REBATE PROGRAMS. CONTRACTOR SHALL SUBMIT ALL REQUIRED DOCUMENTATION, INCLUDING RECEIPTS WITH UNIT PRICES, FOR FILING OF REBATE FORMS.

2.10 FASTENERS

- PROVIDE INSERTS, EXPANSION SHIELD LUGS, ANCHORS, BOLTS WITH NUTS AND WASHERS, SHIMS OR ANY OTHER TYPE OF FASTENING DEVICES REQUIRED TO FASTEN PANELS OR OTHER EQUIPMENT TO FLOORS, WALLS OR CEILINGS. UNLESS OTHERWISE SPECIFIED HEREIN OR SHOWN ON THE CONTRACT DRAWINGS, ALL FASTENERS BE HOT-DIPPED GALVANIZED, OF SIZES AND TYPES RECOMMENDED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE ENGINEER.

PART 3 - EXECUTION

3.01 CUTTING AND PATCHING

- ALL CUTTING AND PATCHING REQUIRED FOR EQUIPMENT INCLUDED IN THESE SPECIFICATIONS SHALL BE DONE BY THIS CONTRACTOR.
- THIS CONTRACTOR SHALL NOT DO ANY CUTTING THAT MAY IMPAIR THE STRENGTH OF BUILDING CONSTRUCTION. NO HOLES ARE TO BE DRILLED INTO ANY STRUCTURAL MEMBERS. CLAMPS OR OTHER APPROVED HOLDING DEVICES ARE TO BE USED.
- ALL CUTTING OF EXISTING FLOORS, CEILINGS AND WALLS SHALL BE PERFORMED IN A MANNER SO AS TO MINIMIZE DAMAGE TO ADJACENT MATERIALS. PATCHING OF ALL SURFACES SHALL BE PERFORMED IN A MANNER APPROVED BY THE ARCHITECT TO INSURE COMPLETE MATCHING WITH ADJACENT FINISHES AFTER FINAL TREATMENT OF SURFACES.

3.02 SEALING OF PENETRATIONS

- ALL PENETRATIONS OF WALLS, FLOORS OR CEILINGS MUST BE SEALED IN AN APPROVED MANNER USING AN OUTER CIRCUMFERENTIAL SLEEVE FILLED INSIDE AND OUT.
- ALL PENETRATIONS OF FIRE RATED WALLS, FLOORS OR CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL TO PROVIDE SAME RATING AS FLOOR, WALL OR CEILING ASSEMBLY. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED PARTITIONS.

3.03 GROUNDING

- THE DISTRIBUTION SYSTEM SHALL BE COMPLETELY AND PROPERLY GROUNDED USING APPROVED FITTINGS. ALL CONDUCTING WIRE ENCLOSURES SHALL BE SECURELY BONDED TOGETHER SO THAT EVERY CONDUCTING COMPONENT IS PROVIDED WITH A LOW RESISTANCE PATH TO GROUND. SEPARATE INSULATED GROUND CONDUCTORS SHALL BE RUN WITH ALL FEEDERS, RECEPTACLE BRANCH CIRCUITS AND CIRCUITS FEEDING LIGHTING FIXTURES AND EQUIPMENT.

3.04 INSTALLATION OF LIGHTING FIXTURES

- LOCATIONS OF LIGHTING FIXTURES INDICATED ON THE DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES PRIOR TO INSTALLATION.
- FIXTURES SHALL BE ATTACHED TO CEILING SUPPORTING MEMBERS AND SHALL NOT DEPEND UPON LATHING OR PLASTER FOR ALIGNMENT OR SUPPORT. FIXTURES IN SUSPENDED CEILINGS SHALL BE SUPPORTED BY SADDLE HANGERS OR TIE-BARS ATTACHED TO RUNNERS OR BETWEEN CROSSBARS OF CEILING SYSTEMS. MOUNTING SPLINES OR OTHER POSITIVE MEANS OF MAINTAINING ALIGNMENT AND RIGIDITY SHALL BE PROVIDED. SUPPORTING MEMBERS SHALL BE SURFACE PASSIVATED AND SHALL BE PRIMED OR PAINT DIPPED TO RESIST CORROSION. FASTENING DEVICES SHALL BE OF A POSITIVE, LOCKING TYPE, AND SHALL NOT REQUIRE THE USE OF SPECIAL TOOLS TO REMOVE. TIE WIRES SHALL NOT BE USED IN PLACE OF FASTENING DEVICES.
- SPLICES SHALL NOT BE PERMITTED IN ANY RUN OF LIGHTING FIXTURE HOOKUP WIRE.

3.05 IDENTIFICATION OF WORK

- ALL PANELBOARDS, EQUIPMENT AND CABINETS SPECIFIED HEREIN SHALL BE CLEARLY IDENTIFIED WITH THE EQUIPMENT DESIGNATION, VOLTAGE AND AMPERE RATING, FUSE RATING, EQUIPMENT SERVED AND ORIGIN OF THE INCOMING FEED. IDENTIFICATION SHALL BE BY WHITE ON BLACK PLASTIC NAMEPLATE WITH 1/2" MINIMUM LETTERING ATTACHED BY SCREWS.
- JUNCTION BOXES AND CONTROL PANELS SHALL BE IDENTIFIED WITH PANEL AND CIRCUIT NUMBERS OR SYSTEM NAME. FACE PLATES OF SWITCHES FOR EQUIPMENT SHALL BE IDENTIFIED WITH THE NAME OF THE DEVICE WHICH IS CONTROLLED. IDENTIFICATION SHALL BE BY INDELEBIL MARKER IN CONCEALED LOCATIONS AND ADHESIVE LABELS IN EXPOSED LOCATIONS.
- EMPTY CONDUITS SHALL BE IDENTIFIED WITH TAGS AT BOTH ENDS INDICATING THE LOCATION OF TERMINATION AT THE OPPOSITE END.
- BALLAST COMPARTMENTS FOR FIXTURES OPERATING AT GREATER THAN 120V SHALL BE IDENTIFIED WITH A BRIGHT ORANGE ADHESIVE WARNING LABEL.
- MOTOR STARTERS, LOW VOLTAGE AND CONTROL SYSTEM PANELS SHALL BE FURNISHED WITH WIRING DIAGRAMS MOUNTED IN A PLASTIC POCKET.
- EMPTY CONDUITS SHALL BE IDENTIFIED WITH TAGS AT BOTH ENDS INDICATING THE LOCATION OF TERMINATION AT THE OPPOSITE END.

3.06 TEMPORARY LIGHT AND POWER

- PROVIDE TEMPORARY LIGHT AND POWER SYSTEM (AS PART OF CONTRACT) ADEQUATE FOR THE REQUIREMENTS OF ALL TRADES DURING CONSTRUCTION. TEMPORARY SYSTEM SHALL BE DISCONNECTED AND REMOVED WHEN PERMANENT SERVICE IS IN OPERATION.

3.07 TESTING

- IN ADDITION TO OTHER TESTS WHICH MAY BE REQUIRED BY OTHER DIVISIONS, THE ENGINEER, IN THE PRESENCE OF THE ENGINEER, TO DEMONSTRATE THE PROPER FUNCTIONING OF THE ELECTRICAL INSTALLATION, THE ENGINEER SHALL BE GIVEN A MINIMUM OF 48 HOURS ADVANCE NOTICE OF ALL TESTS. REQUIRED FIELD TESTS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
 - OPERATION OF ALL ELECTRICAL EQUIPMENT FOR A PERIOD OF 24 HOURS WITHOUT INTERRUPTION.
 - 1,000 VOLT MEGOHMMETER TEST OF ALL WIRES AND CABLES FURNISHED. CONTRACTOR SHALL FURNISH A TEST REPORT TO THE ENGINEER INDICATING TEST METHOD USED AND RESULTS.
- AFTER COMPLETION OF PROJECT AND PRIOR TO REQUESTING FINAL PAYMENT, ALL DEFECTIVE FIXTURES, CABLES OR OTHER EQUIPMENT ENCOUNTERED DURING THE COURSE OF TESTING SHALL BE PROMPTLY REPLACED AND RETESTED TO THE SATISFACTION OF THE ENGINEER.

3.08 PROJECT CLOSEOUT

- THE CONTRACTOR SHALL GIVE WRITTEN NOTICE THAT THE FOLLOWING ITEMS HAVE BEEN COMPLETED:
 - REQUIRED AGENCY APPROVALS.
 - DEMONSTRATIONS AND STATE OF NEW JERSEY INSTRUCTION.
 - RESOLUTION OF OUTSTANDING SUBMITTALS AND PUNCH LIST ITEMS.
 - AS-BUILT DRAWINGS.
 - TURNOVER OF SPARE LAMPS, KEYS, AND ANY REQUIRED SPARE PARTS OR TOOLS.
 - SYSTEM STARTUP, TESTING AND ADJUSTMENT.
 - MANUFACTURER'S CERTIFICATIONS, WARRANTIES AND O & M MANUALS.
- AFTER COMPLETION OF THE ENTIRE ELECTRICAL INSTALLATION:
 - THE CONTRACTOR, PRIOR TO FINAL ACCEPTANCE, SHALL CLEAN ALL SWITCHES, CABINETS, DEVICE PLATES, FIXTURES AND OTHER ITEMS FURNISHED UNDER THIS CONTRACT AND SHALL ENSURE THAT ALL PANELBOARD DIRECTORIES ARE IN PLACE AND COMPLETED OR REVISED AS REQUIRED BY THE WORK, AND THAT ALL IDENTIFICATION AND MARKING OF EQUIPMENT, CABLES, ALL JUNCTION BOXES AND OTHER ITEMS IS COMPLETED.
 - THE CONTRACTOR SHALL REPAIR OR REPLACE, AS DIRECTED BY THE ENGINEER, ANY ITEM DAMAGED DUE TO INSTALLATION OR RELOCATION OF EQUIPMENT OR DEVICES, AT NO ADDITIONAL COST TO THE STATE OF NEW JERSEY.

3.09 STARTUP, TESTING AND ADJUSTMENT

- PROVIDE THE SERVICES OF MANUFACTURERS' FACTORY TRAINED TECHNICIANS FOR SYSTEM STARTUP, TESTING AND ADJUSTMENT.
- THE FOLLOWING TESTS AND ADJUSTMENTS SHALL BE PERFORMED ON EQUIPMENT FURNISHED BY THIS CONTRACTOR AND OTHERS:
 - WIRING SYSTEMS - CONTINUITY, PHASE ROTATION, PHASE BALANCING AND INSULATION RESISTANCE (MEGGER)
 - GROUNDING SYSTEM - CONTINUITY AND RESISTANCE TO GROUND
 - MOTORS - RUNNING CURRENT AND OVERLOAD ADJUSTMENT
 - BUS CONNECTIONS - THERMOGRAPHIC SCANNING
- PROVIDE 48 HOURS ADVANCE NOTICE OF ALL TESTS. SUBMIT COMPLETE WRITTEN TEST PROCEDURES AND TEST REPORTS.

3.10 DEMONSTRATION AND INSTRUCTION

- DEMONSTRATE THAT ALL EQUIPMENT AND SYSTEMS ARE OPERATING IN ACCORDANCE WITH CONTRACT REQUIREMENTS.
- SUBMIT FOUR (4) COPIES OF OPERATION AND MAINTENANCE MANUALS FOR ALL ELECTRICAL EQUIPMENT, LIGHTING FIXTURES, LOW VOLTAGE SYSTEMS AND CONTROL SYSTEMS. MANUALS SHALL INCLUDE PRODUCT DATA, WIRING DIAGRAMS, TROUBLESHOOTING GUIDES, WARRANTIES, RECOMMENDED SPARE PARTS LIST, NAME AND TELEPHONE NUMBER OF LOCAL SERVICE ORGANIZATION.

05/10/2014 - PROGRESS SET - (NOT FOR CONSTRUCTION)

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION.
DO NOT SCALE DRAWINGS.
JHPA Job No. 442-01

Drawing Title
**ELECTRICAL;
SPECIFICATIONS**
Date: 30 October 2014

Revisions		
No.	Date	Description

Drawing No.
ME-002

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L R I N G
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HVAC SPECIFICATIONS

1. GENERAL REQUIREMENTS

A. ALL MECHANICAL AND ELECTRICAL WORK SHALL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE AND SHALL MEET ALL LOCAL CODES AS STATED BELOW. ALL DEFECTS, WHICH DEVELOP OR ARE DISCOVERED WITHIN THIS PERIOD SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT AND OWNER AT NO ADDITIONAL COST. UPON COMPLETION OF THE WORK UNDER THIS CONTRACT, THE CONTRACTOR SHALL REMOVE ALL TOOLS, APPLIANCES, SURPLUS MATERIAL AND SCRAP LEAVING THIS WORK IN PERFECT CONDITION.

2. NOTICE TO BIDDERS

- A. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO SERVE JOINTLY AS A BASIS UPON WHICH THE CONTRACTOR SHALL SUBMIT A CONTRACT PRICE FOR THE MATERIAL AND LABOR PROVISIONS.
- B. WHEN CONFLICTS OCCUR IN THE SPECIFICATIONS OR ON THE DRAWINGS, OR BETWEEN EITHER, THE ITEMS GREATER QUANTITY OR HIGHER COST SHALL BE PROVIDED.
- C. THE CONTRACTOR SHALL PROVIDE ALL ITEMS OF LABOR OR MATERIALS SPECIFICALLY INDICATED, OR REQUIRED TO COMPLETE THE INTENDED INSTALLATIONS.
- D. THE CONTRACTOR SHALL COORDINATE HIS WORK IN ORDER THAT CONFLICTS IN SPACE LOCATIONS DO NOT OCCUR.
- E. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THIS WORK WITH ITS COMPLETION AND FINAL ACCEPTANCE, AND SHALL REPLACE ANY OF SAME WHICH MAY BE DAMAGED, LOST OR STOLEN, WITHOUT ADDITIONAL COSTS TO THE OWNER.
- F. ALL WORK IN OCCUPIED TENANT AREAS SHALL BE PERFORMED ON OTHER THAN NORMAL WORKING HOURS OR SCHEDULED AS DIRECTED BY THE BUILDING MANAGER.
- G. THE CONTRACTOR SHALL NOTIFY THE OWNER WHEN SHUT-DOWN OF EXISTING SYSTEMS BECOMES NECESSARY. SHUT-DOWN TIME SHALL BE KEPT TO A MINIMUM.
- H. THE CONTRACTOR WILL BE HELD TO HAVE VISITED THE SITE AND EXAMINED THE DRAWINGS AND SPECIFICATIONS OF OTHER TRADES AND OF GENERAL CONSTRUCTION TRADES TO SATISFY HIMSELF OF ALL CONDITIONS INVOLVED. THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS GIVEN ON THE DRAWINGS AND THOROUGHLY ACQUAINT HIMSELF WITH ALL EXISTING CONDITIONS AFFECTING THE PROPER INSTALLATION OF HIS WORK.

3. SHOP DRAWINGS & EQUIPMENT SUBMISSIONS

- A. THREE SETS OF BLUEPRINTS FOR DUCTWORK, PIPING LAYOUT & CERTIFIED EQUIPMENT MANUFACTURER'S DATA SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER PRIOR TO INSTALLATION, ERECTION OR PURCHASE. SUBMIT THREE SETS OF CATALOG CUTS FOR FANS, AIR CONDITIONING UNITS, PIPE HANGERS, INSULATION, DIFFUSERS, ETC.
- B. COORDINATION WITH THE WORK OF OTHER TRADES.
- C. AIR BALANCING AND TESTING. SUBMIT REPORT AS SPECIFIED.
- D. SHOP DRAWINGS SHALL BE 3/8"=1'-0" SCALE.
- E. SUBMIT AIR CONDITIONING UNIT HANGING AND/OR SUPPORT DETAILS.

4. TESTING, ADJUSTING AND BALANCING

- A. MAKE ALL REQUIRED ADJUSTMENTS OF THE AIR SYSTEMS UNTIL ALL SPECIFIED PERFORMANCE ARE MET. ALL BALANCING REPORTS SHALL BE SUBMITTED TO PROJECT ENGINEER, NOT LATER THAN 30 DAYS AFTER COMPLETION.
- B. SYSTEMS SHALL BE TESTED AND BALANCED UPON COMPLETION OF WORK REPORTS SHALL BE SUBMITTED TO THE BUILDING MANAGER AND DESIGN ENGINEER FOR THEIR ACCEPTANCE. THE BALANCE REPORT WILL NOT BE ACCEPTED UNLESS THE AIR BALANCER HAS CONTACTED THE BASE BUILDING HVAC CONTRACTOR BEFORE HE COMMENCES AND IS ACCOMPANIED BY THE BASE BUILDING HVAC CONTRACTOR SO THAT HE IS SATISFIED THAT THE WORK IS BEING DONE IN THE REQUIRED QUALITY & MANNER. BEFORE COMMENCING WORK CONTRACTOR SHALL TEST AND RECORD TRAVERSE AT ALL MAINS (CFM & S.P.) OR TAKE INDIVIDUAL DIFFUSER READINGS, AND SUBMIT FOR REVIEW. FINAL BALANCING REPORT INCLUDING EXHAUST AIR QUANTITIES SHALL BE PROVIDED. ALSO PROVIDE READINGS ON EQUIPMENT'S AMPERAGE AND VOLTAGE.
- C. BALANCING SHALL BE PERFORMED IN COMPLIANCE WITH SMACNA STANDARDS, AND IN ACCORDANCE WITH AABC.
- D. CONTRACTOR SHALL RETAIN A TESTING AND BALANCING (T & B) SUBCONTRACTOR WHO HAS NO BUSINESS AFFILIATION WITH THE CONTRACTOR TO PERFORM THE WORK. THE T & B CONTRACTOR SHALL BE A MEMBER OF THE AABC OR NEBB. HIS QUALIFICATIONS MUST BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORK.
- E. IMMEDIATELY AFTER AWARD OF THE HVAC CONTRACT, THE T&B CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS AND SHALL INDICATE ANY DEFICIENCIES (OR ADDITIONAL FEATURES) IN THE AIR OR WATER SYSTEMS WHICH WOULD PRECLUDE (OR IMPROVE) PROPER ADJUSTING OR BALANCING. THESE INCLUDE, BUT ARE NOT LIMITED TO:
- i. ADDITIONAL AIR VOLUME DAMPERS.
- F. SUBMIT FOR APPROVAL SAMPLE FORMS THAT HE INTENDS TO USE FOR TABULATING BALANCING REPORTS WHICH SHALL INCLUDE FAN AND PUMP OR OTHER EQUIPMENT TAGS OR LABELS. THESE FORMS SHOULD BE SIMILAR TO THE AABC "TEST AND BALANCE" FORMS DESCRIBED IN "NATIONAL STANDARDS FOR FIELD MEASUREMENTS AND INSTRUMENTATION" VOL. II, NO. 12173, OF AABC OR NEBB EQUIVALENT AS STATED IN "HVAC SYSTEMS - TESTING ADJUSTING AND BALANCING".
- G. BALANCING REPORTS
- AFTER BALANCING AND TESTING HAVE BEEN PERFORMED, THE BALANCING CONTRACTOR SHALL SUBMIT FOUR (4) BOUND COPIES OF RECORDED TEST DATA AND EQUIPMENT PERFORMANCE REPORTS ON THE BALANCING OF AIR AND WATER SYSTEMS.
 - THE REPORTS SHALL DEMONSTRATE THAT AIR AND WATER SYSTEMS ARE PROPERLY BALANCED AS DESIGNED OR SPECIFIED; SUBMIT RESULTS ON APPROVED FORMS.
 - THE REPORTS SHALL SHOW THAT FANS AND PUMPS ARE DELIVERING AIR AND WATER FLOWS WITHIN ALLOWABLE LIMITS AS SPECIFIED; SUBMIT RESULTS ON APPROVED FORMS.
 - THE APPROVED FORMS MUST BE COMPLETE WITH REGARD TO ALL DATA REQUIREMENTS.
- H. ADJUSTMENTS
- a. THE T&B CONTRACTOR SHALL PERFORM TESTS AND MAKE ADJUSTMENTS TO VALVES, DAMPERS, FANS, PUMPS, AND RELATED ACCESSORIES, TO YIELD FLOW AND DISTRIBUTION OF AIR AND WATER REQUIRED TO PRODUCE OPERATING CRITERIA AND FLOW RATES REQUIRED BY THE CONTRACT DOCUMENTS. ALLOWABLE TOLERANCES FOLLOW:
 - AIR SIDE
 - i. AIR OUTLETS: ±5% OF DESIGN AIR FLOW.
 - ii. FANS: ±5% OF DESIGN AIR FLOW.
 - b. MAINTAIN SPECIFIED ACOUSTICAL PERFORMANCE OF AIR SYSTEMS; USE DAMPERING DEVICES AT AIR TERMINALS TO PRODUCE PRESSURE DROPS NOT IN EXCESS OF 0.15 IN. W.G. FOR AIR BALANCE TRIM.
 - c. AFTER SATISFACTORY BALANCE HAS BEEN ACHIEVED, RESET THE DUCT SYSTEM STATIC PRESSURE CONTROLLER TO THE LOWEST SET POINT COMPATIBLE WITH SCHEDULED AIR DELIVERY.
 - d. ALL FANS SHALL BE SET TO PROVIDE THE DESIGN AIR FLOW. AIR DAMPERS ARE TO BE USED ONLY FOR FINAL TRIM.

5. SLEEVES AND ESCUTCHEONS FOR PIPING

- A. PROVIDE SLEEVES FOR PIPES PASSING THROUGH WALLS. PIPE SLEEVES SHALL BE 16# GAUGE GALVANIZED STEEL.
- B. SPACE BETWEEN PIPE SHALL AND SLEEVE SHALL BE CAULKED WITH INCOMBUSTIBLE ROPE OR MINERAL WOOL TO WITHIN 1/2" OF WALL FACES AND FILLED WITH CAULKING COMPOUND TO WALL FACES.
- C. FURNISH AND INSTALL ESCUTCHEON PLATES ON ALL EXPOSED PIPING THROUGH WALLS AND HELD IN PLACE WITH SCREWS OR BE INTERNAL SPRING TENSION.
- D. SLEEVES SHALL HAVE AN INTERNAL DIAMETER OF AT LEAST 1" LARGER THAN THE OUTSIDE PIPE SIZE DIAMETER.

6. WORK INCLUDED UNDER OTHER SECTIONS OF WORK

- A. ITEMS OF WORK WHICH SHALL BE INCLUDED UNDER OTHER SECTIONS OF WORK ARE AS FOLLOWS:
- 1) ELECTRICAL WIRING FOR POWER.
 - 2) PROVISION OF ELECTRICAL DISCONNECT SWITCHES OR FUSES (UNLESS FURNISHED INTEGRALLY WITH EQUIPMENT.)

7. CODES, PERMITS AND INSPECTIONS

- A. ALL WORK SHALL MEET OR EXCEED THE LATEST REQUIREMENT OF THE INTERNATIONAL BUILDING CODE, INTERNATIONAL MECHANICAL CODE, NATIONAL ELECTRICAL CODE, THE NFPA AND OTHER AUTHORITIES EXERCISING JURISDICTION.
- B. COMPLY WITH APPLICABLE UTILITY COMPANY RULES AND REGULATIONS.
- C. COMPLY WITH OCCUPATIONS SAFETY AND HEALTH ACT (OSHA) REQUIREMENTS.
- D. SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION CERTIFICATES AND TRANSMIT SAME TO THE OWNER AT THE COMPLETION OF THE WORK.

8. ELECTRIC WIRING AND CONTROLS, AND WIRING DIAGRAMS

- A. THE CONTROLS UNDER THIS CONTRACT ARE GENERALLY ELECTRICAL, AND THEY SHALL BE INSTALLED IN ACCORDANCE WITH THE BASE CONTRACT SPECIFICATION AND HAVE THE APPROVAL OF THE OWNER. CONTRACTOR SHALL RETAIN BASE BUILDING CONTRACTOR FOR ALL TIE-IN'S TO TELETRAIL-BASED BASE BUILDING SYSTEM.
- B. ELECTRICAL WIRING FOR AUTOMATIC TEMPERATURE CONTROL, SAFETY SHUTDOWNS, LEAK DETECTION, ALARMS AND INTERLOCKING CONTROLS FOR MOTORS SHALL BE BY THE BASE BUILDING CONTRACTOR.
- C. ELECTRICAL WIRING FOR POWER TO MOTORS, MOTOR STARTERS, AND OTHER ELECTRICAL APPARATUS AND DEVICES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNDER ANOTHER DIVISION OF CONTRACT WORK.
- D. THE MECHANICAL CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL, TERMINAL POINT TO TERMINAL POINT, COMPLETELY COORDINATED AND INTEGRATED WIRING DIAGRAMS FOR ALL WIRING REQUIRING FIELD INSTALLATION BY THE ELECTRICAL CONTRACTOR, OR THE MECHANICAL CONTRACTOR'S ELECTRICIAN.
- E. SPECIFIC WIRING DIAGRAMS OF FACTORY INSTALLED EQUIPMENT WIRING SHALL ALSO BE SUBMITTED FOR APPROVAL AND FURNISHED TO THE ELECTRICAL CONTRACTOR FOR HIS INSTALLATION REQUIREMENTS AND OTHER USES.
- F. ALL WIRING, SWITCHES, ETC. SHALL BE IN FULL ACCORDANCE WITH ALL LOCAL AND INSURANCE UNDERWRITER'S CODE REQUIREMENTS AND REGULATIONS, INCLUDING BUT NOT LIMITED TO UNDERWRITERS LABORATORIES.

9. VIBRATION ISOLATION SYSTEMS

- A. ALL ROTATING, REVOLVING OR RECIPROCATING EQUIPMENT, INCLUDING PIPING CONNECTIONS TO THIS EQUIPMENT SHALL BE FURNISHED WITH VIBRATION ISOLATORS, TO PREVENT THE TRANSMISSION OF OBJECTIONABLE NOISES, SOUND OR VIBRATIONS TO THE OCCUPIED SPACES AND TO THE BUILDING STRUCTURES.
- B. VIBRATION ISOLATORS FOR FLOOR OR CEILING SUPPORTED EQUIPMENT SHALL HAVE A MAXIMUM LATERAL MOTION UNDER EQUIPMENT START-UP OR SHUTDOWN CONDITIONS OF 1/4". MOTIONS IN EXCESS SHALL BE RESTRAINED BY SPRING TYPE MOUNTINGS.
- C. VIBRATION ISOLATOR SHALL BE PROVIDED BY EITHER OF THE FOLLOWING MANUFACTURERS: MASON INDUSTRIES, VIBRATION ISOLATION CO. OR CONSOLIDATED KINETICS CO.
- D. VIBRATION ISOLATORS SHALL BE SELECTED TO ACHIEVE 80% - 95% ISOLATION AT THE DESIGN ROTATIONAL SPEED OF THE AIR CONDITIONING EQUIPMENT SPECIFIED.

10. INSTALLATION OF DUCTWORK - GENERAL

- A. INSTALL ALL DUCTWORK GENERALLY AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY THE SMACNA MANUAL.
- B. LOW PRESSURE DUCTWORK AND FITTINGS SHALL BE MADE TIGHT FOR MINIMUM AIR LEAKAGE (SHALL NOT EXCEED 5%), LARGE OR NOISY LEAKS SHALL NOT BE ACCEPTED. TAPE SHALL NOT BE USED TO SEAL JOINTS, TO MAKE TRANSITIONS OR FOR ANY OTHER REASON EXCEPT ON THE OUTSIDE OF WRAPPED INSULATION.

11. FLEXIBLE DUCTWORK

- A. ALL FLEXIBLE DUCTWORK SHALL BE INSULATED, AND HAVE AN INNER CORE OF ALL METAL CONSTRUCTION, CONSISTING OF A BONDED TWO-PLY LAMINATE, MECHANICALLY CORRUGATED FOR STRENGTH AIR TIGHTNESS. THE INNER CORE OF TWO-PLY ALUMINUM IS TO BE COVERED BY 1" THICK FIBERGLASS OF ONE LB. DENSITY. THE FIBERGLASS THEN IS TO BE COVERED WITH A POLYETHYLENE VAPOR BARRIER. FLEXIBLE DUCT SHALL BE CLEVAFLX TYPE 12FV OR APPROVED EQUAL.
- B. FLEXIBLE DUCTWORK RUNOUTS SHALL BE 15FT MAXIMUM LENGTH AND BE RUN AS STRAIGHT AS POSSIBLE.

12. EQUIPMENT SUPPORT REQUIREMENTS

- A. ALL SUPPORTING STEEL SHALL CONFORM TO ASTM DESIGNATION A-36.
- B. ALL NUTS SHALL HAVE LOCK WASHERS.
- C. CONTRACTOR SHALL VERIFY AND FIELD MEASURE EXISTING CONDITIONS PRIOR TO INSTALLATION OF ALL AC UNITS.
- D. PROVIDE VIBRATION ISOLATORS ON ALL HANGER RODS PER DETAIL.

13. DUCTWORK

- A. COMPLY WITH NFPA STANDARDS 90A, 90B AND 91, EXCEPT AS INDICATED OTHERWISE.
- B. ALL DUCTWORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF SMACNA GUIDE AND DATA BOOK.
- C. SHEET METAL MATERIALS, GENERAL: PROVIDE THE FOLLOWING MATERIALS. PACKAGE AND MARK SHEET METAL MATERIALS AS SPECIFIED IN ASTM A-700.
- 1. GALVANIZED SHEET STEEL: LOCK-FORMING QUALITY, ASTM A-527, COATING DESIGNATION G 90, MILL PHOSPHATIZED FINISH FOR EXPOSED SURFACES OF DUCTS.
 - 2. FLEXIBLE ACOUSTICAL DUCTWORK: FLEXMASTER TYPE "3" FLEXIBLE DUCT, WITH 1" FIBERGLASS INSULATION, CPE INNER LINER AND FIRE RETARDANT METALIZED JACKETING. SUBMIT ACOUSTICAL DATA FOR INSERTION LOSS.
- D. REINFORCEMENT SHAPES AND PLATES: UNLESS OTHERWISE INDICATED, PROVIDE GALVANIZED STEEL REINFORCING WHERE INSTALLED ON GALVANIZED SHEET METAL DUCTS.
- E. JOINT AND SEAM TAPE: 2 INCHES WIDE, GLASS-FIBER-FABRIC REINFORCED. SEALANT SHALL BE ONE PART BUTYL SEALANT.
- F. FIRE-RESISTANT SEALANT: PROVIDE ONE-PART ELASTOMERIC SEALANT FORMULATED FOR USE IN A THROUGH-PENETRATION FIRE-STOP SYSTEM FOR FILLING OPENINGS AROUND DUCT PENETRATIONS THROUGH WALLS AND FLOORS, HAVING FIRE-RESISTANCE RATINGS INDICATED AS ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES PER ASTM E-184 BY UNDERWRITERS LABORATORY, INC. OR OTHER TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
- G. RECTANGULAR DUCT FABRICATION: EXCEPT AS OTHERWISE INDICATED, FABRICATE RECTANGULAR DUCTS WITH GALVANIZED SHEET STEEL, IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS," CONFORM TO THE REQUIREMENTS IN THE REFERENCED STANDARD FOR METAL THICKNESS, REINFORCING TYPES AND INTERVALS, TIE ROD APPLICATIONS, AND JOINT TYPES AND INTERVALS. ALL SUPPLY AIR DUCTWORK UPSTREAM OF VAV TERMINALS SHALL BE CONSIDERED AS MEDIUM PRESSURE. ALL OTHER DUCTWORK SHALL BE CONSIDERED AS LOW PRESSURE. ALL MEDIUM PRESSURE DUCTWORK SHALL BE CONSTRUCTED TO A SMACNA STATIC PRESSURE CLASSIFICATION OF +3" W.C. AND SEAL CLASS OF "A". ALL LOW PRESSURE DUCTWORK SHALL BE CONSTRUCTED TO SMACNA STATIC PRESSURE CLASSIFICATION OF +1" W.C. AND SEAL CLASS OF "A". DUCT SIZES SHOWN ARE INSIDE FREE AREA DIMENSIONS. MEDIUM PRESSURE DUCTWORK SHALL INCLUDE ALL DUCTWORK UPSTREAM OF VAV TERMINALS. LOW PRESSURE DUCTWORK SHALL INCLUDE DUCTS DOWN STREAM OF VAV TERMINALS AND EXHAUST DUCTWORK.
- H. RECTANGULAR DUCT FITTINGS: FABRICATE ELBOWS, TRANSITIONS, OFFSETS, BRANCH CONNECTIONS, AND OTHER DUCT CONSTRUCTION IN ACCORDANCE WITH SMACNA "HVAC METAL DUCT CONSTRUCTION STANDARD."
- I. INSTALL DUCTS WITH THE FEWEST POSSIBLE JOINTS. USE FABRICATED FITTINGS FOR ALL CHANGE IN DIRECTIONS, CHANGES IN SIZE AND SHAPE, AND CONNECTIONS.
- J. COORDINATE DUCTWORK LAYOUT WITH STRUCTURAL STEEL, LIGHTING LAYOUTS, PIPING, ELECTRICAL CONDUITS AND SIMILAR FINISHED WORK. SUBMIT 3/8" = 1' SCALE SHEET METAL SHOP DRAWINGS.
- K. STAINLESS STEEL DUCTWORK
- ALL LABORATORY EXHAUST SYSTEM DUCTWORK SHALL BE AISI TYPE 304 STAINLESS STEEL WITH WELDED CONNECTIONS. PREFABRICATED FM APPROVED "PSP" DUCTWORK WITH PSP-EZ CLAMP CONNECTIONS AS MANUFACTURED BY FAB-TECH, INC. SHALL BE AN APPROVED ALTERNATIVE TO FIELD WELDING OF LABORATORY EXHAUST CONNECTIONS.
- L. PROVIDE STAINLESS STEEL DUCTWORK FOR THE FOLLOWING:
- ALL DUCTWORK EXPOSED TO OUTDOORS, ALL DUCTWORK AT OR ABOVE ROOF LEVEL, DUCT OR PIPE FLASHING AT ROOF OR WALL PENETRATIONS.
- M. FOR RECTANGULAR DUCTS, ALL SEAMS, JOINTS, ELBOWS, STIFFENING AND METHOD OF SUPPORTING SHALL BE THE SAME AS SPECIFIED FOR SMACNA 3" WG SYSTEM PRESSURE, EXCEPT THAT ALL SEAMS AND JOINTS SHALL BE SOLDERED. ROUND DUCTS SHALL HAVE 2-INCH SLIP JOINTS UP TO 10-INCH DIAMETER AND 4-INCH SLIP JOINT ABOVE 11-INCH DIAMETER, WITH ALL SEAMS AND JOINTS SOLDERED.
- N. ALL ELBOWS SUPPORTS AND WORKMANSHIP SHALL BE THE SAME AS SPECIFIED FOR SMACNA 3" W.G. ALL HARDWARE USED ON STAINLESS STEEL DUCTWORK, IN CONTACT WITH FUMES AND EXHAUST AIR, SHALL ALSO BE STAINLESS STEEL.
- O. DOUBLE WALL SPIRAL INSULATED ROUND DUCTS
- MANUFACTURERS: SUBJECT TO THE REQUIREMENT OF THE SPECIFICATION, THE FOLLOWING MANUFACTURER'S PRODUCTS THAT MAY BE INCORPORATED INTO THE PROJECT:
- 1. MCGILL AIRFLOW CORPORATION
 - 2. SEMCO INCORPORATED
 - 3. SPIRAL MFG. CO., INC.
- P. PRODUCT DESCRIPTION: MACHINE MADE FROM ROUND SPIRAL LOCKSEAM DUCT WITH LIGHT REINFORCING CORRUGATIONS, GALVANIZED STEEL OUTER WALL, 1 INCH THICK GLASS FIBER INSULATION, SOLID GALVANIZED STEEL INNER WALL; FITTINGS MANUFACTURED WITH SOLID INNER WALL.
- Q. CONSTRUCT ROUND DUCT WITH THE FOLLOWING MINIMUM GAGES:
- DIAMETER GAUGE 15 INCHES TO 26 INCHES 24 CONSTRUCT ROUND FITTINGS WITH THE FOLLOWING MINIMUM GAGES: DIAMETER GAUGE 15 INCHES TO 26 INCHES 22

14. EXHAUST FAN

- A. FAN HOUSING AND OUTLET
- 1. FAN HOUSING TO BE AERODYNAMICALLY DESIGNED WITH INTEGRAL PUNCHED FLANGES FOR SIZES UP THROUGH SIZE 160 (63 INCH DIAMETER).
 - 2. FAN HOUSING SHALL BE CONSTRUCTED OF ROLLED STEEL WITH A CONTINUOUS SEAM WELD.
 - 3. HOUSING TO BE COATED WITH A MINIMUM OF 3 MILS OF PERMATECTOR, AN ELECTROSTATICALLY APPLIED AND BAKED POLYESTER URETHANE. FINISH COLOR SHALL BE GRAY. COATING MUST EXCEED 1,000-HOUR SALT SPRAY UNDER ASTM B117 TEST METHOD.
 - 4. MOTOR SUPPORT FRAMEWORK TO BE CONSTRUCTED OF STRUCTURAL STEEL THAT IS SUITABLE TO HANDLE THE WEIGHTS OF THE MOTOR AND PROPELLER. MOTOR SUPPORTS WITHIN THE FAN HOUSING TO BE WELDED TO THE FAN CASING. BOLTED CONSTRUCTION IS NOT ACCEPTABLE. ALL SUPPORT FRAMEWORK TO BE COATED WITH A MINIMUM OF 3 MILS OF PERMATECTOR, AN ELECTROSTATICALLY APPLIED AND BAKED POLYESTER URETHANE. FINISH COLOR SHALL BE GRAY. COATING MUST EXCEED 1,000-HOUR SALT SPRAY UNDER ASTM B117 TEST METHOD.
- B. FAN IMPELLER
- 1. A TAPER LOCK BUSHING SHALL BE USED TO MOUNT THE PROPELLER TO THE MOTOR SHAFT.
 - 2. FAN PROPELLER SHALL USE CAST ALUMINUM AIRFLOW BLADES. BLADES TO BE ADJUSTABLE WITHIN A CAST ALUMINUM HUB TO ALLOW FOR PERFORMANCE CHANGES. THE PROPELLER SHALL BE BOTH STATICALLY AND DYNAMICALLY BALANCED.
 - 3. THE WHEEL AND FAN INLET SHALL BE CAREFULLY MATCHED AND SHALL HAVE PRECISE RUNNING TOLERANCES FOR MAXIMUM PERFORMANCE AND OPERATING EFFICIENCY.
- C. FAN MOTORS AND DRIVE.
- 1. MOTORS SHALL BE 1800 RPM IN 60 HZ, TEAO WITH A 1.15 SERVICE FACTOR.
 - 2. MOTORS MUST BE STANDARD NEMA T-FRAME DESIGNS THAT ARE READILY AVAILABLE FROM MOTOR VENDORS. SUPPLIERS USING C-FACE OR PAD MOUNT MOTORS MUST INCLUDE PROVISIONS TO PROVIDE REPLACEMENT MOTORS IN CASE OF A MOTOR FAILURE DUE TO LONG MOTOR LEAD TIMES.
- D. ACCEPTABLE MANUFACTURERS
- 1. GREENHECK FAN CORPORATION.
 - 2. COOK

15. SEQUENCE OF OPERATION

- A. SEQUENCE OF OPERATION FOR EACH CONTROL SCHEME IS DESCRIBED BELOW. WHERE SEQUENCE OF OPERATION IS NOT DESCRIBED HEREIN, FOLLOW DESCRIPTION OF INTENT SHOWN ON DRAWINGS AND SUBMIT CONTROL DIAGRAM FOR APPROVAL BEFORE PROCEEDING WITH THE INSTALLATION.
- 1. EXHAUST FAN (EF-2): EXHAUST FANS SHALL BE OPERATED MANUALLY.

16. CUTTING AND PATCHING

- A. PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR SYSTEMS AND EQUIPMENT INCLUDED IN THESE SPECIFICATIONS.
- B. PROVIDE ALL DRILLING REQUIRED FOR THE INSTALLATION OF HANGERS.
- C. ALL HOLES CUT THROUGH CONCRETE SLABS OR ARCHES SHALL BE PUNCHED OR DRILLED FROM THE UNDERSIDE. NO STRUCTURAL MEMBERS SHALL BE CUT WITHOUT THE APPROVAL OF THE ENGINEER AND ALL SUCH CUTTING SHALL BE DONE IN A MANNER DIRECTED BY HIM.

17. GUARANTEES

- A. ALL WORK SHALL BE GUARANTEED TO BE FREE FROM LEAKS OR OTHER DEFECTS. ALL DEFECTIVE MATERIAL OR WORKMANSHIP AS WELL AS DAMAGES TO THE WORK SHALL BE REPLACED AND REPAIRED. ALL DEFECTS CREATED TO ALL OTHER TRADES RESULTING FROM THIS WORK SHALL BE REPLACED OR REPAIRED FOR THE DURATION OF THE GUARANTEE PERIOD.
- B. THE GUARANTEE PERIOD SHALL BE FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE, WHICH SHALL BE THE DATE OF FINAL PAYMENT OR THE DATE OF FORMAL NOTICE OF ACCEPTANCE, WHICHEVER IS EARLIER.
- C. CERTIFICATION SHALL BE FOR ONE (1) YEAR FROM THE DATE OF ACCEPTANCE, WHICH SHALL BE THE DATE OF FINAL PAYMENT OR THE DATE OF FORMAL NOTICE OF ACCEPTANCE, WHICHEVER IS EARLIER.

18. REMOVALS AND ALTERATIONS

- A. THE CONTRACTOR SHALL REMOVE, RELOCATE, REPLACE, ADJUST, ADAPT AND MODIFY EXISTING EQUIPMENT AND/OR SYSTEMS AS REQUIRED BY THE DRAWINGS OR SPECIFICATION, AND AS MAY BE REQUIRED WHEN THE COMPLETION OF WORK IN THE CONTRACT OR OTHER CONTRACT WORK.
- B. ALL REMOVED EQUIPMENT AND MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE.

19. DEFINITIONS

- A. CUTTING - REMOVAL OF PORTIONS OR SECTIONS OF STRUCTURAL MEMBERS, WALLS, FLOORS, CEILINGS, AND THE LIKE, AS REQUIRED TO PERMIT INSTALLATION OF NEW MECHANICAL OR ELECTRICAL MATERIALS OR EQUIPMENT.
- B. PATCHING - REPAIR OF SUCH CUT MATERIALS, RESTORING TO AS CLOSE TO ORIGINAL CONDITION AS POSSIBLE, OR AS DIRECTED BY THE ENGINEER UNLESS NOTED OTHERWISE ON DRAWINGS OR IN "EXCEPTIONS" BELOW:
- 1. CUTTING AND PATCHING OF EXISTING MATERIALS (I.E. EXISTING PRIOR TO AWARD OF THIS CONTRACT) SHALL BE PERFORMED BY THE RESPECTIVE CONTRACTOR OR SUB-CONTRACTOR REQUIRING SAME.
 - 2. CUTTING AND PATCHING OF NEW WORK (I.E. EXISTING MATERIALS INSTALLED AFTER AWARD OF CONTRACT) SHALL BE PERFORMED BY THE GENERAL CONTRACTOR. THIS IS NOT INTENDED TO ELIMINATE FINANCIAL RESPONSIBILITY OF PARTY CAUSING SUCH WORK TO BE DONE.
 - 3. PATCHING OF EXISTING MATERIALS IN SITUATIONS WHERE NEW SURFACE FINISHES ARE TO BE APPLIED AS PART OF THE GENERAL CONTRACTOR'S WORK SHALL BE PERFORMED BY THE GENERAL CONTRACTOR. IN CASES WHERE UNNECESSARILY EXCESSIVE CUTTING HAS BEEN PERFORMED, THE REQUIRED PATCHING SHALL BE PERFORMED BY THE RESPECTIVE CONTRACTOR WHO PERFORMED THE CUTTING, EXCEPT FOR THE FINAL SURFACE FINISH.

20. AS-BUILT DRAWINGS AND MAINTENANCE MANUALS

- A. CONTRACTOR SHALL PROVIDE A MYLAR SEPIA OF THE CONTRACT DRAWINGS WHICH SHALL BECOME THE BASIS OF THE AS-BUILT DRAWINGS. ANY DEVIATION OF DUCTWORK, DIFFUSERS, REGISTERS AND PIPING SHALL BE CORRECTED ON THE SEPIA MYLARS. THE SEPIA SHALL BE STAMPED "AS-BUILT" WITH THE DATE AND CONTRACTOR'S SIGNATURE. TWO PRINTS AND A SEPIA SHALL BE DELIVERED TO THE ENGINEER BEFORE FINAL PAYMENT IS MADE. AFTER REVIEW AND APPROVAL OF AS-BUILT CONTRACTOR SHALL DELIVER SEPIA MYLAR TO THE ENGINEER. ALSO, AS-BUILT SHOP DRAWINGS SHALL BE TURNED OVER TO THE BUILDING MANAGER UPON COMPLETION OF WORK.
- B. A REPRODUCIBLE RECORD DRAWING SHALL BE SUPPLIED UPON WHICH CORRECTIONS SHALL BE MADE TO PROVIDE AN ACCURATE AND COMPLETE RECORD OF THE WORK AS INSTALLED. A REPRODUCIBLE COPY OF THIS DRAWING SHALL BE PROVIDED TO THE BUILDING MANAGER ONCE THE INSTALLATION IS COMPLETE.
- C. FURNISH TO THE ARCHITECT SIX (6) BOUND AND INDEXED COPIES OF OPERATIONS, MAINTENANCE AND AIR BALANCING DATA MANUALS FOR THE INSTALLATION.
- D. THE MANUAL SHALL PROVIDE COMPREHENSIVE DETAILED INFORMATION ON THE APPROVED INSTALLATION, OPERATION AND USE, MAINTENANCE AND PARTS LIST.

05/01/2014 - PROGRESS SET - (NOT FOR CONSTRUCTION)

BATTERY LEWIS
RESTORATION - PHASE 2
Hartshorne Woods Park, Highlands, NJ
Monmouth County Park System
805 Newman Springs Road
Lincroft, NJ 07738

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION.

DO NOT SCALE DRAWINGS.

JHPA Job No. 442-01

JHPA Job No. 442-01

Drawing Title

MECHANICAL:
SPECIFICATIONS

Date: 30 October 2014

Revisions

No.	Date	Description

Drawing No.

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JHPA Job No. 442-01

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Revisions

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SPECIFICATIONS

Date: 30 October 2014

Revisions

No.	Date	Description

Drawing No.

ME-003

JHPA Job No. 442-01

JHPA Job No. 442-01

Drawing Title

MECHANICAL:
SPECIFICATIONS

Date: 30 October 2014

Revisions

No.	Date	Description

Drawing No.

ME-003

JHPA Job No. 442-01

JHPA Job No. 442-01

Drawing Title

MECHANICAL:
SPECIFICATIONS

Date: 30 October 2014

Revisions

No.	Date	Description

Drawing No.

ME-003

JHPA Job No. 442-01

JHPA Job No. 442-01

Drawing Title

MECHANICAL:
SPECIFICATIONS

Date: 30 October 2014

Revisions

No.	Date	Description

Drawing No.

ME-003

JHPA Job No. 442-01

JHPA Job No. 442-01

Drawing Title

MECHANICAL:
SPECIFICATIONS

Date: 30 October 2014

Revisions

No.	Date	Description

Drawing No.

ME-003

JHPA Job No. 442-01

JHPA Job No. 442-01

Drawing Title

MECHANICAL:
SPECIFICATIONS

Date: 30 October 2014

Revisions

No.	Date	Description

Drawing No.

ME-003

JHPA Job No. 442-01

JHPA Job No. 442-01

Drawing Title

MECHANICAL:
SPECIFICATIONS

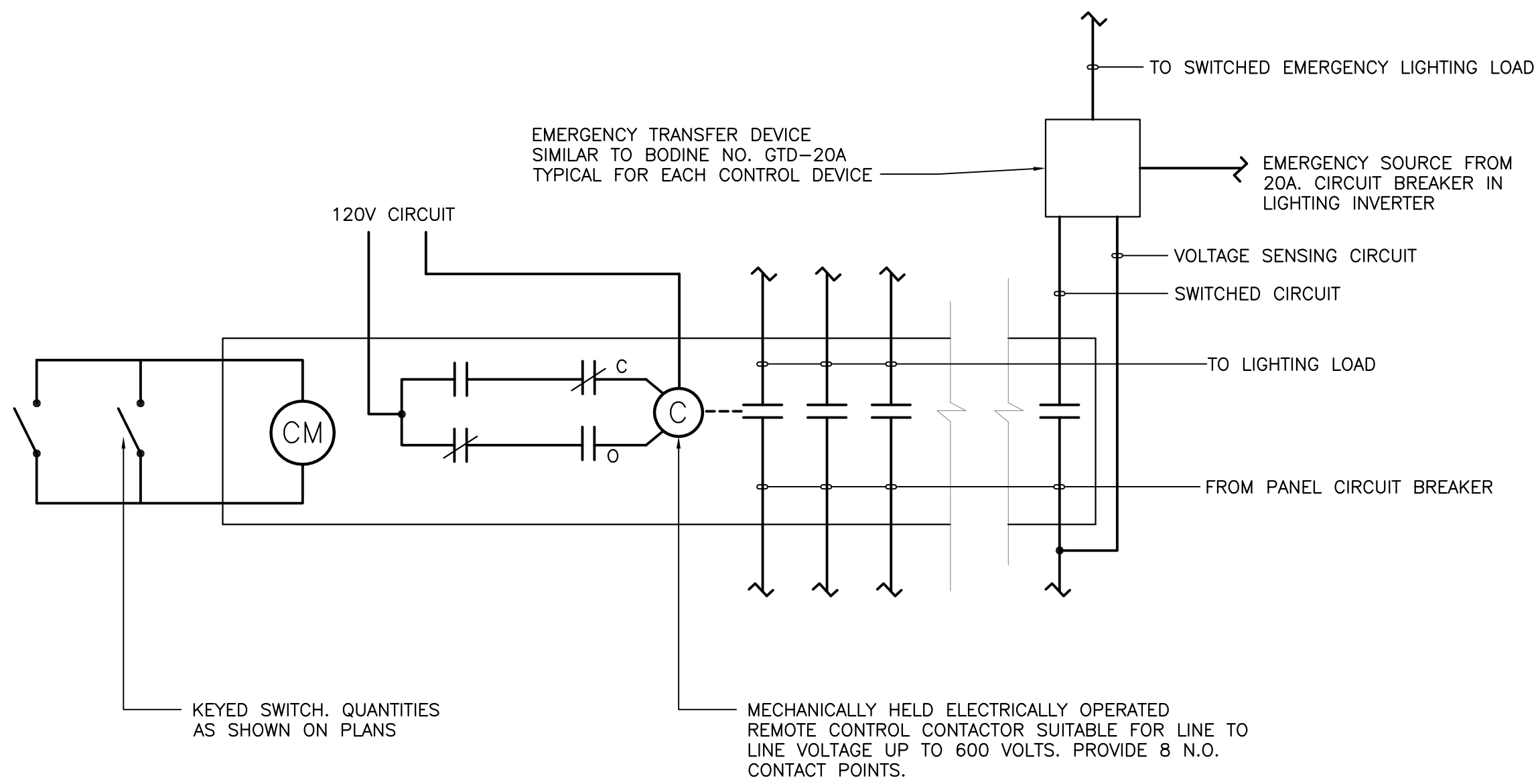
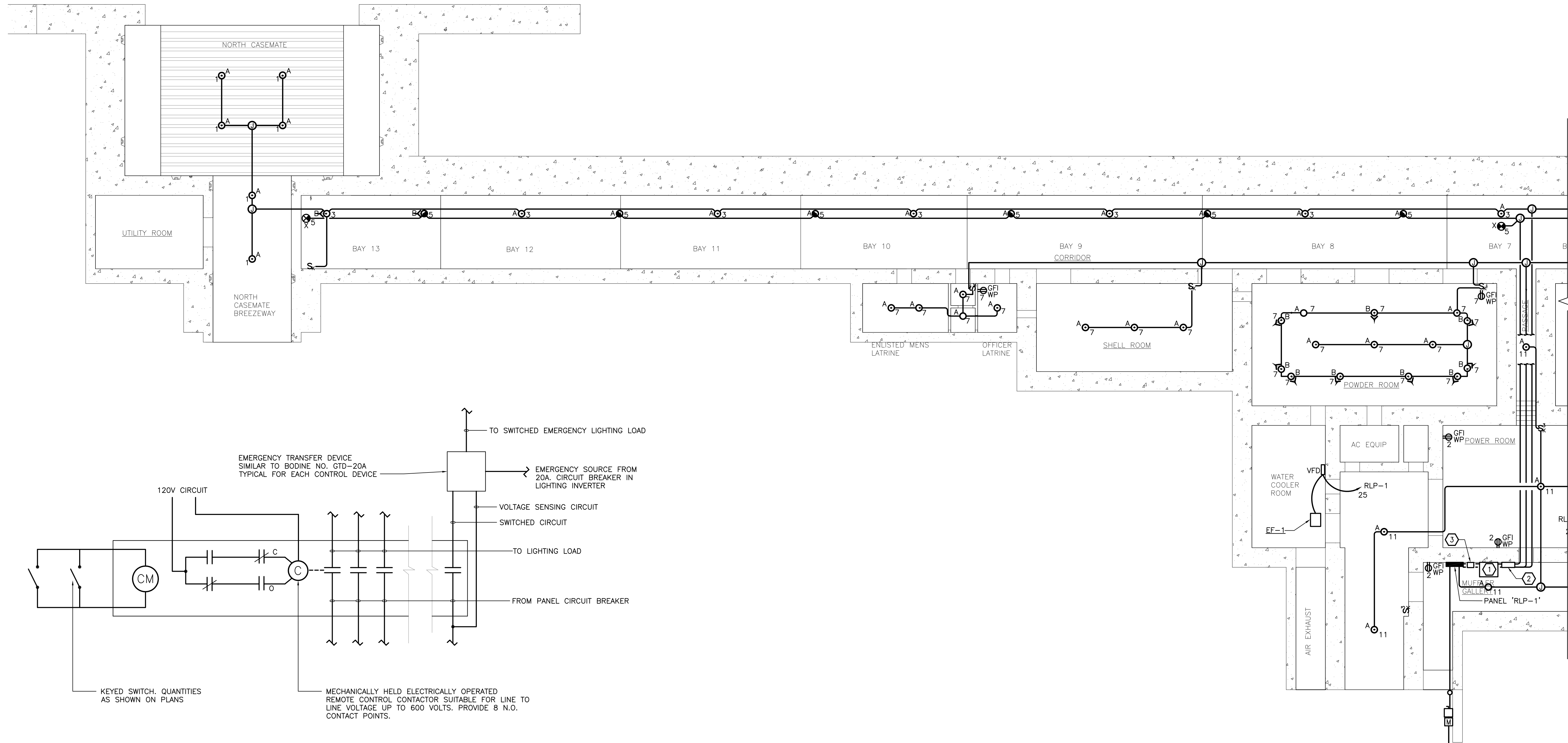
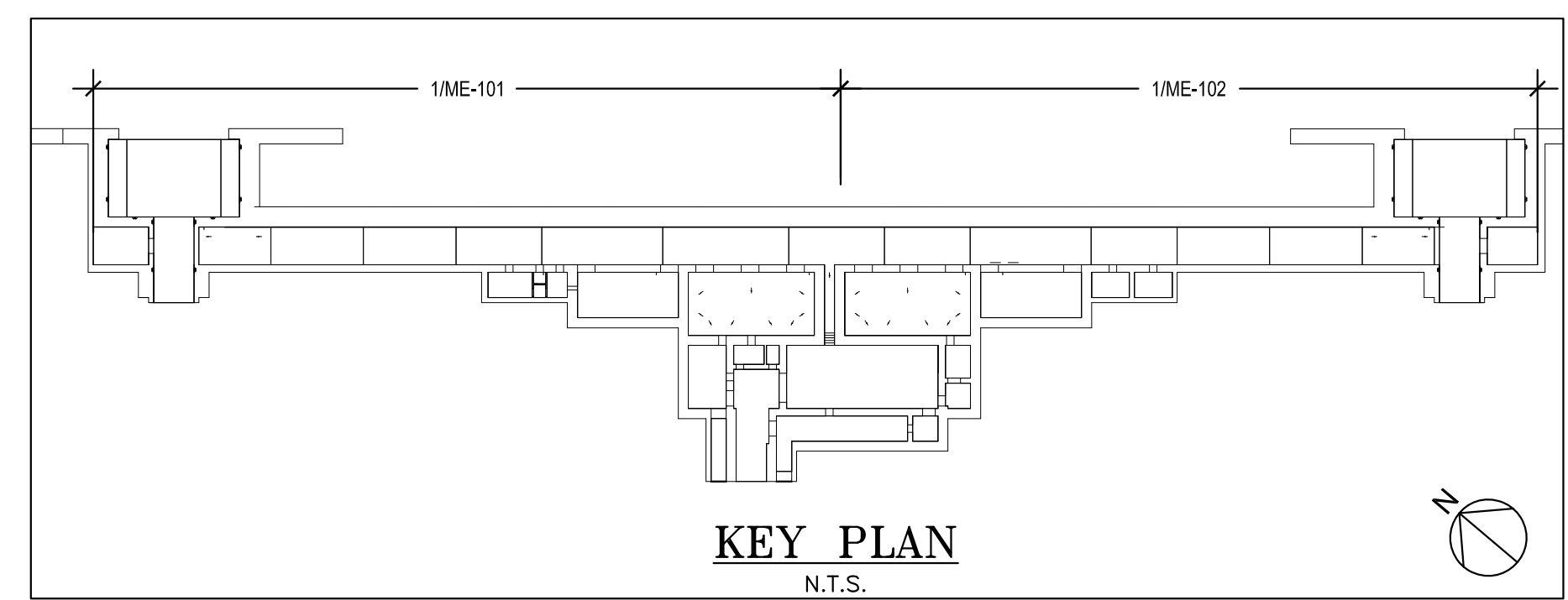
Date: 30 October 2014

GENERAL NOTES

1. ALL CONDUITS SHALL BE RGS TYPE. ALL JUNCTION AND FIXTURE SUPPORT BOXES SHALL BE CAST MALLEABLE IRON.

KEYED NOTES

- ① EMERGENCY LIGHTING INVERTER. 1.4KW, 120V INPUT, 120V OUTPUT, WITH INTERNAL HEATER AND 4 OUTPUT CIRCUIT BREAKERS, SIMILAR TO DSPM MODEL NO. FT1-1.4-120/120-0BC/120/4/20/1 HTR-90. WIRE TO PANEL RLP-1 CIRCUIT NO. 4
- ② LIGHTING CONTACTOR AND TRANSFER DEVICES. REFER TO DIAGRAM ON ME-101 FOR ADDITIONAL INFORMATION. WIRE TO PANEL RLP-1 CIRCUIT NO. 6
- ③ DIGITAL TIME CLOCK, SINGLE CHANNEL, ASTRONOMICAL, 365 DAY CONTROLLER. SIMILAR TO TORK MODEL DZS100BP-0.

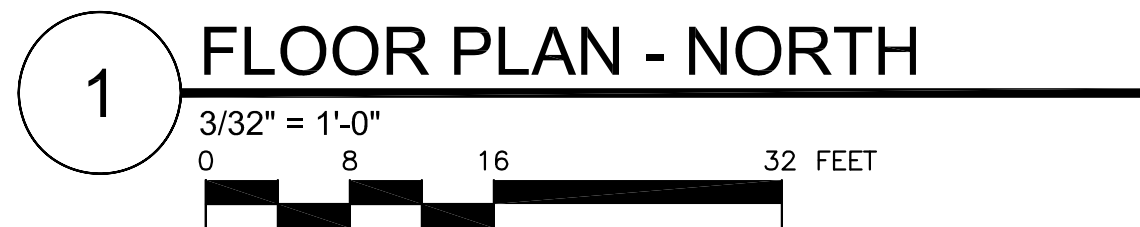


LIGHTING CONTROL SCHEMATIC WIRING DIAGRAM

NO SCALE

NOTES:

1. CONTACTOR SHALL BE ASCO MODEL 918 WITH ACCESSORY 47.
2. NEUTRAL AND GROUND CONDUCTORS NOT SHOWN FOR CLARITY.



05/01/2014 - PROGRESS SET - (NOT FOR CONSTRUCTION)

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 N.J. Professional engineer No. 43960

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 Hartshorne Woods Park, Highlands, NJ
 Monmouth County Park System
 805 Newman Springs Road
 Lincroft, NJ 07738

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION.

DO NOT SCALE DRAWINGS.

JHPA Job No. 442-01

Drawing Title
ELECTRICAL: FLOOR PLAN - NORTH

Date: 30 October 2014

Revisions		
No.	Date	Description

Drawing No.
ME-101

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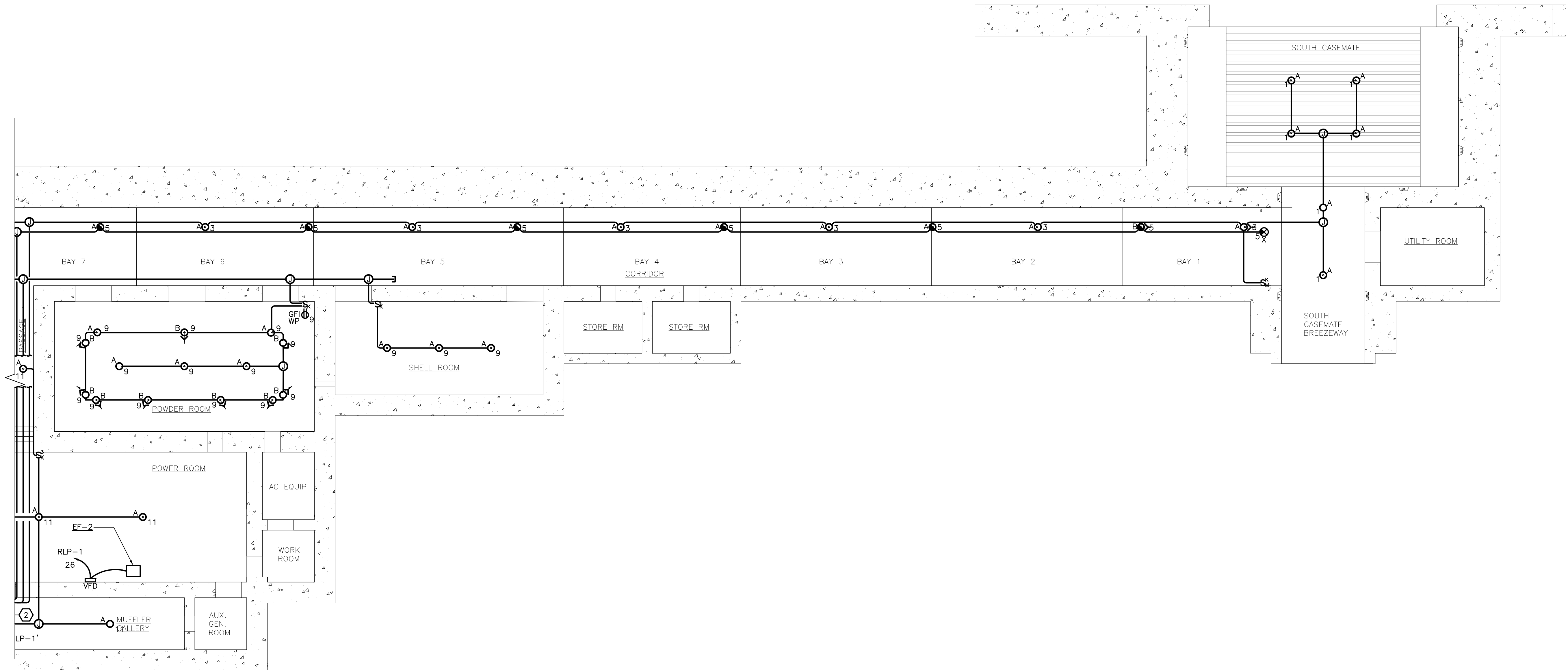
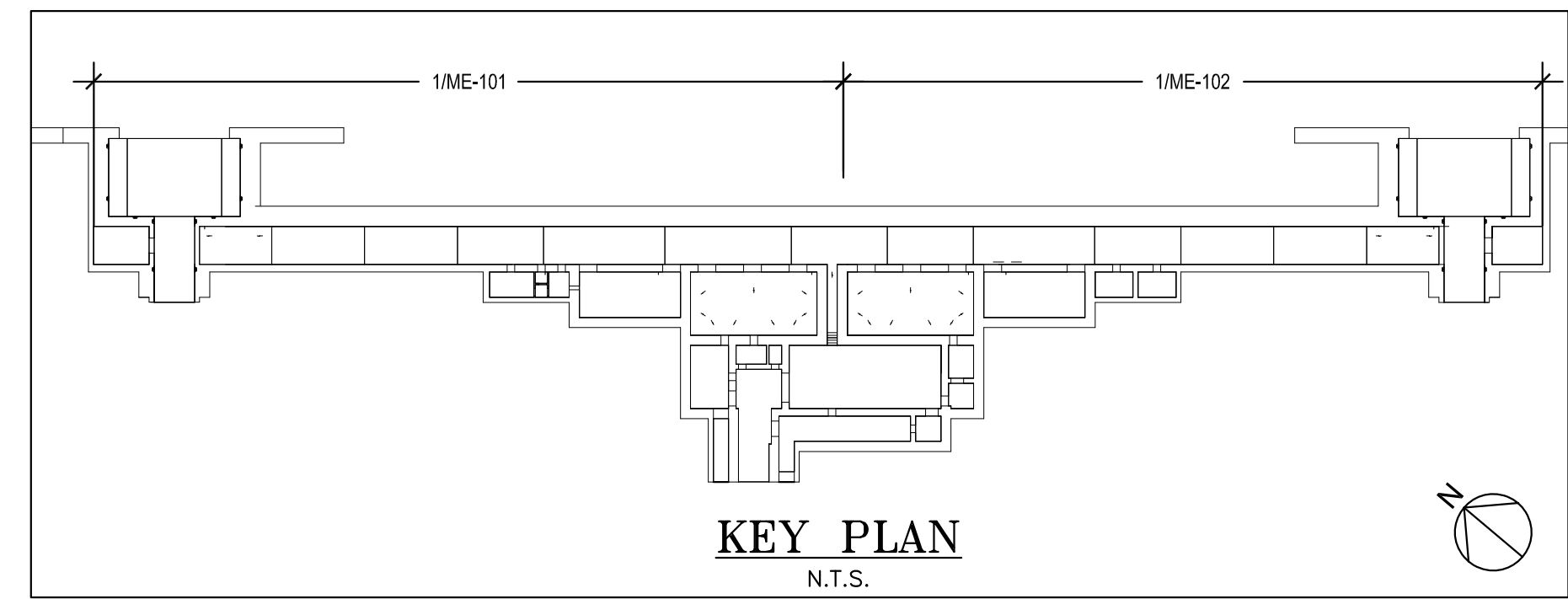
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 CERTIFICATE OF AUTHORIZATION NO. 246A27952700

GENERAL NOTES

1. ALL CONDUITS SHALL BE RGS TYPE. ALL JUNCTION AND FIXTURE SUPPORT BOXES SHALL BE CAST MALLEABLE IRON.

KEYED NOTES

- 1 EMERGENCY LIGHTING INVERTER. 1.4KW, 120V INPUT, 120V OUTPUT, WITH INTERNAL HEATER AND 4 OUTPUT CIRCUIT BREAKERS. SIMILAR TO DSPM MODEL NO. FT1-1.4-120/120-0BC/120/4/20/1 HTR-90. WIRE TO PANEL RLP-1 CIRCUIT NO. 4
- 2 LIGHTING CONTACTOR AND TRANSFER DEVICES. REFER TO DIAGRAM ON ME-101 FOR ADDITIONAL INFORMATION. WIRE TO PANEL RLP-1 CIRCUIT NO. 6
- 3 DIGITAL TIME CLOCK. SINGLE CHANNEL, ASTRONOMICAL, 365 DAY CONTROLLER. SIMILAR TO TORK MODEL DZS100BP-0.



1 FLOOR PLAN - SOUTH
 3/32" = 1'-0"
 0 8 16 32 FEET

05/01/2014 - PROGRESS SET - (NOT FOR CONSTRUCTION)

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JHPA Job No. 442-01

Drawing Title
**ELECTRICAL:
 FLOOR PLAN
 - SOUTH**

Date: 30 October 2014

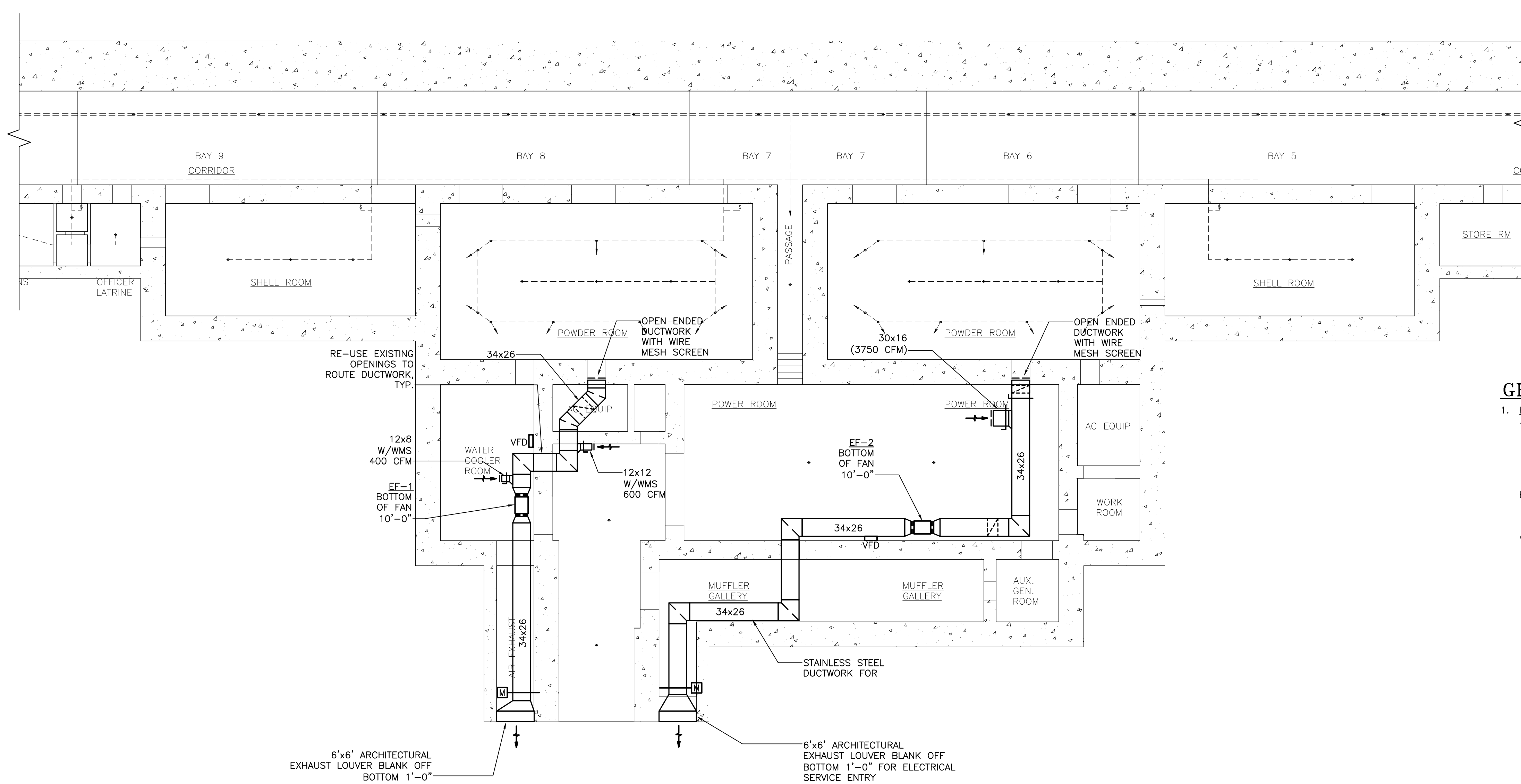
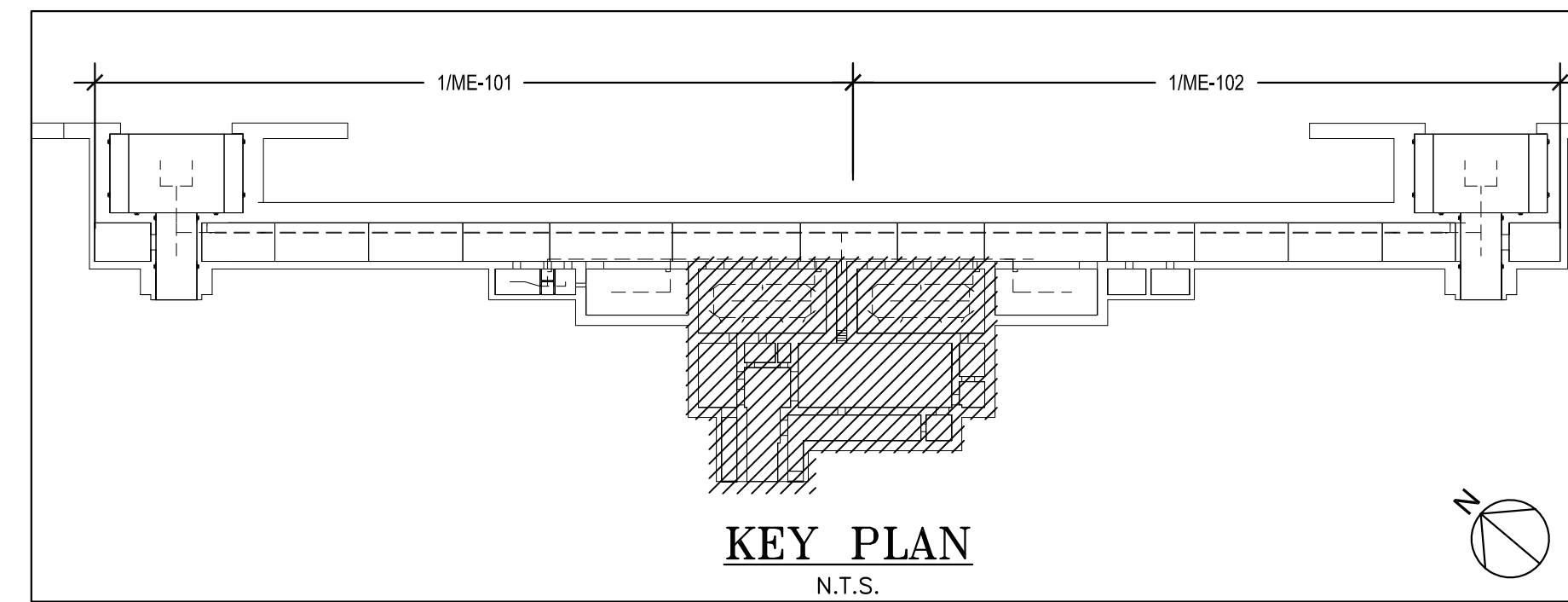
Revisions		
No.	Date	Description

Drawing No.
ME-102

L R I N G
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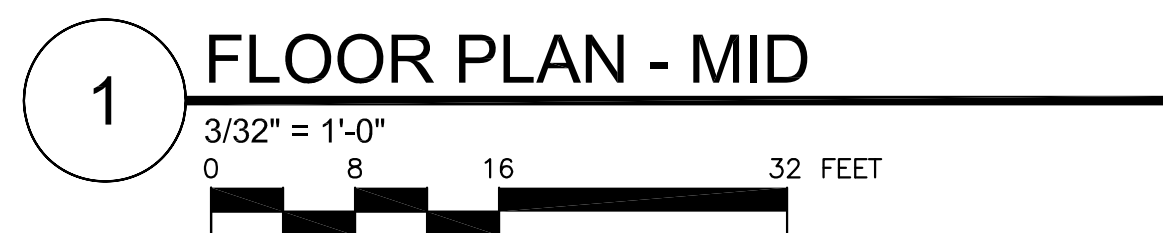
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GENERAL NOTES

1. BASIS OF DESIGN:
 - A. THE INTENT OF THE MECHANICAL SYSTEM SHOWN ON DRAWINGS IS TO PROVIDE NOMINAL VENTILATION VIA MANUAL OPERATION OF EXHAUST FANS WHEN TEMPERATURE AND HUMIDITY LEVELS ARE HIGH. EXHAUST FANS HAVE BEEN SIZED TO HANDLE SIX(6) AIR CHANGES PER HOUR IN THE BUILDING.
 - B. THE EXHAUST FANS ARE SPECIFIED WITH VARIABLE FREQUENCY DRIVES TO ALLOW ADJUSTMENT OF FAN OPERATIONAL SPEEDS.
 - C. AIR TRANSFER FROM ROOMS / CORRIDOR TO THE EXHAUST FANS WILL BE VIA EXISTING OPENINGS IN THE WALLS.



05/01/2014 - PROGRESS SET - (NOT FOR CONSTRUCTION)

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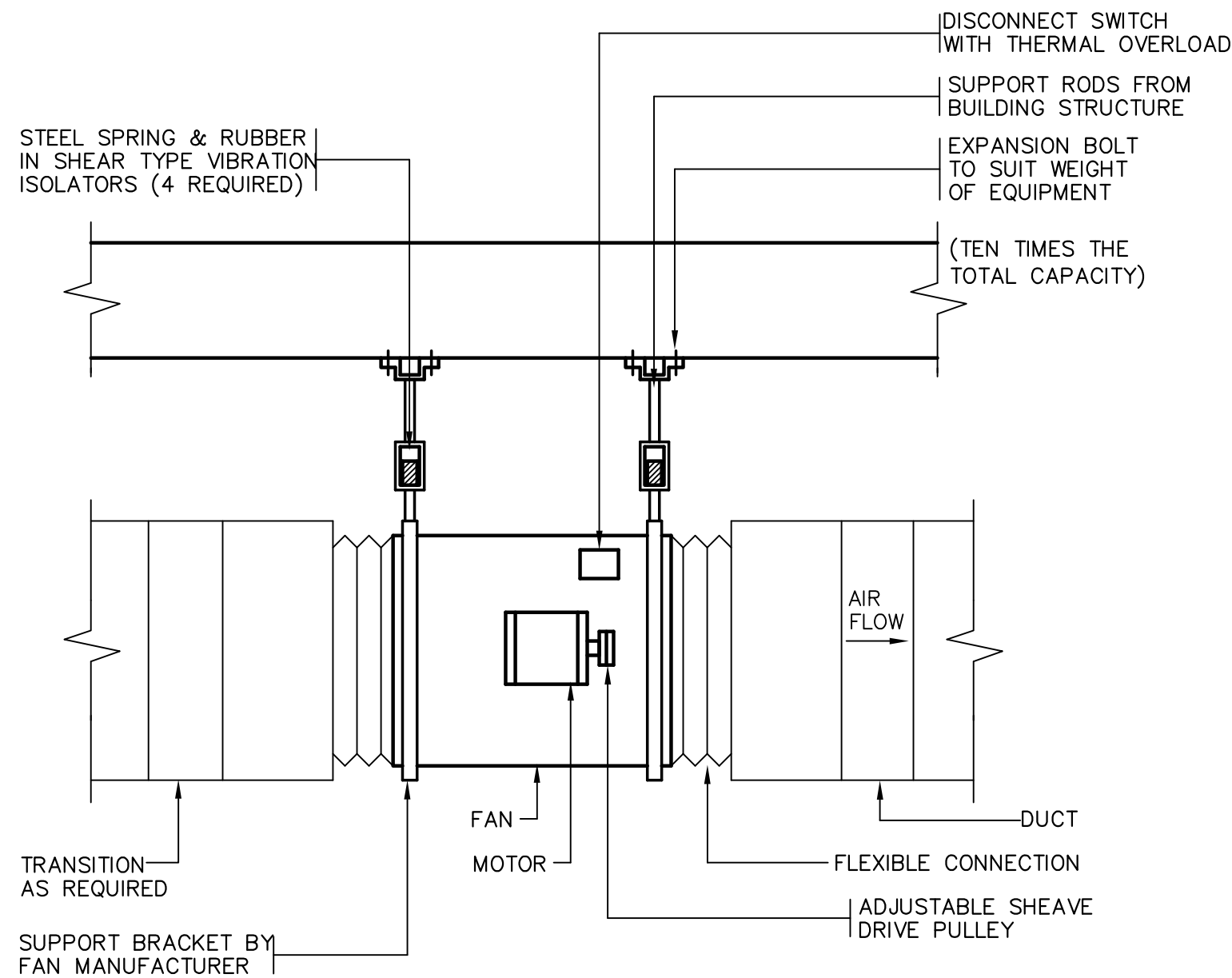
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE CONSTRUCTION.
 DO NOT SCALE DRAWINGS.
 JHPA Job No. 442-01

Drawing Title		
MECHANICAL: FLOOR PLAN - MID		
Date: 30 October 2014		
Revisions		
No.	Date	Description
Drawing No.		
ME-103		

LORING
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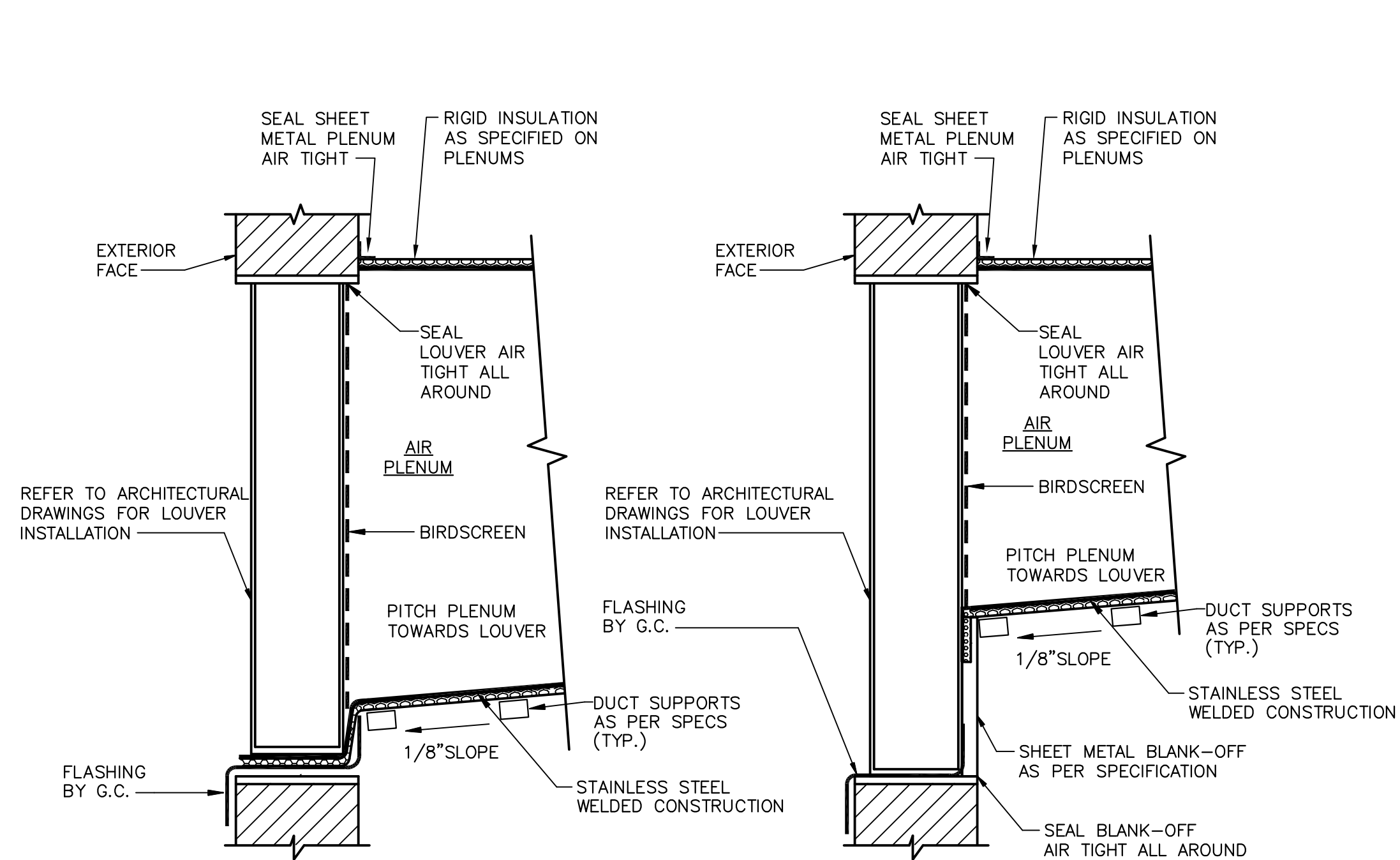
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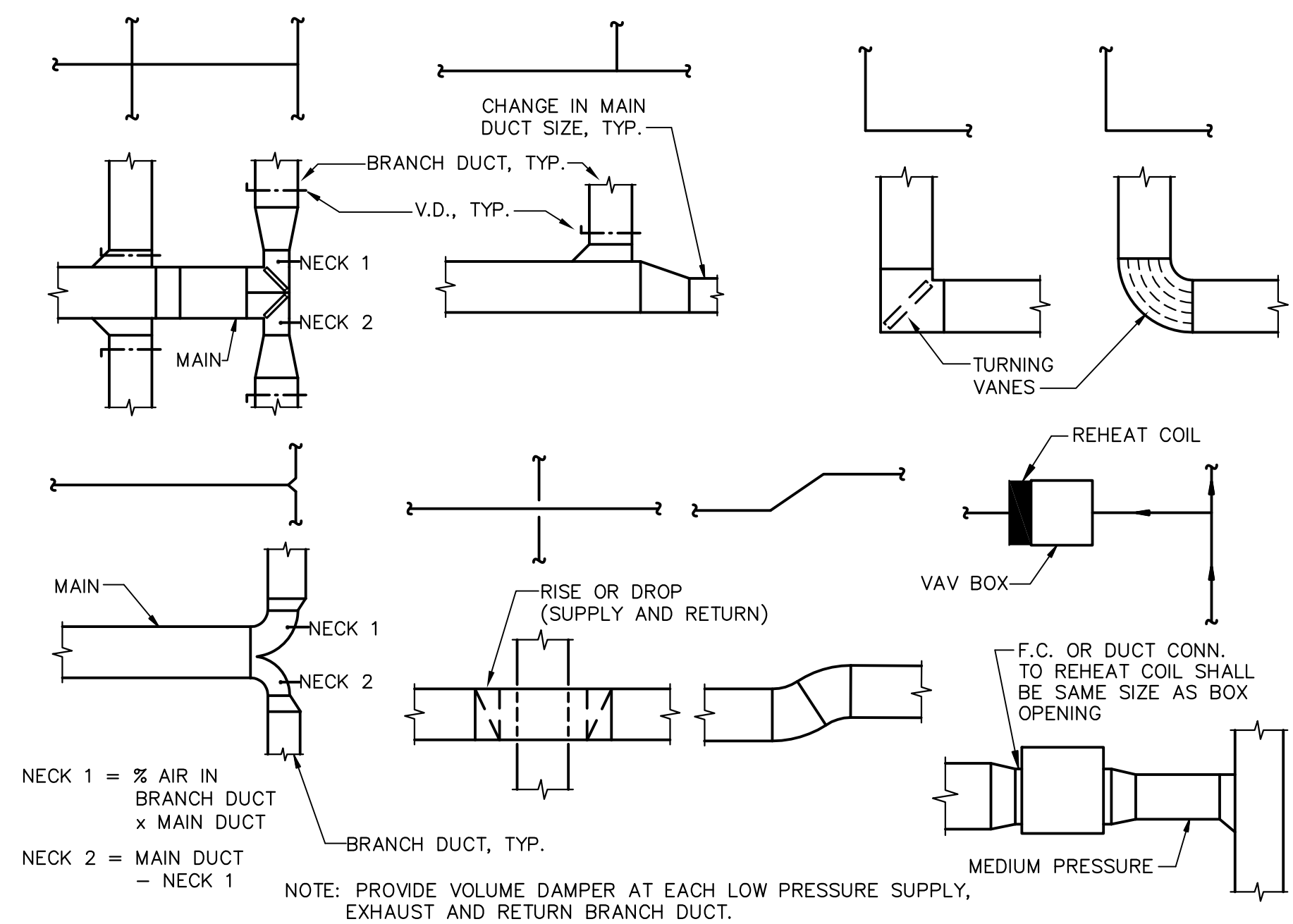
INLINE FAN INSTALLATION DETAIL
(NOT TO SCALE)

NOTES:
1. UNIT TO BE PROVIDED WITH FACTORY WIRED DISCONNECT SWITCH AND HANGING ISOLATOR KIT.
2. REFER TO DESIGN DRAWINGS FOR MOTOR LOCATION.
3. PROVIDE MOTOR COVER/BELT GUARD

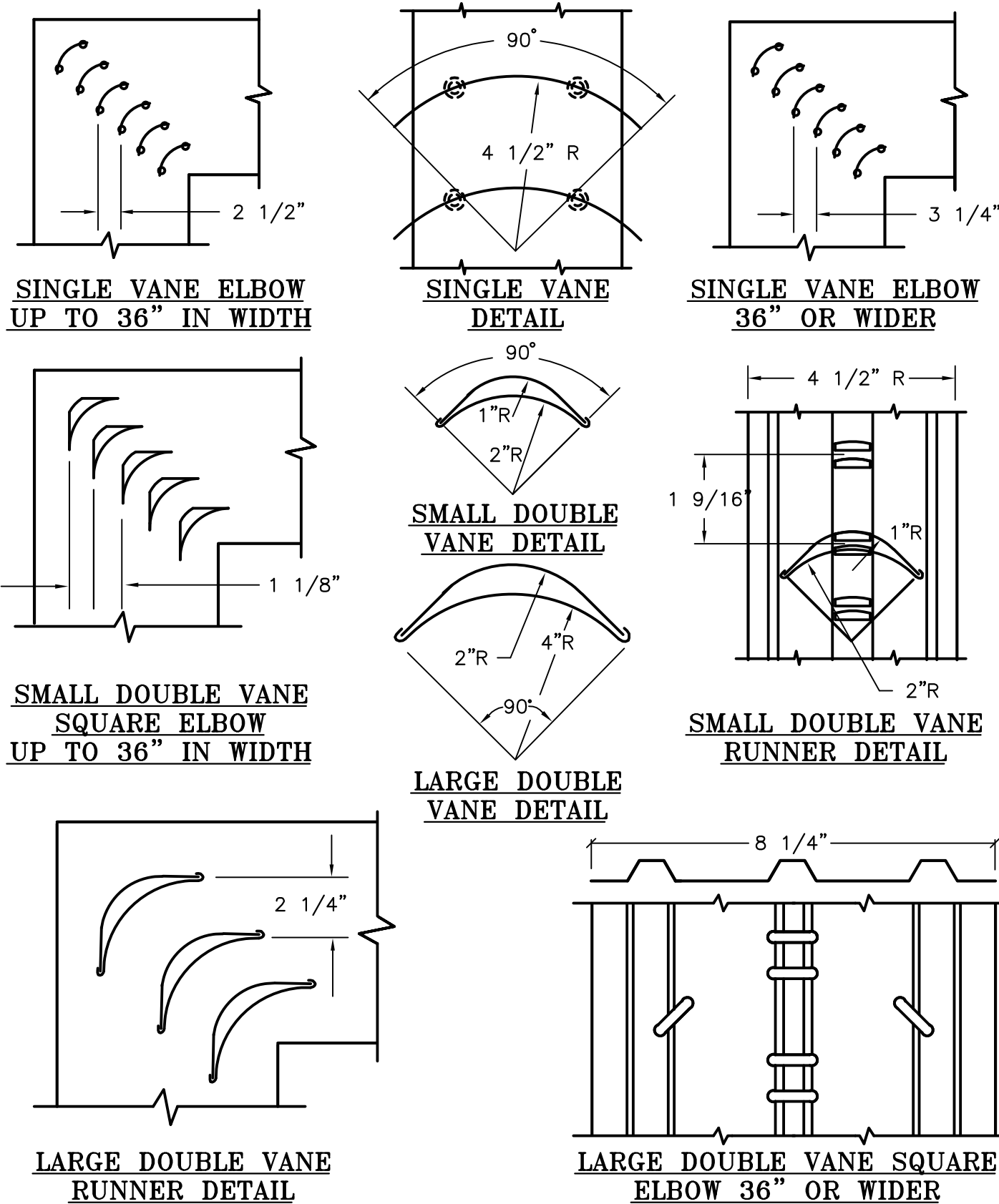


PLENUM CONNECTION TO LOUVER
NOT TO SCALE

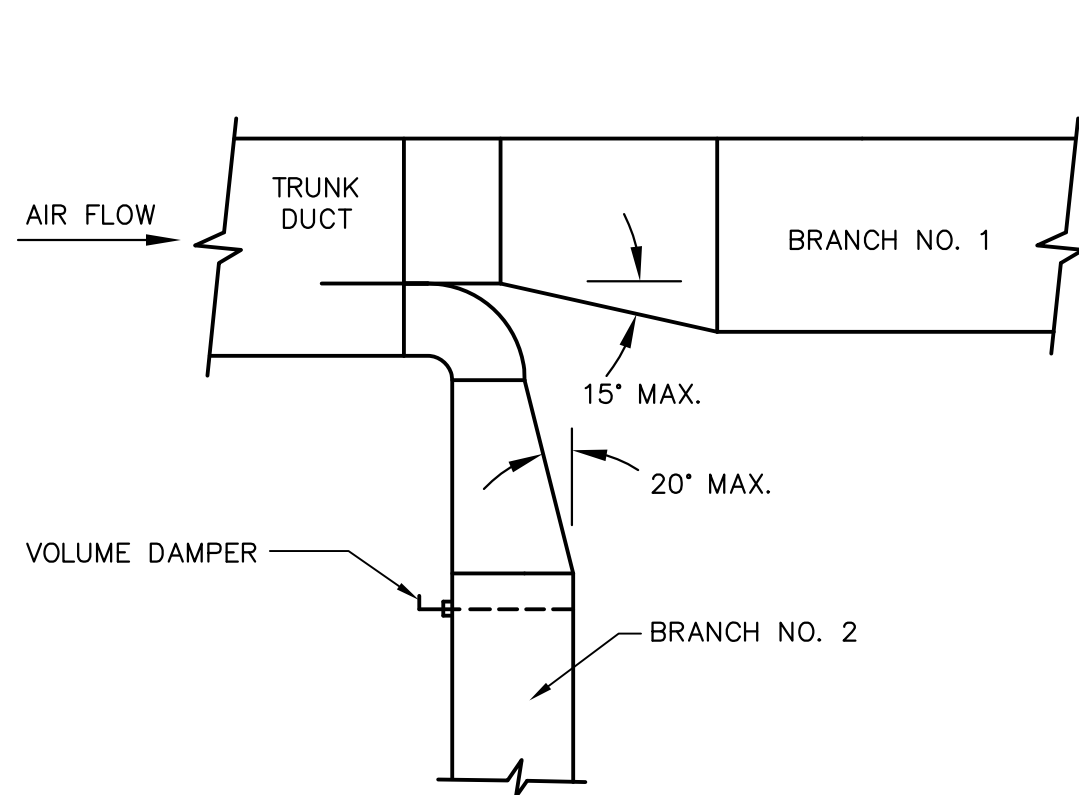
NOTE: CONTRACTOR SHALL FILL PLENUM WITH 10 GALLONS OF WATER, AND VERIFY THAT THE WATER DRAINS THROUGH THE LOUVER TO THE EXTERIOR OF THE BUILDING.



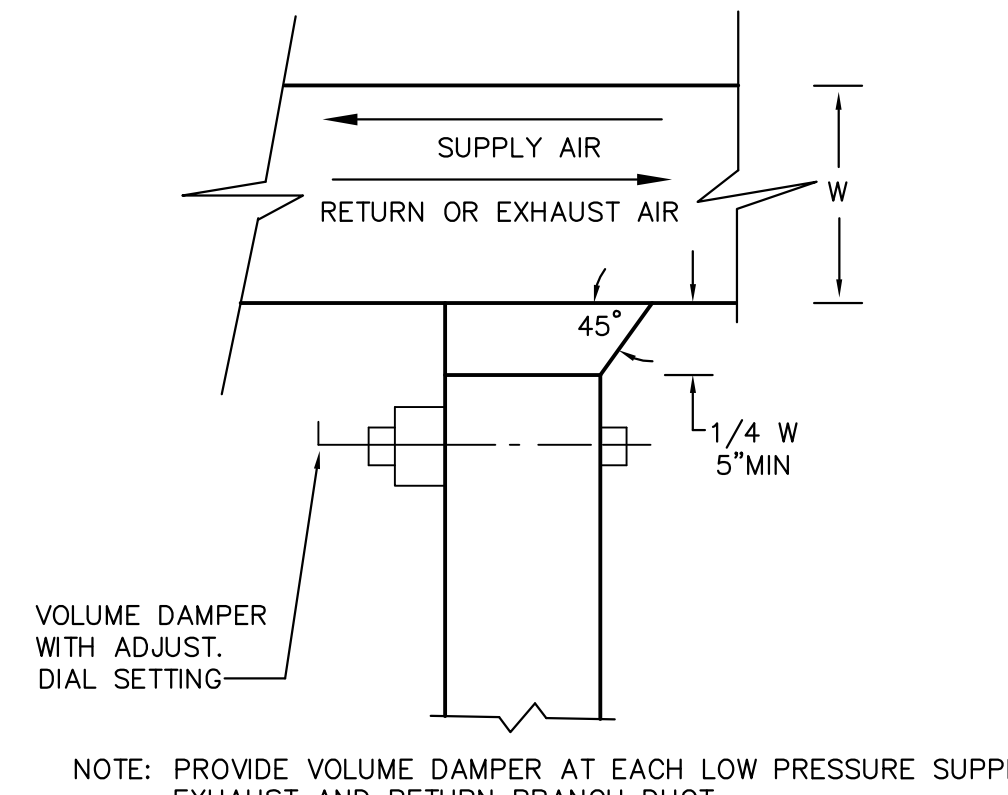
TYPICAL SINGLE LINE DUCT EQUIVALENTS
NO SCALE



LOW VELOCITY DUCTWORK ELBOWS
NO SCALE

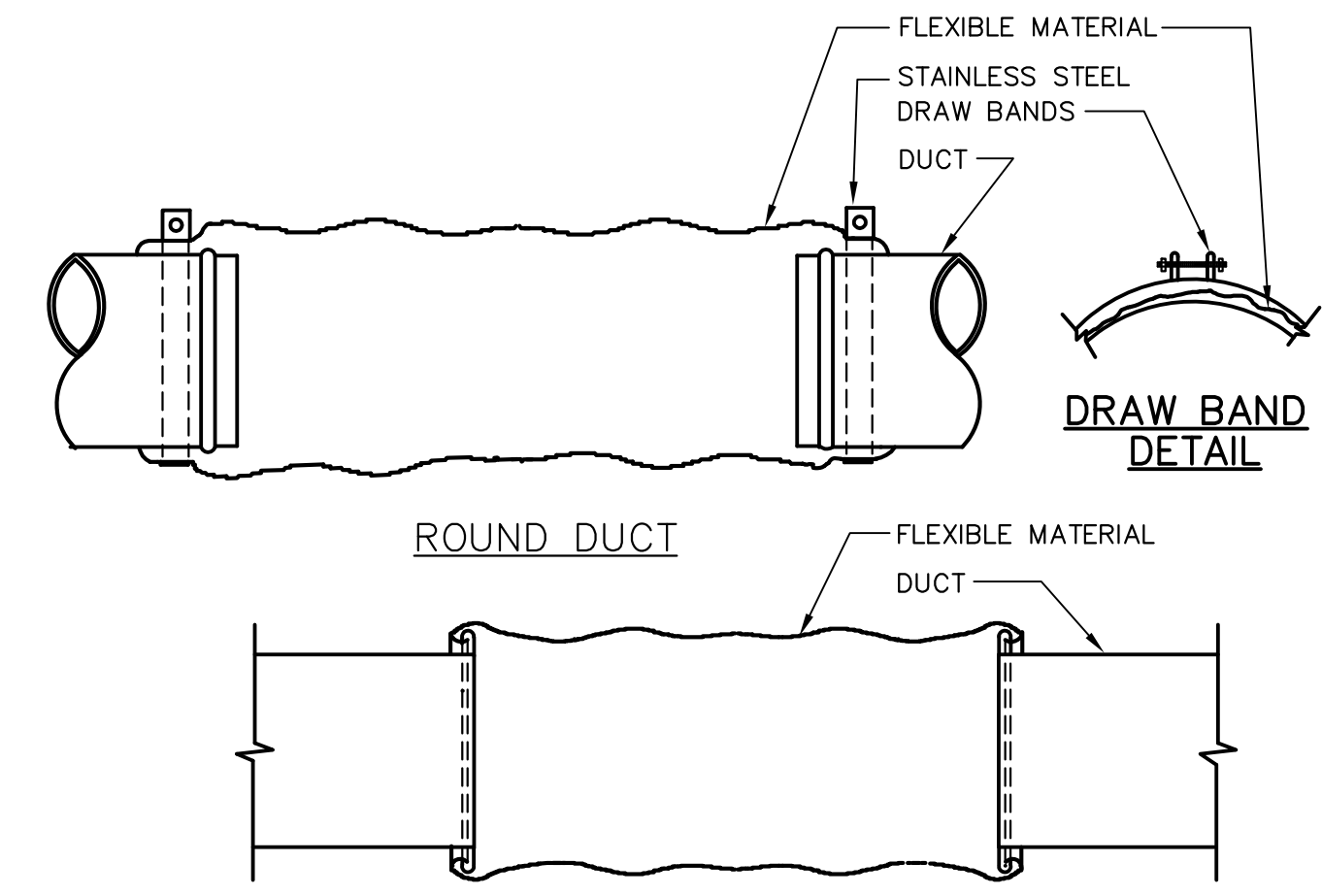


BRANCH DUCT WITH RADIUS ELBOW
NO SCALE

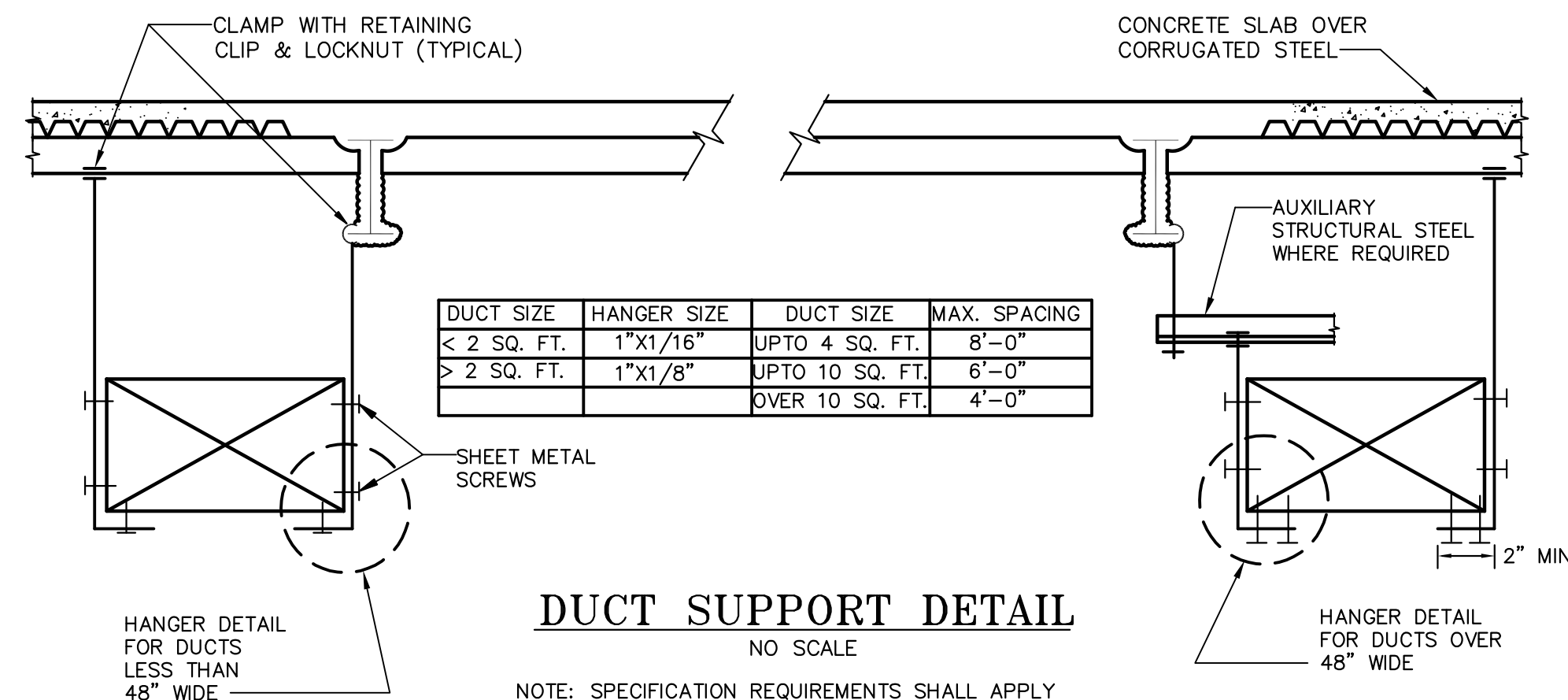


DUCT BRANCH TAKEOFF FOR LOW PRESSURE DUCTWORK
NO SCALE

NOTE: PROVIDE VOLUME DAMPER AT EACH LOW PRESSURE SUPPLY, EXHAUST AND RETURN BRANCH DUCT.



DETAIL OF FLEXIBLE DUCT CONNECTOR
NO SCALE



DUCT SUPPORT DETAIL
NO SCALE

NOTE: SPECIFICATION REQUIREMENTS SHALL APPLY WHERE THEY EXCEED THOSE INDICATED IN THIS DETAIL.

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JHPA Job No. 442-01

05/10/2014 - PROGRESS SET - (NOT FOR CONSTRUCTION)

Drawing Title
MECHANICAL: DETAILS

Date: 30 October 2014

Revisions

No.	Date	Description

Drawing No.
ME-104

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