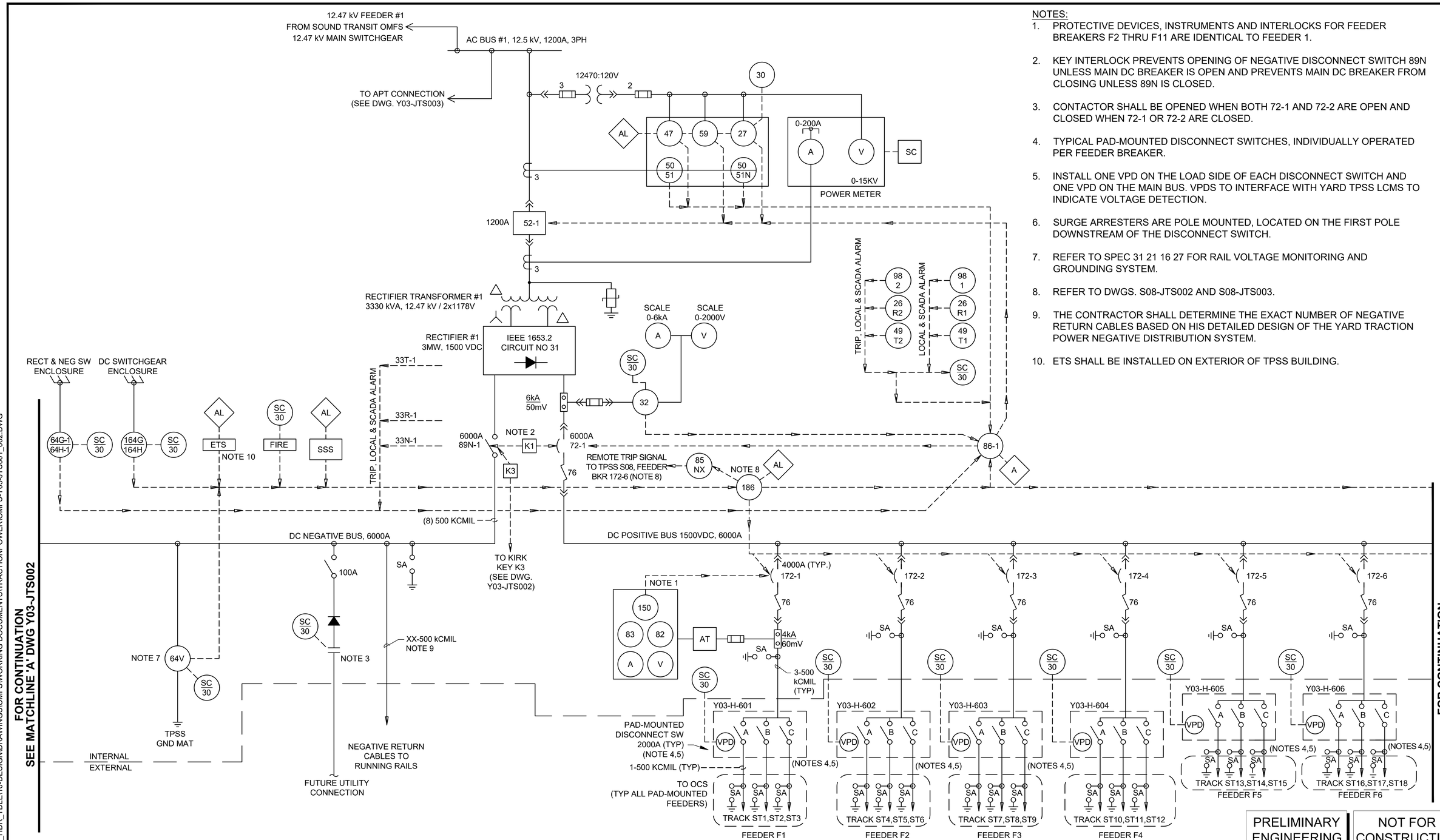

NOTES:

1. PROTECTIVE DEVICES, INSTRUMENTS AND INTERLOCKS FOR FEEDER BREAKERS F2 THRU F11 ARE IDENTICAL TO FEEDER 1.
2. KEY INTERLOCK PREVENTS OPENING OF NEGATIVE DISCONNECT SWITCH 89N UNLESS MAIN DC BREAKER IS OPEN AND PREVENTS MAIN DC BREAKER FROM CLOSING UNLESS 89N IS CLOSED.
3. CONTACTOR SHALL BE OPENED WHEN BOTH 72-1 AND 72-2 ARE OPEN AND CLOSED WHEN 72-1 OR 72-2 ARE CLOSED.
4. TYPICAL PAD-MOUNTED DISCONNECT SWITCHES, INDIVIDUALLY OPERATED PER FEEDER BREAKER.
5. INSTALL ONE VPD ON THE LOAD SIDE OF EACH DISCONNECT SWITCH AND ONE VPD ON THE MAIN BUS. VPDS TO INTERFACE WITH YARD TPSS LCMS TO INDICATE VOLTAGE DETECTION.
6. SURGE ARRESTERS ARE POLE MOUNTED, LOCATED ON THE FIRST POLE DOWNSTREAM OF THE DISCONNECT SWITCH.
7. REFER TO SPEC 31 21 16 27 FOR RAIL VOLTAGE MONITORING AND GROUNDING SYSTEM.
8. REFER TO DWGS. S08-JTS002 AND S08-JTS003.
9. THE CONTRACTOR SHALL DETERMINE THE EXACT NUMBER OF NEGATIVE RETURN CABLES BASED ON HIS DETAILED DESIGN OF THE YARD TRACTION POWER NEGATIVE DISTRIBUTION SYSTEM.
10. ETS SHALL BE INSTALLED ON EXTERIOR OF TPSS BUILDING.

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: P. VIJAYASUNDARARAJAN
DRAWN BY: M. SHEPPARD
CHECKED BY: J. HASROUNI
APPROVED BY: J. SCHIMPF

PRELIMINARY

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

Burns — BURNS ENGINEERING, INC. | 215 979-7700 — TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 — PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SCALE: NTS
FILENAME: OMFS-Y03-JTS001_002
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

TRACTION POWER SYSTEM
YARD TPSS METERING & RELAYING
SINGLE LINE DIAGRAM (SHEET 1 OF 2)

DRAWING No.: Y03-JTS001
FACILITY ID: Y03
SHEET No.:
REV: 0

FOR CONTINUATION SEE MATCHLINE 'A' DWG Y03-JTS002

FOR CONTINUATION SEE MATCHLINE 'B' DWG Y03-JTS002

02/23/24 | 12:49 PM | MSHEPPARD
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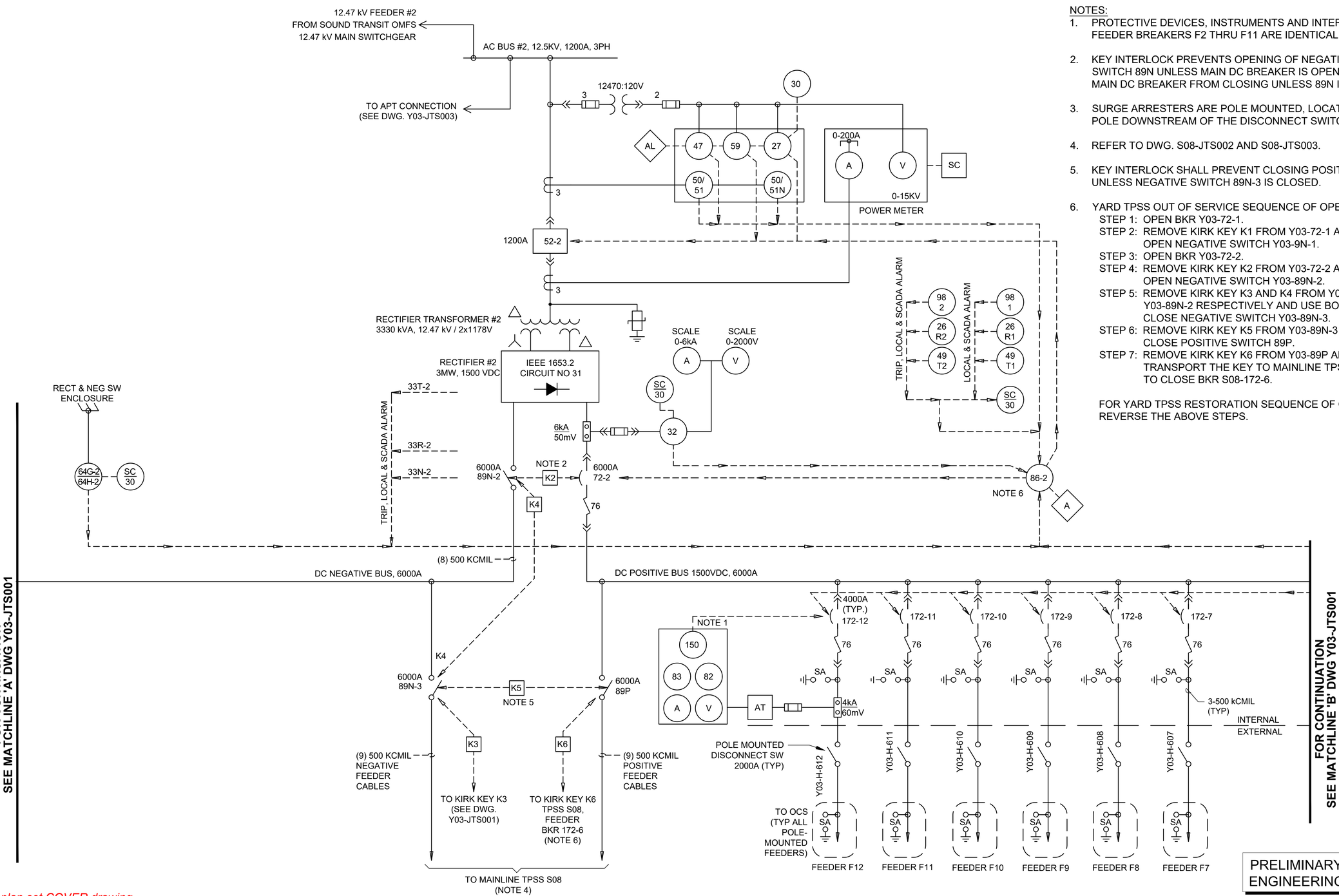

NOTES:

1. PROTECTIVE DEVICES, INSTRUMENTS AND INTERLOCKS FOR FEEDER BREAKERS F2 THRU F11 ARE IDENTICAL TO FEEDER 1.
2. KEY INTERLOCK PREVENTS OPENING OF NEGATIVE DISCONNECT SWITCH 89N UNLESS MAIN DC BREAKER IS OPEN AND PREVENTS MAIN DC BREAKER FROM CLOSING UNLESS 89N IS CLOSED.
3. SURGE ARRESTERS ARE POLE MOUNTED, LOCATED ON THE FIRST POLE DOWNSTREAM OF THE DISCONNECT SWITCH.
4. REFER TO DWG. S08-JTS002 AND S08-JTS003.
5. KEY INTERLOCK SHALL PREVENT CLOSING POSITIVE SWITCH 89P UNLESS NEGATIVE SWITCH 89N-3 IS CLOSED.
6. YARD TPSS OUT OF SERVICE SEQUENCE OF OPERATIONS:
   - STEP 1: OPEN BKR Y03-72-1.
   - STEP 2: REMOVE KIRK KEY K1 FROM Y03-72-1 AND USE KEY TO OPEN NEGATIVE SWITCH Y03-9N-1.
   - STEP 3: OPEN BKR Y03-72-2.
   - STEP 4: REMOVE KIRK KEY K2 FROM Y03-72-2 AND USE KEY TO OPEN NEGATIVE SWITCH Y03-89N-2.
   - STEP 5: REMOVE KIRK KEY K3 AND K4 FROM Y03-89N-1 AND Y03-89N-2 RESPECTIVELY AND USE BOTH KEYS TO CLOSE NEGATIVE SWITCH Y03-89N-3.
   - STEP 6: REMOVE KIRK KEY K5 FROM Y03-89N-3 AND USE KEY TO CLOSE POSITIVE SWITCH 89P.
   - STEP 7: REMOVE KIRK KEY K6 FROM Y03-89P AND PHYSICALLY TRANSPORT THE KEY TO MAINLINE TPSS S08 AND USE IT TO CLOSE BKR S08-172-6.

FOR YARD TPSS RESTORATION SEQUENCE OF OPERATIONS, REVERSE THE ABOVE STEPS.

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: P. VIJAYASUNDARARAJAN
DRAWN BY: M. SHEPPARD
CHECKED BY: J. HASROUNI
APPROVED BY: J. SCHIMPF

JONATHAN A. SCHIMPF, STATE OF WASHINGTON, 21817598, REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

SCALE: NTS
FILENAME: OMFS-Y03-JTS001_002
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENACE FACILITY SOUTH

TRACTION POWER SYSTEM
YARD TPSS METERING & RELAYING
SINGLE LINE DIAGRAM (SHEET 2 OF 2)

DRAWING No.: Y03-JTS002
FACILITY ID: Y03
SHEET No.:
REV: 0

02/23/24 | 12:49 PM | MSHEPPARD
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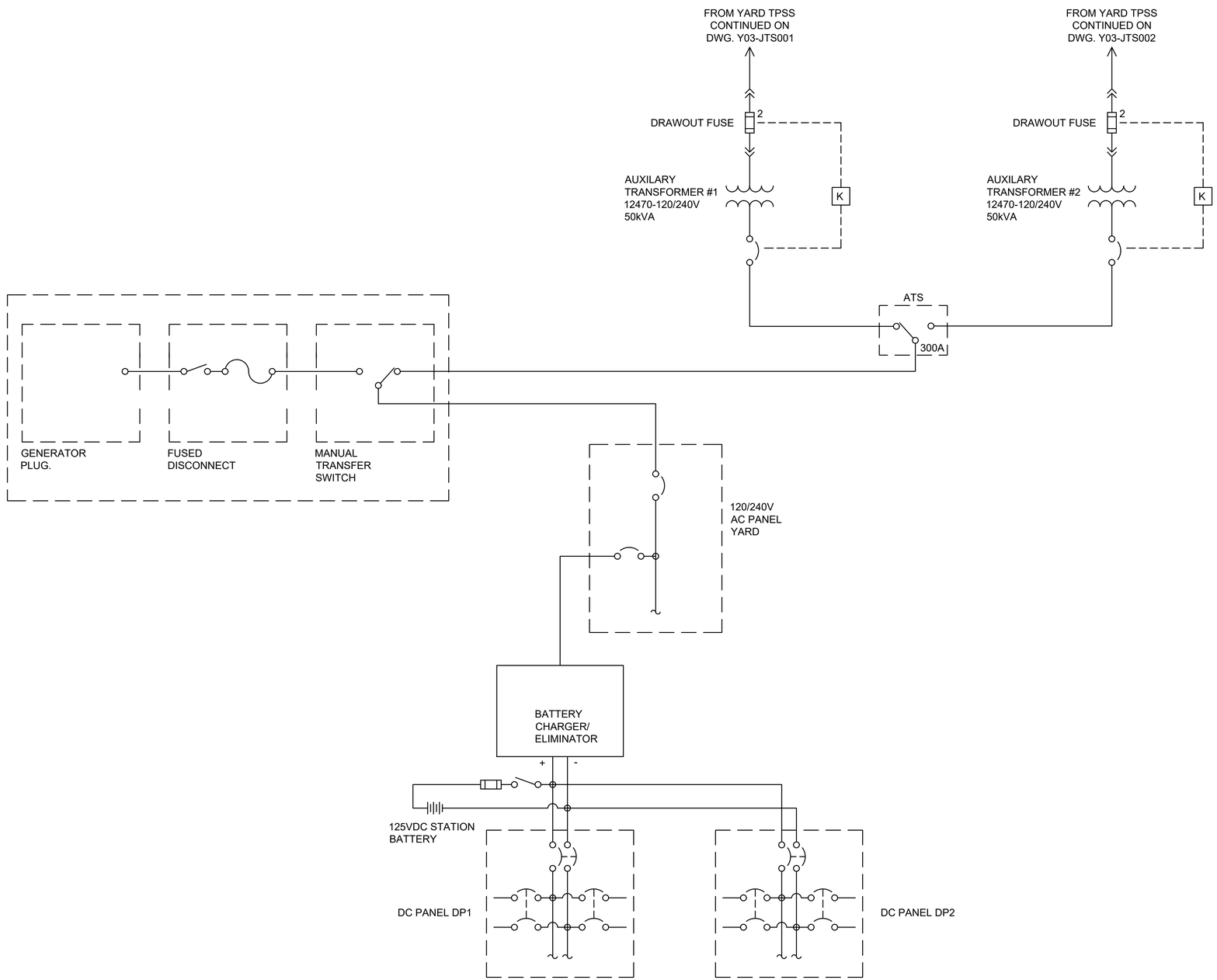
NOTES:

1. REFER TO SPECIFICATION 34 21 16 21 FOR TPSS CONTROL POWER REQUIREMENTS.



TPSS SERVICE CONTROL POWER SCHEMATIC

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: P. VIJAYASUNDARARAJAN
DRAWN BY: M. SHEPPARD
CHECKED BY: J. HASROUNI
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JTS003
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH
TRACTION POWER SYSTEM
YARD TPSS AUXILARY POWER SCHEMATIC

DRAWING No.: **Y03-JTS003**
FACILITY ID: Y03
SHEET No.:
REV: 0

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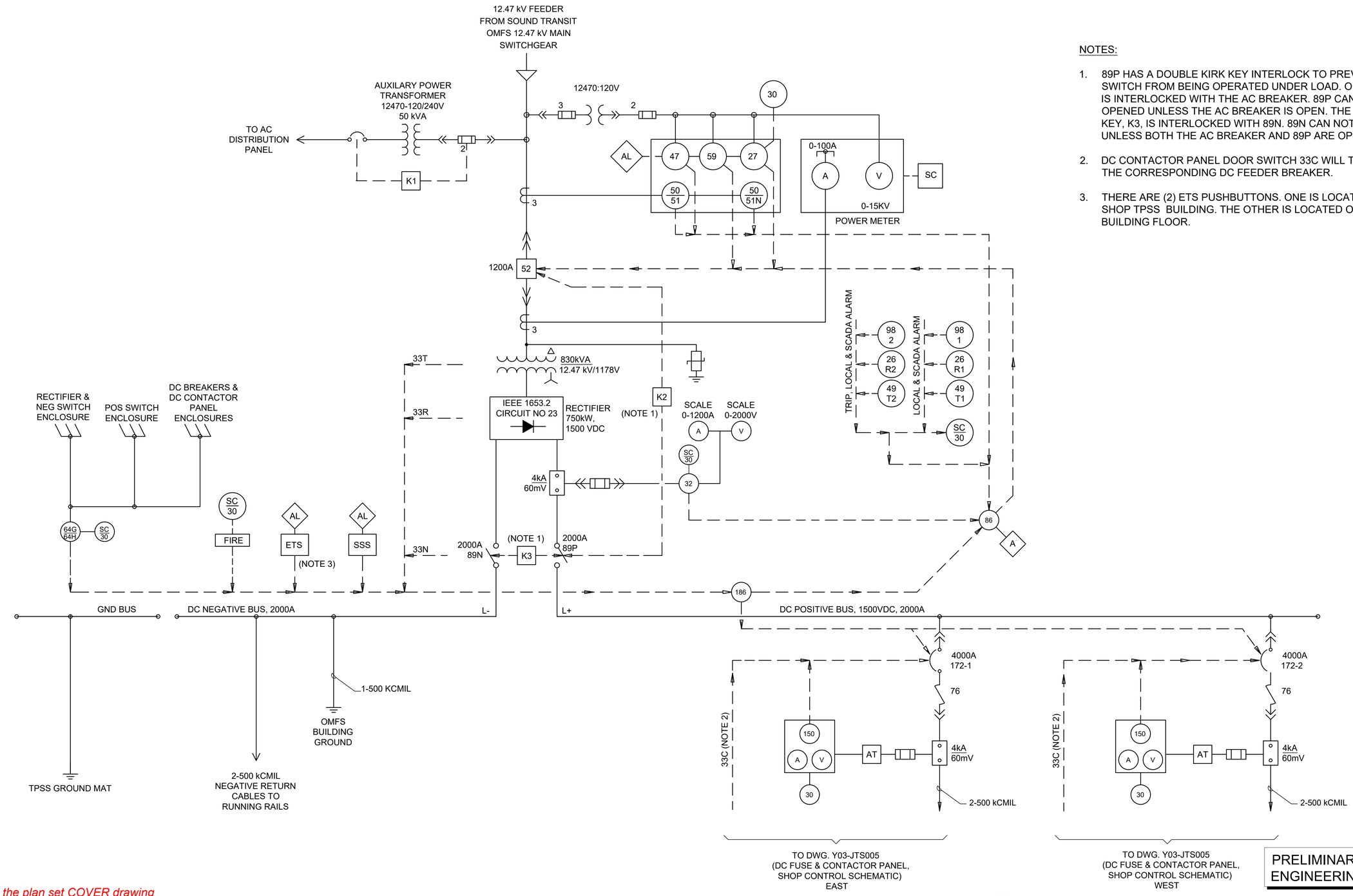

NOTES:

1. 89P HAS A DOUBLE KIRK KEY INTERLOCK TO PREVENT THE SWITCH FROM BEING OPERATED UNDER LOAD. ONE KEY, K2, IS INTERLOCKED WITH THE AC BREAKER. 89P CAN NOT BE OPENED UNLESS THE AC BREAKER IS OPEN. THE SECOND KEY, K3, IS INTERLOCKED WITH 89N. 89N CAN NOT BE OPENED UNLESS BOTH THE AC BREAKER AND 89P ARE OPEN.
2. DC CONTACTOR PANEL DOOR SWITCH 33C WILL TRIP ONLY THE CORRESPONDING DC FEEDER BREAKER.
3. THERE ARE (2) ETS PUSHBUTTONS. ONE IS LOCATED IN THE SHOP TPSS BUILDING. THE OTHER IS LOCATED ON THE SHOP BUILDING FLOOR.

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: P. VIJAYASUNDARARAJAN
DRAWN BY: M. SHEPPARD
CHECKED BY: J. HASROUNI
APPROVED BY: J. SCHIMPF

JONATHAN A. SCHIMPF, STATE OF WASHINGTON, 22817598, REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

SCALE: NTS
FILENAME: OMFS-Y03-JTS004
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

TRACTION POWER SYSTEM
SHOP TPSS METERING & RELAYING
SINGLE LINE DIAGRAM

DRAWING No.: **Y03-JTS004**
FACILITY ID: Y03
SHEET No.:
REV: 0

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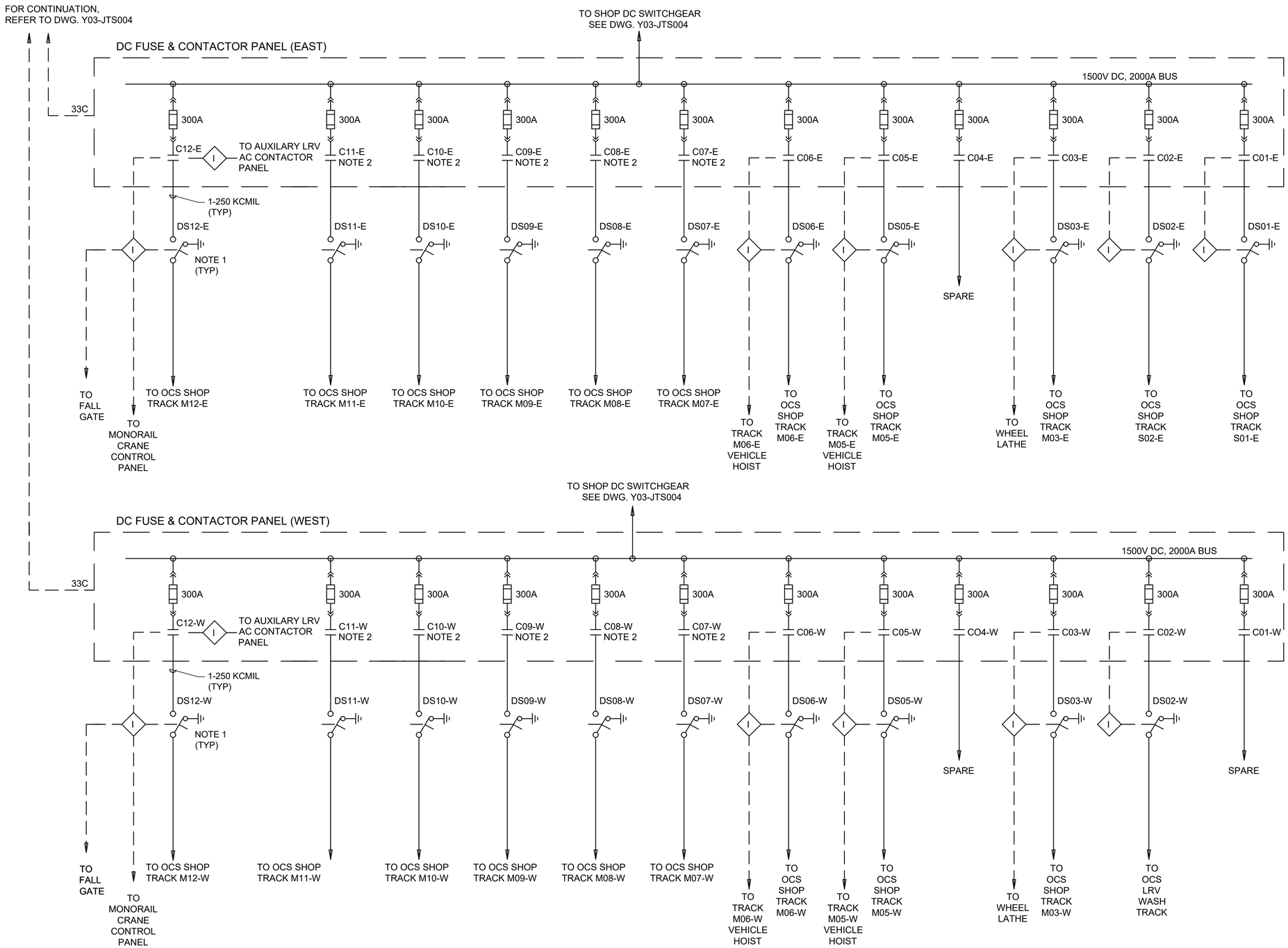

NOTE:
1. 2000 AMP DISCONNECT SWITCH GROUNDED WHEN OPEN TYPE IS MOUNTED ON SHOP COLUMNS.
2. INTERLOKS FOR CONTACTORS C07-E THROUGH C11-E AND C07-W THROUGH C11-W ARE IDENTICAL TO THOSE FOR CONTACTORS C12-E AND C12-W RESPECTIVELY.

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: P. VIJAYASUNDARARAJAN
DRAWN BY: M. SHEPPARD
CHECKED BY: J. HASROUNI
APPROVED BY: J. SCHIMPF

AHJ:

PACKAGE #

PRELIMINARY

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: OMFS-Y03-JTS005
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

TRACTION POWER SYSTEM
SHOP TPSS 1500VDC FUSE & CONTACTOR PANEL
CONTROL SINGLE LINE DIAGRAM

DRAWING No.: Y03-JTS005
FACILITY ID: Y03
SHEET No.:
REV: 0

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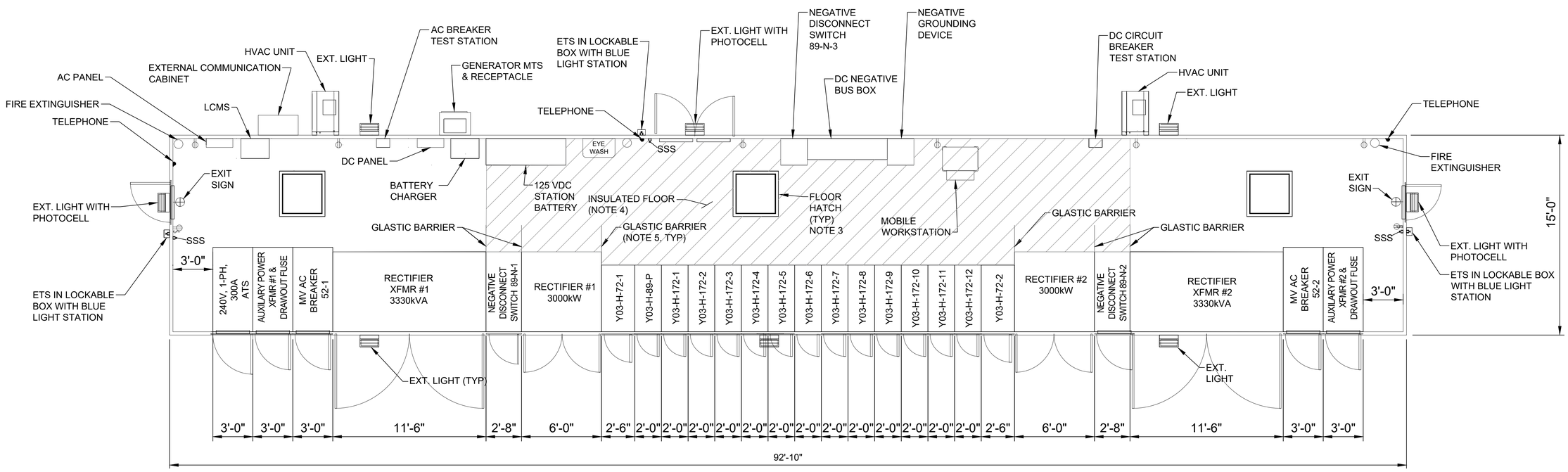
NOTES:

1. CONRACTOR SHALL COORDINATE CONDUIT FLOOR PENETRATION LOCATIONS WITH SUBSTATION BUILDING AND FOUNDATION PLANS.
2. STAIRS AND LANDING SHALL BE PROVIDED. CONTRACTOR SHALL COORDINATE WITH THE FINAL SITE ELEVATION REQUIREMENTS.
3. HATCH COVER SHALL BE RATED TO HANDLE MAXIMUM EQUIPMENT WEIGHT.
4. PROVIDE ELECTRICAL INSULATION ON ALL WALLS AND FLOOR IN AREAS SHOWN. IF 6' MINIMUM CANNOT BE ACHEIVED, LINE DOORS, FRAMS AND HARDWARE WITH INSULATION. FLOOR INSULATION TO EXTEND TO ALL WALLS.
5. PROVIDE GLASTIC BARRIER BETWEEN TRACTION POWER TRANSFORMER AND RECTIFIER. ENSURE BARRIER CAN PROVIDE AT LEAST 2'-6" CLEARANCE.
6. COORDINATE BUILDING DIMENSIONS AND EQUIPMENT LOADINGS WITH STRUCTURAL ENGINEER.



YARD TPSS EQUIPMENT LAYOUT - PLAN

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: P. VIJAYASUNDARARAJAN
DRAWN BY: M. SHEPPARD
CHECKED BY: J. HASROUNI
APPROVED BY: J. SCHIMPF

AHJ:

PACKAGE #

JONATHAN A. SCHIMPF, STATE OF WASHINGTON, 21617598, REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/24
REVIEWED BY:
DATE:

SCALE: 3/8" = 1'-0"
FILENAME: OMFS-Y03-JTP101
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENACE FACILITY SOUTH

TRACTION POWER SYSTEM
YARD TPSS EQUIPMENT LAYOUT PLAN

DRAWING No.: Y03-JTP101
FACILITY ID: Y03
SHEET No.:
REV: 0

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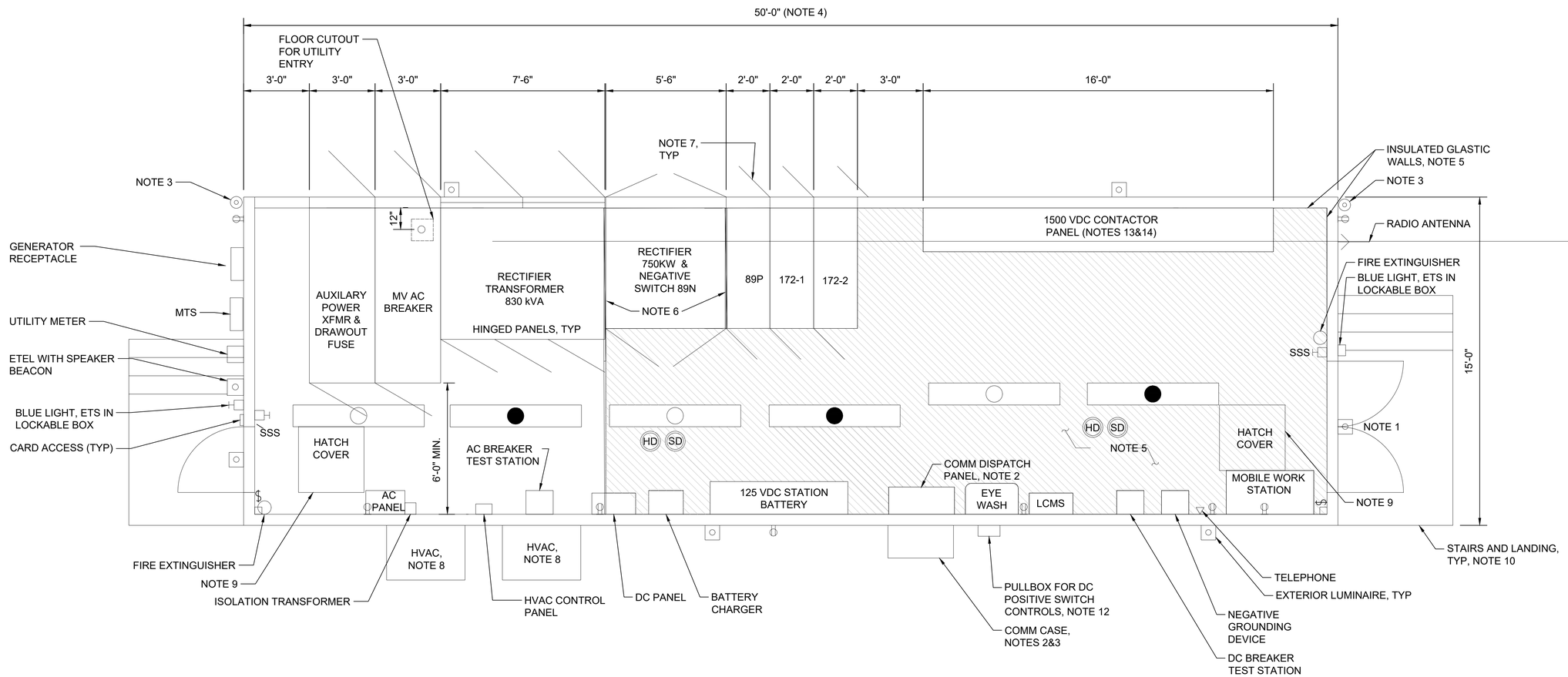
NOTES:

1. PROVIDE REMOVABLE TRANSOM AND WALL PANEL ABOVE DOOR.
2. COMM TO DETERMINE FINAL LOCATION AND SIZE.
3. MOUNT CAMERAS AND CASES TO TPSS FOR WATER TEST AND REMOVE FOR SHIPMENT. REINSTALL AT SITE.
4. COORDINATE BUILDING DIMENSIONS AND EQUIPMENT LOADINGS WITH STRUCTURAL ENGINEER.
5. PROVIDE ELECTRICAL INSULATION ON ALL WALLS AND FLOOR IN AREAS SHOWN. IF 6' MINIMUM CANNOT BE ACHEIVED, LINE DOORS, FRAMS AND HARDWARE WITH INSULATION. FLOOR INSULATION TO EXTEND TO ALL 3 WALLS.
6. PROVIDE GLASTIC BARRIER BETWEEN RECTIFIER TRANSFORMER AND RECTIFIER. EXTEND GLASTIC 2'-6" BEYOND RECTIFIER TRANSFORMER, AS SHOWN. PROVIDE AN INSULATED FINISHED EDGE ON EXPOSED GLASTIC EDGE.
7. PROVIDE GLASTIC BARIER INSIDE REAR DOOR TO COMPLETE WALL INSULATION WHEN DOOR IS CLOSED.
8. HVAC UNIT LAYOUT IS FOR REFERENCE ONLY.
9. HATCH COVER SHALL BE RATED TO HANDLE MAXIMUM EQUIPMENT WEIGHT.
10. PROVIDE STAIRS AND LANDINGS.
11. PROVIDE CONTINUOUS GROUND BUS AROUND ENTIRE TPSS.
12. LOCATE AND SIZE PULLBOX TO SUIT SITE CONDITIONS.
13. DC CONTACTOR PANEL CONSISTS OF 24 CONTACTORS ARRANGED IN TOP AND BOTTOM ROWS.
14. SIZE AND LOCATION OF FLOOR CUTOUTS FOR DC CABLE ENTRANCES TO BE DETERMINED BY THE CONTRACTOR.



SHOP TPSS EQUIPMENT LAYOUT - PLAN

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: P. VIJAYASUNDARARAJAN
DRAWN BY: M. SHEPPARD
CHECKED BY: J. HASROUNI
APPROVED BY: J. SCHIMPF

AHJ:

PACKAGE #

PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/24
REVIEWED BY:
DATE:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 3/8" = 1'-0"
FILENAME: OMFS-Y03-JTP102
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

TRACTION POWER SYSTEM
SHOP TPSS EQUIPMENT
LAYOUT PLAN

DRAWING No.: Y03-JTP102
FACILITY ID: Y03
SHEET No.:
REV: 0

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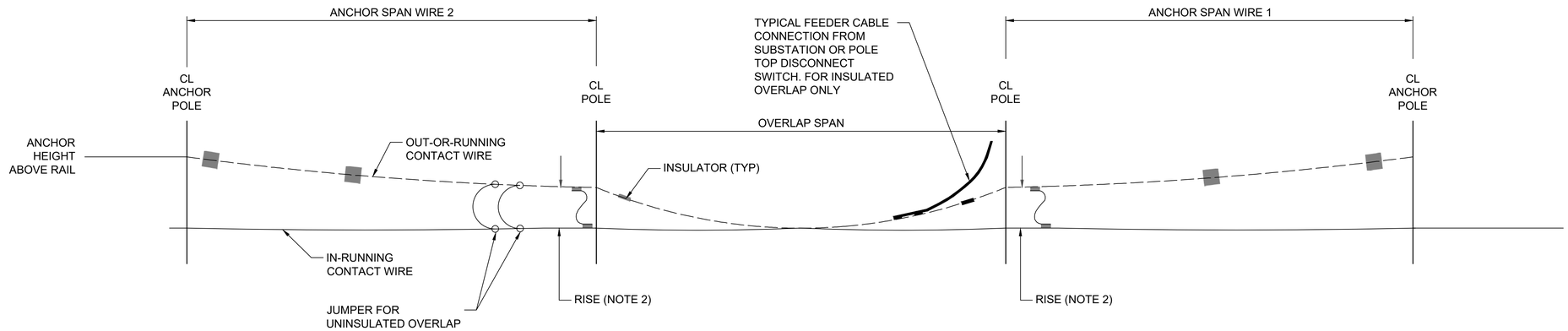
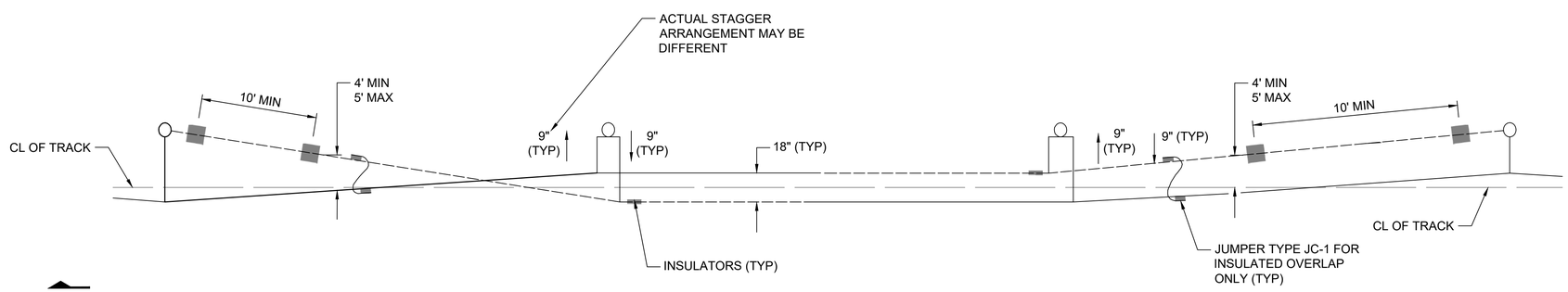
NOTES:

1. WHEN TRACK CURVATURE REQUIRES SPANS SHORTER THAN 70', USE TWO SPANS TO DEVELOP INSULATED OVERLAP WITH INSULATED KNUCKLE AND REGISTRATION IN THE MIDDLE, AND THE OVERLAPPING CONTACT WIRES 12 INCHES MINIMUM APART. FOR INSULATED OVERLAPS AND 4" MINIMUM FOR UNINSULATED OVERLAP.
2. RISE SHALL BE MINIMUM 6", MAXIMUM 14". RISE SHALL BE FIELD ADJUSTED TO CAUSE THE MID SPAN WIRE HEIGHT TO BE EQUAL, AND TO BE THE AVERAGE OF ADJACENT TWO INRUNNING CONTACT WIRE HEIGHTS.
3. STAGGER VALUES ARE TYPICAL. SITE SPECIFIC VALUES SHALL BE IN ACCORDANCE WITH MAXIMUM STAGGER CRITERIA. FOR ACTUAL OVERLAP ARRANGEMENT AND STAGGER SEE OCS LAYOUT SCHEDULES.
4. WHERE VERTICAL CLEARANCE BETWEEN THE UNDERSIDE OF THE INSULATOR AND IN-RUNNING WIRE HEIGHT IS LESS THAN 6", A NOBO INSULATOR SHALL BE INSTALLED.



SECTION A
NTS



A

OVERLAP ARRANGEMENT FOR SINGLE CONTACT WIRE TO SINGLE CONTACT WIRE

TANGENT TRACK

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

PACKAGE #

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SCALE: NTS
FILENAME: OMFS-M08-JOY021
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
SINGLE CROSSOVER - YARD

DRAWING No.: **M08-JOY050**
FACILITY ID: M08
SHEET No.:
REV: 0

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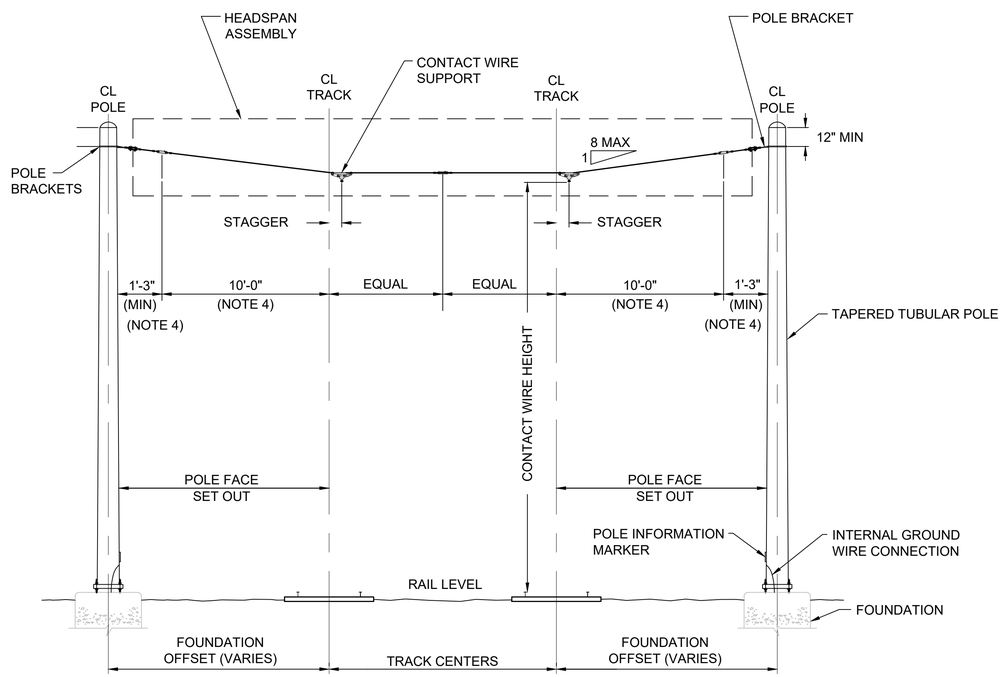
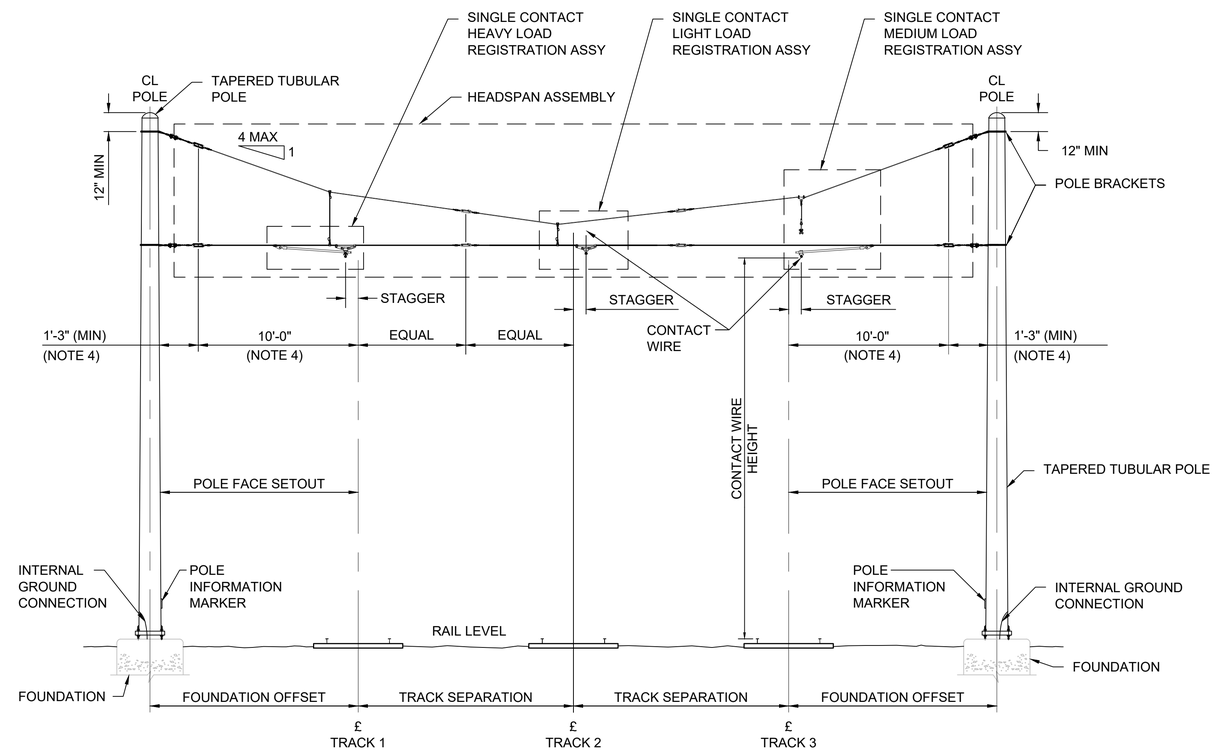
NOTES:

1. FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES SEE ST DIRECTIVE DRAWINGS JZN001 - JZN007.
2. CONTRACTOR TO DETERMINE POLE BRACKET HEIGHTS.
3. SECOND LEVEL INSULATION ADJACENT TO POLE SHALL BE LOCATED 10' FROM TRACK CENTERLINE. EXCEPT IN CASES WHERE POLE FACE SETOUT IS LESS THAN 11'-3", A MINIMUM OF 1'-3" FROM FACE OF POLE IS REQUIRED.
4. CONTRACTOR TO ENSURE THAT PANTOGRAPH CLEARANCE AND STEADY ARM CLEARANCE REQUIREMENTS OF ST DIRECTIVE DRAWINGS JOD110 - JOD112 AND ELECTRICAL CLEARANCE REQUIREMENTS ARE MET.



TWO TRACK CROSS SPAN ARRANGEMENT 1 / -
NTS



MULTI-TRACK HEADSPAN ARRANGEMENT 2 / -
NTS

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

PACKAGE #

SCALE: NTS
FILENAME: OMFS-M08-JOY023
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
MULTI-TRACK HEADSPAN - YARD

DRAWING No.: **M08-JOY020**
FACILITY ID: M08
SHEET No.:
REV: 0

02/26/24 | 12:46 PM | MACLEMENT
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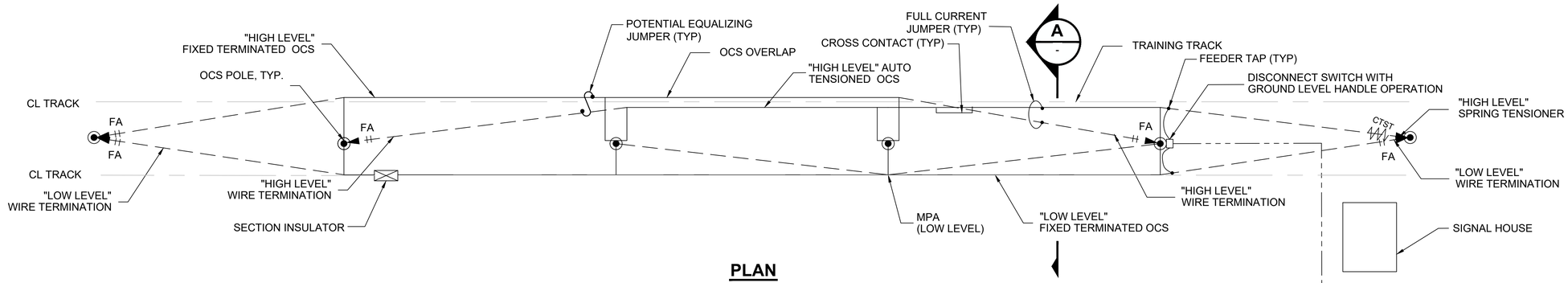
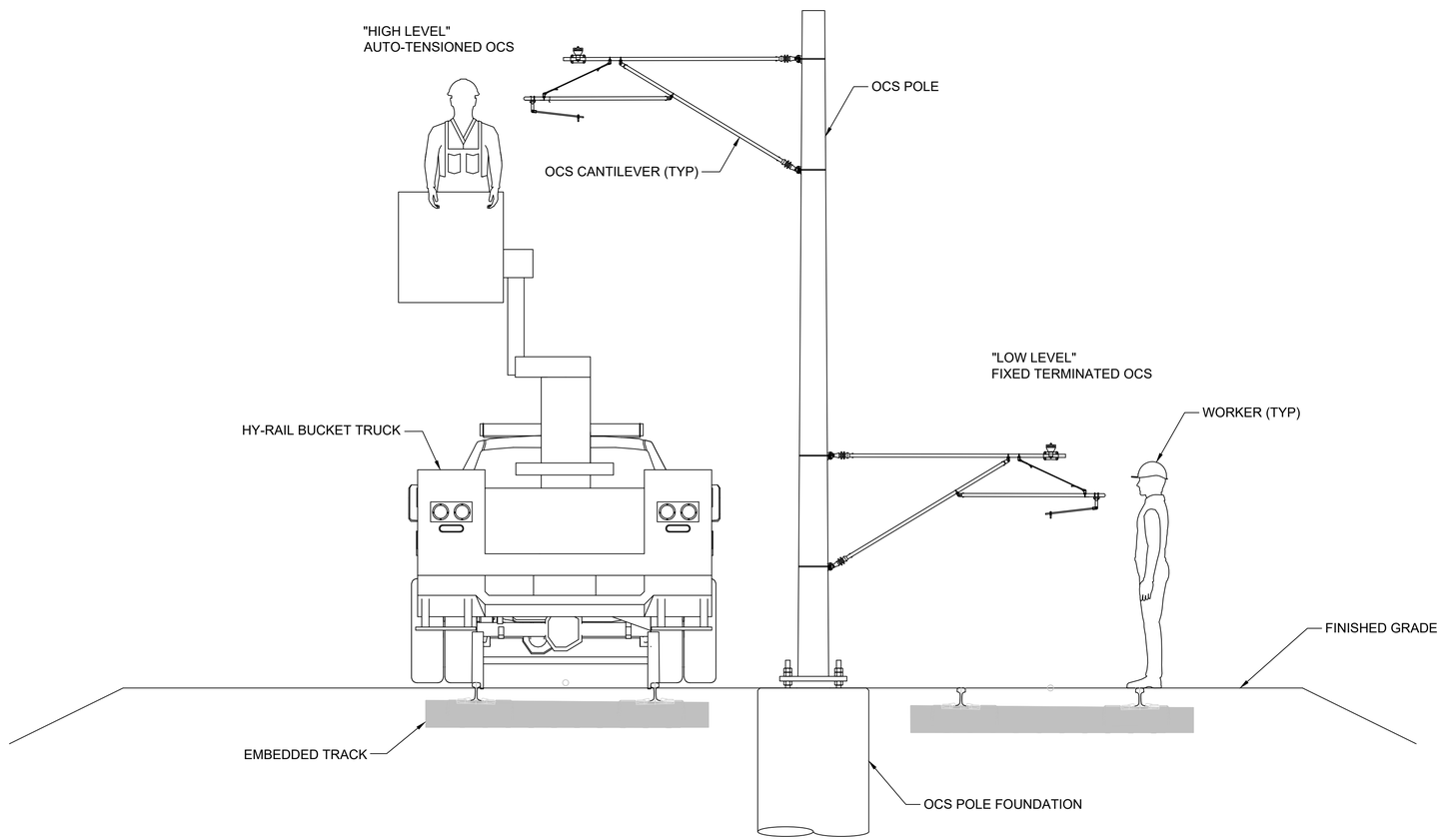


PLAN
NTS



SECTION A
NTS

NOTES:

1. OCS TRAINING AREA IS INTENDED TO CAPTURE VARIOUS TYPICAL ARRANGEMENTS FOUND ALONG THE MAINLINE AND YARD. OCS FINAL DESIGNER SHALL COORDINATE ALL DETAILS WITH SOUND TRANSIT ENGINEERING DEPARTMENT.
2. ALL OCS EQUIPMENT, BUILDINGS AND SYSTEM ELEMENTS SHALL BE FINALIZED BY THE FINAL DESIGNER IN ACCORDANCE WITH SOUND TRANSIT'S STANDARD ENGINEERING PRACTICES AND DESIGN CRITERIA.

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS LEMUS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-M08-JOY024
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
GENERAL ARRANGEMENT
TRAINING TRACK - YARD

DRAWING No.: **M08-JOY024**
FACILITY ID: M08
SHEET No.:
REV: 0

02/26/24 | 12:46 PM | MACLEMENT
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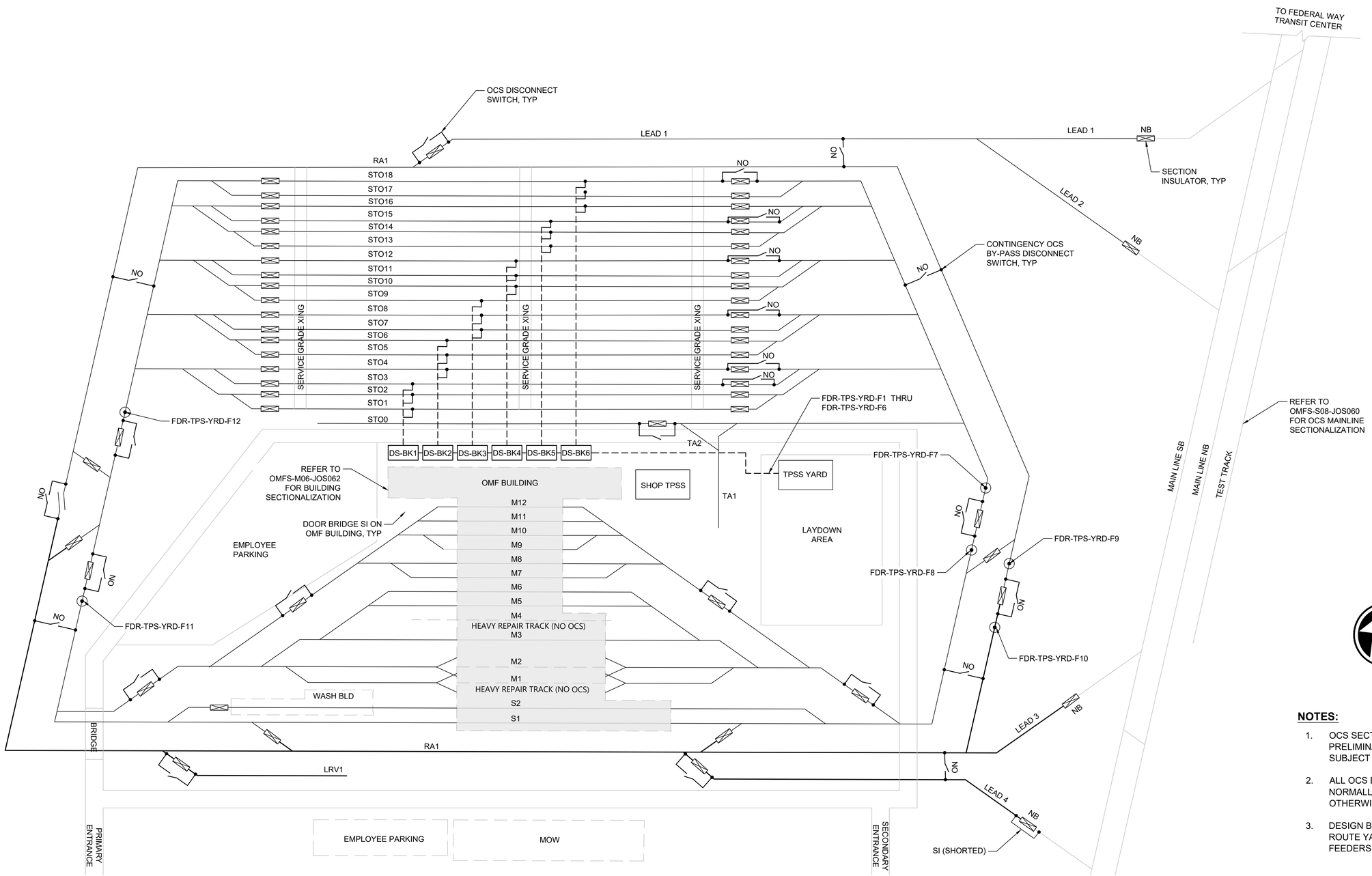

NOTES:

1. OCS SECTIONALIZATION PLANS ARE PRELIMINARY IN NATURE AND SUBJECT TO CHANGE.
2. ALL OCS DISCONNECT SWITCHES ARE NORMALLY CLOSED, UNLESS OTHERWISE NOTED.
3. DESIGN BUILD CONTRACTOR SHALL ROUTE YARD POSITIVE AND NEGATIVE FEEDERS TO THE YARD TPSS.

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

PACKAGE #

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SCALE: NTS
FILENAME: OMFS-M08-JOS061
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS SECTIONALIZATION PLAN YARD

DRAWING No.: M08-JOS061
FACILITY ID: M08
SHEET No.:
REV: 0

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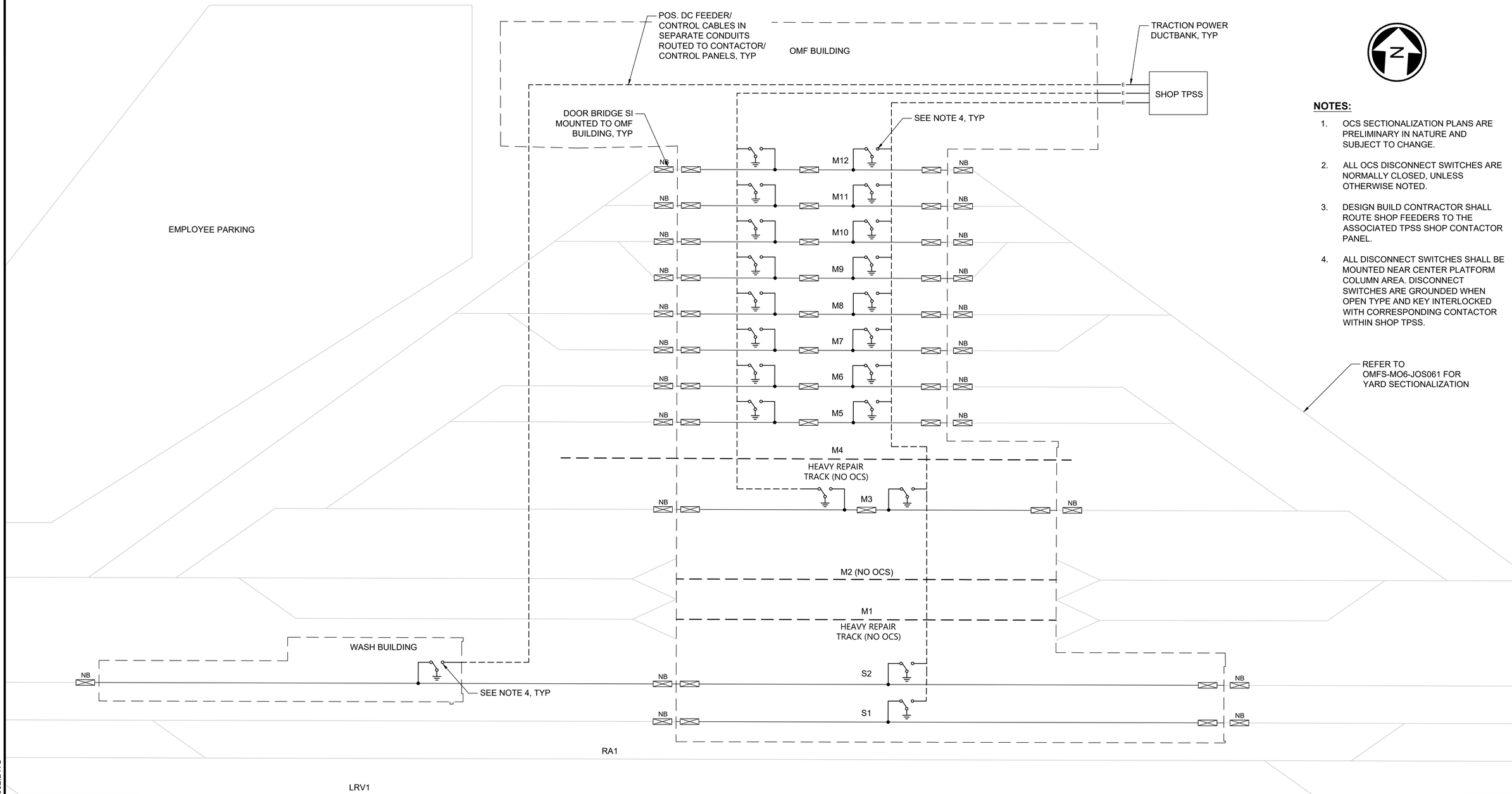

NOTES:

1. OCS SECTIONALIZATION PLANS ARE PRELIMINARY IN NATURE AND SUBJECT TO CHANGE.
2. ALL OCS DISCONNECT SWITCHES ARE NORMALLY CLOSED, UNLESS OTHERWISE NOTED.
3. DESIGN BUILD CONTRACTOR SHALL ROUTE SHOP FEEDERS TO THE ASSOCIATED TPSS SHOP CONTACTOR PANEL.
4. ALL DISCONNECT SWITCHES SHALL BE MOUNTED NEAR CENTER PLATFORM COLUMN AREA. DISCONNECT SWITCHES ARE GROUNDED WHEN OPEN TYPE AND KEY INTERLOCKED WITH CORRESPONDING CONTACTOR WITHIN SHOP TPSS.

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-M08-JOS062
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH
OVERHEAD CONTACT SYSTEMS
SHOP SECTIONALIZATION

DRAWING No.: M08-JOS062
FACILITY ID: M08
SHEET No.:
REV: 0

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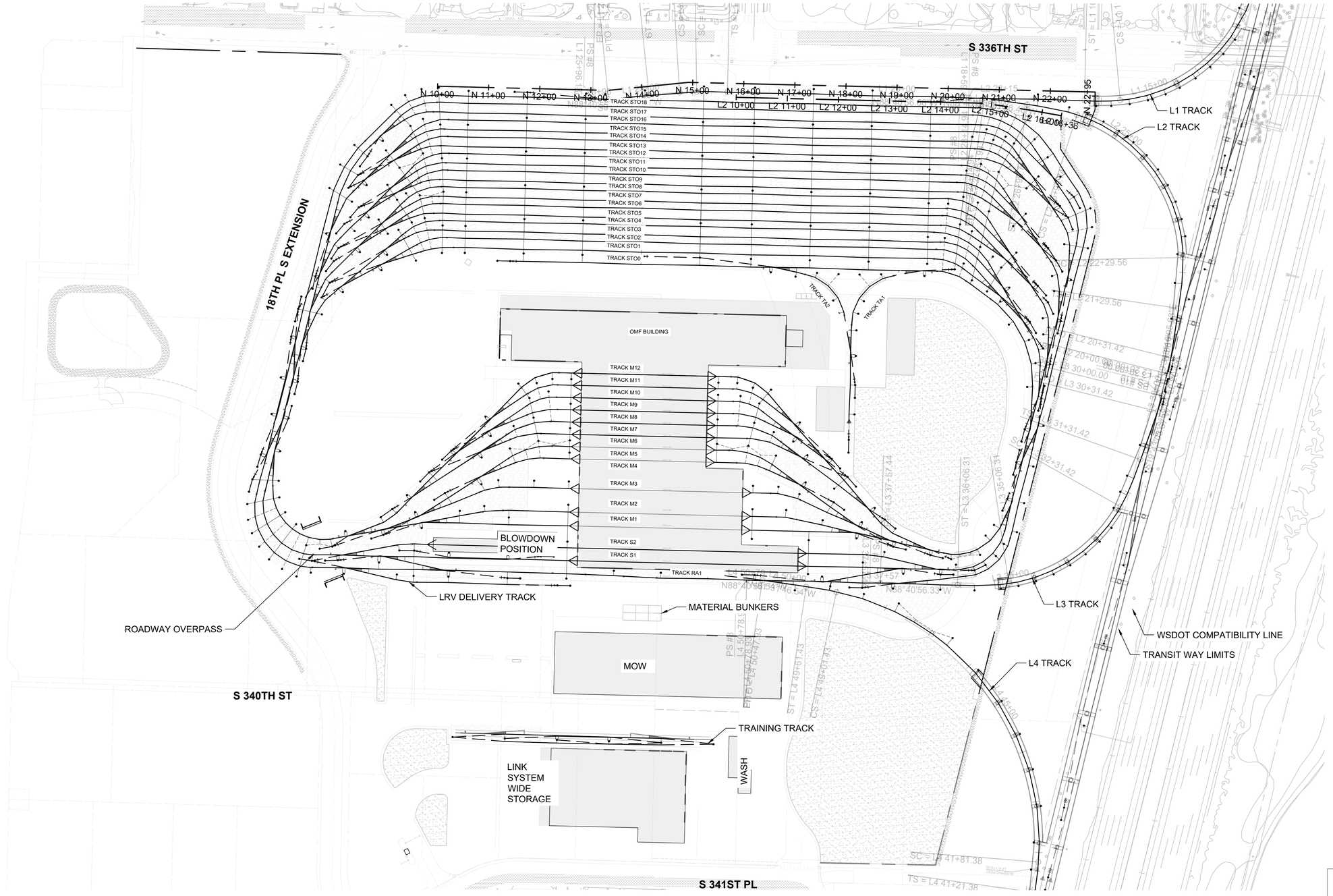

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SCALE: 1"=100'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
OVERALL YARD LAYOUT

DRAWING No.: **M08-JOP200**
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:14 PM | MACLEMENT
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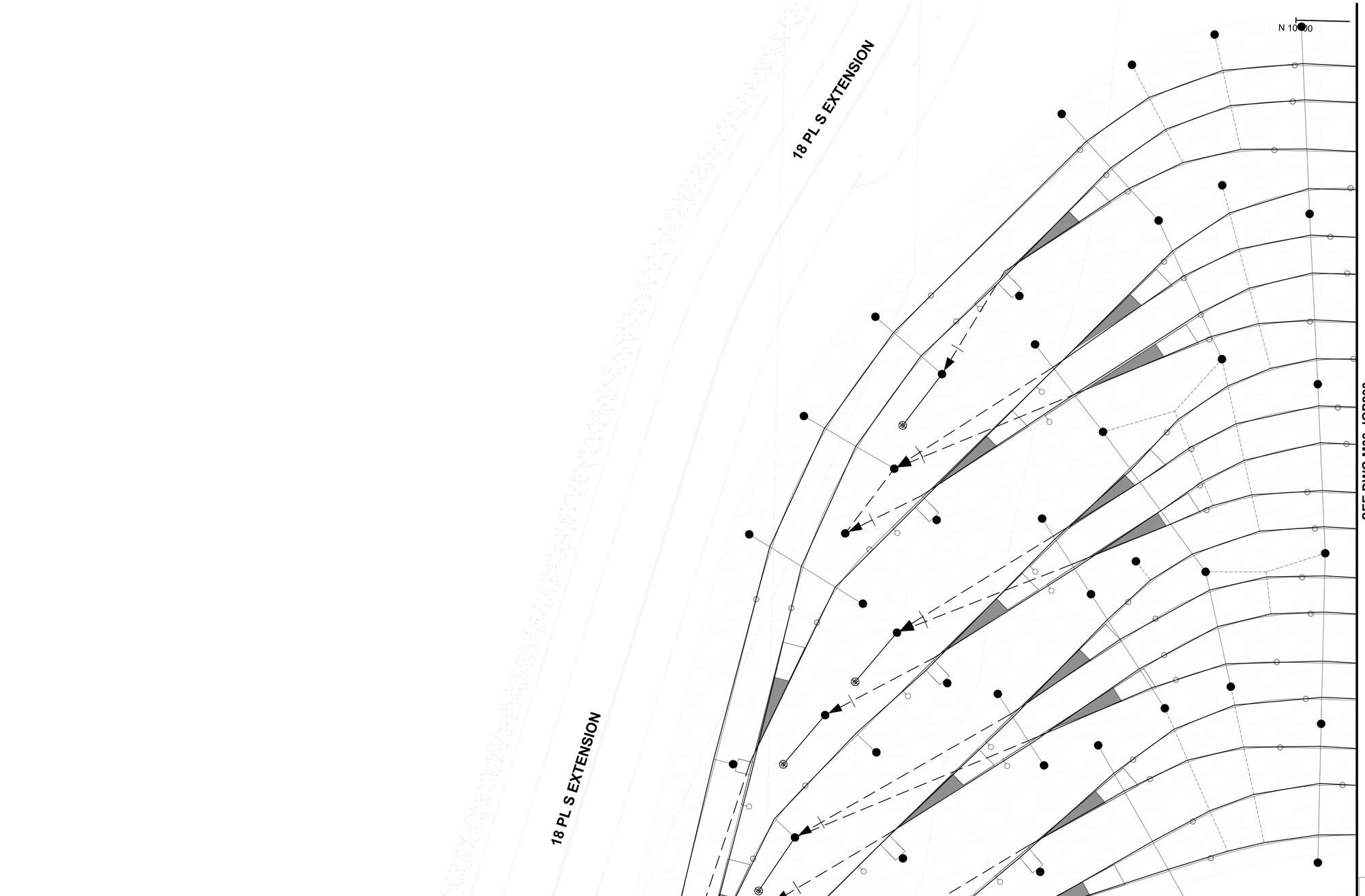

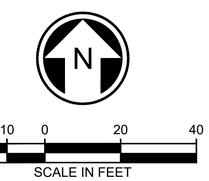

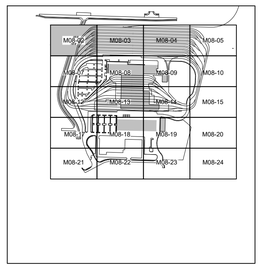

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
1 OF 13

DRAWING No.: **M08-JOP201**
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:14 PM | MACLEMENT
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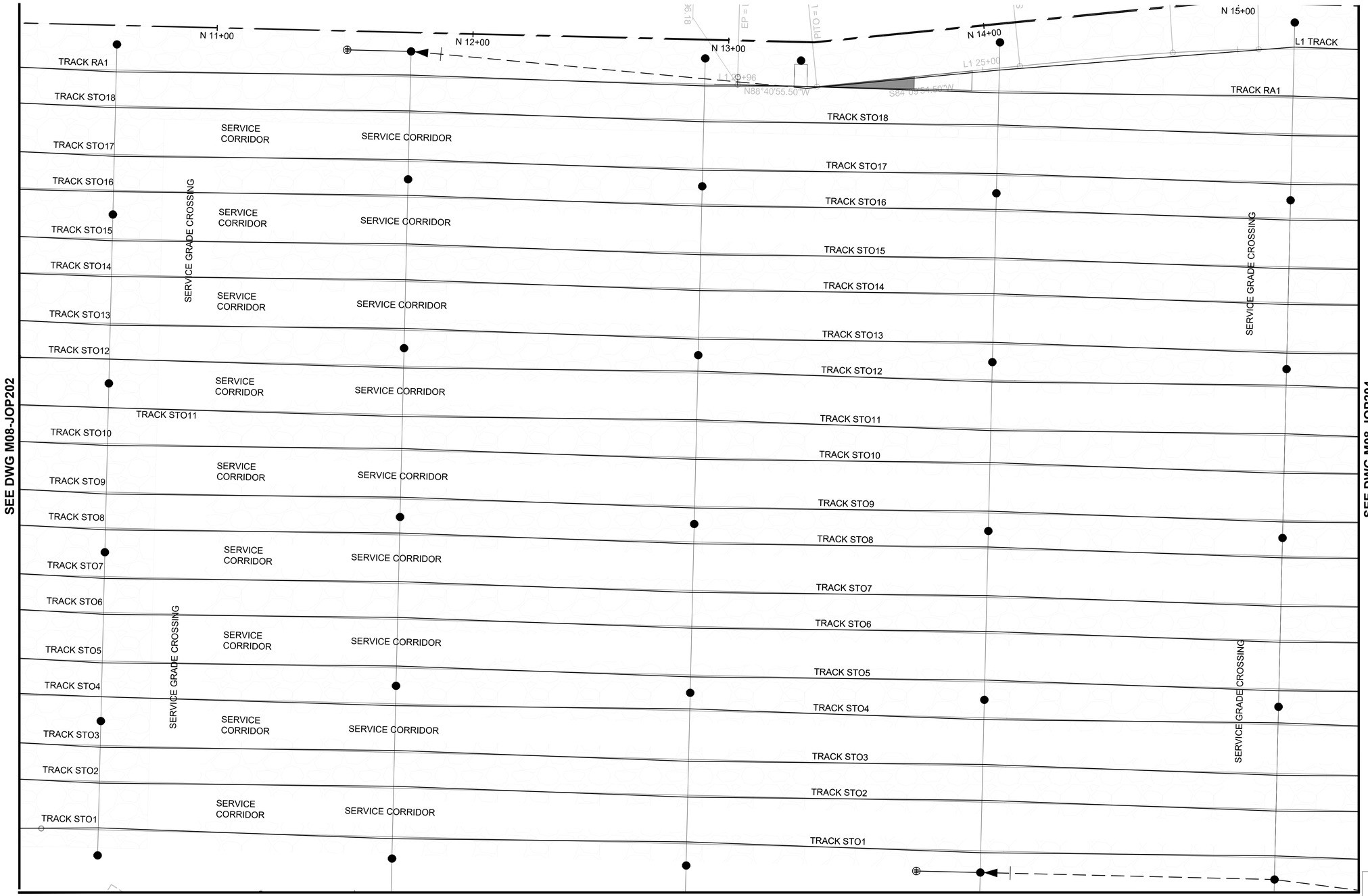

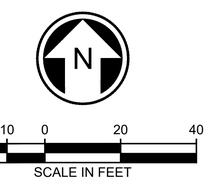

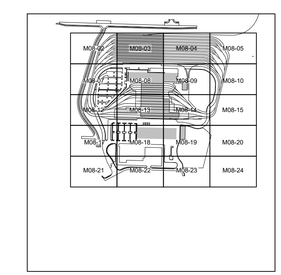

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

PACKAGE #

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
2 OF 13

DRAWING No.: **M08-JOP202**
FACILITY ID: M08
SHEET No.:
REV: 0

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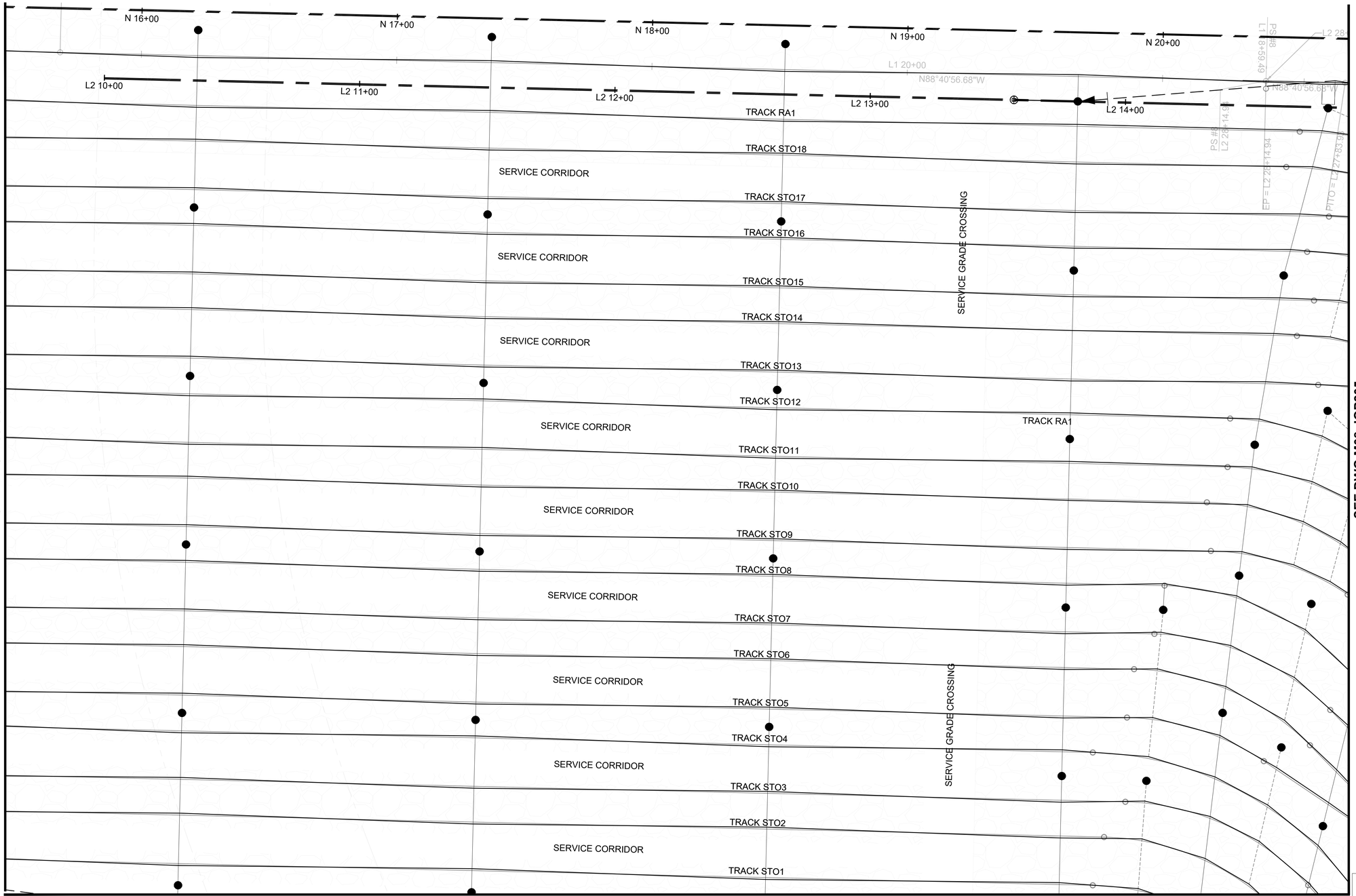

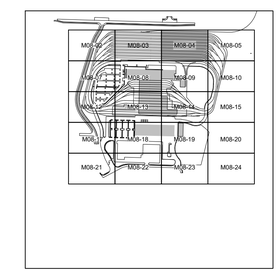

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

MOISES RAMOS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
3 OF 13

DRAWING No.: **M08-JOP203**
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:14 PM | MACLEMENT
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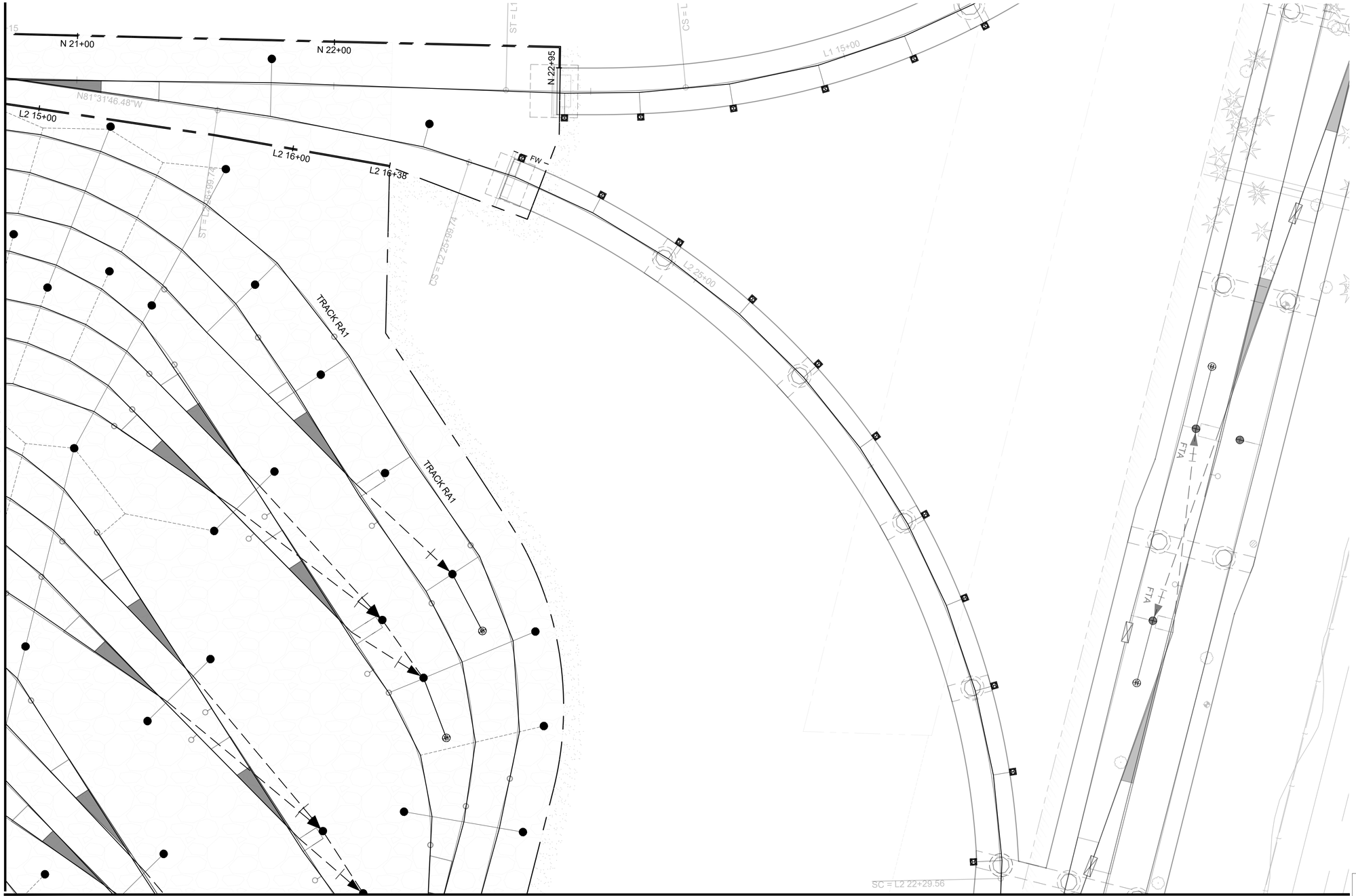

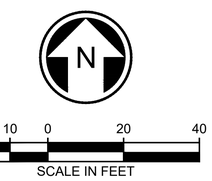

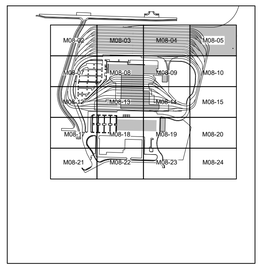

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

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REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
4 OF 13

DRAWING No.: **M08-JOP204**
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:14 PM | MACLEMENT
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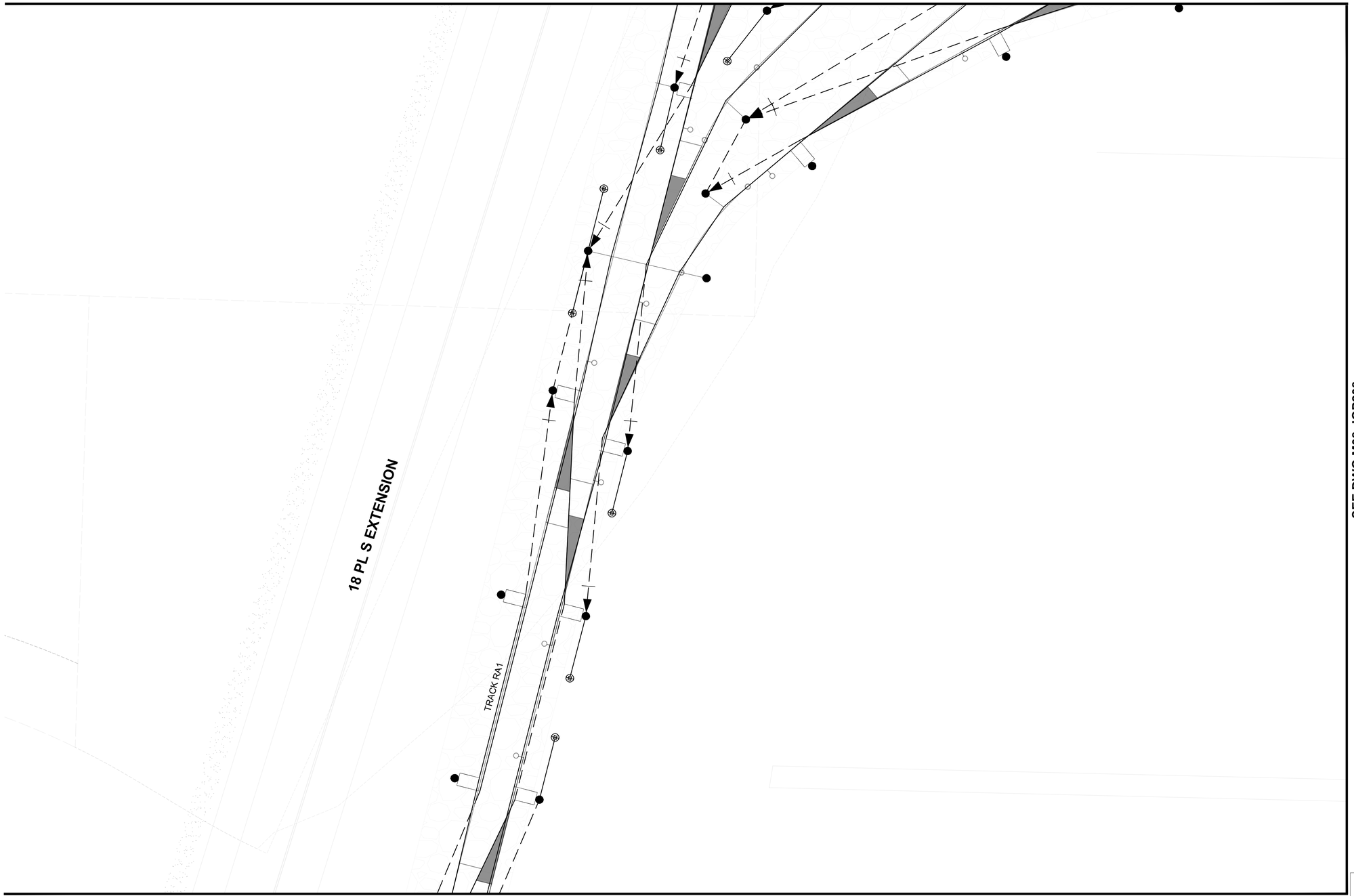
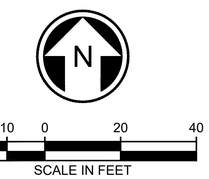
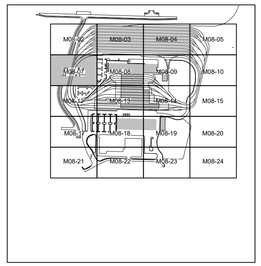
SEE DWG M08-JOP202



SEE DWG M08-JOP208

SEE DWG M08-JOP212





PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

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REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

PACKAGE #

MOISES RAMOS — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
5 OF 13

DRAWING No.: **M08-JOP205**
FACILITY ID: M08
SHEET No.:
REV: 0

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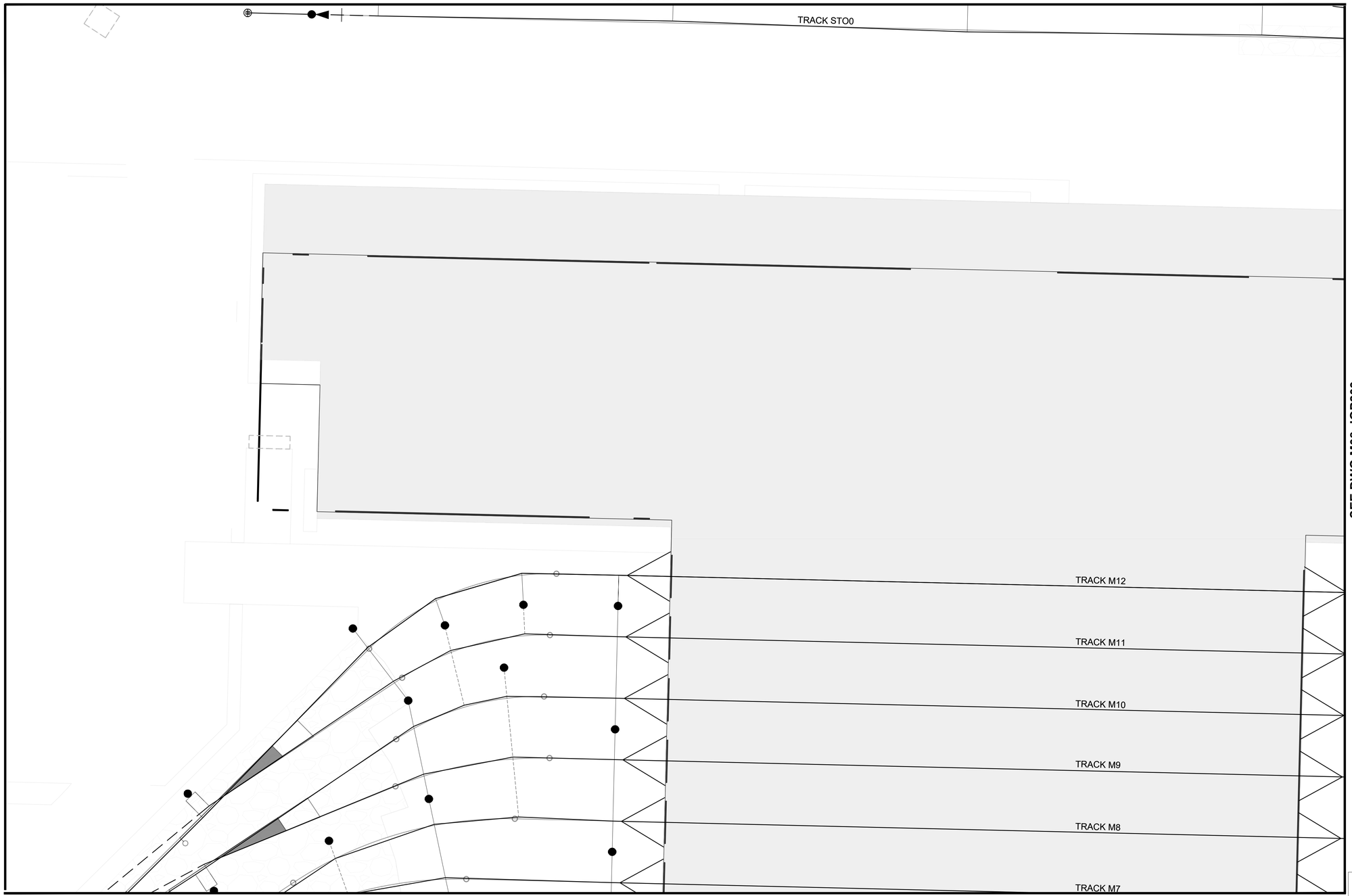
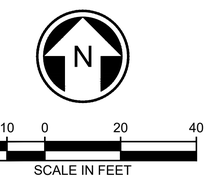
SEE DWG M08-JOP203

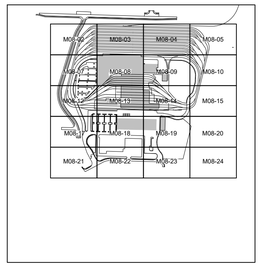


SEE DWG M08-JOP207

SEE DWG M08-JOP209

SEE DWG M08-JOP213





PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

MOISES RAMOS STATE OF WASHINGTON PROFESSIONAL ENGINEER PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
6 OF 13

DRAWING No.: **M08-JOP206**
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:15 PM | MACLEMENT
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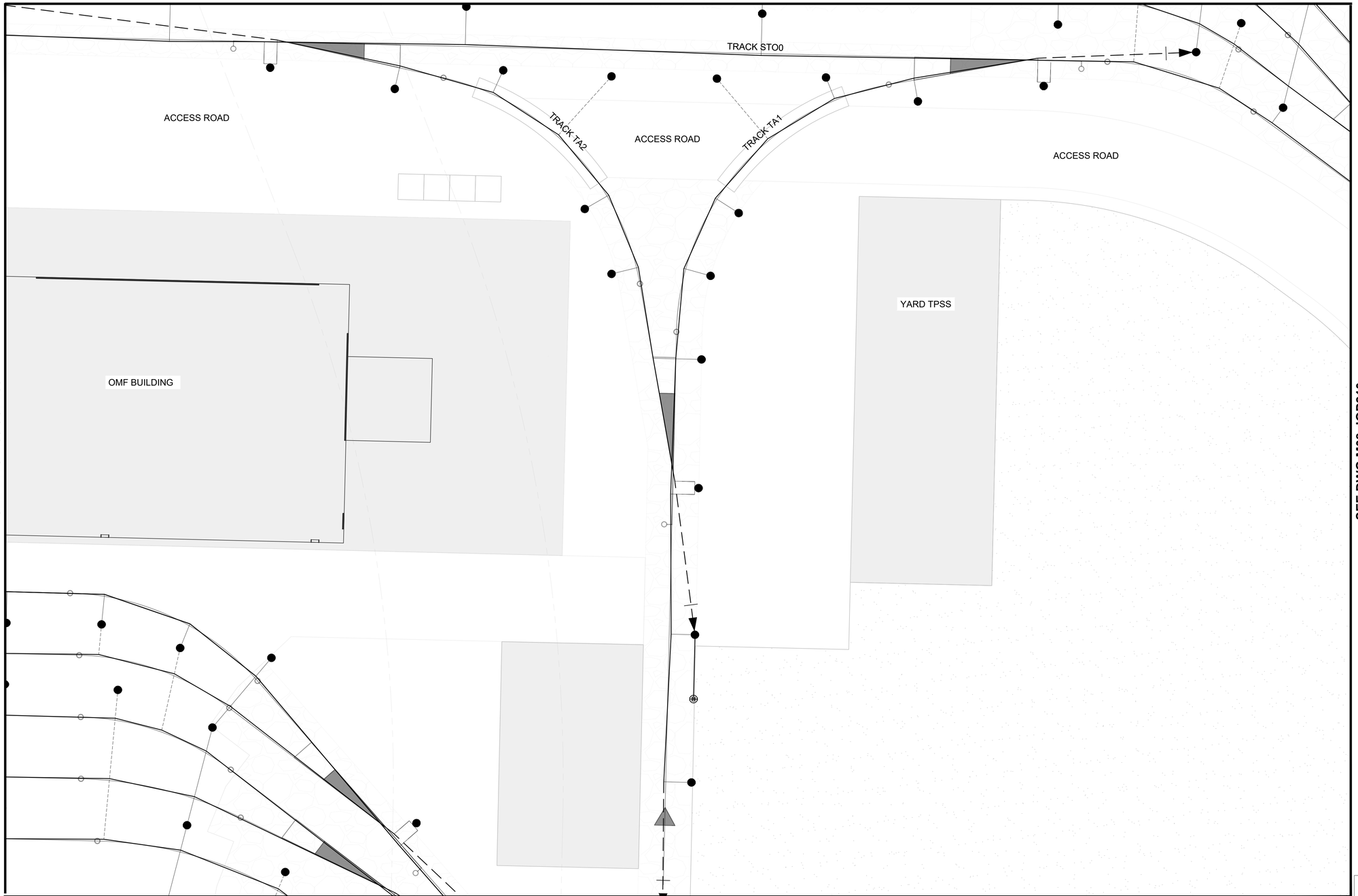
SEE DWG M08-JOP204



SEE DWG M08-JOP208

SEE DWG M08-JOP210

SEE DWG M08-JOP214

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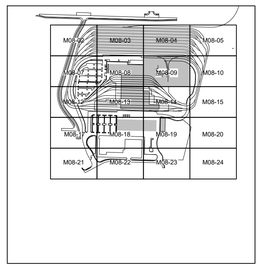


PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

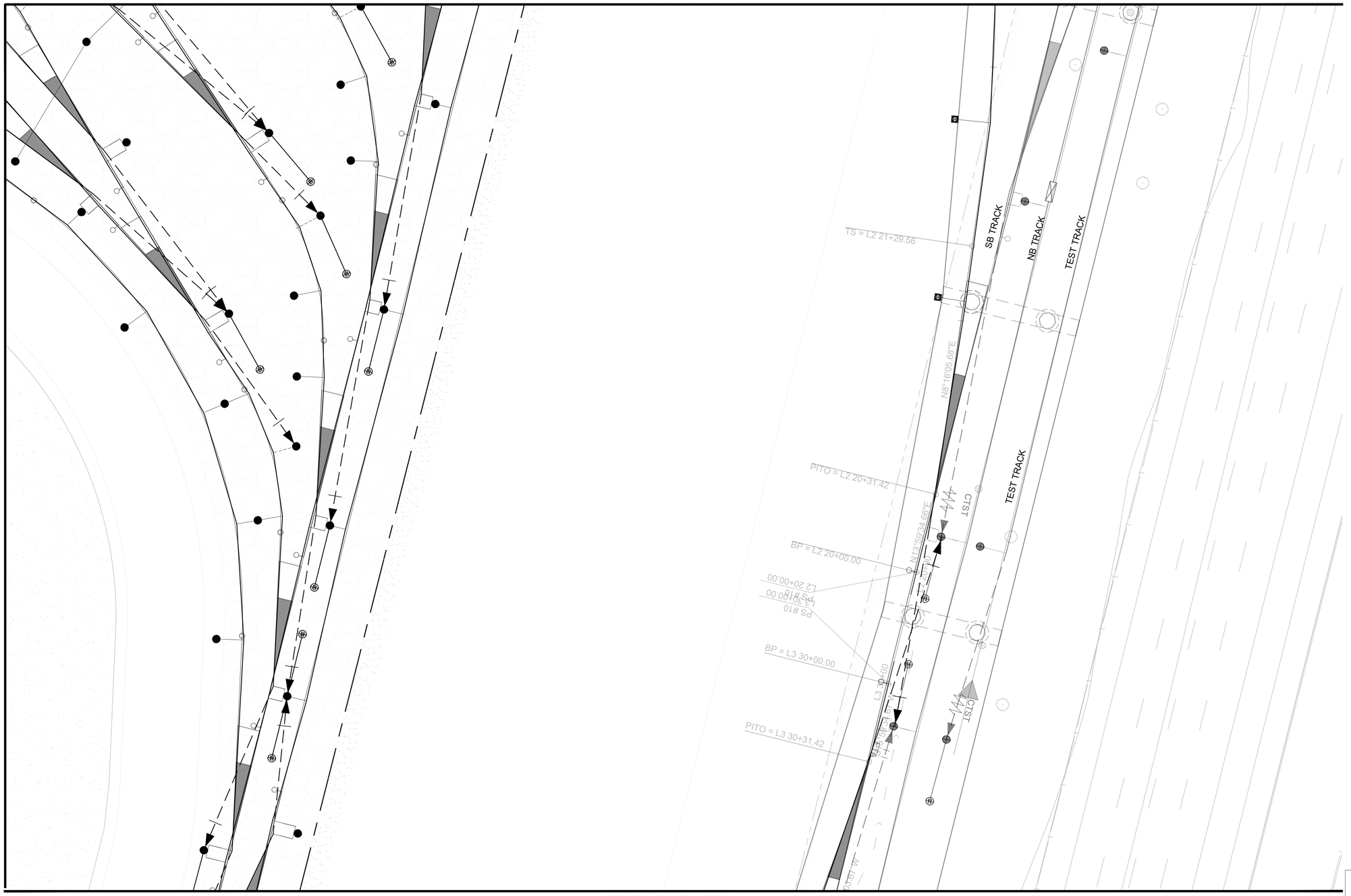
OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
7 OF 13

DRAWING No.: M08-JOP207
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:15 PM | MACLEMENT
C:\PWWORKING\WEST01\D2772713\OMFS-M08-JOP200-213.DWG

SEE DWG M08-JOP205

SEE DWG M08-JOP209



SEE DWG M08-JOP215

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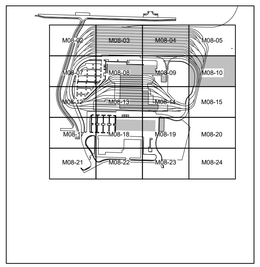
SCALE IN FEET



PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
8 OF 13

DRAWING No.: **M08-JOP208**
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:15 PM | MACLEMENT
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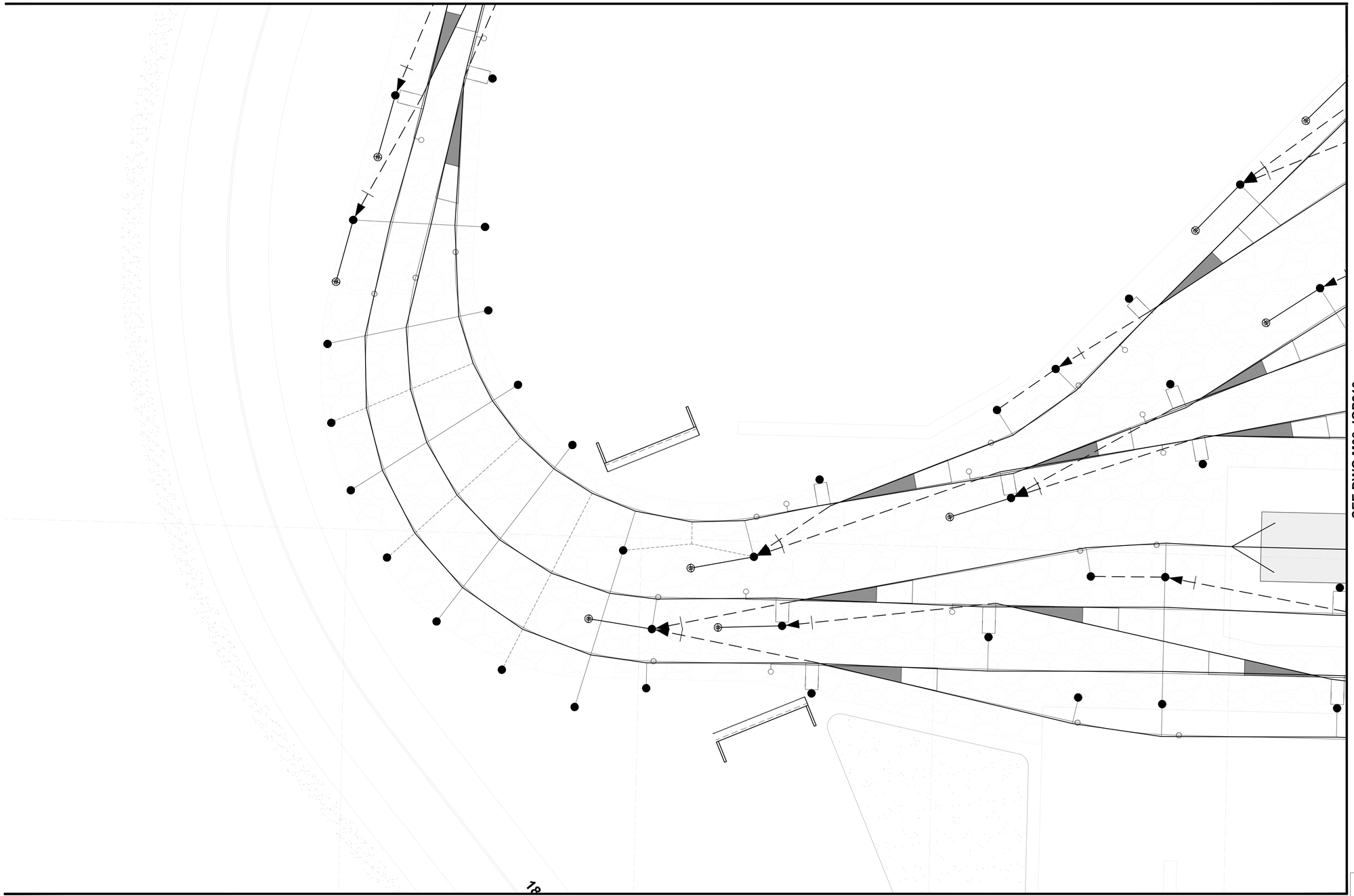
SEE DWG M08-JOP207

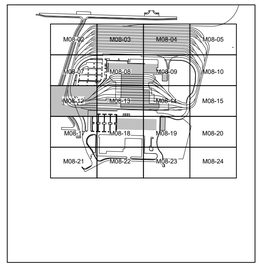


SEE DWG M08-JOP213

SEE DWG M08-JOP217

20 10 0 20 40

SCALE IN FEET



PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
9 OF 13

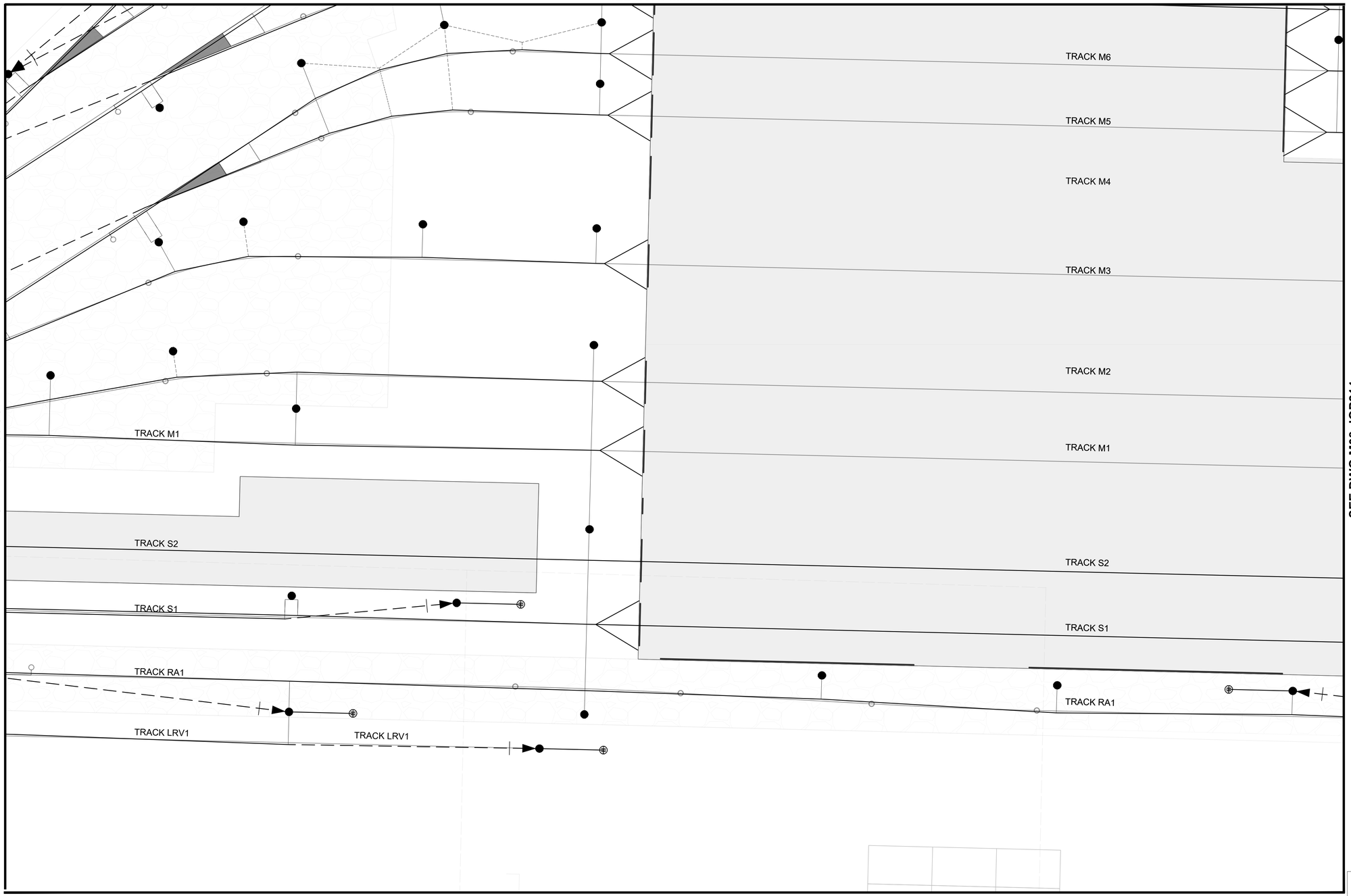
DRAWING No.: **M08-JOP209**
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:15 PM | MACLEMENT
C:\PW\WORKING\WEST01\D2772713\OMFS-M08-JOP200-213.DWG

SEE DWG M08-JOP208

SEE DWG M08-JOP212

SEE DWG M08-JOP214



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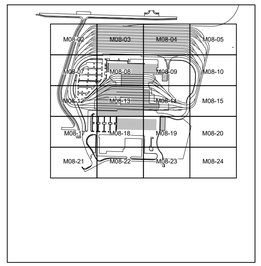
SCALE IN FEET



SEE DWG M08-JOP218

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

MOISES RAMOS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
10 OF 13

DRAWING No.: **M08-JOP210**
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:15 PM | MACLEMENT
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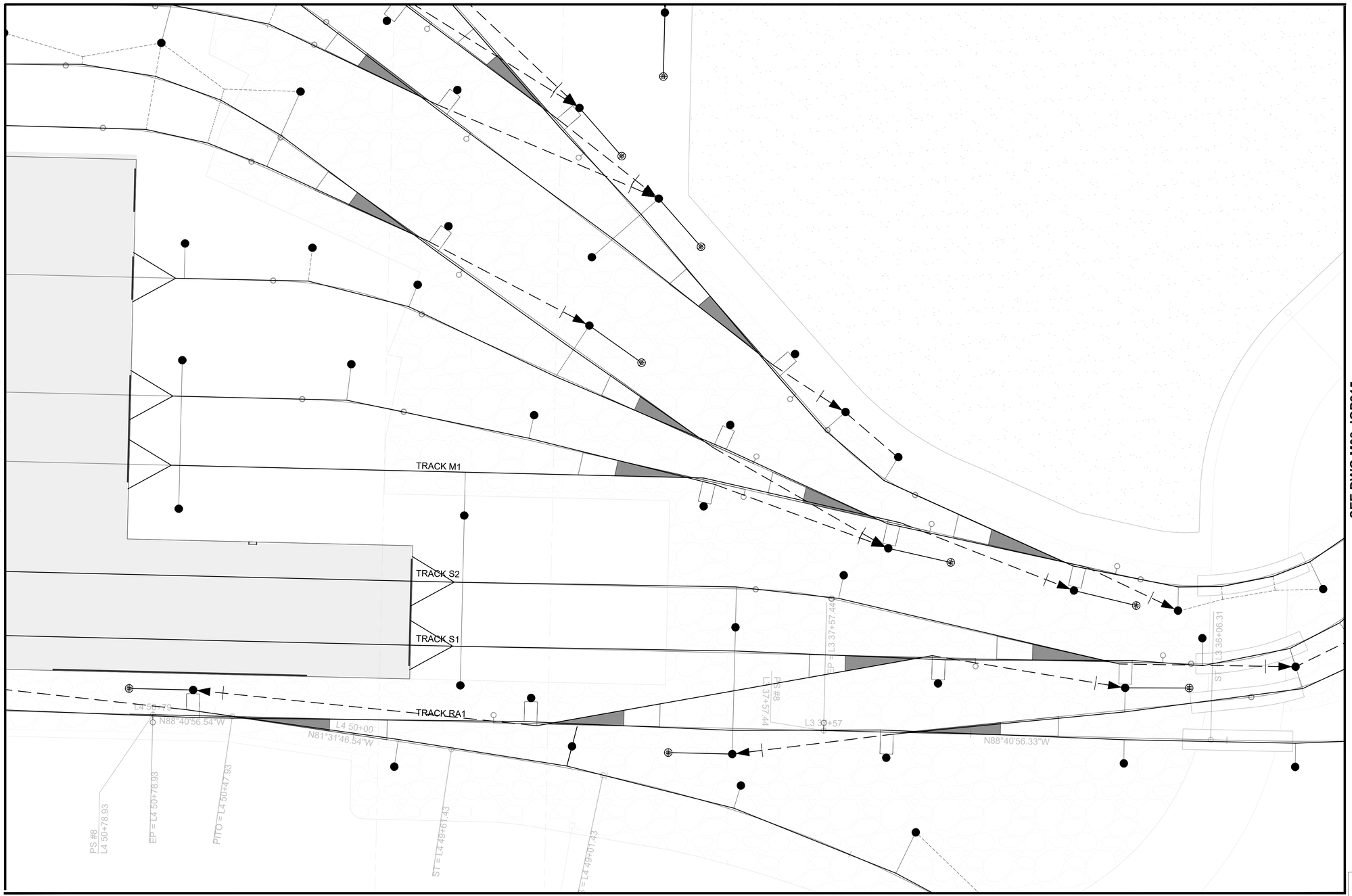
SEE DWG M08-JOP209

SEE DWG M08-JOP213

SEE DWG M08-JOP215

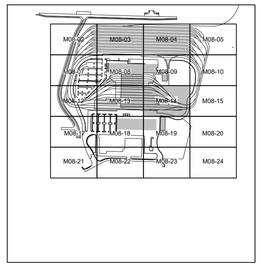


SEE DWG M08-JOP219

N

20 10 0 20 40

SCALE IN FEET



PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
11 OF 13

DRAWING No.: M08-JOP211
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:15 PM | MACLEMENT
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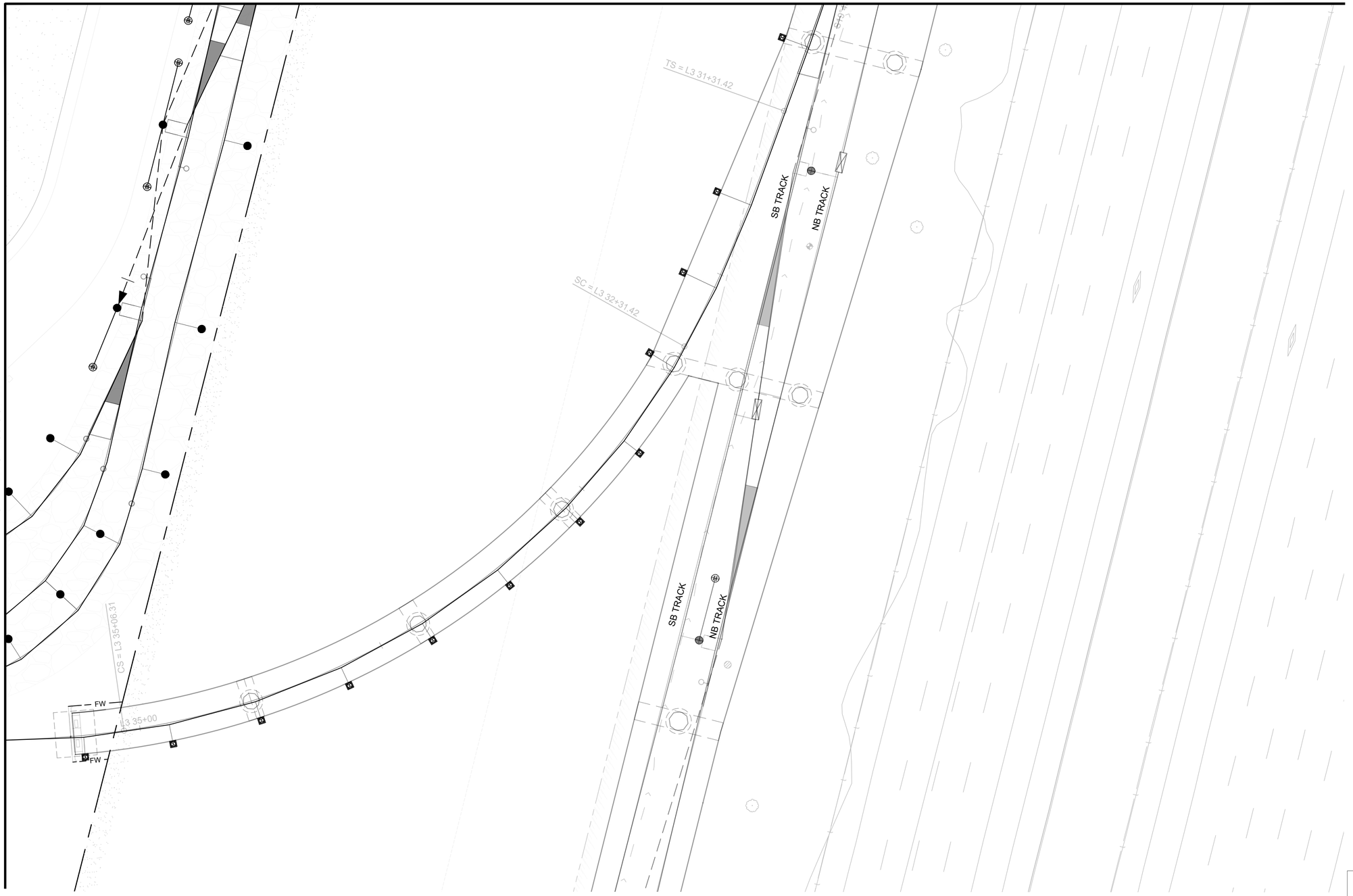
SEE DWG M08-JOP210

SEE DWG M08-JOP214



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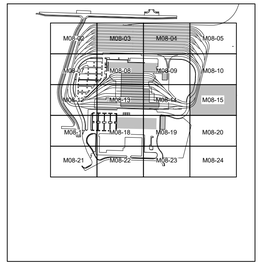
SCALE IN FEET



PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

PACKAGE #

MOISES ROJAS PRELIMINARY STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
12 OF 13

DRAWING No.: **M08-JOP212**
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:15 PM | MACLEMENT
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SEE DWG M08-JOP213

SEE DWG M08-JOP217

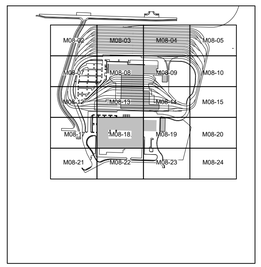
SEE DWG M08-JOP219

S 340TH ST

N

20 10 0 20 40

SCALE IN FEET



PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

MOISES RAMOS
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1"=20'
FILENAME: OMFS-M08-JOP200-213
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
YARD LAYOUT
13 OF 13

DRAWING No.: **M08-JOP213**
FACILITY ID: M08
SHEET No.:
REV: 0

03/04/24 | 1:15 PM | MACLEMENT
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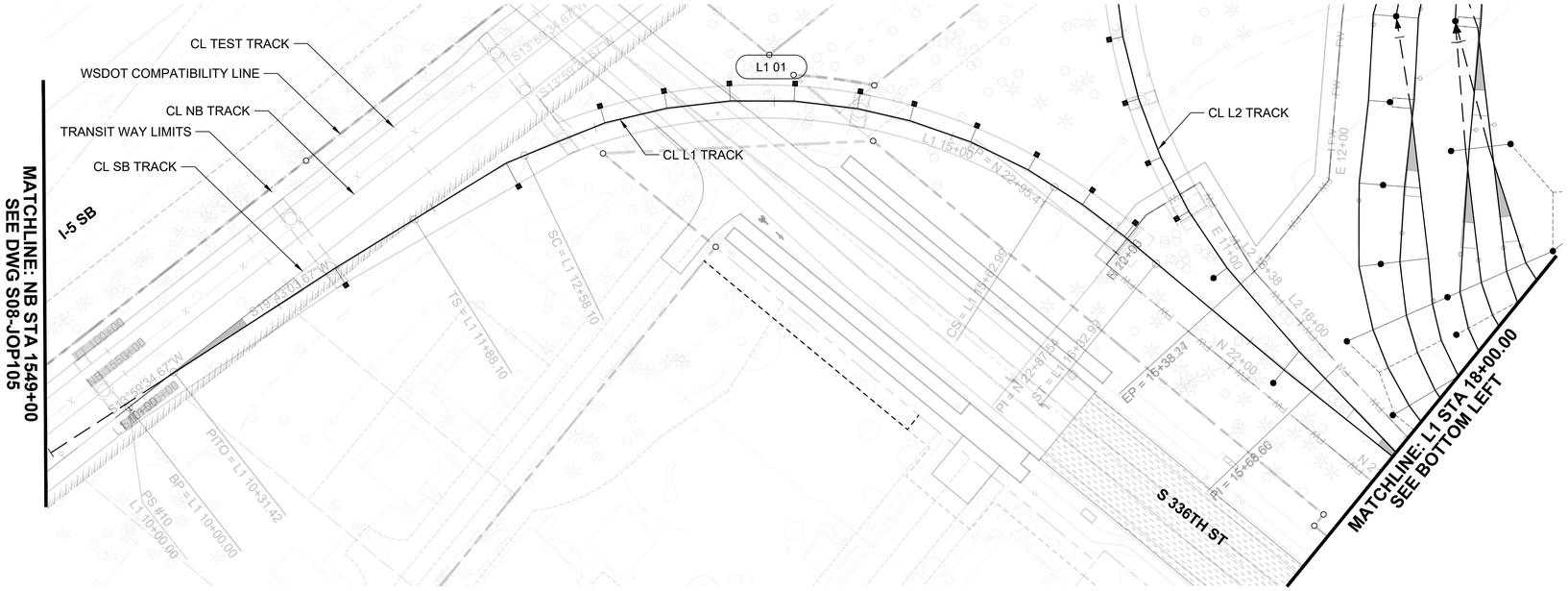

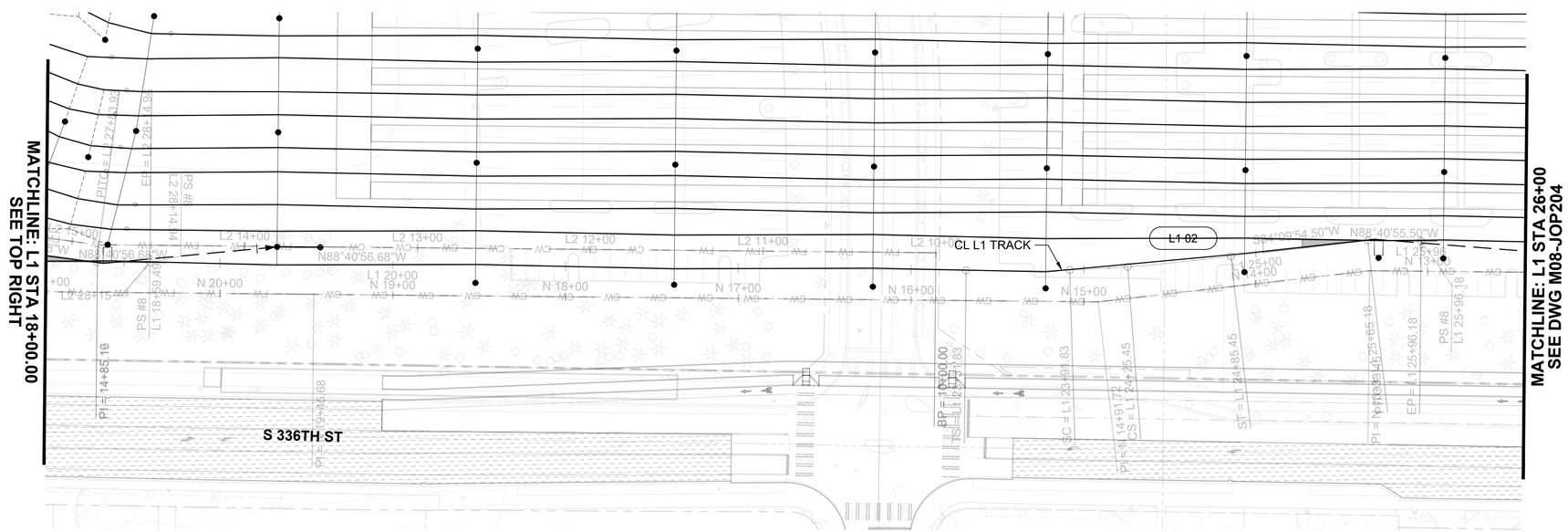

40 20 0 40 80
SCALE IN FEET

10 5 0 10 20
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

MOISES RAMOS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE: 2/27/2024

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1"=40'
FILENAME: OMFS-M08-JOP300-303
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
LEAD TRACK L1 LAYOUT
L1 STA 10+00 TO 25+96.12

DRAWING No.: M08-JOP300
FACILITY ID: M08
SHEET No.:
REV: 0

02/26/24 | 12:53 PM | MACLEMENT
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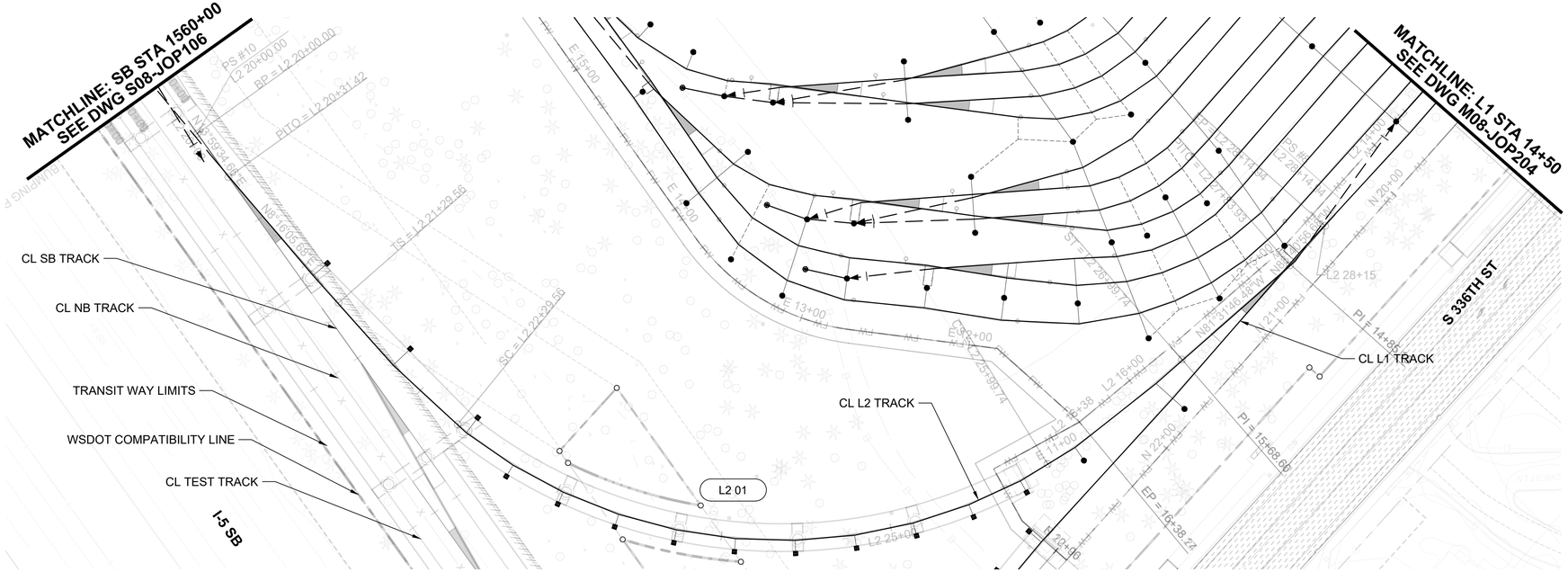

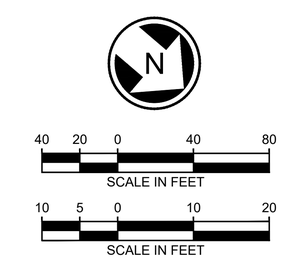

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

MOISES R. RAMOS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE: 2/27/2024

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1"=40'
FILENAME: OMFS-M08-JOP300-303
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
LEAD TRACK L2 LAYOUT
L2 STA 20+00 TO 28+47.92

DRAWING No.: **M08-JOP301**
FACILITY ID: M08
SHEET No.:
REV: 0

02/26/24 | 12:53 PM | MACLEMENT
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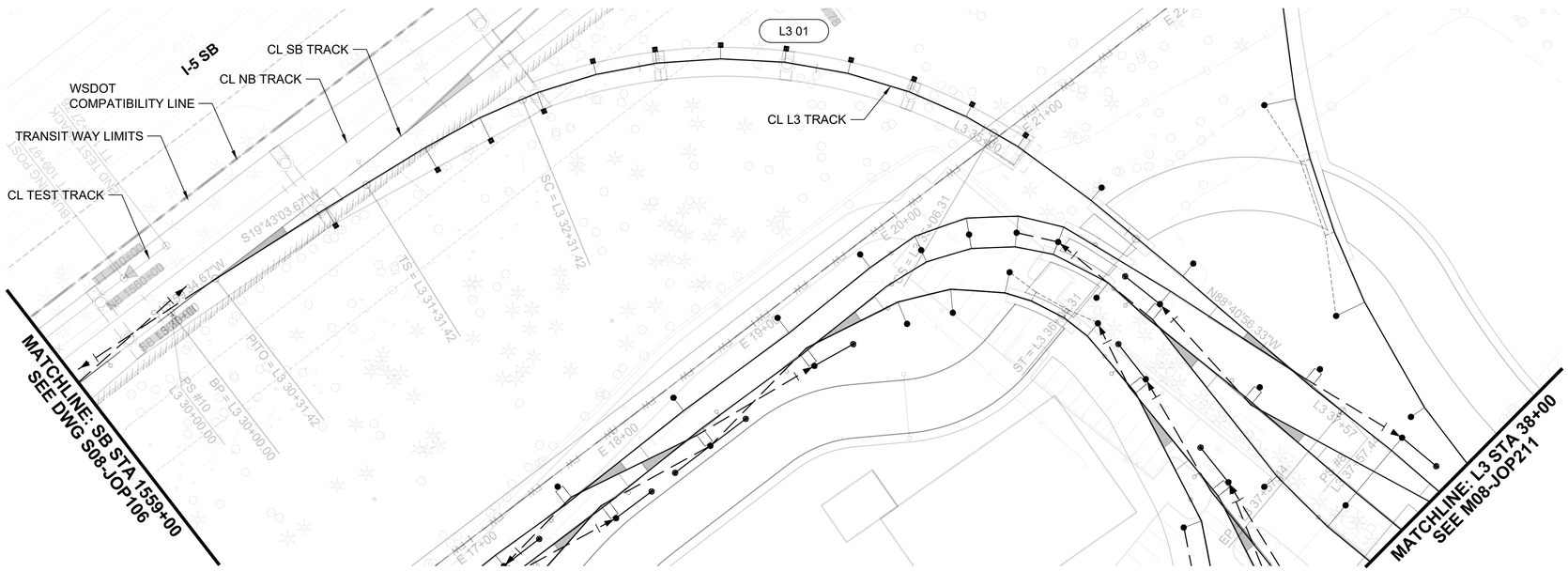

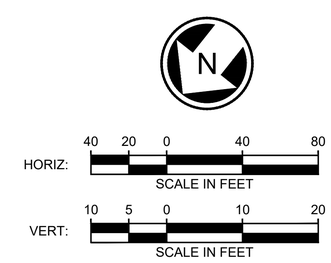

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE: 2/27/2024

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: 1"=40'
FILENAME: OMFS-M08-JOP300-303
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
LEAD TRACK L3 LAYOUT
L3 STA 30+00 TO 37+57.44

DRAWING No.: **M08-JOP302**
FACILITY ID: M08
SHEET No.:
REV: 0

02/26/24 | 12:53 PM | MACLEMENT
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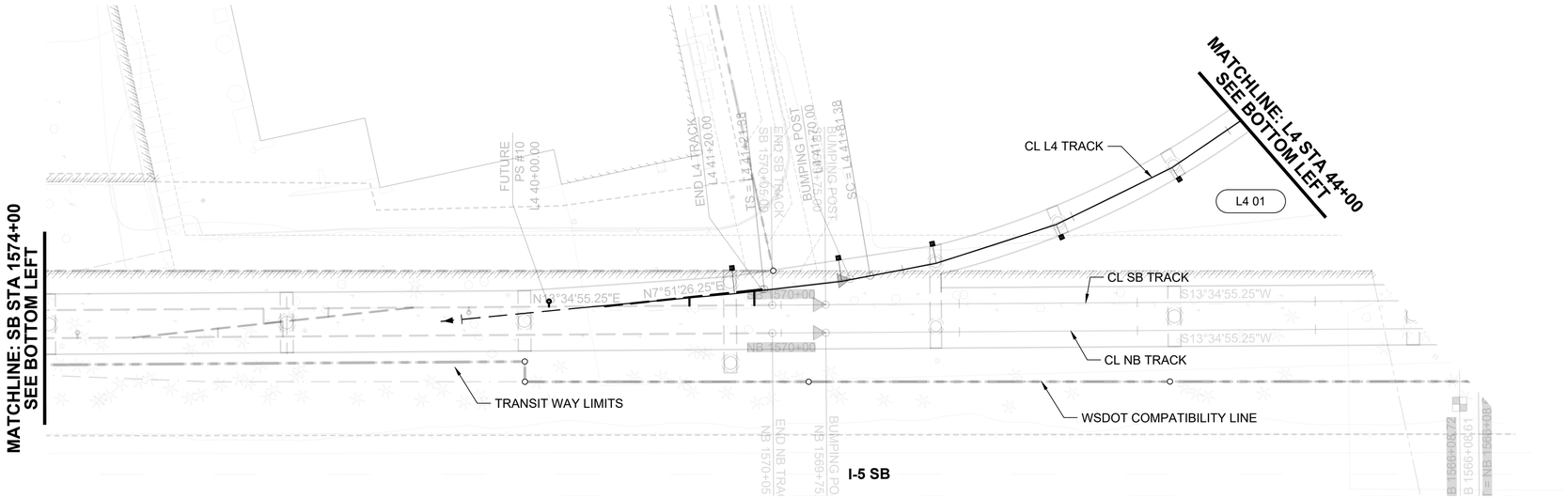

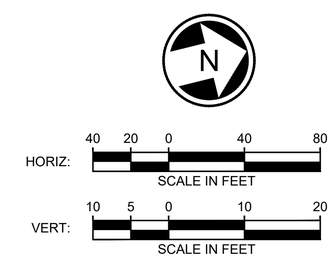

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 51800 — PRELIMINARY

HDR

SUBMITTED BY:
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE: 2/27/2024

PACKAGE #

SCALE: 1"=40'
FILENAME: OMFS-M08-JOP300-303
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
LEAD TRACK L4 LAYOUT
L4 STA 40+00 TO 50+78.91

DRAWING No.: M08-JOP303
FACILITY ID: M08
SHEET No.:
REV: 0

02/26/24 | 12:54 PM | MACLEMENT
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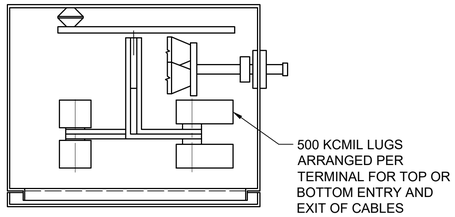
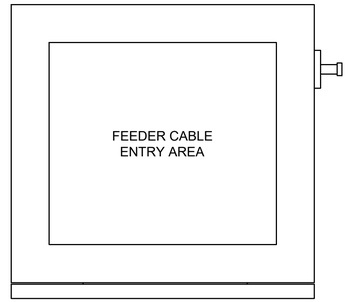
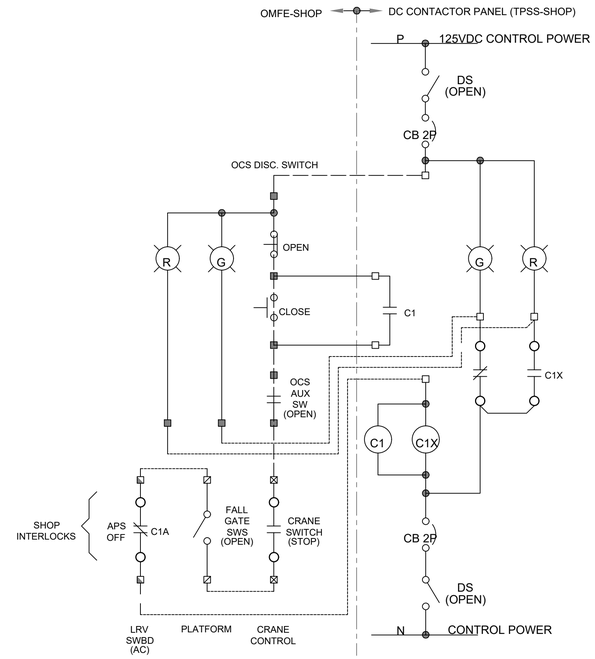


TOP VIEW - INTERIOR (1 / -)

SCALE: NTS



TOP VIEW



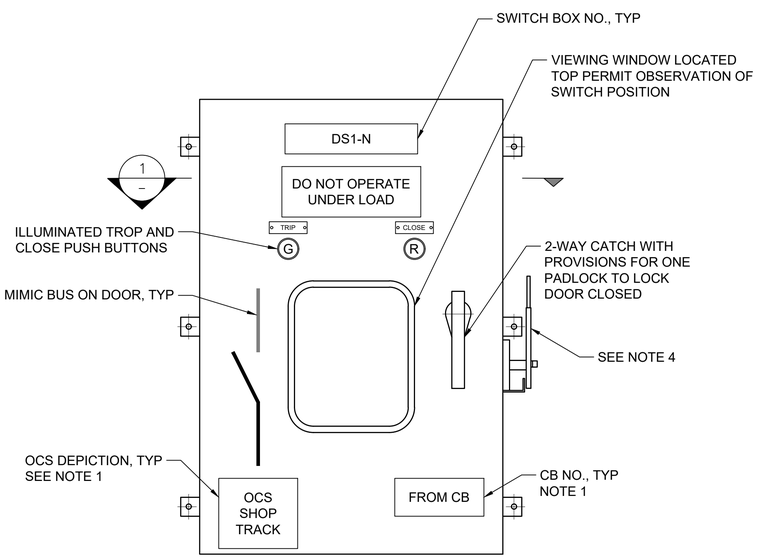
OCS CONTROL SCHEMATIC (TYPICAL)

NOTE:

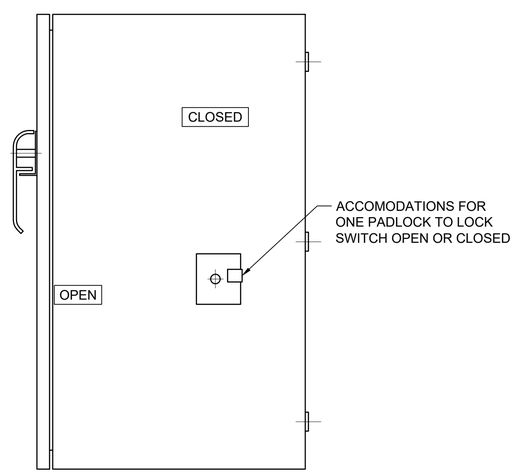
1. SOUND TRANSIT TO PROVIDE SWITCH BOX NUMBERS.
2. ALL DIMENSIONS ARE APPROXIMATE.
3. PROVIDE VOLTAGE PRESENCE DETECTORS (VPD) ON BOTH SIDES OF THE SWITCH INSIDE THE CABINET. THE HANDLE IS INTERLOCKED WITH THE UPSTREAM CONTACTOR SUCH THAT THE HANDLE CAN ONLY BE MOVED IF THE CONTACTOR I OPEN.
4. PROVIDE THE OPERATING HANDLE ON THE RIGHT SIDE OF THE FRONT OF THE ENCLOSE, AS SHOWN ON PLANS.
5. INCOMING CABLES WILL ENTER FROM THE BOTTOM AND OUTGOING CABLES TO THE OCS WILL EXIT THROUGH THE TOP OF THE ENCLOSURE.
6. CONTROL CONDUITS TO EXIT SWITCH BOXES FROM TOP.
7. DETAIL DRAWINGS SHALL BE SUBMITTED BY THE PROCUREMENT AND INSTALLATION CONTRACTOR.
8. ENCLOSE MATERIAL MUST BE MOLDED, FIRE-RETARDANT FIBERGLASS-REINFORCED POLYESTER.

LEGEND:

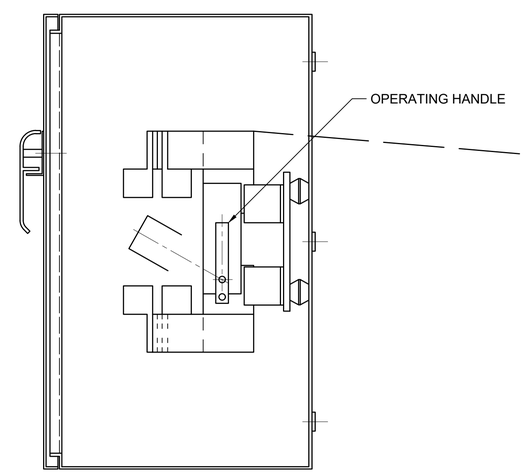
- TERMINAL IN DC CONTACTOR PANEL
- TERMINAL IN FIELD CRANE SWITCH
- TERMINAL IN FIELD OCS SWITCH
- TERMINAL IN FALL GATE SWITCH
- TERMINAL IN AC LRV SWITCHBOARD
- WIRE CONNECTIONS BY FIELD



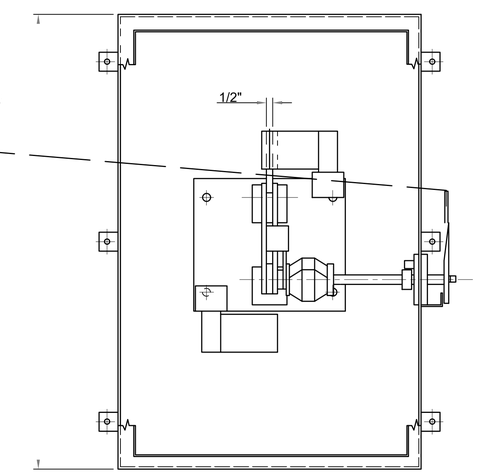
FRONT VIEW WITH DOOR



RIGHT SIDE VIEW EXTERIOR



RIGHT SIDE VIEW OPERATING HANDLE SHOWN



FRONT VIEW DOOR REMOVED

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

MOISES RAMOS — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: OMFS-M08-JOD101
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
ASSEMBLY
SHOP DISCONNECT SWITCH

DRAWING No.: M08-JOD101
FACILITY ID: M08
SHEET No.:
REV: 0

02/29/24 | 3:23 PM | MACLEMENT
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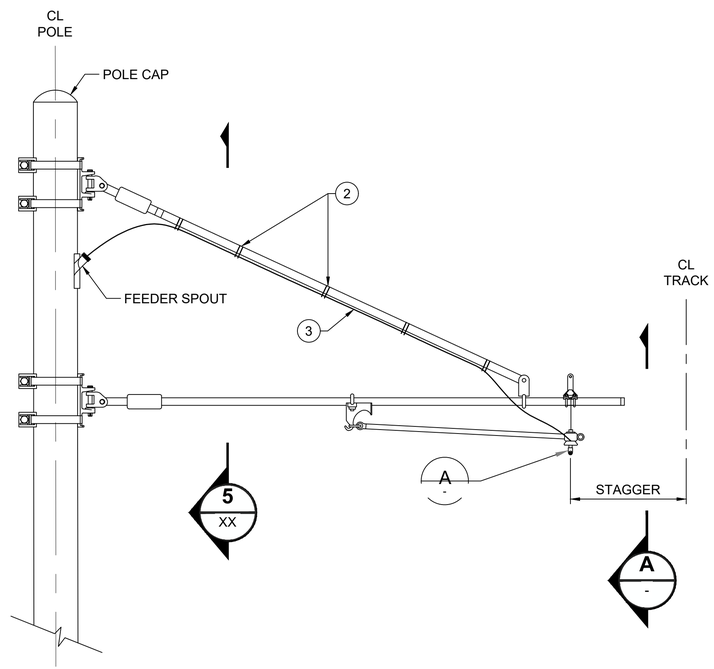
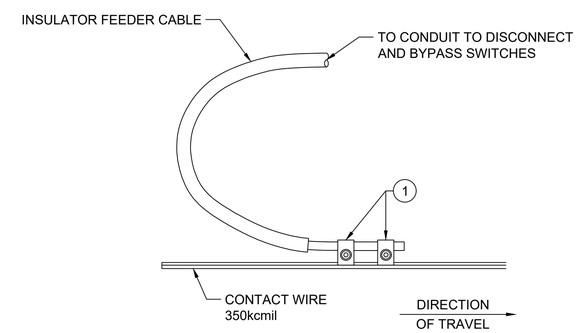
NOTE:

1. VENDOR WILL PROVIDE SHOP DRAWING NUMBER.



FEEDER CABLE ARRANGEMENT FOR SWFT SYSTEM FR-2 (1 / -)

NTS



FEEDER TAP (A / -)

NTS

BILL OF MATERIAL		
ITEM	DESCRIPTION	QTY
1	DUPLEX FEEDER CLAMP TO 350KCMIL CONTACT WIRE	2
2	TIE WRAPS	AS REQ'D
3	INSULATED FEEDER CABLE WITH TIE WRAPS	AS REQ'D

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUND TRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-M08-JOD102
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
CANTILEVER - YARD - LONG REACH
CL-03L, M, H

DRAWING No.: M08-JOD405
FACILITY ID: M08
SHEET No.:
REV: 0

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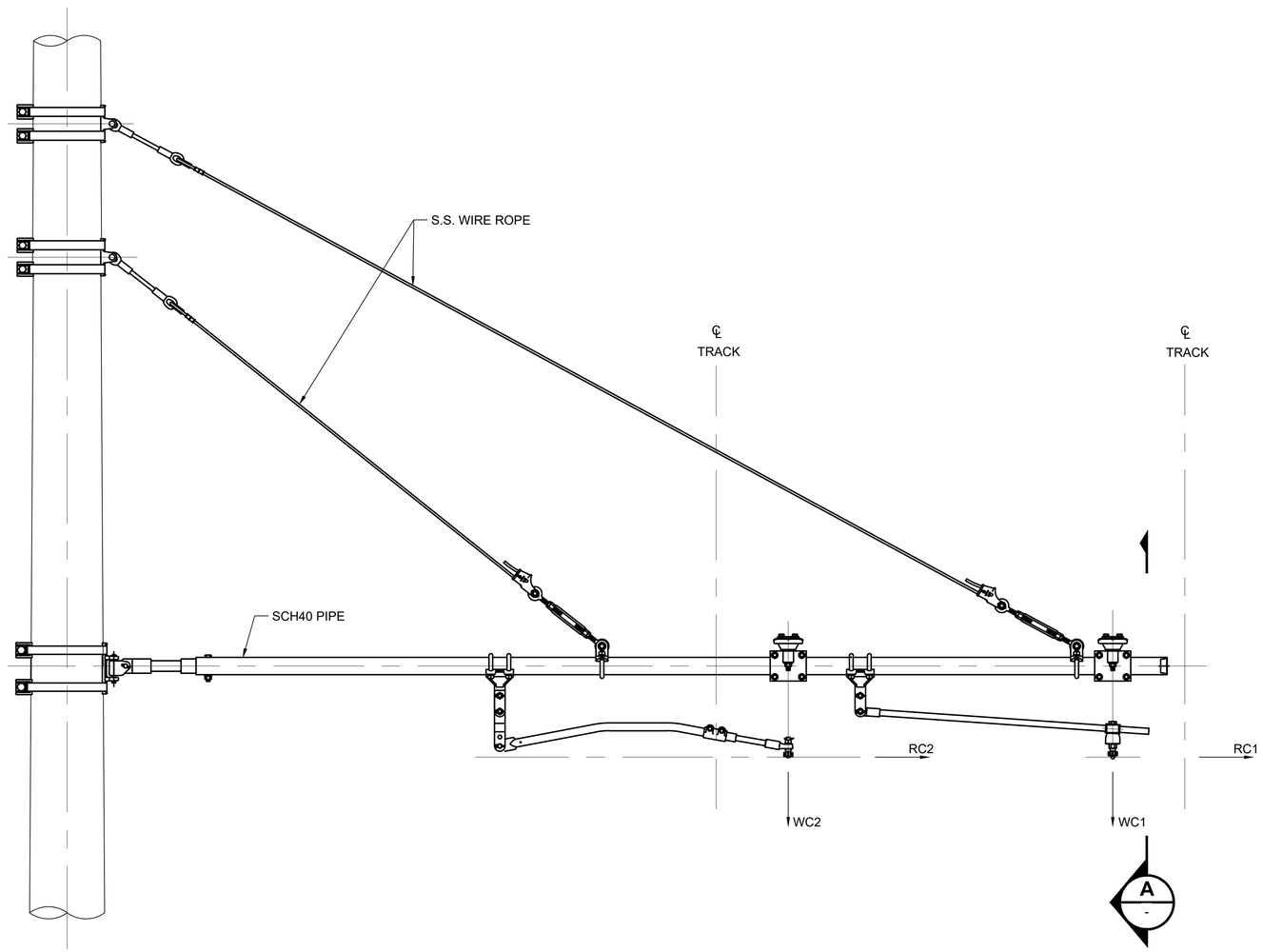

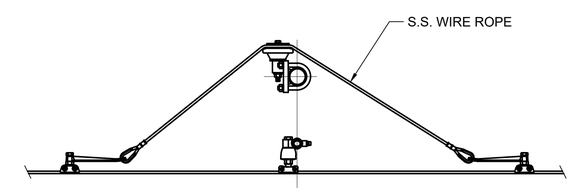

VIEW A-A

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

MOISES RAMOS — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: OMFS-M08-JOD103
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

OVERHEAD CONTACT SYSTEMS
CANTILEVER - TWO TRACK
TTC-1 & TTC-2

DRAWING No.: **M08-JOD410**
FACILITY ID: M08
SHEET No.:
REV: 0

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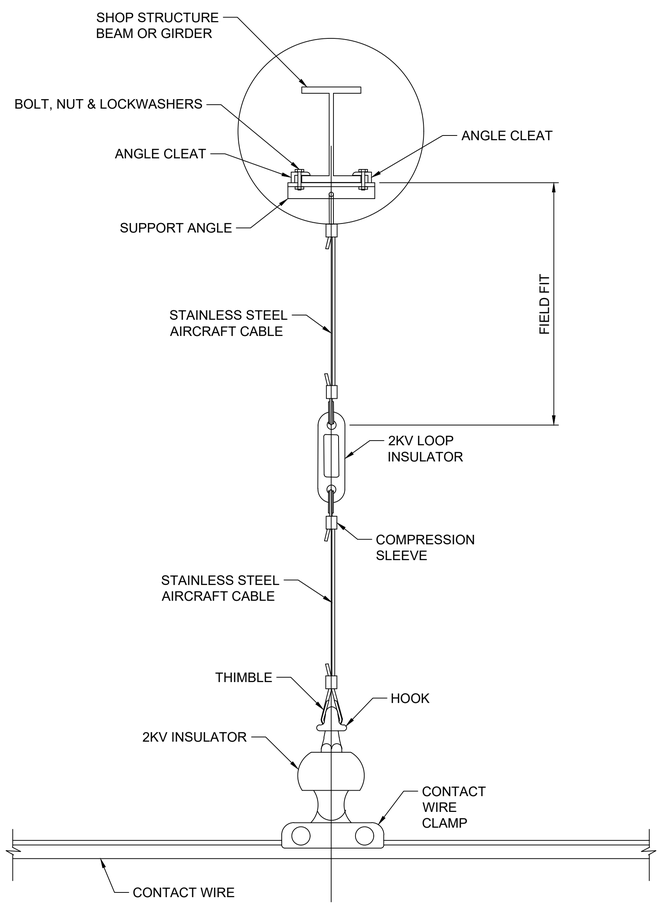
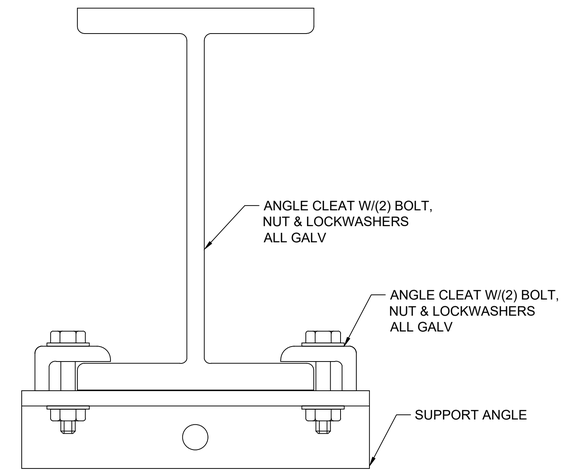
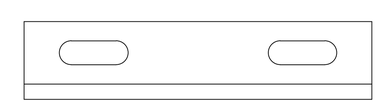


SHOP HANGER SH-01
SCALE: NTS



SUPPORT ANGLE DETAIL
SCALE: NTS



PLAN
SCALE: NTS

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: M. RAMOS
DRAWN BY: M. CLEMENT
CHECKED BY: R. DEMERS
APPROVED BY: M. RAMOS

AHJ:

MOISES RAMOS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-M08-JOD106
CONTRACT No.: AE-0030-17
DATE: 2/27/2024

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH
OVERHEAD CONTACT SYSTEMS
SHOP HANGERS

DRAWING No.: **M08-JOD430**
FACILITY ID: M08
SHEET No.:
REV: 0

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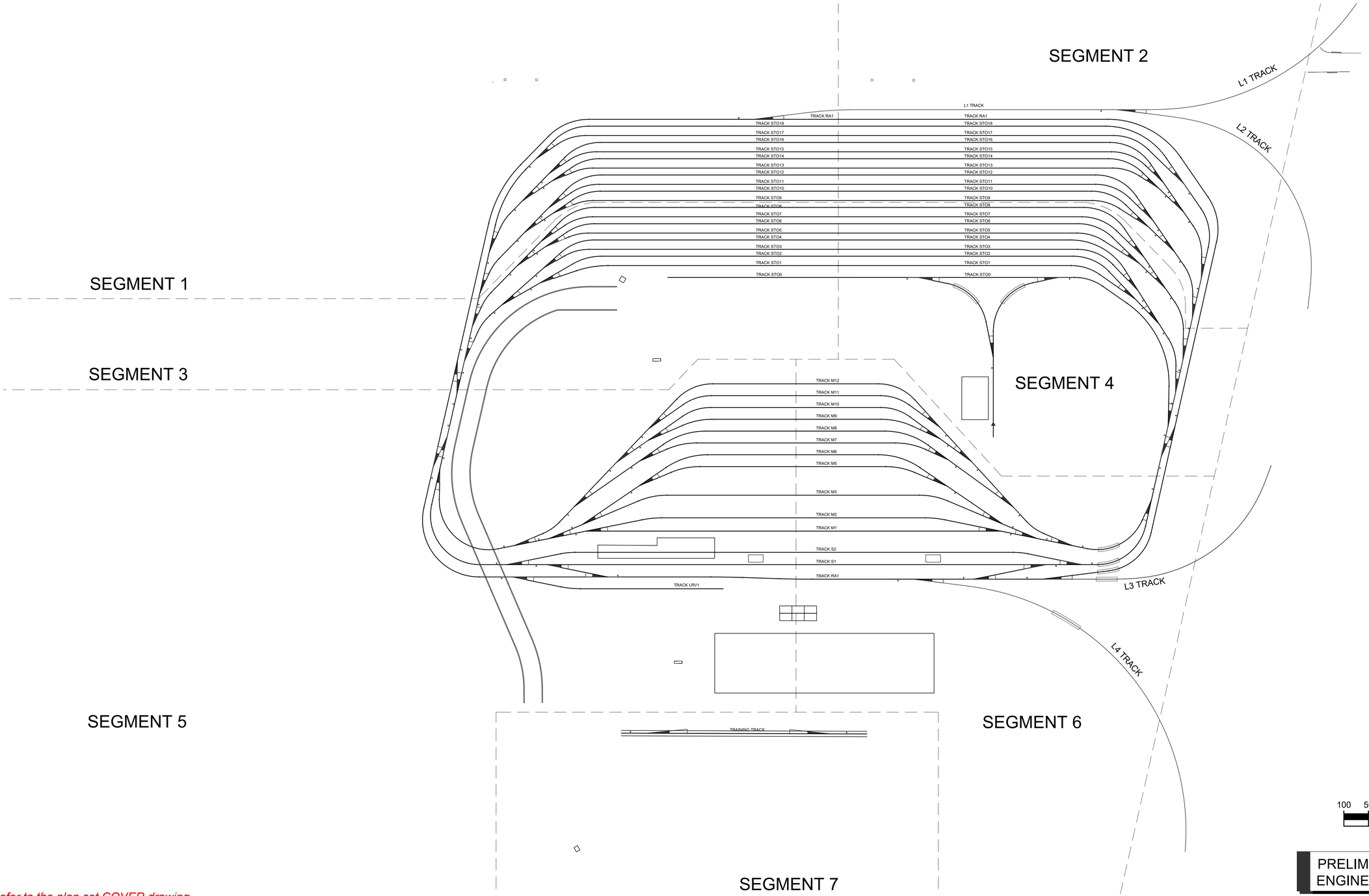

100 50 0 100 200
SCALE IN FEET

PRELIMINARY ENGINEERING | NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: S. EDELMAN
DRAWN BY: M. SHEPPARD
CHECKED BY: A. EDLEMAN
APPROVED BY: J. CANTWELL

AHJ:

PACKAGE #

PRELIMINARY — JAMES WILLIAM CANTWELL — STATE OF WASHINGTON — 23627163 — REGISTERED PROFESSIONAL ENGINEER

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

SCALE: 1"=100'
FILENAME: OMFS-Y03-JSP001
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

SIGNALS SYSTEM
YARD SEGMENTATION PLAN
OVERVIEW

DRAWING No.: **Y03-JSP001**
FACILITY ID: Y03
SHEET No.:
REV: 0

02/23/24 | 11:11 AM | MSHEPPARD
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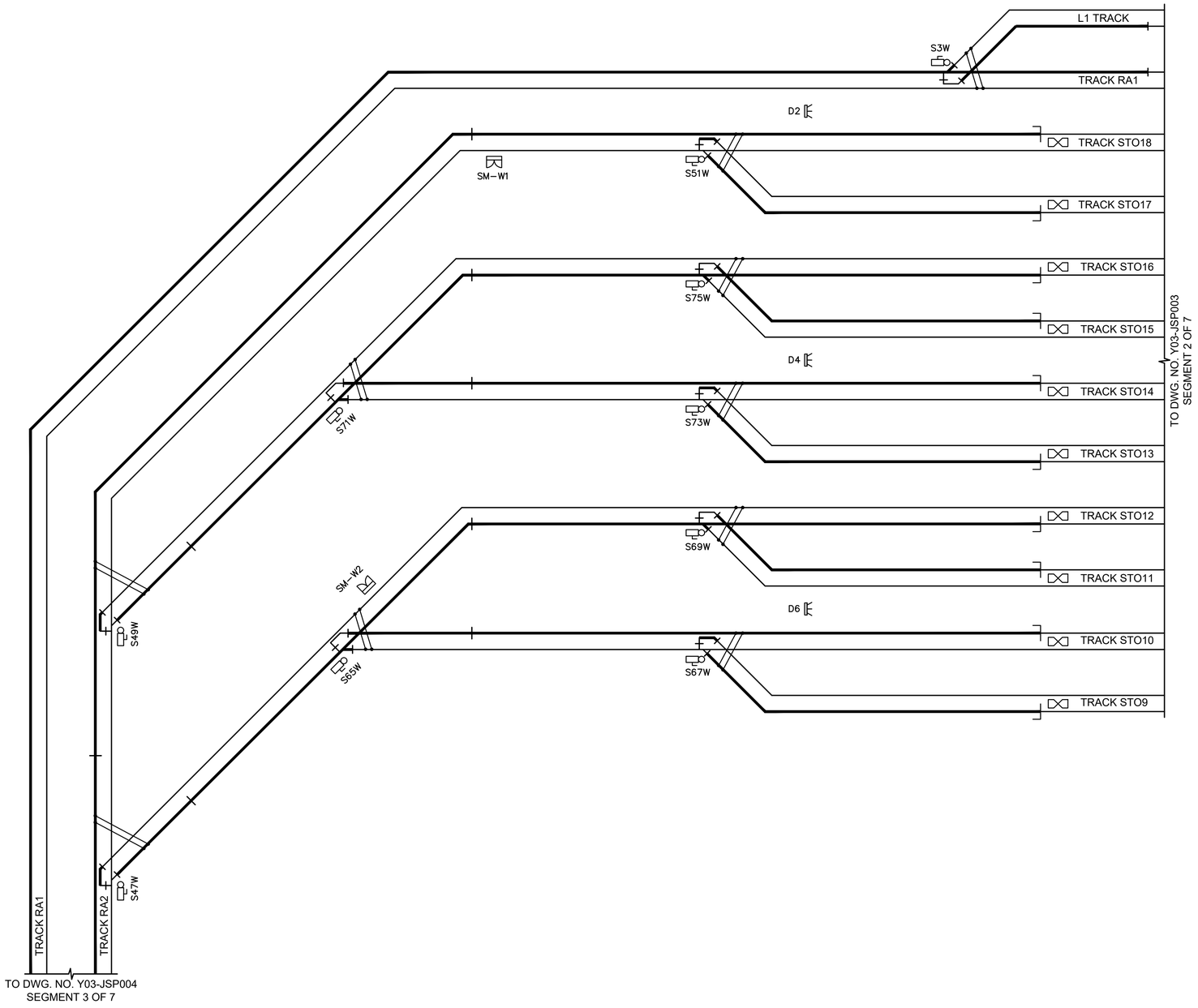

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: S. EDELMAN
DRAWN BY: M. SHEPPARD
CHECKED BY: A. EDLEMAN
APPROVED BY: J. CANTWELL

PRELIMINARY — JAMES WILLIAM CANTWELL — STATE OF WASHINGTON — 27827163 — REGISTERED PROFESSIONAL ENGINEER

HDR

Burns — BURNS ENGINEERING, INC. | 215 979-7700 — TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 — PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

SCALE: NTS
FILENAME: OMFS-Y03-JSP002
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

SIGNALS SYSTEM
YARD DOUBLE LINE TRACK PLAN
SEGMENT 1 OF 7

DRAWING No.: **Y03-JSP002**
FACILITY ID: Y03
SHEET No.:
REV: 0

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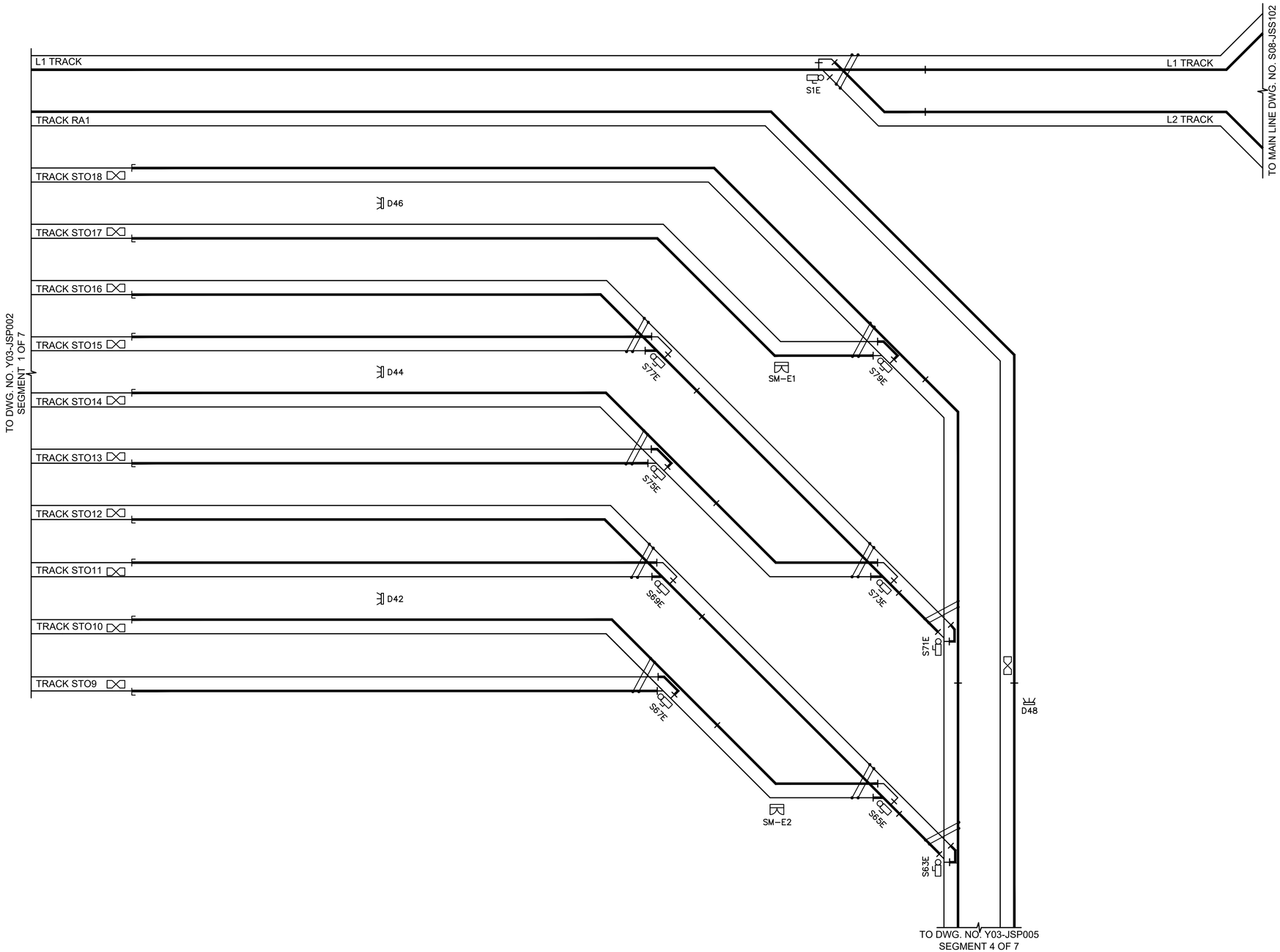

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: S. EDELMAN
DRAWN BY: M. SHEPPARD
CHECKED BY: A. EDLEMAN
APPROVED BY: J. CANTWELL

AHJ:

PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT
DATE:

PACKAGE #
SCALE: NTS
FILENAME: OMFS-Y03-JSP003
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

SIGNALS SYSTEM
YARD DOUBLE LINE TRACK PLAN
SEGMENT 2 OF 7

DRAWING No.: Y03-JSP003
FACILITY ID: Y03
SHEET No.:
REV: 0

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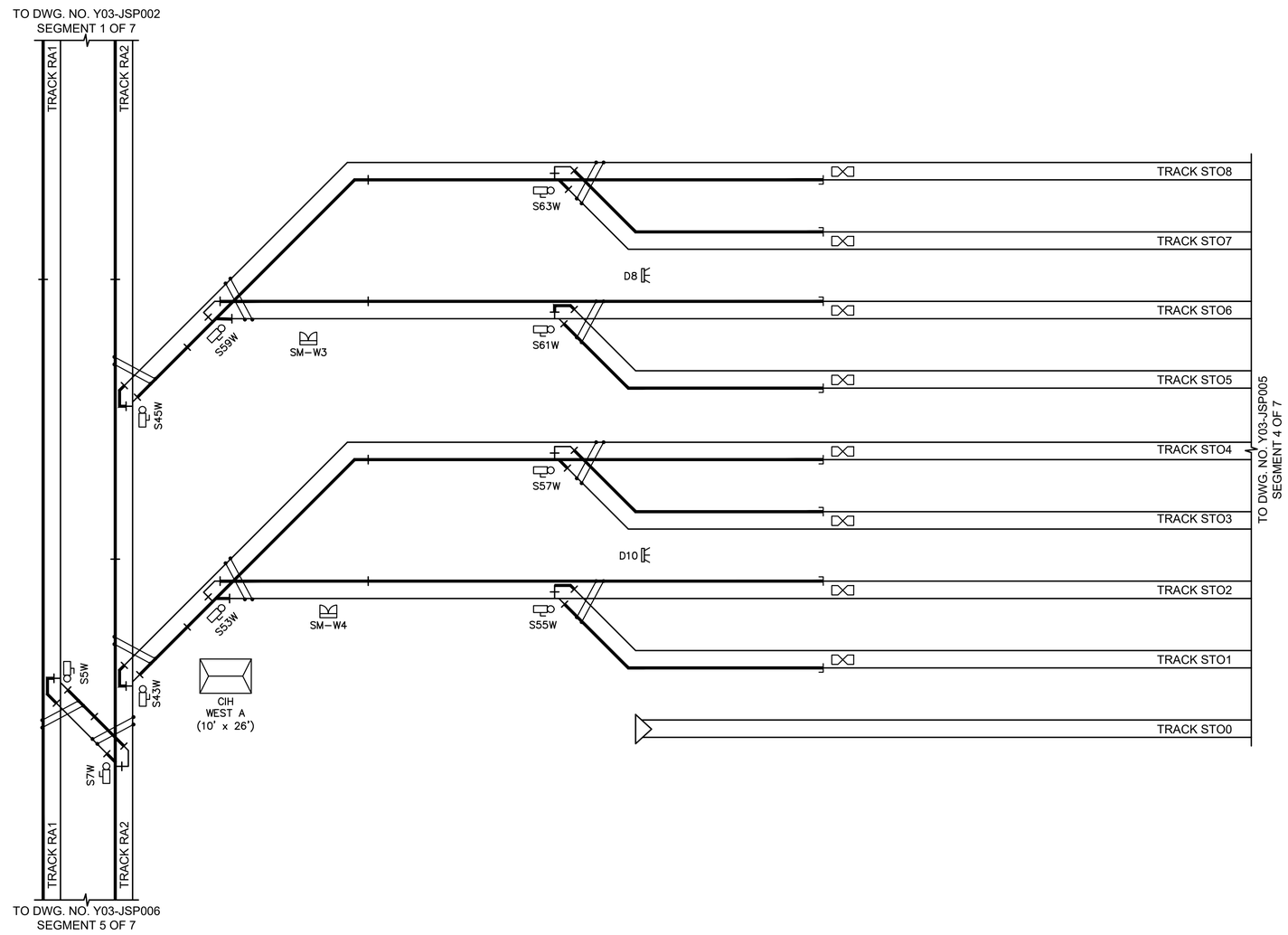

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: S. EDELMAN
DRAWN BY: M. SHEPPARD
CHECKED BY: A. EDELMAN
APPROVED BY: J. CANTWELL

AHJ:

PACKAGE #

PRELIMINARY

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: OMFS-Y03-JSP004
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

SIGNALS SYSTEM
YARD DOUBLE LINE TRACK PLAN
SEGMENT 3 OF 7

DRAWING No.: **Y03-JSP004**
FACILITY ID: Y03
SHEET No.:
REV: 0

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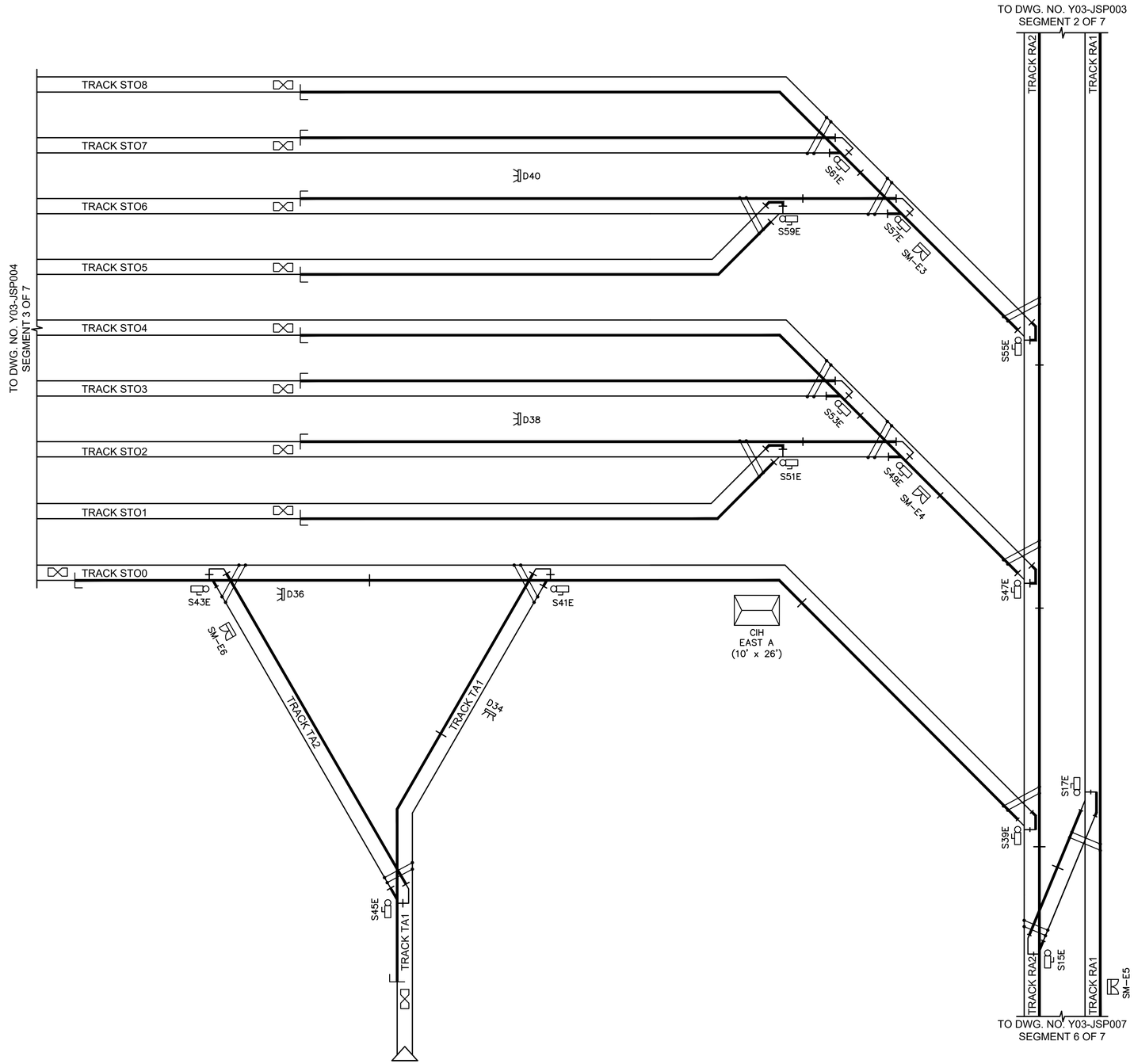

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: S. EDELMAN
DRAWN BY: M. SHEPPARD
CHECKED BY: A. EDELMAN
APPROVED BY: J. CANTWELL

PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: NTS
FILENAME: OMFS-Y03-JSP005
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

SIGNALS SYSTEM
YARD DOUBLE LINE TRACK PLAN
SEGMENT 4 OF 7

DRAWING No.: Y03-JSP005
FACILITY ID: Y03
SHEET No.:
REV: 0

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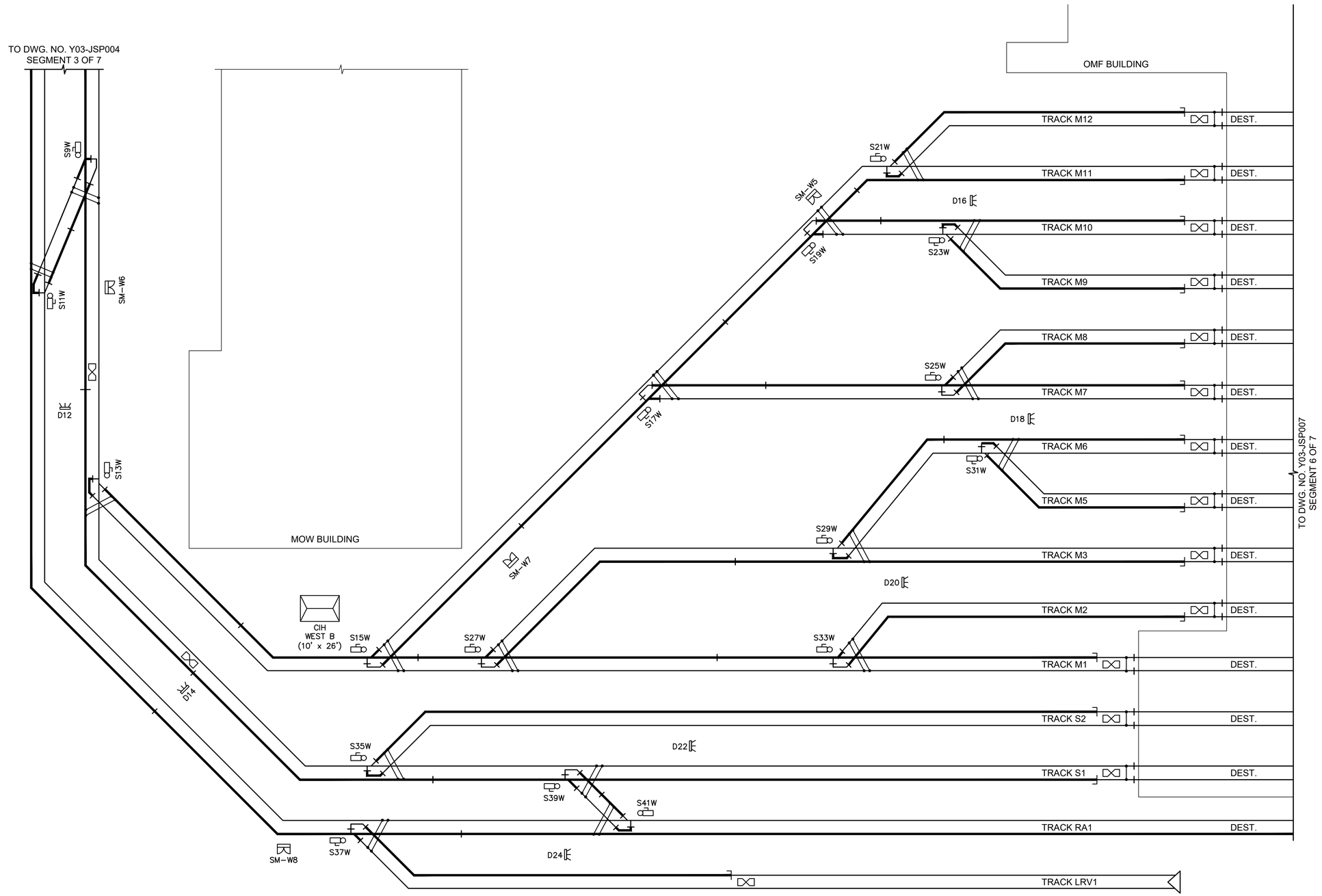

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: S. EDELMAN
DRAWN BY: M. SHEPPARD
CHECKED BY: A. EDELMAN
APPROVED BY: J. CANTWELL

AHJ:

PRELIMINARY

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JSP006
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

SIGNALS SYSTEM
YARD DOUBLE LINE TRACK PLAN
SEGMENT 5 OF 7

DRAWING No.: Y03-JSP006
FACILITY ID: Y03
SHEET No.:
REV: 0

02/23/24 | 11:11 AM | MSHEPPARD
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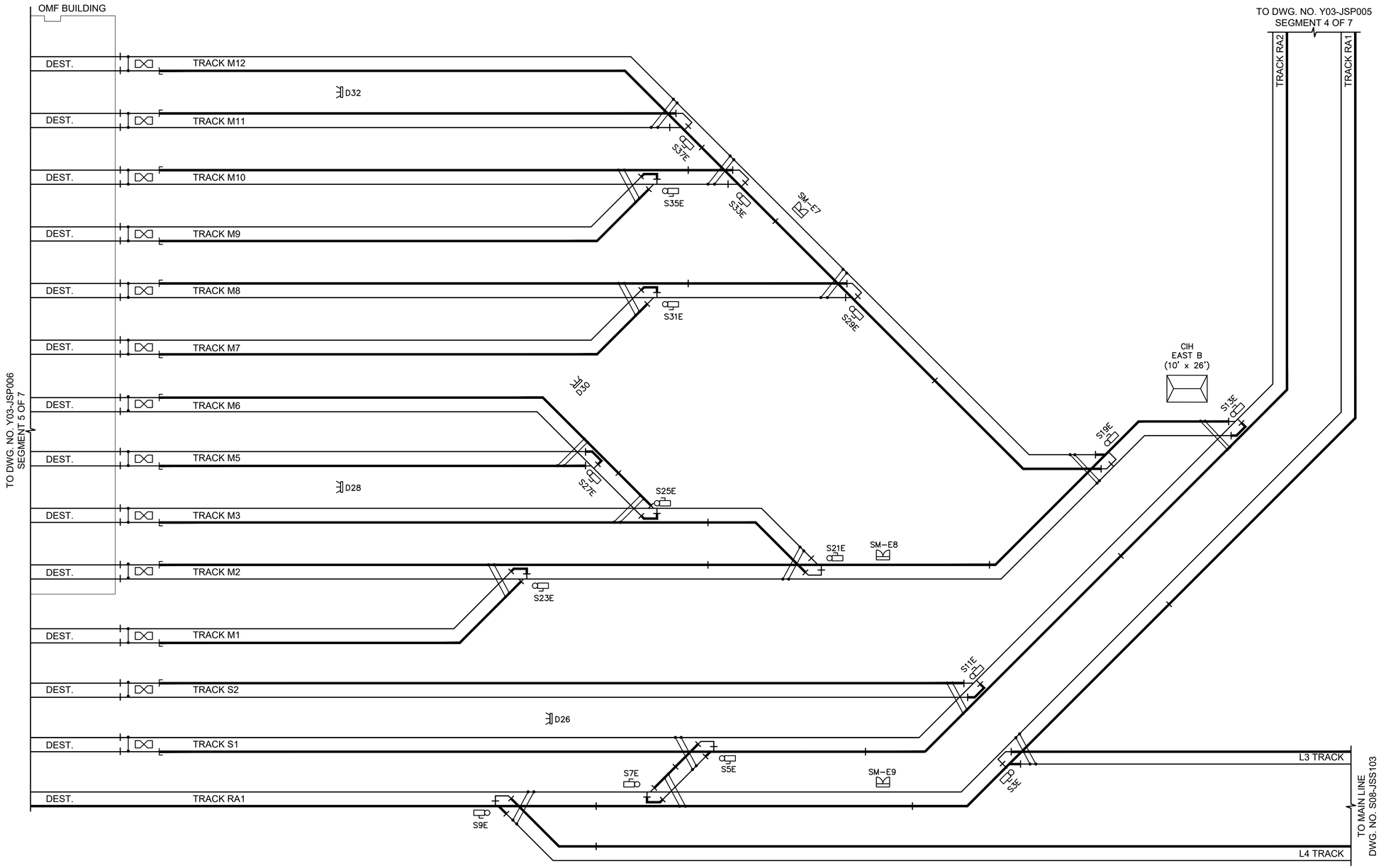

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

AHJ:

PACKAGE #

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: S. EDELMAN
DRAWN BY: M. SHEPPARD
CHECKED BY: A. EDELMAN
APPROVED BY: J. CANTWELL

PRELIMINARY — JAMES WILLIAM CANTWELL — STATE OF WASHINGTON — 27163 — REGISTERED PROFESSIONAL ENGINEER

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

SCALE: NTS
FILENAME: OMFS-Y03-JSP007
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

SIGNALS SYSTEM
YARD DOUBLE LINE TRACK PLAN
SEGMENT 6 OF 7

DRAWING No.: **Y03-JSP007**
FACILITY ID: Y03
SHEET No.:
REV: 0

02/23/24 | 11:11 AM | MSHEPPARD
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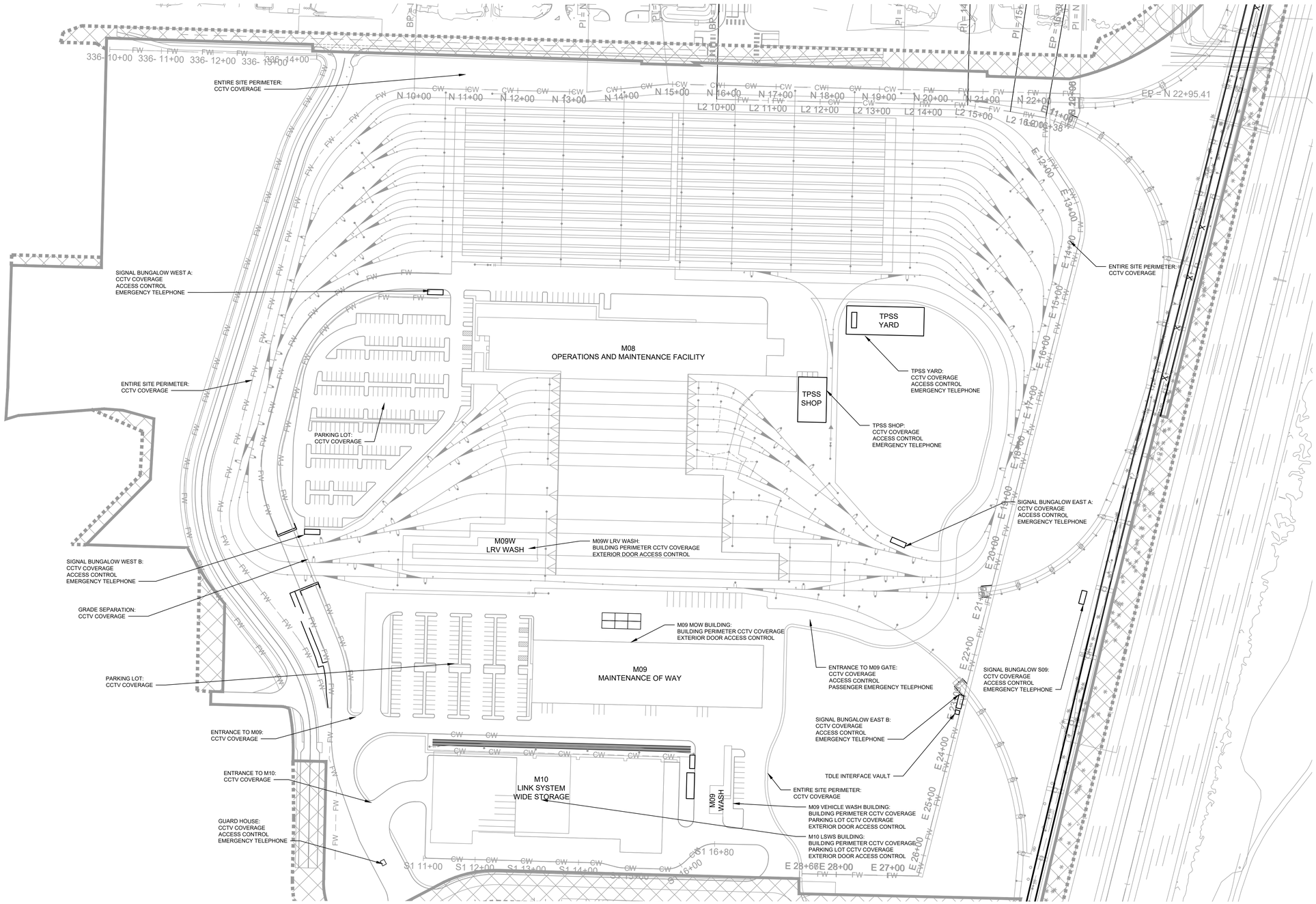

NOTES:

1. FINAL DEVICE LOCATIONS SHALL BE COORDINATED WITH SOUND TRANSIT.
2. PROVIDE WIFI COVERAGE FOR THE ENTIRE YARD.
3. REFER TO STRM 1202.4.2 FOR MINIMUM CCTV PLACEMENT REQUIREMENTS.

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PACKAGE #

JONATHAN A. SCHIMPF — STATE OF WASHINGTON — 47517598 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

SCALE: 1"=100'
FILENAME: OMFS-Y03-JCP000_019
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
OVERALL YARD PLAN

DRAWING No.: Y03-JCP000
FACILITY ID: Y03
SHEET No.:
REV: 0

02/22/24 | 6:14 PM | ZZHANG
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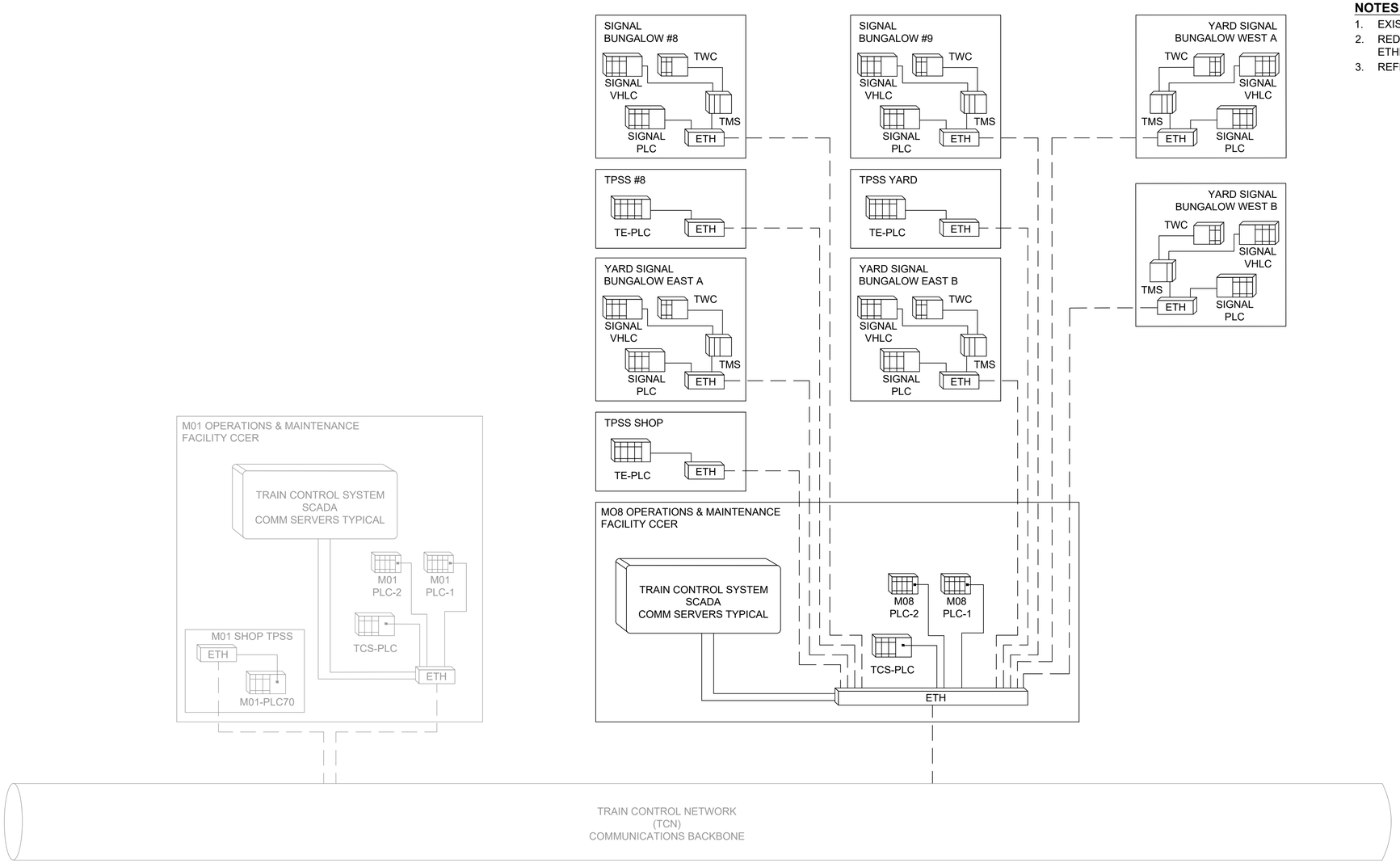

NOTES:

1. EXISTING LOCATIONS SHOWN REPRESENTATIVE ONLY.
2. REDUNDANT BACKHAUL FIBER CONNECTIONS/RING AND ETHERNET SWITCHES NOT SHOWN FOR CLARITY.
3. REFER TO JZN002 AND JZN004 FOR SYMBOLS.

TRAIN CONTROL SYSTEM

SCALE: NTS

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY — JONATHAN A. SCHIMPF, STATE OF WASHINGTON, 37017598, REGISTERED PROFESSIONAL ENGINEER

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 3001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCS001
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
SYSTEM WIDE OVERVIEW DIAGRAM
TRAIN CONTROL SYSTEM

DRAWING No.: Y03-JCS001
FACILITY ID: Y03, M08, S08
SHEET No.:
REV: 0

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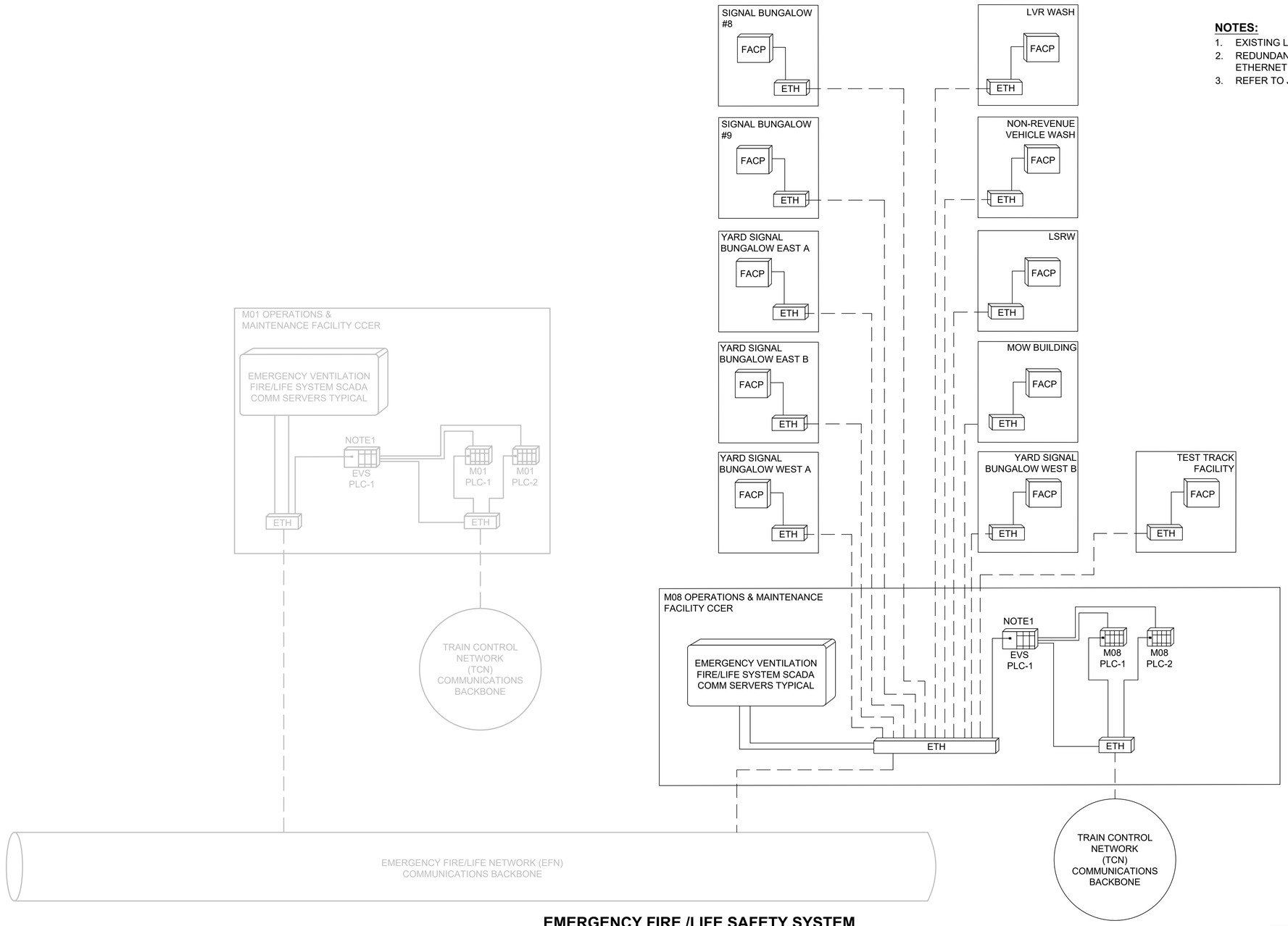

NOTES:

1. EXISTING LOCATIONS SHOWN REPRESENTATIVE ONLY.
2. REDUNDANT BACKHAUL FIBER CONNECTIONS/RING AND ETHERNET SWITCHES NOT SHOWN FOR CLARITY.
3. REFER TO JZN002 AND JZN004 FOR SYMBOLS

EMERGENCY FIRE /LIFE SAFETY SYSTEM

SCALE: NTS

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PACKAGE #

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:
DATE:

SCALE: NTS
FILENAME: OMFS-Y03-JCS002
CONTRACT No.: AE0030-17

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH
COMMUNICATION SYSTEM
SYSTEM WIDE OVERVIEW
EMERGENCY FIRE/LIFE SAFETY SYSTEM

DRAWING No.: Y03-JCS002
FACILITY ID: Y03, M08
SHEET No.:
REV: 0

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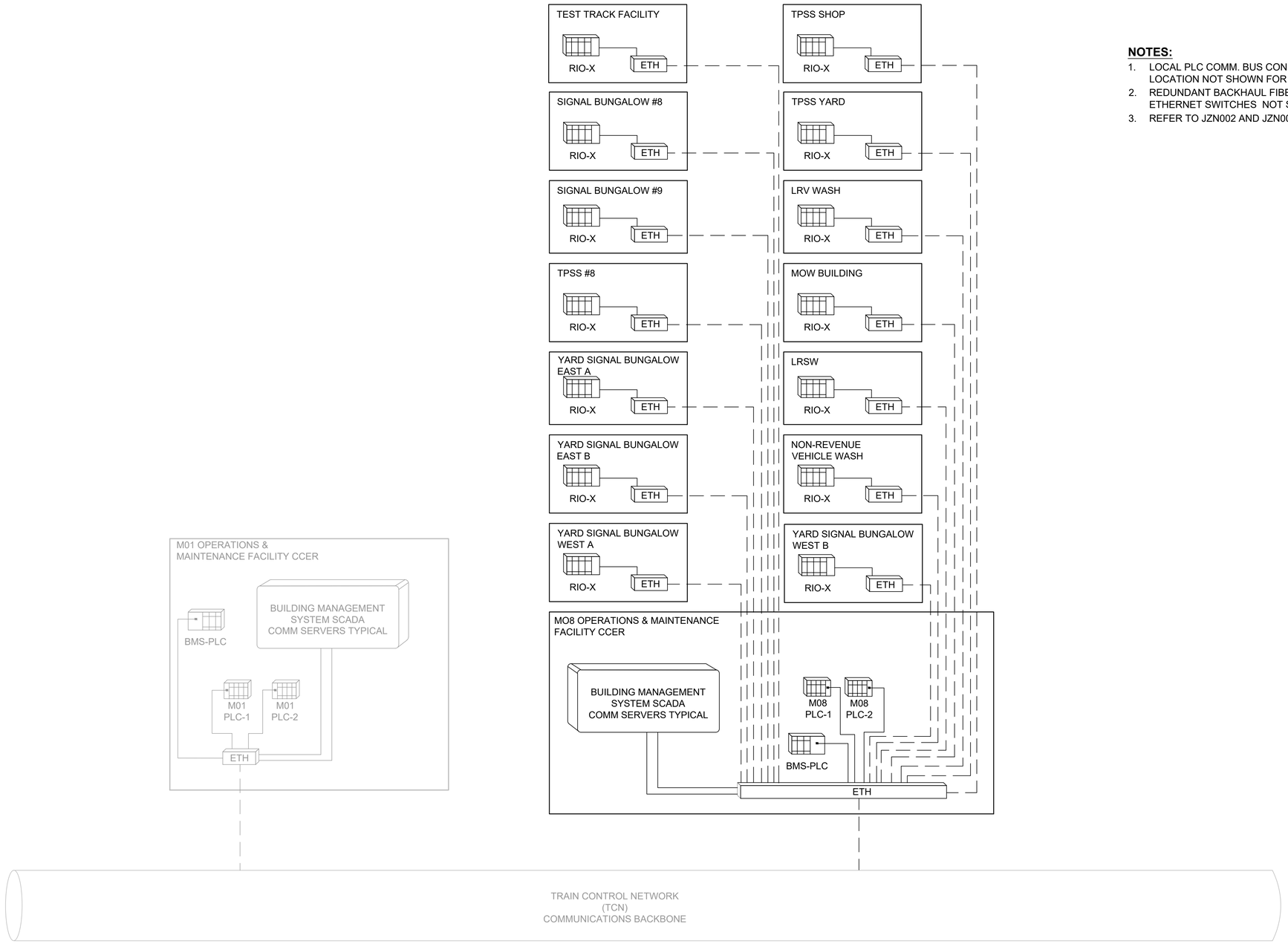

NOTES:

1. LOCAL PLC COMM. BUS CONNECTIONS TO REMOTE I/O AT EACH LOCATION NOT SHOWN FOR CLARITY.
2. REDUNDANT BACKHAUL FIBER CONNECTIONS/RING AND ETHERNET SWITCHES NOT SHOWN FOR CLARITY.
3. REFER TO JZN002 AND JZN004 FOR SYMBOLS

BUILDING MANAGEMENT SYSTEM

SCALE: NTS

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCS003
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
SYSTEM WIDE OVERVIEW DIAGRAM
BUILDING MANAGEMENT SYSTEM

DRAWING No.: **Y03-JCS003**
FACILITY ID: Y03, M08, S08
SHEET No.:
REV: 0

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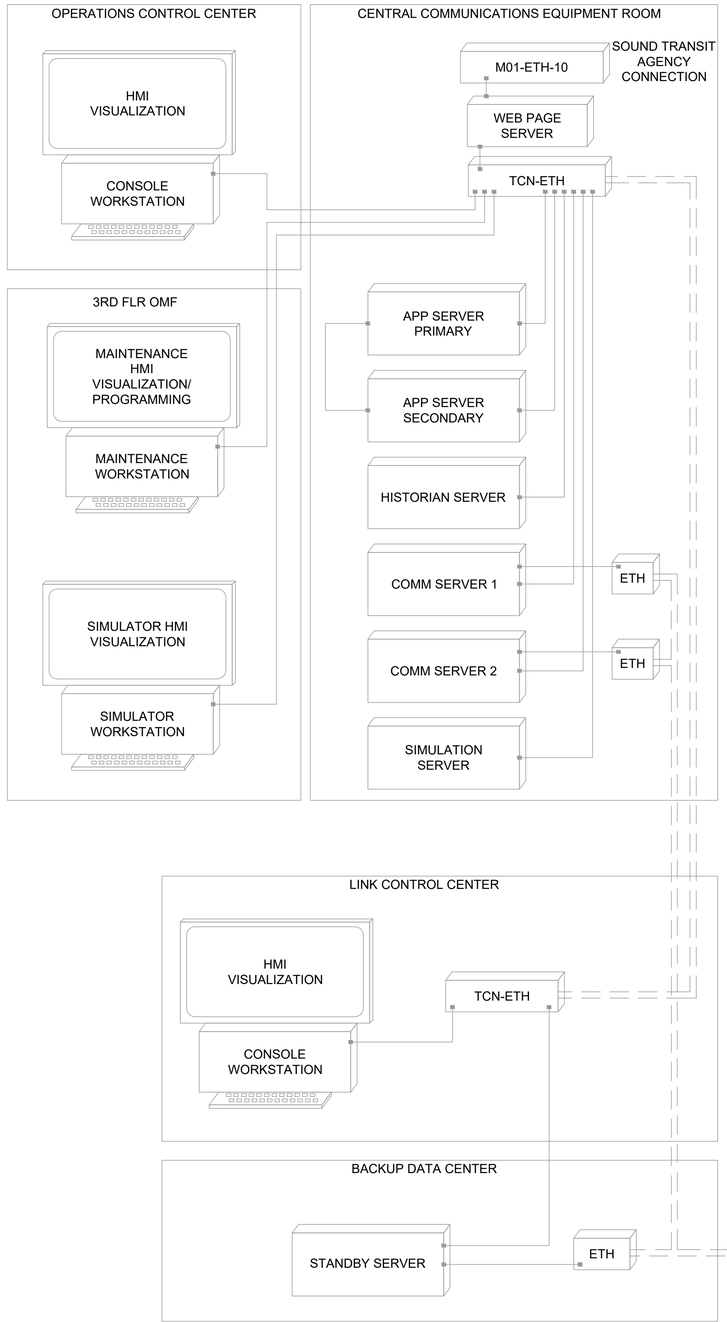
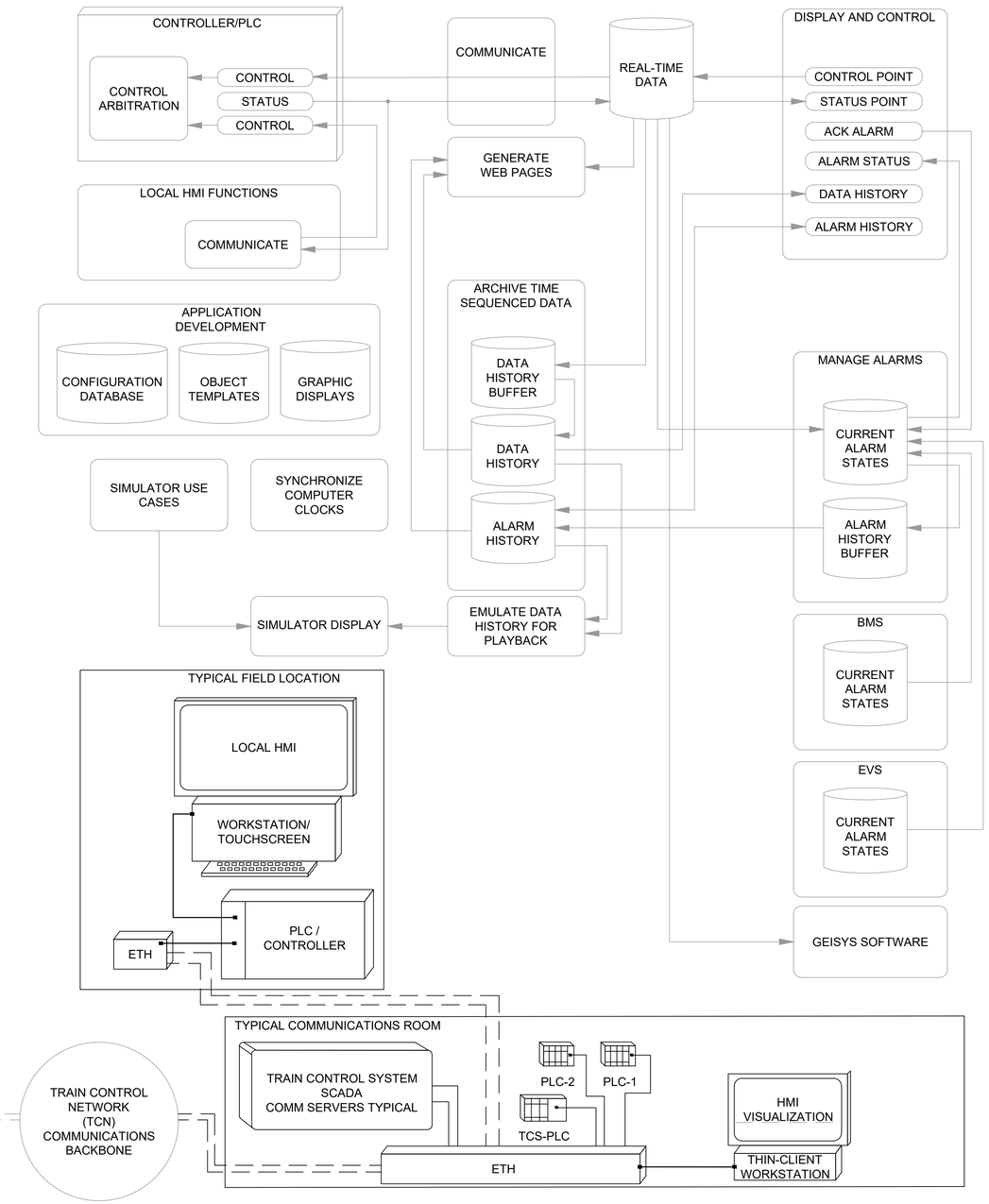
HARDWARE BLOCK DIAGRAM

NOTE 1



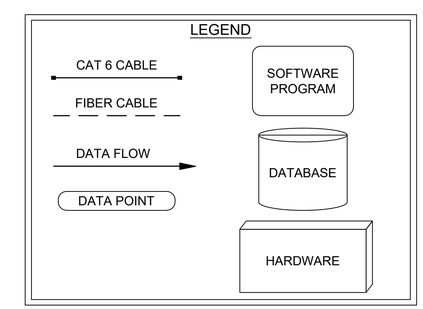
SOFTWARE BLOCK DIAGRAM

NOTE 2



NOTES:

1. HARDWARE BLOCK DIAGRAM IS TYPICAL FOR TCS.
2. SOFTWARE BLOCK DIAGRAM REPRESENTS MAJOR HMI FUNCTIONS.



PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

TCS HARDWARE / SOFTWARE BLOCK DIAGRAM

SCALE: NTS

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT
DATE:

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCS004
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
TCS HARDWARE/SOFTWARE
BLOCK DIAGRAM

DRAWING No.: Y03-JCS004
FACILITY ID: Y03, M08, S08
SHEET No.:
REV: 0

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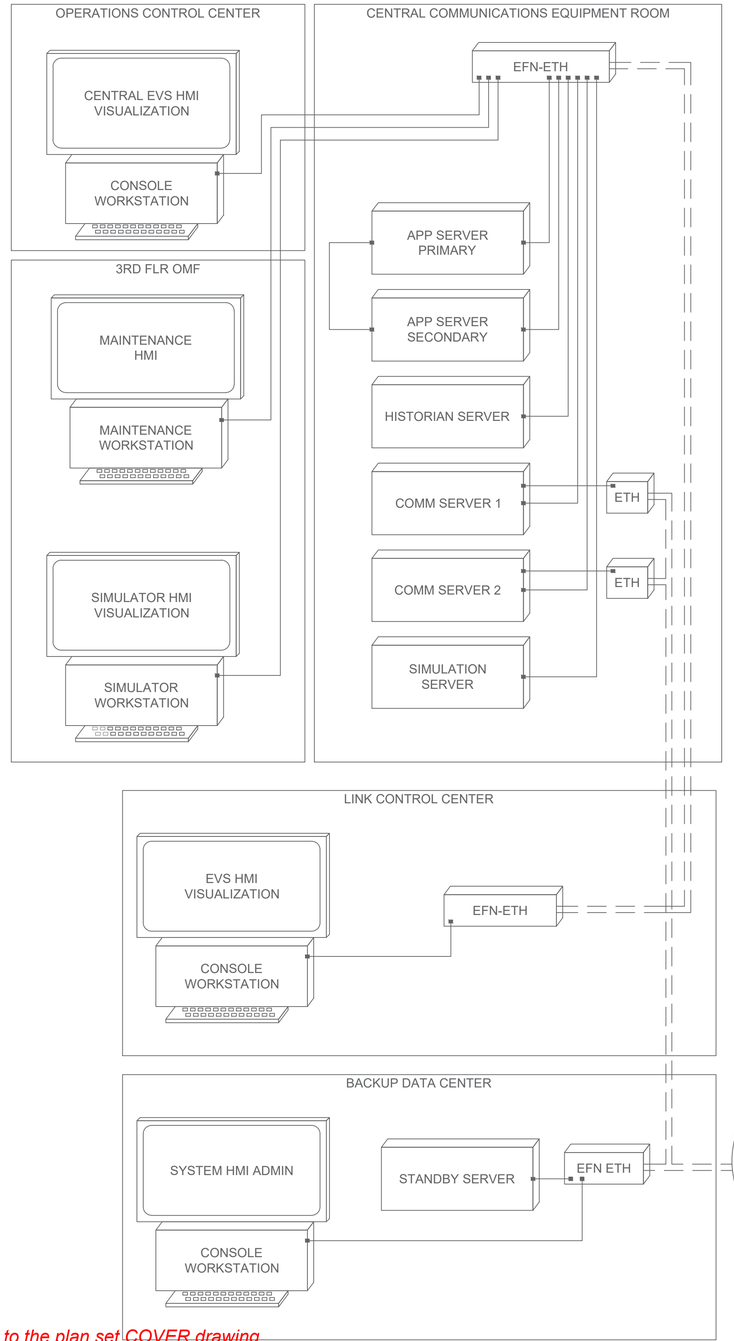
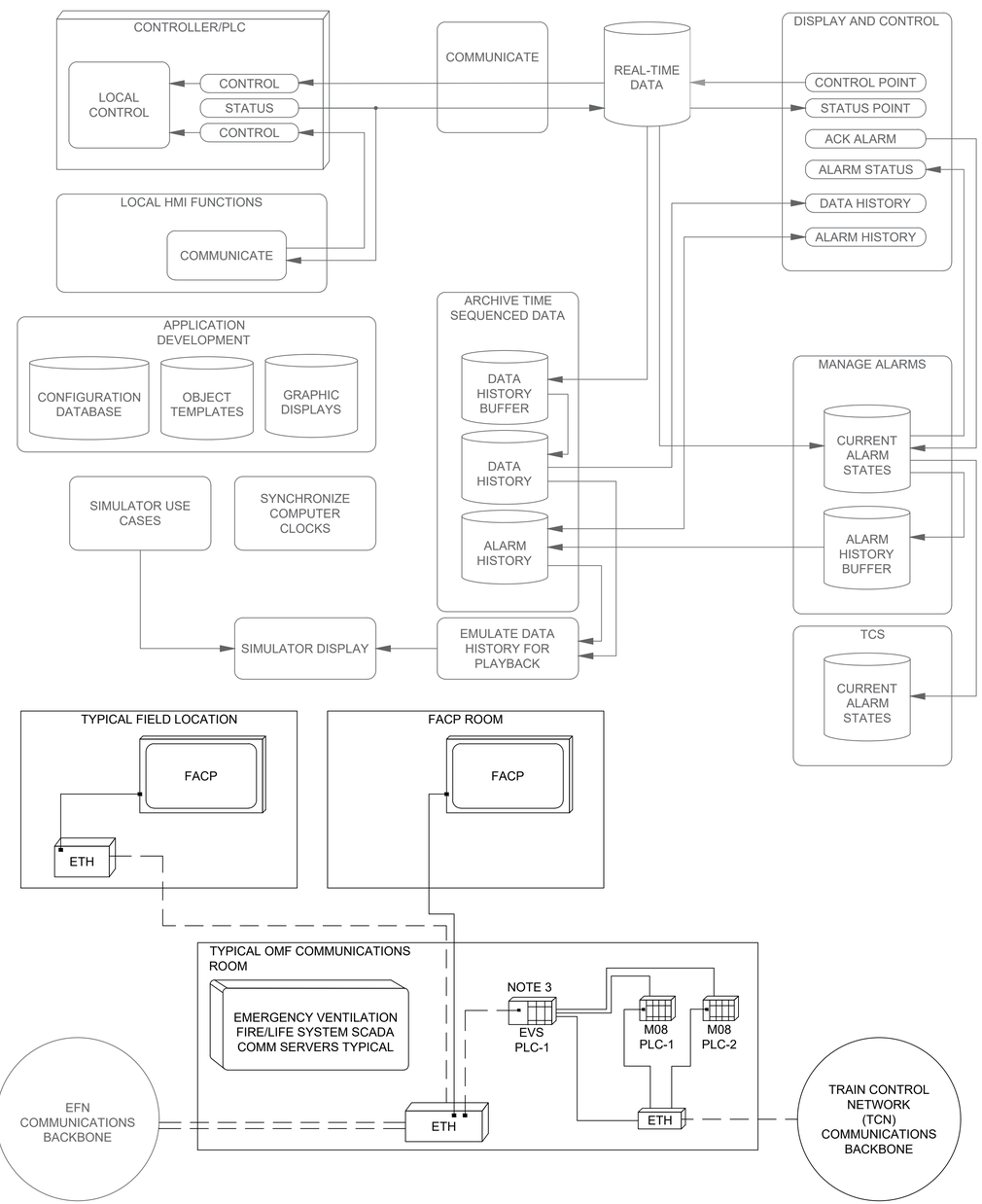
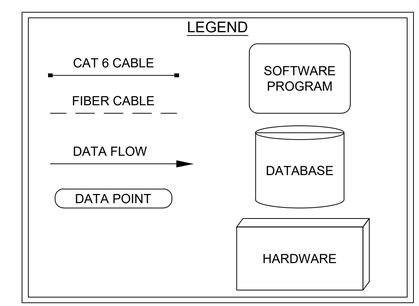
HARDWARE BLOCK DIAGRAM
NOTE 1



SOFTWARE BLOCK DIAGRAM
NOTE 2



NOTES:
1. HARDWARE BLOCK DIAGRAM IS TYPICAL FOR EVS.
2. SOFTWARE BLOCK DIAGRAM REPRESENTS MAJOR HMI FUNCTIONS.
3. EVS PLC REPRESENTS REDUNDANT PAIR.



EVS HARDWARE / SOFTWARE BLOCK DIAGRAM
SCALE: NTS

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PACKAGE #

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

SCALE: NTS
FILENAME: OMFS-Y03-JCS005
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
EVS HARDWARE/SOFTWARE
BLOCK DIAGRAM

DRAWING No.: Y03-JCS005
FACILITY ID: Y03, M08, S08
SHEET No.:
REV: 0

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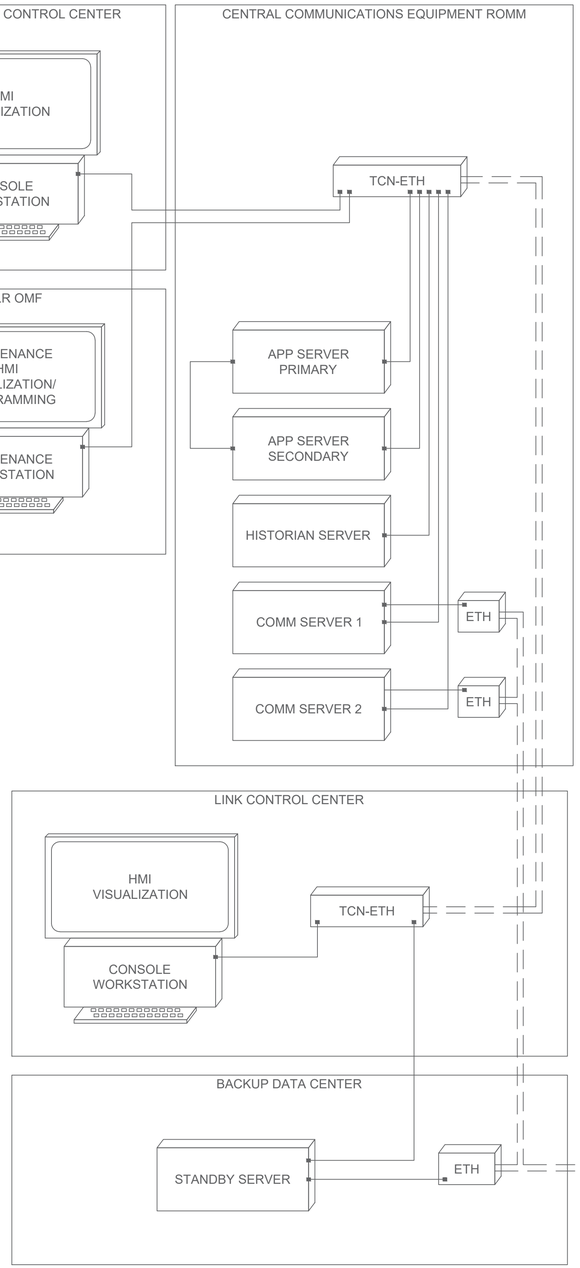
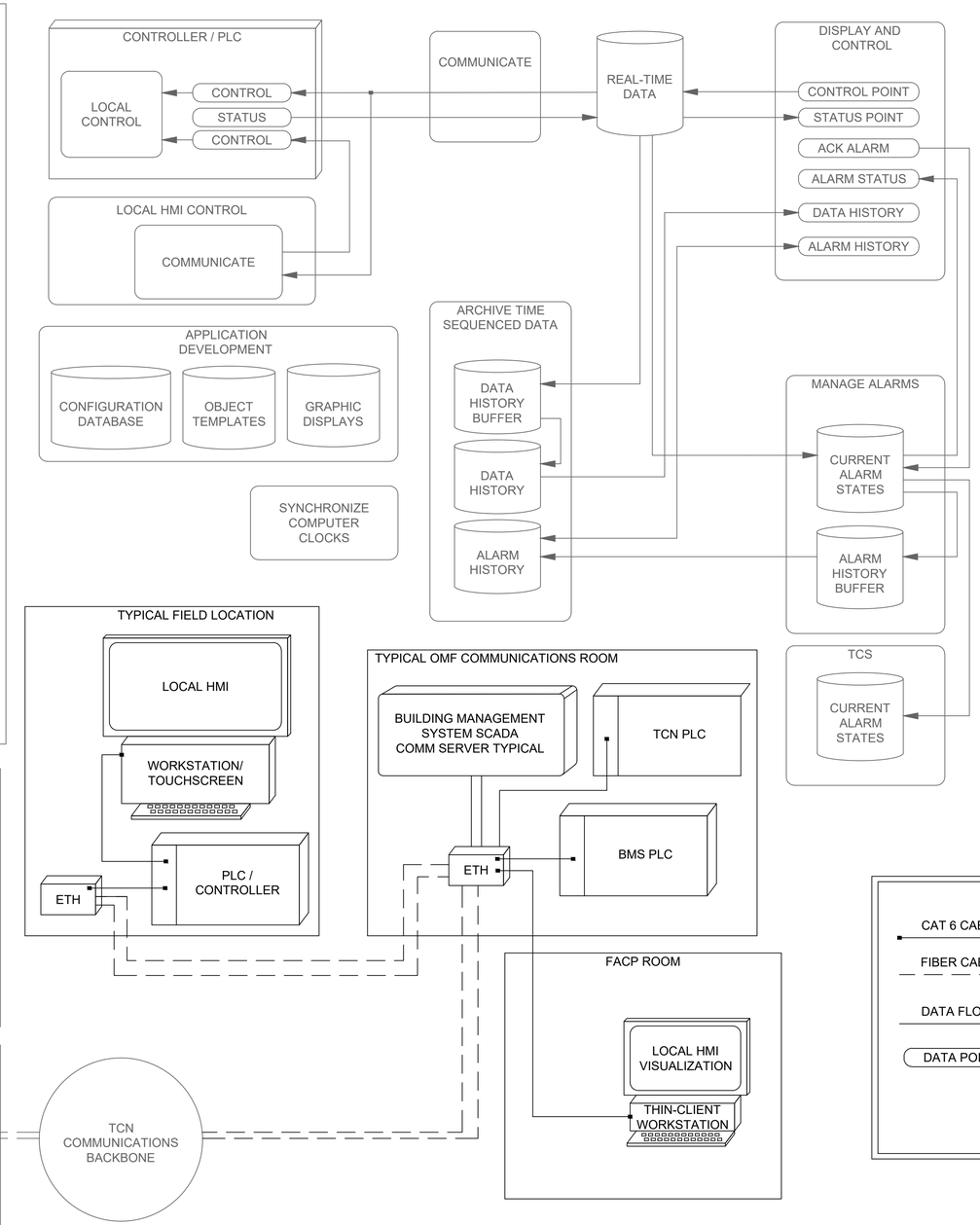
SIMPLIFIED HARDWARE BLOCK DIAGRAM

NOTE 1



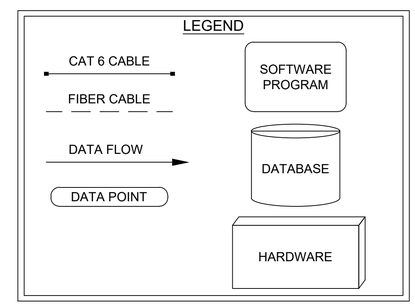
SOFTWARE BLOCK DIAGRAM

NOTE 2



NOTES:

1. HARDWARE BLOCK DIAGRAM IS TYPICAL FOR BMS.
2. SOFTWARE BLOCK DIAGRAM REPRESENTS MAJOR HMI FUNCTIONS.
3. CONTRACTOR SHALL MODIFY HARDWARE AND SOFTWARE TO INCORPORATE TDLE OMFS. NO NEW HARDWARE REQUIRED AT LCC OR OMF.



PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

BMS SOFTWARE BLOCK DIAGRAM

SCALE: NTS

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PACKAGE #

PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 3001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: NTS
FILENAME: OMFS-Y03-JCS006
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
BMS HARDWARE/SOFTWARE BLOCK DIAGRAM
BLOCK DIAGRAM

DRAWING No.: Y03-JCS006
FACILITY ID: Y03, M08, S08
SHEET No.:
REV: 0

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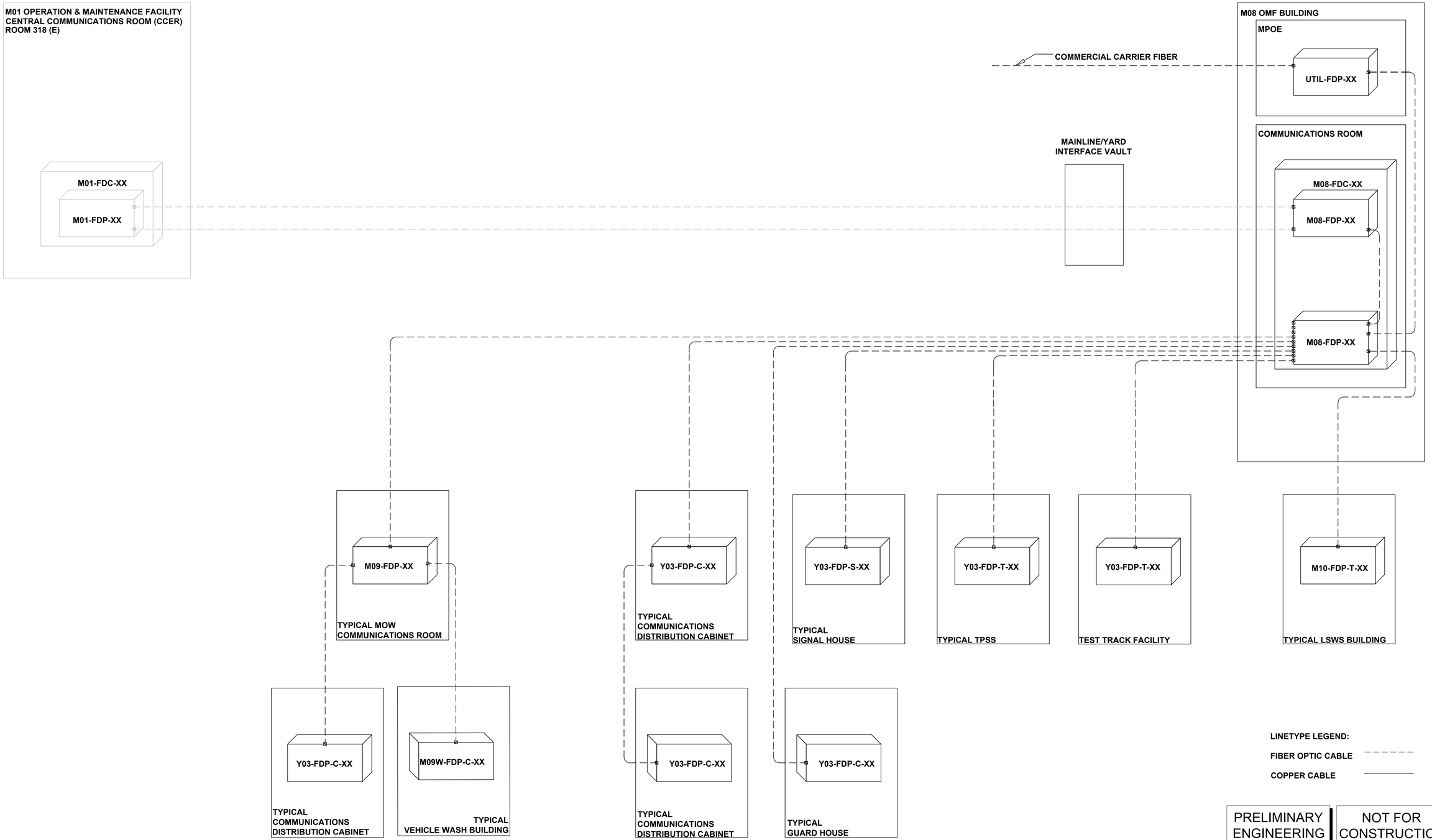

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: M. STAHLEY
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY — JONATHAN A. STAHLEY, STATE OF WASHINGTON, 23517598, REGISTERED PROFESSIONAL ENGINEER

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCS007
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
SYSTEM COMMUNICATIONS FIBER
NETWORK TOPOLOGY DIAGRAM

DRAWING No.: Y03-JCS007
FACILITY ID: Y03, M08
SHEET No.:
REV: 0

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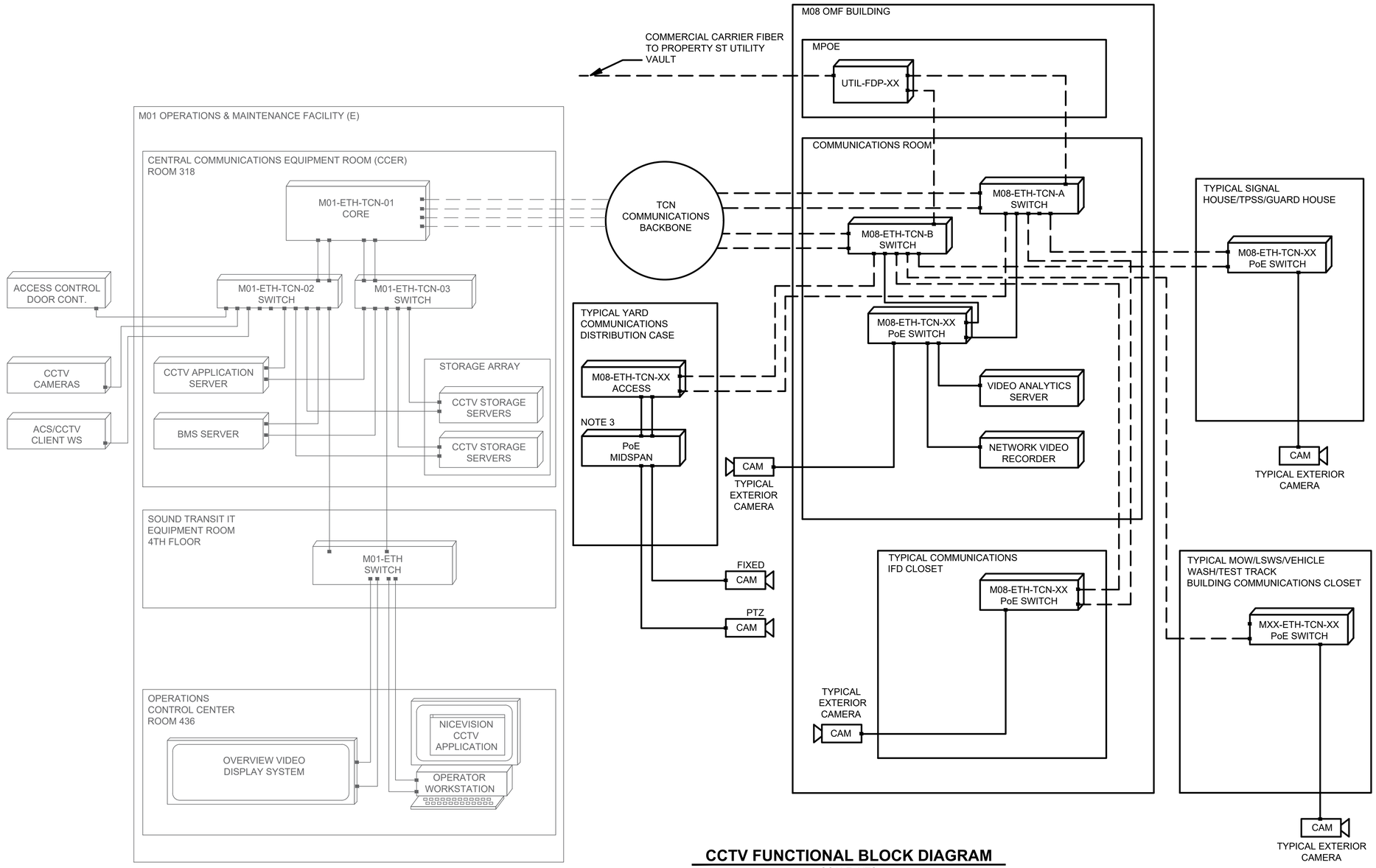

CCTV FUNCTIONAL BLOCK DIAGRAM

SCALE: NTS

NOTES:

1. CONNECT TO EXISTING TCN BACKBONE IN COMMUNICATIONS ROOM. REVIEW AND CONFIRM SOFTWARE APPLICATIONS AND VERSIONS WITH ST.
2. TYPICAL CAMERA SHOWN REPRESENTS FIXED OR PAN-TILT-ZOOM IP CAMERAS.
3. SEE JCD604 FOR COMMUNICATIONS DEVICES POWER ISOLATION ARCHITECTURE.
4. MIDSPAN POWER INJECTOR MUST SUPPLY SUFFICIENT POWER PER PORT TO ACCOMMODATE ALL ATTACHED IP CAMERAS, INCLUDING PTZ AND HEATER FUNCTIONALITY.
5. CONNECT TO EXISTING OMF HEADEND QOGNIFY/NICE VISION CCTV APPLICATION AND STORAGE SYSTEM. PROVIDE ADDITIONAL SOFTWARE LICENSES TO EXPAND QOGNIFY/NICE VISION APPLICATION. IT TO PROVIDE SOUND TRANSIT BACKUP CCTV STORAGE SYSTEM AT BACKUP DATA CENTER. ADD ADDITIONAL STORAGE EQUAL TO AMOUNT REQUIRED FOR FUTURE EXTENSION PLUS 25% SPARE.
6. CONTRACTOR SHALL INSTALL NETWORK SWITCH EQUIPMENT PROVIDED AND CONFIGURED BY SOUND TRANSIT IT DEPT.
7. FIBER DISTRIBUTION PANELS NOT SHOWN FOR CLARITY.
8. CCTV AND BMS INTERFACE PROVIDES CAMERA SELECTION, VIEWING AND CONTROL.
9. ICC - INTEGRATED COMMUNICATIONS CONSOLE DESKS HAVE CCTV VIEWING (10 DESKS AT 3 FACILITIES). OPTIONAL CCTV VIEWER MAY BE ADDED TO SECURITY PERSONNEL ROOM AT END OF LINE STATIONS.
10. CCTV SYSTEM WEB SERVER MAY HAVE LIMITED CONTACT WITH 3RD PARTY, TO ALLOW VIEW CAPABILITIES, BASED ON AGREEMENTS WITH ST. WHEN APPLICABLE, COORDINATE FIREWALL SETTINGS WITH ST-IT.
11. PLASTIC (NON-CONDUCTIVE) CASED CAMERA THAT HAS NO CONDUCTIVE SAFETY GROUND MAY BE POWERED BY NON-ISOLATED POE, AS PER DRAWING JCD604 "COMMUNICATION DEVICES POWER ISOLATION ARCHITECTURE: INJECTOR POE, DC SUPPLY, AND CAT6 SHIELD GROUNDING CABLES"
12. QOGNIFY/NICE VISION CCTV APPLICATION SERVER AND BMS DESKTOP, LOCATED AT SCADA ROOM. OVERVIEW VIDEO AND DESKTOP BMS LOCATED AT OCC AND BACKUP-OCC.
13. REFER TO SHEET JZN002 FOR SYMBOLS AND ABBREVIATIONS.

LINETYPE LEGEND:

FIBER OPTIC CABLE – – – – – –

COPPER CABLE ————

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PACKAGE #

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

Burns — BURNS ENGINEERING, INC. | 215 979-7700, TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600, PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SCALE: NTS
FILENAME: OMFS-Y03-JCS008
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
TYPICAL CCTV FUNCATIONAL
BLOCK DIAGRAM

DRAWING No.: Y03-JCS008
FACILITY ID: Y03, M08
SHEET No.:
REV: 0

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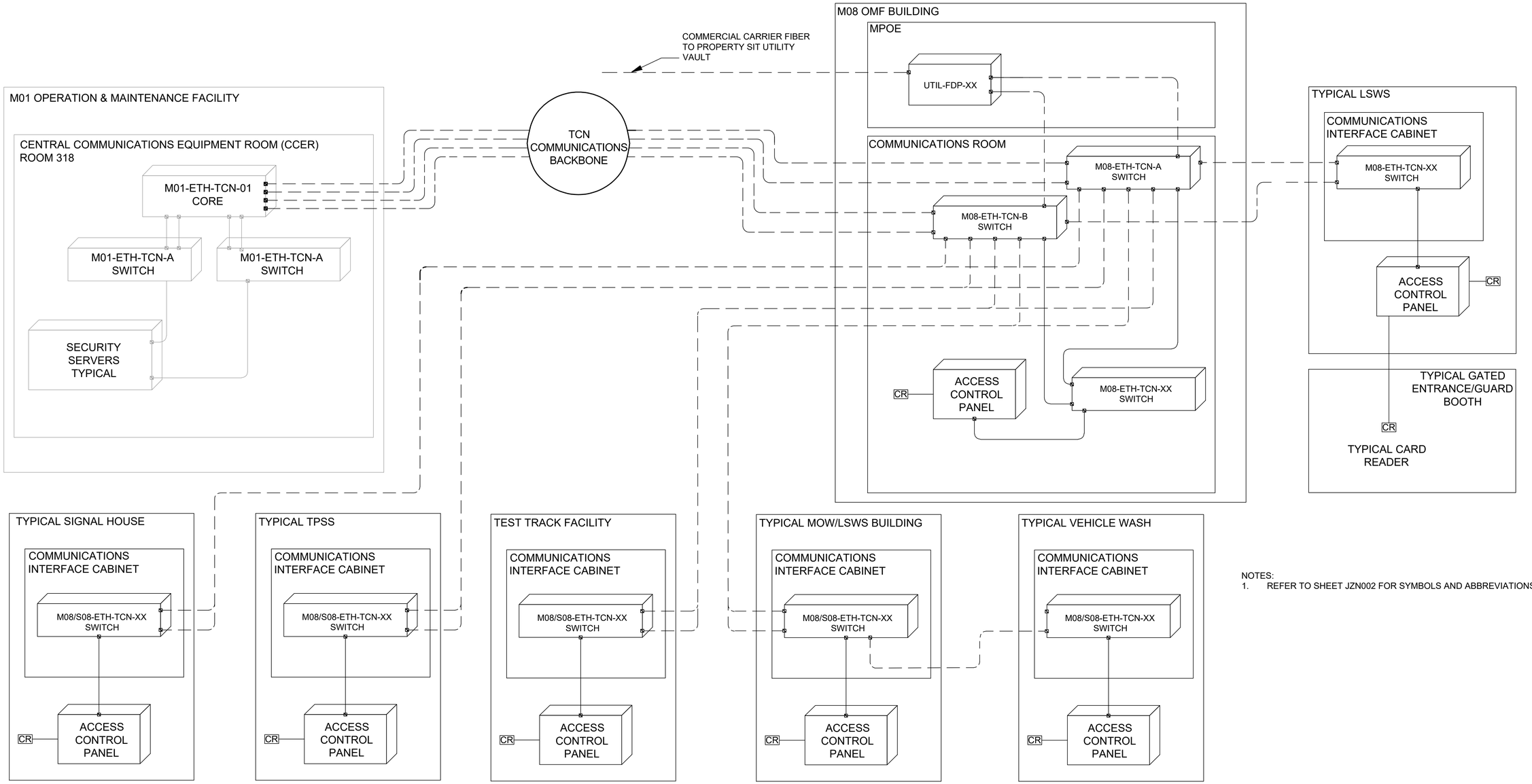

NOTES:
1. REFER TO SHEET JZN002 FOR SYMBOLS AND ABBREVIATIONS

LINETYPE LEGEND:

FIBER OPTIC CABLE - - - - - -

COPPER CABLE ————

ACCESS CONTROL BLOCK DIAGRAM

SCALE: NTS

PRELIMINARY ENGINEERING | NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

PACKAGE #
SCALE: NTS
FILENAME: OMFS-Y03-JCS009
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH
COMMUNICATION SYSTEM
ACCESS CONTROL SYSTEMS

DRAWING No.: **Y03-JCS009**
FACILITY ID: Y03, M08, S08
SHEET No.:
REV: 0

02/22/24 | 6:42 PM | ZZHANG
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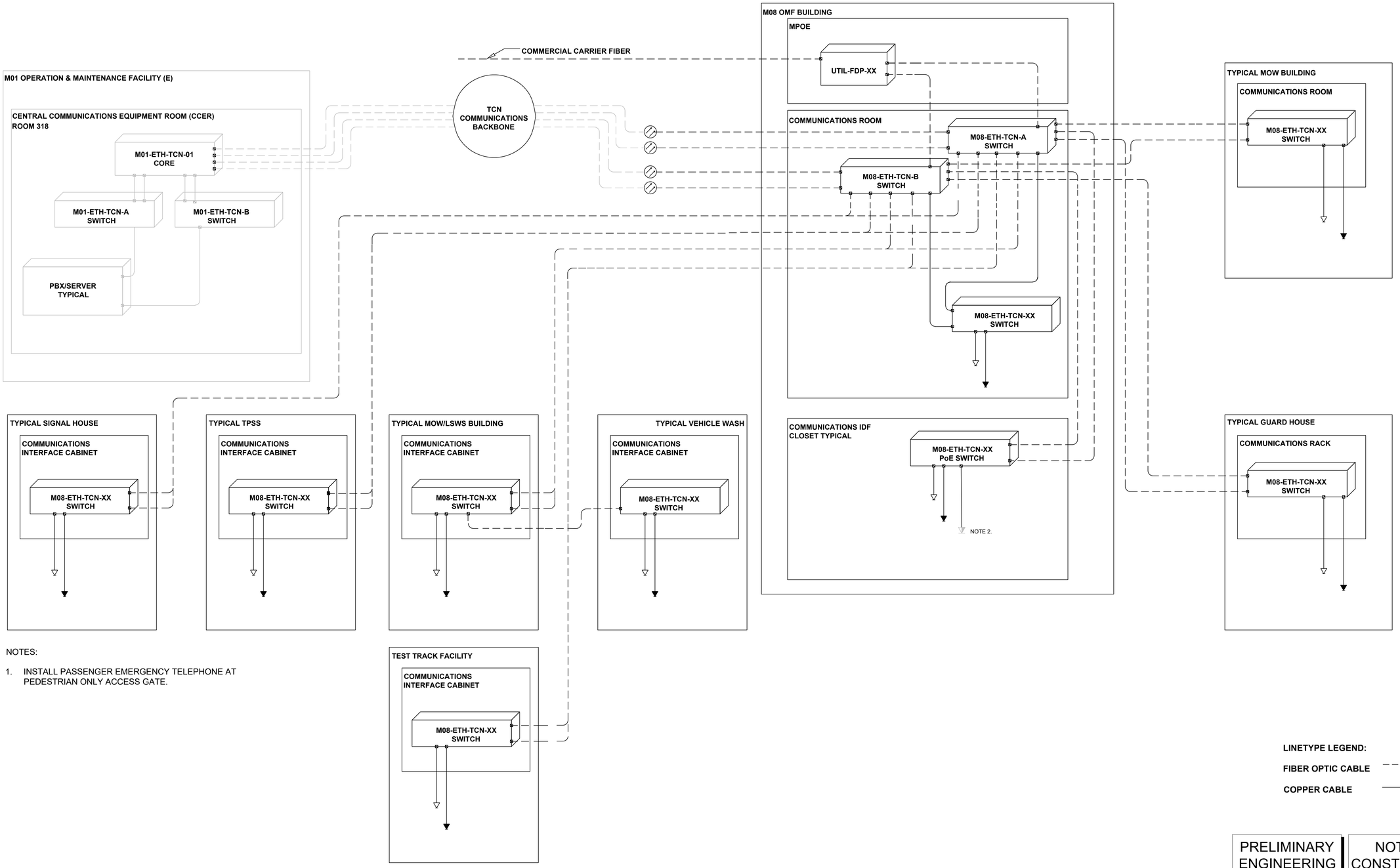

NOTES:

1. INSTALL PASSENGER EMERGENCY TELEPHONE AT PEDESTRIAN ONLY ACCESS GATE.

LINETYPE LEGEND:

FIBER OPTIC CABLE

COPPER CABLE

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCS010
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
TYPICAL TELECOM SYSTEMS
BLOCK DIAGRAM

DRAWING No.: Y03-JCS010
FACILITY ID: Y03, M08, S08
SHEET No.:
REV: 0

02/22/24 | 6:51 PM | ZZHANG
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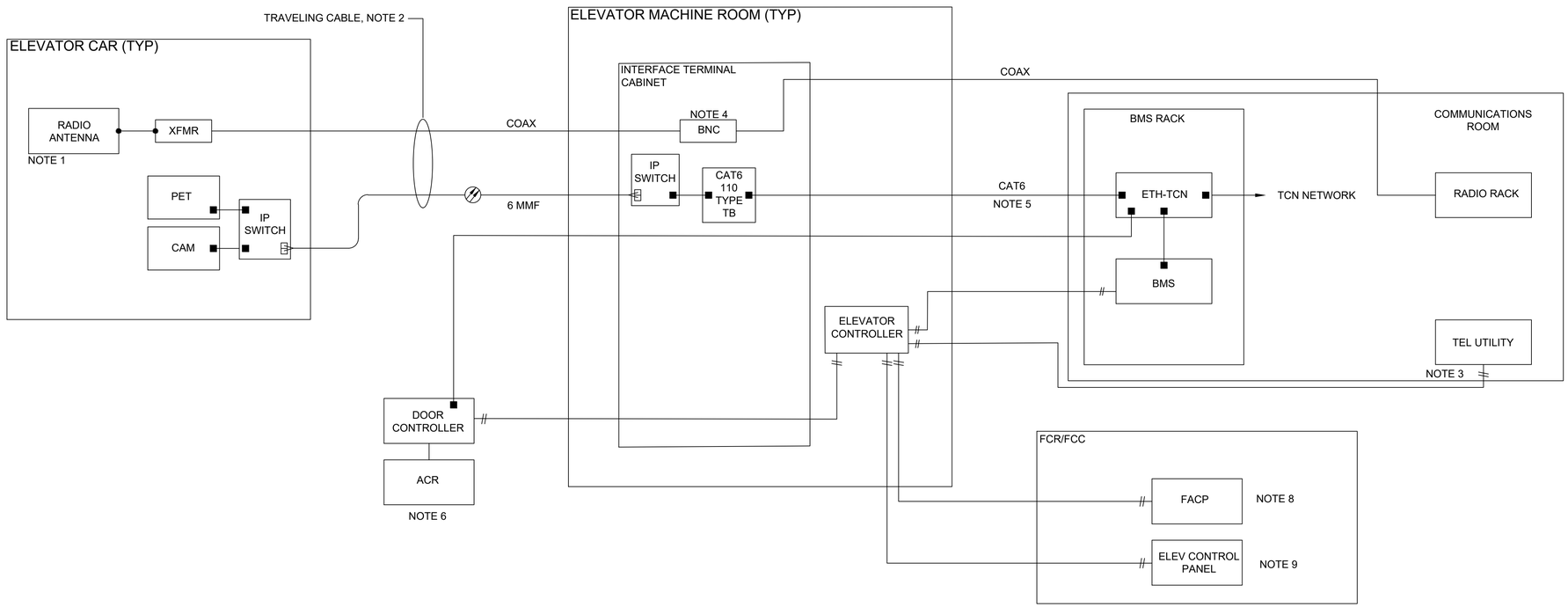

NOTES:

1. COORDINATE MOUNTING METHODS FOR ANTENNA WITH CIVIL DESIGNER.
2. TERMINATE EACH CABLE ON A TERMINATION RATED FOR THE INTENDED USE.
3. DESIGN FOR ANY TEMPORARY REQUIREMENTS NEEDED FOR CONSTRUCTION PHASING USING A UTILITY CONNECTION AS NECESSARY. FINAL CONFIGURATION SHALL ALLOW THIRD PARTY MAINTENANCE MONITORING.
4. RADIO BNC TERMINATION.
5. CAT6 OR FIBER, AS REQUIRED BASED ON DISTANCE, FROM THE COMMUNICATIONS ROOM TO THE ELEVATOR MACHINE ROOM AND PROVIDE TRANSPORT VIA THE TCN TO ALL COMMUNICATION DEVICES SHOWN IN THE ELEVATOR.
6. ACCESS CONTROL CARD READER LOCATION(S) TO BE DETERMINED BASED ON STATION CONFIGURATION. ACCESS CONTROL CARD READER LOCATED AT EACH ENTRY TO ELEVATOR. READER SHALL ALLOW ENTRY TO CAB DURING NON-REVENUE HOURS. SHALL ALSO ALLOW FOR ACCESS TO SECURED FLOORS. ELEVATOR SHALL HAVE BMS REMOTE PERMISSION TO ACCESS ELEVATOR CAB AND SECURED FLOORS.
7. RECALL FUNCTIONALITY AS REQUIRED BY CODE. TYPICAL RECALL TRIGGER BY HEAT OR SMOKE IN ELEVATOR SHAFT, HEAT IN LOBBY OR SMOKE IN ELEVATOR MACH ROOM.
8. AS REQUIRED BY AUTHORITY HAVING JURISDICTION (AHJ).
9. COORDINATE WITH ST, AHJ AND ARCHITECTURE TO IDENTIFY ADDITIONAL REQUIREMENTS SUCH AS A FIRE DEPARTMENT RADIO INPUT JACK.
10. REFER TO JZN002 AND JZN004 FOR SYMBOLS AND ABBREVIATIONS.

ELEVATOR INTERFACING BLOCK DIAGRAM

SCALE: NTS

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCS011
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
TYPICAL ELEVATOR INTERFACING
BLOCK DIAGRAM

DRAWING No.: Y03-JCS011
FACILITY ID: Y03, M08
SHEET No.:
REV: 0

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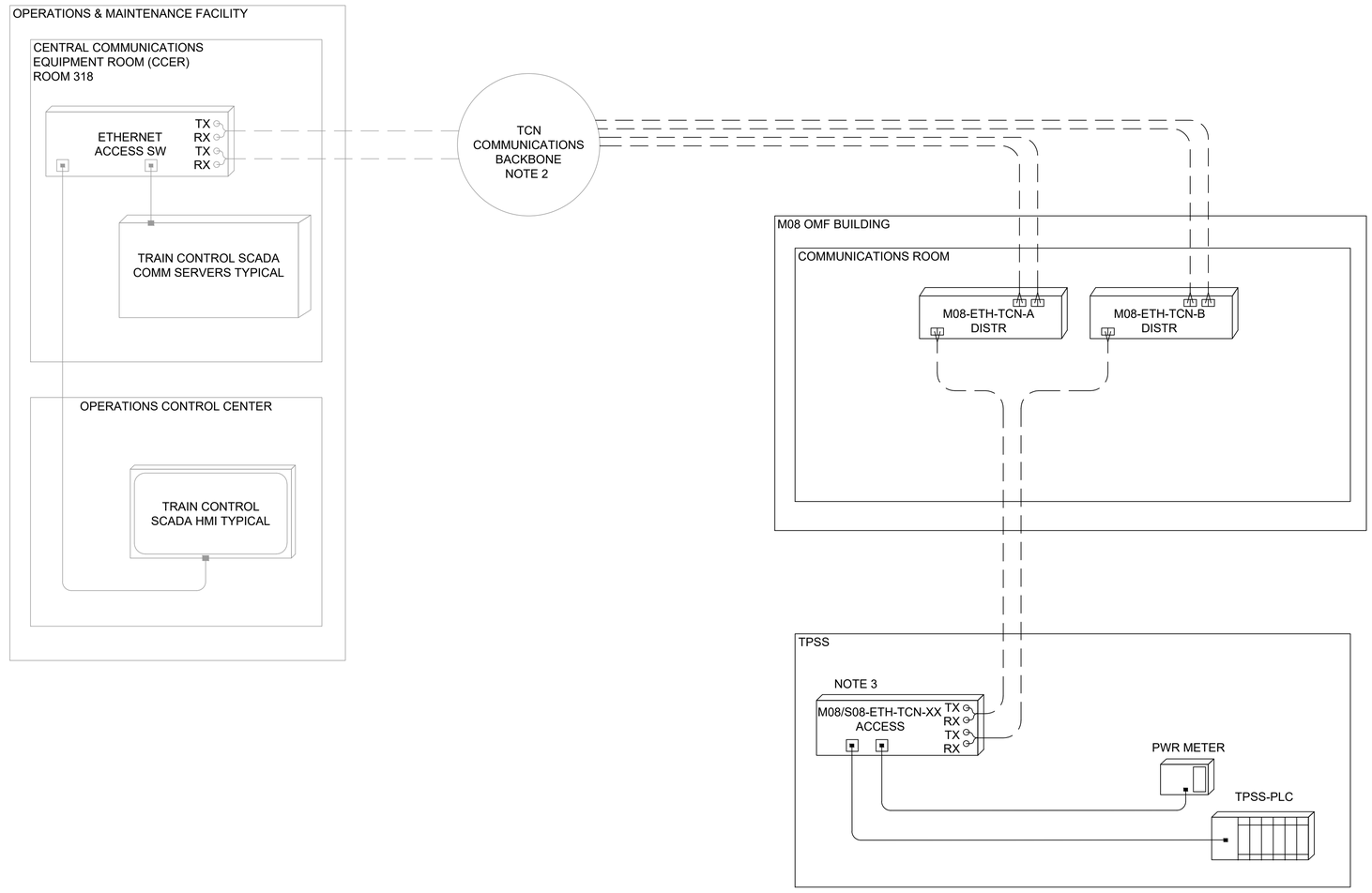
NOTES:

1. PROVIDE CAT6 PATCH PANEL, CAT6 PATCH CORD INTERCONNECTION, FIBER DISTRIBUTION PANEL, AND FIBER CABLE.
2. CONNECT TCN EXPANSION TO EXISTING TCN BACKBONE.
3. PROVIDE ACCESS SWITCHES SIZED TO ACCOMMODATE IP DEVICES. SWITCH CONFIGURATION PROVIDED BY SOUND TRANSIT IT DEPT.
4. FIBER PATCH PANELS NOT SHOWN FOR CLARITY.



TPSS TCS SCADA INTERFACE BLOCK DIAGRAM

SCALE: NTS

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY — JONATHAN A. SCHIMPF, STATE OF WASHINGTON, 23017598, REGISTERED PROFESSIONAL ENGINEER

HDR

Burns — BURNS ENGINEERING, INC. | 215 979-7700, TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600, PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCS012
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
TYPICAL TPSS TCS SCADA INTERFACE
BLOCK DIAGRAM

DRAWING No.: Y03-JCS012
FACILITY ID: Y03, S08
SHEET No.:
REV: 0

02/22/24 | 8:07 PM | ZZHANG
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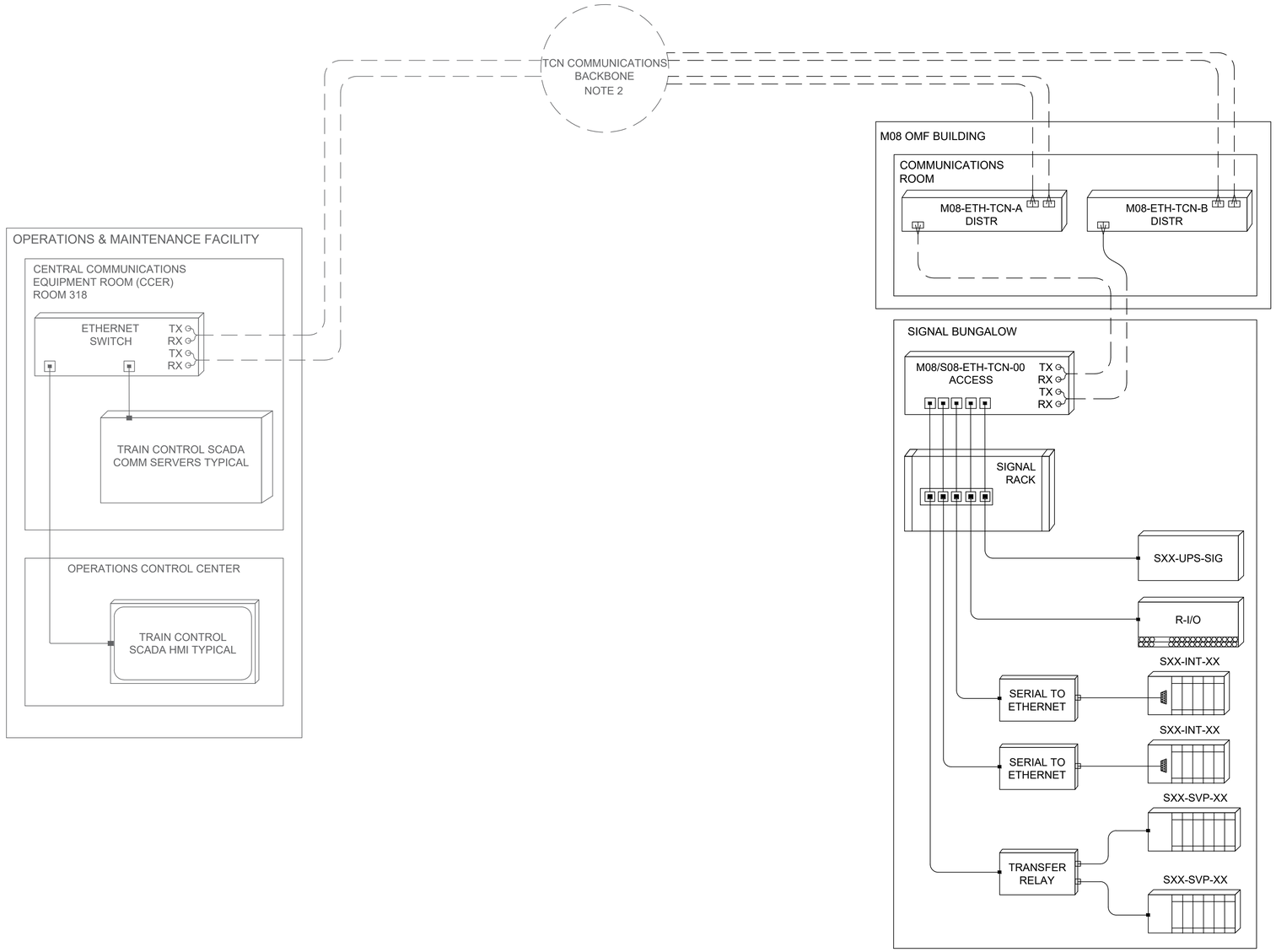
NOTES:

1. PROVIDE CAT6 PATCH PANEL, CAT6 PATCH CORD INTERCONNECTION, FIBER PATCH CORDS, AND FIBER PATCH PANELS.
2. CONNECT TCN EXPANSION TO EXISTING TCN COMMUNICATION BACKBONE.
3. PROVIDE ACCESS SWITCHES SIZED TO ACCOMMODATE IP DEVICES. SWITCH CONFIGURATION PROVIDED BY SOUND TRANSIT IT DEPT.
4. FIBER PATCH PANELS NOT SHOWN FOR CLARITY.



SIGNAL TCS SCADA INTERFACE BLOCK DIAGRAM

SCALE: NTS

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: P. PERREAULT
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

Burns — BURNS ENGINEERING, INC. | 215 979-7700 TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCS013
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
TYPICAL SIGNAL TCS SCADA INTERFACE BLOCK DIAGRAM

DRAWING No.: Y03-JCS013
FACILITY ID: Y03, S08
SHEET No.:
REV: 0

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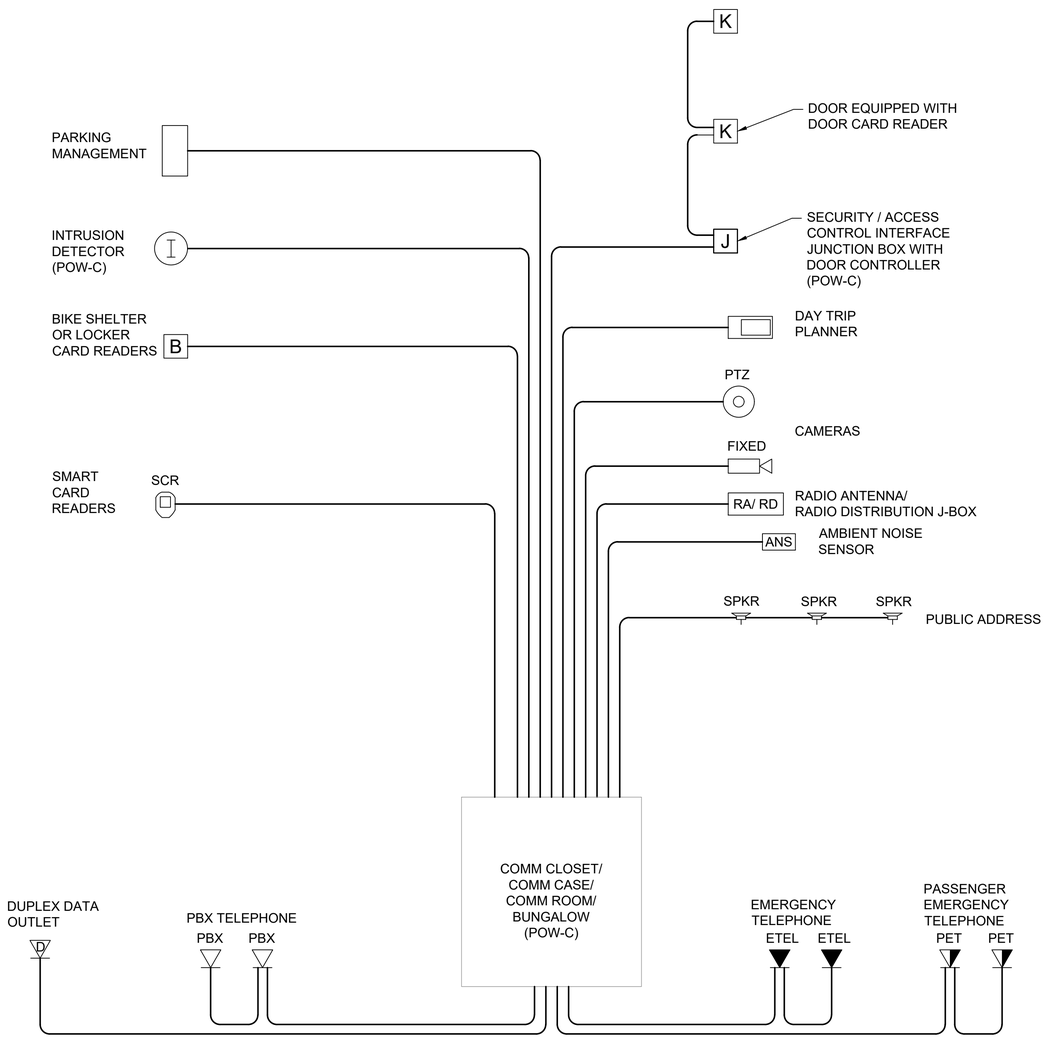

TYPICAL COMMUNICATIONS CONDUIT ROUTING

SCALE: NTS

NOTES:

1. FOR ALL COPPER BASED IP CONNECTIONS THE CONTRACTOR SHALL DESIGN THE CONDUIT RUNS SO NO CABLING PULLS FROM A DESTINATION TO A SOURCE WILL BE MORE THAN 250 FEET.
2. POW-C - INDICATES POWER WILL TERMINATE ON A POWER PANEL ON THE COMMUNICATION UPS PANEL. ALL OTHER DEVICES ARE ON THE STATION POWER. RUN POWER CONDUIT TO THE APPLICABLE SOURCE.

COMMUNICATION DEVICES CONDUIT REQUIREMENTS

COMMUNICATION DEVICE		RACEWAY SIZE	
SOURCE	DESTINATION	DATA	POWER
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	EMERGENCY TELEPHONE	1"	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	PASSENGER EMERGENCY TELEPHONE	1"	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	PBX TELEPHONE	1"	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	RJ-45 DATA OUTLET	1"	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	VARIABLE MESSAGE SIGN W/TWO CAMERAS	1"	1.5"
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	CAMERAS (NOT IN VARIABLE MESSAGE SIGN)	1"	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	TVM	1"	1"
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	BMS INTERFACE TERMINAL CABINET	AS REQD	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	PUBLIC ADDRESS SPEAKER CIRCUITS	1"	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	AMBIENT NOISE SENSING MICROPHONE	1"	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	ACCESS CONTROL CARD DOOR CONTROLLER	1"	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	GUIDEWAY INTRUSION DETECTION MONITOR	1"	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	SECURITY GATE CONTROLS	1"	NONE
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	TRIP PLANNERS	1"	1"
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	BICYCLE SHELTER CARD READER	1"	1"
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	BICYCLE LOCKER CARD READER	1"	1"
COMMUNICATIONS ROOM OR BUNGALOW	COMMUNICATION DISTRIBUTION CABINET	3"	3"
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	PARKING MANAGEMENT	1"	1"
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	RADIO ANTENNA/ DISTRIBUTION J-BOX	4"	
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	GUIDEWAY INTRUSION DETECTION MONITOR	1"	1"
COMMUNICATIONS ROOM/ BUNGALOW OR DISTRIBUTION CABINET (CLOSEST CABINET)	SMART CARD READER	3/4"	1"

TYPICAL DUCTBANK REQUIREMENTS

SOURCE	DESTINATION	CONDUITS
OMF	MAIN LINE INTERFACE POINT	6 X 4"
OMF	MAIN LINE INTERFACE POINT (ALTERNATIVE ROUTE)	6 X 4"
OMF	TPSS	2 X 4"
OMF	SIGNAL HOUSE	2 X 4"
OMF	COMMUNICATION DISTRIBUTION CASE	2 X 3"
OMF	GUARD HOUSE	2 X 4"
OMF	UTILITY VAULT	2 X 4"
OMF	MOW BUILDING	4 X 4"
OMF	LSWS	2 X 4"
OMF	LRV WASH BUILDING	2 X 4"
OMF	UTILITY VAULT (SERVICE PROVIDER)	2 X 4"
MOW	COMMUNICATION DISTRIBUTION CASE	2 X 4"
TPSS	TPSS	2 X 4"
TPSS	MAINLINE INTERFACE POINT	2 X 4"
SIGNAL HOUSE	SIGNAL HOUSE	2 X 4"
SIGNAL HOUSE	MAINLINE INTERFACE POINT	2 X 4"

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: M. STAHLEY
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY — JONATHAN A. SCHIMPF, STATE OF WASHINGTON, 23017398, REGISTERED PROFESSIONAL ENGINEER

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCD001
CONTRACT No.: AE-0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
TYPICAL COMMUNICATION DEVICES
CONDUIT REQUIREMENTS

DRAWING No.: Y03-JCD001
FACILITY ID: Y03, M08, S08
SHEET No.:
REV: 0

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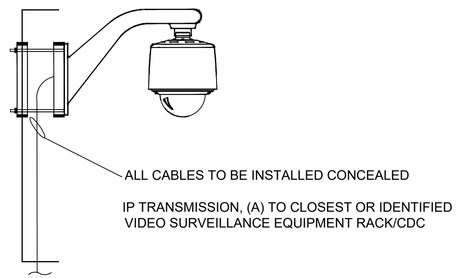
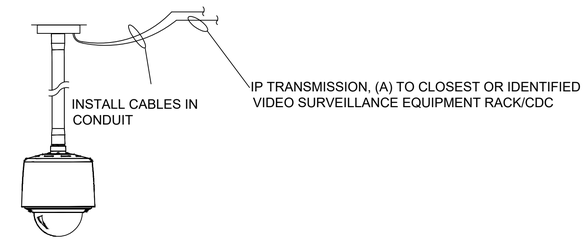
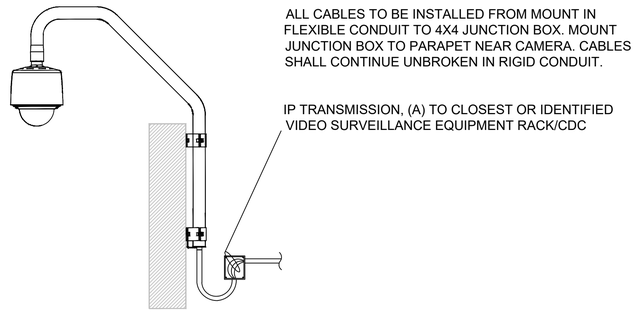
NOTES:
1. FOR IP VIDEO TRANSMISSION FROM DESIGNATED CAMERAS USE "WET LOCATIONS" RATED CAT6 SHIELDED CABLE SUITABLE FOR ETHERNET APPLICATIONS. SUCH AS BELDEN 1583A OR 7883A



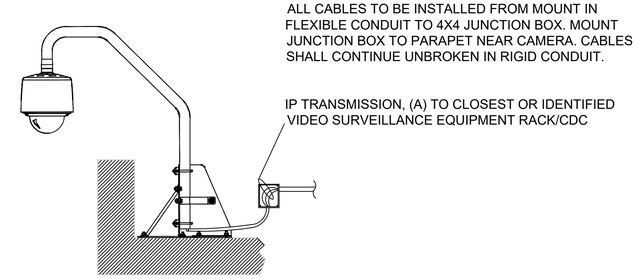
FIXED/PTZ CAMERA DOME PENDANT - POLE MOUNTED
SCALE: NTS



FIXED/PTZ OUTDOOR CEILING PENDANT DOME
SCALE: NTS



FIXED/PTZ OUTDOOR PARAPET PENDANT DOME
SCALE: NTS



FIXED/PTZ OUTDOOR ROOF PENDANT DOME
SCALE: NTS

PRELIMINARY ENGINEERING | NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: M. STAHLEY
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY — JONATHAN A. STAHLEY, STATE OF WASHINGTON, 22517598, REGISTERED PROFESSIONAL ENGINEER

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER | DATE: 2/27/2024 | REVIEWED BY: | DATE:

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCD002
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
YARD CCTV
SYSTEM DETAILS

DRAWING No.: Y03-JCD002
FACILITY ID: Y03
SHEET No.:
REV: 0

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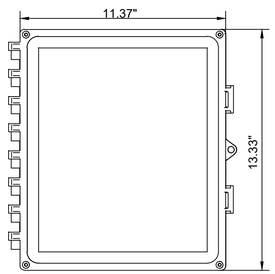
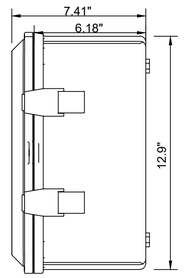
NOTES:

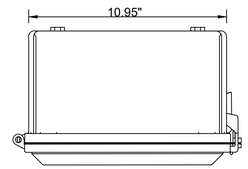
1. DIMENSIONS ARE EXTERNAL DIMENSIONS. USABLE INTERNAL DIMENSIONS ARE 12" X 10" X 6".



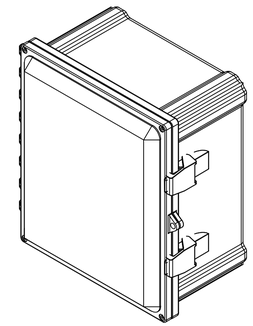
FRONT VIEW



SIDE VIEW



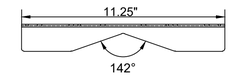
TOP VIEW



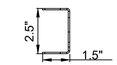
ISOMETRIC VIEW

POLE/WALL MOUNTED WAP ENCLOSURE

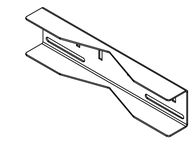
SCALE: 1/4" = 1"



TOP VIEW



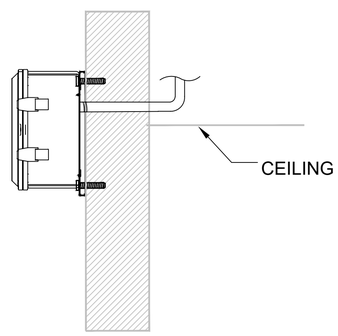
END VIEW



ISOMETRIC VIEW

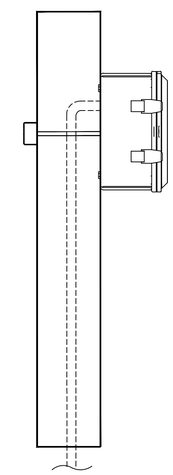
WAP ENCLOSURE POLE MOUNT ADAPTER

SCALE:1/4" = 1"



WAP ENCLOSURE - WALL MOUNT DETAIL

SCALE: NTS



WALP ENCLOSURE - POLE MOUNT DETAIL

SCALE: NTS

PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

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REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: M. STAHLEY
APPROVED BY: J. SCHIMPF

AHJ:

PRELIMINARY

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

Burns — BURNS ENGINEERING, INC. | 215 979-7700, TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600, PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JCD003
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
WIRELESS ACCESS POINT
DETAILS

DRAWING No.: **Y03-JCD003**
FACILITY ID: Y03
SHEET No.:
REV: 0

02/22/24 | 8:47 PM | ZZHANG
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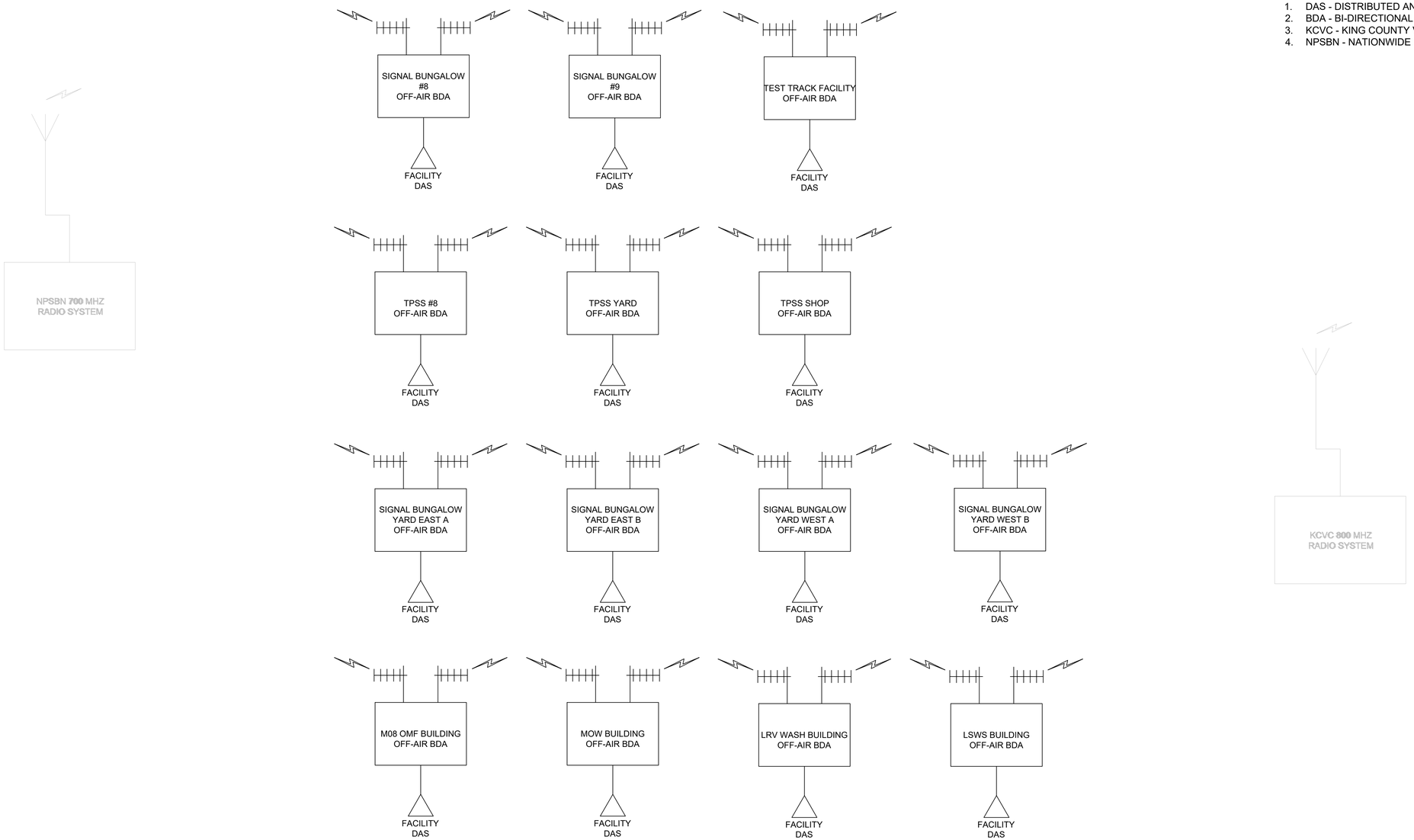
NOTES:

1. DAS - DISTRIBUTED ANTENNA SYSTEM
2. BDA - BI-DIRECTIONAL AMPLIFIER
3. KCVC - KING COUNTY VALLEY COMMUNICATIONS
4. NPSBN - NATIONWIDE PUBLIC SAFETY BROADBAND NETWORK



PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

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APPROVED BY: J. SCHIMPF

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PRELIMINARY

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
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PACKAGE #

SCALE: NTS
FILENAME: OMFS-Y03-JRS001
CONTRACT No.: AE0030-17
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SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

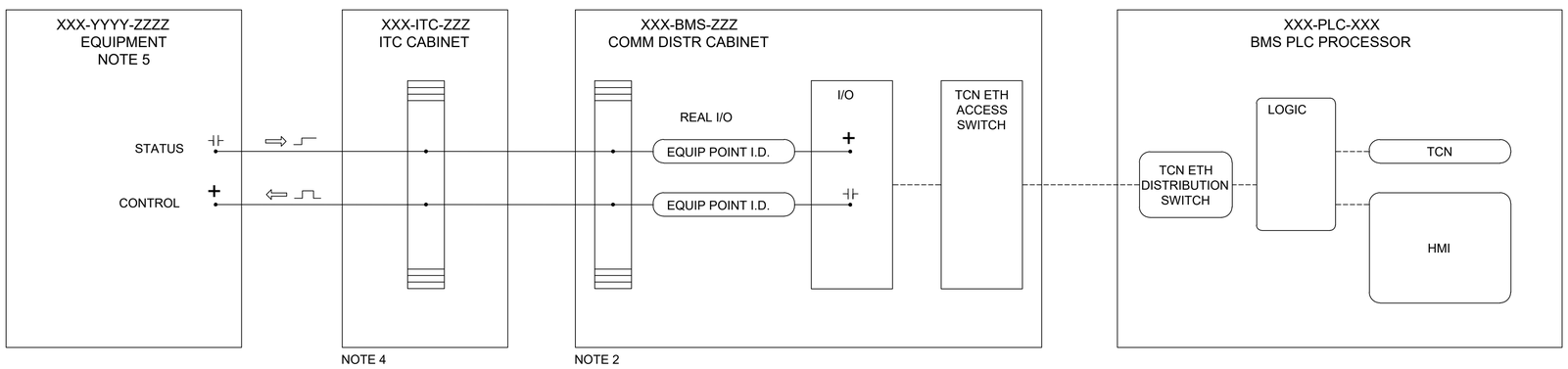
COMMUNICATION SYSTEM
HIGH LEVEL RADIO SYSTEM
BLOCK DIAGRAM

DRAWING No.: Y03-JRS001
FACILITY ID: Y03, M08, S08
SHEET No.:
REV: 0

02/22/24 | 8:50 PM | ZZHANG
J:\2019\D\2019-175-SOUNDTRANSIT_HDR_TDLE\10-DESIGN\DRAWINGS\OMFS\WORKING DOCUMENTS\COMMUNICATIONS\OMFS-Y03-JRS001.DWG

NOTES:

1. INTERFACE DRAWINGS SHOW PHYSICAL EQUIPMENT AS TYPICALLY INTERFACED WITH THE BMS. THESE DRAWINGS PROVIDE A BASIS FOR THE CONTRACTOR'S DETAILED DESIGN AND INTEGRATION OF THE BMS WITH SYSTEMS AND EQUIPMENT. INTERFACE POINTS SHALL BE ADDED, SUBTRACTED AND INTERACTIONS MODIFIED IN ORDER TO PROVIDE THE REQUIRED END RESULT FUNCTIONALITY.
2. A TYPICAL COMM DISTRIBUTION CABINET IS DEPICTED INTERFACED TO TYPICAL EQUIPMENT, INTERFACE TERMINAL CABINETS AND CONTROL PANELS.
3. SEE SOUND TRANSIT "LIGHT RAIL EQUIPMENT AND FACILITIES NUMBERING PLAN" FOR EQUIPMENT AND POINT I.D. NAMING STANDARDS AND CONVENTIONS
4. CONTRACTOR SHALL PROVIDE ITC CABINET, TERMINAL BLOCKS, CONDUIT AND CABLING BETWEEN ITC CABINET AND CONTRACTOR PROVIDED FIELD EQUIPMENT.
5. DISCRETE I/O CONTRACTOR PROVIDED EQUIPMENT.



PRELIMINARY ENGINEERING

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

DESIGNED BY: Z. ZHANG
DRAWN BY: Z. ZHANG
CHECKED BY: M. STAHLEY
APPROVED BY: J. SCHIMPF

AHJ:

PACKAGE #

JONATHAN A. STAHLEY, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 47617598 — PRELIMINARY

HDR

Burns
BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE: 2/27/2024
REVIEWED BY:
DATE:

SCALE: NTS
FILENAME: OMFS-Y03-JBS001
CONTRACT No.: AE0030-17
DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

COMMUNICATION SYSTEM
BUILDING MANAGEMENT SYSTEM
INTERFACE DIAGRAM

DRAWING No.: **Y03-JBS001**
FACILITY ID: Y03
SHEET No.:
REV: 0

02/22/24 | 8:56 PM | ZZHANG
J:\2019\D\2019-175-SOUNDTRANSIT_HDR_TDLE\10-DESIGN\DRAWINGS\OMFS\WORKING DOCUMENTS\COMMUNICATIONS\OMFS-Y03-JBS001.DWG

NOTES:

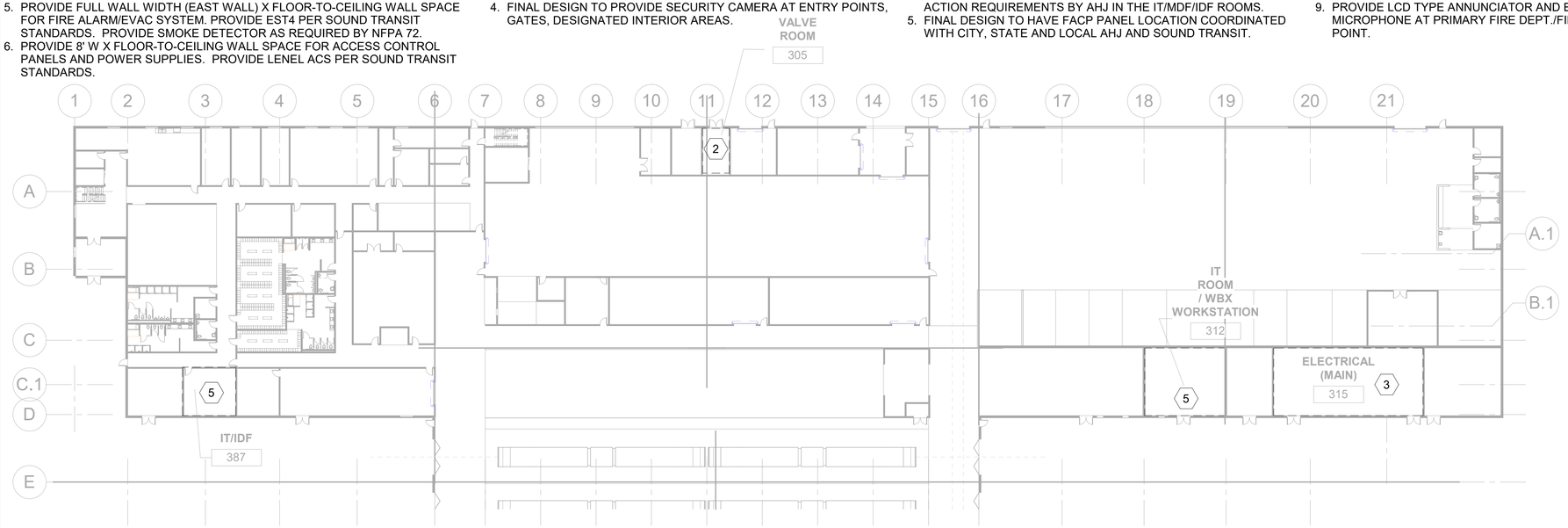
1. FINAL DESIGN SHALL COORDINATE WITH COMMUNICATION FOR PATCH PANEL SPACE FOR ALL BMS CONNECTIONS TO THE TELECOMMUNICATION NETWORK.
2. PROVIDE FATC WITH CONVENTIONAL ZONE INPUTS AS FOLLOWS:
   a. X1 PER FLOW AND PRESSURE ALARM SWITCH,
   b. X1 PER RISER SUPERVISORY VALVE,
   c. X1 PER EACH UNIQUE INPUT NOT COVERED ABOVE.
3. ELECTRICAL METERING IN THIS ROOM TO HAVE CONNECTION TO BMS SYSTEM.
4. FINAL DESIGN TO PROVIDE FOR BMS WORKSTATION IN THIS AREA.
5. PROVIDE FULL WALL WIDTH (EAST WALL) X FLOOR-TO-CEILING WALL SPACE FOR FIRE ALARM/EVAC SYSTEM. PROVIDE EST4 PER SOUND TRANSIT STANDARDS. PROVIDE SMOKE DETECTOR AS REQUIRED BY NFPA 72.
6. PROVIDE 8' W X FLOOR-TO-CEILING WALL SPACE FOR ACCESS CONTROL PANELS AND POWER SUPPLIES. PROVIDE LENEL ACS PER SOUND TRANSIT STANDARDS.

GENERAL NOTES:

1. FINAL DESIGN SHALL PROVIDE FOR CONDUIT PATHWAY (1" MIN.) BETWEEN MECHANICAL BMS CONNECTIONS AND COMMUNICATION ROOM. ROUTING TO BE UNDERGROUND UNLESS NOT POSSIBLE BASED ON BUILDING CONSTRUCTION RESTRAINTS. ALL VISIBLE PATHWAYS MUST BE APPROVED BY ST. PATHWAYS CAN BE COMBINED FOR EFFICIENCY.
2. FINAL DESIGN TO PROVIDE FULL ADDRESSABLE FIRE ALARM SYSTEM.
3. FINAL DESIGN TO PROVIDE ACCESS CONTROL AT ENTRY DOORS, GATES, DESIGNATED INTERIOR DOORS.
4. FINAL DESIGN TO PROVIDE SECURITY CAMERA AT ENTRY POINTS, GATES, DESIGNATED INTERIOR AREAS.

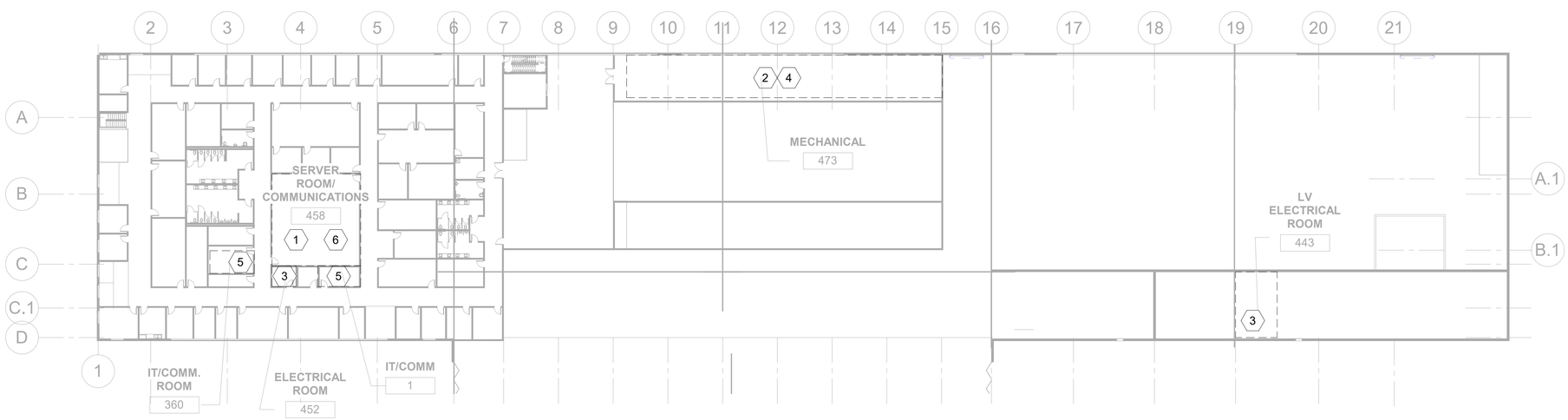
FIRE ALARM/EVAC SYSTEM (FAEV):

1. PROVIDE MANUAL PULL STATION AT EACH EXIT.
2. PROVIDE SMOKE AND HEAT DETECTOR FOR EACH ELECTRICAL ROOM. SMOKE AND HEAT MUST BE ABLE TO BE UNIQUELY IDENTIFIED WHEN IN ALARM.
3. PROVIDE MONITOR MODULES FOR FIRE SUPPRESSION CONTROL PANELS (FSCP) FOR CLEAN AGENT IN EACH IT/MDF/IDF ROOM. MONITOR FOR ALARM, SUPERVISORY & TROUBLE FOR EACH FSCP.
4. COORDINATE WITH FIRE SUPPRESSION CONTRACTOR FOR PRE-ACTION REQUIREMENTS BY AHJ IN THE IT/MDF/IDF ROOMS.
5. FINAL DESIGN TO HAVE FACP PANEL LOCATION COORDINATED WITH CITY, STATE AND LOCAL AHJ AND SOUND TRANSIT.
6. PROVIDE EVAC (SPEAKER/STROBES & STROBES) THROUGHOUT ALL OCCUPIABLE AREAS OF BUILDING INCLUDING MAINTENANCE TRENCHES & MEZZANINES. SPEAKERS SHALL BE SET TO OBTAIN 15 dBA OVER AVERAGE AMBIENT CONDITIONS AND STROBES WILL PROVIDE COVERAGE AS PRESCRIBED IN CHAPTER 18 OF NFPA 72 (VERIFY VERSION W/AHJ).
7. PROVIDE RELAY INTERFACE TO OVERHEAD FANS TO SHUTDOWN FANS ON WATER FLOW.
8. PROVIDE LCD TYPE ANNUNCIATOR IN EACH BUILDING VESTIBULE, MDF ROOM & FIRE SPRINKLER RISER ROOM.
9. PROVIDE LCD TYPE ANNUNCIATOR AND EVAC REMOTE MICROPHONE AT PRIMARY FIRE DEPT./FIRST RESPONDER ENTRY POINT.



OMF 1ST FINISH FLOOR (1)

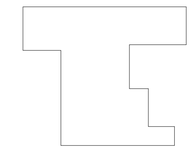
SCALE: 1" = 30'-0"



OMF 2ND FINISH FLOOR (2)

SCALE: 1" = 30'-0"

KEY PLAN - M08



ACCESS CONTROL SYSTEM (ACS):

1. PROVIDE ACS CARD READER AT EACH PERIMETER PERSONNEL DOOR (SINGLE AND/OR DOUBLE DOORS). COORDINATE WITH DOOR HARDWARE SUPPLIER TO HAVE DOOR FUNCTION AS A "CARD IN/FREE EXIT" (CI/FE) DOOR.
2. BASIC REQUIREMENTS OF ACS DOOR ARE TO HAVE:
   a. CARD READER PER SOUND TRANSIT STANDARD
   b. DOOR CONTACT
   c. REQUEST-TO-EXIT (INTEGRAL TO DOOR HARDWARE UNLESS ELECTRIC STRIKE IS REQUIRED, THEN USE SENSOR).
   d. ELECTRIFIED LOCKING HARDWARE (BY DIV. 8)

VIDEO MANAGEMENT & CAMERAS (VMS):

1. PROVIDE CAMERAS (PER SOUND TRANSIT STANDARDS & COORDINATE MOUNTING HEIGHT W/SOUND TRANSIT) AS FOLLOWS:
2. EXTERIOR:
   a. - PTZ AT EACH CORNER ON BUILDING.
   b. - FIXED CAMERAS FOR TRAIN INGRESS AND EGRESS APRON AREAS WITH COVERAGE ADEQUATE TO PROVIDE "RECOGNITION" OF PERSONNEL WALKING THROUGH THESE AREAS.
   c. - FIXED CAMERAS FOR BUILDING EXTERIOR; GENERAL OBSERVATION FOR PEDESTRIANS AND VEHICLES IMMEDIATELY ADJACENT IN SIDEWALKS AND ROADWAY. COORDINATE WITH SOUND TRANSIT TO PROGRAM "ALARM ALGORITHMS" TO ACTIVATE PTZ "CALL-UP".
   d. - FIXED CAMERAS AT BUILDING ENTRY POINTS (ACS DOORS) WITH COVERAGE ADEQUATE TO PROVIDE "RECOGNITION" OF PERSONNEL ENTERING DOORS.
3. INTERIOR:
   a. - FIXED CAMERAS AT BUILDING ENTRY POINTS (ACS DOORS) WITH COVERAGE ADEQUATE TO PROVIDE IDENTIFICATION" OF PERSONNEL ENTERING DOORS.
   b. - FIXED CAMERAS AT CRITICAL INFRASTRUCTURE ROOMS SUCH AS ELECTRICAL, IT, MDF & IDF ROOMS. (ACS DOORS) WITH COVERAGE ADEQUATE TO PROVIDE IDENTIFICATION" OF PERSONNEL ENTERING DOORS.

N

8 4 0 8 16

SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. MILLER
DRAWN BY: B. DAVIS
CHECKED BY: R. HARRISON
APPROVED BY: P. LOPEZ-HILFIKER

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE:
REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: /1" = 30'-0")
FILENAME: OMFS-M08-B-v2022
CONTRACT No.: AE0030-17
SUBMITTAL DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTANCE FACILITY SOUTH

BMS SYSTEMS
FLOOR PLAN - LEVEL 1

DRAWING No.: **M08-BPP101**
FACILITY ID: M08
SHEET No:
REV:

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GENERAL NOTES:
1. FINAL DESIGN SHALL PROVIDE FOR CONDUIT PATHWAY (1" MIN.) BETWEEN MECHANICAL BMS CONNECTIONS AND COMMUNICATION ROOM. ROUTING TO BE UNDERGROUND UNLESS NOT POSSIBLE BASED ON BUILDING CONSTRUCTION RESTRAINTS. ALL VISIBLE PATHWAYS MUST BE APPROVED BY ST. PATHWAYS CAN BE COMBINED FOR EFFICIENCY.
2. FINAL DESIGN TO PROVIDE FULL ADDRESSABLE FIRE ALARM SYSTEM.
3. FINAL DESIGN TO PROVIDE ACCESS CONTROL AT ENTRY DOORS, GATES, DESIGNATED INTERIOR DOORS.
4. FINAL DESIGN TO PROVIDE SECURITY CAMERA AT ENTRY POINTS, GATES, DESIGNATED INTERIOR AREAS.

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3. PROVIDE MONITOR MODULES FOR FIRE SUPPRESSION CONTROL PANELS (FSCP) FOR CLEAN AGENT IN EACH IT/MDF/IDF ROOM. MONITOR FOR ALARM, SUPERVISORY & TROUBLE FOR EACH FSCP.
4. COORDINATE WITH FIRE SUPPRESSION CONTRACTOR FOR PRE-ACTION REQUIREMENTS BY AHJ IN THE IT/MDF/IDF ROOMS.
5. FINAL DESIGN TO HAVE FACP PANEL LOCATION COORDINATED WITH CITY, STATE AND LOCAL AHJ AND SOUND TRANSIT.
6. PROVIDE EVAC (SPEAKER/STROBES & STROBES) THROUGHOUT ALL OCCUPIABLE AREAS OF BUILDING INCLUDING MAINTENANCE TRENCHES & MEZZANINES. SPEAKERS SHALL BE SET TO OBTAIN 15 dBA OVER AVERAGE AMBIENT CONDITIONS AND STROBES WILL PROVIDE COVERAGE AS PRESCRIBED IN CHAPTER 18 OF NFPA 72 (VERIFY VERSION W/AHJ).
7. PROVIDE RELAY INTERFACE TO OVERHEAD FANS TO SHUTDOWN FANS ON WATER FLOW.
8. PROVIDE LCD TYPE ANNUNCIATOR IN EACH BUILDING VESTIBULE, MDF ROOM & FIRE SPRINKLER RISER ROOM.
9. PROVIDE LCD TYPE ANNUNCIATOR AND EVAC REMOTE MICROPHONE AT PRIMARY FIRE DEPT./FIRST RESPONDER ENTRY POINT.

ACCESS CONTROL SYSTEM (ACS):
1. PROVIDE ACS CARD READER AT EACH PERIMETER PERSONNEL DOOR (SINGLE AND/OR DOUBLE DOORS). COORDINATE WITH DOOR HARDWARE SUPPLIER TO HAVE DOOR FUNCTION AS A "CARD IN/FREE EXIT" (CI/FE) DOOR.
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   c. REQUEST-TO-EXIT (INTEGRAL TO DOOR HARDWARE UNLESS ELECTRIC STRIKE IS REQUIRED, THEN USE SENSOR).
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1. PROVIDE CAMERAS (PER SOUND TRANSIT STANDARDS & COORDINATE MOUNTING HEIGHT W/SOUND TRANSIT) AS FOLLOWS:
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   a. - PTZ AT EACH CORNER ON BUILDING.
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   d. - FIXED CAMERAS AT BUILDING ENTRY POINTS (ACS DOORS) WITH COVERAGE ADEQUATE TO PROVIDE "RECOGNITION" OF PERSONNEL ENTERING DOORS.
3. INTERIOR:
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   b. - FIXED CAMERAS AT CRITICAL INFRASTRUCTURE ROOMS SUCH AS ELECTRICAL, IT, MDF & IDF ROOMS. (ACS DOORS) WITH COVERAGE ADEQUATE TO PROVIDE IDENTIFICATION" OF PERSONNEL ENTERING DOORS.

KEY PLAN - M08W

NOTES:
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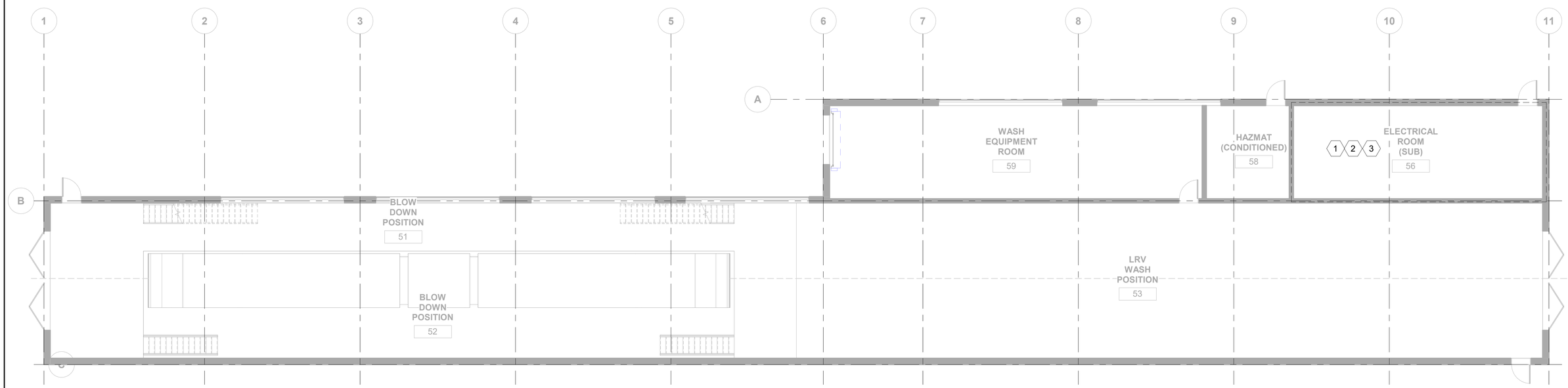
3. ELECTRICAL METERING IN THIS ROOM TO HAVE CONNECTION TO BMS SYSTEM.



Level 1 (1)

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

N

8 4 0 8 16
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. MILLER
DRAWN BY: B. DAVIS
CHECKED BY: R. HARRISON
APPROVED BY: P. LOPEZ-HILFILKER

HDR

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE:
REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: /1/8" = 1'-0"
FILENAME: OMFS-M08W-B-v2022
CONTRACT No.: AE0030-17
SUBMITTAL DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

BMS SYSTEMS
FLOOR PLAN - LEVEL 1

DRAWING No.: **M08W-BPP101**
FACILITY ID: 08W
SHEET No:
REV:

2/12/2024 1:24:22 PM
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NOTES:

1. FINAL DESIGN SHALL COORDINATE WITH COMMUNICATION FOR PATCH PANEL SPACE FOR ALL BMS CONNECTIONS TO THE TELECOMMUNICATION NETWORK.
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5. PROVIDE 8' W X FLOOR-TO-CEILING WALL SPACE FOR ACCESS CONTROL PANELS AND POWER SUPPLIES. PROVIDE LENEL ACS PER SOUND TRANSIT STANDARDS.

GENERAL NOTES:

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5. FINAL DESIGN TO HAVE FACP PANEL LOCATION COORDINATED WITH CITY, STATE AND LOCAL AHJ AND SOUND TRANSIT.
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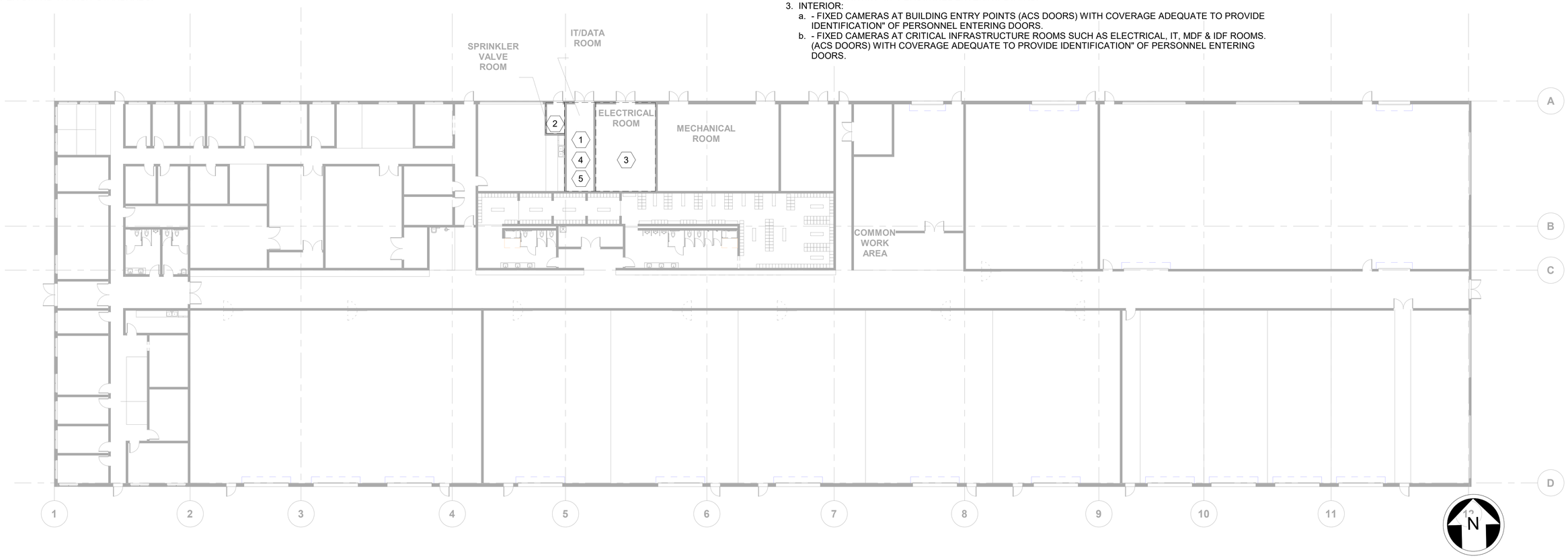
KEY PLAN - M09



M09 - GRADE LEVEL 1

SCALE: 1/16" = 1'-0"

8 4 0 8 16
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	D.MILLER
DRAWN BY:	B. DAVIS
CHECKED BY:	R. HARRISON
APPROVED BY:	P. LOPEZ-HILFIKER
SUBMITTED BY:	PABLO LOPEZ-HILFIKER
DATE:	
REVIEWED BY:	
DATE:	
SCALE:	1/16" = 1'-0"
FILENAME:	OMFS-M09-B-v2022
CONTRACT No.:	AE0030-17
SUBMITTAL DATE:	

LINE IS 1" AT FULL SCALE

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTANCE FACILITY SOUTH

BMS SYSTEMS
FLOOR PLAN - LEVEL 1

DRAWING No.: **M09-BPP101**
FACILITY ID: M09
SHEET No: REV:

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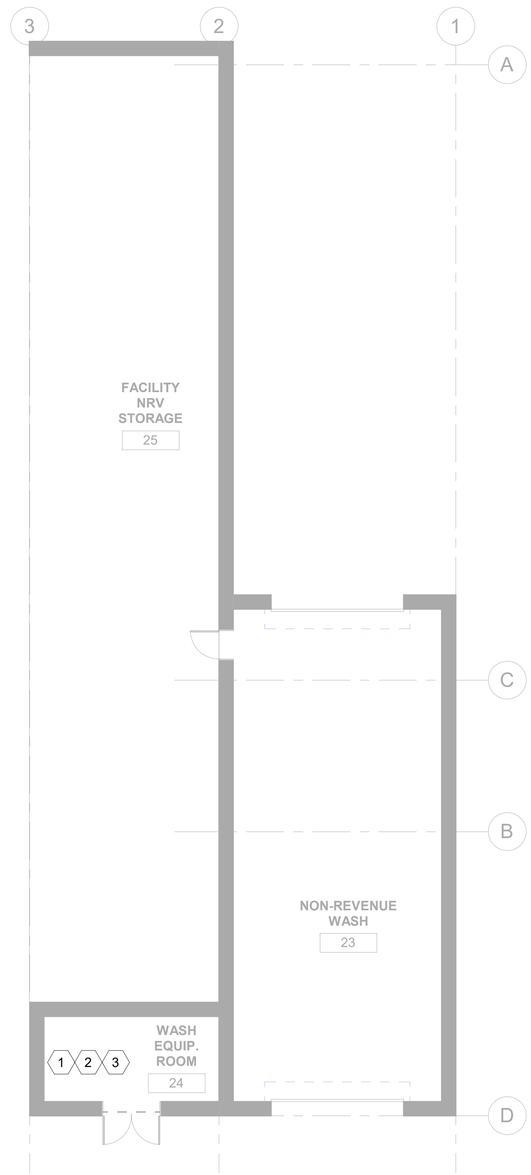

MO9W - GRADE LEVEL 1

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

GENERAL NOTES:

1. FINAL DESIGN SHALL PROVIDE FOR CONDUIT PATHWAY (1" MIN.) BETWEEN MECHANICAL BMS CONNECTIONS AND COMMUNICATION ROOM. ROUTING TO BE UNDERGROUND UNLESS NOT POSSIBLE BASED ON BUILDING CONSTRUCTION RESTRAINTS. ALL VISIBLE PATHWAYS MUST BE APPROVED BY ST. PATHWAYS CAN BE COMBINED FOR EFFICIENCY.
2. FINAL DESIGN TO PROVIDE FULL ADDRESSABLE FIRE ALARM SYSTEM.
3. FINAL DESIGN TO PROVIDE ACCESS CONTROL AT ENTRY DOORS, GATES, DESIGNATED INTERIOR DOORS.
4. FINAL DESIGN TO PROVIDE SECURITY CAMERA AT ENTRY POINTS, GATES, DESIGNATED INTERIOR AREAS.

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5. FINAL DESIGN TO HAVE FACP PANEL LOCATION COORDINATED WITH CITY, STATE AND LOCAL AHJ AND SOUND TRANSIT.
6. PROVIDE EVAC (SPEAKER/STROBES & STROBES) THROUGHOUT ALL OCCUPIABLE AREAS OF BUILDING INCLUDING MAINTENANCE TRENCHES & MEZZANINES. SPEAKERS SHALL BE SET TO OBTAIN 15 dBA OVER AVERAGE AMBIENT CONDITIONS AND STROBES WILL PROVIDE COVERAGE AS PRESCRIBED IN CHAPTER 18 OF NFPA 72 (VERIFY VERSION W/AHJ).
7. PROVIDE RELAY INTERFACE TO OVERHEAD FANS TO SHUTDOWN FANS ON WATER FLOW.
8. PROVIDE LCD TYPE ANNUNCIATOR IN EACH BUILDING VESTIBULE, MDF ROOM & FIRE SPRINKLER RISER ROOM.
9. PROVIDE LCD TYPE ANNUNCIATOR AND EVAC REMOTE MICROPHONE AT PRIMARY FIRE DEPT./FIRST RESPONDER ENTRY POINT.

ACCESS CONTROL SYSTEM (ACS):

1. PROVIDE ACS CARD READER AT EACH PERIMETER PERSONNEL DOOR (SINGLE AND/OR DOUBLE DOORS). COORDINATE WITH DOOR HARDWARE SUPPLIER TO HAVE DOOR FUNCTION AS A "CARD IN/FREE EXIT" (CI/FE) DOOR.
2. BASIC REQUIREMENTS OF ACS DOOR ARE TO HAVE:
   a. CARD READER PER SOUND TRANSIT STANDARD
   b. DOOR CONTACT
   c. REQUEST-TO-EXIT (INTEGRAL TO DOOR HARDWARE UNLESS ELECTRIC STRIKE IS REQUIRED, THEN USE SENSOR).
   d. ELECTRIFIED LOCKING HARDWARE (BY DIV. 8)

VIDEO MANAGEMENT & CAMERAS (VMS):

1. PROVIDE CAMERAS (PER SOUND TRANSIT STANDARDS & COORDINATE MOUNTING HEIGHT W/SOUND TRANSIT) AS FOLLOWS:
2. EXTERIOR:
   a. - PTZ AT EACH CORNER ON BUILDING.
   b. - FIXED CAMERAS FOR TRAIN INGRESS AND EGRESS APRON AREAS WITH COVERAGE ADEQUATE TO PROVIDE "RECOGNITION" OF PERSONNEL WALKING THROUGH THESE AREAS.
   c. - FIXED CAMERAS FOR BUILDING EXTERIOR; GENERAL OBSERVATION FOR PEDESTRIANS AND VEHICLES IMMEDIATELY ADJACENT IN SIDEWALKS AND ROADWAY. COORDINATE WITH SOUND TRANSIT TO PROGRAM "ALARM ALGORITHMS" TO ACTIVATE PTZ "CALL-UP".
   d. - FIXED CAMERAS AT BUILDING ENTRY POINTS (ACS DOORS) WITH COVERAGE ADEQUATE TO PROVIDE "RECOGNITION" OF PERSONNEL ENTERING DOORS.
3. INTERIOR:
   a. - FIXED CAMERAS AT BUILDING ENTRY POINTS (ACS DOORS) WITH COVERAGE ADEQUATE TO PROVIDE IDENTIFICATION" OF PERSONNEL ENTERING DOORS.
   b. - FIXED CAMERAS AT CRITICAL INFRASTRUCTURE ROOMS SUCH AS ELECTRICAL, IT, MDF & IDF ROOMS. (ACS DOORS) WITH COVERAGE ADEQUATE TO PROVIDE IDENTIFICATION" OF PERSONNEL ENTERING DOORS.

KEY PLAN - M09W

NOTES:

1. FINAL DESIGN SHALL COORDINATE WITH COMMUNICATION FOR PATCH PANEL SPACE FOR ALL BMS CONNECTIONS TO THE TELECOMMUNICATION NETWORK.
2. PROVIDE FATC WITH CONVENTIONAL ZONE INPUTS AS FOLLOWS:
   a. X1 PER FLOW AND PRESSURE ALARM SWITCH,
   b. X1 PER RISER SUPERVISORY VALVE,
   c. X1 PER EACH UNIQUE INPUT NOT COVERED ABOVE.
3. ELECTRICAL METERING IN THIS ROOM TO HAVE CONNECTION TO BMS SYSTEM.

N

8 4 0 8 16

SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D.MILLER
DRAWN BY: B.DAVIS
CHECKED BY: R.HARRISON
APPROVED BY: P. LOPEZ-HILFIKER

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE:
REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SCALE: /1/8" = 1'-0"
FILENAME: OMFS-M09W-B-v2022
CONTRACT No.: AE0030-17
SUBMITTAL DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTANCE FACILITY SOUTH

BMS SYSTEMS
FLOOR PLAN - LEVEL 1

DRAWING No.: **M09W-BPP101**
FACILITY ID: M09W
SHEET No:
REV:

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NOTES:

1. FINAL DESIGN SHALL COORDINATE WITH COMMUNICATION FOR PATCH PANEL SPACE FOR ALL BMS CONNECTIONS TO THE TELECOMMUNICATIONS NETWORK.
2. PROVIDE FATC WITH CONVENTIONAL ZONE INPUTS AS FOLLOWS:
   a. X1 PER FLOW AND PRESSURE ALARM SWITCH,
   b. X1 PER RISER SUPERVISORY VALVE,
   c. X1 PER EACH UNIQUE INPUT NOT COVERED ABOVE.
3. ELECTRICAL METERING IN THIS ROOM TO HAVE CONNECTION TO BMS SYSTEM.
4. PROVIDE FULL WALL WIDTH (EAST WALL) X FLOOR-TO-CEILING WALL SPACE FOR FIRE ALARM/EVAC SYSTEM. PROVIDE EST4 PER SOUND TRANSIT STANDARDS. PROVIDE SMOKE DETECTOR AS REQUIRED BY NFPA 72.
5. PROVIDE 8' W X FLOOR-TO-CEILING WALL SPACE FOR ACCESS CONTROL PANELS AND POWER SUPPLIES. PROVIDE LENEL ACS PER SOUND TRANSIT STANDARDS.

GENERAL NOTES:

1. FINAL DESIGN SHALL PROVIDE FOR CONDUIT PATHWAY (1" MIN.) BETWEEN MECHANICAL BMS CONNECTIONS AND COMMUNICATION ROOM. ROUTING TO BE UNDERGROUND UNLESS NOT POSSIBLE BASED ON BUILDING CONSTRUCTION RESTRAINTS. ALL VISIBLE PATHWAYS MUST BE APPROVED BY ST. PATHWAYS CAN BE COMBINED FOR EFFICIENCY.
2. FINAL DESIGN TO PROVIDE FULL ADDRESSABLE FIRE ALARM SYSTEM.
3. FINAL DESIGN TO PROVIDE ACCESS CONTROL AT ENTRY DOORS, GATES, DESIGNATED INTERIOR DOORS.
4. FINAL DESIGN TO PROVIDE SECURITY CAMERA AT ENTRY POINTS, GATES, DESIGNATED INTERIOR AREAS.

FIRE ALARM/EVAC SYSTEM (FAEV):

1. PROVIDE MANUAL PULL STATION AT EACH EXIT.
2. PROVIDE SMOKE AND HEAT DETECTOR FOR EACH ELECTRICAL ROOM. SMOKE AND HEAT MUST BE ABLE TO BE UNIQUELY IDENTIFIED WHEN IN ALARM.
3. PROVIDE MONITOR MODULES FOR FIRE SUPPRESSION CONTROL PANELS (FSCP) FOR CLEAN AGENT IN EACH IT/MDF/IDF ROOM. MONITOR FOR ALARM, SUPERVISORY & TROUBLE FOR EACH FSCP.
4. COORDINATE WITH FIRE SUPPRESSION CONTRACTOR FOR PRE-ACTION REQUIREMENTS BY AHJ IN THE IT/MDF/IDF ROOMS.
5. FINAL DESIGN TO HAVE FACP PANEL LOCATION COORDINATED WITH CITY, STATE AND LOCAL AHJ AND SOUND TRANSIT.
6. PROVIDE EVAC (SPEAKER/STROBES & STROBES) THROUGHOUT ALL OCCUPIABLE AREAS OF BUILDING INCLUDING MAINTENANCE TRENCHES & MEZZANINES. SPEAKERS SHALL BE SET TO OBTAIN 15 dBA OVER AVERAGE AMBIENT CONDITIONS AND STROBES WILL PROVIDE COVERAGE AS PRESCRIBED IN CHAPTER 18 OF NFPA 72 (VERIFY VERSION W/AHJ).
7. PROVIDE RELAY INTERFACE TO OVERHEAD FANS TO SHUTDOWN FANS ON WATER FLOW.
8. PROVIDE LCD TYPE ANNUNCIATOR IN EACH BUILDING VESTIBULE, MDF ROOM & FIRE SPRINKLER RISER ROOM.
9. PROVIDE LCD TYPE ANNUNCIATOR AND EVAC REMOTE MICROPHONE AT PRIMARY FIRE DEPT./FIRST RESPONDER ENTRY POINT.

.

ACCESS CONTROL SYSTEM (ACS):

1. PROVIDE ACS CARD READER AT EACH PERIMETER PERSONNEL DOOR (SINGLE AND/OR DOUBLE DOORS). COORDINATE WITH DOOR HARDWARE SUPPLIER TO HAVE DOOR FUNCTION AS A "CARD IN/FREE EXIT" (CI/FE) DOOR.
2. BASIC REQUIREMENTS OF ACS DOOR ARE TO HAVE:
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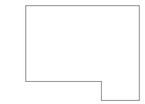
   c. REQUEST-TO-EXIT (INTEGRAL TO DOOR HARDWARE UNLESS ELECTRIC STRIKE IS REQUIRED, THEN USE SENSOR).
   d. ELECTRIFIED LOCKING HARDWARE (BY DIV. 8)

KEY PLAN - M09W



VIDEO MANAGEMENT & CAMERAS (VMS):

1. PROVIDE CAMERAS (PER SOUND TRANSIT STANDARDS & COORDINATE MOUNTING HEIGHT W/SOUND TRANSIT) AS FOLLOWS:
2. EXTERIOR:
   a. - PTZ AT EACH CORNER ON BUILDING.
   b. - FIXED CAMERAS FOR TRAIN INGRESS AND EGRESS APRON AREAS WITH COVERAGE ADEQUATE TO PROVIDE "RECOGNITION" OF PERSONNEL WALKING THROUGH THESE AREAS.
   c. - FIXED CAMERAS FOR BUILDING EXTERIOR; GENERAL OBSERVATION FOR PEDESTRIANS AND VEHICLES IMMEDIATELY ADJACENT IN SIDEWALKS AND ROADWAY. COORDINATE WITH SOUND TRANSIT TO PROGRAM "ALARM ALGORITHMS" TO ACTIVATE PTZ "CALL-UP".
   d. - FIXED CAMERAS AT BUILDING ENTRY POINTS (ACS DOORS) WITH COVERAGE ADEQUATE TO PROVIDE "RECOGNITION" OF PERSONNEL ENTERING DOORS.
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N

8 4 0 8 16
SCALE IN FEET

NOT FOR CONSTRUCTION

M10 - GRADE LEVEL (1)

SCALE: 1/16" = 1'-0"

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D.MILLER
DRAWN BY: B.DAVIS
CHECKED BY: R.HARRISON
APPROVED BY: P. LOPEZ-HILFIKER

SUBMITTED BY: PABLO LOPEZ-HILFIKER
DATE:
REVIEWED BY:

LINE IS 1" AT FULL SCALE

SCALE: /1/16" = 1'-0"
FILENAME: OMFS-M10-B-v2022
CONTRACT No.: AE0030-17
DATE:
SUBMITTAL DATE:

SOUND TRANSIT
PRELIMINARY ENGINEERING PLANS
OPERATIONS & MAINTENANCE FACILITY SOUTH

BMS SYSTEMS
FLOOR PLAN

DRAWING No.: **M10-BPP101**
FACILITY ID: M10
SHEET No:
REV:

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