PENNSYLVANIA CONVENTION CENTER AUTHORITY

PLANS FOR

MARSHALLING YARD LOT REDEVELOPMENT

711-35 VINE STREET
PHILADELPHIA, PA 19107

100% CONTRACT DOCUMENTS SUBMISSION
6/14/2024

Sheet List Table	
Sheet Number	Sheet Title
G-000	COVER SHEET
G-001	GENERAL NOTES
C-100	EXISTING CONDITIONS
C-200	DEMOLITION PLAN
C-300	SITE PLAN
C-301	STRIPING PLAN
C-400	GRADING PLAN
C-401	DRIVEWAY GRADING PLAN
C-500	UTILITY PLAN
C-600	EROSION AND SEDIMENT CONTROL PLAN
C-601	EROSION & SEDIMENT CONTROL NOTES
C-602	EROSION AND SEDIMENT CONTROL DETAILS
C-700	CIVIL DETAILS
C-701	CIVIL DETAILS
C-702	CIVIL DETAILS
C-703	CIVIL DETAILS
C-710	UTILITY DETAILS
C-900	CURB RAMP LAYOUT PLAN
C-901	CURB RAMP ELEVATION PLAN
C-902	CURB RAMP SLOPE PLAN
L-100	LANDSCAPE PLAN
L-200	LANDSCAPE DETAILS
S-100	FOUNDATION PLAN AND SECTIONS
P-000	PLUMBING LEGEND AND GENERAL NOTES
P-100	PLUMBING SPECIFICATIONS
P-101	PLUMBING SPECIFICATIONS
P-200	PLUMBING PLANS, SCHEDULES & DETAILS
E-001	ELECTRICAL LEGEND AND GENERAL NOTES
E-100	ELECTRICAL SITE PLAN - DEMOLITION
E-200	ELECTRICAL SITE PLAN - POWER
E-201	ELECTRICAL SITE PLAN - LIGHTING
E-300	SINGLE LINE DIAGRAM AND SCHEDULES
E-400	ELECTRICAL DETAILS
T-100	7TH & VINE STREETS SIGNAL PLAN
T-101	8TH & VINE STREETS SIGNAL PLAN

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

6/14/2024
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL WILLIAM C. LOWRY ENGINEER

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
COVER SHEET

DWN
CHK
PROJ # 2023280024.000
DATE JUNE 14, 2024
DRAWING NUMBER G-000

URBAN ENGINEERS

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\COVER SHEET.dwg

GENERAL NOTES

1. EXISTING SITE INFORMATION:

   SITE ADDRESS: 711–35 VINE STREET
   OPA# 885043980

   OWNER: PENNSYLVANIA CONVENTION CENTER AUTHORITY
   1101 ARCH STREET
   PHILADELPHIA, PA 19107
   CONTACT: STEPHEN SHEPPER
   PHONE #: 215–418–4742
   EMAIL: SSHEPPER@PACONVENTION.COM

   A. DESIGNER: BILL LORDAN, PE
   URBAN ENGINEERS, INC.
   530 WALNUT STREET
   7TH FLOOR
   PHILADELPHIA, PA 19106

   B. ZONED: 'CMX3' – COMMUNITY COMMERCIAL MIXED–USE
   C. ZONING OVERLAY: 'CTR'–CENTER CITY DISTRICT–CITY HALL VIEW CORRIDOR NORTHEAST 1
   D. WATERSHED: DELAWARE DIRECT WATERSHED (SOUTH) A, COMBINED SEWER

2. DEVELOPMENT TYPE: REHABILITATION
   PROPOSED USE: COMMERCIAL

3. ACCORDING TO THE FLOOD INSURANCE MAPS FOR THE CITY OF PHILADELPHIA PREPARED BY THE NATIONAL FLOOD INSURANCE PROGRAM, THE PROJECT FALLS WITHIN FLOOD ZONE X, MINIMAL FLOOD HAZARD, AS SHOWN ON MAP NUMBER 4207570184H, REVISED DATE 11/18/2015. FLOOD INSURANCE MAPS ARE MADE AVAILABLE BY FEMA.

4. DATUM:
   HORIZONTAL: THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM, NAD83.
   VERTICAL: CITY OF PHILADELPHIA VERTICAL DATUM, BASED ON PLAN ENTITLED "SURVEY, PLAN & REGULATION OF BLOCK R–2", PREPARED BY THE CITY OF PHILADELPHIA 9TH SURVEY DISTRICT ON DECEMBER 7, 2018

5. SITE BENCHMARK: MAG NAIL SET AT THE SOUTHEAST CORNER OF CALLOWHILL STREET AND N. 8TH STREET. ELEVATION = 32.43'

6. THE BASIS OF BEARINGS FOR THIS SURVEY IS BASED ON PLAN ENTITLED "SURVEY, PLAN & REGULATION OF BLOCK R–2", PREPARED BY THE CITY OF PHILADELPHIA 9TH SURVEY DISTRICT ON DECEMBER 7, 2018.

7. TOPOGRAPHIC SURVEY OF THE PREMISES WAS PERFORMED BY HUNT ENGINEERING COMPANY, INC. DURING THE MONTH OF SEPTEMBER 2018.

8. MEASURED PARCEL DIMENSIONS SHOWN ON THIS PLAN ARE IN PHILADELPHIA DISTRICT STANDARD. ALL CONSTRUCTION DIMENSIONS ARE IN U.S. STANDARD.

9. PROJECT BOUNDARY RIGHT–OF–WAY LINES SHOWN ARE BASED ON THE PLAN ENTITLED "SURVEY, PLAN & REGULATION OF BLOCK R–2", PREPARED BY THE PHILADELPHIA DEPARTMENT OF STREETS 9TH SURVEY DISTRICT ON DECEMBER 7, 2018 AND ARE NOT THE RESULT OF AN ACTUAL BOUNDARY SURVEY.

10. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND BASED ON UTILITY PLANS OBTAINED VIA PA ONECALL DESIGN TICKET NO. 20230671239, PERFORMED 3/8/2023 AND FROM CITY OF PHILADELPHIA HIGHWAY SUPERVISOR PLANS.

11. IF DISCREPANCIES IN OR OMISSIONS FROM THE CONTRACT DOCUMENTS ARE FOUND, NOTIFY THE ENGINEER IN WRITING IMMEDIATELY. NO CONSIDERATION OR ALLOWANCES WILL BE GRANTED FOR ANY ALLEGED MISUNDERSTANDING OF MATERIAL TO BE FURNISHED OR WORK TO BE PERFORMED.

12. THE CONTRACTOR SHALL NOTIFY THE PHILADELPHIA WATER DEPARTMENT 48 HOURS PRIOR TO ANY EARTH DISTURBANCE ACTIVITIES. THE CONTRACTOR SHALL SCHEDULE AND CONDUCT ALL CONSTRUCTION TO MINIMIZE EROSION.

13. APPROVED EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE PROVIDED AND MAINTAINED UNTIL ALL WORK IS COMPLETED. E&S PLANS SHALL BE AVAILABLE ON SITE UNTIL CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL CONDUCT OPERATIONS TO COMPLY WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. IF THE APPROVED PLAN(S) CANNOT BE FOLLOWED, THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL OF ALTERNATIVE EROSION AND SEDIMENTATION CONTROLS BY THE APPROPRIATE REGULATORY AGENCY. AT NO TIME SHALL WATER CONTAINING SEDIMENTS OR POLLUTANTS BE DISCHARGED INTO DRAINAGE DITCHES, STORMWATER PIPES OR WATERCOURSES.

14. FOR TRAFFIC CONTROL WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC (M.O.T.) INCLUDING THE INSTALLATION AND PERIODIC MAINTENANCE OF M.O.T. MEASURES AND DEVICES AT ALL TIMES. ALL M.O.T INSTALLATIONS ARE TO BE SUBMITTED TO THE PHILADELPHIA DEPARTMENT OF STREETS AND PENNDOT FOR APPROVAL BY THE CONTRACTOR. COST ASSOCIATED WITH THE M.O.T. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

15. THE CONTRACTOR SHALL REMOVE TREES THAT WILL INTERFERE WITH PROPOSED WORK INCLUDING STUMPS THAT ARE WITHIN THE LIMITS OF CONSTRUCTION.

16. CLEAR AND GRUB ALL VEGETATION AND OTHER MISCELLANEOUS ITEMS WITHIN THE LIMITS OF WORK PRIOR TO ANY EARTHMOVING ACTIVITIES.

17. ALL STRUCTURES ARE DESIGNED TO BE SELF–SUPPORTING AND STABLE AFTER CONSTRUCTION WORK IS FULLY COMPLETE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCE AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENTS PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE DOWNS WHICH MAY BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTORS PROPERTY AND BE REMOVED FROM THE SITE AFTER COMPLETION OF PROJECT.

18. CONTACT THE STREETS DEPARTMENT, AT LEAST TWO WEEKS PRIOR TO CONSTRUCTION, FOR THE FOLLOWING:

    HIGHWAY OCCUPANCY PERMIT: RIGHT–OF–WAY UNIT
    1401 JFK BLVD, MSB–940
    PHILADELPHIA, PA 19102–1685
    215–686–5097, FAX: 215–686–5062

    PAVING & TRENCH
    RESTORATION PROCEDURE: PROJECT & PROGRAMMING DIRECTOR
    215–686–5507

    LANE CLOSURE PERMITS: STREETS TECHNICAL SERVICES OFFICER
    TRAFFIC ENGINEERING
    1401 JFK BLVD, MSB–980
    PHILADELPHIA, PA 19102–1685
    215–686–5525, FAX: 215–686–5067

    PHILADELPHIA STREETS DEPARTMENT ADA REVIEW NUMBER: SR–2023–02274
    PENNDOT HOP NUMBER: 328428
    PENNDOT ADA TRACKING NUMBER: P4013–01

UTILITY NOTES

1. A PENNSYLVANIA ONE CALL SYSTEM DESIGNER TICKET WAS PLACED BY URBAN ENGINEERS, INC. ON MARCH 8, 2023. PA–ONE CALL SERIAL NUMBER IS 20230671239.

2. THE CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE CALL SYSTEM (1–800–242–1776) NO LESS THAN 7 WORKING DAYS AND NO MORE THAN 10 WORKING DAYS PRIOR TO START OF ANY EXCAVATION, AND SHALL PROVIDE WRITTEN NOTICE TO THE ENGINEER THAT CONTACT HAS BEEN MADE. UTILITIES LOCATED WITHIN THE PROJECT MAY BE PRIVATE AND MAY NOT BE LOCATED BY THE ONE CALL SERVICES. THEREFORE THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THOSE UTILITIES. CAUTION: LOCATION AND DEPTH OF GAS MAINS ARE APPROXIMATE. CALL 1–800–242–1776 FOR GAS SERVICE LOCATION BEFORE DIGGING. ALL GAS FACILITIES ARE TO BE LOCATED & EXPOSED WITH HAND TOOLS PRIOR TO THE USE OF POWER EQUIPMENT.

3. CAUTION: HIGH VOLTAGE LINES MAY EXIST WITHIN THE PROJECT LIMITS. ALL WORK IS TO BE PERFORMED IN CONFORMITY WITH ALL STATE, FEDERAL, UTILITY AND CONTRACT REQUIREMENTS. MEANS, METHODS, CHOICE OF EQUIPMENT, SEQUENCING OF AND SAFETY PRACTICES USED OR NOT USED, IN, ON OR AROUND HIGH VOLTAGE LINES OR OTHER UTILITY STRUCTURES, AS THESE ITEMS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR PHYSICALLY PERFORMING OR CONTROLLING THE PERFORMANCE OF THE WORK. EXCEPT WHERE ELECTRICAL DISTRIBUTION AND TRANSMISSION LINES HAVE BEEN DE–ENERGIZED AND VISIBLY DE–ENERGIZED GROUNDED AT THE POINT OF WORK, ASSUME THAT ALL SUCH LINES ARE ENERGIZED AND CONFORM OPERATIONS TO INTER ALIA, TITLE 29 OF THE CODE OF FEDERAL REGULATIONS, SECTION 1926.550(A)(19).

4. EXAMINE ALL DRAWINGS RELATED TO PROPOSED WORK OF ALL TRADES AND BECOME THOROUGHLY FAMILIAR AND FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK REQUIRED AND ITS RELATIONSHIP TO ALL OTHER WORK ON THE PROJECT. IF DISCREPANCIES IN OR OMISSIONS FROM THE CONTRACT DOCUMENTS ARE FOUND, NOTIFY THE ENGINEER IN WRITING IMMEDIATELY. NO CONSIDERATION OR ALLOWANCES WILL BE GRANTED FOR ANY ALLEGED MISUNDERSTANDING OF MATERIAL TO BE FURNISHED OR WORK TO BE PERFORMED.

5. THE CONTRACTOR SHALL NOTIFY THE PHILADELPHIA FIRE DEPARTMENT (215–686–1354) AND ENGINEER 7–DAYS IN ADVANCE FOR ANY WATER SHUT–OFF. NO WATER SHUT–OFF WILL BE ALLOWED UNLESS APPROVAL FROM THE PHILADELPHIA FIRE DEPARTMENT AND ENGINEER IS OBTAINED.

6. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES AND/OR TEMPORARILY RELOCATE AND PROPERLY SUPPORT EXISTING UTILITIES AS NECESSARY.

7. THE CONTRACTOR SHALL RESTORE INTERRUPTED OR DAMAGED UTILITY SERVICES 24 HOURS PER DAY UNTIL UTILITY SERVICES HAVE BEEN COMPLETELY RESTORED OR TEMPORARY SERVICES HAVE BEEN DETERMINED SUFFICIENT BY THE ENGINEER.

8. THE CONTRACTOR SHALL OBTAIN FROM THE APPROPRIATE UTILITY COMPANY OR CITY DEPARTMENT, VERIFICATION OF THE CURRENT STATUS OF UTILITIES AND STRUCTURES SHOWN ON THE CONTRACT DOCUMENTS PRIOR TO WORKING ON OR NEAR SUCH STRUCTURES AND UTILITIES.

9. ALL WATER UTILITY WORK TO BE DONE IN ACCORDANCE WITH THE CITY OF PHILADELPHIA WATER DEPARTMENT'S "WATER MAIN STANDARD DETAILS & CORROSION CONTROL SPECIFICATIONS", 1985 EDITION.

10. NEW SEWER WORK SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT REVISION OR AMENDMENT TO THE STANDARD SPECIFICATIONS AND STANDARD DETAILS OF THE PHILADELPHIA WATER DEPARTMENT, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

    A. STANDARD DETAILS AND STANDARD SPECIFICATIONS FOR SEWERS
    B. QUALITY CERTIFICATION STANDARD QC–1 FOR PRECAST CONCRETE PRODUCTS
    C. QUALITY CERTIFICATION STANDARD QC–2 FOR GRAY IRON CASTINGS
    D. QUALITY CERTIFICATION STANDARD QC–3 FOR READY–MIXED CONCRETE
    E. QUALITY CERTIFICATION STANDARD QC–6 FOR REINFORCED CONCRETE PIPE

11. CONTRACTOR TO COORDINATE WITH PWD (PHONE 215–685–6203) TO HAVE CITY INLETS CLEANED OF SEDIMENT, DIRT AND DEBRIS 7–DAYS PRIOR TO THE START OF CONSTRUCTION.

SOILS DATA

1. THE SOIL INFORMATION FOR THIS PROJECT WAS OBTAINED FROM THE U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.

2. SOIL SURVEY STAFF, NATURAL RESOURCES CONSERVATION SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE. WEB SOIL SURVEY. AVAILABLE ONLINE AT HTTP://WEBSOILSURVEY.NRCS.USDA.GOV/ACCESSED 08/30/2018.

3. THE SOIL SURVEY INDICATES THAT THE SOILS ENCOMPASSING THE PROJECT AREA ARE URBAN SOILS. THE SOILS AND FOUNDATION MATERIALS ARE HIGHLY VARIABLE.

STORMWATER MANAGEMENT NOTES

ERSA TRACKING NUMBER: FY23–PCCA–7401–01

1. CONTACT THE PHILADELPHIA WATER DEPARTMENT (PWD) AT LEAST THREE DAYS PRIOR TO THE START OF WORK. TO SCHEDULE THE PRE–CONSTRUCTION MEETING, PLEASE CONTACT THE ASSIGNED INSPECTOR ANGELA RODRIGUEZ AT 610–427–9236 OR ANGELA.RODRIGUEZ@PHILA.GOV.

2. TOTAL AREA OF DISTURBANCE IS 16,345 SF, INCLUDING WORK IN THE PUBLIC RIGHT–OF–WAY. DISTURBANCE DUE TO CONSTRUCTION IN THE PUBLIC R.O.W. IS SHOWN FOR SCHEMATIC PURPOSES ONLY AND SUBJECT TO CHANGE. DISTURBANCE WITHIN THE PROPERTY IS 12,282 SF. ACTUAL CONSTRUCTION DISTURBANCE WITHIN THE PROPERTY LIMITS MUST BE KEPT UNDER 15,000 SF. THE PHILADELPHIA WATER DEPARTMENT WILL MONITOR THE SITE AND WILL REQUIRE STORMWATER MANAGEMENT IMPROVEMENTS IF DISTURBANCE EXCEEDS 15,000 SF DURING CONSTRUCTION.

3. THE CONTRACTOR SHALL PERFORM ANY REMEDIATION OR REPAIRS TO EXISTING PWD INFRASTRUCTURE THAT IS DAMAGED BY CONSTRUCTION ACTIVITIES, AT NO ADDITIONAL COST TO THE CITY.

4. PROJECT IS LOCATED IN THE DELAWARE DIRECT WATERSHED. SEWER COLLECTION IS COMBINED. PROJECT IS LOCATED IN STORMWATER MANAGEMENT DISTRICT A.

5. THE PROJECT IS ELIGIBLE FOR A DEVELOPMENT EXEMPTION FROM PWD FOR POST–CONSTRUCTION MANAGEMENT.

LIGHTING NOTES:

1. IF STREETLIGHTS NEED TO BE REMOVED/RELOCATED, THEN PROPER APPLICATION AND NOTIFICATION SHOULD BE MADE TO STREET LIGHTING (AT BYRON.W.JAMES@PHILA.GOV, PATRICE.NUBLE@PHILA.GOV & KEVIN.MCGINLEY@PHILA.GOV). SCHEDULE A SITE VISIT WITH A STREET LIGHTING AND A PECO REPRESENTATIVE FOR THE POLE REMOVAL AND APPROVAL OF TEMPORARY STREETLIGHTING.

2. IF THERE ARE ANY SIDEWALK MODIFICATIONS, THEN A 2" REVEAL FOR THE FOUNDATION MUST BE MAINTAINED AT FINAL GRADE. IF THE 2" REVEAL CAN NOT BE MAINTAINED, THEN THE FOUNDATION IS TO BE RECONSTRUCTED. CONTACT STREET LIGHTING IMMEDIATELY.

3. PROTECT ALL STREETLIGHTING INFRASTRUCTURE DURING CONSTRUCTION. IF ANY INFRASTRUCTURE IS DAMAGED DURING CONSTRUCTION, THEN THE PROJECT IS RESPONSIBLE FOR THE REPAIR/REPLACEMENT OF SAME AND IS TO CONTACT PECO AND STREET LIGHTING IMMEDIATELY.

PENNDOT NOTES:

1. IF THE PROPOSED IMPROVEMENTS REQUIRE THE RELOCATION OF PENNDOT FIBER OPTIC CABLE(S), THE PERMITTEE IS RESPONSIBLE FOR THE FULL EXPENSE OF RELOCATING THESE FACILITIES.

PHILADELPHIA DEPARTMENT OF STREETS NOTES:

1. WORK TO BE DONE IN ACCORDANCE WITH STANDARD SPECIFICATIONS, APPROVED DRAWINGS, AND REGULATIONS OF THE DEPARTMENT OF STREETS, PHILADELPHIA WATER DEPARTMENT, PHILADELPHIA PARKS & RECREATION DEPARTMENT, AND SPECIAL PROVISIONS OF THE PROPOSAL.

2. PURSUANT TO THE REQUIREMENTS OF PENNSYLVANIA ACT 287 (1974), AND AS AMENDED, THE CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE CALL SYSTEM AT 1–800–242–1776, AT LEAST 3 WORKING DAYS PRIOR TO EXCAVATION. PENNSYLVANIA ONE CALL SYSTEM # 20230671239

3. UTILITIES SHOWN ARE TAKEN FROM PUBLIC RECORD. THE CONTRACTOR MUST VERIFY THE EXACT LOCATION AND DEPTH.

4. HORIZONTAL AND VERTICAL CONTROL, LINE AND GRADE STAKES FOR CURB, PAVING, ETC. WILL BE FURNISHED BY THE DISTRICT 5 SURVEY DISTRICT OF THE CITY OF PHILADELPHIA BASED ON ITEM #4–1040. NOTE: THIS ITEM, ENGINEERING SERVICES, IS A PRE–DETERMINED AMOUNT TO BE DETERMINED BY THE SURVEYOR & REGULATOR AND TO BE INCLUDED IN THE CONTRACTOR'S BID.

5. PERMITS FOR BOLLARDS, CURB, & SIDEWALK WILL BE FURNISHED BY THE DISTRICT 3 HIGHWAY DISTRICT OF THE CITY OF PHILADELPHIA

6. THE CITY OF PHILADELPHIA SHALL PROVIDE INSPECTION SERVICES FOR PAVING AND RELATED WORK, TO BE PAID UNDER ITEM #4–1041 AT A COST OF $345 PER DAY. THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION UNIT OF THE DIVISION OF SURVEYS, DESIGN & CONSTRUCTION AT (215) 686–5539, A MINIMUM 2 WEEKS PRIOR TO THE START OF WORK. THIS ITEM, INSPECTION SERVICES, SHALL BE INCLUDED IN THE CONTRACTOR'S BID.

7. STREET LIGHT POLE LOCATIONS ARE NOT FINAL. THE STREETS DEPARTMENT STREET LIGHTING ENGINEER WILL DETERMINE THE EXACT LOCATIONS OF THE STREET LIGHT POLES DURING CONSTRUCTION. CONTACT THE STREET LIGHTING ENGINEER AT (215) 686–5517 TO COORDINATE STREET LIGHT POLE LOCATIONS.

8. STREET TREES MUST BE PERMITTED BY THE PHILADELPHIA DEPARTMENT OF PARKS & RECREATION. CONTACT THE STREET TREE MANAGEMENT DIVISION AT (215) 685–4363

9. FOR PROJECTS ON STATE ROUTES, NOTICE IS HEREBY GIVEN THAT THE RECEIPT OF A PERMIT FROM EITHER THE PHILADELPHIA STREETS DEPARTMENT, OR THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT) DOES NOT IMPLY A PERMIT FROM THE OTHER. ALL PERMITS MUST BE OBTAINED PRIOR TO THE START OF CONSTRUCTION

UTILITY CONTACTS

COMPANY: CROWN CASTLE
ADDRESS: 1500 CORPORATE DR
CANONSBURG, PA. 15317
CONTACT: TYLER STEIN
EMAIL: TYLER.STEIN@CROWNCASTLE.COM

COMPANY: AT&T
ADDRESS: 7555 E PLEASANT VALLEY ROAD
SUITE 140
INDEPENDENCE, OH. 44131
CONTACT: MIKE DIEDERICH
EMAIL: MD4145@ATT.COM

COMPANY: COMCAST
ADDRESS: 4400 WAYNE AVENUE
PHILADELPHIA, PA. 19140
CONTACT: ROBERT HARVEY
EMAIL: BOB_HARVEY@CABLE.COMCAST.COM

COMPANY: PECO ENERGY C/O USIC
ADDRESS: 450 S HENDERSON RD SUITE B
KING OF PRUSSIA, PA. 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

COMPANY: CENTURY LINK
ADDRESS: 1025 ELDORADO BLVD
BROOMFIELD, CO. 80021
CONTACT: CENTURY LINK OPERATOR PERSONNEL
EMAIL: NATIONALRELO@CENTURYLINK.COM

COMPANY: PHILADELPHIA CITY WATER DEPARTMENT
ADDRESS: 1101 MARKET STREET
2ND FLOOR ARA TOWER
PHILADELPHIA, PA. 19107
CONTACT: ERIC PONERT
EMAIL: ERIC.PONERT@PHILA.GOV

COMPANY: CITY OF PHILADELPHIA
ADDRESS: 4501 G ST
PHILADELPHIA, PA. 19120
CONTACT: KEVIN MCGINLEY
EMAIL: KEVIN.MCGINLEY@PHILA.GOV

COMPANY: PHILADELPHIA GAS WORKS
ADDRESS: 800 W MONTGOMERY AVE
PHILADELPHIA, PA. 19122
CONTACT: MICHAEL PARZANESE
EMAIL: MICHAEL.PARZANESE@PGWORKS.COM

COMPANY: SOUTHEASTERN PA TRANSPORTATION AUTHORITY
ADDRESS: 1234 MARKET ST 12TH FL
PHILADELPHIA, PA. 19107
CONTACT: DAVID MONTVYDAS
EMAIL: DMONTVYDAS@SEPTA.ORG

COMPANY: VERIZON PENNSYLVANIA LLC
ADDRESS: 1050 VIRGINIA DR
FORT WASHINGTON, PA. 19034
CONTACT: DARLINE LEPPERD JOHNSON

COMPANY: PHILADELPHIA CITY DEPARTMENT OF STREETS
ADDRESS: 1401 JFK BLVD ROOM 960 MSB
PHILADELPHIA, PA. 19102
CONTACT: MAUREEN WANGARI
EMAIL: MAUREEN.WANGARI@PHILA.GOV

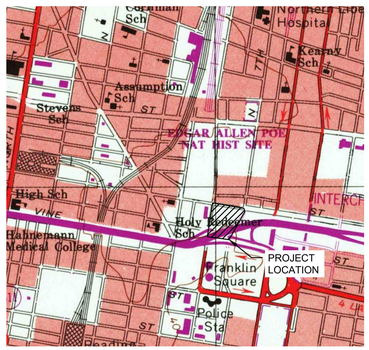
COMPANY: PENNDOT DISTRICT 6
ADDRESS: 7000 GEERDES BLVD
KING OF PRUSSIA, PA 19406
PHONE: 610–205–6700

COMPANY: WINDSTREAM COMMUNICATIONS
ADDRESS: 18 SHEA WAY, SUITE 112
NEWARK, DE 19713
CONTACT: HARRY SHEPPARD
PHONE: 302–224–7121
EMAIL: HARRY.SHEPPARD@WINDSTREAM.COM

COMPANY: ASTOUND BROADBAND
ADDRESS: 5508 NOR BATH BLVD.
NORTHAMPTON, PA 18067
CONTACT: JACQUELINE KASPERN
PHONE: 484–781–4176
EMAIL: JACQUELINE.KASPERN@ASTOUND.COM

CIVIL/STRUCTURAL ABBREVIATIONS

ACI	=	AMERICAN CONCRETE INSTITUTE	NS	=	NEAR SIDE
ACD	=	ADMIRALTY CHART DATUM	LF	=	LINEAR FEET
AISC	=	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LG	=	LONG
			M	=	METERS
ALT	=	ALTERNATE	mm	=	MILLIMETERS
ANSI	=	AMERICAN NATIONAL STANDARDS INSTITUTE	MAX	=	MAXIMUM
			MEA	=	MEASURED
APPROX	=	APPROXIMATE	MHHW	=	MEAN HIGHER HIGH WATER
ASTM	=	AMERICAN SOCIETY OF TESTING AND MATERIALS	MHW	=	MEAN HIGH WATER
			MIN	=	MINIMUM
AWS	=	AMERICAN WELDING SOCIETY	MISC	=	MISCELLANEOUS
B.O.P.	=	BOTTOM OF PIPE	MLLW	=	MEAN LOWER LOW WATER
B/B	=	BACK TO BACK	MLW	=	MEAN LOW WATER
C	=	CHANNEL	MPa	=	MEGAPASCALS
C/C	=	CENTER TO CENTER	MPH	=	MILES PER HOUR
CF	=	CUBIC FEET	MSL	=	MEAN SEA LEVEL
CIP	=	CAST IRON PIPE	N	=	NORTH
CJ	=	CONSTRUCTION JOINT	NIC	=	NOT IN CONTRACT
CLR	=	CLEAR	NTS	=	NOT TO SCALE
CO	=	CLEAN OUT	NO.	=	NUMBER
CONC	=	CONCRETE	O.C.	=	ON CENTER
CONST	=	CONSTRUCTION	PVC	=	POLYVINYL CHLORIDE
CONT	=	CONTINUOUS	R/F	=	REINFORCING
D	=	DEPTH	R.C.P.	=	REINFORCED CONCRETE PIPE
D/R	=	DOWN RIVER	REQ'D	=	REQUIRED
DEG	=	DEGREES	S	=	SOUTH
DETL'S	=	DETAILS	SCH	=	SCHEDULE
DFM	=	DIESEL FUEL MARINE	SECT	=	SECTION
DIA	=	DIAMETER	SHT	=	SHEET
DIST	=	DISTANCE	SIM	=	SIMILAR
DOD	=	DEPARTMENT OF DEFENSE	SPEC	=	SPECIFICATION
EA	=	EACH	SQ	=	SQUARE
EF	=	EACH FACE	SS	=	STAINLESS STEEL
EHW	=	EXTREME HIGH WATER	STRUC.	=	STRUCTURE
EL	=	ELEVATION	SUPP	=	SUPPORT
ELEC	=	ELECTRICAL	SY	=	SQUARE YARD
ETC	=	ETCETERA	T&B	=	TOP AND BOTTOM
EW	=	EACH WAY	T.B.D	=	TO BE DETERMINED
EXIST.	=	EXISTING	TEMP	=	TEMPORARY
EXT	=	EXTERIOR	T.O.C	=	TOP OF CONCRETE
EXPN	=	EXPANSION	T.O.S	=	TOP OF STEEL
FDN.	=	FOUNDATION	TYP	=	TYPICAL
FRP	=	FIBERGLASS REINFORCED PLASTIC	UNO	=	UNLESS NOTED OTHERWISE
FS	=	FAR SIDE	UHMW	=	ULTRA HIGH MOLECULAR WT.
FT	=	FEET	U/R	=	UP RIVER
FW	=	FRESH WATER	W/	=	WITH
GALV	=	GALVANIZED	W	=	WIDTH OR WIDE FLANGE BEAM
GR	=	GRADE	W.T.	=	WALL THICKNESS
GRTNG	=	GRATING	WT	=	WEIGHT
GUSS	=	GUSSET	℄	=	CENTER LINE
H	=	HEIGHT	#	=	NUMBER
HAT	=	HIGHEST ASTRONOMICAL TIDE	%	=	PERCENT
I	=	I BEAM	≦	=	LESS THAN OR EQUAL TO
INV	=	INVERT	PL	=	PLATE
JT	=	JOINT	&	=	AND
kg	=	KILOGRAMS	@	=	AT
KN	=	KILONEWTONS	x	=	BY
L	=	LENGTH OR ANGLE	∅	=	DIAMETER
LAT	=	LOWEST ASTRONOMICAL TIDE	/	=	PER
LB	=	POUND			
LLV	=	LONG LEG VERTICAL			



USGS QUADRANGLE MAP
SCALE: 1" = 1000'

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

6/14/2024
LICENSED PROFESSIONAL WILLIAM C. LORDAN, IV ENGINEER

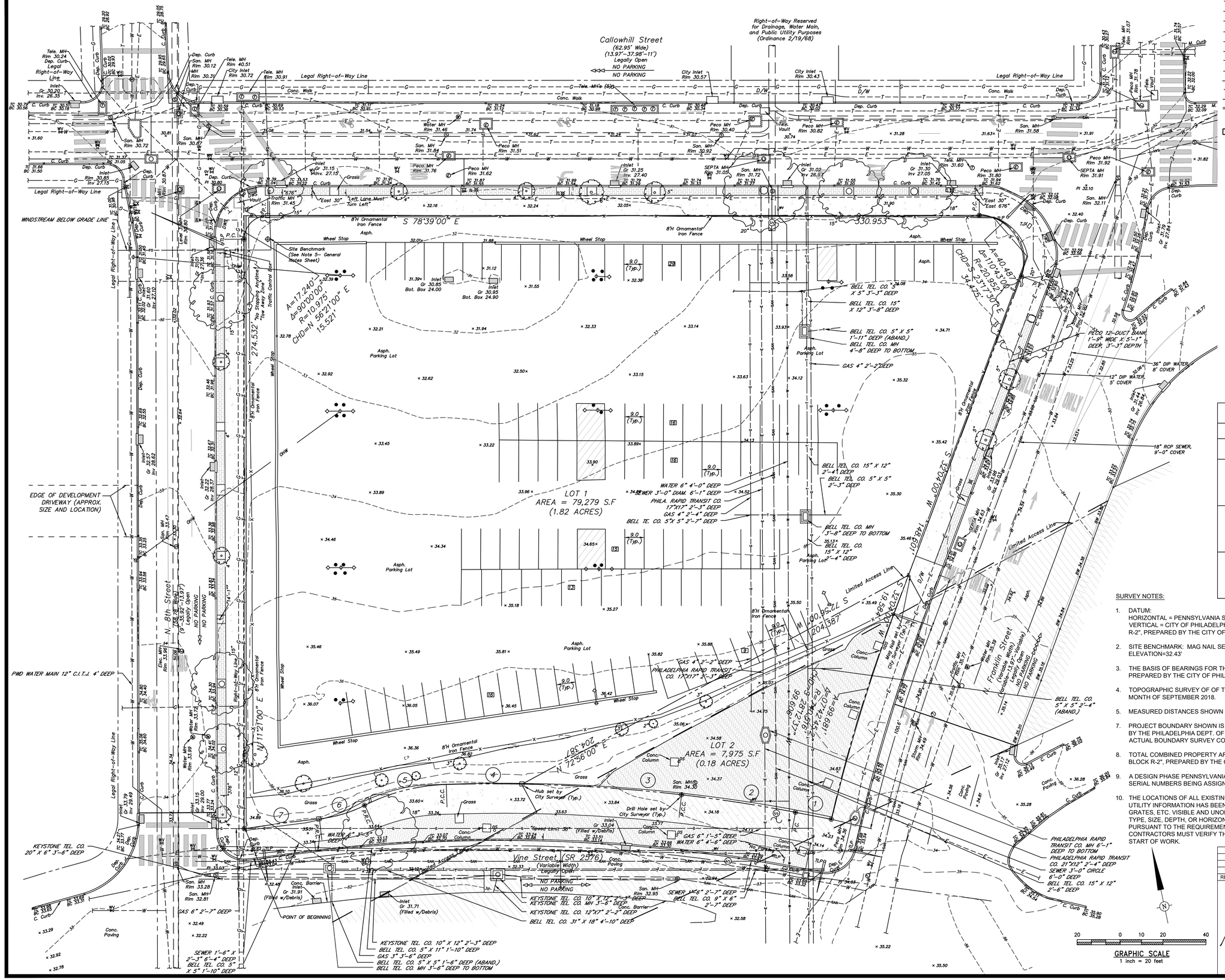
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
GENERAL NOTES

DWN | PROJ # 2023280024.000 | DRAWING NUMBER
CHK | DATE JUNE 14, 2024 | G-001

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\GENERAL NOTES.dwg



EXISTING CONDITIONS LEGEND

- UNDERGROUND SEPTA LINE
- UNDERGROUND TELEPHONE/COMMUNICATION LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND STORM SEWER LINE
- OVERHEAD ELECTRIC LINE
- FENCE
- RIGHT OF WAY LINE
- CURB LINE
- ELEVATED ROADWAY SUPPORT STRUCTURE
- FOOTPRINT OF INTERSTATE 676
- Dep. Curb — DEPRESSED CURB
- STORM SEWER MANHOLE
- TELEPHONE/COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- E/JX — ELECTRIC JUNCTION BOX
- T/JX — TELEPHONE/COMMUNICATION JUNCTION BOX
- DECIDUOUS TREE
- tc — TOP OF CURB
- bc — BOTTOM OF CURB
- CONCRETE
- COBBLESTONE
- DWS — DETECTABLE WARNING STRIP
- INLET
- TLP — TRAFFIC POLE W/ MAST ARM
- TCB — TRAFFIC CONTROL BOX
- SIGN
- DS — DOWNSPOUT
- GAS VALVE
- WATER VALVE
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- TL — LIGHT POLE
- INV. — INVERT
- Gr. — GRATE

BOUNDARY INFORMATION		BOUNDARY INFORMATION	
LOCATION	METES & BOUNDS	LOCATION	METES & BOUNDS
1	N 67°44'44" W 17.022'	5	A=39.437' Δ=25°26'46" R=88.798' CHD=S 87°01'46" W 39.114'
2	A=53.632' Δ=04°16'24" R=719.084' CHD=N 69°52'56" W 53.620'	6	A=22.213' Δ=20°54'42" R=60.862' CHD=S 84°45'43" W 22.090'
3	A=74.432' Δ=05°34'43" R=764.462' CHD=N 74°48'30" W 74.403'	7	A=35.075' Δ=02°40'14" R=752.489' CHD=S 86°07'04" E 35.072'
4	A=35.358' Δ=02°39'00" R=764.462' CHD=N 78°55'21" W 35.355'		

SURVEY NOTES:

1. DATUM:
   HORIZONTAL = PENNSYLVANIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83.
   VERTICAL = CITY OF PHILADELPHIA VERTICAL DATUM, BASED ON PLAN ENTITLED "SURVEY, PLAN & REGULATION OF BLOCK R-2", PREPARED BY THE CITY OF PHILADELPHIA 9TH SURVEY DISTRICT ON DECEMBER 7, 2018.
2. SITE BENCHMARK: MAG NAIL SET A THE SOUTHEAST CORNER OF CALLOWHILL STREET AND N. 8TH STREET. ELEVATION=32.43'
3. THE BASIS OF BEARINGS FOR THIS SURVEY IS BASED ON PLAN ENTITLED "SURVEY, PLAN & REGULATION OF BLOCK R-2", PREPARED BY THE CITY OF PHILADELPHIA 9TH SURVEY DISTRICT ON DECEMBER 7, 2018.
4. TOPOGRAPHIC SURVEY OF OF THE PREMESIS WAS PERFORMED BY HUNT ENGINEERING COMPANY, INC., DURING THE MONTH OF SEPTEMBER 2018.
5. MEASURED DISTANCES SHOWN ON THIS PLAN ARE IN PHILADELPHIA DISTRICT STANDARD.
7. PROJECT BOUNDARY SHOWN IS BASED ON THE PLAN ENTITLED "SURVEY, PLAN & REGULATION OF BLOCK R-2," PREPARED BY THE PHILADELPHIA DEPT. OF STREETS 9TH SURVEY DISTRICT ON DECEMBER 7, 2018, AND NOT THE RESULT OF AN ACTUAL BOUNDARY SURVEY CONDUCTED BY HUNT ENGINEERING COMPANY, INC..
8. TOTAL COMBINED PROPERTY AREA = 87,096SF (1.99946 ACRES), PER PLAN ENTITLED "SURVEY, PLAN & REGULATION OF BLOCK R-2", PREPARED BY THE CITY OF PHILADELPHIA 9TH SURVEY DISTRICT ON DECEMBER 7, 2018.
9. A DESIGN PHASE PENNSYLVANIA ONE-CALL WAS PLACED FOR THIS PROJECT ON AUGUST 28, 2018 WITH THE FOLLOWING SERIAL NUMBERS BEING ASSIGNED: 20182400985, 20182401123, 20182401724, 20182401780, 20182401864, & 20182401898.
10. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON SHALL BE CONSIDERED APPROXIMATE. THE UNDERGROUND UTILITY INFORMATION HAS BEEN DEVELOPED FIELD SURVEYED UTILITY FEATURES, SUCH AS VALVES, MANHOLES, INLET GRATES, ETC. VISIBLE AND UNOBSTRUCTED AT THE TIME OF THE SURVEY. THE COMPLETENESS AND ACCURACY OF THE TYPE, SIZE, DEPTH, OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES AND FACILITIES CANNOT BE GUARANTEED. PURSUANT TO THE REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974, AND AMENDMENTS THEREOF, CONTRACTORS MUST VERIFY THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITES AND FACILITIES PRIOR TO THE START OF WORK.

GRAPHIC SCALE
1 inch = 20 feet
20 0 10 20 40

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
EXISTING CONDITIONS

6/14/2024
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
WILLIAM C. LORENZ IV
ENGINEER

DWN	PROJ # 2023280024.000	DRAWING NUMBER
CHK	DATE JUNE 14, 2024	C-100

DEMOLITION LEGEND

R&D	REMOVE AND DISPOSE
R&S	REMOVE AND SALVAGE
▨	MILL ASPHALT PAVEMENT, 1 ½" DEPTH
■	R&D ASPHALT PAVEMENT FULL DEPTH
▤	R&D CONCRETE PAVEMENT
☐	R&D COBBLESTONE
⁘	R&D GRASS
┼┼┼	UTILITY LINE TO BE REMOVED

EXISTING CONDITIONS LEGEND

— — —	UNDERGROUND SEPTA LINE
—T—	UNDERGROUND TELEPHONE/COMMUNICATION LINE
—W—	UNDERGROUND WATER LINE
—G—	UNDERGROUND GAS LINE
—E—	UNDERGROUND ELECTRIC LINE
—SAN—	UNDERGROUND SANITARY SEWER LINE
—STO—	UNDERGROUND STORM SEWER LINE
—OH/E—	OVERHEAD ELECTRIC LINE
—X—	FENCE
— - - —	RIGHT OF WAY LINE
═	CURB LINE
☐	ELEVATED ROADWAY SUPPORT STRUCTURE
▨	FOOTPRINT OF INTERSTATE 676
Dep. Curb	DEPRESSED CURB
Ⓓ	STORM SEWER MANHOLE
Ⓣ	TELEPHONE/COMMUNICATION MANHOLE
Ⓔ	ELECTRIC MANHOLE
Ⓢ	SANITARY SEWER MANHOLE
Ⓤ	UNKNOWN MANHOLE
EJX☐	ELECTRIC JUNCTION BOX
TJX☐	TELEPHONE/COMMUNICATION JUNCTION BOX
○	DECIDUOUS TREE
TC	TOP OF CURB
BC	BOTTOM OF CURB
■ DWS	DETECTABLE WARNING STRIP
▨	INLET
TLP ○	TRAFFIC POLE W/ MAST ARM
○ TCB	TRAFFIC CONTROL BOX
┤	SIGN
○DS	DOWNSPOUT
GV ⋈	GAS VALVE
WV ⋈	WATER VALVE
○—○	UTILITY POLE W/ LIGHT
⌘	FIRE HYDRANT
TL ☒	LIGHT POLE
INV.	INVERT
Gr.	GRATE

DEMOLITION NOTES:

1. ANY FEATURES ON THIS PLAN NOT SPECIFICALLY CALLED OUT TO BE REMOVED, DEMOLISHED, OR ADJUSTED SHALL BE PROTECTED.
2. EARTH DISTURBANCE THROUGHOUT THE PROJECT SHALL BE MINIMIZED TO THE MAXIMUM EXTENT PRACTICAL, AND MAY NOT EXCEED THE LIMITS-OF-DISTURBANCE.
3. COORDINATE ALL DEMOLITION WITH STRUCTURAL, ELECTRICAL, AND DEMOLITION DETAILS PLANS.
4. ALL UTILITY GRATES, LIDS, ETC. SHALL BE PROTECTED AND BROUGHT UP TO PROPOSED FINISH GRADE, UNLESS OTHERWISE SPECIFIED.
5. CONCRETE SIDEWALK TO BE DEMOLISHED TO NEAREST EXISTING JOINT. PROTECT EXISTING SIDEWALK TO BE MAINTAINED.
6. REFER TO SITE PLAN C-300 FOR AREAS OF FULL DEPTH PAVEMENT REMOVAL AND ASPHALT OVERLAY.
7. FOR ALL UNDERGROUND WORK TO BE DONE WITHIN 18" OF EXISTING UTILITY LINES, THE CONTRACTOR MUST VERIFY THE LOCATION OF THE LINES IN THE FIELD PRIOR TO DEMOLITION IN ORDER TO AVOID DAMAGING UTILITY AND TO VERIFY PROPOSED STRUCTURES CAN BE INSTALLED WITHOUT IMPACTING EXISTING UTILITY. THIS APPLIES TO REMOVAL OF EXISTING AND INSTALLATION OF NEW FEATURES.

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

6/14/2024

WILLIAM C. LORDAN IV
ENGINEER
No. PE086351

URBAN ENGINEERS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION
PHILADELPHIA, PA.

TITLE
DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
DEMOLITION PLAN

DWN	PROJ # 2023280024.000	DRAWING NUMBER
CHK	DATE JUNE 14, 2024	C-200

ADD. ALT. NO. 1

REPLACE ONE (1) PANEL OF DAMAGED EXISTING FENCE WITH SALVAGED 8' FENCE PANEL

RESET GRATE AND FRAME TO MATCH NEW SURFACE ELEVATION

FULL DEPTH PAVEMENT RECONSTRUCTION

CLEAN SIDEWALK OF ALL TRASH AND DEBRIS

LIGHT POLE AND BOLLARDS TO BE INSTALLED MAY BE NEAR UNDERGROUND GAS LINE. CONTRACTOR TO CONFIRM LOCATION OF UNDERGROUND UTILITIES IN THIS AREA. REFER TO C-100 FOR EXISTING UTILITY LAYOUT AS TAKEN FROM RECORD

Callowhill Street (62.95' Wide) (13.97'–37.98'–11') Legally Open NO PARKING NO PARKING

Right–of–Way Reserved for Drainage, Water Main, and Public Utility Purposes (Ordinance 2/19/68)

Legal Right–of–Way Line

5' FURNISHING ZONE

9' WALKING ZONE

12'

10'

3 C-701 WHEEL STOP, TYP.

NEW 8' BLACK GALVANIZED STEEL FENCE ALONG 8TH STREET

5' FURNISHING ZONE

9' WALKING ZONE

PROPOSED 8TH STREET DRIVEWAY

EDGE OF DEVELOPMENT DRIVEWAY (APPROX. SIZE AND LOCATION)

1 C-700 DEPRESSED CONCRETE CURB FOR PROPOSED 8TH STREET DRIVEWAY

MANUAL SLIDING GATE 1 C-702

RESEED GRASS STRIP BETWEEN FENCE AND SIDEWALK

N. 8th Street (58.78' Wide) (9'–35.92'–13.97') Legally Open NO PARKING NO PARKING

7 C-701 FILL AND CAP EXISTING VAULT PER DETAIL. PAVE TO PROPOSED GRADE

6 C-701 FULL DEPTH ASPHALT REPLACEMENT

TYPE 1 CURB RAMP

9' WALKING ZONE
4' FURNISHING ZONE

REPLACE ONE (1) PANEL OF DAMAGED EXISTING FENCE WITH SALVAGED 8' FENCE PANEL

REGRADE WASHOUT AREA OF PAVEMENT

REGRADE LAWN WASHOUT AREA TO HAVE SLOPE CONSISTENT WITH SURROUNDING LAWN GRADING

POINT OF BEGINNING

Vine Street (SR 2576) (Variable Width) Legally Open NO PARKING NO PARKING

EXISTING MANHOLE FROM RECORD DRAWINGS, NO EVIDENCE OF MANHOLE ON SURFACE. MANHOLE LIKELY BURIED. IF ENCOUNTERED DURING CONSTRUCTION, MANHOLE TO BE MAINTAINED IN PLACE

BELL TEL. CO. MH 4'–8" DEEP TO BOTTOM

BOLLARD (TYP) 5 C-701

4 C-702 SEE CONSTRUCTION DETAIL FOR STANDARD BOLLARD AND LIGHT POLE LAYOUT

1 C-702 MOTORIZED SLIDING GATE

BELL TEL. CO. MH 3'–8" DEEP TO BOTTOM

FILL AND CAP EXISTING UTILITY VAULT PER DETAIL. PAVE TO PROPOSED GRADE

RESEED GRASS

RECONNECT DECOUPLED FENCE PANELS

14' WALKING ZONE

12' FURNISHING ZONE

REPLACE AND RELOCATE 8' ORNAMENTAL STEEL FENCE AT 15' OFFSET FROM EDGE OF OVERPASS

BELL TEL. CO. MH 3'–6" DEEP TO BOTTOM

5' FURNISHING ZONE
9' WALKING ZONE
ADA PARKING SIGN 2 C-700

BOLLARDS PLACED AT 2' FROM CORNER OF BUILDING 5 C-701

PRE FABRICATED GUARD BOOTH

GATE OPERATOR 3 C-702

DEPRESSED CURB FOR RELOCATED FRANKLIN STREET DRIVEWAY 1 C-700

CONCRETE SIDEWALK

N. Franklin Street (Variable Width) (Variable 97'–Variable) Legally Open NO PARKING NO PARKING

CONCRETE CURB 2 C-700

"NO PARKING" SIGN INSTALL AT MID-POINT BETWEEN COLUMNS 1 C-701

"NO PARKING" SIGN INSTALL AT EVEN INTERVALSBETWEEN COLUMNS 1 C-701

TYPE 1 CURB RAMP 4 C-701

PHILADELPHIA RAPID TRANSIT CO. MH 6'–1" DEEP TO BOTTOM

36" DIP WATER, 8' COVER

12" DIP WATER, 5' COVER

18" RCP SEWER, 9'–0" COVER

GRAPHIC SCALE
1 inch = 20 feet
20 0 10 20 40

SITE LEGEND

- BUILDING
- 8' STEEL FENCE
- CURB
- DEPRESSED CURB
- CONCRETE PAVEMENT
- FULL DEPTH ASPHALT PAVEMENT
- GRASS/LANDSCAPING
- ASPHALT OVERLAY
- WHEEL STOP
- 6" BOLLARD
- LIGHT POLE
- ADA PARKING SIGN
- FILLED AND CAPPED EXISTING VAULT
- DETECTABLE WARNING STRIPS
- PUSH BUTTON

EXISTING CONDITIONS LEGEND

- UNDERGROUND STORM SEWER LINE
- OVERHEAD ELECTRIC LINE
- FENCE
- RIGHT OF WAY LINE
- CURB LINE
- ELEVATED ROADWAY SUPPORT STRUCTURE
- FOOTPRINT OF INTERSTATE 676
- DEPRESSED CURB
- STORM SEWER MANHOLE
- TELEPHONE/COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- ELECTRIC JUNCTION BOX
- TELEPHONE/COMMUNICATION JUNCTION BOX
- DECIDUOUS TREE
- TOP OF CURB
- BOTTOM OF CURB
- CONCRETE
- COBBLESTONE
- DETECTABLE WARNING STRIP
- INLET
- TRAFFIC POLE W/ MAST ARM
- TRAFFIC CONTROL BOX
- SIGN
- DOWNSPOUT
- GAS VALVE
- WATER VALVE
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- LIGHT POLE
- INVERT
- GRATE

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LICENSED PROFESSIONAL WILLIAM C. LORSON IV ENGINEER PENNSYLVANIA

6/14/2024

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
SITE PLAN

DWN | PROJ # 2023280024.000 | DRAWING NUMBER C-300
CHK | DATE JUNE 14, 2024

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\SITE PLAN.dwg

SITE LEGEND

- BUILDING
- 8' STEEL FENCE
- CURB
- DEPRESSED CURB
- CONCRETE PAVEMENT
- GRASS/LANDSCAPING
- WHEEL STOP
- ○ 6" BOLLARD
- LIGHT POLE
- ADA PARKING SIGN
- ♿ ADA PARKING SYMBOL
- ▨ PAINT STRIPING
- ⑪ PARKING NUMBER
- DETECTABLE WARNING STRIPS

EXISTING CONDITIONS LEGEND

- UNDERGROUND SEPTA LINE
- UNDERGROUND TELEPHONE/COMMUNICATION LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND STORM SEWER LINE
- OVERHEAD ELECTRIC LINE
- FENCE
- RIGHT OF WAY LINE
- CURB LINE
- ELEVATED ROADWAY SUPPORT STRUCTURE
- FOOTPRINT OF INTERSTATE 676
- DEPRESSED CURB
- Ⓓ STORM SEWER MANHOLE
- Ⓣ TELEPHONE/COMMUNICATION MANHOLE
- Ⓔ ELECTRIC MANHOLE
- Ⓢ SANITARY SEWER MANHOLE
- Ⓤ UNKNOWN MANHOLE
- EJX ELECTRIC JUNCTION BOX
- TJX TELEPHONE/COMMUNICATION JUNCTION BOX
- DECIDUOUS TREE
- CONCRETE
- COBBLESTONE
- DWS DETECTABLE WARNING STRIP
- INLET
- TLP TRAFFIC POLE W/ MAST ARM
- TCB TRAFFIC CONTROL BOX
- SIGN
- DS DOWNSPOUT
- GV GAS VALVE
- WV WATER VALVE
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- TL LIGHT POLE

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

6/14/2024

WILLIAM C. LORDAN IV
PE086351

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION
PHILADELPHIA, PA.

TITLE
DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
STRIPING PLAN

DWN
CHK
PROJ # 2023280024.000
DATE JUNE 14, 2024
DRAWING NUMBER
C-301

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\STRIPING PLAN.dwg

INLET GRATE ELEVATIONS TO BE MAINTAINED. ASPHALT OVERLAY TO MATCH GRADE AT EACH INLET GRATE

Callowhill Street
(62.95' Wide)
(13.97'–37.98'–11')
Legally Open
NO PARKING
NO PARKING

PROPOSED GRADE TO MATCH EXISTING WITHIN LIMIT OF MILL AND OVERLAY

PREFABRICATED GUARD SHACK STRUCTURE FFE 35.33

MATCH NEW ASPHALT PAVEMENT ELEVATIONS AT ALL EDGES TO NEW MILL AND OVERLAY ELEVATION

HIGH POINT 30.98

REFER TO C-401 FOR DRIVEWAY GRADING DESIGN

SLOPE LANDSCAPE STRIP FROM LOT TO SIDEWALK AS NEEDED, MAX. 2:1 SLOPE

MATCH EXISTING SIDEWALK ELEVATION AT LIMIT OF PROPOSED SIDEWALK (TYP)

NO CHANGE TO EXISTING LAWN GRADING THIS AREA

LIMIT OF CURB RAMP GRADING

RESET MANHOLE TO PROPOSED GRADE

REFER TO C-900 SERIES FOR CURB RAMP GRADING DESIGN

REGRADE LAWN WASHOUT AREA TO MATCH SLOPE WITH SURROUNDING LAWN GRADING FOR CONSISTENT GRADE

REFER TO C-900 SERIES FOR CURB RAMP GRADING DESIGN

REFER TO C-401 FOR DRIVEWAY GRADING DESIGN

N. 8th Street
(58.78' Wide)
(35.92'–13.97')
Legally Open
NO PARKING
NO PARKING

N. Franklin Street
(Variable Width)
(Variable 13'–0" Variable)
Legally Open
NO PARKING
NO PARKING

Vine Street (SR 2376)
(Variable Width)
Legally Open
NO PARKING
NO PARKING

POINT OF BEGINNING

BELL TEL. CO. MH 3'–6" DEEP TO BOTTOM

KEYSTONE TEL. CO. MH 3'–6" DEEP

PHILADELPHIA RAPID TRANSIT CO. MH 6'–1" DEEP TO BOTTOM

12" DIP WATER, 5' COVER

36" DIP WATER, 8' COVER

18" RCP SEWER, 9'–0" COVER

Hub set by City Surveyor (Typ.)

Drill Hole set by City Surveyor (Typ.)

SITE LEGEND

- BUILDING
- 8' STEEL FENCE
- CURB
- DEPRESSED CURB
- CONCRETE PAVEMENT
- FULL DEPTH ASPHALT PAVEMENT
- GRASS/LANDSCAPING
- ASPHALT OVERLAY
- 6" BOLLARD
- LIGHT POLE
- ADA PARKING SIGN
- FILLED AND CAPPED EXISTING VAULT
- DETECTABLE WARNING STRIPS

EXISTING CONDITIONS LEGEND

- OVERHEAD ELECTRIC LINE
- FENCE
- RIGHT OF WAY LINE
- CURB LINE
- ELEVATED ROADWAY SUPPORT STRUCTURE
- DEPRESSED CURB
- STORM SEWER MANHOLE
- TELEPHONE/COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- ELECTRIC JUNCTION BOX
- TELEPHONE/COMMUNICATION JUNCTION BOX
- DECIDUOUS TREE
- CONCRETE
- COBBLESTONE
- DETECTABLE WARNING STRIP
- INLET
- TRAFFIC POLE W/ MAST ARM
- TRAFFIC CONTROL BOX
- SIGN
- DOWNSPOUT
- GAS VALVE
- WATER VALVE
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- LIGHT POLE
- INVERT

GRADING LEGEND

- 35 — MAJOR CONTOUR
- 36 — MINOR CONTOUR
- +33.20 PROP. SPOT ELEV.
- +TC 33.20 PROP. TOP OF CURB ELEV.
- +BC 33.20 PROP. BOTTOM OF CURB ELEV.
- +33.20 EX. TOP OF CURB ELEV.

GRAPHIC SCALE
1 inch = 20 feet
20 0 10 20 40

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

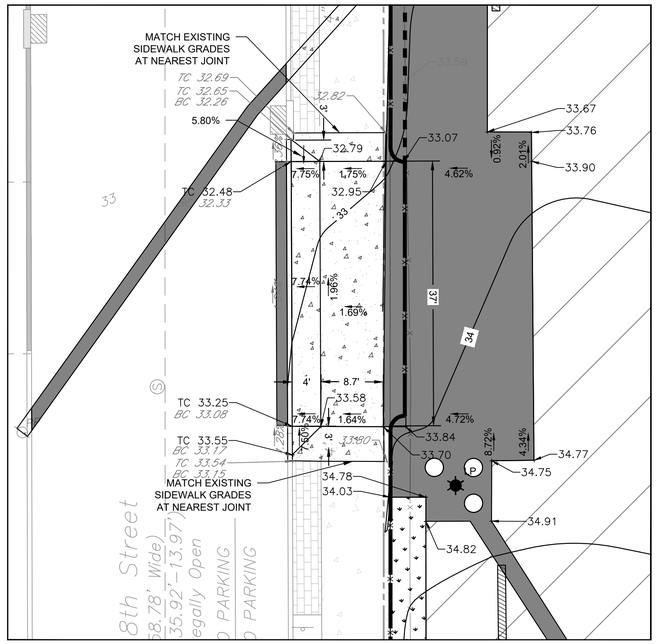
LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
GRADING PLAN

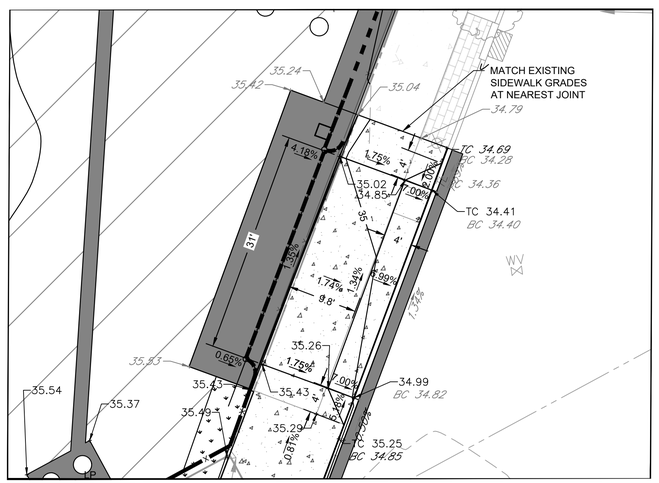
DWN	PROJ # 2023280024.000	DRAWING NUMBER
CHK	DATE JUNE 14, 2024	C-400

6/14/2024
COMMONWEALTH OF PENNSYLVANIA
PROFESSIONAL
WILLIAM C. LORENZ
ENGINEER

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\GRAD PLAN.dwg



1 8TH STREET DRIVEWAY GRADING
1" = 10'



2 7TH STREET DRIVEWAY GRADING
1" = 10'

SITE LEGEND

- BUILDING
- 8' STEEL FENCE
- CURB
- DEPRESSED CURB
- CONCRETE PAVEMENT
- FULL DEPTH ASPHALT PAVEMENT
- GRASS/LANDSCAPING
- ASPHALT OVERLAY
- 6" BOLLARD
- LIGHT POLE
- ADA PARKING SIGN
- FILLED AND CAPPED EXISTING VAULT
- DETECTABLE WARNING STRIPS

EXISTING CONDITIONS LEGEND

- OVERHEAD ELECTRIC LINE
- FENCE
- RIGHT OF WAY LINE
- CURB LINE
- ELEVATED ROADWAY SUPPORT STRUCTURE
- DEPRESSED CURB
- STORM SEWER MANHOLE
- TELEPHONE/COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- ELECTRIC JUNCTION BOX
- TELEPHONE/COMMUNICATION JUNCTION BOX
- DECIDUOUS TREE
- CONCRETE
- COBBLESTONE
- DETECTABLE WARNING STRIP
- INLET
- TRAFFIC POLE W/ MAST ARM
- TRAFFIC CONTROL BOX
- SIGN
- DOWNSPOUT
- GAS VALVE
- WATER VALVE
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- LIGHT POLE
- INVERT

GRADING LEGEND

35	MAJOR CONTOUR
36	MINOR CONTOUR
+33.20	PROP. SPOT ELEV.
+TC 33.20	PROP. TOP OF CURB ELEV.
+BC 33.20	PROP. BOTTOM OF CURB ELEV.
+33.20	EX. TOP OF CURB ELEV.

10 0 5 10 20
GRAPHIC SCALE
1 inch = 10 feet

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

6/14/2024

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
DRIVEWAY GRADING PLAN

DWN	PROJ # 2023280024.000	DRAWING NUMBER
CHK	DATE JUNE 14, 2024	C-401

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\GRAD PLAN.dwg

Callowhill Street
(62.95' Wide)
(13.97'–37.98'–11')
Legally Open
NO PARKING
NO PARKING

Right–of–Way Reserved for Drainage, Water Main, and Public Utility Purposes (Ordinance 2/19/68)

Legal Right–of–Way Line

N. 8th Street
(58.78' Wide)
(9'–35.92'–13.97')
Legally Open
NO PARKING
NO PARKING

N. Franklin Street
(Variable Width)
(Variable–Legally Open)
NO PARKING
NO PARKING

Vine Street (SR 2376)
(Variable Width)
Legally Open
NO PARKING
NO PARKING

62'
100'
104'
102'
63'
83'
74'
67'
54'
32'
20'
18'
12'
7'
6'

2 - 1.5" PVC CONDUIT
3 - 1.5" PVC CONDUIT
12' X 12' ELECTRICAL JUNCTION BOX

EXISTING MANHOLE FROM RECORD DRAWINGS, NO EVIDENCE OF MANHOLE ON SURFACE. MANHOLE LIKELY BURIED. IF ENCOUNTERED DURING CONSTRUCTION, MANHOLE TO BE MAINTAINED IN PLACE

CONTRACTOR TO PROTECT EXISTING UTILITIES DURING EXCAVATION AND INSTALLATION OF PROPOSED ELECTRIC CONDUIT.

INSTALL ELECTRICAL RACK PER ELECTRICAL PLANS. MAINTAIN 3' CLEARANCE IN FRONT OF PANEL

UNDERGROUND POWER CABLE FROM EXISTING POLE TRANSFORMER TO SITE (REFER TO ELECTRICAL PLANS)

BELL TEL. CO. MH 4'–8" DEEP TO BOTTOM

BELL TEL. CO. MH 3'–8" DEEP TO BOTTOM

KEYSTONE TEL. CO. MH 3'–6" DEEP

PHILADELPHIA RAPID TRANSIT CO. MH 6'–1" DEEP TO BOTTOM

POINT OF BEGINNING

MAINTAIN 2.5' COVER OVER PROPOSED SANITARY AND WATER LINES. PROPOSED LINES TO BE INSTALLED ABOVE EXISTING ELECTRICAL DUCT

SANITARY INV. OUT: 32.33

BACKFLOW PREVENTER AND WATER METER TO BE LOCATED IN HEATED CHASE AT NORTH END OF BUILDING. REFER TO DRAWINGS P-000 THROUGH P-200 FOR PLUMBING INSTALLATION.

SANITARY CLEAN OUT (3 / C-710)

5" DIP SAN. SEWER TO 4" DIP AT PROPERTY LINE

SANITARY SEWER FRESH AIR INLET (4 / C-710)

S-1 SANITARY SEWER SADDLE CONNECTION TO 18" RCP COMBINED SEWER INV. IN: 25.35. MAINTAIN 1% MIN. SLOPE ALONG PIPE (2 / C-710)

W-1 TAP VALVE CONNECTION TO 12" DIP WATER LINE

3/4" TYPE K COPPER WATER SERVICE LINE

WATER VALVE

RELOCATE STREET LIGHT POLE 10' FROM DRIVEWAY. COORDINATE WITH PHILADELPHIA STREETS DEPT. STREET LIGHTING UNIT FOR CURRENT MODEL OF POLE AND LED

8' x 16' GUARD SHACK WITH BATHROOM

1.5" CONDUIT FROM GUARD SHACK TO GATE OPREATOR - REFER TO ELECTRICAL PLAN

GATE OPENING

1 - 1.5" PVC CONDUIT

20 0 10 20 40

GRAPHIC SCALE
1 inch = 20 feet

UTILITY LEGEND

- OVERHEAD ELECTRIC LINE
- UNDERGROUND ELECTRIC AND COMMUNICATION CONDUIT
- SANITARY LINE
- WATER LINE
- ELECTRIC JUNCTION BOX
- FRESH AIR INLET
- WATER VALVE
- GATE OPERATOR

SITE LEGEND

- BUILDING
- 8' STEEL FENCE
- CURB
- DEPRESSED CURB
- CONCRETE PAVEMENT
- FULL DEPTH ASPHALT PAVEMENT
- GRASS/LANDSCAPING
- ASPHALT OVERLAY
- 6" BOLLARD
- LIGHT POLE
- ADA PARKING SIGN
- FILLED AND CAPPED EXISTING VAULT
- DETECTABLE WARNING STRIPS

EXISTING CONDITIONS LEGEND

- UNDERGROUND SEPTA LINE
- UNDERGROUND TELEPHONE/COMMUNICATION LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND STORM SEWER LINE
- OVERHEAD ELECTRIC LINE
- FENCE
- RIGHT OF WAY LINE
- CURB LINE
- ELEVATED ROADWAY SUPPORT STRUCTURE
- FOOTPRINT OF INTERSTATE 676
- DEPRESSED CURB
- STORM SEWER MANHOLE
- TELEPHONE/COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- ELECTRIC JUNCTION BOX
- TELEPHONE/COMMUNICATION JUNCTION BOX
- DECIDUOUS TREE
- TOP OF CURB
- BOTTOM OF CURB
- CONCRETE
- COBBLESTONE
- DETECTABLE WARNING STRIP
- INLET
- TRAFFIC POLE W/ MAST ARM
- TRAFFIC CONTROL BOX
- SIGN
- DOWNSPOUT
- GAS VALVE
- WATER VALVE
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- LIGHT POLE
- INVERT
- GRATE

NOTES:

1. CAMERAS TO BE DESIGNED AND INSTALLED BY OTHERS UNDER A SEPARATE CONTRACT. COMMUNICATION CONDUITS ARE TO BE INSTALLED WITH PULLSTRINGS FOR FUTURE CAMERA INSTALLATION
2. REFER TO ELECTRICAL PLANS FOR ELECTRICAL AND LOW VOLTAGE WIRING.

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

6/14/2024
COMMONWEALTH OF PENNSYLVANIA
PROFESSIONAL
WILLIAM C. LORDEN
ENGINEER

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
UTILITY PLAN

DWN	PROJ.#	DRAWING NUMBER
CHK	2023280024.000	C-500
	DATE JUNE 14, 2024	

Callowhill Street
(62.95' Wide)
(13.97'–37.98'–11')
Legally Open
NO PARKING
NO PARKING

Right–of–Way Reserved for Drainage, Water Main, and Public Utility Purposes (Ordinance 2/19/68)

Legal Right–of–Way Line

12" COMPOST FILTER SOCK, TYP.

CONCRETE WASHOUT

SOIL STOCKPILE

RCE

EDGE OF DEVELOPMENT DRIVEWAY (APPROX. SIZE AND LOCATION)

N. 8th Street
(58.76' Wide)
(9'–35.92'–13.9')
Legally Open
NO PARKING
NO PARKING

Vine Street (SR 2015)
(Variable Width)
Legally Open
NO PARKING
NO PARKING

Limited Access Line

POINT OF BEGINNING

SITE LEGEND

- BUILDING
- 8' STEEL FENCE
- CURB
- DEPRESSED CURB
- CONCRETE PAVEMENT
- FULL DEPTH ASPHALT PAVEMENT
- GRASS/LANDSCAPING
- ASPHALT OVERLAY
- WHEEL STOP
- 6" BOLLARD
- LIGHT POLE

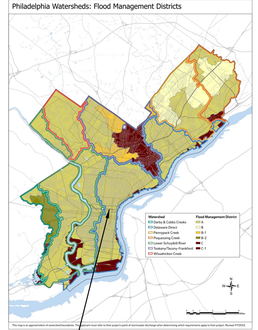
EROSION & SEDIMENT CONTROL LEGEND

- RCE — ROCK CONSTRUCTION ENTRANCE
- LOD — LIMIT OF DISTURBANCE (12,825 SF*)
- CFS — COMPOST FILTER SOCK
- CONCRETE WASHOUT
- SOIL STOCKPILE
- IP — INLET PROTECTION

NOTES:

1. *TOTAL AREA OF DISTURBANCE IS 16,388 SF. ON-SITE AREA OF DISTURBANCE OUTSIDE OF THE PUBLIC RIGHT-OF-WAY IS 12,825 SF.
2. MILLING OF EXISTING ASPHALT SHALL NOT IMPACT EXISTING SUBBASE. DO NOT EXPOSE EXISTING SUBBASE DURING MILLING ACTIVITIES.

Philadelphia Watersheds: Flood Management Districts



PROJECT LOCATION WITH IN DELAWARE DIRECT WATERSHED

WATERSHED MAP
NTS

GRAPHIC SCALE
1 inch = 20 feet

ERSA TRACKING NUMBER FY23-PCCA-7401-01

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
EROSION AND SEDIMENT CONTROL PLAN

DWN | PROJ # 2023280024.000 | DRAWING NUMBER C-600
CHK | DATE JUNE 14, 2024

6/14/2024
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
WILLIAM C. LORSON IV.
ENGINEER

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\ES PLAN.dwg

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. AN INDUSTRIAL WASTE PERMIT WILL BE REQUIRED SHOULD PUMPING TO CITY-OWNED INFRASTRUCTURE BECOME NECESSARY DURING CONSTRUCTION. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS

2. INLET PROTECTION SHOULD BE PROVIDED FOR ALL INLETS OWNED BY PWD THAT ARE LOCATED WITHIN ONE BLOCK OF THE PROJECT SITE. ALL INLETS NOT WITHIN THE PARCEL SHOULD BE CONSIDERED OWNED BY PWD.

3. THE CONTRACTOR IS RESPONSIBLE FOR ANY CLEANING OR REPAIRS NEEDED ON CITY OR STATE-OWNED INFRASTRUCTURE DUE TO FAILURE OF ANY EROSION AND SEDIMENT CONTROL PRACTICES.

4. INSPECTION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES SHALL OCCUR ON A WEEKLY BASIS, BEFORE ANY ANTICIPATED PRECIPITATION EVENTS, AND AFTER ALL PRECIPITATION EVENTS BY THE CONTRACTOR.

5. THE MAXIMUM HEIGHT FOR STOCKPILES AREAS SHALL BE 20 FEET. THE MAXIMUM SIDE SLOPE FOR STOCKPILE AREAS SHALL NOT EXCEED 2:1.

6. THE ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED ON-SITE. A STOCKPILE SHALL BE MAINTAINED ON-SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.

7. FILTER FABRIC FENCE OR COMPOST FILTER SOCK SHOULD BE INSTALLED AT LEVEL GRADE. BOTH ENDS OF EACH FENCE/SOCK SECTION SHOULD BE EXTENDED AT LEAST 8 FEET UPSLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. SUPPORT STAKES SHALL BE SPACED AT A MAXIMUM OF 8 FEET, OR BY APPROVED CONSTRUCTION DETAIL. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FILTER FENCE.

8. ANY FENCE OR FILTER SOCK SECTION WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

9. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE CONTRACT DOCUMENTS AND/OR DETAIL SHEETS.

10. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY PWD AND PA DEP.

11. UNTIL THE SITE IS STABILIZED, ALL E&S BMPS SHALL BE MAINTAINED PROPERLY BY THE CONTRACTOR. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL E&S BMPS PRIOR TO ANY ANTICIPATED STORM EVENT, AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED, WILL BE REQUIRED.

12. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING, AS WELL AS CUTS AND FILLS, SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. PWD SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES BY THE CONTRACTOR. PWD MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.

13. AT LEAST SEVEN (7) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

14. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE CONTRACT DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING BY PWD AND THE PA DEP PRIOR TO IMPLEMENTATION.

15. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL, DEFINED BY THE CONTRACT SPECIFICATIONS.

16. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING, AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.

17. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE CONTRACT DOCUMENTS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.

18. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE BY THE CONTRACTOR AND BE MADE AVAILABLE TO PWD AT THE TIME OF INSPECTION.

19. REFER TO CONTRACT SPECIFICATIONS AND CONTRACTOR DOCUMENT DETAILS FOR TOPSOIL AREA SCARIFICATION, SEEDING, MULCHING, AND TOPSOIL DEPTH REQUIREMENTS.

20. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED NINE INCHES IN THICKNESS.

22. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS, DEFINED BY THE CONTRACT SPECIFICATIONS, THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.

23. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

24. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.

25. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.

26. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.

27. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN ONE YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN ONE YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.

28. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.

29. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY PWD AND PA DEP.

30. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY E&S BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE E&S BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.

31. SEDIMENT BASINS AND/OR TRAPS SHALL BE KEPT FREE OF ALL CONSTRUCTION WASTE, WASH WATER, AND OTHER DEBRIS HAVING POTENTIAL TO CLOG THE BASIN/TRAP OUTLET STRUCTURES AND/OR POLLUTE THE SURFACE WATERS. (WHEN APPLICABLE)

32. DURING CONSTRUCTION, THE SELECTED CONTRACTOR IS EXPECTED TO FOLLOW THE E&S PLAN APPROVED BY PWD. NO CHANGE OR DEVIATION FROM THE APPROVED E&S PLAN IS PERMITTED WITHOUT PRIOR APPROVAL FROM PWD.

33. ALL WORK ASSOCIATED WITH PWD WATER CONVEYANCE AND SEWER INFRASTRUCTURE SHALL BE DONE IN ACCORDANCE WITH THE CITY OF PHILADELPHIA WATER DEPARTMENT "WATER MAIN STANDARD DETAILS AND CORROSION CONTROL SPECIFICATIONS", 1985 EDITION, AND "STANDARD DETAILS AND STANDARD SPECIFICATIONS FOR SEWERS", 1985 EDITION.

34. CONTACT PWD WATER TRANSPORT RECORDS (1101 MARKET STREET, 2ND FLOOR, PHONE: 215-685-6271) FOR ADDITIONAL APPROVALS AND PERMITS REQUIRED FOR ALL WATER SERVICES, METERS, AND CONNECTIONS TO THE EXISTING AND/OR PROPOSED PWD FACILITIES.

35. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE PADEP'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1, AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.

36. PWD INFRASTRUCTURE SHALL BE RESTORED TO PWD STANDARDS AT PRIVATE COST.

SOIL INFORMATION FOR PHILADELPHIA COUNTY

1. THE SOIL INFORMATION FOR THIS PROJECT WAS OBTAINED FROM THE U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.

2. THE SOIL SURVEY INDICATES THAT THE SOILS ENCOMPASSING THE PROJECT AREA ARE URBAN LAND (UB). THIS LAND IS IN HIGHLY BUILT-UP AREAS OF BUCKS AND PHILADELPHIA COUNTIES. THE SOILS AND FOUNDATION MATERIALS ARE HIGHLY VARIABLE. URBAN STRUCTURES AND WORKS COVER SO MUCH OF THIS LAND TYPE THAT IDENTIFICATION OF THE SOILS IS NOT PRACTICAL. MOST AREAS HAVE BEEN SMOOTHED, AND THE ORIGINAL SOIL MATERIAL HAS BEEN DISTURBED, FILLED OVER, OR OTHERWISE DESTROYED PRIOR TO CONSTRUCTION.

COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS

1. THE EROSION AND SEDIMENT POLLUTION CONTROL REPORT, APPLICATION DOCUMENTS, NARRATIVE(S), CONTRACT PLANS AND SPECIFICATIONS ARE ALL INCLUDED HEREWITH BY REFERENCE AS AN INTEGRAL PART OF THIS CONTRACT. ANY QUESTIONS, COMMENTS, APPROVAL CONDITIONS OR PERMIT REQUIREMENTS CONTAINED WITHIN A REGULATORY REVIEW LETTER (OR THE ENGINEER'S RESPONSE TO A REGULATORY REVIEW LETTER) FOR THIS PROJECT ARE HEREBY INCLUDED AS AN INTEGRAL PART OF THIS CONTRACT, AND THE CONTRACTOR SHALL FULLY COMPLY WITH ANY APPROVAL CONDITIONS OR PERMIT REQUIREMENTS AS IF THEY WERE INCLUDED HEREWITH IN THEIR FULL TEXT. COPIES OF ALL STATE AND LOCAL REGULATORY AGENCY REVIEWS, COMMENTS, APPROVAL CONDITIONS OR PERMIT REQUIREMENTS MAY BE OBTAINED THROUGH THE ENGINEER OR THE PHILADELPHIA WATER DEPARTMENT OFFICE.

2. A COPY OF THE APPROVED EROSION AND SEDIMENT POLLUTION CONTROL PLANS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES IN ACCORDANCE WITH STATE LAW.

UTILITY TRENCH EXCAVATION NOTES

1. LIMIT CLEARING AND GRUBBING ACTIVITIES TO A DISTANCE EQUAL TO TWICE THE LENGTH PIPE THAT CAN BE INSTALLED IN ONE DAY. (WHERE APPLICABLE)

2. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.

3. SHOULD UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT AREAS AS A RESULT OF INCREASED RUNOFF AND/OR SEDIMENT DISPLACEMENT. STOCKPILES OF WOOD CHIPS, HAY BALES, CRUSHED STONE AND SEDIMENT FILTER LOGS SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OR EROSION.

RECYCLING OR DISPOSAL OF MATERIALS

THIS PROJECT WILL GENERATE SEVERAL WASTE PRODUCTS THAT WILL HAVE TO BE REMOVED OFF-SITE. THESE INCLUDE EXCAVATED MATERIALS AND RESIDUAL WASTE. WASTE MATERIALS MUST BE DISPOSED OF IN ACCORDANCE WITH THE COMMONWEALTH OF PENNSYLVANIA'S WASTE DISPOSAL STANDARDS. THESE CONTRACT DOCUMENTS REQUIRE THE CONTRACTOR/CREWS TO MONITOR EARTH DISTURBANCE ACTIVITIES FOR THE POTENTIAL PRESENCE OF MUNICIPAL WASTE OR SUBSURFACE CONTAMINATION. IF ENCOUNTERED, A SPECIAL DISPOSAL PLAN WILL NEED TO BE DEVELOPED BY THE CONTRACTOR/CREWS. THE CONTRACTOR/CREWS SHALL PROVIDE A MATERIAL MANAGEMENT PLAN TO IDENTIFY THE SPECIFIC DISPOSAL SITES FOR EACH CLASSIFICATION OF MATERIALS. IF A PROPOSED DISPOSAL SITE DOES NOT HAVE AN APPROVED E&S CONTROL PLAN OR THE REQUIRED LOCAL/STATE/FEDERALLY ISSUED OPERATING LICENSES, THAT SITE CANNOT BE USED.

CLEAN FILL DOCUMENTATION

PADEP FORM FP-001 SHALL BE REQUIRED:

ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE PADEP FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL AND MUST BE KEPT ON SITE AND MADE AVAILABLE UPON REQUEST BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. FAILURE TO PRODUCE THE FORM UPON REQUEST MAY RESULT IN THE REVOKING, SUSPENSION OR TERMINATION OF YOUR PERMIT COVERAGE.

CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE

1. IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE CONTRACTOR.

2. CLEAN FILL: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE).

3. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL". ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL.

4. ENVIRONMENTAL DUE DILIGENCE: THE CONTRACTOR MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

5. FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL MUST BE MANAGED IN ACCORDANCE WITH APPROPRIATE PADEP REGULATIONS.

6. IF CONTRACTOR ENCOUNTERS FILL THAT MAY BE CONTAMINATED (BASE UPON FIELD OBSERVATIONS OF OFF COLOR OR ODOR), CONTRACTOR TO NOTIFY ENGINEER SO THAT AN EVALUATION MAY BE PERFORMED.

MAINTENANCE PROGRAM FOR SEDIMENT EROSION CONTROLS

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL FACILITIES DURING CONSTRUCTION. ALL DAMAGED FACILITIES WILL BE REPAIRED WITHIN 24 HOURS. THE CONTRACTOR WILL NOT REMOVE ANY CONTROL FACILITY UNTIL DIRECTED BY THE ENGINEER. MATERIALS USED FOR EROSION CONTROL WILL BE DISPOSED OF OFF-SITE WHEN REMOVED. SUCH MATERIALS ARE CONSIDERED PROPERTY OF THE CONTRACTOR.

INLET PROTECTION:

1. INLET PROTECTION SHALL BE INSPECTED WEEKLY, AND AFTER EACH RUNOFF EVENT.

2. ACCUMULATED SEDIMENT SHALL BE REMOVED AS REQUIRED TO KEEP THE INLET PROTECTION FUNCTIONAL. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

ROCK CONSTRUCTION ENTRANCE:

1. THE STRUCTURE'S THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL WILL BE MAINTAINED ON THE SITE FOR THIS PURPOSE.

2. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC ROADWAYS WILL BE REMOVED BY USE OF A VACUUM TYPE ROAD SWEEPER AND RETURNED TO THE CONSTRUCTION SITE.

COMPOST FILTER SOCK:

1. THE LOG INSTALLATION SHALL BE INSPECTED WEEKLY, BEFORE ANY ANTICIPATED PRECIPITATION EVENT, AND AFTER ALL PRECIPITATION EVENTS. ANY NECESSARY REPAIRS WILL BE MADE IMMEDIATELY.

2. ACCUMULATED SEDIMENTS SHALL BE REMOVED AS REQUIRED TO KEEP THE SOCK FUNCTIONAL. IN ALL CASES REMOVE DEPOSITS WHERE ACCUMULATIONS REACH 1/2 THE ABOVE-GROUND HEIGHT OF THE LOG.

3. ALL UNDERCUTTING OR EROSION OF THE TOE ANCHOR WILL BE REPAIRED IMMEDIATELY WITH COMPACTED BACKFILL MATERIALS.

SOIL STOCKPILES:

1. INSPECT SOIL STOCKPILES MONTHLY.

2. RESEED TO ESTABLISH GRASS COVER.

SEEDING AND MULCHING OF DISTURBED AREAS AND NEW SLOPES:

1. FOLLOW TEMPORARY AND PERMANENT SEEDING SPECIFICATION GUIDELINES.

2. DISTURBED AREAS AND NEW SLOPES SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAIN EVENT.

3. MISSING MULCH SHALL BE REPLACED. RESEED AND MULCH UNTIL THE ESTABLISHMENT OF GOOD GRASS COVER.

PUMPED WATER FILTER BAG:

1. PUMPED WATER FILTERS SHALL BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT.

2. SEDIMENT SHALL BE REMOVED WHEN IT REACHES THE CLEAN-OUT LEVEL ON THE MARKER AND REMOVE OTHER DEBRIS WHICH COULD IMPAIR THE FUNCTION OF THE FILTER.

NOTE: ALL EXISTING DRAINAGE FACILITIES DIRECTLY UPSTREAM AND DOWNSTREAM OF THE PROJECT SITE WILL BE PROTECTED AND MAINTAINED. WHERE APPLICABLE, EXISTING SITE DRAINAGE WILL BE MAINTAINED AT ALL TIMES DURING AND AFTER CONSTRUCTION. EXISTING DRAINAGE FACILITIES ON THE SITE TO BE DEMOLISHED WILL BE REPLACED IN SEQUENCE AND CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

DUST CONTROL

1. CONTRACTOR SHALL TAKE CARE TO LIMIT DUST POLLUTION DURING DEMOLITION AND CONSTRUCTION.

2. AREAS OF SAWCUTTING SHALL BE SPRAYED WITH WATER DURING SAWCUTTING ACTIVITIES TO MINIMIZE RELEASE OF DUST. SPRAY WATER ONTO EXCAVATION AREAS AS NEEDED TO LIMIT DUST.

3. COVER AND WET STOCKPILED EARTH AS NEEDED TO REDUCE DUST POLLUTION.

4. ALL TEMPORARY PERIMETER FENCING SHALL HAVE DUST CONTROL FABRIC. DUST CONTROL FABRIC SHALL HAVE A MINIMUM HEIGHT OF 5 FEET FROM THE BOTTOM OF FENCING.

5. THE RECOMMENDED SPEED LIMIT FOR CONSTRUCTION VEHICLES AND TRUCKS ON SITE IS 10 MPH.

TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS

(TEMPORARY)

SPECIES:	ANNUAL RYEGRASS 100%
% PURE LIVE SEED:	98%
APPLICATION RATE:	40 LBS PER ACRE
FERTILIZER TYPE:	10-20-20
FERTILIZER APPL. RATE:	675 LBS PER ACRE
LIMING RATE:	1 TON PER ACRE
FINAL DATE FOR SEEDING:	OCTOBER 15TH
MULCH TYPE:	STRAW OR HAY
MULCH RATE:	3 TONS PER ACRE

(PERMANENT)

TOPSOIL PLACEMENT DEPTH:	N/A
SPECIES:	KENTUCKY* BLUEGRASS(70%), CREEPING RED FESCUE(20%), RYEGRASS(10%)
% PURE LIVE SEED:	98%
APPLICATION RATE:	100 LBS PER ACRE
FERTILIZER TYPE:	10-6-4
FERTILIZER APPL. RATE:	1,300 LBS PER 1,000 SF
LIMING RATE:	2 TONS PER ACRE
MULCH TYPE:	STRAW OR HAY
MULCH RATE:	3 TONS PER ACRE
ANCHOR MATERIAL:	N/A
ANCHORING METHOD:	N/A
RATE OF ANCHOR MATERIAL APPL.:	N/A
FINAL DATE FOR SEEDING:	APRIL 15 – MAY 30, AUGUST 15 – NOVEMBER 15

(PERMANENT – STEEP SLOPE)

TOPSOIL PLACEMENT DEPTH:	N/A
SPECIES:	N/A
% PURE LIVE SEED:	N/A
APPLICATION RATE:	N/A
FERTILIZER TYPE:	N/A
FERTILIZER APPL. RATE:	N/A
LIMING RATE:	N/A
MULCH TYPE:	N/A
MULCH RATE:	N/A
ANCHOR MATERIAL:	N/A
ANCHORING METHOD:	N/A
RATE OF ANCHOR MATERIAL APPL.:	N/A
FINAL DATE FOR SEEDING:	N/A

1. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.

2. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.

3. ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED AND WHICH WILL REMAIN EXPOSED FOR MORE THAN 20 DAYS MUST BE SEEDED AND MULCHED IMMEDIATELY WITH TEMPORARY SEEDING SPECIFICATIONS.

4. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

5. LANDSCAPE CONTRACTOR SHALL PROVIDE AND SPREAD 8" OF TOPSOIL AND FINE GRADE ALL DISTURBED AREAS AND NEW LAWN AREAS.

6. PREPARED TOPSOIL SHALL CONSIST OF 3 PARTS TOPSOIL MIXED THOROUGHLY WITH 1 PART LEAF MOLD.

7. MULCH TO BE USED FOR DRESSING OF TREE SAUCERS AND SHRUB BEDS SHALL BE PROVIDED TO A MIN. 2" DEPTH OF DOUBLE SHREDDED HARDWOOD BARK MULCH. SUBMIT SAMPLE TO LANDSCAPE ARCHITECT FOR APPROVAL.

SEQUENCE OF CONSTRUCTION

1. AT LEAST SEVEN (7) DAYS PRIOR TO ANY EARTH DISTURBANCE, THE INSPECTIONS COORDINATOR OF PWD (OFFICE: 215-685-6387) MUST BE CALLED TO SCHEDULE A PRECONSTRUCTION MEETING.

2. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT INSPECTIONS COORDINATOR OF PWD (OFFICE: 215-685-6387) FOR A FINAL INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.

3. SEQUENCE OF CONSTRUCTION OF EROSION AND SEDIMENT CONTROLS:
   - 3.1. PLACE COMPOST FILTER SOCK AROUND THE PROPOSED WORK AREA AND INLET PROTECTION AS SHOWN ON THE PLAN. INSTALL ROCK CONSTRUCTION ENTRANCE FOR
   - 3.2. ONCE E&S CONTROLS HAVE BEEN ESTABLISHED, PERFORM WORK OUTSIDE OF THE PUBLIC RIGHT OF WAY, INCLUDING THE DEMOLITION, MILL AND OVERLAY, UTILITY WORK, FOUNDATION PLACEMENT, INSTALLATION OF NEW GUARD SHACK BUILDING, GRADING, LANDSCAPING, AND PAVING OPERATIONS.
   - 3.3. MAINTAIN SIDEWALK WHEN POSSIBLE DURING CONSTRUCTION FOR ACCESS IN THE PUBLIC ROW. NO PORTION OF THE SIDEWALK SHALL BE CLOSED OFF FOR MORE THAN 2 WEEKS CONSECUTIVELY.
   - 3.4. CLOSURES OF ANY STREETS FOR TRENCHING ACTIVITIES MUST BE PERMITTED THROUGH THE CITY OF PHILADELPHIA STREETS DEPARTMENT.
   - 3.5. AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE, THEY MUST BE STABILIZED. CESSATION OF ACTIVITY FOR FOUR (4) DAYS OR LONGER REQUIRES TEMPORARY STABILIZATION.
   - 3.6. ONCE ALL WORK HAS BEEN STABILIZED, E&S CONTROLS MAY BE REMOVED.

4. WATER PUMPED FROM WORK AREAS SHOULD BE TREATED FOR SEDIMENT REMOVAL PRIOR TO DISCHARGING TO A "SURFACE WATER" (WHEN APPLICABLE).

ERSA TRACKING NUMBER FY23-PCCA-7401-01

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

6/14/2024

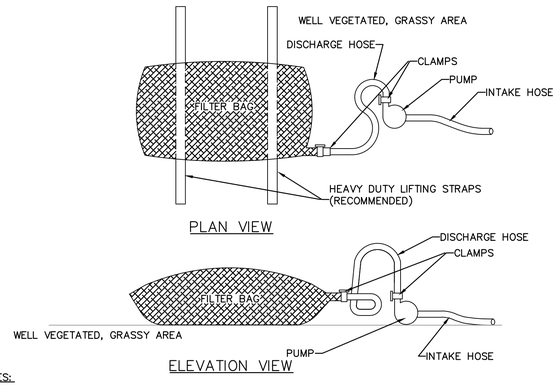
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
WILLIAM C. LORDAN IV
ENGINEER
NO. PE086351

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION
PHILADELPHIA, PA.

TITLE
DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
EROSION & SEDIMENT CONTROL NOTES

DWN
CHK
PROJ # 2023280024.000
DATE JUNE 14, 2024
DRAWING NUMBER C-601



NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

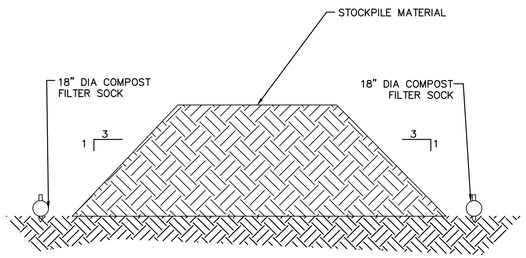
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

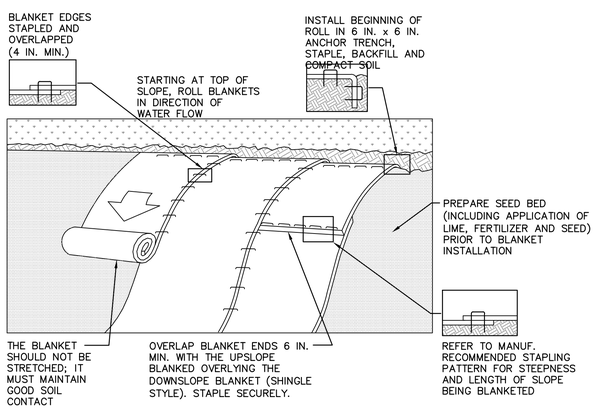
THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

1 PUMPED WATER FILTER BAG
NOT TO SCALE



5 STOCKPILE STORAGE AREA
NOT TO SCALE



NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

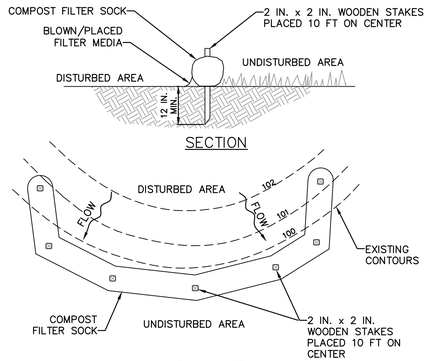
SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

2 EROSION CONTROL BLANKET
NOT TO SCALE



NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

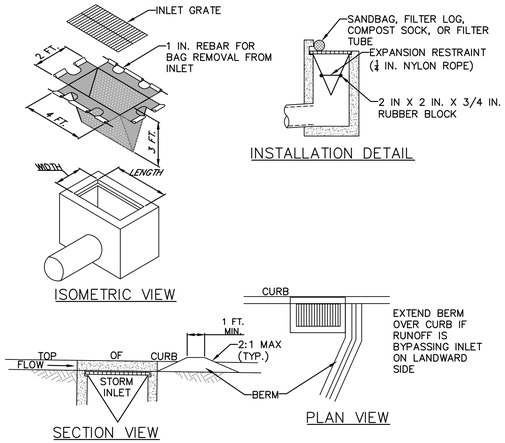
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

6 COMPOST FILTER SOCK
NOT TO SCALE



NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

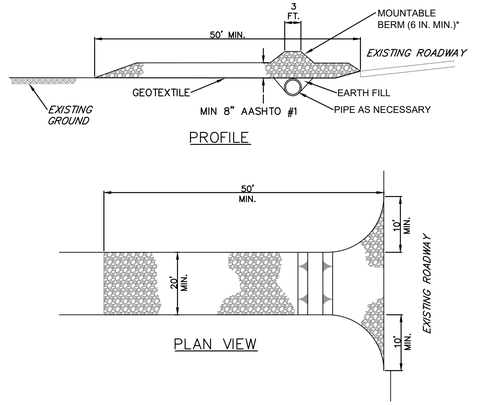
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

3 FILTER BAG INLET PROTECTION TYPE C INLET
NOT TO SCALE



* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

4 ROCK CONSTRUCTION ENTRANCE
NOT TO SCALE

ERSA TRACKING NUMBER FY23-PCCA-7401-01

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

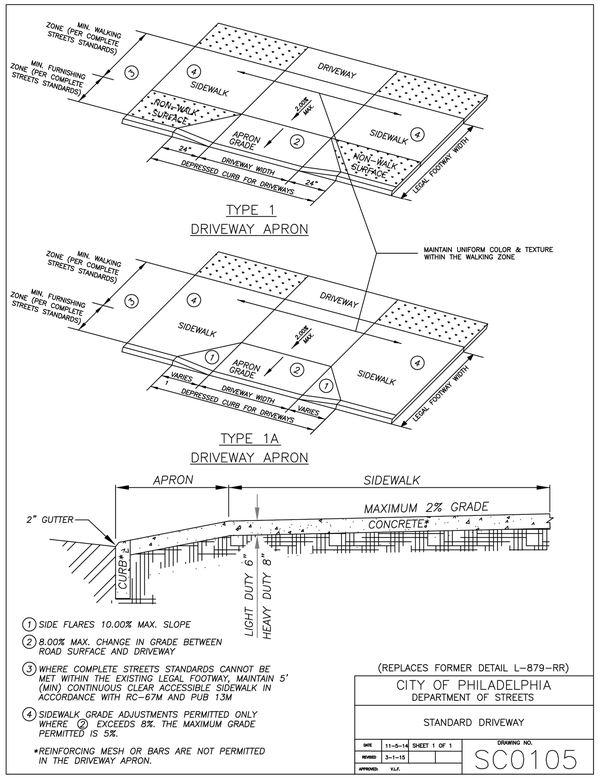
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

6/14/2024
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
WILLIAM C. LORDEN IV
ENGINEER

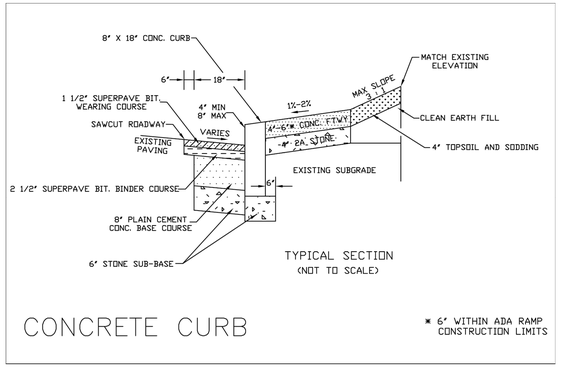
LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
EROSION AND SEDIMENT CONTROL DETAILS

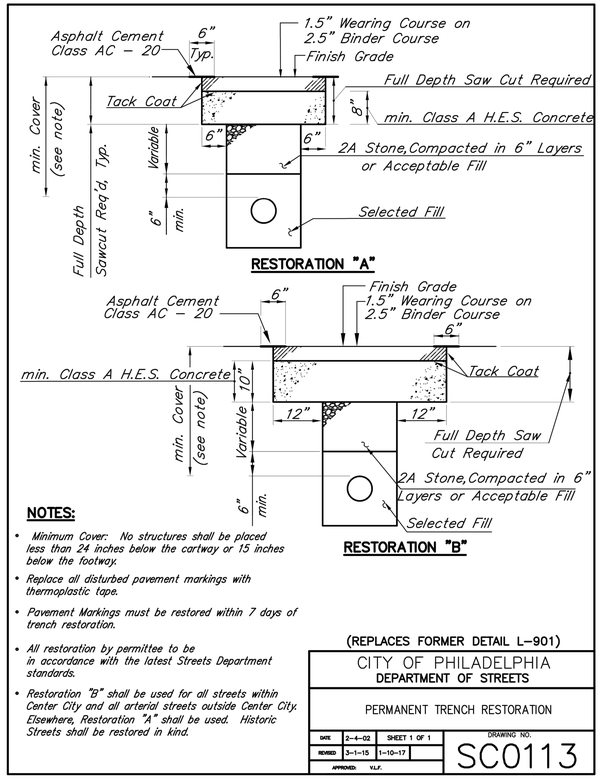
DWN | PROJ# 2023280024.000 | DRAWING NUMBER C-602
CHK | DATE JUNE 14, 2024



1 STANDARD DRIVEWAY DETAIL
NOT TO SCALE



2 TYPICAL CURB AND FOOTWAY RESTORATION
NOT TO SCALE

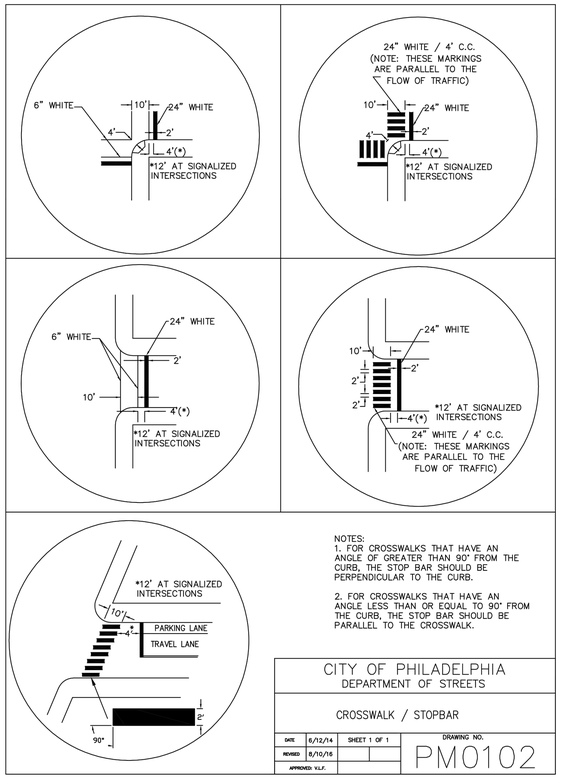


NOTES:

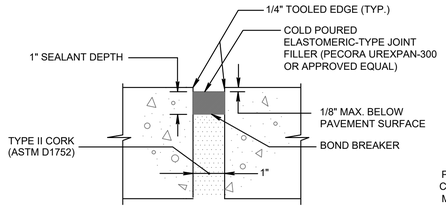
- *Minimum Cover: No structures shall be placed less than 24 inches below the cartway or 15 inches below the footway.*
- *Replace all disturbed pavement markings with thermoplastic tape.*
- *Pavement Markings must be restored within 7 days of trench restoration.*
- *All restoration by permittee to be in accordance with the latest Streets Department standards.*
- *Restoration "B" shall be used for all streets within Center City and all arterial streets outside Center City. Elsewhere, Restoration "A" shall be used. Historic Streets shall be restored in kind.*

(REPLACES FORMER DETAIL L-901)
CITY OF PHILADELPHIA
DEPARTMENT OF STREETS
PERMANENT TRENCH RESTORATION
DATE 2-4-02 SHEET 1 OF 1
REVISED 3-1-15 1-10-17
APPROVED V.L.F.
DRAWING NO. SC0113

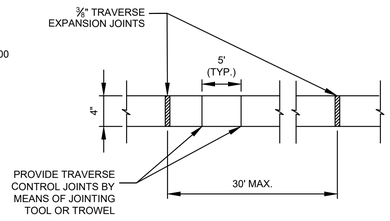
3 PERMANENT TRENCH RESTORATION
NOT TO SCALE



4 CROSSWALK AND STOP BAR STRIPING
NOT TO SCALE

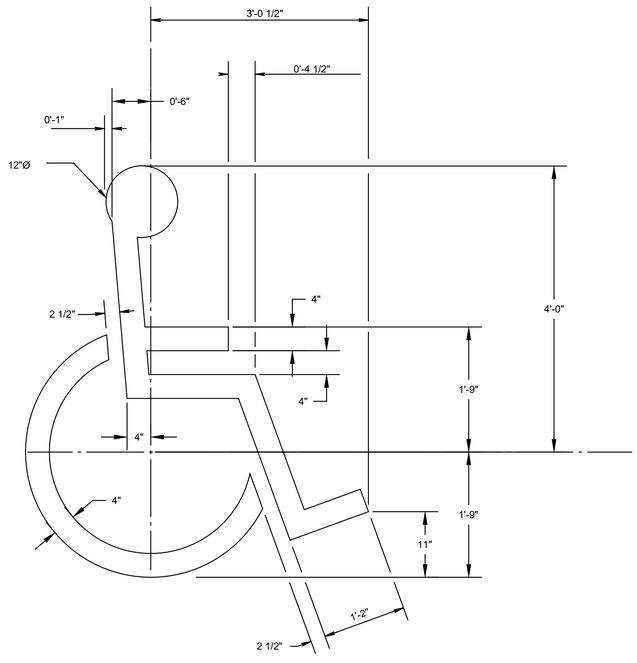


DETAIL A
NOT TO SCALE

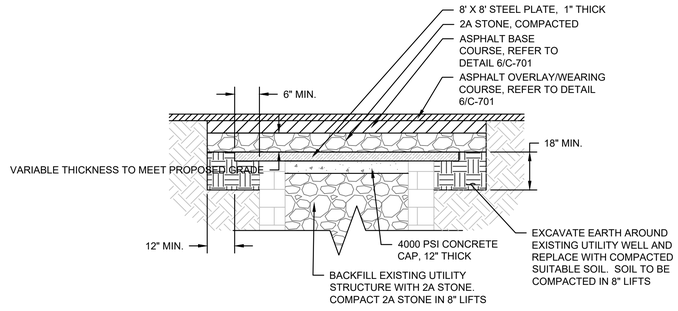


CONCRETE SIDEWALK JOINT DETAIL
NOT TO SCALE

5 CONCRETE SIDEWALK JOINT
NOT TO SCALE



6 ADA PARKING SYMBOL
NOT TO SCALE



7 UTILITY VAULT FILL AND CAP
NOT TO SCALE

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

6/14/2024
COMMONWEALTH OF PENNSYLVANIA
PROFESSIONAL
WILLIAM C. LORDEN IV
ENGINEER

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
CIVIL DETAILS

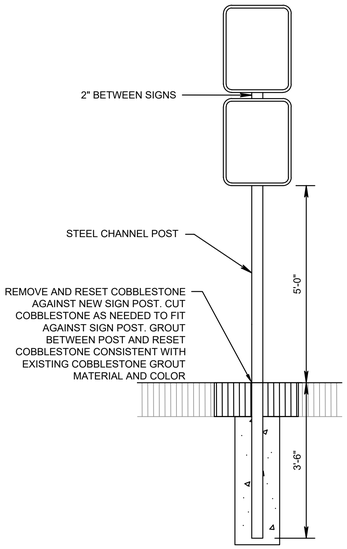
DWN	PROJ.# 2023280024.000	DRAWING NUMBER
CHK	DATE JUNE 14, 2024	C-700

NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE APPROPRIATE SPECIFICATION IN PENNDOT PUBLICATIONS 408 AND 111.
2. DRIVE THE POST INTO THE GROUND (UTILIZING A DRIVE CAP) UNTIL 3'-6" OF POST IS BELOW GROUND LEVEL.
3. ALL POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION AS STATED IN THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS."
4. ALL STEEL POSTS AND BRACKETS SHALL BE CUT, BENT AND HOLES PUNCHED AND DRILLED BEFORE GALVANIZING. GALVANIZING SHALL BE IN CONFORMANCE WITH CURRENT A.S.T.M. SPECIFICATIONS A 123.
5. POSTS MAY BE STEEL OR 2 PIECE STEEL U-POST IN CONFORMANCE WITH THE NOTES BELOW.
6. BOLTS SHALL NOT PROTRUDE MORE THAN 3/4" BEYOND THE NUT WHEN TIGHT BUT SHALL ENGAGE ALL THREADS IN THE NUT.
7. THE MINIMUM VERTICAL CLEARANCE REQUIREMENTS FOR SIGNS ARE:

   EDGE OF PAVEMENT TO BOTTOM OF SIGN SHALL BE 2' IN BACK OF CONCRETE BARRIER AND 1' IN BACK OF CONCRETE CURB FOR ALL CHANNEL POSTS.

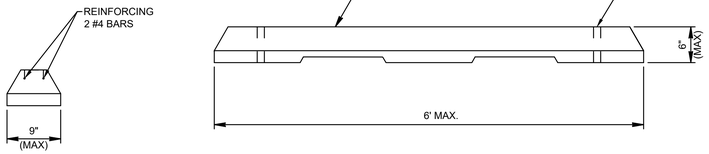
   GROUNDLINE TO BOTTOM OF SIGN SHALL BE 5 FEET MINIMUM.
8. THE FINAL HEIGHT OF ALL SIGNS MUST MEET OR EXCEED ALL OF THE ABOVE REQUIREMENTS.
9. EXTRUDED ALUMINUM SIGN PANELS ARE NOT PERMITTED FOR USE WITH U-POST SIGN SUPPORTS.
10. U-POST SIGN SUPPORTS SHALL NOT BE PLACED IN FRONT OF GUIDE RAIL AND THE POSTS MUST NOT STRADDLE GUIDE RAIL.
11. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL SIGNS.
12. ALL SIGNS SHALL HAVE A 1" OUTSIDE CORNER RADIUS, A 1" BLACK BORDER AND 1/2" DISTANCE BETWEEN EDGE OF SIGN AND OUTSIDE EDGE BORDER.



TYPICAL SIGN MOUNTING LOCATION DETAIL

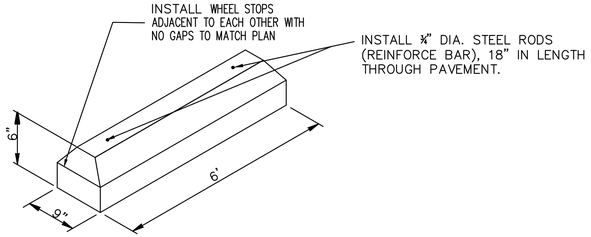
(FOR SIGNS UP TO 30" IN WIDTH)

NOT TO SCALE



SIDE ELEVATION

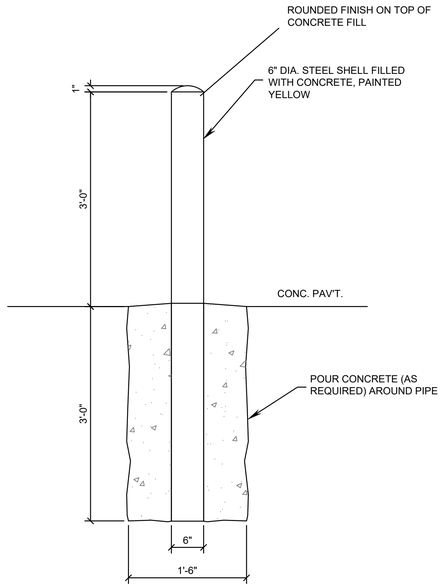
FRONT ELEVATION



ISOMETRIC

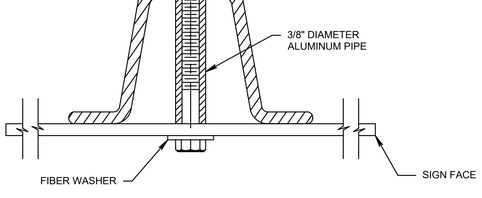
3 CONCRETE WHEEL STOP

NOT TO SCALE



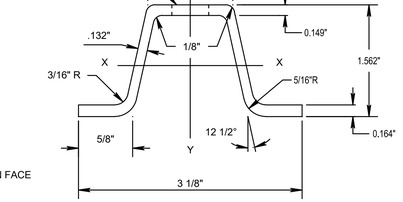
5 STEEL BOLLARD, 6"

NOT TO SCALE



MOUNTING DETAIL

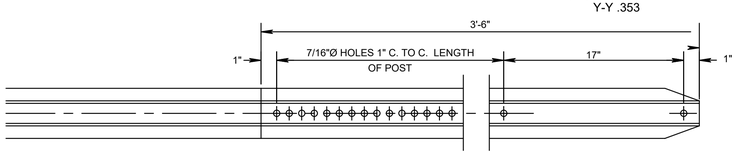
NOT TO SCALE



2.50-Lb. POST

S.M.(In^3) X-X .289

Y-Y .353



1 SIGN POST

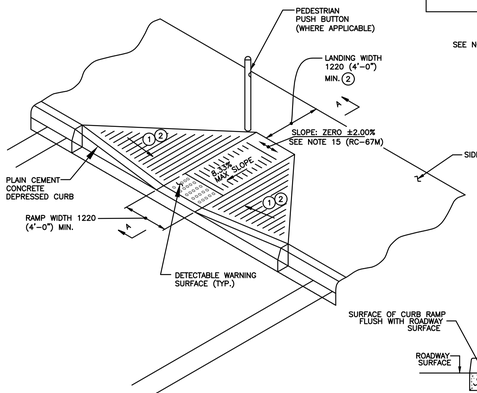
NOT TO SCALE

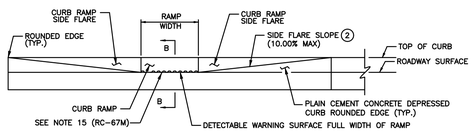
ADA VAN PARKING (R7-8, R7-8P)

NO PARKING (R7-94)

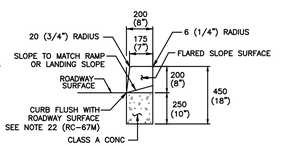
2 ADA ACCESSIBLE PARKING AND NO PARKING SIGNS

NOT TO SCALE

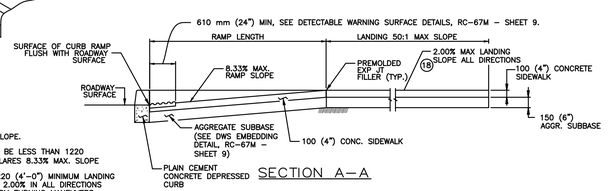




ELEVATION



DEPRESSED CURB SECTION B–B



SECTION A–A

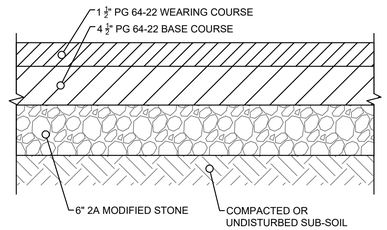
① SIDE FLARES 10.00% MAX SLOPE.

② IF LANDING IS INDICATED TO BE LESS THAN 1220 (4'–0"), CONSTRUCT SIDE FLARES 8.33% MAX. SLOPE

⑱ CURB RAMPS REQUIRE A 1220 (4'–0") MINIMUM LANDING WITH A MAXIMUM SLOPE OF 2.00% IN ALL DIRECTIONS WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS.

4 TYPE 1 CURB RAMP

NOT TO SCALE



NOTES:

TACK COAT TO BE APPLIED BETWEEN EXISTING AND PROPOSED ASPHALT.

6 ASPHALT PAVEMENT – LOT

NOT TO SCALE

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

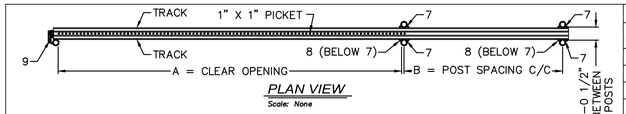
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

6/14/2024

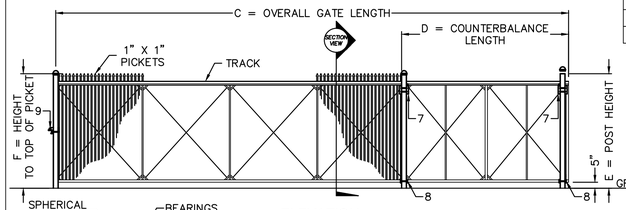
LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
CIVIL DETAILS

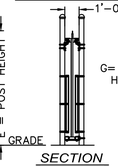
DWN	PROJ # 2023280024.000	DRAWING NUMBER
CHK	DATE JUNE 14, 2024	C-701



PLAN VIEW
Scale: None

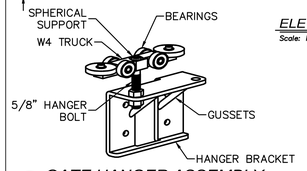


ELEVATION
Scale: None

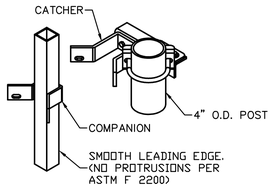


SECTION
Scale: None

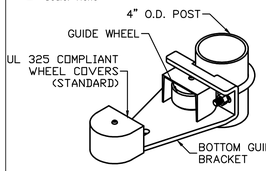
CRITICAL DIMENSION CHART				
MARK	DESCRIPTION	FORMULA	8th St. Gate	Franklin St. Gate
A	CLEAR OPENING	A	40'-0"	34'-0"
B	COUNTERBALANCE POST SPACING C/C	(A/2)-11"	19'-1"	16'-1"
C	OVERALL GATE LENGTH	A x 1.5	60'-0"	51'-0"
D	COUNTERBALANCE LENGTH	A x 0.5	20'-0"	17'-0"
E	POST HEIGHT	E = F	8'-0"	8'-0"
F	HEIGHT TO TOP OF PICKET	F	8'-0"	8'-0"
G	PICKET HEIGHT	G	0'-10"	0'-10"



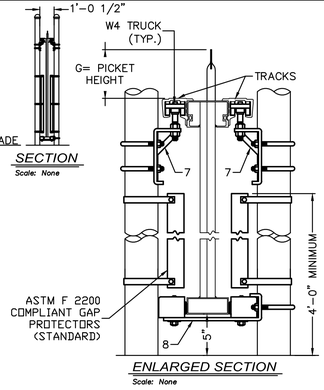
7 GATE HANGER ASSEMBLY
Scale: None



9 CATCH ASSEMBLY
Scale: None



8 BOTTOM GUIDE
Scale: None



ENLARGED SECTION
Scale: None

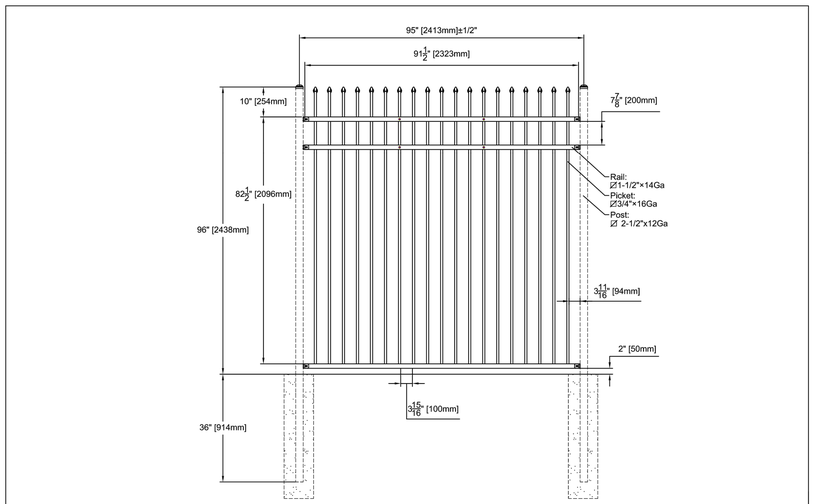
NOTES:
1. ALL FITTINGS STANDARDLY PROVIDED FOR 4" O.D. POSTS. OTHER SIZES AVAILABLE UPON REQUEST.
2. OTHER PICKET STYLES AVAILABLE UPON REQUEST.

REV. 2 – 10/27/11

TYMETAL CORP.
www.tymetal.com
2549 STATE ROUTE 40
GREENWICH, N.Y. 12834
PH:(800) 328-4283 – FX:(518) 692-9404

STRUCTURAL CANTILEVER SLIDE GATE

1 TYMETAL CORP. STRUCTURAL CANTILEVER SLIDE GATE, ORNAMENTAL
NOT TO SCALE

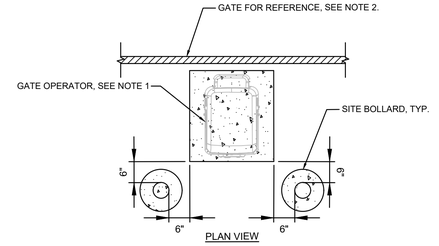


XCEL	1-866-392-0808 www.xcelfence.com	Design	Q. Z	Standardization	CJH
		Drawing	CJH	Approve	Q. Z
		Revise	DHW	Date:01-01-2007	
		Auditing	MZQ		

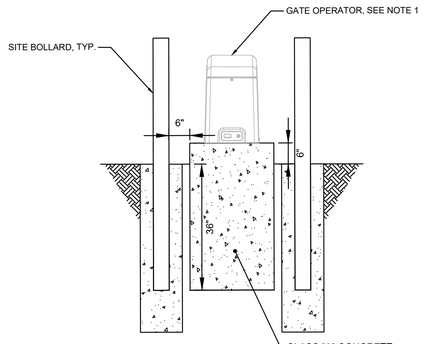
3-Rails Smash Point Flat Bottom

BC0808-N
total 1 pages | page 1
XCEL FENCE, Inc.

2 XCEL COMMERCIAL PLUS 8' HEIGHT 3–RAIL BLACK STEEL FENCE, 8' HEIGHT
NOT TO SCALE



PLAN VIEW

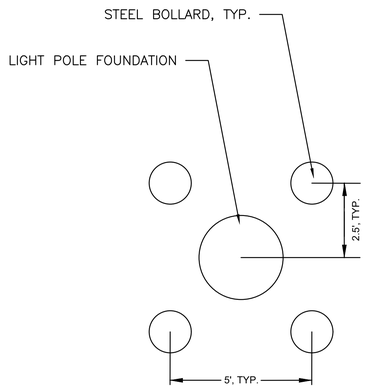


SIDE VIEW

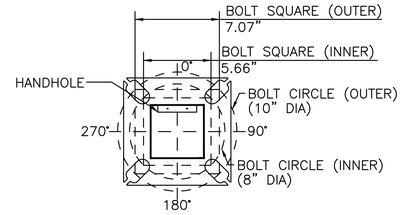
NOTES

1. PLAN VIEW FOUNDATION DIMENSIONS VARY WITH OPERATOR. SEE EQUIPMENT INSTALLATION MANUALS FOR DETAILS.
2. SEE INDIVIDUAL OPERATOR INSTALLATION MANUALS FOR EXACT FOUNDATION/EQUIPMENT PLACEMENT AT GATE.

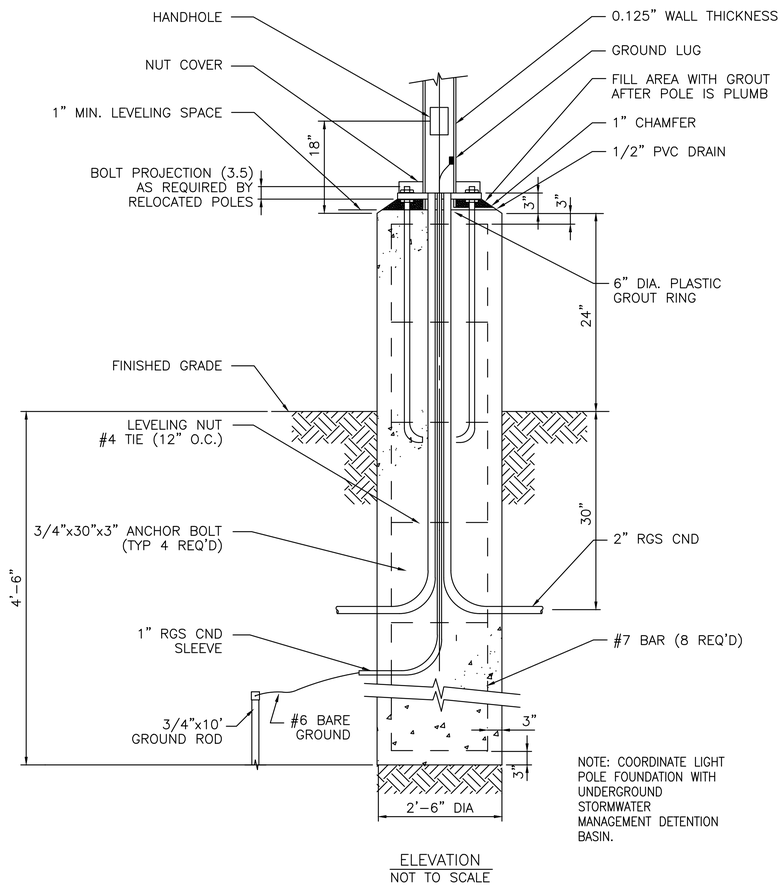
3 GATE OPERATOR FOUNDATION & LAYOUT
NOT TO SCALE



4 BOLLARD SPACING AROUND PROPOSED LIGHT POLE
NOT TO SCALE



PLAN
NOT TO SCALE



NOTE: COORDINATE LIGHT POLE FOUNDATION WITH UNDERGROUND STORMWATER MANAGEMENT DETENTION BASIN.

ELEVATION
NOT TO SCALE

5 PARKING LOT LIGHT POLE FOUNDATION
NOT TO SCALE

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

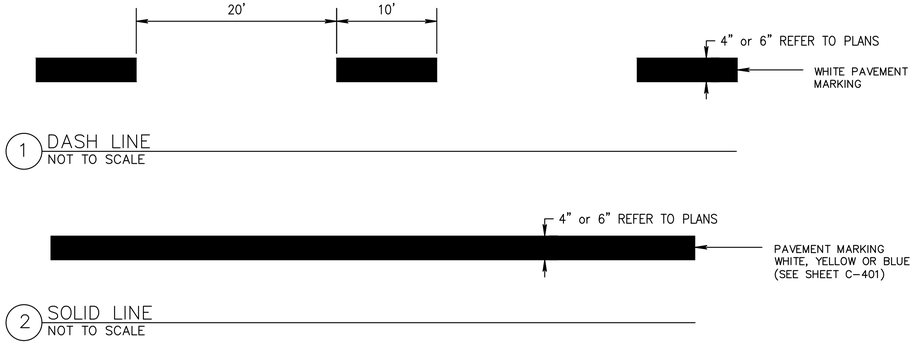
LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
CIVIL DETAILS

DWN	PROJ # 2023280024.000	DRAWING NUMBER
CHK	DATE JUNE 14, 2024	C-702

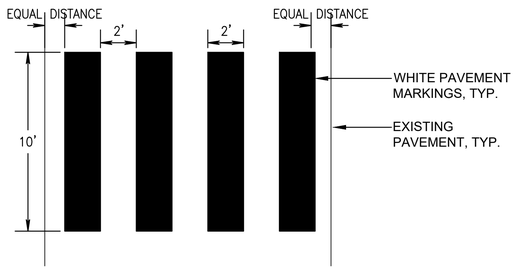
6/14/2024
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
WILLIAM C. LORENZ IV
ENGINEER

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\DETAILS.dwg

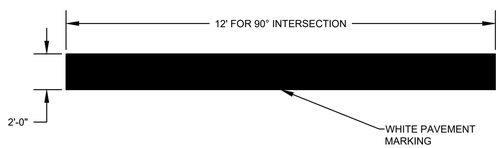


1 DASH LINE
NOT TO SCALE

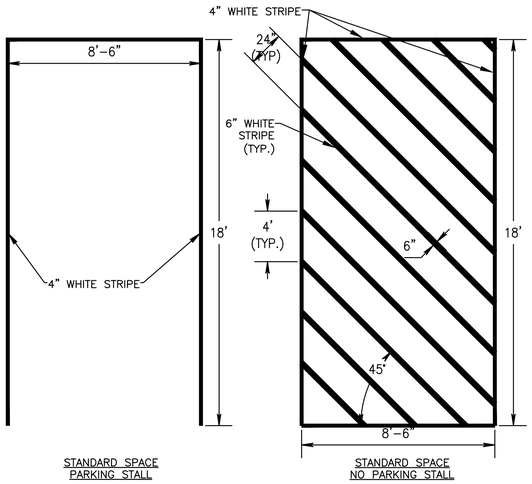
2 SOLID LINE
NOT TO SCALE



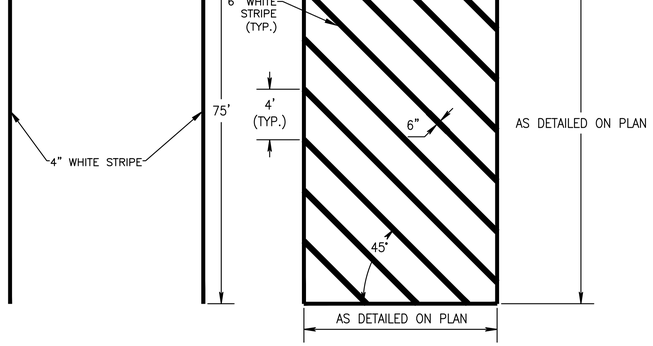
3 TYPICAL CROSSWALK
NOT TO SCALE



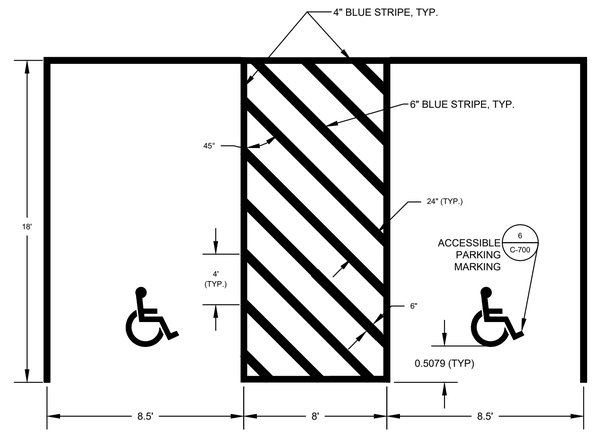
4 STOP BAR
NOT TO SCALE



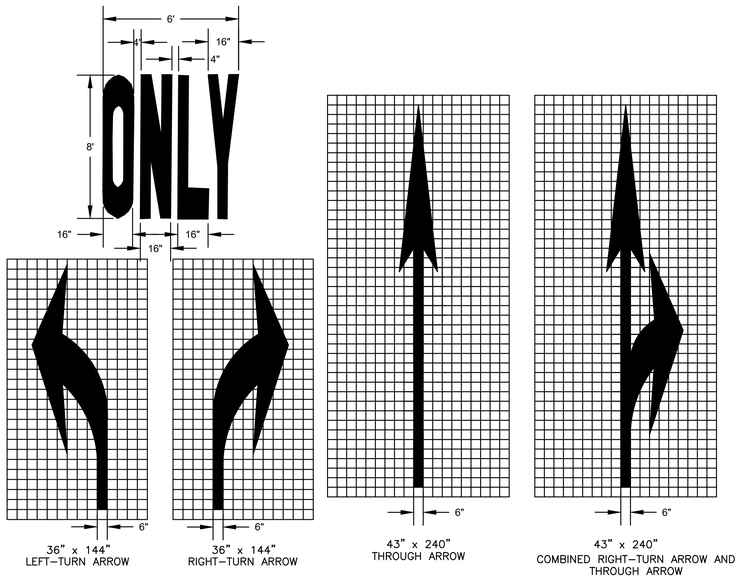
5 PARKING STALL STRIPING – CAR PARKING
NOT TO SCALE



6 PARKING STALL STRIPING – TRUCK PARKING
NOT TO SCALE



ACCESSIBLE VAN PARKING STALL STRIPING
NOT TO SCALE



36" x 144" LEFT–TURN ARROW

36" x 144" RIGHT–TURN ARROW

43" x 240" THROUGH ARROW

43" x 240" COMBINED RIGHT–TURN ARROW AND THROUGH ARROW

8 PAINTED LEGENDS
NOT TO SCALE

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

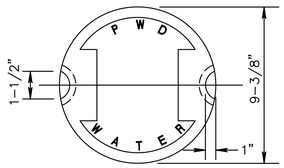
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

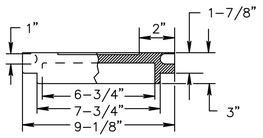
6/14/2024
REGISTERED PROFESSIONAL WILLIAM C. LORENTZ, IV ENGINEER

LOCATION: PHILADELPHIA, PA.

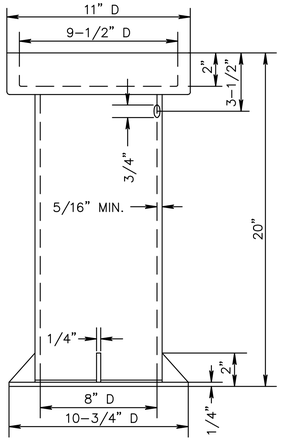
TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
CIVIL DETAILS

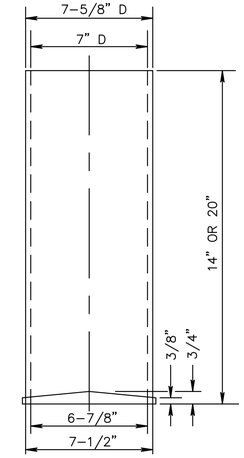
DWN	PROJ # 2023280024.000	DRAWING NUMBER
CHK	DATE JUNE 14, 2024	C-703

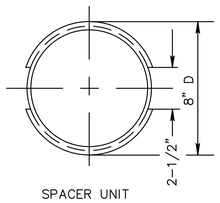




COVER

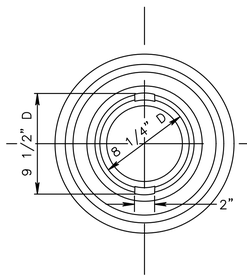


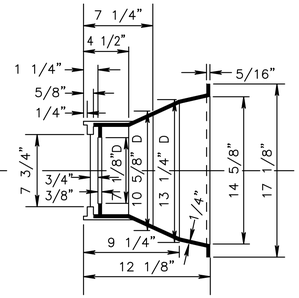




SPACER UNIT

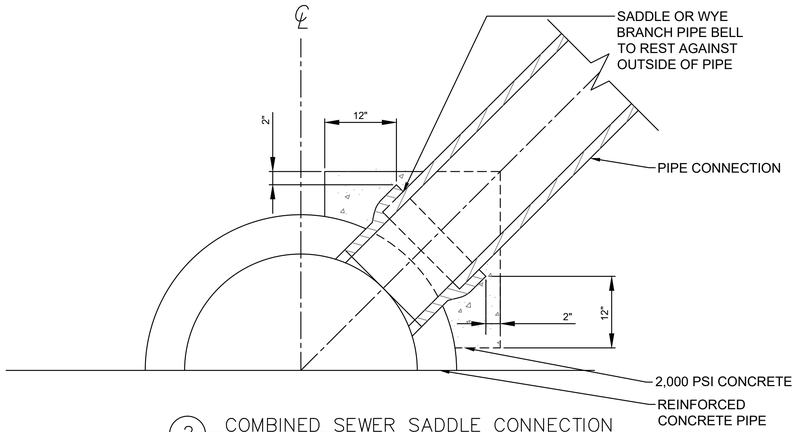
MATERIAL – CAST IRON ASTM A-48 CLASS 30-B



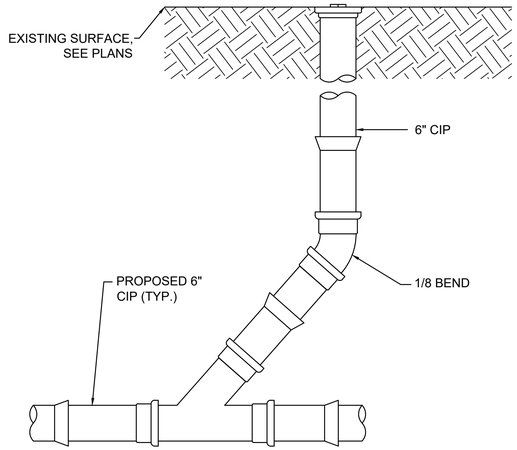


FOR 6" & 8" VALAVES

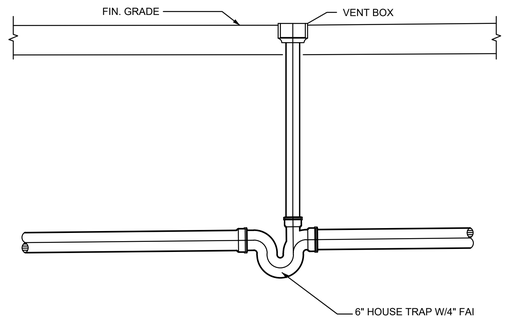
1 7" CAST IRON WATER VALVE BOX
NOT TO SCALE



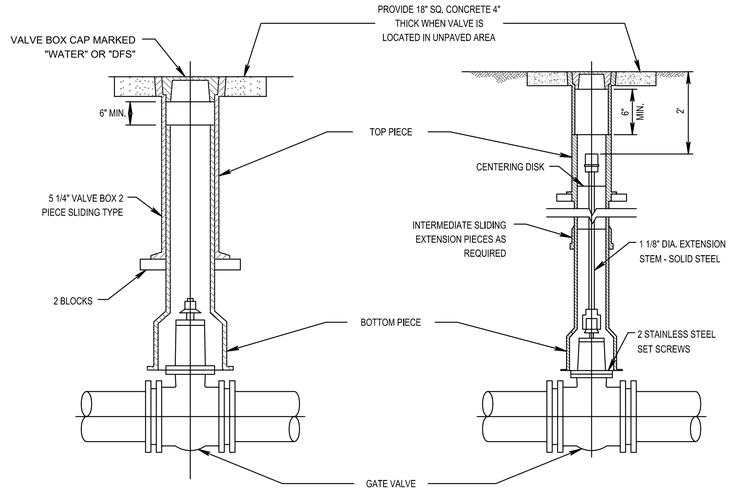
2 COMBINED SEWER SADDLE CONNECTION
NOT TO SCALE



3 SANITARY SEWER CLEANOUT
NOT TO SCALE



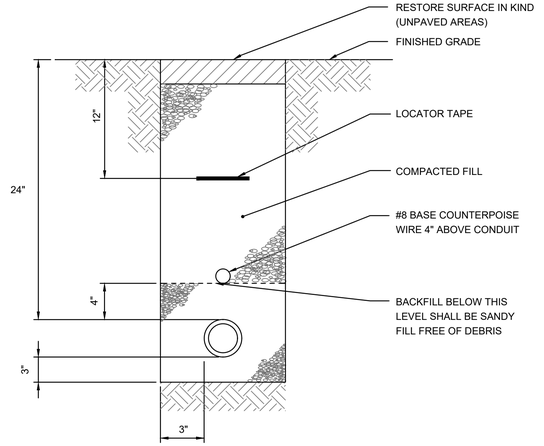
4 SANITARY TRAP AND FRESH AIR INLET
NOT TO SCALE



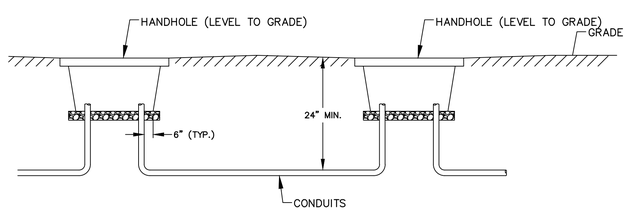
NORMAL SETTING DEEP SETTING

NOTES:
1. PROVIDE EXTENSION STEM WHEN OPERATING NUT IS OVER 5 FEET DEEP
2. VALVES SHALL BE STRAPPED TO ADJACENT FITTINGS UNLESS DIRECTED OTHERWISE

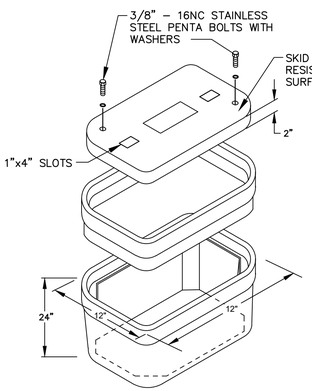
5 GATE VALVE AND VALVE BOX SETTING
NOT TO SCALE



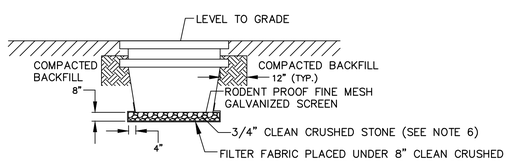
6 UNDERGROUND CONDUIT DETAIL
NOT TO SCALE



HANDHOLE CONDUIT CONNECTIONS
N.T.S.



HANDHOLE
N.T.S.



HANDHOLE INSTALLATION - PAVED AREA
N.T.S.

HANDHOLE GENERAL NOTES:

1. UNDERGROUND ENCLOSURES SHALL BE MANUFACTURED BY QUAZITE OR APPROVED EQUAL.
2. CONDUIT TO EXTEND INTO ENCLOSURE.
3. ENCLOSURES SHALL BE DESIGNED AND TESTED TO TEMPERATURES OF -50° F.
4. COVERS SHALL HAVE A MINIMUM COEFFICIENT OF FRICTION OF 0.5.
5. ALL COVERS SHALL BE OF BOLTED TYPE.
6. HANDHOLE BEDDING SHALL BE CLEAN 3/4" TRAP ROCK CRUSHED ANGULAR GRAY STONE.
7. ALL FILL AROUND ENCLOSURE SHALL BE COMPACTED IN 8" LAYERS.
8. ALL CONCRETE MUST HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
9. CONSTRUCTION AREA SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
10. SEAL ALL CONDUITS ENTERING EACH HANDHOLE FOR WATERPROOFING.
11. LID AND BOX TO BE DESIGNED TO TIER 8 LOADING FOR OFF ROADWAY INSTALLATION ONLY.
12. FOR ASSIST ENCLOSURES CONDUITS SHALL BE CONTINUOUS THRU BOX.
13. REFER TO NEW WORK SITE PLAN FOR HANDHOLE DIMENSIONS.

7 ELECTRICAL/COMMUNICATIONS TRENCHING & HANDHOLE DETAILS
NOT TO SCALE

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

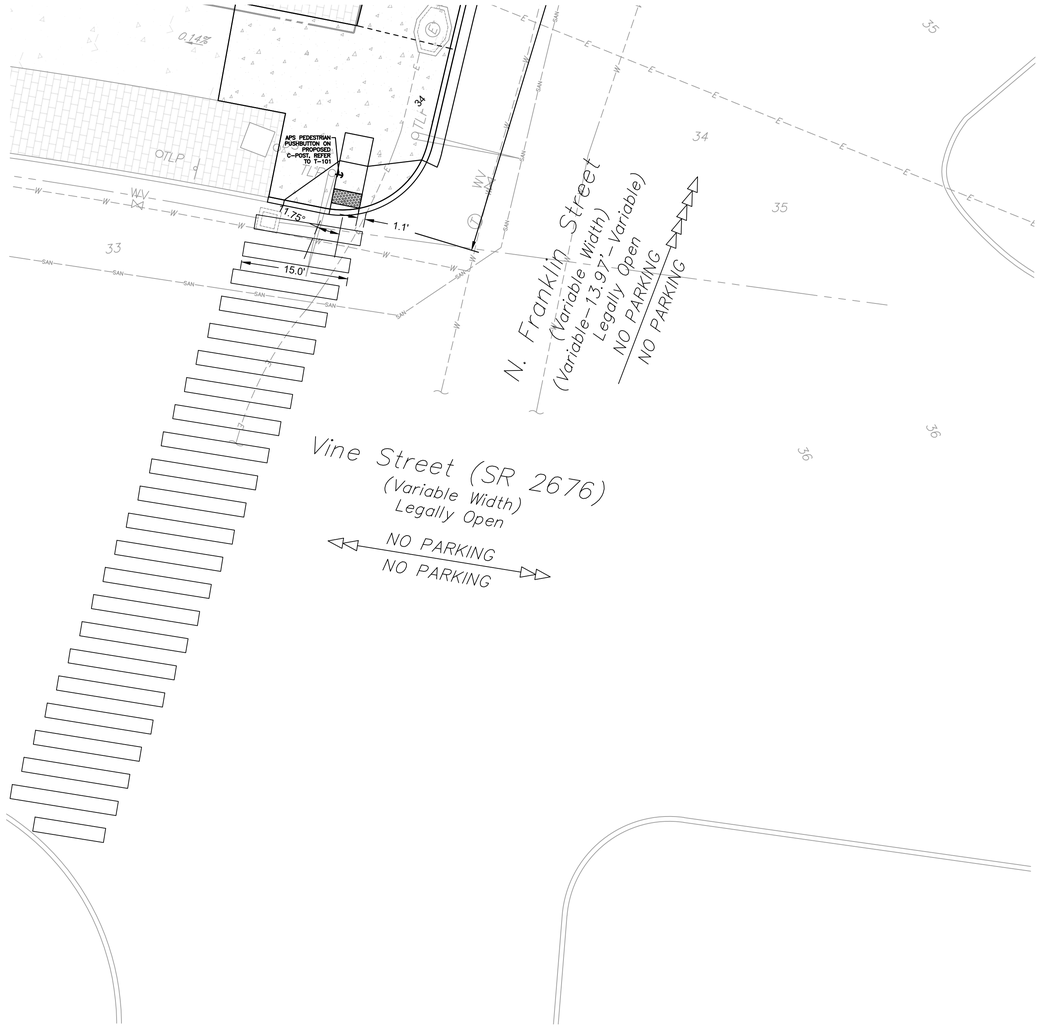
6/14/2024
REGISTERED PROFESSIONAL WILLIAM C. LORENTZ IV ENGINEER

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
UTILITY DETAILS

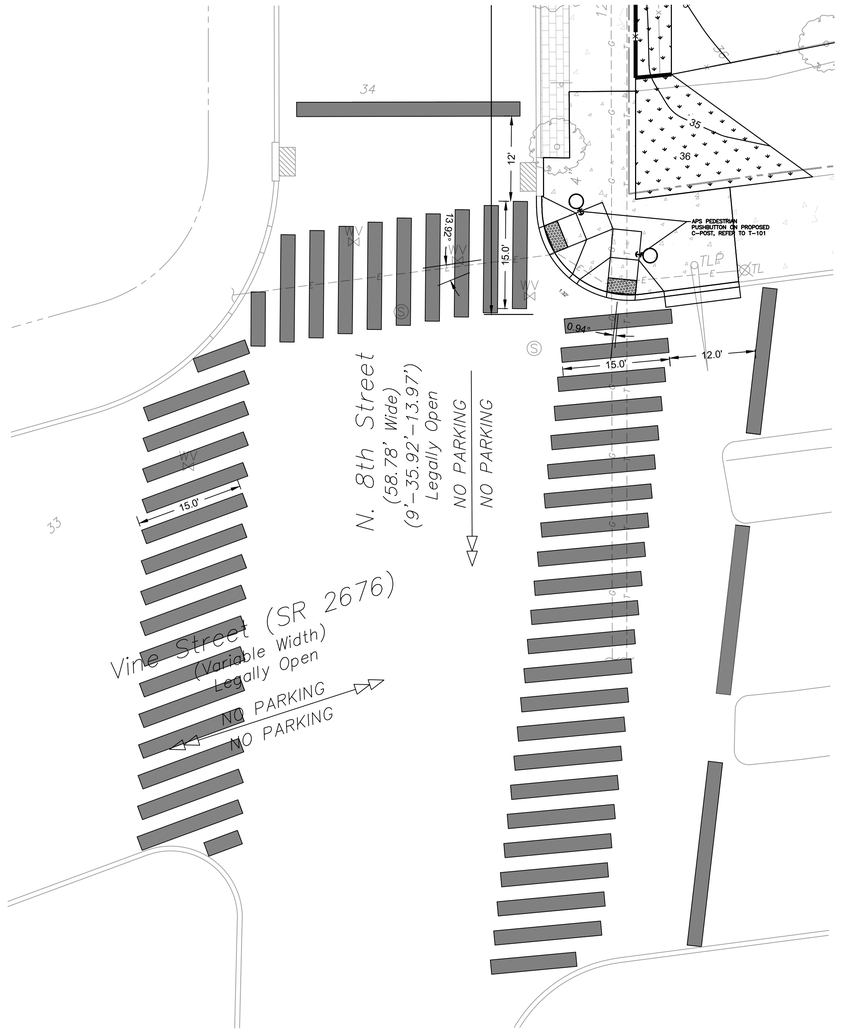
DWN	PROJ # 2023280024.000	DRAWING NUMBER C-710
CHK	DATE JUNE 14, 2024	

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\DETAILS.dwg



1 FRANKLIN STREET AND VINE STREET – LAYOUT PLAN
1" = 10'

1. REFER TO CROSSALK AND STOP BAR STANDARD LAYOUT DETAILS ON SHEET C-700.



2 8TH STREET AND VINE STREET – LAYOUT PLAN
1" = 10'

1. REFER TO CROSSALK AND STOP BAR STANDARD LAYOUT DETAILS ON SHEET C-700.

SITE LEGEND

- BUILDING
- 8' STEEL FENCE
- CURB
- DEPRESSED CURB
- CONCRETE PAVEMENT
- FULL DEPTH ASPHALT PAVEMENT
- GRASS/LANDSCAPING

EXISTING CONDITIONS LEGEND

- UNDERGROUND SEPTA LINE
- UNDERGROUND TELEPHONE/COMMUNICATION LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND STORM SEWER LINE
- OVERHEAD ELECTRIC LINE
- FENCE
- RIGHT OF WAY LINE
- CURB LINE
- ELEVATED ROADWAY SUPPORT STRUCTURE
- STORM SEWER MANHOLE
- TELEPHONE/COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- ELECTRIC JUNCTION BOX
- TELEPHONE/COMMUNICATION JUNCTION BOX
- DECIDUOUS TREE
- CONCRETE
- COBBLESTONE
- DETECTABLE WARNING STRIP
- INLET
- TRAFFIC POLE W/ MAST ARM
- TRAFFIC CONTROL BOX
- SIGN
- DOWNSPOUT
- GAS VALVE
- WATER VALVE
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- LIGHT POLE
- INVERT

GRAPHIC SCALE
1 inch = 10 feet

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

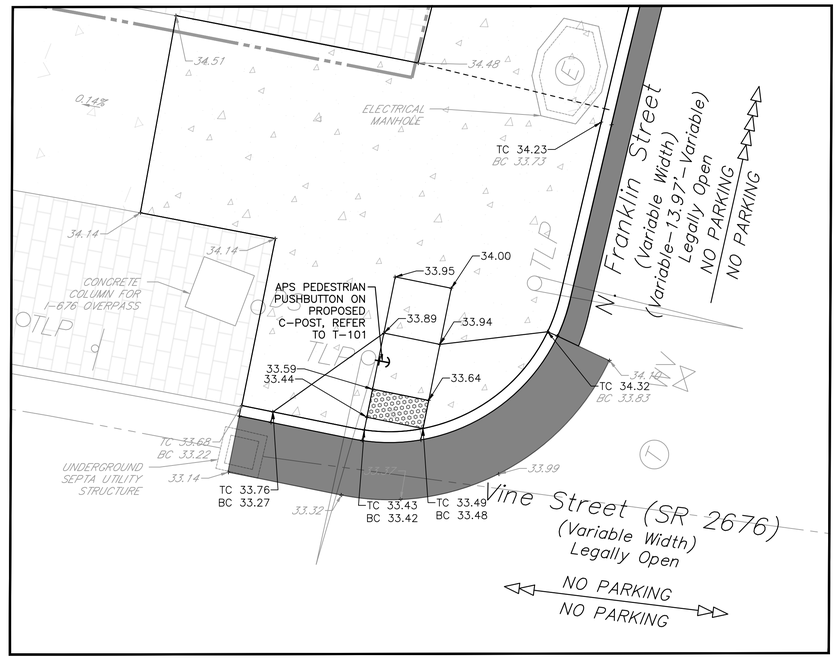
6/14/2024

LOCATION: PHILADELPHIA, PA.

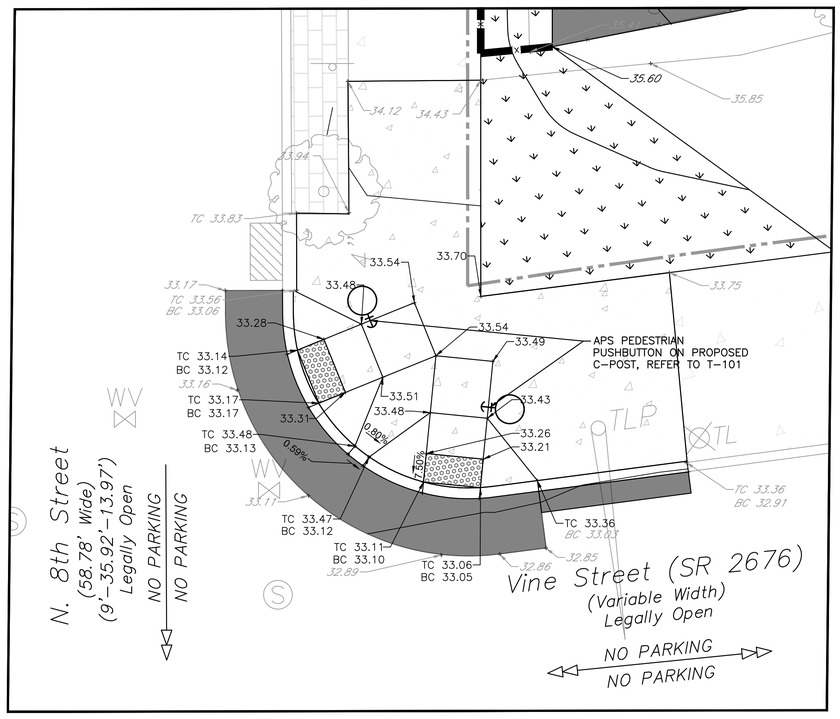
TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
CURB RAMP LAYOUT PLAN

DWN	PROJ # 2023280024.000	DRAWING NUMBER
CHK	DATE JUNE 14, 2024	C-900

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\ADA PLAN.dwg



1 FRANKLIN STREET AND VINE STREET NORTHWEST CORNER CURB RAMP – ELEVATION PLAN
1" = 5'



2 8TH STREET AND VINE STREET NORTHEAST CORNER CURB RAMP – ELEVATION PLAN
1" = 5'

SITE LEGEND

- BUILDING
- 8' STEEL FENCE
- CURB
- DEPRESSED CURB
- CONCRETE PAVEMENT
- FULL DEPTH ASPHALT PAVEMENT
- GRASS/LANDSCAPING
- DETECTABLE WARNING STRIPS

ADA GRADING LEGEND

- X.XX — PROPOSED SPOT ELEVATION
- TC X.XX — PROPOSED TOP OF CURB ELEVATION
- BC X.XX — PROPOSED BOTTOM OF CURB ELEVATION
- X.XX — EXISTING SPOT ELEVATION
- TC X.XX — EXISTING TOP OF CURB ELEVATION
- BC X.XX — EXISTING BOTTOM OF CURB ELEVATION

EXISTING CONDITIONS LEGEND

- FENCE
- RIGHT OF WAY LINE
- CURB LINE
- ELEVATED ROADWAY SUPPORT STRUCTURE
- STORM SEWER MANHOLE
- TELEPHONE/COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- EJXC — ELECTRIC JUNCTION BOX
- TJXC — TELEPHONE/COMMUNICATION JUNCTION BOX
- DECIDUOUS TREE
- CONCRETE
- COBBLESTONE
- DWS — DETECTABLE WARNING STRIP
- INLET
- TLP — TRAFFIC POLE W/ MAST ARM
- TCB — TRAFFIC CONTROL BOX
- SIGN
- DS — DOWNSPOUT
- GV — GAS VALVE
- WV — WATER VALVE
- UTILITY POLE W/ LIGHT
- FH — FIRE HYDRANT
- TL — LIGHT POLE
- INV. — INVERT

5 0 2.5 5 10
GRAPHIC SCALE
1 inch = 5 feet

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

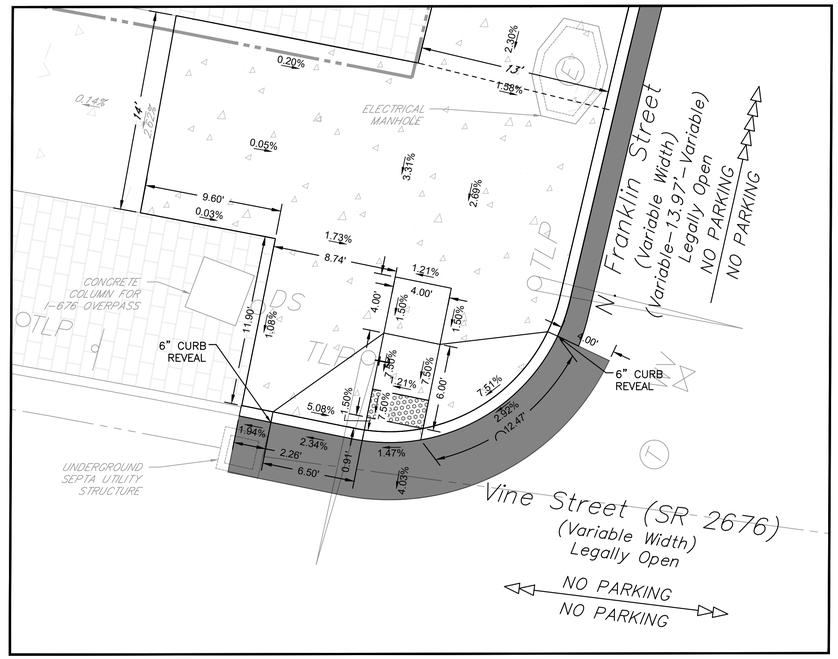
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

6/14/2024
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
WILLIAM C. LORDEN V
ENGINEER

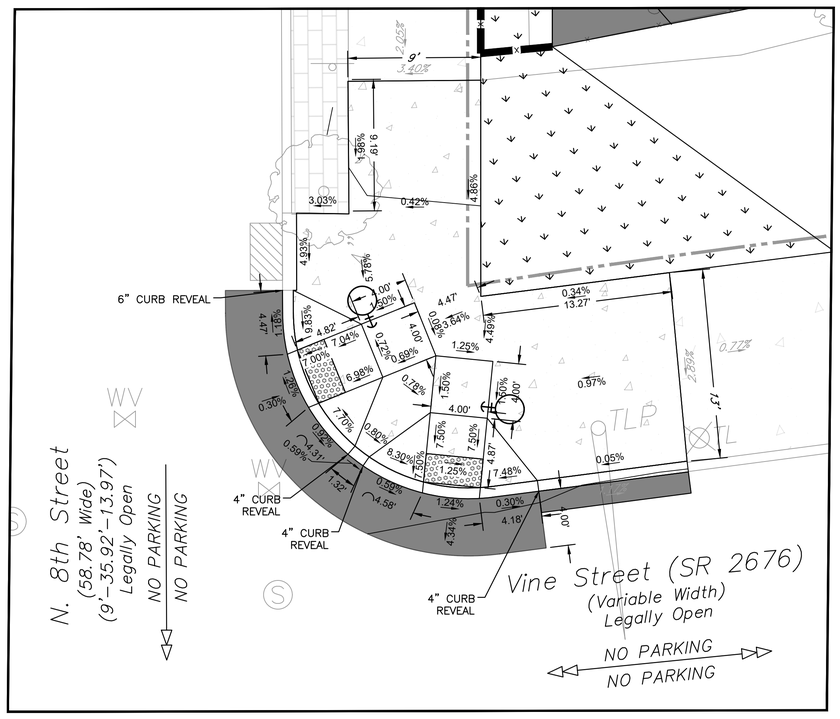
LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
CURB RAMP ELEVATION PLAN

DWN | PROJ.# 2023280024.000 | DRAWING NUMBER C-901
CHK | DATE JUNE 14, 2024



1 FRANKLIN STREET AND VINE STREET NORTHWEST CORNER CURB RAMP – SLOPE PLAN
1" = 5'



2 8TH STREET AND VINE STREET NORTHEAST CORNER CURB RAMP – SLOPE PLAN
1" = 5'

SITE LEGEND

- BUILDING
- 8' STEEL FENCE
- CURB
- DEPRESSED CURB
- CONCRETE PAVEMENT
- FULL DEPTH ASPHALT PAVEMENT
- GRASS/LANDSCAPING
- DETECTABLE WARNING STRIPS

EXISTING CONDITIONS LEGEND

- FENCE
- RIGHT OF WAY LINE
- CURB LINE
- ELEVATED ROADWAY SUPPORT STRUCTURE
- STORM SEWER MANHOLE
- TELEPHONE/COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- ELJXC — ELECTRIC JUNCTION BOX
- TJX — TELEPHONE/COMMUNICATION JUNCTION BOX
- DECIDUOUS TREE
- CONCRETE
- COBBLESTONE
- DWS — DETECTABLE WARNING STRIP
- INLET
- TLP — TRAFFIC POLE W/ MAST ARM
- TCB — TRAFFIC CONTROL BOX
- SIGN
- DS — DOWNSPOUT
- GV — GAS VALVE
- WV — WATER VALVE
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- TL — LIGHT POLE
- INV. — INVERT

5 0 2.5 5 10
GRAPHIC SCALE
1 inch = 5 feet

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

6/14/2024
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
WILLIAM C. LORDEN
ENGINEER

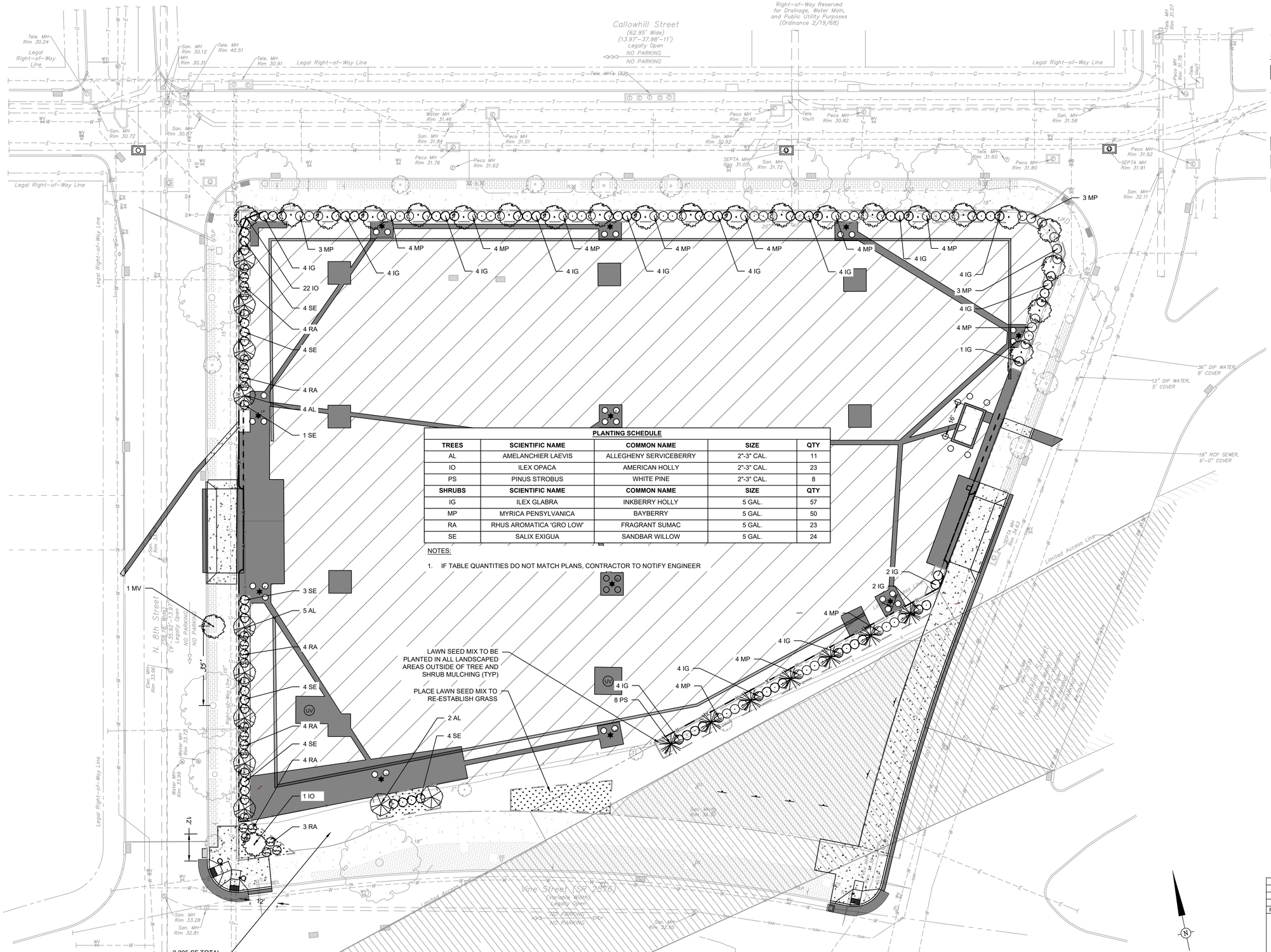
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
CURB RAMP SLOPE PLAN

DWN | PROJ # 2023280024.000 | DRAWING NUMBER C-902
CHK | DATE JUNE 14, 2024

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\ADA PLAN.dwg



PLANTING SCHEDULE

TREES	SCIENTIFIC NAME	COMMON NAME	SIZE	QTY
AL	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	2"-3" CAL.	11
IO	ILEX OPACA	AMERICAN HOLLY	2"-3" CAL.	23
PS	PINUS STROBUS	WHITE PINE	2"-3" CAL.	8
SHRUBS	**SCIENTIFIC NAME**	**COMMON NAME**	**SIZE**	**QTY**
IG	ILEX GLABRA	INKBERRY HOLLY	5 GAL.	57
MP	MYRICA PENSYLVANICA	BAYBERRY	5 GAL.	50
RA	RHUS AROMATICA 'GRO LOW'	FRAGRANT SUMAC	5 GAL.	23
SE	SALIX EXIGUA	SANDBAR WILLOW	5 GAL.	24

NOTES:

1. IF TABLE QUANTITIES DO NOT MATCH PLANS, CONTRACTOR TO NOTIFY ENGINEER

GRAPHIC SCALE
1 inch = 20 feet

LANDSCAPE LEGEND

- PROPOSED TREE
- PROPOSED SHRUB
- PROPOSED LANDSCAPE BOUNDARY

SITE LEGEND

- BUILDING
- 8' STEEL FENCE
- CURB
- DEPRESSED CURB
- CONCRETE PAVEMENT
- FULL DEPTH ASPHALT PAVEMENT
- ASPHALT OVERLAY

EXISTING CONDITIONS LEGEND

- UNDERGROUND SEPTA LINE
- UNDERGROUND TELEPHONE/COMMUNICATION LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND STORM SEWER LINE
- OVERHEAD ELECTRIC LINE
- FENCE
- RIGHT OF WAY LINE
- CURB LINE
- ELEVATED ROADWAY SUPPORT STRUCTURE
- FOOTPRINT OF INTERSTATE 676
- DEPRESSED CURB
- STORM SEWER MANHOLE
- TELEPHONE/COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- ELECTRIC JUNCTION BOX
- TELEPHONE/COMMUNICATION JUNCTION BOX
- DECIDUOUS TREE
- CONCRETE
- COBBLESTONE
- DETECTABLE WARNING STRIP
- INLET
- TRAFFIC POLE W/ MAST ARM
- TRAFFIC CONTROL BOX
- SIGN
- DOWNSPOUT
- GAS VALVE
- WATER VALVE
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- LIGHT POLE

	Code Section	Number of Plant Materials Required	Number of Plant Materials Provided
Interior Parking Lot Landscaping	14-803(5)c	10% of total parking lot area 73,034 SF = 7,304 SF of interior landscape area.	0 Trees* (*indicates waiver and fee requested)
		One shade tree per 200 SF, 3 shrubs per 200 SF, and 15 perennials or ground cover per 200 SF of interior landscaped area	0 Shrubs
		= 37 trees, 110 shrubs, 546 perennials	0 Perennials/Ground Cover
Parking Lot Screening	14-803(5)d	One shade tree and 4 shrubs per 20 linear feet for 613 LF screening length	31 Trees
		= 31 trees, 123 Shrubs	123 Shrubs
Yard Trees	14-705(1)e	Yard trees must be provided at a rate of one tree per 1600 SF of open area, not including watercourses and any open area in use as driveway access, parking, or landscape buffers	2 Trees
		2,225 SF of open area = 2 trees	
Buffer from Vine St.	14-705(1)d (.2)	One tree and three shrubs per 20 linear feet.	8 Trees
		140 LF = 7 trees, 21 shrubs	26 Shrubs
Fee Calculations	37 required trees not provided = $37,000 fee in lieu payment requested		

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD LANDSCAPE PLAN

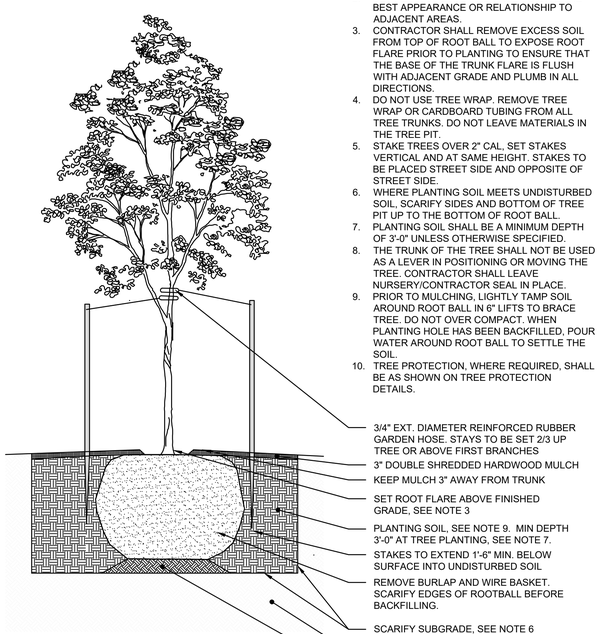
DWN	PROJ # 2023280024.000	DRAWING NUMBER
CHK	DATE JUNE 14, 2024	L-100

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL WILLIAM C. LORDEN IV ENGINEER 6/14/2024

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\LANDSCAPE PLAN.dwg

NOTES:

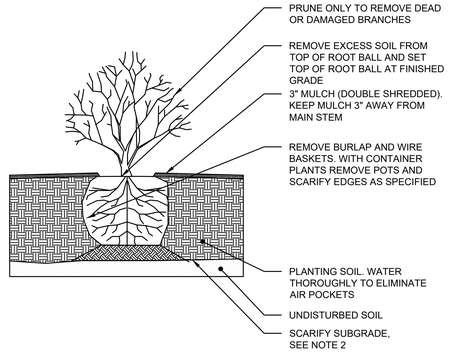
1. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY TO REMOVE CO-DOMINANT LEADERS, DEAD, AND BROKEN BRANCHES. PRUNE WITH A CLEAN CUT PER ANSI A300 & ISA (2008) STANDARDS. DO NOT CUT TREE'S CENTRAL LEADER.
2. SET PLANTS PLUMB AND FACE TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO ADJACENT AREAS.
3. CONTRACTOR SHALL REMOVE EXCESS SOIL FROM TOP OF ROOT BALL TO EXPOSE ROOT FLARE PRIOR TO PLANTING TO ENSURE THAT THE BASE OF THE TRUNK FLARE IS FLUSH WITH ADJACENT GRADE AND PLUMB IN ALL DIRECTIONS.
4. DO NOT USE TREE WRAP. REMOVE TREE WRAP OR CARDBOARD TUBING FROM ALL TREE TRUNKS. DO NOT LEAVE MATERIALS IN THE TREE PIT.
5. STAKE TREES OVER 2" CAL. SET STAKES VERTICAL AND AT SAME HEIGHT. STAKES TO BE PLACED STREET SIDE AND OPPOSITE OF STREET SIDE.
6. WHERE PLANTING SOIL MEETS UNDISTURBED SOIL, SCARIFY SIDES AND BOTTOM OF TREE PIT UP TO THE BOTTOM OF ROOT BALL.
7. PLANTING SOIL SHALL BE A MINIMUM DEPTH OF 3'-0" UNLESS OTHERWISE SPECIFIED.
8. THE TRUNK OF THE TREE SHALL NOT BE USED AS A LEVER IN POSITIONING OR MOVING THE TREE. CONTRACTOR SHALL LEAVE NURSERY/CONTRACTOR SEAL IN PLACE.
9. PRIOR TO MULCHING, LIGHTLY TAMP SOIL AROUND ROOT BALL IN 6" LIFTS TO BRACE TREE. DO NOT OVER COMPACT. WHEN PLANTING HOLE HAS BEEN BACKFILLED, POUR WATER AROUND ROOT BALL TO SETTLE THE SOIL.
10. TREE PROTECTION, WHERE REQUIRED, SHALL BE AS SHOWN ON TREE PROTECTION DETAILS.



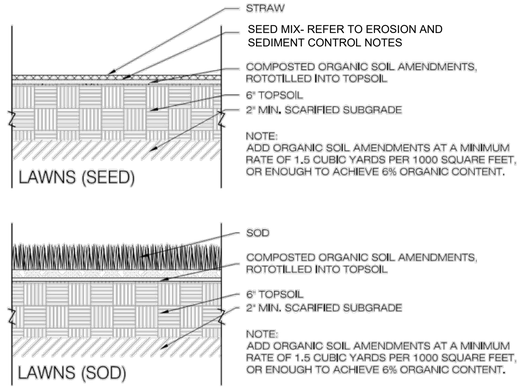
1 TREE PLANTING DETAIL
NOT TO SCALE

NOTES:

1. SET PLANTS PLUMB AND FACE TO GIVE BEST APPEARANCE TO ADJACENT AREAS.
2. WHERE PLANTING SOIL MEETS UNDISTURBED SOIL, SCARIFY SIDES AND BOTTOM OF EXCAVATION UP TO THE BOTTOM OF THE ROOTBALL.



2 SHRUB PLANTING DETAIL
NOT TO SCALE



3 LAWN DETAILS/ EXISTING AREAS OF RESTORATION
NOT TO SCALE

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

6/14/2024
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
WILLIAM C. LORDEN IV
ENGINEER

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
LANDSCAPE DETAILS

DWN | PROJ # 2023280024.000 | DRAWING NUMBER L-200
CHK | DATE JUNE 14, 2024

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Civil\Sheets\DETAILS.dwg

GENERAL NOTES:

1. Building Code, Design Reference Codes & Standards
   - 1.1. International Building Code (IBC) 2018
   - 1.2. Building Code Requirements for Reinforced Concrete - ACI 318-14
   - 1.3. Minimum Design Loads for Buildings and Other Structures - ASCE 7-16

2. Design Loads (conform to IBC 2018)

2.1.	Design Live Loads	
2.1.1.	Floor Live Loads	100 psf
2.1.2.	Roof Live Load	20 psf
2.2.	Design Roof Snow Load	
2.2.1.	Ground Snow Load	Pg=25 psf
2.2.2.	Flat-Roof Snow Load	Pf=17.5 psf
2.2.3.	Snow exposure factor	Ce=1.0
2.2.4.	Importance factor	I=1.0
2.2.5.	Thermal factor	Ct=1.0
2.3.	Design Wind Loads	
2.3.1.	General	
2.3.1.1.	Basic Wind Speed	V=115 mph
2.3.1.2.	Importance factor	Iw=1.0
2.3.1.3.	Risk Category	II
2.3.1.4.	Exposure Category	B
2.3.1.5.	Topographic Factor	Kzt =1.0
2.3.1.6.	Wind Directionality Factor	Kd =0.85
2.3.1.7.	Gust Effect Factor	G =0.85
2.3.1.8.	Enclosure Classification	Enclosed
2.3.1.9.	Internal Pressure Coeffecients	GCpi= +/-0.18
2.3.2.	Main Wind Force Resisting System	
2.3.2.1.	Analysis Procedure	Directional Procedure for Buildings of All Heights
2.3.2.2.	Mean Roof Height	h = 8.5 ft
2.3.2.3.	External Pressure Coefficient	
2.3.2.3.1.	Walls (Windward/Leeward/Side)	Cp=0.8/-0.5/-0.7
2.3.2.3.2.	Roof Zone Condition 1 (1/2/3/4)	Cp=-0.9/-0.9/-0.9/
2.3.2.3.3.	Roof Zone Condition 2 (1/2/3/4)	Cp=-1.3/-0.7
2.3.2.4.	Velocity Pressure @ z=h	qh = 16.4 psf
2.3.2.5.	Minimum Wind Load	16 psf
2.4.	Design Earthquake Loads	
2.4.1.	Importance Factor	Ie=1.0
2.4.2.	Risk Category	II
2.4.3.	Mapped Spectral Response Acceleration	Ss=0.20g
2.4.4.	Mapped Spectral Response Acceleration	S1=0.060g
2.4.5.	Site Class (assumed soil characteristics)	D
2.4.6.	Spectral Response Coefficient	SDs=0.213g
2.4.7.	Spectral Response Coefficient	SD1=0.096g
2.4.8.	Seismic Design Category	B
2.4.9.	Basic Seismic Force Resisting System	Steel Systems Not Specifically Detalled for Seismic Resistance
2.4.10.	Design Base Shear	V=0.13 kips (total)
2.4.11.	Seismic Response Coefficient	Cs=0.071
2.4.12.	Response Modification Factor	R=3.0
2.4.13.	Analysis Procedure	Equivalent Lateral Force

3. Material Properties

3.1.	Concrete minimum compressive strength (28 days)	f'c=5 ksi
3.1.1.	Maximum water/cement ratio	w/c=0.40 max.
3.1.2.	Slump	4" +/- 1"
3.1.3.	Air Content	6%
3.2.	Reinforcing bars (ASTM A615 Gr 60)	fy=60 ksi

4. Soil Properties

4.1.	Allowable Bearing Pressure	1500 psf

5. General
   - 5.1. See project specifications and requirements in addition to General Notes.
   - 5.2. Design and construction shall be in accordance with the latest edition of the State of Pennsylvania's Uniform Construction Code and in accordance with the local building department requirements. All design and construction codes and standards refer to the edition referenced by the governing building code.
   - 5.3. All safety regulations, methods of construction and erection of structural material shall be the responsibility of the General Contractor. It shall be the General Contractor's responsibility to provide adequate shoring, bracing, formwork, etc. as required.
   - 5.4. The Contractor shall verify all dimensions prior to commencing any work. The Engineer shall be notified of any discrepancies. This includes size and location of all sleeves, pads, depressions, openings, etc., as required by the various trades.
   - 5.5. Discrepancies between the booth manufacturer and structural drawings shall be brought to the attention of the Structural Engineer for resolution prior to commencing work.
   - 5.6. Shop drawings must be checked and stamped by the Contractor prior to submission. Drawings not first reviewed and approved by the Contractor will be returned with no action taken.

6. Foundations
   - 6.1. Foundations for this project are designed per recommendations made by Urban Engineers, Inc, the project Geotechnical Engineer, Reference "Geotechnical Evaluation Report, Proposed Marshalling Yard Renovation, Pennsylvania Convention Center, North Franklin Street at Vine Street, Philadelphia, Pennsylvania" prepared by Urban Engineers, Inc., dated June 2024 . All work regarding site preparation, earth fill, backfill requirements, foundations preparations, etc. shall be in accordance with the requirements of the contract documents and specifications.
   - 6.2. Footings shall be founded on a minimum 1 foot thick layer of engineered backfill at minimum frost depth (42") or at the depth shown on plans; whichever is more stringent.
   - 6.3. When Excavations approach ground water level, the water level shall be lowered by an approved dewatering system so that the water level is continuously maintained 2'-0" below the excavation.
   - 6.4. All excavations shall be observed and tested by the Geotechnical Engineer of Record's representative prior to placement of foundation materials.
   - 6.5. Do not allow surface/rain runoff to collect in excavations. If water does collect in excavation, over-excavate soft soils and bring back to project bearing elevation using lean concrete mix.
   - 6.6. Compact all fill to 95% of ASTM D698 Standard Proctor Method and optimum moisture content. Place fill in 8" layers and compact with vibratory equipment.
   - 6.7. In granular soils (sands and gravel), the soil shall be mechanically tamped to a hard surface immediately prior to placing footings.
   - 6.8. Locate existing underground utilities in areas of construction - contact PA One-Call before you dig. Coordinate with utility companies for shut off requirements of active lines.

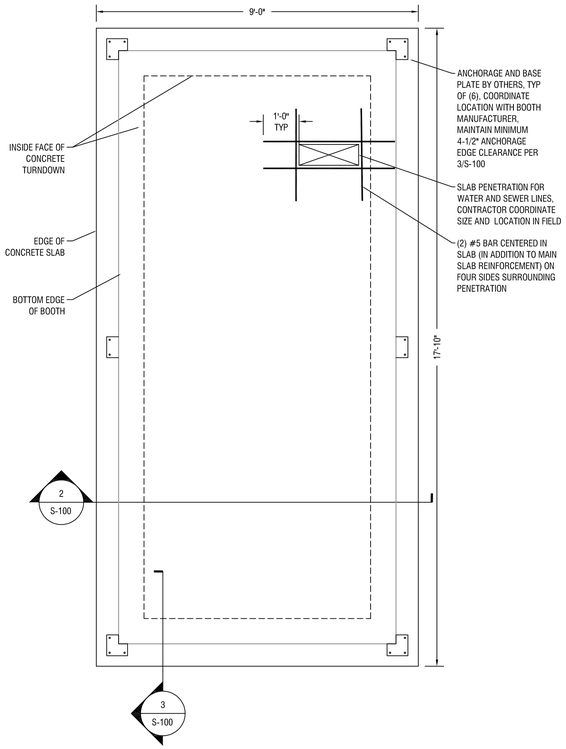
7. Concrete
   - 7.1. All concrete construction per ACI 318 - *Building Code Requirement for Reinforced Concrete* and the *ACI Detailing Manual*. See Section 1 for governing edition.
   - 7.2. Provide shop drawings which indicate size, spacing, and bend detalls of all reinforcing.
   - 7.3. Furnish bar and wire mesh supports and chairs where necessary to hold reinforcing in place.
   - 7.4. Provide pipe sleeves and inserts where required. See architectural and MEP drawings.
   - 7.5. Welding of reinforcing bars or mesh is not permitted without approval from Structural Engineer.
   - 7.6. Reinforcing splices:
     - 7.6.1. Lap all compression splices 30 bar diameters of the larger bar
     - 7.6.2. Lap all tension splices as follows:

Bar	Concrete Strength 3,000	4,000	5,000	Splice Modifier (increases are cumulative)
#3	22"	19"	17"	-Horizontal top bars with greater
#4	29"	25"	23"	than 12" of concrete below + 30%
#5	36"	31"	28"	-Epoxy coated:
#6	43"	37"	34"	-Bar clear spacing less than 6 dia or
#7	63"	54"	49"	cover less than 3 dia + 50%
#8	72"	62"	56"	-All others +20%
#9	81"	70"	63"	-Lightweight Concrete +33%
#10	91"	79"	71"	

8. Floor Penetrations
   - 8.1. The contractor shall verify and coordinate the number, size, and locations of all sleeves and openings required by the booth manufacturer and MEP construction documents. Reference all booth manufacturer and MEP drawings and specifications.
   - 8.2. Sleeves and openings shall be located in a manner that will maintain the structural integrity of the concrete slab.
   - 8.3. No structural elements are to be cut unless specifically approved by the Structural Engineer.

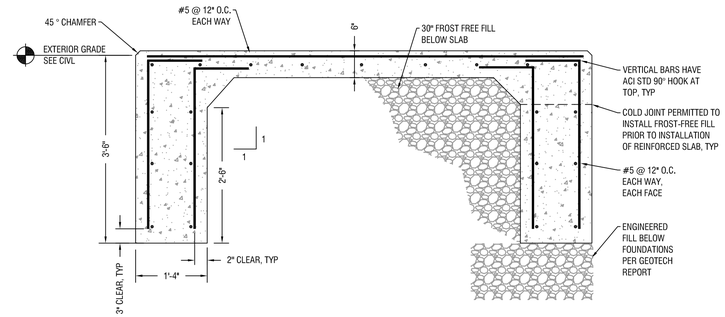
9. Post-Installed Connections
   - 9.1. Locate all reinforcing prior to drilling and adjust the connection as required to avoid cutting or disturbing any reinforcing.
   - 9.2. For mechanical connections to concrete, use Hilti Kwik Bolt 3 Expansion Anchors (or approved substitute) as indicated in the drawings, or of the size and embedment required to support the loads imposed.
   - 9.3. For adhesive connections to concrete, use Hilti HIT HY 200 adhesive (or approved substitute) with HAS threaded rods (ASTM A36, unless noted otherwise) or rebar, as indicated in the drawings and/or of the size and embedment required to support the loads imposed.

10. Inspection
    - 10.1. The owner will retain an approved independent testing laboratory that shall provide inspections and testing per ASTM E329. Reports of inspection and testing shall be sent to Architect and Engineer within 48 hours of testing.
    - 10.2. Continuous Inspection -- Contractor shall notify inspection agency and architect prior to work requiring continuous inspection -- any work completed without inspector present shall be removed and replaced at the contractors expense.
    - 10.3. Periodic Inspection -- Contractor shall notify inspection agency and architect when work is ready for inspection. Any work that subsequently hides work to be inspected shall be removed and replaced at the contractors expense.
    - 10.4. Materials Testing -- Contractor shall employ a testing and inspection agency to perform materials testing as required by the Special Inspector.
    - 10.5. Special Inspection Testing shall include:
      - 10.5.1. Concrete: mix data, daily pour reports, cylinder tests, slump, entrained air tests, temperature, etc, per IBC 2018 Section 1705.3 and Table 1705.3.
      - 10.5.2. Soils: Per IBC 2018 Section 1705.6 and Table 1705.6.



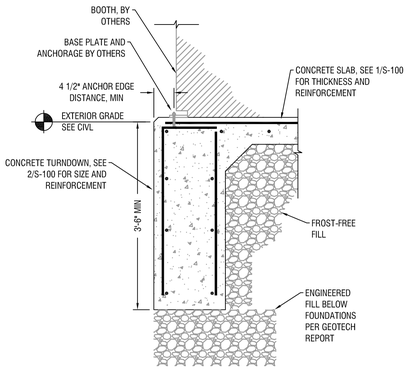
1 FOUNDATION PAD PLAN

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



2 FOUNDATION PAD SECTION

SCALE: 3/4"=1'-0"



3 BASE PLATE ANCHORAGE

SCALE: 3/4"=1'-0"

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEPHEN G. HIRSCHLER — ENGINEER PE088848

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
FOUNDATION PLAN AND SECTIONS

DWN	PROJ #	DRAWING NUMBER
SGH	2023280024.000	S-100
CHK: DMF	DATE: JUNE 14, 2024	

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\Structural\Drawings\S-100 2.dwg

PLUMBING SYMBOLS

- DOMESTIC COLD WATER (CW)
- DOMESTIC HOT WATER (HW)
- DOMESTIC HOT WATER RECIRC. (HWR)
- SD — STORM DRAIN
- SANITARY SEWER
- SANITARY VENT
- DIRECTION OF FLOW
- SLOPE – FALL PER FOOT
- GATE VALVE
- BALL VALVE
- CHECK VALVE
- CIRCUIT SETTER
- PRESSURE REDUCING VALVE
- TEMPERATURE & PRESSURE RELIEF VALVE
- PIPE UP
- PIPE DOWN
- STRAINER
- WATER METER PLAN/DIAGRAM
- BREAK
- CONCENTRIC REDUCER
- UNION SCREWED/FLANGED
- FD FD — FLOOR DRAIN (SQUARE/ROUND)
- CO FCO — CLEANOUT
- DEMOLITION BREAK POINT
- NEW TO EXISTING CONNECTION

- (D) DEMOLITION NOTE
- (#) KEY NOTE
- (E) EXISTING TO REMAIN
- (N) NEW
- (T) TOTAL
- (R) ABANDON & REMOVE
- (S) SALVAGE
- (ER) EXISTING TO BE RELOCATED
- (RE) REMOVE EXISTING

PLUMBING ABBREVIATIONS

ABV.	ABOVE
AC	ABOVE CEILING
A.F.F.	ABOVE FINISHED FLOOR
AWT	AVERAGE WATER TEMPERATURE
B	BOILER
BF	BELOW FLOOR
BLDG	BUILDING
B.O.S.	BOTTOM OF STEEL
C.I.	CAST IRON
CLG.	CEILING
CONT.	CONTINUED/CONTINUATION
CONT'R	CONTRACTOR
CW	DOMESTIC COLD WATER
dB	DECIBELS
DOM	DOMESTIC
DEPT	DEPARTMENT
DIS. SW.	DISCONNECT SWITCH
DIV	DIVISION
DN	DOWN
DWG	DRAWING
EA	EACH
EL	ELEVATION
ENT	ENTERING
ETC	ET CETERA
EXT	EXTERNAL
EWT	ENTERING WATER TEMPERATURE
FD	FLOOR DRAIN
FLA	FULL LOAD AMPS
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FT	FEET
G.	GAS
GA	GAUGE
G.C.	GENERAL CONTRACTOR
GAL	GALLON
GPM	GALLONS PER MINUTE
GPH	GALLONS PER HOUR
H.C.	HVAC CONTRACTOR
HP	HORSEPOWER
HR	HOUR
HWR	DOMESTIC HOT WATER RECIRCULATED
HW	DOMESTIC HOT WATER
IN.	INCHES
INT	INTERNAL
INV.	INVERT
KW	KILOWATTS
LBS	POUNDS
LBS/H	POUNDS PER HOUR
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
M.C.	MECHANICAL CONTRACTOR
MIN	MINIMUM
NC	NORMALLY CLOSED
N.I.C.	NOT IN CONTRACT
No.	NUMBER
NO	NORMALLY OPEN
NTS	NOT TO SCALE
O.C.	ON CENTER
OPER.	OPERATING
P.C.	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RECIR	RECIRCULATED
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RWC	RAIN WATER CONDUCTOR
S.	SANITARY
SPEC	SPECIFICATIONS
S.F.	SQUARE FEET
TEMP	TEMPERATURE
T.O.S.	TOP OF STEEL
TYP	TYPICAL
V.	VENT
V.I.F.	VERIFY IN FIELD
VTR	VENT THROUGH ROOF
W.	WASTE
W/	WITH
WG	WATER GAUGE
W/O	WITHOUT
#	POUNDS OR NUMBER
#/HR	POUNDS PER HOUR
°F	DEGREES FAHRENHEIT
ø	ELECTRICAL PHASE OR DIAMETER

DRAWING LIST

PLUMBING COORDINATION

1. PLUMBING CONTRACTOR IS RESPONSIBLE FOR FULL COORDINATION OF PLUMBING DRAWINGS WITH ALL OTHER BUILDING TRADES (PRE–FABRICATED GUARD–HOUSE MANUFACTURER, HVAC, MECHANICAL, PLUMBING, SPECIAL SYSTEMS, INTERIOR DESIGN, AND ELECTRICAL).
2. PLUMBING EQUIPMENT & PIPING LAYOUTS SHALL BE FREE OF INTERFERENCE CONFLICTS WITH ALL OTHER BUILDING TRADES BEFORE COMMENCING THE INSTALLATION.
3. COORDINATED SHOP DRAWINGS SHALL BE SUBMITTED TO PRE–FABRICATED GUARD–HOUSE MANUFACTURER & ENGINEER FOR REVIEW. THE COORDINATED SHOP DRAWINGS SHALL BE FULLY SIGNED OFF BY EACH TRADE BEFORE THE INSTALLATION. THE COORDINATED SHOP DRAWINGS WILL NOT BE REVIEWED IF THEY ARE NOT COORDINATED & SIGNED OFF BY EACH TRADE.
4. COORDINATED SHOP DRAWINGS SHALL SHOW EQUIPMENT & PIPING LOCATION DIMENSIONS, CEILING HEIGHTS, ELECTRICAL LIGHTING, HVAC DEVICES, PIPE SIZES, AND PIPE ELEVATIONS.

PLUMBING GENERAL NOTES

1. THE PIPING DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND CONNECTIONS.
2. VENT AND DOMESTIC WATER PIPING TO BE RUN ABOVE OR ALONG CEILING UNLESS OTHERWISE NOTED ON DRAWINGS.
3. SANITARY DRAINAGE PIPING TO BE RUN BELOW FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS.
4. VALVES AND CONTROLS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS. PROVIDE ADEQUATELY SIZED ACCESS DOORS WHERE REQUIRED.
5. EQUIPMENT & PIPING LAYOUTS FOR MECHANICAL & EQUIPMENT ROOMS ARE BASED UPON THE PLUMBING CONTRACTOR PROVIDING THE EQUIPMENT SPECIFIED FROM THE BASIS OF DESIGN MANUFACTURER. OTHER ACCEPTABLE MANUFACTURERS MAY BE PROVIDED AS LONG AS THEIR PHYSICAL DIMENSIONS DO NOT IMPACT THE EQUIPMENT & PIPING LAYOUT AS SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO COORDINATE THE LAYOUT TO ENSURE THAT PROPER ACCESS FOR MAINTENANCE AND EQUIPMENT REMOVAL CAN BE MAINTAINED ACCORDING TO CODE AND MANUFACTURER'S RECOMMENDATIONS. MAKE ALL NECESSARY PIPING MODIFICATIONS AS REQUIRED AT NO COST TO OWNER.
6. PLUMBING CONTRACTOR SHALL ROUTE EQUIPMENT PIPING TO PREVENT TRIPPING HAZARDS. DO NOT INSTALL PIPING ON FLOOR IN ANY EQUIPMENT ACCESS AISLE.
7. UNLESS OTHERWISE NOTED, ALL SPOT PIPE ELEVATIONS SHOWN ARE REFERENCED FROM CENTERLINE OF PIPE TO PROJECT DATUM REFERENCE POINT.

APPLICABLE CODES:

BUILDING CODES: 2018 PHILADELPHIA BUILDING CODE

PLUMBING: 2018 PHILADELPHIA PLUMBING CODE

NOTE:

NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED APPEAR ON THESE DOCUMENTS.

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL EDWARD J. GODOROV ENGINEER PE–29587–E PENNSYLVANIA

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
PLUMBING LEGEND AND GENERAL NOTES

DWN HP | PROJ # 2023280024.000 | DRAWING NUMBER P-000
CHK EJG | DATE JUNE 14, 2024

220500 COMMON WORK RESULTS FOR PLUMBING

A. GENERAL REQUIREMENTS
1. INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, TRANSPORTATION AND SERVICES TO FURNISH AND INSTALL COMPLETE PLUMBING SYSTEMS AND ALTERATIONS AS SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED.
2. ALL WORK SHALL BE IN ACCORDANCE WITH ALL LOCAL AND STATE CODES, ALL APPLICABLE BUILDING, MECHANICAL AND PLUMBING CODES, AND ALL AUTHORITIES HAVING JURISDICTION.
3. ALL WORK SHALL BE IN ACCORDANCE WITH ALL LANDLORD REQUIREMENTS.
4. ALL CONNECTION, INSPECTION AND PERMIT FEES SHALL BE AT THE CONTRACTOR'S EXPENSE.
5. CONTRACTOR SHALL CONTACT AUTHORITIES HAVING JURISDICTION FOR INSPECTION OF ALL SYSTEMS IN A TIMELY MANNER BEFORE OCCUPANCY OF THE BUILDING.

B. SUBMITTALS
1. CONTRACTOR SHALL SUBMIT FOR REVIEW SIX COPIES OF SHOP DRAWINGS, LITERATURE, AND EQUIPMENT LISTS PRIOR TO FABRICATION OR DELIVERY.
2. CATALOG SHEETS SHALL BE COMPLETE, AND THE ITEM OR MODEL TO BE USED SHALL BE CLEARLY MARKED.
3. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS OR A COMPARABLE PRODUCT. ARCHITECT AND/OR ENGINEER APPROVAL IS REQUIRED FOR ALL COMPARABLE PRODUCTS SUBMITTED.

C. PLUMBING DEMOLITION
1. DISCONNECT, DEMOLISH, AND REMOVE PLUMBING SYSTEMS, EQUIPMENT, AND COMPONENTS INDICATED TO BE REMOVED.
   a. PIPING TO BE REMOVED: REMOVE PORTION OF PIPING INDICATED TO BE REMOVED, AND CAP OR PLUG REMAINING PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL.
   b. PIPING TO BE ABANDONED IN PLACE: DRAIN PIPING, AND CAP OR PLUG PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL.
   c. EQUIPMENT TO BE REMOVED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT.
   d. EQUIPMENT TO BE REMOVED AND REINSTALLED: DISCONNECT AND CAP SERVICES, AND REMOVE, CLEAN, AND STORE EQUIPMENT; WHEN APPROPRIATE, REINSTALL, RECONNECT, AND MAKE EQUIPMENT OPERATIONAL.
   e. EQUIPMENT TO BE REMOVED AND SALVAGED: DISCONNECT AND CAP SERVICES, AND REMOVE EQUIPMENT AND DELIVER TO OWNER.
2. IF PIPE, INSULATION, OR EQUIPMENT TO REMAIN IS DAMAGED IN APPEARANCE OR IS UNSERVICEABLE, REMOVE DAMAGED OR UNSERVICEABLE PORTIONS, AND REPLACE WITH NEW PRODUCTS OF EQUAL CAPACITY AND QUALITY.

D. PIPING SYSTEMS - COMMON REQUIREMENTS
1. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS.
2. INSTALL PIPING IN CONCEALED LOCATIONS, UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.
3. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
4. INSTALL PIPING TO PERMIT VALVE SERVICING.
5. INSTALL PIPING AT INDICATED SLOPES.
6. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION.
7. INSTALL ESCUTCHEONS FOR PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.
8. VERIFY FINAL EQUIPMENT LOCATIONS FOR ROUGHING-IN.

E. PIPING JOINT CONSTRUCTION
1. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE.
2. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY.
3. SOLDERED JOINTS: APPLY ASTM B 813, WATER-FLUSHABLE FLUX, UNLESS OTHERWISE INDICATED, TO TUBE END. CONSTRUCT JOINTS ACCORDING TO ASTM B 828 OR CDA'S "COPPER TUBE HANDBOOK," USING LEAD-FREE SOLDER ALLOY COMPLYING WITH ASTM B 32.
4. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS ACCORDING TO ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS:
   a. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED.
   b. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS.

220519 GAGES FOR PLUMBING PIPING

A. PRESSURE GAGES
1. DIRECT-MOUNTING, DIAL-TYPE PRESSURE GAGES: INDICATING-DIAL TYPE COMPLYING WITH ASME B40.100.
   a. CASE: DRY TYPE, DRAWN STEEL OR CAST ALUMINUM, 4-1/2-INCH (114-MM) DIAMETER.
   b. MOVEMENT: MECHANICAL, WITH LINK TO PRESSURE ELEMENT AND CONNECTION TO POINTER.
   c. DIAL: SATIN-FACED, NONREFLECTIVE ALUMINUM WITH PERMANENTLY ETCHED SCALE MARKINGS.
   d. POINTER: RED METAL.
   e. WINDOW: GLASS.
   f. RING: METAL.

B. INSTALLATIONS
1. INSTALL DIRECT-MOUNTING PRESSURE GAGES IN PIPING TEES WITH PRESSURE GAGE LOCATED ON PIPE AT MOST READABLE POSITION.
2. INSTALL NEEDLE-VALVE AND SNUBBER FITTING IN PIPING FOR EACH PRESSURE GAGE.
3. INSTALL GAGES ADJACENT TO EQUIPMENT TO ALLOW SERVICE AND MAINTENANCE FOR GAGES, MACHINES, AND EQUIPMENT.
4. ADJUST FACES OF GAGES TO PROPER ANGLE FOR BEST VISIBILITY.

220523 GENERAL-DUTY VALVES FOR PLUMBING PIPING

A. QUALITY ASSURANCE
1. SOURCE LIMITATIONS FOR VALVES: OBTAIN EACH TYPE OF VALVE FROM SINGLE SOURCE FROM SINGLE MANUFACTURER.
2. NSF COMPLIANCE: NSF 61 FOR VALVE MATERIALS FOR POTABLE-WATER SERVICE.

B. GENERAL REQUIREMENTS FOR VALVES
1. REFER TO VALVE SCHEDULE ARTICLES FOR APPLICATIONS OF VALVES.
2. VALVE PRESSURE AND TEMPERATURE RATINGS: NOT LESS THAN INDICATED AND AS REQUIRED FOR SYSTEM PRESSURES AND TEMPERATURES.
3. VALVE SIZES: SAME AS UPSTREAM PIPING UNLESS OTHERWISE INDICATED.
4. VALVE BYPASS AND DRAIN CONNECTIONS: MSS SP-45.

C. BRONZE ANGLE VALVES
1. CLASS 125, BRONZE ANGLE VALVES WITH NONMETALLIC DISC:

D. BRASS BALL VALVES
1. TWO-PIECE, FULL-PORT, BRASS BALL VALVES WITH BRASS TRIM:

E. BRONZE BALL VALVES
1. TWO-PIECE, FULL-PORT, BRONZE BALL VALVES WITH BRONZE TRIM:

F. BRONZE SWING CHECK VALVES
1. CLASS 125, BRONZE SWING CHECK VALVES WITH BRONZE DISC:

G. BRONZE GATE VALVES
1. CLASS 125, NRS BRONZE GATE VALVES:

H. VALVE INSTALLATION
1. INSTALL VALVES WITH UNIONS OR FLANGES AT EACH PIECE OF EQUIPMENT ARRANGED TO ALLOW SERVICE, MAINTENANCE, AND EQUIPMENT REMOVAL WITHOUT SYSTEM SHUTDOWN.
2. LOCATE VALVES FOR EASY ACCESS AND PROVIDE SEPARATE SUPPORT WHERE NECESSARY.
3. INSTALL VALVES IN HORIZONTAL PIPING WITH STEM AT OR ABOVE CENTER OF PIPE.
4. INSTALL VALVES IN POSITION TO ALLOW FULL STEM MOVEMENT.
5. INSTALL CHECK VALVES FOR PROPER DIRECTION OF FLOW AND AS FOLLOWS:

I. GENERAL REQUIREMENTS FOR VALVE APPLICATIONS
1. IF VALVE APPLICATIONS ARE NOT INDICATED, USE THE FOLLOWING:
   a. SHUTOFF SERVICE: BALL OR GATE VALVES.
   b. THROTTLING SERVICE: BALL VALVES.

220529 HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

A. STEEL PIPE HANGERS AND SUPPORTS
1. DESCRIPTION: MSS SP-58, TYPES 1 THROUGH 58, FACTORY-FABRICATED COMPONENTS. REFER TO PART 3 "HANGER AND SUPPORT APPLICATIONS" ARTICLE FOR WHERE TO USE SPECIFIC HANGER AND SUPPORT TYPES.

B. TRAPEZE PIPE HANGERS
1. DESCRIPTION: MSS SP-69, TYPE 59, SHOP- OR FIELD-FABRICATED PIPE-SUPPORT ASSEMBLY MADE FROM STRUCTURAL-STEEL SHAPES WITH MSS SP-58 HANGER RODS, NUTS, SADDLES, AND U-BOLTS.

C. METAL FRAMING SYSTEMS
1. DESCRIPTION: MFMA-3, SHOP- OR FIELD-FABRICATED PIPE-SUPPORT ASSEMBLY MADE OF STEEL CHANNELS AND OTHER COMPONENTS.

E. FASTENER SYSTEMS
1. POWDER-ACTUATED FASTENERS: THREADED-STEEL STUD, FOR USE IN HARDENED PORTLAND CEMENT CONCRETE WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.
2. MECHANICAL-EXPANSION ANCHORS: INSERT-WEDGE-TYPE ZINC-COATED STEEL, FOR USE IN HARDENED PORTLAND CEMENT CONCRETE WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.

F. MISCELLANEOUS MATERIALS
1. STRUCTURAL STEEL: ASTM A 36/A 36M, STEEL PLATES, SHAPES, AND BARS; BLACK AND GALVANIZED.

G. HANGER AND SUPPORT APPLICATIONS
1. SPECIFIC HANGER AND SUPPORT REQUIREMENTS ARE SPECIFIED IN SECTIONS SPECIFYING PIPING SYSTEMS AND EQUIPMENT.
2. COMPLY WITH MSS SP-69 FOR PIPE HANGER SELECTIONS AND APPLICATIONS THAT ARE NOT SPECIFIED IN PIPING SYSTEM SECTIONS.
3. USE HANGERS AND SUPPORTS WITH GALVANIZED, METALLIC COATINGS FOR PIPING AND EQUIPMENT THAT WILL NOT HAVE FIELD-APPLIED FINISH.
4. USE NONMETALLIC COATINGS ON ATTACHMENTS FOR ELECTROLYTIC PROTECTION WHERE ATTACHMENTS ARE IN DIRECT CONTACT WITH COPPER TUBING.
5. USE PADDED HANGERS FOR PIPING THAT IS SUBJECT TO SCRATCHING.
6. HORIZONTAL-PIPING HANGERS AND SUPPORTS: UNLESS OTHERWISE INDICATED AND EXCEPT AS SPECIFIED IN PIPING SYSTEM SECTIONS, INSTALL THE FOLLOWING TYPES:
   a. ADJUSTABLE, STEEL CLEVIS HANGERS (MSS TYPE 1): FOR SUSPENSION OF NONINSULATED OR INSULATED STATIONARY PIPES, NPS 1/2 TO NPS 30 (DN 15 TO DN 750).
   b. YOKE-TYPE PIPE CLAMPS (MSS TYPE 2): FOR SUSPENSION OF 120 TO 450 DEG F (49 TO 232 DEG C) PIPES, NPS 4 TO NPS 16 (DN 100 TO DN 400), REQUIRING UP TO 4 INCHES (100 MM) OF INSULATION.
   c. CARBON- OR ALLOY-STEEL, DOUBLE-BOLT PIPE CLAMPS (MSS TYPE 3): FOR SUSPENSION OF PIPES, NPS 3/4 TO NPS 24 (DN 20 TO DN 600), REQUIRING CLAMP FLEXIBILITY AND UP TO 4 INCHES (100 MM) OF INSULATION.
   d. STEEL PIPE CLAMPS (MSS TYPE 4): FOR SUSPENSION OF COLD AND HOT PIPES, NPS 1/2 TO NPS 24 (DN 15 TO DN 600), IF LITTLE OR NO INSULATION IS REQUIRED.
   e. PIPE HANGERS (MSS TYPE 5): FOR SUSPENSION OF PIPES, NPS 1/2 TO NPS 4 (DN 15 TO DN 100), TO ALLOW OFF-CENTER CLOSURE FOR HANGER INSTALLATION BEFORE PIPE ERECTION.
   f. ADJUSTABLE, SWIVEL SPLIT- OR SOLID-RING HANGERS (MSS TYPE 6): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 3/4 TO NPS 8 (DN 20 TO DN 200).
   g. ADJUSTABLE, STEEL BAND HANGERS (MSS TYPE 7): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 1/2 TO NPS 8 (DN 15 TO DN 200).
   h. ADJUSTABLE BAND HANGERS (MSS TYPE 9): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 1/2 TO NPS 8 (DN 15 TO DN 200).
   i. ADJUSTABLE, SWIVEL-RING BAND HANGERS (MSS TYPE 10): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 1/2 TO NPS 2 (DN 15 TO DN 50).
   j. SPLIT PIPE-RING WITH OR WITHOUT TURNBUCKLE-ADJUSTMENT HANGERS (MSS TYPE 11): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 3/8 TO NPS 8 (DN 10 TO DN 200).
   k. EXTENSION HINGED OR 2-BOLT SPLIT PIPE CLAMPS (MSS TYPE 12): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 3/8 TO NPS 3 (DN 10 TO DN 80).
   l. CLIPS (MSS TYPE 26): FOR SUPPORT OF INSULATED PIPES NOT SUBJECT TO EXPANSION OR CONTRACTION.
7. VERTICAL-PIPING CLAMPS: UNLESS OTHERWISE INDICATED AND EXCEPT AS SPECIFIED IN PIPING SYSTEM SECTIONS, INSTALL THE FOLLOWING TYPES:
   a. EXTENSION PIPE OR RISER CLAMPS (MSS TYPE 8): FOR SUPPORT OF PIPE RISERS, NPS 3/4 TO NPS 20 (DN 20 TO DN 500).
8. HANGER-ROD ATTACHMENTS: UNLESS OTHERWISE INDICATED AND EXCEPT AS SPECIFIED IN PIPING SYSTEM SECTIONS, INSTALL THE FOLLOWING TYPES:
   a. STEEL TURNBUCKLES (MSS TYPE 13): FOR ADJUSTMENT UP TO 6 INCHES (150 MM) FOR HEAVY LOADS.
   b. STEEL CLEVISES (MSS TYPE 14): FOR 120 TO 450 DEG F (49 TO 232 DEG C) PIPING INSTALLATIONS.
   c. SWIVEL TURNBUCKLES (MSS TYPE 15): FOR USE WITH MSS TYPE 11, SPLIT PIPE RINGS.
   d. MALLEABLE-IRON SOCKETS (MSS TYPE 16): FOR ATTACHING HANGER RODS TO VARIOUS TYPES OF BUILDING ATTACHMENTS.
   e. STEEL WELDLESS EYE NUTS (MSS TYPE 17): FOR 120 TO 450 DEG F (49 TO 232 DEG C) PIPING INSTALLATIONS.
9. BUILDING ATTACHMENTS: UNLESS OTHERWISE INDICATED AND EXCEPT AS SPECIFIED IN PIPING SYSTEM SECTIONS, INSTALL THE FOLLOWING TYPES:
   a. STEEL OR MALLEABLE CONCRETE INSERTS (MSS TYPE 18): FOR UPPER ATTACHMENT TO SUSPEND PIPE HANGERS FROM CONCRETE CEILING.
   b. TOP-BEAM C-CLAMPS (MSS TYPE 19): FOR USE UNDER ROOF INSTALLATIONS WITH BAR-JOIST CONSTRUCTION TO ATTACH TO TOP FLANGE OF STRUCTURAL SHAPE.
   c. SIDE-BEAM OR CHANNEL CLAMPS (MSS TYPE 20): FOR ATTACHING TO BOTTOM FLANGE OF BEAMS, CHANNELS, OR ANGLES.
   d. CENTER-BEAM CLAMPS (MSS TYPE 21): FOR ATTACHING TO CENTER OF BOTTOM FLANGE OF BEAMS.
   e. WELDED BEAM ATTACHMENTS (MSS TYPE 22): FOR ATTACHING TO BOTTOM OF BEAMS IF LOADS ARE CONSIDERABLE AND ROD SIZES ARE LARGE.
   f. C-CLAMPS (MSS TYPE 23): FOR STRUCTURAL SHAPES.
   g. TOP-BEAM CLAMPS (MSS TYPE 25): FOR TOP OF BEAMS IF HANGER ROD IS REQUIRED TANGENT TO FLANGE EDGE.
   h. SIDE-BEAM CLAMPS (MSS TYPE 27): FOR BOTTOM OF STEEL I-BEAMS.
   i. STEEL-BEAM CLAMPS WITH EYE NUTS (MSS TYPE 28): FOR ATTACHING TO BOTTOM OF STEEL I-BEAMS FOR HEAVY LOADS.
   j. LINKED-STEEL CLAMPS WITH EYE NUTS (MSS TYPE 29): FOR ATTACHING TO BOTTOM OF STEEL I-BEAMS FOR HEAVY LOADS, WITH LINK EXTENSIONS.
   k. MALLEABLE BEAM CLAMPS WITH EXTENSION PIECES (MSS TYPE 30): FOR ATTACHING TO STRUCTURAL STEEL.
   l. WELDED-STEEL BRACKETS: FOR SUPPORT OF PIPES FROM BELOW, OR FOR SUSPENDING FROM ABOVE BY USING CLIP AND ROD. USE ONE OF THE FOLLOWING FOR INDICATED LOADS:
      1) LIGHT (MSS TYPE 31): 750 LB (340 KG).
      2) MEDIUM (MSS TYPE 32): 1500 LB (680 KG).
      3) HEAVY (MSS TYPE 33): 3000 LB (1360 KG).
   m. SIDE-BEAM BRACKETS (MSS TYPE 34): FOR SIDES OF STEEL OR WOODEN BEAMS.
   n. PLATE LUGS (MSS TYPE 57): FOR ATTACHING TO STEEL BEAMS IF FLEXIBILITY AT BEAM IS REQUIRED.
   o. HORIZONTAL TRAVELERS (MSS TYPE 58): FOR SUPPORTING PIPING SYSTEMS SUBJECT TO LINEAR HORIZONTAL MOVEMENT WHERE HEADROOM IS LIMITED.
10. SADDLES AND SHIELDS: UNLESS OTHERWISE INDICATED AND EXCEPT AS SPECIFIED IN PIPING SYSTEM SECTIONS, INSTALL THE FOLLOWING TYPES:
   a. STEEL PIPE-COVERING PROTECTION SADDLES (MSS TYPE 39): TO FILL INTERIOR VOIDS WITH INSULATION THAT MATCHES ADJOINING INSULATION.
   b. PROTECTION SHIELDS (MSS TYPE 40): OF LENGTH RECOMMENDED IN WRITING BY MANUFACTURER TO PREVENT CRUSHING INSULATION.
   c. THERMAL-HANGER SHIELD INSERTS: FOR SUPPORTING INSULATED PIPE.
11. COMPLY WITH MSS SP-69 FOR TRAPEZE PIPE HANGER SELECTIONS AND APPLICATIONS THAT ARE NOT SPECIFIED IN PIPING SYSTEM SECTIONS.
12. COMPLY WITH MFMA-102 FOR METAL FRAMING SYSTEM SELECTIONS AND APPLICATIONS THAT ARE NOT SPECIFIED IN PIPING SYSTEM SECTIONS.
13. USE POWDER-ACTUATED FASTENERS OR MECHANICAL-EXPANSION ANCHORS INSTEAD OF BUILDING ATTACHMENTS WHERE REQUIRED IN CONCRETE CONSTRUCTION.
14. USE PIPE POSITIONING SYSTEMS IN PIPE SPACES BEHIND PLUMBING FIXTURES TO SUPPORT SUPPLY AND WASTE PIPING FOR PLUMBING FIXTURES.

H. HANGER AND SUPPORT INSTALLATION
1. STEEL PIPE HANGER INSTALLATION: COMPLY WITH MSS SP-69 AND MSS SP-89. INSTALL HANGERS, SUPPORTS, CLAMPS, AND ATTACHMENTS AS REQUIRED TO PROPERLY SUPPORT PIPING FROM BUILDING STRUCTURE.
2. TRAPEZE PIPE HANGER INSTALLATION: COMPLY WITH MSS SP-69 AND MSS SP-89. ARRANGE FOR GROUPING OF PARALLEL RUNS OF HORIZONTAL PIPING AND SUPPORT TOGETHER ON FIELD-FABRICATED TRAPEZE PIPE HANGERS.
3. METAL FRAMING SYSTEM INSTALLATION: ARRANGE FOR GROUPING OF PARALLEL RUNS OF PIPING AND SUPPORT TOGETHER ON FIELD-ASSEMBLED METAL FRAMING SYSTEMS.
4. THERMAL-HANGER SHIELD INSTALLATION: INSTALL IN PIPE HANGER OR SHIELD FOR INSULATED PIPING.
5. INSTALL HANGERS AND SUPPORTS COMPLETE WITH NECESSARY INSERTS, BOLTS, RODS, NUTS, WASHERS, AND OTHER ACCESSORIES.
6. INSTALL BUILDING ATTACHMENTS WITHIN CONCRETE SLABS OR ATTACH TO STRUCTURAL STEEL. INSTALL ADDITIONAL ATTACHMENTS AT CONCENTRATED LOADS, INCLUDING VALVES, FLANGES, AND STRAINERS, NPS 2-1/2 (DN 65) AND LARGER AND AT CHANGES IN DIRECTION OF PIPING. INSTALL CONCRETE INSERTS BEFORE CONCRETE IS PLACED; FASTEN INSERTS TO FORMS AND INSTALL REINFORCING BARS THROUGH OPENINGS AT TOP OF INSERTS.
7. LOAD DISTRIBUTION: INSTALL HANGERS AND SUPPORTS SO PIPING LIVE AND DEAD LOADS AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT.
8. PIPE SLOPES: INSTALL HANGERS AND SUPPORTS TO PROVIDE INDICATED PIPE SLOPES AND SO MAXIMUM PIPE DEFLECTIONS ALLOWED BY ASME B31.9 (FOR BUILDING SERVICES PIPING) ARE NOT EXCEEDED.
9. INSULATED PIPING: COMPLY WITH THE FOLLOWING:
   a. ATTACH CLAMPS AND SPACERS TO PIPING.
   b. INSTALL MSS SP-58, TYPE 39, PROTECTION SADDLES IF INSULATION WITHOUT VAPOR BARRIER IS INDICATED. FILL INTERIOR VOIDS WITH INSULATION THAT MATCHES ADJOINING INSULATION.
   c. INSTALL MSS SP-58, TYPE 40, PROTECTIVE SHIELDS ON COLD PIPING WITH VAPOR BARRIER. SHIELDS SHALL SPAN AN ARC OF 180 DEGREES.
   d. THERMAL-HANGER SHIELDS: INSTALL WITH INSULATION SAME THICKNESS AS PIPING INSULATION.

220553 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

A. COORDINATION
1. COORDINATE INSTALLATION OF IDENTIFYING DEVICES WITH COMPLETION OF COVERING AND PAINTING OF SURFACES WHERE DEVICES ARE TO BE APPLIED.
2. COORDINATE INSTALLATION OF IDENTIFYING DEVICES WITH LOCATIONS OF ACCESS PANELS AND DOORS.

B. EQUIPMENT LABELS
1. EQUIPMENT NAMEPLATES: METAL, WITH DATA ENGRAVED OR STAMPED, FOR PERMANENT ATTACHMENT ON EQUIPMENT.
   a. DATA:
      1) MANUFACTURER, PRODUCT NAME, MODEL NUMBER, AND SERIAL NUMBER.
      2) CAPACITY, OPERATING AND POWER CHARACTERISTICS, AND ESSENTIAL DATA.
      3) LABELS OF TESTED COMPLIANCES.
   b. LOCATION: ACCESSIBLE AND VISIBLE.
2. EQUIPMENT MARKERS: ENGRAVED, COLOR-CODED LAMINATED PLASTIC. INCLUDE CONTACT-TYPE, PERMANENT ADHESIVE.
   a. DATA:
      1) NAME AND PLAN NUMBER.
      2) EQUIPMENT SERVICE.
      3) DESIGN CAPACITY.
      4) OTHER DESIGN PARAMETERS SUCH AS PRESSURE DROP, ENTERING AND LEAVING CONDITIONS, AND SPEED.
3. EQUIPMENT SIGNS: ASTM D 709, TYPE I, CELLULOSE, PAPER-BASE, PHENOLIC-RESIN-LAMINATE ENGRAVING STOCK; GRADE ES-2, BLACK SURFACE, BLACK PHENOLIC CORE, WITH WHITE MELAMINE SUBCORE, UNLESS OTHERWISE INDICATED. FABRICATE IN SIZES REQUIRED FOR MESSAGE. PROVIDE HOLES FOR MECHANICAL FASTENING.
   a. DATA: INSTRUCTIONS FOR OPERATION OF EQUIPMENT AND FOR SAFETY PROCEDURES.
4. ACCESS PANEL AND DOOR MARKERS: 1/16-INCH- (1.6-MM-) THICK, ENGRAVED LAMINATED PLASTIC, WITH ABBREVIATED TERMS AND NUMBERS CORRESPONDING TO IDENTIFICATION. PROVIDE 1/8-INCH (3.2-MM) CENTER HOLE FOR ATTACHMENT.

C. PIPE LABELS
1. GENERAL REQUIREMENTS FOR MANUFACTURED PIPE LABELS: PREPRINTED, COLOR-CODED, WITH LETTERING INDICATING SERVICE, AND SHOWING FLOW DIRECTION.
2. PIPE LABEL CONTENTS: INCLUDE IDENTIFICATION OF PIPING SERVICE USING SAME DESIGNATIONS OR ABBREVIATIONS AS USED ON DRAWINGS, PIPE SIZE, AND AN ARROW INDICATING FLOW DIRECTION.

D. STENCILS
1. STENCILS: PREPARED WITH LETTER SIZES ACCORDING TO ASME A13.1 FOR PIPING; MINIMUM LETTER HEIGHT OF 3/4 INCH (19 MM) FOR ACCESS PANEL AND DOOR MARKERS, EQUIPMENT MARKERS, EQUIPMENT SIGNS, AND SIMILAR OPERATIONAL INSTRUCTIONS.

E. VALVE TAGS
1. VALVE TAGS: STAMPED OR ENGRAVED WITH 1/4-INCH (6.4-MM) LETTERS FOR PIPING SYSTEM ABBREVIATION AND 1/2-INCH (13-MM) NUMBERS, WITH NUMBERING SCHEME APPROVED BY OWNER REPRESENTATIVE. PROVIDE 5/32-INCH (4-MM) HOLE FOR FASTENER.

F. PREPARATION
1. CLEAN PIPING AND EQUIPMENT SURFACES OF SUBSTANCES THAT COULD IMPAIR BOND OF IDENTIFICATION DEVICES, INCLUDING DIRT, OIL, GREASE, RELEASE AGENTS, AND INCOMPATIBLE PRIMERS, PAINTS, AND ENCAPSULANTS.

G. EQUIPMENT LABEL INSTALLATION
1. INSTALL OR PERMANENTLY FASTEN LABELS ON EACH MAJOR ITEM OF MECHANICAL EQUIPMENT.
2. LOCATE EQUIPMENT LABELS WHERE ACCESSIBLE AND VISIBLE.

H. PIPE LABEL INSTALLATION
1. STENCILED PIPE LABEL OPTION: STENCILED LABELS MAY BE PROVIDED INSTEAD OF MANUFACTURED PIPE LABELS, AT INSTALLER'S OPTION. INSTALL STENCILED PIPE LABELS WITH PAINTED, COLOR-CODED BANDS OR RECTANGLES ON EACH PIPING SYSTEM.
2. LOCATE PIPE LABELS WHERE PIPING IS EXPOSED OR ABOVE ACCESSIBLE CEILINGS IN FINISHED SPACES; MACHINE ROOMS; ACCESSIBLE MAINTENANCE SPACES SUCH AS SHAFTS, TUNNELS, AND PLENUMS; AND EXTERIOR EXPOSED LOCATIONS AS FOLLOWS:
   a. NEAR EACH VALVE AND CONTROL DEVICE.
   b. NEAR EACH BRANCH CONNECTION, EXCLUDING SHORT TAKEOFFS FOR FIXTURES AND TERMINAL UNITS. WHERE FLOW PATTERN IS NOT OBVIOUS, MARK EACH PIPE AT BRANCH.
   c. NEAR PENETRATIONS THROUGH WALLS, FLOORS, CEILINGS, AND INACCESSIBLE ENCLOSURES.
   d. AT ACCESS DOORS, MANHOLES, AND SIMILAR ACCESS POINTS THAT PERMIT VIEW OF CONCEALED PIPING.
   e. NEAR MAJOR EQUIPMENT ITEMS AND OTHER POINTS OF ORIGINATION AND TERMINATION.
   f. SPACED AT MAXIMUM INTERVALS OF 50 FEET (15 M) ALONG EACH RUN. REDUCE INTERVALS TO 25 FEET (7.6 M) IN AREAS OF CONGESTED PIPING AND EQUIPMENT.

I. VALVE-TAG INSTALLATION
1. INSTALL TAGS ON VALVES AND CONTROL DEVICES IN PIPING SYSTEMS, EXCEPT CHECK VALVES; VALVES WITHIN FACTORY-FABRICATED EQUIPMENT UNITS; SHUTOFF VALVES; FAUCETS; CONVENIENCE AND LAWN-WATERING HOSE CONNECTIONS; AND SIMILAR ROUGHING-IN CONNECTIONS OF END-USE FIXTURES AND UNITS.

220700 PLUMBING INSULATION

A. INSULATION MATERIALS
1. COMPLY WITH REQUIREMENTS IN PART 3 SCHEDULE ARTICLES FOR WHERE INSULATING MATERIALS SHALL BE APPLIED.
2. PRODUCTS SHALL NOT CONTAIN ASBESTOS, LEAD, MERCURY, OR MERCURY COMPOUNDS.
3. MINERAL-FIBER, PREFORMED PIPE INSULATION:

B. ADHESIVES
1. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES AND FOR BONDING INSULATION TO ITSELF AND TO SURFACES TO BE INSULATED, UNLESS OTHERWISE INDICATED.
2. MINERAL-FIBER ADHESIVE: COMPLY WITH MIL-A-3316C, CLASS 2, GRADE A.

C. FACTORY-APPLIED JACKETS
1. INSULATION SYSTEM SCHEDULES INDICATE FACTORY-APPLIED JACKETS ON VARIOUS APPLICATIONS. WHEN FACTORY-APPLIED JACKETS ARE INDICATED, COMPLY WITH THE FOLLOWING:

D. TAPES
1. ASJ TAPE: WHITE VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE, COMPLYING WITH ASTM C 1136.

E. EXAMINATION
1. EXAMINE SUBSTRATES AND CONDITIONS FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION AND OTHER CONDITIONS AFFECTING PERFORMANCE OF INSULATION APPLICATION.

F. PREPARATION
1. SURFACE PREPARATION: CLEAN AND DRY SURFACES TO RECEIVE INSULATION. REMOVE MATERIALS THAT WILL ADVERSELY AFFECT INSULATION APPLICATION.

G. GENERAL INSTALLATION REQUIREMENTS
1. INSTALL INSULATION MATERIALS, ACCESSORIES, AND FINISHES WITH SMOOTH, STRAIGHT, AND EVEN SURFACES; FREE OF VOIDS THROUGHOUT THE LENGTH OF EQUIPMENT AND PIPING INCLUDING FITTINGS, VALVES, AND SPECIALTIES.
2. CUT INSULATION IN A MANNER TO AVOID COMPRESSING INSULATION MORE THAN 75 PERCENT OF ITS NOMINAL THICKNESS.
3. FINISH INSTALLATION WITH SYSTEMS AT OPERATING CONDITIONS. REPAIR JOINT SEPARATIONS AND CRACKING DUE TO THERMAL MOVEMENT.

H. MINERAL-FIBER INSULATION INSTALLATION
1. INSULATION INSTALLATION ON STRAIGHT PIPES AND TUBES:
   a. SECURE EACH LAYER OF PREFORMED PIPE INSULATION TO PIPE WITH WIRE OR BANDS AND TIGHTEN BANDS WITHOUT DEFORMING INSULATION MATERIALS.
   b. WHERE VAPOR BARRIERS ARE INDICATED, SEAL LONGITUDINAL SEAMS, END JOINTS, AND PROTRUSIONS WITH VAPOR-BARRIER MASTIC AND JOINT SEALANT.
   c. FOR INSULATION WITH FACTORY-APPLIED JACKETS ON ABOVE AMBIENT SURFACES, SECURE LAPS WITH OUTWARD CLINCHED STAPLES AT 6 INCHES (150 MM) O.C.
   d. FOR INSULATION WITH FACTORY-APPLIED JACKETS ON BELOW AMBIENT SURFACES, DO NOT STAPLE LONGITUDINAL TABS BUT SECURE TABS WITH ADDITIONAL ADHESIVE AS RECOMMENDED BY INSULATION MATERIAL MANUFACTURER AND SEAL WITH VAPOR-BARRIER MASTIC AND FLASHING SEALANT.
2. INSULATION INSTALLATION ON PIPE FITTINGS AND ELBOWS:
   a. INSTALL PREFORMED SECTIONS OF SAME MATERIAL AS STRAIGHT SEGMENTS OF PIPE INSULATION WHEN AVAILABLE.
3. INSULATION INSTALLATION ON VALVES AND PIPE SPECIALTIES:
   a. INSTALL PREFORMED SECTIONS OF SAME MATERIAL AS STRAIGHT SEGMENTS OF PIPE INSULATION WHEN AVAILABLE.
   b. ARRANGE INSULATION TO PERMIT ACCESS TO PACKING AND TO ALLOW VALVE OPERATION WITHOUT DISTURBING INSULATION.

I. PIPING INSULATION SCHEDULE, GENERAL
1. ITEMS NOT INSULATED: UNLESS OTHERWISE INDICATED, DO NOT INSTALL INSULATION ON THE FOLLOWING:
   a. DRAINAGE PIPING LOCATED IN CRAWL SPACES.
   b. UNDERGROUND PIPING.
   c. CHROME-PLATED PIPES AND FITTINGS UNLESS THERE IS A POTENTIAL FOR PERSONNEL INJURY.

J. INDOOR PIPING INSULATION SCHEDULE
1. REFER TO DRAWINGS FOR PIPING INSULATION SCHEDULE.

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
EDWARD J. GODOROV
PE-29587-E

URBAN ENGINEERS
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION
PHILADELPHIA, PA.

TITLE
DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
PLUMBING SPECIFICATIONS

DWN HP
CHK EJG
PROJ # 2023280024.000
DATE JUNE 14, 2024
DRAWING NUMBER
P-100

221316 PLUMBING PIPING

A. SUBMITTALS
1. PRODUCT DATA: FOR PIPE, TUBE, FITTINGS, AND COUPLINGS.

B. PROJECT CONDITIONS
1. INTERRUPTION OF EXISTING WATER SERVICE: DO NOT INTERRUPT WATER SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY WATER SERVICE ACCORDING TO REQUIREMENTS INDICATED:
   - a. NOTIFY ARCHITECT OR OWNER NO FEWER THAN TWO DAYS IN ADVANCE OF PROPOSED INTERRUPTION OF WATER SERVICE.
   - b. DO NOT PROCEED WITH INTERRUPTION OF WATER SERVICE WITHOUT ARCHITECT'S OR OWNER'S WRITTEN PERMISSION.

C. PIPING MATERIALS
1. REFER TO DRAWINGS FOR PIPING MATERIALS.

D. PIPING APPLICATIONS
1. REFER TO DRAWINGS FOR PIPING APPLICATIONS.

E. VALVE INSTALLATION
1. GENERAL-DUTY VALVES: COMPLY WITH REQUIREMENTS IN DIVISION 22 SECTION "GENERAL-DUTY VALVES FOR PLUMBING PIPING" FOR VALVE INSTALLATIONS.
2. INSTALL SHUTOFF VALVE CLOSE TO WATER MAIN ON EACH BRANCH AND RISER SERVING PLUMBING FIXTURES OR EQUIPMENT, ON EACH WATER SUPPLY TO EQUIPMENT, AND ON EACH WATER SUPPLY TO PLUMBING FIXTURES THAT DO NOT HAVE SUPPLY STOPS. USE BALL OR GATE VALVES FOR PIPING NPS 2 (DN 50) AND SMALLER. USE BUTTERFLY OR GATE VALVES FOR PIPING NPS 2-1/2 (DN 65) AND LARGER.
3. INSTALL DRAIN VALVES FOR EQUIPMENT AT BASE OF EACH WATER RISER, AT LOW POINTS IN HORIZONTAL PIPING, AND WHERE REQUIRED TO DRAIN WATER PIPING. DRAIN VALVES ARE SPECIFIED IN DIVISION 22 SECTION "PLUMBING PIPING SPECIALTIES."
   - a. HOSE-END DRAIN VALVES: AT LOW POINTS IN WATER MAINS, RISERS, AND BRANCHES.
   - b. STOP-AND-WASTE DRAIN VALVES: INSTEAD OF HOSE-END DRAIN VALVES WHERE INDICATED.

F. JOINT CONSTRUCTION
1. JOIN HUB-AND-SPIGOT, CAST-IRON SOIL PIPING WITH GASKET JOINTS ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK" FOR COMPRESSION JOINTS.
2. JOIN HUB-AND-SPIGOT, CAST-IRON SOIL PIPING WITH CALKED JOINTS ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK" FOR LEAD AND OAKUM CALKED JOINTS.
3. JOIN HUBLESS CAST-IRON SOIL PIPING ACCORDING TO CISPI 310 AND CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK" FOR HUBLESS-COUPLING JOINTS.
4. SOLDERED JOINTS: USE ASTM B 813, WATER-FLUSHABLE, LEAD-FREE FLUX; ASTM B 32, LEAD-FREE-ALLOY SOLDER; AND ASTM B 828 PROCEDURE, UNLESS OTHERWISE INDICATED.

G. HANGER AND SUPPORT INSTALLATION
1. PIPE HANGERS AND SUPPORTS ARE SPECIFIED IN DIVISION 22 SECTION "HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT." INSTALL THE FOLLOWING:
   - a. VERTICAL PIPING: MSS TYPE 8 OR TYPE 42, CLAMPS.
   - b. INSTALL INDIVIDUAL, STRAIGHT, HORIZONTAL PIPING RUNS ACCORDING TO THE FOLLOWING:
     - 1) 100 FEET (30 M) AND LESS: MSS TYPE 1, ADJUSTABLE, STEEL CLEVIS HANGERS.
     - 2) LONGER THAN 100 FEET (30 M): MSS TYPE 43, ADJUSTABLE ROLLER HANGERS.
     - 3) LONGER THAN 100 FEET (30 M), IF INDICATED: MSS TYPE 49, SPRING CUSHION ROLLS.
   - c. MULTIPLE, STRAIGHT, HORIZONTAL PIPING RUNS 100 FEET (30 M) OR LONGER: MSS TYPE 44, PIPE ROLLS. SUPPORT PIPE ROLLS ON TRAPEZE.
   - d. BASE OF VERTICAL PIPING: MSS TYPE 52, SPRING HANGERS.
2. INSTALL SUPPORTS ACCORDING TO DIVISION 22 SECTION "HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT."
3. SUPPORT VERTICAL PIPING AND TUBING AT BASE AND AT EACH FLOOR.
4. ROD DIAMETER MAY BE REDUCED 1 SIZE FOR DOUBLE-ROD HANGERS, WITH 3/8-INCH (10-MM) MINIMUM RODS.
5. INSTALL HANGERS FOR CAST-IRON SOIL PIPING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS:
   - a. NPS 1-1/2 AND NPS 2 (DN 40 AND DN 50): 60 INCHES (1500 MM) WITH 3/8-INCH (10-MM) ROD.
   - b. NPS 3 (DN 80): 60 INCHES (1500 MM) WITH 1/2-INCH (13-MM) ROD.
   - c. NPS 4 AND NPS 5 (DN 100 AND DN 125): 60 INCHES (1500 MM) WITH 5/8-INCH (16-MM) ROD.
   - d. NPS 6 (DN 150): 60 INCHES (1500 MM) WITH 3/4-INCH (19-MM) ROD.
   - e. NPS 8 TO NPS 12 (DN 200 TO DN 300): 60 INCHES (1500 MM) WITH 7/8-INCH (22-MM) ROD.
6. INSTALL SUPPORTS FOR VERTICAL CAST-IRON SOIL PIPING EVERY 15 FEET (4.5 M).
7. INSTALL HANGERS FOR COPPER TUBING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS:
   - a. NPS 3/4 (DN 20) AND SMALLER: 60 INCHES (1500 MM) WITH 3/8-INCH (10-MM) ROD.
   - b. NPS 1 AND NPS 1-1/4 (DN 25 AND DN 32): 72 INCHES (1800 MM) WITH 3/8-INCH (10-MM) ROD.
   - c. NPS 1-1/2 AND NPS 2 (DN 40 AND DN 50): 96 INCHES (2400 MM) WITH 3/8-INCH (10-MM) ROD.
   - d. NPS 2-1/2 (DN 65): 108 INCHES (2700 MM) WITH 1/2-INCH (13-MM) ROD.
   - e. NPS 3 TO NPS 5 (DN 80 TO DN 125): 10 FEET (3 M) WITH 1/2-INCH (13-MM) ROD.
   - f. NPS 6 (DN 150): 10 FEET (3 M) WITH 5/8-INCH (16-MM) ROD.
   - g. NPS 8 (DN 200): 10 FEET (3 M) WITH 3/4-INCH (19-MM) ROD.
8. INSTALL SUPPORTS FOR VERTICAL COPPER TUBING EVERY 10 FEET (3 M).
9. SUPPORT PIPING AND TUBING NOT LISTED ABOVE ACCORDING TO MSS SP-69 AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

H. CONNECTIONS
1. DRAWINGS INDICATE GENERAL ARRANGEMENT OF PIPING, FITTINGS, AND SPECIALTIES.
2. INSTALL PIPING ADJACENT TO EQUIPMENT AND MACHINES TO ALLOW SERVICE AND MAINTENANCE.
3. CONNECT DOMESTIC WATER PIPING TO WATER-SERVICE PIPING WITH SHUTOFF VALVE; EXTEND AND CONNECT TO THE FOLLOWING:
   - a. WATER HEATERS: COLD-WATER INLET AND HOT-WATER OUTLET PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN SIZES OF WATER HEATER CONNECTIONS.
   - b. PLUMBING FIXTURES: COLD- AND HOT-WATER SUPPLY PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN REQUIRED BY PLUMBING CODE. COMPLY WITH REQUIREMENTS IN DIVISION 22 PLUMBING FIXTURE SECTIONS FOR CONNECTION SIZES.
   - c. EQUIPMENT: COLD- AND HOT-WATER SUPPLY PIPING AS INDICATED, BUT NOT SMALLER THAN EQUIPMENT CONNECTIONS. PROVIDE SHUTOFF VALVE AND UNION FOR EACH CONNECTION. USE FLANGES INSTEAD OF UNIONS FOR NPS 2-1/2 (DN 65) AND LARGER.

I. ESCUTCHEON INSTALLATION
1. INSTALL ESCUTCHEONS FOR PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.

J. FIELD QUALITY CONTROL
1. DURING INSTALLATION, NOTIFY AUTHORITIES HAVING JURISDICTION AT LEAST 24 HOURS BEFORE INSPECTION MUST BE MADE. PERFORM TESTS SPECIFIED BELOW IN PRESENCE OF AUTHORITIES HAVING JURISDICTION.
   - a. ROUGHING-IN INSPECTION: ARRANGE FOR INSPECTION OF PIPING BEFORE CONCEALING OR CLOSING-IN AFTER ROUGHING-IN AND BEFORE SETTING FIXTURES.
   - b. FINAL INSPECTION: ARRANGE FOR FINAL INSPECTION BY AUTHORITIES HAVING JURISDICTION TO OBSERVE TESTS SPECIFIED BELOW AND TO ENSURE COMPLIANCE WITH REQUIREMENTS.
2. REINSPECTION: IF AUTHORITIES HAVING JURISDICTION FIND THAT PIPING WILL NOT PASS TEST OR INSPECTION, MAKE REQUIRED CORRECTIONS AND ARRANGE FOR REINSPECTION.
3. REPORTS: PREPARE INSPECTION REPORTS AND HAVE THEM SIGNED BY AUTHORITIES HAVING JURISDICTION.
4. PIPING TESTS:
   - a. FILL DOMESTIC WATER PIPING. CHECK COMPONENTS TO DETERMINE THAT THEY ARE NOT AIR BOUND AND THAT PIPING IS FULL OF WATER.
   - b. TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT A SEPARATE REPORT FOR EACH TEST, COMPLETE WITH DIAGRAM OF PORTION OF PIPING TESTED.
   - c. LEAVE NEW, ALTERED, EXTENDED, OR REPLACED DOMESTIC WATER PIPING UNCOVERED AND UNCONCEALED UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT WAS COVERED OR CONCEALED BEFORE IT WAS TESTED.
   - d. CAP AND SUBJECT PIPING TO STATIC WATER PRESSURE OF 50 PSIG (345 KPA) ABOVE OPERATING PRESSURE, WITHOUT EXCEEDING PRESSURE RATING OF PIPING SYSTEM MATERIALS. ISOLATE TEST SOURCE AND ALLOW TO STAND FOR FOUR HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
   - e. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING OR PORTION THEREOF UNTIL SATISFACTORY RESULTS ARE OBTAINED.
   - f. PREPARE REPORTS FOR TESTS AND FOR CORRECTIVE ACTION REQUIRED.
5. DOMESTIC WATER PIPING WILL BE CONSIDERED DEFECTIVE IF IT DOES NOT PASS TESTS AND INSPECTIONS.
6. TEST DRAINAGE AND VENT PIPING ACCORDING TO PROCEDURES OF AUTHORITIES HAVING JURISDICTION OR, IN ABSENCE OF PUBLISHED PROCEDURES, AS FOLLOWS:
   - a. TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT SEPARATE REPORT FOR EACH TEST, COMPLETE WITH DIAGRAM OF PORTION OF PIPING TESTED.
   - b. LEAVE UNCOVERED AND UNCONCEALED NEW, ALTERED, EXTENDED, OR REPLACED DRAINAGE AND VENT PIPING UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT WAS COVERED OR CONCEALED BEFORE IT WAS TESTED.
   - c. ROUGHING-IN PLUMBING TEST PROCEDURE: TEST DRAINAGE AND VENT PIPING, EXCEPT OUTSIDE LEADERS, ON COMPLETION OF ROUGHING-IN. CLOSE OPENINGS IN PIPING SYSTEM AND FILL WITH WATER TO POINT OF OVERFLOW, BUT NOT LESS THAN 10-FOOT HEAD OF WATER (30 KPA). FROM 15 MINUTES BEFORE INSPECTION STARTS TO COMPLETION OF INSPECTION, WATER LEVEL MUST NOT DROP. INSPECT JOINTS FOR LEAKS.
   - d. FINISHED PLUMBING TEST PROCEDURE: AFTER PLUMBING FIXTURES HAVE BEEN SET AND TRAPS FILLED WITH WATER, TEST CONNECTIONS AND PROVE THEY ARE GASTIGHT AND WATERTIGHT. PLUG VENT-STACK OPENINGS ON ROOF AND BUILDING DRAINS WHERE THEY LEAVE BUILDING. INTRODUCE AIR INTO PIPING SYSTEM EQUAL TO PRESSURE OF 1-INCH WG (250 PA). USE U-TUBE OR MANOMETER INSERTED IN TRAP OF WATER CLOSET TO MEASURE THIS PRESSURE. AIR PRESSURE MUST REMAIN CONSTANT WITHOUT INTRODUCING ADDITIONAL AIR THROUGHOUT PERIOD OF INSPECTION. INSPECT PLUMBING FIXTURE CONNECTIONS FOR GAS AND WATER LEAKS.
   - e. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING, OR PORTION THEREOF, UNTIL SATISFACTORY RESULTS ARE OBTAINED.
   - f. PREPARE REPORTS FOR TESTS AND REQUIRED CORRECTIVE ACTION.

K. ADJUSTING
1. PERFORM THE FOLLOWING ADJUSTMENTS BEFORE OPERATION:
   - a. CLOSE DRAIN VALVES, HYDRANTS, AND HOSE BIBBS.
   - b. OPEN SHUTOFF VALVES TO FULLY OPEN POSITION.
   - c. OPEN THROTTLING VALVES TO PROPER SETTING.

CHECK PLUMBING SPECIALTIES AND VERIFY PROPER SETTINGS, ADJUSTMENTS, AND OPERATION.

L. CLEANING
1. PORTIONS OF DISINFECTING REQUIREMENTS IN THIS ARTICLE ARE TAKEN FROM MODEL PLUMBING CODES; REVISE IF REQUIREMENTS VARY BY AUTHORITIES HAVING JURISDICTION.
2. CLEAN AND DISINFECT POTABLE DOMESTIC WATER PIPING AS FOLLOWS:
   - a. PURGE NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED BEFORE USING.
   - b. USE PURGING AND DISINFECTING PROCEDURES PRESCRIBED BY AUTHORITIES HAVING JURISDICTION; IF METHODS ARE NOT PRESCRIBED, USE PROCEDURES DESCRIBED IN EITHER AWWA C651 OR AWWA C652 OR FOLLOW PROCEDURES DESCRIBED BELOW:
   - c. FLUSH PIPING SYSTEM WITH CLEAN, POTABLE WATER UNTIL DIRTY 'WATER DOES NOT APPEAR AT OUTLETS.
   - d. FILL AND ISOLATE SYSTEM ACCORDING TO EITHER OF THE FOLLOWING:
     - FILL SYSTEM OR PART THEREOF WITH WATER/CHLORINE SOLUTION WITH AT LEAST 50 PPM (50 MG/L) OF CHLORINE. ISOLATE WITH VALVES AND ALLOW TO STAND FOR 24 HOURS.
     - FILL SYSTEM OR PART THEREOF WITH WATER/CHLORINE SOLUTION WITH AT LEAST 200 PPM (200 MG/L) OF CHLORINE. ISOLATE AND ALLOW TO STAND FOR THREE HOURS.
   - e. FLUSH SYSTEM WITH CLEAN, POTABLE WATER UNTIL NO CHLORINE IS IN WATER COMING FROM SYSTEM AFTER THE STANDING TIME.
   - f. REPEAT PROCEDURES IF BIOLOGICAL EXAMINATION SHOWS CONTAMINATION.
   - g. SUBMIT WATER SAMPLES IN STERILE BOTTLES TO AUTHORITIES HAVING JURISDICTION.

221317 PLUMBING SPECIALTIES

A. SUBMITTALS
1. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

B. QUALITY ASSURANCE
1. NSF COMPLIANCE:
   - a. COMPLY WITH NSF 61, "DRINKING WATER SYSTEM COMPONENTS – HEALTH EFFECTS; SECTIONS 1 THROUGH 9."
2. UNLESS OTHERWISE INDICATED IN OTHER SECTION 2 ARTICLES, PROVIDE PRODUCTS INDICATED ON DRAWINGS OR COMPARABLE PRODUCTS COMPLIANT WITH REQUIREMENTS OF THE PRODUCTS SPECIFIED.

C. DRAIN VALVES
1. BALL-VALVE-TYPE, HOSE-END DRAIN VALVES:
   - a. STANDARD: MSS SP-110 FOR STANDARD-PORT, TWO-PIECE BALL VALVES.
   - b. SIZE: NPS 3/4 (DN 20).
   - c. OUTLET: THREADED, SHORT NIPPLE WITH GARDEN-HOSE THREAD COMPLYING WITH ASME B1.20.7 AND CAP WITH BRASS CHAIN.
2. STOP-AND-WASTE DRAIN VALVES:
   - a. STANDARD: MSS SP-110 FOR BALL VALVES OR MSS SP-80 FOR GATE VALVES.
   - b. SIZE: NPS 3/4 (DN 20).
   - c. DRAIN: NPS 1/8 (DN 6) SIDE OUTLET WITH CAP.

D. WATER HAMMER ARRESTERS
1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   - a. AMTROL, INC.
   - b. JOSAM COMPANY.
   - c. MIFAB, INC.
   - d. PPP INC.
   - e. SIOUX CHIEF MANUFACTURING COMPANY, INC.
   - f. SMITH, JAY R. MFG. CO.; DIVISION OF SMITH INDUSTRIES, INC.
   - g. TYLER PIPE; WADE DIV.
   - h. WATTS DRAINAGE PRODUCTS INC.
   - i. ZURN PLUMBING PRODUCTS GROUP; SPECIFICATION DRAINAGE OPERATION.
2. STANDARD: ASSE 1010 OR PDI-WH 201.
3. TYPE: METAL BELLOWS.
4. SIZE: ASSE 1010, SIZES AA AND A THROUGH F OR PDI-WH 201, SIZES A THROUGH F.

E. CLEANOUTS
1. EXPOSED METAL CLEANOUTS:
   - a. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
     - 1) JOSAM COMPANY; JOSAM DIV.
     - 2) MIFAB, INC.
     - 3) SMITH, JAY R. MFG. CO.; DIVISION OF SMITH INDUSTRIES, INC.
     - 4) TYLER PIPE; WADE DIV.
     - 5) WATTS DRAINAGE PRODUCTS INC.
     - 6) ZURN PLUMBING PRODUCTS GROUP; SPECIFICATION DRAINAGE OPERATION.
   - b. STANDARD: ASME A112.36.2M FOR CAST IRON, ASTM A74 OR CISPI 301 FOR CLEANOUT TEST TEE.
   - c. SIZE: SAME AS CONNECTED DRAINAGE PIPING
   - d. BODY MATERIAL: HUB-AND-SPIGOT, CAST-IRON SOIL PIPE OR T-BRANCH HUBLESS, CAST-IRON SOIL PIPE TEST TEE AS REQUIRED TO MATCH CONNECTED PIPING.
   - e. CLOSURE: COUNTERSUNK OR RAISED-HEAD, BRASS PLUG.
   - f. CLOSURE PLUG SIZE: SAME AS OR NOT MORE THAN ONE SIZE SMALLER THAN CLEANOUT SIZE.
2. FLOOR CLEANOUTS:
   - a. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
     - 1) JOSAM COMPANY.
     - 2) OATEY.
     - 3) SIOUX CHIEF MANUFACTURING COMPANY, INC.
     - 4) SMITH, JAY R. MFG. CO.
     - 5) TYLER PIPE.
     - 6) WATTS WATER TECHNOLOGIES, INC.
     - 7) ZURN PLUMBING PRODUCTS GROUP; LIGHT COMMERCIAL PRODUCTS OPERATION.
     - 8) ZURN PLUMBING PRODUCTS GROUP; SPECIFICATION DRAINAGE OPERATION.
   - b. STANDARD: ASME A112.36.2M.
   - c. SIZE: SAME AS CONNECTED BRANCH.
   - d. TYPE: CAST-IRON SOIL PIPE WITH CAST-IRON FERRULE.
   - e. BODY OR FERRULE MATERIAL: CAST IRON.
   - f. CLOSURE: BRASS PLUG WITH STRAIGHT THREADS AND GASKET.
   - g. ADJUSTABLE HOUSING MATERIAL: CAST IRON.
   - h. RISER: ASTM A 74, SERVICE CLASS, CAST-IRON DRAINAGE PIPE FITTING AND RISER TO CLEANOUT.

F. ROOF FLASHING ASSEMBLIES
3. ROOF FLASHING ASSEMBLIES:
   - a. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
     - 1) ACORN ENGINEERING COMPANY; ELMDOR/STONEMAN DIV.
     - 2) THALER METAL INDUSTRIES LTD.
2. DESCRIPTION: MANUFACTURED ASSEMBLY MADE OF 6.0-LB/SQ. FT. (30-KG/SQ. M), 0.0938-INCH- (2.4-MM-) THICK, LEAD FLASHING COLLAR AND SKIRT EXTENDING AT LEAST 8 INCHES (200 MM) FROM PIPE, WITH GALVANIZED-STEEL BOOT REINFORCEMENT AND COUNTERFLASHING FITTING.

G. MISCELLANEOUS SANITARY DRAINAGE PIPING SPECIALTIES
1. AIR-GAP FITTINGS:
   - a. STANDARD: ASME A112.1.2, FOR FITTING DESIGNED TO ENSURE FIXED, POSITIVE AIR GAP BETWEEN INSTALLED INLET AND OUTLET PIPING.
   - b. BODY: BRONZE OR CAST IRON.
   - c. INLET: OPENING IN TOP OF BODY.
   - d. OUTLET: LARGER THAN INLET.
   - e. SIZE: SAME AS CONNECTED WASTE PIPING AND WITH INLET LARGE ENOUGH FOR ASSOCIATED INDIRECT WASTE PIPING.
2. EXPANSION JOINTS:
   - a. STANDARD: ASME A112.21.2M.
   - b. BODY: CAST IRON WITH BRONZE SLEEVE, PACKING, AND GLAND.
   - c. END CONNECTIONS: MATCHING CONNECTED PIPING.
   - d. SIZE: SAME AS CONNECTED SOIL, WASTE, OR VENT PIPING.

H. INSTALLATION
1. INSTALL TEMPERATURE-ACTUATED WATER MIXING VALVES WITH CHECK STOPS OR SHUTOFF VALVES ON INLETS AND WITH SHUTOFF VALVE ON OUTLET.
2. INSTALL WATER HAMMER ARRESTERS IN WATER PIPING ACCORDING TO PDI-WH 201.
3. INSTALL SUPPLY-TYPE, TRAP-SEAL PRIMER VALVES WITH OUTLET PIPING PITCHED DOWN TOWARD DRAIN TRAP A MINIMUM OF 1 PERCENT, AND CONNECT TO FLOOR-DRAIN BODY, TRAP, OR INLET FITTING. ADJUST VALVE FOR PROPER FLOW.
4. INSTALL CLEANOUTS IN ABOVEGROUND PIPING AND BUILDING DRAIN PIPING ACCORDING TO THE FOLLOWING INSTRUCTIONS UNLESS OTHERWISE INDICATED:
   - a. USE CLEANOUTS THE SAME SIZE AS DRAINAGE PIPING UP TO NPS 4 (DN 100). USE NPS 4 (DN 100) FOR LARGER DRAINAGE PIPING UNLESS LARGER CLEANOUT IS INDICATED.
   - b. LOCATE CLEANOUTS AT EACH CHANGE IN DIRECTION OF PIPING GREATER THAN 45 DEGREES.
   - c. LOCATE CLEANOUTS AT MINIMUM INTERVALS OF 50 FEET (15 M) FOR PIPING NPS 4 (DN 100) AND SMALLER AND 100 FEET (30 M) FOR LARGER PIPING.
   - d. LOCATE CLEANOUTS AT BASE OF EACH VERTICAL SOIL AND WASTE STACK.
12. FOR FLOOR CLEANOUTS FOR PIPING BELOW FLOORS, INSTALL CLEANOUT DECK PLATES WITH TOP FLUSH WITH FINISHED FLOOR.
13. FOR CLEANOUTS LOCATED IN CONCEALED PIPING, INSTALL CLEANOUT WALL ACCESS COVERS, OF TYPES INDICATED, WITH FRAME AND COVER FLUSH WITH FINISHED WALL.
14. INSTALL TEST TEES IN VERTICAL CONDUCTORS AND NEAR FLOOR.
15. INSTALL WALL CLEANOUTS IN VERTICAL CONDUCTORS. INSTALL ACCESS DOOR IN WALL IF INDICATED.
16. INSTALL FLOOR DRAINS AT LOW POINTS OF SURFACE AREAS TO BE DRAINED. SET GRATES OF DRAINS FLUSH WITH FINISHED FLOOR, UNLESS OTHERWISE INDICATED.
17. INSTALL ROOF FLASHING ASSEMBLIES ON SANITARY STACK VENTS AND VENT STACKS THAT EXTEND THROUGH ROOF.
18. INSTALL AIR-GAP FITTINGS ON DRAINING-TYPE BACKFLOW PREVENTERS AND ON INDIRECT-WASTE PIPING DISCHARGE INTO SANITARY DRAINAGE SYSTEM.
19. INSTALL EXPANSION JOINTS ON VERTICAL STACKS AND CONDUCTORS. POSITION EXPANSION JOINTS FOR EASY ACCESS AND MAINTENANCE.
20. INSTALL ESCUTCHEONS AT WALL, FLOOR, AND CEILING PENETRATIONS IN EXPOSED FINISHED LOCATIONS AND WITHIN CABINETS AND MILLWORK. USE DEEP-PATTERN ESCUTCHEONS IF REQUIRED TO CONCEAL PROTRUDING PIPE FITTINGS.

I. ADJUSTING
1. SET FIELD-ADJUSTABLE TEMPERATURE SET POINTS OF TEMPERATURE-ACTUATED WATER MIXING VALVES.

224100 PLUMBING FIXTURES

A. SUBMITTALS
1. PRODUCT DATA: FOR EACH TYPE OF PLUMBING FIXTURE INDICATED. INCLUDE SELECTED FIXTURE AND TRIM, FITTINGS, ACCESSORIES, APPLIANCES, APPURTENANCES, EQUIPMENT, AND SUPPORTS. INDICATE MATERIALS AND FINISHES, DIMENSIONS, CONSTRUCTION DETAILS, AND FLOW-CONTROL RATES.

B. QUALITY ASSURANCE
1. SOURCE LIMITATIONS: OBTAIN PLUMBING FIXTURES, FAUCETS, AND OTHER COMPONENTS OF EACH CATEGORY THROUGH ONE SOURCE FROM A SINGLE MANUFACTURER.
   - a. EXCEPTION: IF FIXTURES, FAUCETS, OR OTHER COMPONENTS ARE NOT AVAILABLE FROM A SINGLE MANUFACTURER, OBTAIN SIMILAR PRODUCTS FROM OTHER MANUFACTURERS SPECIFIED FOR THAT CATEGORY.
2. REGULATORY REQUIREMENTS: COMPLY WITH REQUIREMENTS IN ICC A117.1, "ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES", PUBLIC LAW 90-480, "ARCHITECTURAL BARRIERS ACT", AND PUBLIC LAW 101-336, "AMERICANS WITH DISABILITIES ACT" FOR PLUMBING FIXTURES FOR PEOPLE WITH DISABILITIES.
3. REGULATORY REQUIREMENTS: COMPLY WITH REQUIREMENTS IN PUBLIC LAW 102-486, "ENERGY POLICY ACT," ABOUT WATER FLOW AND CONSUMPTION RATES FOR PLUMBING FIXTURES.
4. NSF STANDARD: COMPLY WITH NSF 61, "DRINKING WATER SYSTEM COMPONENTS--HEALTH EFFECTS," FOR FIXTURE MATERIALS THAT WILL BE IN CONTACT WITH POTABLE WATER.
5. PROVIDE PRODUCTS INDICATED ON DRAWINGS OR COMPARABLE PRODUCTS COMPLIANT WITH REQUIREMENTS OF THE PRODUCTS SPECIFIED.

C. PROTECTIVE SHIELDING GUARDS
1. PROTECTIVE SHIELDING PIPE COVERS:
   - a. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
     - 1) ENGINEERED BRASS CO.
     - 2) INSUL-TECT PRODUCTS CO.; A SUBSIDIARY OF MVG MOLDED PRODUCTS.
     - 3) MCGUIRE MANUFACTURING CO., INC.
     - 4) PLUMBEREX SPECIALTY PRODUCTS INC.
     - 5) TCI PRODUCTS.
     - 6) TRUEBRO, INC.
     - 7) ZURN PLUMBING PRODUCTS GROUP; TUBULAR BRASS PLUMBING PRODUCTS OPERATION.
   - b. DESCRIPTION: MANUFACTURED PLASTIC WRAPS FOR COVERING PLUMBING FIXTURE HOT- AND COLD-WATER SUPPLIES AND TRAP AND DRAIN PIPING. COMPLY WITH AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS.

D. FIXTURE SUPPORTS
1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   - a. JOSAM COMPANY.
   - b. MIFAB MANUFACTURING INC.
   - c. SMITH, JAY R. MFG. CO.
   - d. TYLER PIPE; WADE DIV.
   - e. WATTS DRAINAGE PRODUCTS INC.; A DIV. OF WATTS INDUSTRIES, INC.
   - f. ZURN PLUMBING PRODUCTS GROUP; SPECIFICATION DRAINAGE OPERATION.
2. LAVATORY SUPPORTS:
   - a. DESCRIPTION: TYPE II, LAVATORY CARRIER WITH CONCEALED ARMS AND TIE ROD FOR WALL-MOUNTING, LAVATORY-TYPE FIXTURE. INCLUDE STEEL UPRIGHTS WITH FEET.
   - b. ACCESSIBLE-FIXTURE SUPPORT: INCLUDE RECTANGULAR STEEL UPRIGHTS.

E. INSTALLATION
1. ASSEMBLE PLUMBING FIXTURES, TRIM, FITTINGS, AND OTHER COMPONENTS ACCORDING TO MANUFACTURERS' WRITTEN INSTRUCTIONS.
2. INSTALL OFF-FLOOR SUPPORTS, AFFIXED TO BUILDING SUBSTRATE, FOR WALL-MOUNTING FIXTURES.
   - a. USE CARRIER SUPPORTS WITH WASTE FITTING AND SEAL FOR BACK-OUTLET FIXTURES.
   - b. USE CARRIER SUPPORTS WITHOUT WASTE FITTING FOR FIXTURES WITH TUBULAR WASTE PIPING.
   - c. USE CHAIR-TYPE CARRIER SUPPORTS WITH RECTANGULAR STEEL UPRIGHTS FOR ACCESSIBLE FIXTURES.
3. INSTALL FLOOR-MOUNTING FIXTURES ON CLOSET FLANGES OR OTHER ATTACHMENTS TO PIPING OR BUILDING SUBSTRATE.
4. INSTALL WALL-MOUNTING FIXTURES WITH TUBULAR WASTE PIPING ATTACHED TO SUPPORTS.
5. INSTALL COUNTER-MOUNTING FIXTURES IN AND ATTACHED TO CASEWORK.
6. INSTALL FIXTURES LEVEL AND PLUMB ACCORDING TO ROUGHING-IN DRAWINGS.
7. INSTALL WATER-SUPPLY PIPING WITH STOP ON EACH SUPPLY TO EACH FIXTURE TO BE CONNECTED TO WATER DISTRIBUTION PIPING. ATTACH SUPPLIES TO SUPPORTS OR SUBSTRATE WITHIN PIPE SPACES BEHIND FIXTURES. INSTALL STOPS IN LOCATIONS WHERE THEY CAN BE EASILY REACHED FOR OPERATION.
   - a. EXCEPTION: USE BALL, GATE, OR GLOBE VALVES IF SUPPLY STOPS ARE NOT SPECIFIED WITH FIXTURE.
10. INSTALL TRAP AND TUBULAR WASTE PIPING ON DRAIN OUTLET OF EACH FIXTURE TO BE DIRECTLY CONNECTED TO SANITARY DRAINAGE SYSTEM.
11. INSTALL TUBULAR WASTE PIPING ON DRAIN OUTLET OF EACH FIXTURE TO BE INDIRECTLY CONNECTED TO DRAINAGE SYSTEM.
12. INSTALL TANKS FOR ACCESSIBLE, TANK-TYPE WATER CLOSETS WITH LEVER HANDLE MOUNTED ON WIDE SIDE OF COMPARTMENT.
13. INSTALL TOILET SEATS ON WATER CLOSETS.
14. INSTALL WATER-SUPPLY FLOW-CONTROL FITTINGS WITH SPECIFIED FLOW RATES IN FIXTURE SUPPLIES AT STOP VALVES.
15. INSTALL TRAPS ON FIXTURE OUTLETS.
   - a. EXCEPTION: OMIT TRAP ON FIXTURES WITH INTEGRAL TRAPS.
   - b. EXCEPTION: OMIT TRAP ON INDIRECT WASTES, UNLESS OTHERWISE INDICATED.
17. INSTALL ESCUTCHEONS AT PIPING WALL CEILING PENETRATIONS IN EXPOSED, FINISHED LOCATIONS AND WITHIN CABINETS AND MILLWORK. USE DEEP-PATTERN ESCUTCHEONS IF REQUIRED TO CONCEAL PROTRUDING FITTINGS.
18. SET SERVICE BASINS IN LEVELING BED OF CEMENT GROUT.

F. CONNECTIONS
1. CONNECT FIXTURES WITH WATER SUPPLIES, STOPS, AND RISERS, AND WITH TRAPS, SOIL, WASTE, AND VENT PIPING. USE SIZE FITTINGS REQUIRED TO MATCH FIXTURES.

G. FIELD QUALITY CONTROL
1. INSPECT INSTALLED PLUMBING FIXTURES FOR DAMAGE. REPLACE DAMAGED FIXTURES AND COMPONENTS.
2. TEST INSTALLED FIXTURES AFTER WATER SYSTEMS ARE PRESSURIZED FOR PROPER OPERATION. REPLACE MALFUNCTIONING FIXTURES AND COMPONENTS, THEN RETEST. REPEAT PROCEDURE UNTIL UNITS OPERATE PROPERLY.

H. ADJUSTING
1. OPERATE AND ADJUST FAUCETS AND CONTROLS. REPLACE DAMAGED AND MALFUNCTIONING FIXTURES, FITTINGS, AND CONTROLS.
2. ADJUST WATER PRESSURE AT FAUCETS TO PRODUCE PROPER FLOW AND STREAM.
3. ADJUST WATER COOLER TEMPERATURE SETTINGS.
4. REPLACE WASHERS AND SEALS OF LEAKING AND DRIPPING FAUCETS AND STOPS.

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

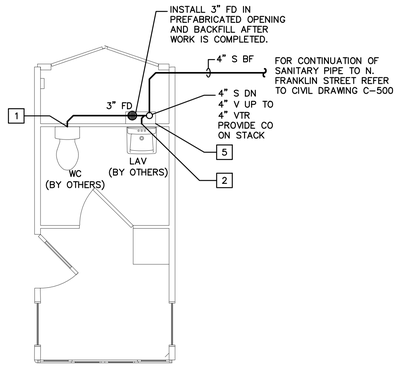
EDWARD J. GODOROV
PE-29587-E

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION PHILADELPHIA, PA.

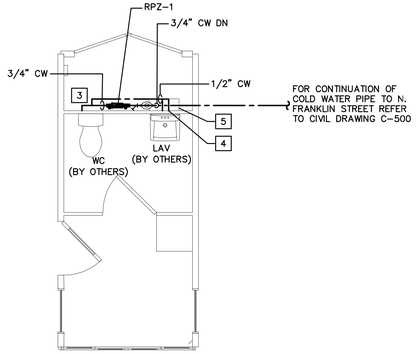
TITLE
DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
PLUMBING SPECIFICATIONS

DWN HP
CHK EJG
PROJ # 2023280024.000
DATE JUNE 14, 2024
DRAWING NUMBER P-101



1 P2.1 **PARTIAL PLAN - SANITARY**

0 2 4 8

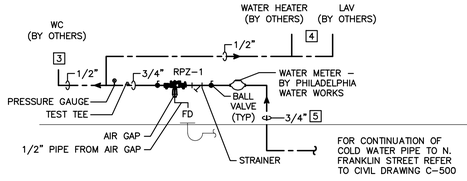


2 P2.1 **PARTIAL PLAN - DOMESTIC WATER**

0 2 4 8

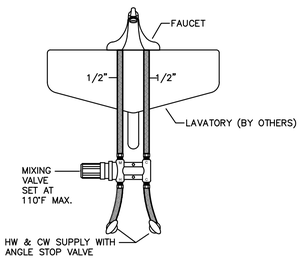
3 P2.1 **SANITARY RISER DIAGRAM**

SCALE: N.T.S.



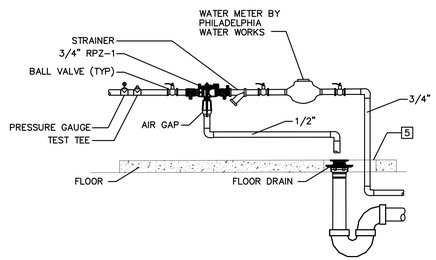
4 P2.1 **DOMESTIC WATER RISER DIAGRAM**

SCALE: N.T.S.



5 P2.1 **MIXING VALVE UNDER LAVATORY**

SCALE: N.T.S.



6 P2.1 **INCOMING WATER SERVICE DETAIL**

SCALE: N.T.S.

PLUMBING PIPE AND FITTING SCHEDULE

System	Diameter inches	Material	Pipe Designation	Schedule	Fitting		Joint	Remarks
					Material	Pressure		
SANITARY & WASTE	1-1/4"-1-1/2"	COPPER	ASTM B88	DWV	DWV	DRAINAGE	SOLDER	
VENT	2" & LARGER	CAST IRON	ASTM A74	STD. WEIGHT	CAST IRON	DRAINAGE	NOTE 1	NOTE 1
	ALL	COPPER	ASTM B88	TYPE L	WROT COPPER	125#	SOLDER	ABOVE GRADE
DOMESTIC WATER	1/2"-3/4"	COPPER	ASTM B88	TYPE K	WROT COPPER	125#	SOLDER	BELOW GRADE

NOTE 1: IN ACCORDANCE WITH CODES AND AUTHORITIES HAVING JURISDICTION.

PLUMBING INSULATION SCHEDULE

Item	Manufacturer	Type	Jacket	Thickness	Remarks
DOMESTIC HW & CW PIPING	OWENS-CORNING # 25 ASJ/SSC	MINERAL FIBER	ALL PURPOSE	1"	NOTE 1

NOTE 1: ALL CW FITTINGS, VALVES & SPECIALTIES SHALL BE INSULATED SAME AS PIPING.

PLUMBING FIXTURE SCHEDULE

Symbol	Model Number	Faucet/Valve	Trim/Seat	Remarks
WC-1	BY OTHERS	-	-	
LAV-1	BY OTHERS	-	TRUEBRO LAV-1 GUARD2	WATTS LFUSG-B M2 TEMPERING VALVE

NOTE 1: REFER TO ARCHITECTURAL PLANS FOR LOCATION OF FIXTURES TO BE DESIGNATED BARRIER FREE.

NOTE 2: REFER TO ARCHITECTURAL PLANS FOR FIXTURE MOUNTING HEIGHTS.

REDUCED PRESSURE ZONE SCHEDULE

SYMBOL NO.	SIZE	MANUFACTURER & MODEL NO.	LENGTH (IN INCHES PLUS STRAINER)	WEIGHT (IN POUNDS)	REMARKS
RPZ-1	3/4"	WATTS LF009QTS	12-3/4"	5	PROVIDE WITH AIR GAP WATTS 909AGA

FLOOR DRAINS FD

Type	Function	Manufacturer & Model No.	Remarks
FD-1	FLOOR DRAIN	JAY R. SMITH 2005-P050	W/1/2" PRIMER TAP

PLUMBING FIXTURE RUNOUT SCHEDULE

Fixture	Symbol	Waste	Cold Water	Hot Water	DFU	Remarks
WATER CLOSET	WC	4"	1/2"	-	4	
LAVATORY	LAV	1-1/4"	1/2"	1/2"	1	NOTE 1
FLOOR DRAIN	FD-1	3"	-	-	5	

NOTE 1: 2" FOR DRAINS BELOW GRADE.

KEY NOTES

1. CONNECT NEW 4" S TO BACKSPUD WATER CLOSET (BY OTHERS). VERIFY EXACT LOCATION AND CONNECTION POINT IN FIELD.
2. CONNECT NEW 1-1/4" WASTE LAVATORY (BY OTHERS). VERIFY EXACT LOCATION AND CONNECTION IN FIELD.
3. CONNECT NEW 1/2" CW TO BACKSPUD WATER CLOSET (BY OTHERS). VERIFY EXACT LOCATION AND CONNECTION POINT IN FIELD.
4. CONNECT NEW 1/2" CW TO WATER HEATER (BY OTHERS) AND 1/2" CW TO LAVATORY (BY OTHERS). VERIFY EXACT LOCATION AND CONNECTION POINT IN FIELD.
5. ALL PIPING THROUGH FLOOR SHALL BE INSTALLED THROUGH THE FLOOR OPENING. AFTER PIPING INSTALLATION, INSTALL CAST IN PLACE CONCRETE BY PLUMBING CONTRACTOR IN THE FLOOR OPENING WITH A STONE BASE.

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL EDWARD J. GODOROV ENGINEER PE-29587-E

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
PLUMBING PLANS, SCHEDULES & DETAILS

DWN HP | PROJ# 2023280024.000 | DRAWING NUMBER P-200
CHK EJG | DATE JUNE 14, 2024

ABBREVIATIONS

AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AMP/A	AMPERE
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BKR	BREAKER
C/COND	CONDUIT
CAT	CATEGORY
CB, C/B	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CT	CURRENT TRANSFORMER
CU	COPPER
DEMO	DEMOLITION
DISC	DISCONNECT
DWG	DRAWING
(E)	EXISTING
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRICAL
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
(ER)	EXISTING TO BE RELOCATED
EUH	ELECTRIC UNIT HEATER
EX	EXISTING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
GFCI, GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFSC	GROUND FAULT SENSING RELAY
G/GND	GROUND
INCAND	INCANDESCENT
IMC	INTERMEDIATED METAL CONDUIT
ISC	SHORT CIRCUIT CURRENT
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR
LTG	LIGHTING
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MFR	MANUFACTURER
MH	MANHOLE
MCC	MOTOR CONTROL CENTER
MMFO	MULTI-MODE FIBER OPTIC
MTD	MOUNTED
(N)	NEW
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NIC	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
P	POLE
PF	POWER FACTOR
PH	PHASE
PL	PILOT LIGHT
PNL	PANEL
PRI	PRIMARY
(R)	REMOVE
RECEPT	RECEPTACLE(S)
RGS	RIGID GALVANIZED STEEL
RTD	RESISTANCE TEMPERATURE DETECTOR
SEC	SECONDARY
SIG	SIGNAL
SMFO	SINGLE MODE FIBER OPTIC
SPEC	SPECIFICATION
ST	SHUNT TRIP
STD	STANDARD
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UL	UNDERWRITERS LABORATORY
V	VOLT
W	WATT
WP	WATERPROOF
XFR	TRANSFER
Ø	PHASE

LIGHTING SYMBOLS

F1 LP-7 a — LIGHT FIXTURE; CIRCUIT; SWITCH; FIXTURE TYPE

RECESSED OR SURFACE MOUNTED FIXTURE

RECESSED OR SURFACE MOUNTED FIXTURE WITH EMERGENCY BALLAST

INDUSTRIAL, UNDERCOUNTER, STRIP, OR CASEWORK FIXTURE

INDUSTRIAL OR STRIP FIXTURE WITH EMERGENCY BALLAST

DOWNLIGHT FIXTURE

DOWNLIGHT FIXTURE WITH EMERGENCY BALLAST

DIRECTIONAL DOWNLIGHT FIXTURE

WALL OR SURFACE MOUNTED FIXTURE

WALL OR SURFACE MOUNTED FIXTURE WITH EMERGENCY BALLAST

EXIT FIXTURE - CEILING MOUNTED - ARROWS AS INDICATED

EXIT FIXTURE - WALL OR SURFACE MOUNTED - ARROWS AS INDICATED

EMERGENCY BATTERY UNIT WITH ADJUSTABLE HEAD(S)

EMERGENCY BATTERY UNIT FOR REMOTE EMERGENCY FIXTURES

REMOTE EMERGENCY FIXTURE SINGLE HEAD

REMOTE EMERGENCY FIXTURES DUAL HEAD

TRACK LIGHTING SYSTEM

PC — PHOTOCELL

S — SINGLE POLE SWITCH

S_2 — DOUBLE POLE SWITCH

S_3 — THREE WAY SWITCH

S_4 — FOUR WAY SWITCH

S_M — MANUAL STARTER SWITCH

S_{MS} — OCCUPANCY SENSOR SWITCH

CORNER MOUNTED MOTION SENSOR

CEILING MOUNTED MOTION SENSOR

TC — TIME CLOCK

LIGHT POLE

SINGLE LINE DIAGRAM SYMBOLS

100AF / 30AT — CIRCUIT BREAKER; AF, FRAME RATING IN AMPS; AT, TRIP RATING IN AMPS

DISTRIBUTION TRANSFORMER; SIZE AS INDICATED

DELTA

WYE

WIREWAY

25 — ELECTRIC MOTOR; HORSEPOWER AS INDICATED

20A — FUSE; SIZE AS INDICATED IN AMPS

M — ELECTRIC METER

N E L — AUTOMATIC TRANSFER SWITCH

AUTOMATIC TRANSFER SWITCH - SERVICE ENTRANCE RATED

A B C N G — PORTABLE GENERATOR CONNECTION

G A B — STANDBY GENERATOR; SIZE AS INDICATED

PANELBOARD; SIZE AS INDICATED

PANELBOARD WITH INTEGRAL TRANSFORMER; SIZE AS INDICATED

LIGHTNING PROTECTION SYMBOLS

GROUNDING CONDUCTOR

AIR TERMINAL

GROUND LOOP DROP TO LOWER LEVEL

GROUND CONDUCTOR THROUGH ROOF TO STEEL

ONE INCH PVC CONDUIT - ROOF-TO-GRADE

POWER DEVICE SYMBOLS

SINGLE RECEPTACLE, NEMA 5-20R

IG — DUPLEX RECEPTACLE, NEMA 5-20R
IG ISOLATED GROUND
SP TVSS SURGE SUPPRESSOR

FLOOR BOX WITH DUPLEX RECEPTACLE, NEMA 5-20R

CEILING MOUNTED DUPLEX RECEPTACLE, NEMA 5-20R

QUADRUPLEX RECEPTACLE, NEMA 5-20R

FLOOR BOX WITH QUADRUPLEX RECEPTACLE, NEMA 5-20R

CEILING MOUNTED QUADRUPLEX RECEPTACLE, NEMA 5-20R

DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER

DUPLEX RECEPTACLE ON EMERGENCY POWER, NEMA 5-20R

QUADRUPLEX RECEPTACLE ON EMERGENCY POWER, NEMA 5-20R

5-20R — NON-LOCKING SPECIAL PURPOSE RECEPTACLE
NEMA CONFIGURATION AS INDICATED

L5-20R — LOCKING SPECIAL PURPOSE RECEPTACLE
NEMA CONFIGURATION AS INDICATED

WALL MOUNTED JUNCTION BOX

J — JUNCTION BOX

PB — PULL BOX

GS — PUSHBUTTON
GS GENERATOR SHUTDOWN
ES EMERGENCY STOP
PB GENERAL PUSHBUTTON
AD ADA ACCESS
FS FIRE SUPPRESSION

POWER EQUIPMENT SYMBOLS

5 — MOTOR; SIZE AS INDICATED IN HORSEPOWER

30A — UNFUSED SAFETY DISCONNECT SWITCH; SIZE AS INDICATED IN AMPS

30A — FUSED SAFETY DISCONNECT SWITCH; SIZE AS INDICATED IN AMPS

30A — CIRCUIT BREAKER; SIZE AS INDICATED IN AMPS

1 — MOTOR STARTER; NEMA SIZE AS INDICATED

30A — COMBINATION MOTOR STARTER AND CIRCUIT BREAKER; SIZE AS INDICATED IN AMPS

30A — COMBINATION MOTOR STARTER AND FUSED DISCONNECT SWITCH; SIZE AS INDICATED IN AMPS

ELECTRICAL PANEL - SURFACE MOUNTED

ELECTRICAL PANEL - FLUSH MOUNTED

DISTRIBUTION PANEL

T — TRANSFORMER

M — ELECTRICITY METER BY UTILITY COMPANY

M — ELECTRICITY METER BY OWNER

CONDUIT AND WIRING SYMBOLS

LP-7 — BRANCH CIRCUIT CONDUIT & WIRE, HOMERUN TO PANELBOARD; PANELBOARD AND CIRCUIT NUMBER INDICATED

CONCEALED CONDUIT & WIRE OR ITEM RUN AT OR ABOVE ELEVATION SHOWN

EXPOSED CONDUIT & WIRE OR ITEM RUN AT OR ABOVE ELEVATION SHOWN

OR — EQUIPMENT ON SAME CIRCUIT BUT SEPARATELY CONTROLLED

CONCEALED CONDUIT & WIRE OR ITEM RUN BELOW ELEVATION SHOWN, BEHIND OBSTRUCTION, IN SLAB, OR BELOW GRADE

UNDERGROUND CONDUIT & WIRE

CONDUIT BENDS TOWARD OBSERVER (UP)

CONDUIT BENDS AWAY FROM OBSERVER (DOWN)

CONDUIT STUBBED OUT AND CAPPED FOR FUTURE USE

GROUNDING SYMBOLS

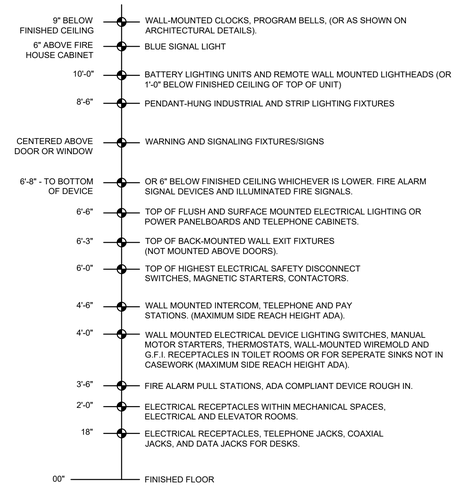
G — GROUNDING CABLE (EXPOSED)

GROUNDING CABLE (BURIED OR CONCEALED)

GB — GROUNDING BUS BAR

GROUND CONNECTION POINT

STANDARD MOUNTING HEIGHTS



MOUNTING HEIGHT NOTES

1. STANDARD MOUNTING HEIGHTS: (COORDINATE WITH ARCHITECTURAL DRAWINGS) ALL MOUNTING HEIGHTS SHALL BE AS INDICATED BY ARCHITECT. IF NOT INDICATED BY ARCHITECT THEN PROVIDE AS NOTED ABOVE.
2. MOUNTING HEIGHTS TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED. IN MASONRY CONSTRUCTION THE ABOVE MOUNTING HEIGHTS SHALL BE USED FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.
3. THE ABOVE MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE DRAWING OR SPECIFICATIONS.
4. INDICATION (+) NEXT TO A DEVICE INDICATES THAT DEVICE IS MOUNTED ABOVE A COUNTER OR CASEWORK. COORDINATE WITH ARCHITECTURAL DETAILS AND CASEWORK CONTRACTOR.
5. 3'-6" FOR ADA COMPLIANT DEVICES VERIFIY EXACT HEIGHT WITH ARCHITECT PRIOR TO ROUGH IN.

FIRE ALARM SYSTEM SYMBOLS

FACP — FIRE ALARM CONTROL PANEL

FAAP — FIRE ALARM ANNUNCIATOR PANEL

F — FIRE ALARM MANUAL PULL STATION

F — FIRE ALARM WALL MOUNTED HORN/STROBE

F — FIRE ALARM HORN

F — FIRE ALARM STROBE

F — FIRE ALARM BELL

S_F — FIRE EVACUATION SPEAKER

SF — COMBINATION FIRE EVACUATION SPEAKER WITH FIRE ALARM STROBE

I — FIRE ALARM ADDRESSABLE RELAY
I INTERFACE
C CONTROL
M MONITOR
S SIGNAL

D — AUTOMATIC DETECTOR
D DUCT MOUNTED, SMOKE IONIZATION
F THERMAL, FIXED TEMPERATURE
PE SMOKE REFRACTION, PHOTO ELECTRIC
R THERMAL, RATE OF RISE
S AREA SMOKE, IONIZATION

I — ISOLATION MODULE, TYP.

FS — ALARM INITIATING CONTACT
FS FLOW SWITCH "ALARM"
TR ALARM CHECK VALVE "TROUBLE"
TS TAMPER SWITCH "TROUBLE"
PS PRESSURE SWITCH

GENERAL NOTES

1. THIS IS A STANDARD SYMBOL LIST. ALL DEVICE SYMBOLS AND ABBREVIATIONS MAY NOT NECESSARILY APPEAR ON THE FLOOR PLANS OR DETAIL SHEET, ONLY THOSE SYMBOLS INDICATED ON THE FLOOR PLANS ARE USED FOR THIS PROJECT. ALL OTHERS ARE TO BE CONSIDERED NOT USED AND SHOULD BE DISREGARDED.
2. REFER TO ELECTRICAL SPECIFICATIONS SECTION 260000.
3. ABBREVATIONS NOT SHOWN ARE DERIVED FROM ASME Y14.38 2019 ABBREVIATIONS FOR USE ON DRAWINGS AND IN TEXT.
4. DIMENSIONS MARKED ± ARE TO BE VERIFIED IN THE FIELD. THOSE MARKED N.T.S. ARE SHOWN NOT TO SCALE, ALL OTHERS ASSUMED TO BE CORRECT AND SHOULD BE CHECKED WITH OTHER TRADE DRAWINGS AND VERIFIED BY THE CONTRACTOR.
5. ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND WITH THE LATEST REVISIONS OF THE NATIONAL ELECTRICAL CODE, WITH THE LOCAL CODES WHICH HAVE PRECEDENCE.
6. CONDUIT AND WIRE ARE SHOWN DIAGRAMMATICALLY ON THE DRAWINGS. EXACT LOCATIONS AND ROUTING IS TO BE DETERMINED IN THE FIELD. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL WORK WITH ALL OTHER TRADES.
7. MINIMUM CONDUIT SIZE SHALL BE 3/4" ABOVE GRADE AND 1" BELOW GRADE UNLESS OTHERWISE NOTED.
8. ALL CONDUIT SHALL BE GALVANIZED STEEL ABOVE GRADE AND PVC BELOW GRADE.
9. ALL MOUNTING HARDWARE (PIPE STRAPS, V-BOLTS, ETC.) MUST BE HOT DIPPED GALVANIZED.
10. CONDUIT SHALL BE RUN NEAT AND IN A WORKMAN LIKE MANNER, AT 90 DEGREE ANGLES WERE POSSIBLE.
11. CONDUIT RUNS SHALL BE KEPT AT LEAST 12" FROM STEAM OR OTHER HOT LINES. WHERE CROSSINGS ARE UNAVOIDABLE, CONDUIT SHALL BE KEPT AT LEAST 6" FROM COVERING OF SUCH LINES.
12. ALL LIGHTING FIXTURE ELEVATIONS ARE TAKEN FROM FINISHED FLOOR ELEVATION, PLATFORM ELEVATION OR GRADE TO BOTTOM OF GLOBE.
13. FINAL CONNECTIONS TO EQUIPMENT SHALL BE MADE BY FLEXIBLE CONDUIT.
14. INSTRUMENT SIGNAL AND CONTROL WIRES SHALL NOT BE SPLICED.
15. ALL ELECTRICAL WIRES AND CABLES FOR POWER, CONTROL AND INSTRUMENTATION SHALL BE TAGGED AT BOTH ENDS.
16. MULTIPLE "HOME RUN" CIRCUITS MAY BE COMBINED BY THE CONTRACTOR INTO A SINGLE CONDUIT/CABLE USING THE FOLLOWING GUIDELINES:
    - A. NO MORE THAN (6) SINGLE PHASE OR (3) THREE PHASE CIRCUITS MAY BE COMBINED.
    - B. WIRE SIZES MUST BE INCREASED PER N.E.C. ARTICLE 310 NOTE #8 TO AMPACITY TABLES (AS REQUIRED).
    - C. CONDUITS SIZES MUST BE ADJUSTED TO MAINTAIN A MAXIMUM OF 40% FILL.
    - D. ONLY CIRCUITS ORIGINATING AT A COMMON PANEL, MCC, ETC. MAY BE COMBINED.
    - E. LOW LEVEL SIGNAL CIRCUITS SHALL NOT BE COMBINED WITH ALTERNATING CURRENT CIRCUITS.
17. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY RACEWAY SUPPORTS. SUPPORTS SHALL BE FABRICATED FROM GALVANIZED STEEL STRUCTURAL SHAPES OR UNISTRUT.
18. NEUTRAL AND GROUND CONDUCTORS SHALL BE OF THE SAME AWG AS CURRENT CARRYING CONDUCTORS. (UNLESS OTHERWISE NOTED).
19. GROUNDING AND BONDING OF ELECTRICAL EQUIPMENT AND PIPING SHALL BE IN ACCORDANCE WITH NEC SECTION 250 AND 501, NFPA 54, AND ANSI Z223.1.

21. WIRE AND CABLE
    - A. FEEDER CABLES AND BRANCH CIRCUIT WIRING AT INTERIOR, DRY LOCATIONS, UP TO 500MCM SHALL BE TYPE THWN/THHN THERMOPLASTIC 600 VOLT INSULATED COPPER CONDUCTOR. MINIMUM SIZE IS #12 AWG (#14 MAY BE USED FOR CONTROL CIRCUITS ONLY). ALL UNDERGROUND SERVICE CABLES SHALL HAVE THW - THERMOPLASTIC, 600 VOLT INSULATION COPPER CONDUCTOR.
    - B. VFD LOAD SIDE WIRING SHALL BE TYPE XHHW-2 THERMOSET 600 VOLT INSULATED COPPER CONDUCTOR. MINIMUM SIZE IS #12 AWG.

22. RACEWAYS
    - A. CONDUCTORS SHALL BE INSTALLED IN RGS WHERE SUBJECT TO PHYSICAL DAMAGE, EMT MAY BE USED IN OTHER LOCATIONS AS ALLOWED BY CODE.

23. BRANCH WIRING
    - A. PROVIDE ALL CIRCUITING OF GENERAL, HVAC AND LIGHTING CIRCUITS TO THE PANELS
    - B. ACTUAL CIRCUIT NUMBERS MAY BE ALTERED DURING CONSTRUCTION. HOWEVER, THE DESIGN INTENT MUST BE MAINTAINED. THE EC WILL ACCURATELY REFLECT ALL CIRCUIT NUMBERS ON THE AS-BUILT DRAWINGS.
    - C. BASE BUILDING LIGHTING AND GENERAL CONVENIENCE RECEPTACLE CIRCUITS SHALL BE NETWORKED WITH (3) SINGLE PHASE CONDUCTORS SHARING (1) NEUTRAL CONDUCTOR (4#12 AWG.). ONLY AT 3-PHASE PANELS.
    - D. ALL 120 VOLT, 20 AMP BRANCH WIRING EXCEEDING 120 FEET SHALL BE INCREASED TO #10 AWG.
    - E. NO MORE THAN 1,920 WATTS SHALL BE CONNECTED TO ANY (1) 20AMP, 120 VOLT
    - F. TANDEM WIRING OF GFI RECEPTACLES SHALL BE PERMITTED IF INSTALLED PER CODE.

DRAWING LIST

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JAMES ANTHONY BILELLA JR. PE-074205

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
ELECTRICAL LEGEND AND GENERAL NOTES

DWN SJI | PROJ # 2023280024.000 | DRAWING NUMBER E-000
CHK JJ | DATE JUNE 14, 2024

GENERAL NOTES:

1. REFER TO E-200 FOR NEW WORK PLAN
2. REFER TO E-300 FOR SINGLE LINE DIAGRAM
3. CONTRACTOR TO VERIFY LIGHT FIXTURE CIRCUITING PRIOR TO START OF DEMOLITION WORK.

DEMOLITION KEY NOTES:

1. REMOVE EXISTING LIGHT FIXTURE, POLE, PULLBOX AND APPURTENANCES INCLUDING ASSOCIATED WIRING AND CONDUIT BACK TO SOURCE PANEL.
2. REMOVE EXISTING PANELBOARD, SERVICE DISCONNECT SWITCH AND APPURTENANCES INCLUDING ASSOCIATED WIRE AND CONDUIT. REFER TO E-200 FOR NEW PANELBOARD LOCATION.
3. COORDINATE WITH PECO FOR THE REMOVAL OF EXISTING PECO AERIAL FEEDER, METER AND APPURTENANCES INCLUDING ASSOCIATED WIRE AND CONDUIT. REFER TO E-200 FOR NEW UNDERGROUND FEEDER ROUTING AND METER LOCATION.
4. REMOVE EXISTING CAMERA, COMMUNICATIONS HARDWARE, WIRING AND CONDUIT BACK TO SOURCE PANEL.
5. CONTRACTOR SHALL TRACE EXISTING OVERHEAD WIRES TO SOURCE. COORDINATE WITH OWNER FOR REMOVAL OF THE WIRES, IF ENERGIZED. INCLUDE REMOVAL OF THE WIRES IN BID.

MH Rim 30.31
Peco MH Rim 31.51
Peco MH Rim 31.76
Peco MH Rim 31.62
Peco MH Rim 30.40
Peco MH Rim 30.82
Peco MH Rim 31.80
Peco MH Rim 31.92
Peco MH Rim 31.78

(R) LIGHT POLE (TYP.)

(R) UTILITY METER (ABOVE) ③
(R) SERVICE DISCONNECT - 100AS ②
(R) PANELBOARD ②

(E) PECO POLE MOUNTED TRANSFORMER

Elec. MH Rim 33.96
Peco MH Rim 34.36

GRAPHIC SCALE
1 inch = 20 feet
20 0 10 20 40

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JAMES ANTHONY BILELLO PE-074205 ENGINEER

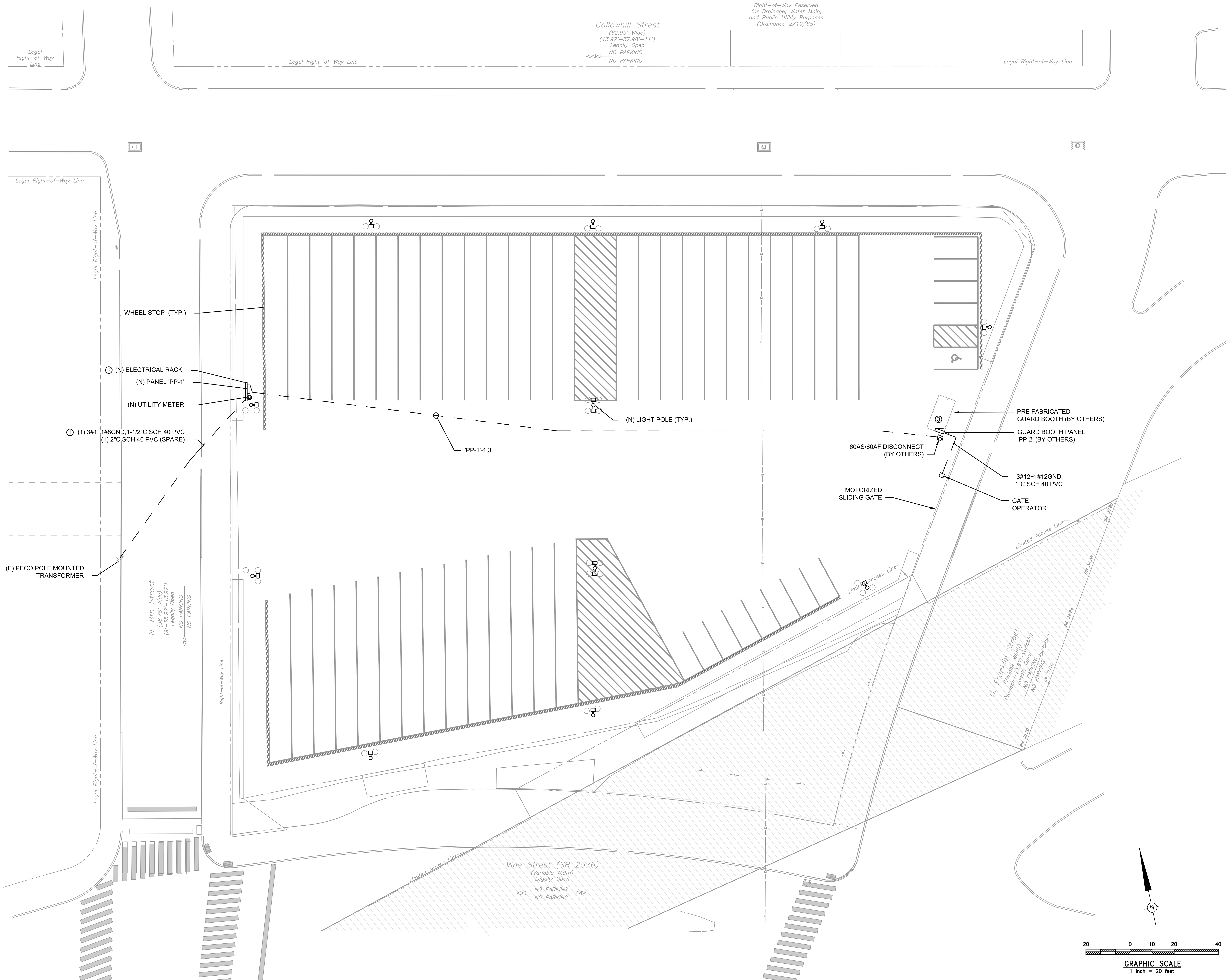
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
ELECTRICAL SITE PLAN - DEMOLITION

DWN SJI | PROJ # 2023280024.000 | DRAWING NUMBER E-100
CHK JJ | DATE JUNE 14, 2024

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Electrical\E-100 - DEMO PLAN.dwg



GENERAL NOTES:

1. REFER TO E-100 FOR DEMOLITION PLAN.
2. REFER TO E-201 FOR PROPOSED SITE LIGHTING PLAN.
3. REFER TO E-300 FOR SINGLE LINE DIAGRAMS AND SCHEDULES.
4. REFER TO C-500 FOR UTILITY PLAN, HANDHOLE LOCATIONS AND MORE INFORMATION.
5. REFER TO C-710 FOR UNDERGROUND CONDUIT DETAIL.

KEY NOTES:

1. PROVIDE NEW UNDERGROUND FEEDER TO NEW ELECTRICAL RACK LOCATION. COORDINATE FEEDER TERMINATION REQUIREMENTS WITH PECO.
2. PROVIDE NEW ELECTRICAL EQUIPMENT, SHOWN ON DRAWING, AND MOUNT TO PROPOSED ELECTRICAL RACK. SIZE ELECTRICAL RACK, AS REQUIRED, AND PER DETAIL 1/E-400.

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — JAMES ANTHONY BILELLA II — PE-074205

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
ELECTRICAL SITE PLAN - POWER

DWN	SJI	PROJ #	2023280024.000	DRAWING NUMBER
CHK	JJ	DATE	JUNE 14, 2024	E-200

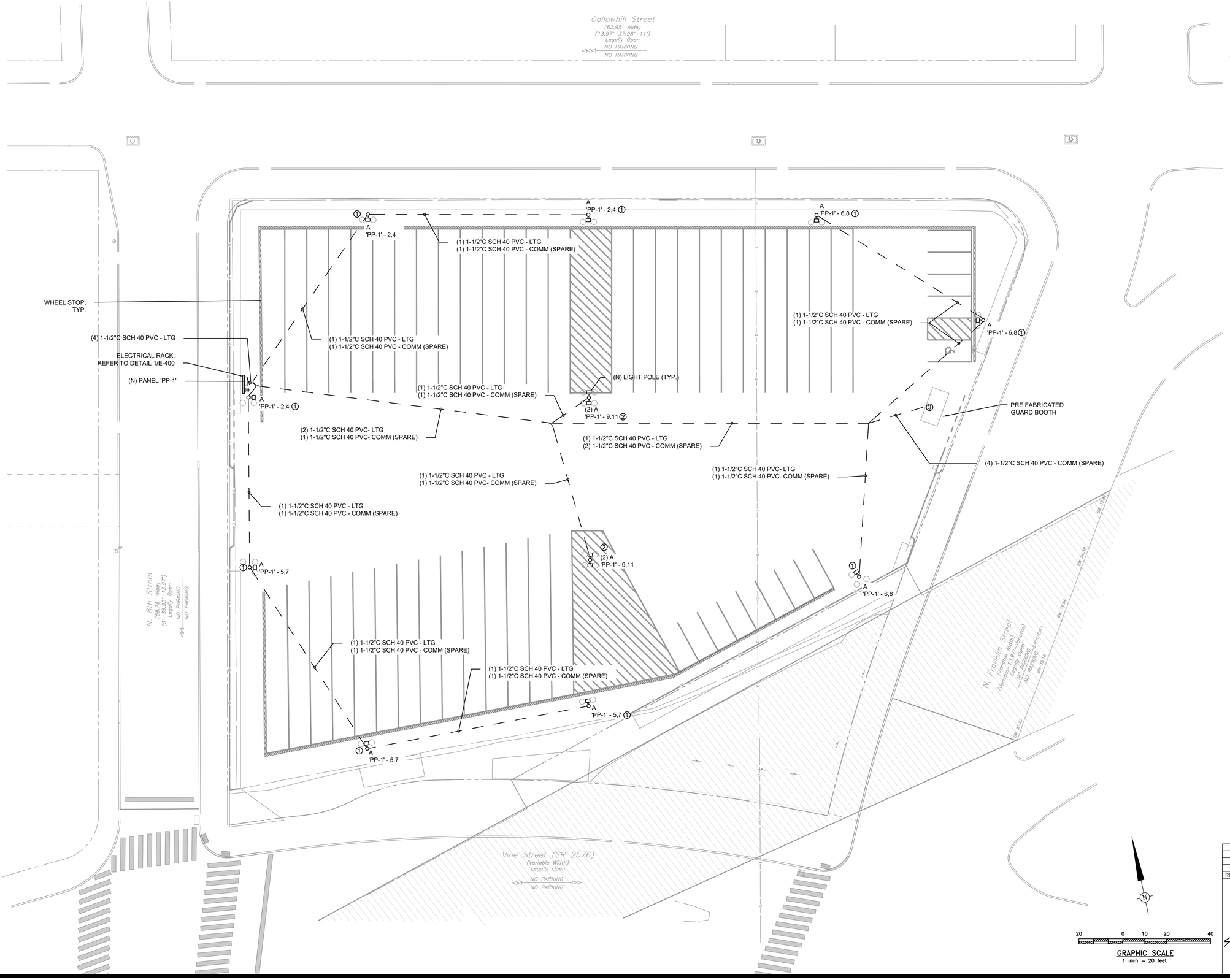
Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Electrical\E-200 - SITE PLAN Power.dwg

GENERAL NOTES:

1. REFER TO E-100 FOR DEMOLITION PLAN.
2. REFER TO E-200 FOR PROPOSED POWER PLAN.
3. REFER TO E-300 FOR SINGLE LINE DIAGRAM AND SCHEDULES..
4. REFER TO C-500 FOR UTILITY PLAN, HANDHOLE LOCATIONS AND MORE INFORMATION.
5. REFER TO C-710 FOR UNDERGROUND CONDUIT DETAIL.

KEY NOTES:

1. PROVIDE NEW LIGHT POLE, TYPE 'A' LED FIXTURE AND ASSOCIATED MOUNTING HARDWARE. REFER TO LIGHTING FIXTURE SCHEDULE ON 3/E-300.
2. PROVIDE NEW LIGHT POLE, (2) TYPE 'A' LED FIXTURE AND ASSOCIATED MOUNTING. FIXTURE MOUNTING ORIENTATION - 180° FROM EACH OTHER. HARDWARE. REFER TO LIGHTING FIXTURE SCHEDULE ON 3/E-300.
3. COMMUNICATION RACK TO BE INSTALLED IN PROPOSED PRE-FABRICATED GUARD BOOTH. COORDINATE EXACT COMMUNICATIONS RACK LOCATION WITH GUARD BOOTH MANUFACTURER.



REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

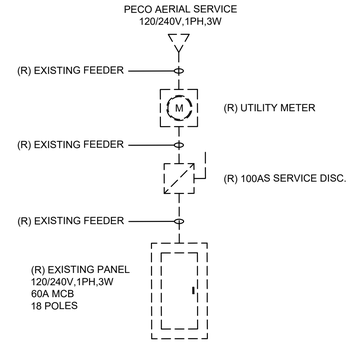
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JAMES ANTHONY BILELLA III PE-074205

LOCATION: PHILADELPHIA, PA.

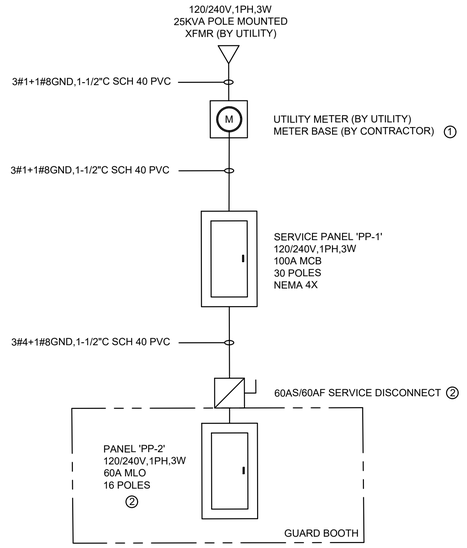
TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
ELECTRICAL SITE PLAN - LIGHTING

DWN	PROJ #	DRAWING NUMBER
SJI	2023280024.000	E-201
CHK JJ	DATE JUNE 14, 2024	

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Electrical\E-201 - SITE PLAN Lighting.dwg



1 / E-300 DEMOLITION SINGLE LINE DIAGRAM
N.T.S.



2 / E-300 PROPOSED SINGLE LINE DIAGRAM
N.T.S.

GENERAL NOTES:

1. REFER TO E-100 FOR DEMOLITION PLAN.
2. REFER TO E-200 FOR PROPOSED POWER PLAN.
3. REFER TO E-201 FOR PROPOSED LIGHTING PLAN.

KEY NOTES:

1. COORDINATE METER TYPE WITH PECO.
2. ELECTRICAL EQUIPMENT TO BE PROVIDE BY PRE-FABRICATED GUARD BOOTH MANUFACTURER.

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL NUMBER	VOLTAGE	WATTAGE	LUMEN	COLOR TEMPERATURE	MOUNTING TYPE	MOUNTING HEIGHT	DESCRIPTION	NOTES
A	BEACON LIGHTING	VP-1-160L-100-4K8-4F-HSS-90-B	240V	98W	12,073 LM	4000K	POLE	25' AFG	POLE MOUNTED LED FIXTURE WITH BACKSHIELD AND PHOTOCELL. TYPE 4 LIGHTING DISTRIBUTION.	PROVIDE BEACON SQUARE POLE SSS-B AND ASSOCIATED MOUNTING HARDWARE.

3 / E-300 LIGHTING FIXTURE SCHEDULE
N.T.S.

JOB NAME: PCCA - Marshalling Yard

PANEL NAME: (N) PP-1

NOTES:

VOLTAGE: 120/240V
PHASE: 1
WIRE: 3
BUS: 100A
MAINS: 100A MCB
AIC RATING: 22KAIC
ENCLOSURE: NEMA 3R
MOUNTING: SURFACE

CONN. AMPS	DESCRIPTION	BRANCH CIRCUIT	BKR	CKT	PH	CKT	BKR	BRANCH CIRCUIT	DESCRIPTION	CONN. AMPS
61.04	GUARD BOOTH PANEL 'PP-2'	3#4 + 1#8GND, 1-1/2"C	60/2	1	A	2	20/2	2#10 + 1#10GND, 1-1/2"C	SITE LIGHTING #1	1.23
61.04				3	B	4				1.23
1.23	SITE LIGHTING #2	2#10 + 1#10GND, 1-1/2"C	20/2	5	A	6	20/2	2#10 + 1#10GND, 1-1/2"C	SITE LIGHTING #3	1.23
1.23				7	B	8				1.23
1.63	SITE LIGHTING #4	2#10 + 1#10GND, 1-1/2"C	20/2	9	A	10	20	--	SPARE	0.00
1.63				11	B	12	20	--	SPARE	0.00
0.00	SPARE	--	20	13	A	14	20	--	SPARE	0.00
0.00	SPARE	--	20	15	B	16	20	--	SPARE	0.00
0.00	SPARE	--	20	17	A	18	20	--	SPARE	0.00
0.00	SPARE	--	20	19	B	20	20	--	SPARE	0.00
0.00	SPARE	--	20	21	A	22	20	--	SPARE	0.00
0.00	SPARE	--	20	23	B	24	20	--	SPARE	0.00
0.00	SPARE	--	20	25	A	26	20	--	SPARE	0.00
0.00	SPARE	--	20	27	B	28	20	--	SPARE	0.00
0.00	SPARE	--	20	29	A	30	20	--	SPARE	0.00
		PHASE A CONNECTED AMPS		66.35		66.35		**PHASE A DEMAND AMPS**		
		PHASE B CONNECTED AMPS		66.35		66.35		**PHASE B DEMAND AMPS**		
		TOTAL CONNECTED AMPS		66.35		66.35		**TOTAL DEMAND AMPS**		
		TOTAL CONNECTED KVA		15.92		15.92		**TOTAL DEMAND KVA**		

4 / E-300 PANEL 'PP-1' SCHEDULE
N.T.S.

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

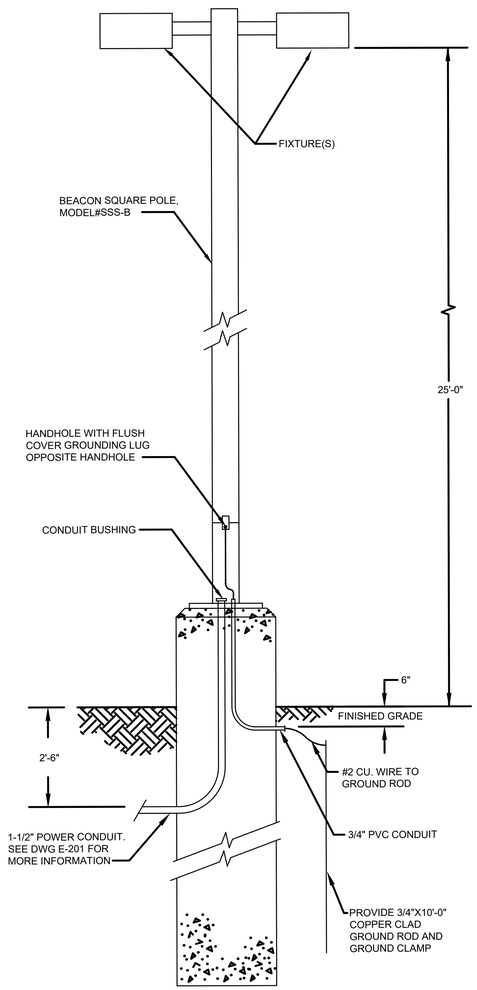
JAMES ANTHONY BILELLA JR. — REGISTERED PROFESSIONAL — PE-074209 — COMMONWEALTH OF PENNSYLVANIA

LOCATION: PHILADELPHIA, PA.

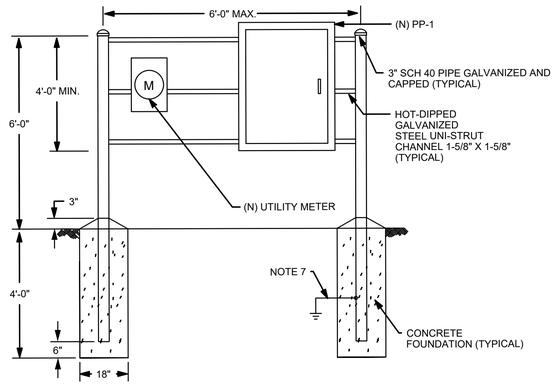
TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
SINGLE LINE DIAGRAM AND SCHEDULES

DWN	SJI	PROJ #	2023280024.000	DRAWING NUMBER
CHK	JJ	DATE	JUNE 14, 2024	E-300

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Electrical\E-300 - SLD and Schedules.dwg



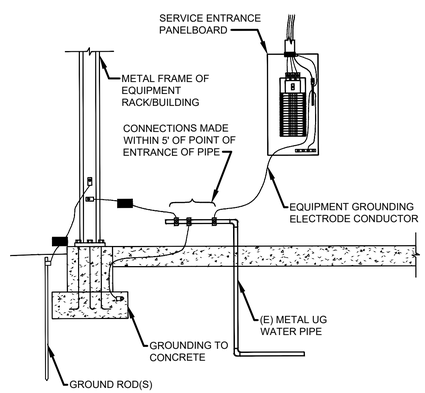
1 / E-400 LIGHT POLE GROUNDING DETAIL
N.T.S.



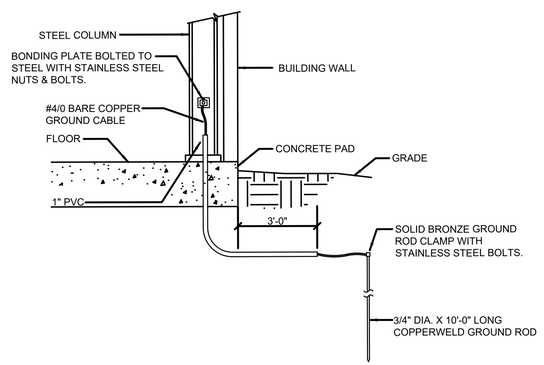
NOTES:

1. FURNISH A SUBMITAL FOR THE ELECTRICAL RACK PRIOR TO RACK INSTALLATION.
2. SIZE ELECTRICAL RACK AS NEEDED FOR ALL EQUIPMENT AND FOR FUTURE PANELS, DIMENSIONS INDICATED ARE FOR CONSTRUCTION REFERENCE AND SHOULD BE USED AS GUIDELINES WHEN SIZING THE RACK.
3. PROVIDE ALL EQUIPMENT TO ASSEMBLE RACK - BOLTS, NUTS, WASHERS, LOCK WASHERS, ETC.
4. PROVIDE 3000 PSI CONCRETE FOUNDATIONS. (TYPICAL)
5. SUPPORT AND PIPING FOUNDATIONS ARE NOT TO BE SPACED MORE THAN 6'-0" FROM CENTER TO CENTER.
6. PROVIDE A MINIMUM CLEARANCE OF 4'-0" IN FRONT OF EQUIPMENT.
7. WHEN CONDUIT TRANSITIONS FROM UNDERGROUND TO ABOVE GROUND, PROVIDE LONG SWEEP GALVANIZED ELBOWS.
8. PROVIDE COPPER CLAD GROUND ROD 10' X 3/4".

2 / E-400 ELECTRICAL RACK DETAIL
N.T.S.



3 / E-400 TYPICAL PANELBOARD GROUNDING DETAIL
N.T.S.



4 / E-400 TYPICAL COLUMN GROUNDING DETAIL
N.T.S.

GENERAL NOTES:

1. REFER TO E-200 FOR PROPOSED POWER PLAN.

REV	BY	DATE	DESCRIPTION
1	WCL	6/14/2024	100% CONSTRUCTION DOCUMENTS

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JAMES ANTHONY BILELLA PE-074209

LOCATION: PHILADELPHIA, PA.

TITLE: DESIGN DOCUMENTATION
PA CONVENTION CENTER MARSHALLING YARD
ELECTRICAL DETAILS

DWN	SJI	PROJ #	2023280024.000	DRAWING NUMBER
CHK	JJ	DATE	JUNE 14, 2024	E-400

Z:\Projects\2023280024.000 PCCA Marshalling Yard\Tech\DWG\Electrical\E-400 - Details.dwg

MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	8				2					FLASH
INTERVALS / SIGNALS	1	2	3		4	5	6	7		
1,2,3,4,5,6	G	Y	R		R	R	R	R		R
7,8,9,10,11	R	R	R		G	G	Y	R		R
12,13	H	H	H		M	FH	H	H		OFF
FIXED TIME	48	3.5	3.0		5	24	3.5	3.0		

APS NOTES

SIGNAL SHALL BE EQUIPPED WITH ACCESSIBLE PEDESTRIAN SIGNALS (APS) WITH THE FOLLOWING FEATURES:

- ADA COMPLIANT PUSHBUTTON WITH LATCHING LED INDICATOR AND TONE.

- A TACTILE DIRECTIONAL ARROW ALIGNED PARALLEL TO THE CROSSING AND WHICH VIBRATES DURING THE WALK INDICATION.

- TOUCHLESS ACTUATION CAPABLE. WITH ADJUSTABLE DETECTION RANGE.

- A PUSHBUTTON LOCATOR TONE. THE LOCATOR TONE SHALL HAVE A DURATION OF 0.15 SECONDS AND REPEAT AT 1 SECOND INTERVALS, SHALL BE RESPONSIVE TO AMBIENT SOUND, AND AUDIBLE FROM 6 TO 12 FEET FROM THE PUSHBUTTON.

- ACTUATION OF THE PEDESTRIAN PUSHBUTTON SHALL BE ACCOMPANIED BY THE SPEECH MESSAGE "WAIT" WHEN THE WALK INTERVAL IS NOT TIMING.

- AN AUDIBLE WALK INDICATION SHALL BE THE SPEECH WALK MESSAGE: "VINE STREET. WALK SIGN IS ON TO CROSS VINE STREET".

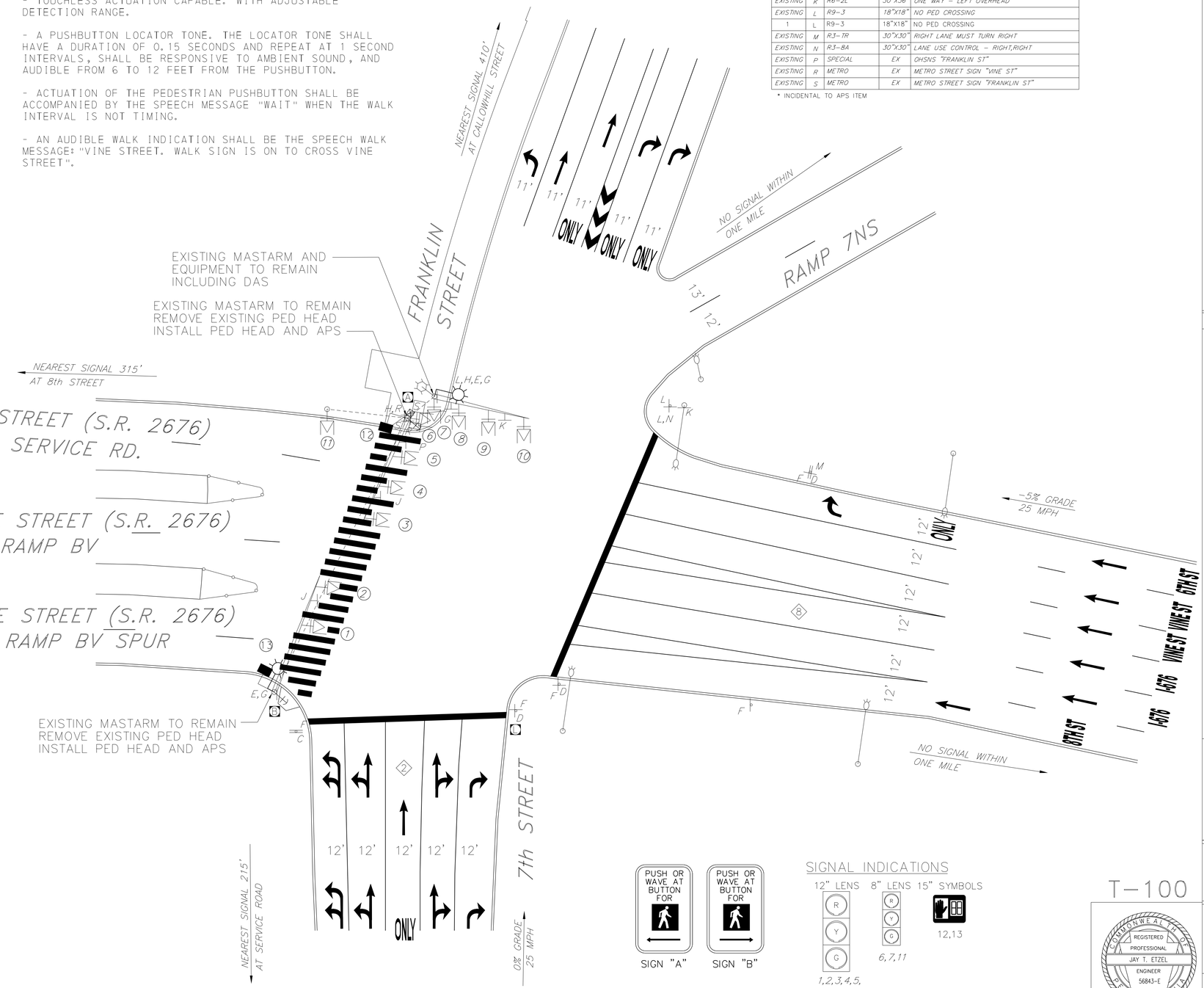
MATERIAL LIST

QUANTITY	DESCRIPTION
60 LF	TRAFFIC SIGNAL CABLE – 5 CONDUCTOR
2 EA	ACCESSIBLE PEDESTRIAN SIGNAL
2 EA	PEDESTRIAN SIGNAL HEAD
LS	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
2.25 SF	TRAFFIC SIGNS

SIGN TABULATION

QUANTITY	SYM	SERIES	SIZE	LEGEND
1	A	R10-3(MOD)*	9"X12"	PEDESTRIAN EDUCATION SIGN <--
1	B	R10-3(MOD)*	9"X12"	PEDESTRIAN EDUCATION SIGN -->
EXISTING	C	R3-8A	30"X30"	LANE USE CONTROL – LEFT, LEFT
EXISTING	D	R6-1L	36"X12"	ONE WAY – LEFT
EXISTING	E	R6-1R	36"X12"	ONE WAY – RIGHT
EXISTING	F	R5-1	30"X30"	DO NOT ENTER
EXISTING	G	SPECIAL	36"X36"	DON'T BLOCK THE BOX
EXISTING	H	R10-11	36"X36"	NO TURN ON RED
EXISTING	J	R6-2R	30"X36"	ONE WAY – RIGHT OVERHEAD
EXISTING	K	R6-2L	30"X36"	ONE WAY – LEFT OVERHEAD
EXISTING	L	R9-3	18"X18"	NO PED CROSSING
1	L	R9-3	18"X18"	NO PED CROSSING
EXISTING	M	R3-7R	30"X30"	RIGHT LANE MUST TURN RIGHT
EXISTING	N	R3-8A	30"X30"	LANE USE CONTROL – RIGHT,RIGHT
EXISTING	P	SPECIAL	EX	OHSNS "FRANKLIN ST"
EXISTING	R	METRO	EX	METRO STREET SIGN "VINE ST"
EXISTING	S	METRO	EX	METRO STREET SIGN "FRANKLIN ST"

* INCIDENTAL TO APS ITEM



NOTES:
1. NWC CORNER: REMOVE EXISTING PED HEAD. INSTALL PED HEAD AND APS. WIRE PER CITY OF PHILADELPHIA STANDARDS.

2. SWC CORNER: REMOVE EXISTING PED HEAD. INSTALL PED HEAD AND APS. WIRE PER CITY OF PHILADELPHIA STANDARDS.

3. REPLACE 5 CONDUCTOR TRAFFIC SIGNAL CABLES FOR ALL NEW SIGNAL HEADS. ANY DAMAGED SIGNAL CABLE IS TO BE REPLACED PER CURRENT CITY OF PHILADELPHIA STANDARDS.

4. PRIOR TO REMOVING TRAFFIC SIGNAL CABLE, TEST CONDUIT CONDITION. ANY CONDUITS THAT CANNOT BE USED SHALL BE REPAIRED AT THE DIRECTION OF THE CITY OF PHILADELPHIA STREETS DEPARTMENT.

5. RETURN ALL EXISTING EQUIPMENT THAT IS REMOVED TO THE CITY OF PHILADELPHIA TRAFFIC SIGNAL SIGN SHOP.

6. FINAL LOCATION OF ALL SIGNAL EQUIPMENT INCLUDING BUT NOT LIMITED TO SIGNAL POLES AND SIGNAL HEAD PLACEMENT SHALL BE CONFIRMED IN THE FIELD WITH THE CITY OF PHILADELPHIA STREETS DEPARTMENT PRIOR TO CONSTRUCTION.

7. ALL EXISTING SIGNAL EQUIPMENT AND SIGNAGE NOT NOTED FOR REMOVAL TO REMAIN.

8. REFRESH PAVEMENT MARKINGS (24" WHITE STOP BAR/GORE, 6" WHITE LANE LANES, LEGENDS AND ARROWS) ON EACH APPROACH WITHIN 100' OF INTERSECTION. PAVEMENT MARKING REFRESH WILL BE PERFORMED PER SITE PLAN C-300.

SIGN "A" SIGN "B"

SIGNAL INDICATIONS

12" LENS: R, Y, G — 1,2,3,4,5, 8,9,10

8" LENS: R, Y, G — 6,7,11

15" SYMBOLS: 12,13

N

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	–	–	1 OF 2

CITY OF PHILADELPHIA

REVISION NUMBER	REVISIONS	DATE	BY

TRAFFIC SIGNAL NOTES

DO NOT MODIFY INSTALLATION WITHOUT PRIOR WRITTEN APPROVAL.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ARE PART OF THE PERMIT. INSTALL AND MAINTAIN IN ACCORDANCE WITH PUBLICATION 202 AND CITY OF PHILADELPHIA TRAFFIC STANDARDS.

POST MOUNTED SIGNALS: INSTALL WITH A MINIMUM SIGNAL HEAD CLEARANCE OF 2 FEET BEHIND FACE OF CURB OR EDGE OF SHOULDER; AND 8 FEET ABOVE SIDEWALK OR PAVEMENT GRADE.

OVERHEAD SIGNALS: PROVIDE A MINIMUM SIGNAL HEAD CLEARANCE OF 16 FEET ABOVE ROADWAY; RIGIDLY MOUNT, TOP AND BOTTOM; AND EQUIP WITH BACKPLATES. PROVIDE A MINIMUM HORIZONTAL DISTANCE OF 8 FEET BETWEEN SIGNALS AS MEASURED AT RIGHT ANGLES TO THE APPROACH.

DETERMINE WITH A PENNDOT, CITY OF PHILADELPHIA REPRESENTATIVE THE EXACT LOCATION OF DETECTORS PRIOR TO INSTALLATION.

CONSULT WITH LOCAL OFFICIALS AND UTILITIES TO RESOLVE CONFLICTS PRIOR TO CONSTRUCTION.

COMPLY WITH PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

ALL TRAFFIC POST LOCATIONS SHALL BE CONFIRMED WITH THE CITY OF PHILADELPHIA PRIOR TO INSTALLATION.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
35'	35'	MASTARM / LENGTH
○	●	C-POST
⑦	⑦	SIGNAL HEAD/BACKPLATE/ IDENTIFYING NUMBER/LOUVERS
⑦	⑦	PEDESTRIAN SIGNAL HEAD/ IDENTIFYING NUMBER
1	1	JUNCTION BOX/ IDENTIFYING NUMBER
H	H	SIGN/ IDENTIFYING LETTER IDENTIFYING LETTER
		CURB RAMP
C/1"	C/1"	CONDUIT/SIZE
1	1	SUPPORT/POLE NUMBER
		STREET LIGHT POLE/LUMINAIRE
⊠		CONTROLLER
	②	PHASE
W/4"	W/4"	SOLID WHITE LINE/WIDTH
BW/4"	BW/4"	BROKEN WHITE LINE/WIDTH
BDWL/4"	BDWL/4"	BIKE DASHED WHITE LINE/WIDTH
Y/4"	Y/4"	SOLID YELLOW LINE/WIDTH
DY/4"	DY/4"	DOUBLE SOLID YELLOW LINE/WIDTH
		DISTRIBUTED ANTENNA SYSTEM (DAS)

COUNTY : PHILADELPHIA

MUNICIPALITY : CITY OF PHILADELPHIA

INTERSECTION : 7TH (FRANKLIN) STREET AND VINE STREET

REVIEWED :

MUNICIPAL OFFICIAL DATE

RECOMMENDED :

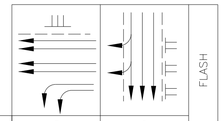
DISTRICT TRAFFIC ENGINEER DATE

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — JAY T. ETZEL — ENGINEER — 56843-E

SCALE: 20 0 20

T-100

MOVEMENT, SEQUENCE AND TIMING DIAGRAM



PHASE	8				6				FLASH
INTERVALS / SIGNALS	1	2	3	4	5	6	7	8	
1,2,3,4,5,6,7,8,9	G	G	Y	R	R	R	R	R	R
10,11,12,13	R	R	R	R	G	G	Y	R	R
14,15	M	FH	H	H	H	H	H	H	OFF
16,17,18,19	H	H	H	H	M	FH	H	H	OFF
FIXED TIME	37	12	3.5	2.0	5	24	3.5	3.0	

APS NOTES

SIGNAL SHALL BE EQUIPPED WITH ACCESSIBLE PEDESTRIAN SIGNALS (APS) WITH THE FOLLOWING FEATURES:

- ADA COMPLIANT PUSHBUTTON WITH LATCHING LED INDICATOR AND TONE.

- A TACTILE DIRECTIONAL ARROW ALIGNED PARALLEL TO THE CROSSING AND WHICH VIBRATES DURING THE WALK INDICATION.

- TOUCHLESS ACTUATION CAPABLE. WITH ADJUSTABLE DETECTION RANGE.

- A PUSHBUTTON LOCATOR TONE. THE LOCATOR TONE SHALL HAVE A DURATION OF 0.15 SECONDS AND REPEAT AT 1 SECOND INTERVALS, SHALL BE RESPONSIVE TO AMBIENT SOUND, AND AUDIBLE FROM 6 TO 12 FEET FROM THE PUSHBUTTON.

- ACTUATION OF THE PEDESTRIAN PUSHBUTTON SHALL BE ACCOMPANIED BY THE SPEECH MESSAGE "WAIT" WHEN THE WALK INTERVAL IS NOT TIMING.

- AN AUDIBLE WALK INDICATION SHALL BE THE SPEECH WALK MESSAGE: "8TH STREET. WALK SIGN IS ON TO CROSS 8TH STREET," OR "VINE STREET. WALK SIGN IS ON TO CROSS VINE STREET," AS APPLICABLE.

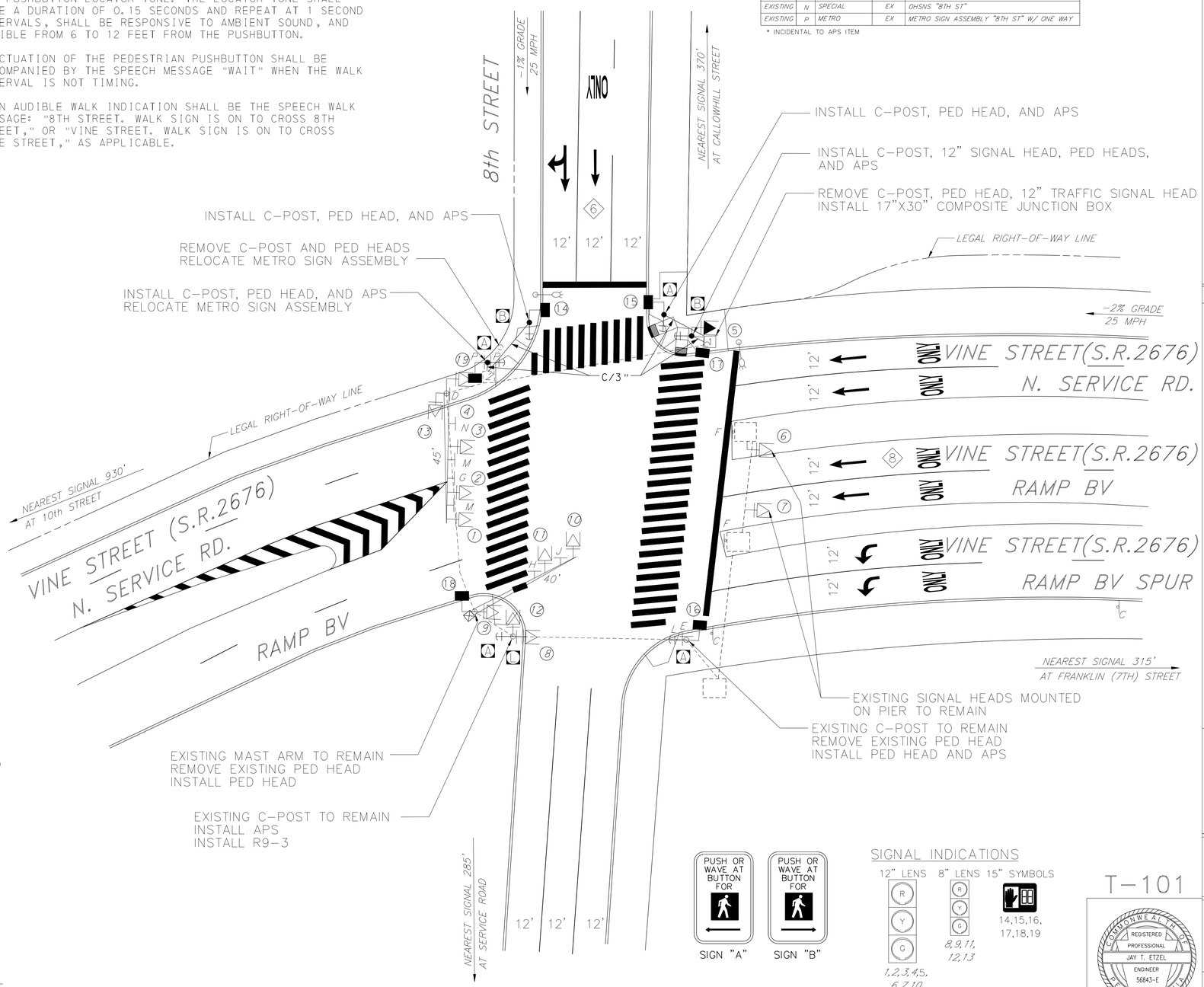
MATERIAL LIST

QUANTITY	DESCRIPTION
4 EA	20' C-POST
60 LF	3" PVC TRAFFIC SIGNAL CONDUIT
8 EA	3" PVC CONDUIT ELBOWS
320 LF	TRAFFIC SIGNAL CABLE - 5 CONDUCTOR
6 EA	ACCESSIBLE PEDESTRIAN SIGNAL
6 EA	PEDESTRIAN SIGNAL HEAD
1 EA	12" TRAFFIC SIGNAL HEAD
1 EA	17"X30" COMPOSITE JUNCTION BOX
55 LF	TRENCH AND BACKFILL, TYPE II
LS	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
2.25 SF	TRAFFIC SIGNS

SIGN TABULATION

QUANTITY	SYM	SERIES	SIZE	LEGEND
4	A	R10-3(MOD)*	9"X12"	PEDESTRIAN EDUCATION SIGN <--
2	B	R10-3(MOD)*	9"X12"	PEDESTRIAN EDUCATION SIGN -->
EXISTING	C	R3-8A	30"X30"	LANE USE CONTROL - LEFT, LEFT
EXISTING	D	R6-1L	36"X12"	ONE WAY - LEFT
EXISTING	E	R6-1R	36"X12"	ONE WAY - RIGHT
EXISTING	F	R5-1	30"X30"	DO NOT ENTER
EXISTING	G	SPECIAL	36"X36"	DON'T BLOCK THE BOX
EXISTING	H	R10-11	36"X36"	NO TURN ON RED
EXISTING	J	R6-2R	30"X36"	ONE WAY - RIGHT OVERHEAD
EXISTING	L	R9-3	18"X18"	NO PED CROSSING
1	L	R9-3	18"X18"	NO PED CROSSING
EXISTING	M	R3-3	36"X36"	NO TURNS
EXISTING	N	SPECIAL	EX	OHSNS "8TH ST"
EXISTING	P	METRO	EX	METRO SIGN ASSEMBLY "8TH ST" W/ ONE WAY

* INCIDENTAL TO APS ITEM



NOTES:
1. NEC CORNER : REMOVE EXISTING C-POST AND SIGNAL EQUIPMENT. INSTALL JB AT LOCATION OF EXISTING C-POST. INSTALL 2-20' C-POSTS WITH EQUIPMENT AS SHOWN. INSTALL 3" CONDUIT FROM NEW C-POSTS TO NEW JB. WIRE PER CITY OF PHILADELPHIA STANDARDS.

2. NWC CORNER: REMOVE EXISTING C-POST AND SIGNAL EQUIPMENT. INSTALL 2-20' C-POSTS WITH EQUIPMENT AS SHOWN. INSTALL 3" CONDUIT FROM NEW C-POSTS TO EXISTING JB. RELOCATE METRO SIGNS TO NEW C-POST. REPAIR SIDEWALK. WIRE PER CITY OF PHILADELPHIA STANDARDS.

3. SEC: EXISTING C-POST TO REMAIN. REMOVE EXISTING PED HEAD. INSTALL NEW PED HEAD AND APS. WIRE PER CITY OF PHILADELPHIA STANDARDS.

4. SWC: EXISTING C-POST AND MASTARM TO REMAIN. REMOVE EXISTING PED HEAD ON MASTARM AND INSTALL NEW PED HEAD. INSTALL APS ON C-POST.

5. REPLACE 5 CONDUCTOR TRAFFIC SIGNAL CABLES FOR ALL NEW SIGNAL HEADS. ANY DAMAGED SIGNAL CABLE IS TO BE REPLACED PER CURRENT CITY OF PHILADELPHIA STANDARDS.

6. PRIOR TO REMOVING TRAFFIC SIGNAL CABLE, TEST CONDUIT CONDITION. ANY CONDUITS THAT CANNOT BE USED SHALL BE REPAIRED AT THE DIRECTION OF THE CITY OF PHILADELPHIA STREETS DEPARTMENT.

7. RETURN ALL EXISTING EQUIPMENT THAT IS REMOVED TO THE CITY OF PHILADELPHIA TRAFFIC SIGNAL SIGN SHOP.

8. FINAL LOCATION OF ALL SIGNAL EQUIPMENT INCLUDING BUT NOT LIMITED TO SIGNAL POLES AND SIGNAL HEAD PLACEMENT SHALL BE CONFIRMED IN THE FIELD WITH THE CITY OF PHILADELPHIA STREETS DEPARTMENT PRIOR TO CONSTRUCTION.

9. ALL EXISTING SIGNAL EQUIPMENT AND SIGNAGE NOT NOTED FOR REMOVAL TO REMAIN.

10. REFRESH PAVEMENT MARKINGS (24" WHITE STOP BAR/GORE, 6" WHITE LANE LANES, LEGENDS AND ARROWS) ON EACH APPROACH WITHIN 100' OF INTERSECTION. PAVEMENT MARKING REFRESH WILL BE PERFORMED PER SITE PLAN C-300.

SIGN "A" SIGN "B"

SIGNAL INDICATIONS

T-101

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	-	-	2 OF 2

CITY OF PHILADELPHIA

REVISION NUMBER	REVISIONS	DATE	BY

TRAFFIC SIGNAL NOTES

DO NOT MODIFY INSTALLATION WITHOUT PRIOR WRITTEN APPROVAL.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ARE PART OF THE PERMIT. INSTALL AND MAINTAIN IN ACCORDANCE WITH PUBLICATION 202 AND CITY OF PHILADELPHIA TRAFFIC STANDARDS.

POST MOUNTED SIGNALS: INSTALL WITH A MINIMUM SIGNAL HEAD CLEARANCE OF 2 FEET BEHIND FACE OF CURB OR EDGE OF SHOULDER; AND 8 FEET ABOVE SIDEWALK OR PAVEMENT GRADE.

OVERHEAD SIGNALS: PROVIDE A MINIMUM SIGNAL HEAD CLEARANCE OF 16 FEET ABOVE ROADWAY; RIGIDLY MOUNT, TOP AND BOTTOM; AND EQUIP WITH BACKPLATES. PROVIDE A MINIMUM HORIZONTAL DISTANCE OF 8 FEET BETWEEN SIGNALS AS MEASURED AT RIGHT ANGLES TO THE APPROACH.

DETERMINE WITH A PENNDOT, CITY OF PHILADELPHIA REPRESENTATIVE THE EXACT LOCATION OF DETECTORS PRIOR TO INSTALLATION.

CONSULT WITH LOCAL OFFICIALS AND UTILITIES TO RESOLVE CONFLICTS PRIOR TO CONSTRUCTION.

COMPLY WITH PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

ALL TRAFFIC POST LOCATIONS SHALL BE CONFIRMED WITH THE CITY OF PHILADELPHIA PRIOR TO INSTALLATION.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
35'	35'	MASTARM/ LENGTH
○	●	C-POST
⑦	⑦	SIGNAL HEAD/BACKPLATE/ IDENTIFYING NUMBER/LOUVERS
⑦	⑦	PEDESTRIAN SIGNAL HEAD/ IDENTIFYING NUMBER
1	1	JUNCTION BOX/ IDENTIFYING NUMBER
H	H	SIGN/ IDENTIFYING LETTER IDENTIFYING LETTER
		CURB RAMP
C/1"	C/1"	CONDUIT/SIZE
1	1	SUPPORT/POLE NUMBER
		STREET LIGHT POLE/LUMINAIRE
⊠		CONTROLLER
	2	PHASE
W/4"	W/4"	SOLID WHITE LINE/WIDTH
BW/4"	BW/4"	BROKEN WHITE LINE/WIDTH
BDWL/4"	BDWL/4"	BIKE DASHED WHITE LINE/WIDTH
Y/4"	Y/4"	SOLID YELLOW LINE/WIDTH
DY/4"	DY/4"	DOUBLE SOLID YELLOW LINE/WIDTH

COUNTY : PHILADELPHIA

MUNICIPALITY : CITY OF PHILADELPHIA

INTERSECTION : 8TH STREET AND VINE STREET

REVIEWED :

MUNICIPAL OFFICIAL DATE

RECOMMENDED :

DISTRICT TRAFFIC ENGINEER DATE

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JAY T. ETZEL
ENGINEER
56843-E

SCALE: 20 0 20