ADDENDUM ACKNOWLEDGMENT

ADDENDUM NO. 01 **Dated: Jan. 13, 2023**
Opening Date: Jan. 20th, 2023 @3:00 pm

NOTICE

It is the sole responsibility of the bidder to ensure that it has received any and all Addenda and the Philadelphia Redevelopment Authority may in their sole discretion reject any bid for which all Addenda have not been executed and returned.

PROPOSAL FOR

Project No.: 16640E-01-02
Description: Ziehler Playground

IS AMENDED AS FOLLOWS:

1. **BID OPENING DATE: January 20th, 2023 @ 3:00 pm**
2. Amendments will be posted in **[http://www.phdcphila.org**]. Each Bidder shall ascertain prior to submitting a proposal that Bidder has received all Amendments issued and shall acknowledge their receipt in their proposal submission.
3. Attached **Pre-Bid Meeting Sign-in Sheet(s).** ***Jan. 3rd, 2023*** posted on site.
4. Attached are the Answers and/or Clarifications to questions submitted on or before **3:00 pm Friday January 6th 2023 by prospective Bidders.**
5. **Contract Document Revisions:**
   a. Spec Section 004114 CONSTRUCTION BID PROPOSAL Section Item #39 was renamed from "Site and Field Lighting" to "New Electrical Service & Building Power".
   b. Spec Section 312000 Earth Moving
   c. Drawing "C-301 Utility Plan – Sheet 1" was updated to show PECO connections.
   d. Drawing "E-0.0 Legend, Abbreviation & Notes" revised General Electrical Notes section.
   e. Drawing "E-0.1 Site Plan-Electrical" updated drawing notes # 5 and #6 and provided location of existing PECO Service Pole.
   f. Drawing "E-0.2 Site Plan-Details and Power Riser Diagram" updated notes # 3 & #4 revised to show location of pool equipment.
   g. Drawing "E-1.0 Existing Floor Plan – Electrical Demolition"
   h. Drawing "E-1.1 Proposed Floor Plan – Lighting Connection a New Work
   i. Drawing "E-1.2 Proposed Floor Plan Equipment Connections – Power New Work
   j. Drawing "E-1.3 Proposed Roof Plan – Electrical New Work
   k. Drawing "E-3.1 Schedule and Details" revised New Panels RP, SLP1 ASL2 and Detail Key Notes
   l. Drawing "EL-101 Field Lighting Plan"
   m. Drawing "EL-102 Site Light Plan"

Name of Firm: _____

Signature of Authorized Agent: _____

Date _____

Ziehler Playground RFP
Questions/RFIs:

1. The RFP contains a list of "Response Submission Requirements" that is similar, to but different from the items requested in Attachment F of the bid documents for download "Proposal Application Checklist". Which of these lists should be followed when submitting the proposal? If we are to follow the "Response Submission Requirements" please provide the attachments described within the list (Attachments I.b, c, d), (Attachment E, F, H), etc.

   ANSWER: Please follow and submit the list of documents outlined in Attachment F "Proposal Application Checklist."

2. Per instructions in the prebid meeting yesterday it is our understanding the proposal submission should be sent with all attachments to the following email address (RFP@phdc.phila.gov) rather than using the "online submission" link that appears on the PHDC website. Please confirm.

   ANSWER: Per the RFP, the responses will be accepted in the following manner: Online Submission – via the electronic portal on PHDC's website Online Submission – via the electronic portal on PHDC's website (http://www.phdcphila.org).

3. Where do electric service conduits run to for PECO service? Was a Service & Meter request filed for new service requirements from PECO? Civil Drawings do not show service excavation or "LOD" for new service.

   ANSWER: Service & Meter request is in the process of being filed. See Addendum 1 for note #2 on drawing E-0.1 identifying location of existing PECO Service Pole. Contractor shall field coordinate additional details with PECO Field Engineer. See Addendum 1 for updated drawing C-301 which shows service excavation within LOD.

4. Bid Proposal Form:
   a. Where is the cost for new electric service & building power get inserted?
   b. Where is the cost for Basketball Court Lighting inserted?
   c. Item 22 is Site Lights, Item 23 is Field Lights, Item 39 is Site Lights & Field Lights?

   ANSWERS:
   a. Item (39) will be renamed to 'New electrical service & building power'.
   b. Item (22) Furnishing and Installing Site Lights.
   c. Disregard (39) Site Lights and Field Lights and refer to answer (a.).

5. Drawing EL-502, Interior Lighting Notes #11: "Electrical Contractor shall use the field & basketball court lighting fixtures (Ephesus) being held by Colonial Electric on behalf of City of Philadelphia Parks & Recreation".
   a. Will fixtures be delivered to site or is contractor responsible to pick up?
   b. Do the fixtures have all required mounting hardware (2" slipfitter) for mounting?
   c. Does the Electrical Contractor pay Colonial for the fixtures or were they pre-purchased by the city?

   ANSWERS:

Ziehler Playground RFP
Questions/RFIs:

a. **Contractor is responsible to pick up fixtures. The City will coordinate location & timing of pick up.**
b. **Fixtures do not have required mounting hardware.**
c. **Fixtures were pre-purchased by the City.**

6. Do you have a Manu. And Model# for the Exit/Emergency Lights?

   ANSWER: Basis-of-design product is a vandal-resistant LED fixture w/battery backup, white finish, red text, metal housing: Lithonia Lighting LV-S-W-1-R-120/277-ELN for wall mounted applications and Lithonia Lighting LV-S-W-2-R-120/277-ELN for double-sided ceiling mount application.

7. Drawing E-1.1: What is the fixture type for Storage Rooms 11, 12 and 13?

   ANSWER: Lithonia Model CSS L48 4000LM MVOLT 40K 80CR.

8. Drawing E-0.2, "New Feed to Pool": Can you provide a drawing with location of pool equipment we are required to re-feed?

   ANSWER: Location of pool equipment in shown on revised electrical plans per Addendum 1. Verify on Civil Drawings.

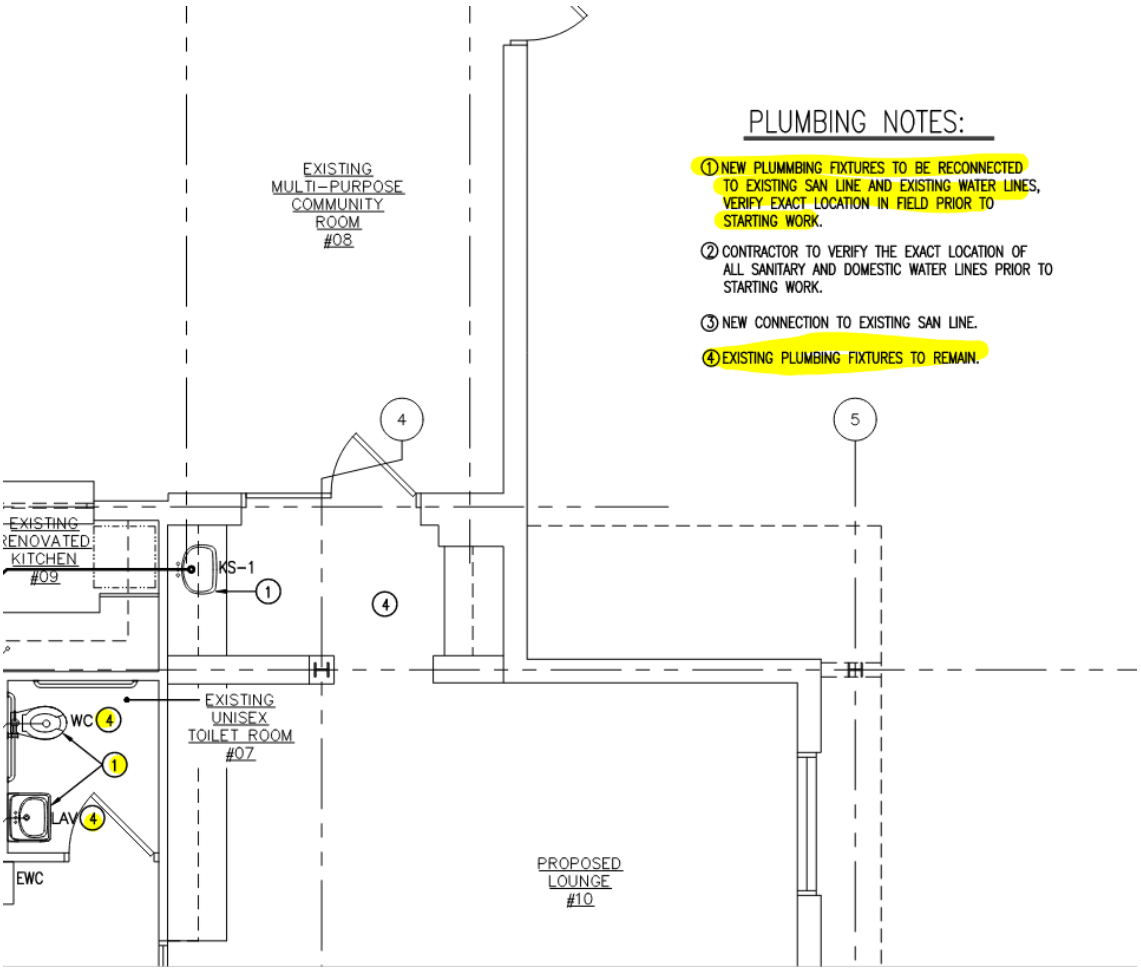
9. Drawings E-0.2 and E-3.1: Are the electric panels new as shown on E-0.2 or existing as shown on E-3.1?

   ANSWER: All Panels and Electrical Service Equipment will be new.

10. Please see below, notes 1 & 4 are contradictory; are the plumbing fixtures new or existing to remain? In the response to this question, if the answer is that the fixtures are new, please provide a fixture schedule, there is not one in the documents.

    ANSWER: Room #07 is existing. Plumbing fixtures are to remain and room to remain as unisex toilet room.

Ziehler Playground RFP
Questions/RFIs:



11. Do we include wiring for MK1, "Nighttime Safety Light" to poles shown with vandal lights? What size wiring and where do we connect? Will the City of Philadelphia Parks and Recreation supply these fixtures through Colonial Electric?

    ANSWER: Yes, Contractor to include wiring for MK1 lights. See Addendum 1 for drawing EL-101 for more information. PPR will not supply these fixtures through Colonial Electric.

12. Can you provide a specification for Electric Panels, TVSS, Safety Switch, Lighting Contactors, Key Switch, Stop/Start Pushbutton and Timers?

    ANSWER:

    a. **All Electrical Panels shall be Square D model NQ.**
    b. **Externally mounted TVSS (spd) type surge protection device, surgelogic, 120ka, 120/240 vac, 1 phase, 3 wire, NEMA 1. wire connections shown to nearest breaker for disconnect. Installation is possible on either side, top or bottom of the panel. Provide square D or equal by GE.**

c. **All Electrical Disconnect Switches shall be Square D brand rated for the respective locations used.**
d. **See Addendum 1. Contractor shall refer to drawing specification notes No. 46 and 47 on drawing E-0.0 for information concerning the Lighting Contactors, Key Switch, Stop/Start Pushbutton and Timers.**

13. Can you provide a manufacturer and model number for a 16-pole lighting contactor? I cannot find anyone who manufactures this product.

    ANSWER: See Addendum 1 for drawing E-0.0 for requested information.

14. Bid Form in attachment F has a difficult breakout for GC's to change their standard CSI formatted estimating sheets to your format. The architect has specified the job using a 32 Division CSI-MasterSpec format and the Bid Amount breakout is by project activities. This requires additional time to do the following:
    a. Prepare a 2nd estimating sheet to modify our estimate to your breakouts.
        i. Once we figure what is to be included in your breakouts, then we must notify our subcontractors to make sure they follow our interpretation of the breakouts.
        ii. This presents a problem to subcontractors as most bid to several GC's so they get differing requests from each GC.
        iii. Then the subs will have to make sure their subs & suppliers' breakout their numbers to match your line items.
    b. So, is it possible to extend the bid another week, to Jan 27th, to do this extra work, to make sure we provide you with our best bid breakdown?

    ANSWERS:
    a. No response needed.
    b. The bid period will not be extended.

15. The Schedule of 150 consecutive calendar days would mean if the NTP was on Feb 27, 2023 substantial completion would be July 7, 2023. This would be 102 (M-F) workdays. There could be several major problems to solve with this fast-track schedule, they are as follows.
    c. Currently it is difficult to estimate delivery times, before placing the order.
    d. There may not enough time in this schedule to submittal, approve, fabricate and deliver specified products to the job site with this schedule. For example we have had some electrical products with 6-12 month lead times.
    e. Also, if we have 30+ days of rain, during this time similar to last year, the schedule will not allow for these delays without extensive temporary protection costs.
    f. Also, we may have to looks at OT and second shifts to fast-track job to meet a 150-calendar day schedule, which could substantially increase our costs.
    g. This type of project would normally run 180 workdays or 250 calendar days with a typical schedule.
    h. So, is it possible to make the schedule 180 workdays in lieu of 150 calendar days?

    ANSWER: The project duration will be changed to 210 calendar days.

Ziehler Playground RFP
Questions/RFIs:

16. 012100 allowance is 2% for permit fees. Bid Form has 1%. Which is correct?

    ANSWER: Permit fee allowance is 1%.

17. 017419 Disposal does not include hazardous materials or materials requiring special handling.
    i. Can we assume any Hazardous Material and materials requiring special handling will be handled by Owner or a change order?
    j. If we are to provide Hazardous materials or materials requiring special handling, please specify materials to be removed and quantities.

    ANSWER: Assumed no hazardous materials on site. Demolition within building may encounter asbestos containing materials within the demolition scope within existing insulations / finishes, etc. If such materials are encountered and require disturbance, removals are to be executed via change order.

18. 024119-1 Selective Demolition 1.5 A. specifies landfill records …. Acceptance of hazardous wastes. Are we to include disposal of any hazardous waste or materials requiring special handling? If so, please identify type, location, and quantities.

    ANSWER: Assumed no hazardous materials on site. Quantities of hazardous materials in existing building are unknown. Demolition may encounter asbestos containing materials within the demolition scope within existing insulations / finishes, etc. If such materials are encountered and require disturbance, removals are to be executed via change order.

19. There are two Green Stormwater specifications. One is in the Attachment-B-General Conditions, and one is in Attachment- C-Technical specification. Should these two be combined?

    ANSWER: Attachment B was included in the General Conditions portion of the project specifications and Attachment C was included in the Technical Spec portion of the project specifications. Attachment B includes all General Conditions related to the GSI work and Attachment C includes all Technical Specs related to the GSI work. While these are typically together, they were split up to better align with the overall project specifications.

20. Attachment A 000110-4 notes “Part 2 – Specification for Construction of Green Stormwater “. I don’t see any Part 2 spec. What does Part 2 represent? The Table of Contents 000120-2 specifies Part 2 PWD-Zeihler – Green Master Specs (General Conditions). Does Part 2 represent a summary of all the PWD plans & specs included or are there other documents included in this Part2? Please clarify.

    Part 2 is not represented within Attachment A. Please refer to Attachment C, page 502 for Part 2 PWD Requirements for Bidding. Because this project is funded by multiple City agencies, there are separate bidding requirements for both Rebuild & PWD and Bidders must comply with both.

Ziehler Playground RFP
Questions/RFIs:

21. When we do bid items 4, 5, 6, 7 & 8, I am assuming we need to include all repair work to repair areas disturbed. Are there any plans or details showing these repairs? Where are these costs to be included on the bid breakdown?

    ANSWER: Please refer to Spec Section 0011200 for what work is included as part of bid items 4,5,6,7 and 8.

22. The Appendix attached to the PWD tech specs are not legible. If we are to include any of this work, please provide legible documents.

    ANSWER: Appendix B and F were not legible. Legible version has been provided.

23. Where 076200 & 077100 specifies either stainless-steel or Alum flashings, is this Contractor's choice or Arch/Owner choice? If this is an Owner/Architect choice, can you specify which flashing is acceptable and at which locations?

    ANSWER: Aluminum flashings are not to be used in any exposed applications due to vandalism/theft concerns - use stainless steel material instead. Where new standing seam roofing edges require flashing transitions, use standing seam system materials.

24. Are there any SS windows, doors or frames included? If not, why is there a spec for them? If there are SS doors & frames, are specified manufactures standard details for the Stainless Steel doors & frames acceptable or are you expecting the SS doors and frames to be custom manufactured to meet exact Architectural specifications and details.

    ANSWER: Exterior entrance door #00 is to be a stainless steel door and frame. Manufacturer's standard assemblies are acceptable. Clarifications provided on A6.00.

25. On A6.00 does any of the glazing shown on the elevations as ¼" tempered (& specified as 2406.2 impact rated) required to be fire rated?

    ANSWER: No glazing is proposed to be fire rated.

26. Decorative glass 088113 specifies a decorative film overlay. Where is this film to be used?

    ANSWER: (2) Existing windows in Women's Toilet Room #03 require a translucent film application for privacy. See notes on A1.00 and A2.00.

27. Can we assume that the new specified door hardware will fit the existing doors & frames? If not which doors or framed will need to be modified?

    ANSWER: Though we attempted to select door hardware that should be able to fit the existing doors and frames with little to no modification, we cannot guarantee the compatibility of the new products with the existing, and therefore all of the hardware selected will need to be field verified for compatibility prior to ordering.

Ziehler Playground RFP
Questions/RFIs:

28. How much regulated fill are we to dispose and import clean fill in our bid? Or shall we assume all soils excavated on site to be removed as regulated or unsuitable materials?

    ANSWER: Suitable excavated fill may be reused onsite.

29. We are assuming we are not including any contaminated soils removal, but you want all soils materials tested by the GC to determine soils conditions per 312000.

    ANSWER: Specification 312000 has been revised per Addendum 1.

30. Do you want rock or soils excavation unit prices included in the bid as specified in 312000 or do you want to negotiate it with a change order if conditions are encountered?

    ANSWER: Negotiate with change order if conditions are encountered.

31. Is there length of time and specification for landscaping & rain garden maintenance.

    ANSWER: Maintenance period for landscaping not related to PWD rain gardens is twelve (12) months from date of installation. See specification 329200, section 1.14 for more information. Maintenance period for PWD rain gardens is eight (8) weeks from date of installation. See specification 02900, section 1.15 for more information.

32. A1.00 shows an Add Alternate in the Proposed Gym #01.
    k. Are we to include any work for this add alternate?
    l. If so, what we are to include in the bid and where does it go on the bid form?

    ANSWER: For the Proposed Gym #01, An 18'x18' low profile boxing ring package is to be priced out as an add alternate. This add alternate is for provision of equipment and installation/setup only. The base bid does not include this item.

33. Do steel beams to be cut require repairs or structural supports?

    ANSWER: As shown on drawings AD2.00 and AD2.01, portions of the steel beams are required to be cut, the steel beams between the existing structure and new proposed salvaged canopy are to be cut and removed. The existing structure to be left in place does not require repairs, or support, provided the steel is demolished per the drawings. The canopy steel to be salvaged, strengthened and re-installed is shown on the structural drawings (S1). If temporary shoring is required during the removal of the steel, it is considered means and methods and part of the contractor's responsibility as noted in the General Structural Notes.

34. What are the requirements for salvaging the SS fascia panels? Are they to be stored for Owners reuse somewhere else or reused on this project?

Ziehler Playground RFP
Questions/RFIs:

ANSWER: The intention for salvaging existing undamaged stainless steel fascia panels was to provide a cladding material for the underside of the proposed overhangs, matching the existing overhangs that remain. However, it is likely to be more cost effective to provide a new finish rather than attempt to salvage this material, especially since much of it was damaged. As such, the base proposal is to provide a new fiberglass finish to clad the underside of the canopy. The contractor will be permitted to use the existing stainless material as an option, if it is determined to be feasible. Drawings AD2.00, AD2.01, and A1.10 have been revised to include this additional information.

35. Sheet AD1.00 says the existing columns and beams at the future canopy are to remain. Sheet S1 says the same columns get removed, reinforced and reinstalled. What scope are we to include in our bid?

    ANSWER: The columns are to be salvaged, reinforced, and reinstalled per structural drawing S1. Note that in addition, the existing foundations are to be demolished and new foundations installed.

36. Do the steel columns and beams shown on Sheet S1 get painted?

    ANSWER: All existing steel columns and beams to receive paint. See general notes on A2.00 and A2.01.

37. Note 17.F on Sheet C-112 says to perform infiltration testing if testing was deferred until construction. Has infiltration testing been done or do we need to include it in our price?

    ANSWER: Infiltration testing has already been done.

MATCHLINE SEE SHEET C-302

CLARKSON AVENUE
(12' - 36' - 12')
(60 FEET WIDE R.O.W.)
ON CITY PLAN, LEGALLY OPEN

OLNEY AVENUE
(S.R. 4004)
(12' - 36' - 12')
(60 FEET WIDE R.O.W.)
ON CITY PLAN, LEGALLY OPEN

"B" STREET
(12' - 36' - 12')
(60 FEET WIDE R.O.W.)
ON CITY PLAN, LEGALLY OPEN

GALE STREET
(12' - 26' - 12')
(50 FEET WIDE R.O.W.)
ON CITY PLAN, LEGALLY OPEN

PARCEL #140906-0018
CHARLES J. ZIEHLER PLAYGROUND
200 E OLNEY AVE, PHILADELPHIA, PA 19120
OPA 785373100
LANDS N/F
CITY OF PHILADELPHIA ZIEHLER RECREATION CENTER

13 LF ELECTRICAL CONDUIT

79 SF LIMIT OF DISTURBANCE

WALKWAY LIGHT, TYP.
SEE LIGHTING PLAN

FIELD LIGHT POLE, TYP.
SEE LIGHTING PLAN

20 LF ELECTRICAL CONDUIT

55 LF ELECTRICAL CONDUIT

557 LF ELECTRICAL CONDUIT

ELECTRICAL CONDUIT TO NEW LIGHTS
SEE LIGHTING PLANS FOR FIXTURE TYPES

40,171 SF TOTAL ONSITE LIMIT OF DISTURBANCE

1001 SF TOTAL ROW LIMIT OF DISTURBANCE

STORAGE TRENCH

RAIN GARDEN 1

RAIN GARDEN 2

CONNECT TO ELECTRIC IN BUILDING

1196 LF ELECTRICAL CONDUIT

53 LF ELECTRICAL CONDUIT

3 LF ELECTRICAL CONDUIT

SEE STORMWATER PLANS

5 LF ELECTRICAL CONDUIT

8 LF ELECTRICAL CONDUIT

8 LF ELECTRICAL CONDUIT

186 LF ELECTRICAL CONDUIT

114 LF ELECTRICAL CONDUIT

UTILITY CONNECTION #1
85 LF 15" VCP STORM
SEWER LINE @ 9.3% SLOPE

28 LF ELECTRICAL CONDUIT

13 LF ELECTRICAL CONDUIT

CONTRACTOR TO FOLLOW EXISTING ELECTRICAL CONDUIT BACK TO CONNECTION POINT. ACTUAL CONNECTION POINT SHOWN IS ASSUMED. CONTRACTOR TO VERIFY. CONNECT TO EXISTING UTILTIY POLE. SEE ELECTRICAL PLANS.

NOTE:

LOCATIONS OF EXISTING UTILITY SERVICES TO BUILDING UNKOWN. MAINTAIN ALL EXISTING UTILITY SERVICES TO THE BUILDING INCLUDING GAS, SANITARY SEWER, ROOF DRAINAGE, ELECTRIC, ETC. NOTIFY PROJECT MANAGER IF CONFLICTS ARE FOUND IN THE FIELD.

LEGEND

- LOD — LIMIT OF DISTURBANCE
- PROPOSED SANITARY CLEANOUT
- PROPOSED ELECTRIC LINE
- SAN — SAN — PROPOSED SANITARY SEWER
- GREEN HIGHWAY GRATE INLET
- SHALLOW GREEN CITY INLET
- PERFORATED HDPE PIPE
- SOLID PIPE

MK	▲	POLE-MOUNTED 8 HEAD 'LIGHTS-ON
MK1		NIGHTTIME SAFETY LIGHT
MN	▫	PEDESTRIAN SCALE WALKWAY-SINGLE HEAD ON 12' POLES
MNP	▫	WALKWAY LIGHT POLE 12'

N

20 0 20 40
1 INCH = 20 FEET

PWD TRACKING NUMBER: FY21-ZIEH-6284-01

CLIENT:
PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
200-64 E. OLNEY AVENUE
PHILADELPHIA, PA 19120

PROJECT NUMBER:
16640E-01-02

PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:
.\XR-SALT-LOGO.jpg
161 LEVERINGTON AVE, SUITE 1005
PHILADELPHIA, PA 19127
www.saltdesignstudio.com

CIVIL ENGINEERING:
MELIORA DESIGN
259 MORGAN STREET
PHOENIXVILLE, PA 19460
www.melioradesign.com

ARCHITECTURE:
IAN SMITH DESIGN GROUP
322 E. THOMPSON STREET
PHILADELPHIA, PA 19125
www.is-dg.com

LIGHTING DESIGN:
MILLER DESIGN GROUP
www.millerdesigngrouplighting.com

MEP DESIGN:
MARK ULRICK ENGINEERS, INC.
622 COOPER STREET, #200
CAMDEN, NJ 08102
www.markulrick.com

STRUCTURAL ENGINEERING:
D'HUY ENGINEERING, INC.
1 EAST BROAD STREET, SUITE 310
BETHLEHEM, PA 18018
www.dhuy.com

DRAWING PHASE:
ISSUE FOR BIDDING

SEAL:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ALTJE M MACY
ENGINEER
No. PE089399

SHEET TITLE:
UTILITY PLAN - SHEET 1

REV	DATE	DESCRIPTION
01	01/13/23	ADDENDUM 1

SCALE: AS NOTED
DATE: 08/15/2022
DRAWN BY: MJR, MAD
CHECKED BY: AMM

SHEET NUMBER:
C-301

SALT DESIGN STUDIO FILE NO.:
2003

ELECTRICAL LEGEND

X-1	HOMERUN TO DESIGNATED PANEL IN MINIMUM 3/4" CONDUIT WITH AN INSULATED GROUND WIRE. U.O.N. "X-1" INDICATES PANELBOARD AND CIRCUIT NO. RESPECTIVELY.
	CIRCUIT (IN MINIMUM 3/4"C. UON) CONCEALED IN WALL OR ABOVE CEILING WITH MINIMUM INSULATED GROUND WIRE (MINIMUM #12 AWG, UON) FOR EACH CONDUIT RUN #12 AWG WIRE. NO. OF HATCHES INDICATE NO. OF PHASE & NEUTRAL WIRES.
	20A, 125V, 2P, 3W GROUNDING TYPE COMBINATION DUPLEX RECEPTACLE WITH 2 USB POWER PORTS IN SUITABLE CONCEALED WALL MOUNTED BOX, MH 18" AFF, UON.
	20A, 125V, 2P, 3W GROUNDING TYPE COMBINATION DUPLEX RECEPTACLE WITH 2 USB POWER PORTS MOUNTED 8" ABOVE THE COUNTERTOP.
+	20A, 125V, 2P, 3W GROUNDING TYPE COMBINATION DUPLEX RECEPTACLE WITH 2 USB POWER PORTS IN SUITABLE CONCEALED WALL BOX MOUNTED 34" AFF.
	DOUBLE DUPLEX 20A, 125V, 2P, 3W GROUNDING TYPE COMBINATION RECEPTACLE WITH 2 USB POWER PORTS IN SUITABLE CONCEALED WALL MOUNTED BOX, MH 18" AFF, UON.
	20A, 125V, 2P, 3W GFCI TYPE RECEPTACLE MH=18" AFF, UON, OUTDOOR.
	PROVIDE DATA OUTLET IN CONCEALED WALL BOX. MH=18" AFF., U.O.N. PROVIDE EMPTY 3/4" C WITH NYLON PULL LINE. FROM OUTLET BOX UP TO MINIMUM 12" ABOVE CEILING.
	TELEPHONE OUTLET IN CONCEALED WALL BOX, MH=18" AFF. PROVIDE EMPTY 3/4" C WITH NYLON PULL LINE. FROM OUTLET BOX UP TO MINIMUM 12" ABOVE CEILING. INDICATES TWO VOICE OUTLETS AND ONE DATA OUTLET.
2/40	DISCONNECT SWITCH IN NEMA TYPE-1 ENCLOSURE, NONFUSED, LOCKABLE HANDLE, AMP/VOLTAGE/POLE AS NOTED ON DRAWING. (2 POLE 60 SWITCH 40A FUSES)
	SINGLE SPECIAL RECEPTACLE. TYPE AS NOTED M.H.= 1'-6" AFF UNLESS NOTED OTHERWISE
	PANELBOARD 120/208V. WALL MOUNTED. TOP CB IN PANEL SHALL BE MAXIMUM 72" AFF.
M	FRACTIONAL HORSE POWER MANUAL STARTER SWITCH MELTING ALLOY TYPE THERMAL OVERLOAD, 2 POLES, 125V WITH RED PILOT LIGHT IN NEMA 3R ENCLOSURE, WALL MOUNTED AT 48"AFF.
	COMBINATION MAGNETIC MOTOR STARTER. FURNISHED BY MECHANICAL, INSTALLED BY ELECTRICAL.
1	DENOTES DRAWING NOTES.
A	RECESSED LIGHTING FIXTURE. LETTER DESIGNATIONS CORRESPOND TO LIGHTING FIXTURE SCHEDULE. CROSS HATCHING IN FIXTURE INDICATES A FIXTURE ON AN EMERGENCY CIRCUIT.
A	WALL MOUNTED LIGHTING FIXTURE. LETTER DESIGNATIONS CORRESPOND WITH LIGHTING FIXTURE SCHEDULE.
	UNIVERSAL MOUNTED EMERGENCY EXIT SIGN, CEILING MOUNTED, WALL MOUNTED.
	SELF CONTAINED EMERGENCY LIGHTING – SINGLE HEAD UNIT , DUAL HEAD UNIT
A	2'X2' LED FIXTURE. LETTER DESIGNATIONS CORRESPOND TO LIGHTING FIXTURE SCHEDULE.
	2'X4' LED FIXTURE. LETTER DESIGNATIONS CORRESPOND TO LIGHTING FIXTURE SCHEDULE.
J	JUNCTION BOX.
A	LED FIXTURE. LETTER DESIGNATIONS CORRESPOND TO LIGHTING FIXTURE SCHEDULE.
X	4' LED FIXTURE. DIAGONAL LINE INDICATED FIXTURE WITH INTEGRAL BATTERY PACK. UPPER CASE LETTER DESIGNATIONS CORRESPOND TO LIGHTING FIXTURE SCHEDULE.
M	ELECTRICAL MOTOR
EF	EXHAUST FAN
	RESIDENTIAL SMOKE/CARBON MONOXIDE DETECTOR WITH DUAL VOLTAGE 120V,1ø.
SD	SMOKE DETECTOR, CEILING MOUNTED.
HD	HEAT DETECTOR, CEILING MOUNTED.
EM	ELECTRIC COMPANY METER.
AV F	FIRE ALARM AUDIO/VISUAL DEVICE WALL MOUNTED MH=72"AFF.
AV F	COMBINATION FIRE ALARM PULL STATION WITH AUDIO/VISUAL DEVICE. PULL STATION MH=48"AFF, AUDIO/VISUAL DEVICE MH=72" AFF.
F M	FIRE ALARM PULL STATION, MOUNTING HEIGHT = 48" AFF.
FS F	WATER FLOW SWITCH.
TS	WATER TAMPER SWITCH.
FAAP F	FIRE ALARM GRAPHIC ANNUCIATOR PANEL MH = 72" TO TOP OF PANEL.
FACP	FIRE ALARM CONTROL PANEL, MH=72" TO TOP OF PANEL 8 ZONES, 120V.1ø, (EXPANDABLE TO 32 ZONES). ALL WIRING ACCESORIES SHALL BE PROVIDED PER MANUFACTURER'S INSTRUCTIONS. FACP SHALL BE SIMPLEX- MODEL #4005 OR EQUIVALENT. CONTRACTOR SHALL PROVIDE SHOP DRAWING WITH ALL WIRING & ACCESSORIES PER NFPA 72 FOR APPROVAL.
DD	DUCT SMOKE DETECTOR
	TELEPHONE BACKBOARD, 3/4"THK. X 48"W. X 48"H. U.O.N.
DD	20A, 125V, 2P, 3W GROUNDING TYPE COMBINATION DUPLEX RECEPTACLE WITH 2 USB POWER PORTS IN SUITABLE CONCEALED FLUSH FLOOR BOX

GENERAL ELECTRICAL NOTES

1. ALL ELECTRICAL MATERIAL AND INSTALLATION SHALL BE IN CONFORMITY WITH THE APPLICABLE CURRENT STANDARDS, RULES, REGULATIONS, AND SPECIFICATIONS OF THE FOLLOWING AUTHORITIES:
–NFPA 70 (NATIONAL ELECTRICAL CODE)
–NFPA 101 (LIFE SAFETY CODE)
–NBFU (NATIONAL BOARD OF FIRE UNDERWRITERS)
–ADA (AMERICANS WITH DISABILITIES ACT)
–NEMA (NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION)
–IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
–ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
–ALL LOCAL AUTHORITIES HAVING JURISDICTION

2. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS AS REQUIRED TO MEET THE DESIGN INTENT OF THESE DOCUMENTS. COORDINATE WITH FIELD CONDITIONS AT THE JOB SITE AND ALL OTHER TRADES TO DETERMINE ALL ELECTRICAL CONNECTIONS THAT MAY BE REQUIRED. ALL ELECTRICAL MATERIAL AND WORK SHALL HAVE A MINIMUM ONE YEAR GUARANTEE PERIOD TO BEGIN AT THE DATE OF FINAL ACCEPTANCE BY THE OWNER.

3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS AND INSPECTIONS FROM THE AUTHORITY HAVING JURISDICTION.

4. ALL WIRING INSTALLED WITHIN A RETURN AIR PLENUM SHALL BE RATED FOR SUCH AN APPLICATION.

5. INSTALL CONDUIT AND JUNCTION BOXES CONCEALED IN FINISHED SPACES.

6. ALL EQUIPMENT SHALL BE UL LISTED AND LABELED.

7. ALL CONDUCTORS SHALL BE IDENTIFIED. ALL CONDUCTORS SHALL BE COPPER WITH 600V INSULATION. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID COPPER WITH TYPE THWN/THHN INSULATION. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED COPPER WITH TYPE THWN/THHN INSULATION RATED AT 90°C. AMPACITY OF CONDUCTORS SHALL BE AT 75°C RATING OR RATING OF TERMINATION, WHICHEVER IS LESS.

8. ELECTRICAL CONTRACTOR MAY UTILITZE TYPE MC CABLE IN LIEU OF CONDUIT AND WIRE IN INTERIOR, DRY, FURRED LOCATIONS WHEN PERMITTED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

9. PROVIDE "HACR" CIRCUIT BREAKERS FOR HVAC EQUIPMENT.

10. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING FOR CORRECT PHASING WITHIN THE PANELS THEMSELVES. DO NOT INSTALL MORE THAN (3) SINGLE PHASE CIRCUITS WITHIN ANY ONE CONDUIT. AT COMPLETION OF WORK, ALL PANELS SHALL BE LOAD BALANCED UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANEL DIRECTORY FOR ALL PANELBOARDS. DIRECTORY SHALL INCLUDE TYPE OF LOAD SERVED AND ROOM NUMBERS OF CIRCUIT LOCATION.

11. THE QUANTITY OF WIRES FOR CIRCUITS SHALL BE AS INDICATED AT THOSE AREAS WHERE CLARIFICATION IS REQUIRED IN ORDER TO INSURE THE PROPER OPERATION OF THE SYSTEM.

12. WIRING SHALL BE #12 AWG MINIMUM UNLESS OTHERWISE INDICATED. CONDUIT SHALL BE EMT WITH COMPRESSION FITTINGS, 3/4" MINIMUM SIZE UNLESS OTHERWISE INDICATED.

13. COORDINATE ALL LIGHT FIXTURE TYPES WITH THE LIGHTING CONSULTANT DRAWINGS. SHOULD THERE BE A DISCREPANCY BETWEEN THESE DRAWINGS, CONTACT THE ARCHITECT PRIOR TO THE PURCHASE OF ANY FIXTURES. VERIFY FIXTURE COMPATIBILITY WITH FINISHES. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION IMMEDIATELY.

14. THE ELECTRICAL PLANS ARE DIAGRAMMATIC IN NATURE; DIMENSIONS SHOWN ARE AT A MINIMUM. ALL WRITTEN DIMENSIONS ON THESE PLANS SHALL TAKE PRIORITY OVER SCALED DIMENSIONS. CONTACT ARCHITECT SHOULD THERE BE ANY DISCREPANCIES BETWEEN WHAT IS SHOWN ON THE PLANS AND WHAT EXISTS IN THE FIELD PRIOR TO COMMENCEMENT OF WORK. SHOULD EXACT DIMENSIONS BE REQUIRED, REFER TO THE ARCHITECTURAL PLANS.

15. MOUNTING HEIGHTS OF DEVICES, UNLESS NOTED OTHERWISE, ARE TO THE CENTERLINE OF THE EQUIPMENT. THE EXCEPTION TO THIS IS LIGHTING FIXTURES. MOUNTING HEIGHTS INDICATED ARE TO THE BOTTOM OF THE FIXTURE. COORDINATE ALL MOUNTING HEIGHTS OF THE VARIOUS DEVICES IN ORDER TO PROVIDE FOR A FINAL INSTALLATION THAT IS CONSISTENT THROUGHOUT THE SPACE.

16. ANY CUTTING AND PATCHING SHALL BE PERFORMED IN A MANNER THAT IS ACCEPTABLE TO THE ARCHITECT AND SHALL MATCH THE SURROUNDING SURFACES.

17. VERIFY DOOR SWINGS PRIOR TO LIGHT SWITCH INSTALLATION. GENERALLY, INSTALL SWITCHES ON LATCH SIDE OF DOOR.

18. GANG MULTIPLE SWITCHES UNDER ONE COVER PLATE.

19. COORDINATE WITH THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL OUTLETS, SWITCHES, AND LIGHTING FIXTURES. DO NOT USE ENGINEERING PLANS FOR LOCATING DEVICES. SHOULD A CONTRACTOR PLACE A DEVICE BASED ON THE ENGINEER'S PLANS AND IT IS NOT LOCATED AS PER THE ARCHITECT'S PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS RELOCATION AT HER/HIS COST.

20. OUTLET BOXES SHALL BE INSTALLED SUCH THAT THEY ARE NOT BACK-TO-BACK; PROVIDE AN 8" MINIMUM OFFSET. ALL ELECTRICAL OUTLETS SHALL HAVE A TAG BEHIND THE COVERPLATE INDICATING THE PANELBOARD AND CIRCUIT NUMBER FROM WHICH THEY ARE FED.

21. ELECTRICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PROPOSED EQUIPMENT. IF APPROVED SUBMITALS ARE FOR EQUIPMENT THAT DIFFERS FROM WHAT WAS SPECIFIED BY THE DESIGN ENGINEER, THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR INSURING THAT THIS EQUIPMENT IS EQUIVALENT TO THE ORIGINAL SPECIFIED EQUIPMENT AND ANY ADDITIONAL WORK OR COST AS A RESULT OF USING DIFFERING EQUIPMENT SHALL BE ABSORBED BY THE CONTRACTOR.

22. THE ELECTRICAL SYSTEM SHALL BE FULLY GROUNDED; PROVIDE SEPARATE GROUND WIRE IN FEEDER AND EACH BRANCH CIRCUIT WHETHER INDICATED ON THE PLANS OR NOT.

23. WIRING FOR 20A BRANCH CIRCUITS SHALL BE SIZED AS INDICATED BELOW.

120V		277V	
CIRCUIT LENGTH (FT.)	AWG	CIRCUIT LENGTH (FT.)	AWG
0–75	#12	0–150	#12
75–150	#10	151–300	#10
151–200	#8	301–400	#8

24. WORK AREA SHALL BE LEFT CLEAN AT THE END OF EACH BUSINESS DAY.

25. ALL PENETRATIONS OF FIRE RATED WALL ASSEMBLES SHALL BE PROTECTED WITH AN APPROVED FIRESTOP SYSTEM OR IN ACCORDANCE WITH IBC SECTION 712.3.1 WHERE APPLICABLE.

26. ALL PANELBOARD BUSSES AND GROUND BARS SHALL BE COPPER. BUS BAR SIZE SHALL BE BASED ON CURRENT DENSITY OF 1000A PER SQUARE INCH OF CROSS SECTIONAL AREA. PANELBOARDS SHALL BE FULLY RATED. CIRCUIT BREAKER SHALL BE BOLT ON TYPE. SUB-FEED CIRCUIT BREAKERS ARE NOT ACCEPTABLE. ALL PANELBOARDS SHALL BE SQUARE D TYPE "NQ" IN NEMA 1 ENCLOSURE OR EQUAL BY GE.

27. ALL DISCONNECT SWITCH CURRENT CARRYING COMPONENTS SHALL BE COPPER AS MANUFACTURED BY SQUARE D OR EQUAL BY GE.

28. THE CONTRACTOR SHALL VERIFY THAT ALL THE LIGHTING FIXTURES, RECEPTACLES, DEVICES, WIRING, EQUIPMENT, AND THEIR INSTALLATION COMPLY WITH ALL THE NEC AND LOCAL CODE REQUIREMENTS FOR THE TYPE OF CONSTRUCTION AND OCCUPANCY REQUIREMENTS FOR THIS PROJECT. PROVIDE HANGERS AS REQUIRED BY CODE.

29. THE CONTRACTOR SHALL FURNISH AND INSTALL THE LIGHTING FIXTURES AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLAN. IF THERE IS NO ARCHITECTURAL REFLECTED PLAN, CONTRACTOR SHALL COORDINATE LOCATION OF FIXTURES SHOWN ON THE ELECTRICAL PLANS WITH ARCHITECT AND OTHER TRADES AND FIELD CONDITIONS.

30. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL LAMPS REQUIRED (ALL LAMPS FOR SIMILAR FIXTURES SHALL MATCH). VERIFY MANUFACTURER AND MODEL OF BASE BUILDING FIXTURES WITH THE BUILDING OWNER'S REPRESENTATIVE.

31. THE FINAL LOCATION OF SWITCHES, OUTLETS AND OTHER DEVICES SHALL BE FIELD COORDINATED AND SHALL MEET ALL LOCAL CODE REQUIREMENTS (INCLUDING ALL HANDICAPPED CODES AND ADA REQUIREMENTS).

32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING ALL CIRCUITS, LIGHTING FIXTURES, OUTLETS AND ALL OTHER DEVICES FOR THEIR PROPER OPERATION (INCLUDING ALL GROUNDING).

33. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND PERFORMING ALL TEST AND INSPECTIONS REQUIRED BY THE LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.

34. THE CONTRACTOR SHALL REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ALL LIGHTING FIXTURES, RECEPTACLES, DEVICES AND EQUIPMENT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL HARDWARE, PARTS, AND ACCESSORIES REQUIRED FOR THEIR PROPER INSTALLATION AND OPERATION (INCLUDING ALL PARTS, ACCESSORIES, AND SAFETY DEVICES REQUIRED BY CODE).

35. THE CONTRACTOR SHALL REFER TO ALL DRAWINGS, DETAILS, AND SPECIFICATIONS RELATED TO THIS PROJECT FOR ADDITIONAL REQUIREMENTS.

36. THE CONTRACTOR SHALL INSTALL ALL WIRING AND CONDUIT CONCEALED IN PARTITIONS AND ABOVE THE CEILING, UNLESS OTHERWISE INDICATED.

37. THE CONTRACTOR SHALL COORDINATE ALL ELECTRICAL WORK WITH ALL FIELD CONDITIONS AT THE JOB-SITE AND ALL OTHER TRADES INVOLVED.

38. ALL WIRING, CONDUIT, AND JUNCTION BOXES SHALL BE COLOR CODED, IDENTIFIED, AND LABELED. ALL WORK AND INSTALLATION SHOWN ON THESE DRAWINGS SHALL BE DONE BY A LICENSED CONTRACTOR WITH EXPERIENCE IN THE TYPE OF WORK REQUIRED FOR THIS PROJECT.

39. THE CONTRACTOR SHALL COORDINATE THE MANUFACTURER, MODEL, COLOR AND FINISH FOR ALL NEW RECEPTACLES, OUTLETS AND COVERPLATES WITH THE ARCHITECT (UNLESS A SPECIFIC COLOR CODING IS REQUIRED BY CODE).

40. ALL PANELS AND CIRCUIT BREAKER CAPACITY RATINGS AND THEIR CONSTRUCTION SHALL MEET ALL LOCAL CODE REQUIREMENTS.

41. THE CONTRACTOR SHALL IDENTIFY AND LABEL ALL CIRCUITS.

42. COORDINATE THE LOCATION AND INSTALLATION OF EXIT SIGN LIGHTING FIXTURES AT THE JOB-SITE AS REQUIRED TO INDICATE THE EXIT PATH AS REQUIRED BY CODE AND TO ASSURE PROPER VISIBILITY.

43. PROVIDE CAST METAL JUNCTION BOXES AND CONDUIT FOR CIRCUITS BEING INSTALLED IN EXPOSED VISIBLE LOCATIONS.

45. PROVIDE CAST METAL JUNCTION BOXES AND CONDUIT WITH PULL STRING FOR TELEPHONE AND DATA CIRCUITS BEING INSTALLED IN EXPOSED VISIBLE AREAS.

46. PROVIDE (2) 8 POLE ELECTRICALLY HELD LIGHTING CONTACTORS RATED FOR 120V SQUARE D MODEL 8903LO80V02OR EQUAL BY GE. INSTALL LIGHTING CONTACTORS IN SERIES TO ALLOW THE LIGHTS TO OPERATE AS INDICATED ON THE DRAWINGS. ALSO COORDINATE DESIRED OPERATION WITH BUILDING OWNER.

47. CONTRACTOR SHALL VISIT THE PROJECT SITE TO INSPECT THE EXISTING TIME-CLOCK AND START STOP KEY SWITCH FOR POSSIBLE REUSE. ALL NEW SWITCHES AND TIME-CLOCKS SHALL MATCH THE EXISTING DEVICES. COORDINATE DESIRED OPERATION WITH BUILDING OWNER.

1

ELECTRICAL ABBREVIATIONS

(ETR)	EXISTING TO REMAIN
(N)	NEW
(RX)	REMOVE
(TBR)	EXISTING TO BE RELOCATED
(E)	RELOCATION POINT
A, AMP	AMPERE
AC	ALTERNATING CURRENT
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AT	AMP TRIP
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
C, COND	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
DIA	DIAMETER
DISC	DISCONNECT
DN	DOWN
DWG	DRAWING
EC	EMPTY CONDUIT
ECB	ENCLOSED CIRCUIT BREAKER
EG	EQUIPMENT GROUND
ELEC	ELECTRICAL
EMERG	EMERGENCY
EQUIP	EQUIPMENT
ESB	ENERGY SAVING BALLAST
ETR	EXISTING TO REMAIN
EX	EXISTNG
EWC	ELECTRIC WATER COOLER
F/A, FA	FIRE ALARM
FAAP	FIRE ALARM ANNUCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
F/N	FULL NEUTRAL
FSS	FUSED SAFETY SWITCH
G, GND	GROUND
GFI	GROUND FAULT INTERRUPTER
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
IG	ISOLATOR GROUND
INCAND	INCANDESCENT
JB	JUNCTION BOX
KAIC	THOUSANDS OF AMPS INTERRUPTING CAPACITY
KCMIL, MCM	THOUSANDS CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT AMPS
KW	KILOWATT
LTG	LIGHTING
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
N/A	NOT APPLICABLE
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NF	NON-FUSABLE
NFSS	NON-FUSED SAFETY SWITCH
NO	NORMALLY OPEN
NTS	NOT TO SCALE
ø	PHASE
P	POLE
PNL	PANELBOARD
PRI	PRIMARY
QTY	QUANTITY
REC, RECEPT	RECEPTACLE
REQ'D	REQUIRED
RM	ROOM
SCHED	SCHEDULE
SD	SMOKE DETECTOR
SP	SINGLE POLE
SW	SWITCH
T, XFMR, T/F	TRANSFORMER
TEL	TELEPHONE
TYP	TYPICAL
UNF	UNFUSED
UON	UNLESS OTHERWISE NOTED
V	VOLT, VOLTAGE
VA	VOLT AMP
W	WATT, WIRE
WP	WEATHERPROOF
W/	WITH
#	NUMBER

ELECTRICAL DRAWING LIST

CLIENT:
PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
200-64 E. OLNEY AVENUE
PHILADELPHIA, PA 19120

PROJECT NUMBER:
16640E-01-02

PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:
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PHOENIXVILLE, PA 19460
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IAN SMITH DESIGN GROUP
1417 N. 2ND STREET, #3
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LIGHTING DESIGN:
MILLER DESIGN GROUP
www.millerdesigngrouplighting.com

MEP DESIGN:
MARK ULRICK ENGINEERS, INC.
622 COOPER STREET, #200
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DRAWING PHASE:
100% CONSTRUCTION DOCUMENTATION

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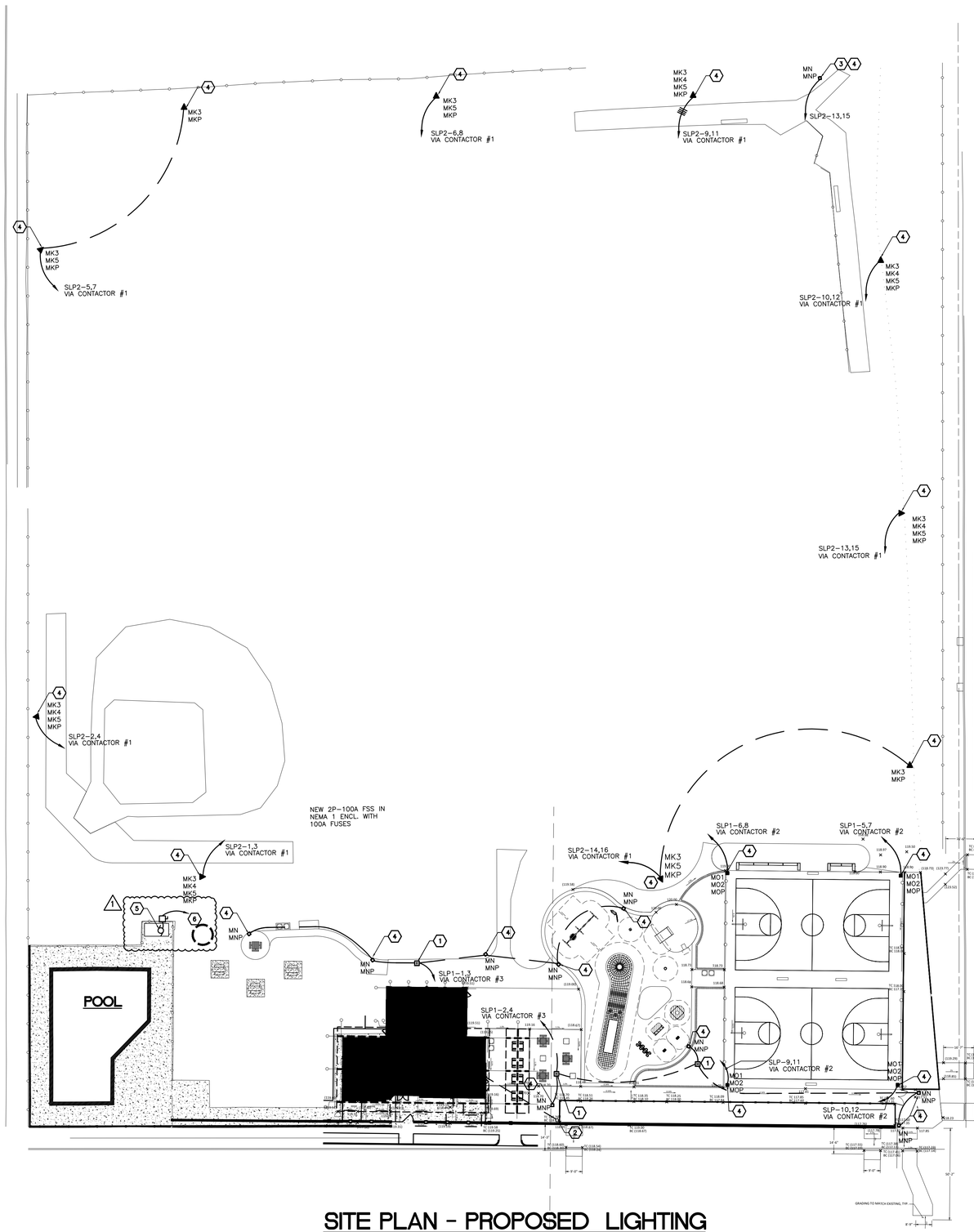
SHEET TITLE:
LEGEND, ABBREVIATIONS & NOTES

REV	DATE	DESCRIPTION
1	1/13/2023	ADDENDUM 1

SCALE: AS NOTED
DATE: 06/24/2022
DRAWN BY: WOJ
CHECKED BY: MBW

SHEET NUMBER:
E0.0

SALT DESIGN STUDIO FILE NO.:
2003



SITE PLAN - PROPOSED LIGHTING

SCALE: 1/32"=1'-0"

SITE PLAN LEGEND

- vJ — 36" LIGHT BOLLARD
- vK — POLE MOUNTED 8-HEAD LIGHT STRUCTURE
- vN — PEDESTRIAN SCALE WALKWAY SINGLE HEAD ON 14' POLE
- vO — POLE MOUNTED COURT LIGHT
- T — PROPOSED LOCATION OF NEW PAD MOUNTED POWER CO. TRANSFORMER
- H — PROPOSED LOCATION OF NEW 18"X18" FLUSH GROUND MOUNTED HAND BOX
- —E— PROPOSED ROUTE OF NEW UNDERGROUND ELECTRICAL CONDUIT
- —T— PROPOSED ROUTE OF NEW UNDERGROUND COMMUNICATION CONDUIT
- — — PROPOSED ROUTE OF NEW UNDERGROUND DUCT BANK OR DIRECT BURIAL CABLE.
- PROPOSED LOCATION OF NEW HOMERUN BACK TO PANEL. FIELD COORDINATE WITH OTHER UNDERGROUND UTILITIES AND SECONDARY CONDUIT RUNS.

GENERAL NOTES:

1. CONTRACTOR SHALL REFER TO LIGHTING DESIGNER'S DRAWINGS, "EL" SERIES FOR LOCATION OF ALL LIGHT FIXTURES, ASSOCIATED LIGHTING CONTROLS AND DESCRIPTIONS OF ALL LIGHT FIXTURES. INFORMATION SHOWN ON THIS DRAWING IS FOR POWER CIRCUITRY ONLY.
2. CONTRACTOR SHALL REFER TO STRUCTURAL DRAWINGS FOR ALL POLE FOUNDATIONS.
3. THE LOCATION OF THE TVSS SHALL BE CHOSEN TO MINIMIZE THE LEAD LENGTHS BETWEEN THE TVSS AND THE CIRCUIT BREAKER TO WHICH IT IS CONNECTED. TVSS DEVICE LEADS WHICH ARE MOUNTED EXTERNAL TO THE PANEL (ENCLOSED CIRCUIT BREAKERS), MUST BE ROUTED WITHIN A METAL CONDUIT WHEN NECESSARY (RIGID NIPPLE IF POSSIBLE), AND KEPT AS SHORT AND STRAIGHT AS POSSIBLE. WIRE SIZE FOR LEAD SHALL BE AS SPECIFIED BY MANUFACTURER, MINIMUM SIZE #10 AWG, MAXIMUM SIZE #4 AWG.
4. SURGE PROTECTIVE DEVICES SHALL BE INSTALLED NEATLY. BIND THE PHASE, NEUTRAL, AND GROUND CONDUCTORS TIGHTLY, OVER THE ENTIRE RUN, FROM THE SUPPRESSOR TO THE PANEL (ENCLOSED CIRCUIT BREAKER). AND ALWAYS USE THE SHORTEST LENGTH OF CONNECTING CABLE POSSIBLE.
5. CONNECT SURGE PROTECTOR TO THE GROUNDING SYSTEM.
6. PROVIDE NEMA 4X RATED ENCLOSURE FOR ALL OUTDOOR JUNCTION BOX APPLICATIONS.
7. CONTRACTOR SHALL BE RESPONSIBLE TO SECURING A STRUCTURAL ENGINEERED DRAWING FOR ALL POLE FOUNDATIONS. DETAILS SHOWN ON THESE PLANS ARE DIAGRAMMATIC ONLY. FIELD COORDINATE.

DRAWING NOTES:

1. NEW HEAVY DUTY GROUND MOUNTED HAND BOX. CONTRACTOR SHALL SIZE PER NEC. FIELD COORDINATE LOCATION WITH OTHER UNDERGROUND SITE UTILITIES.
2. CONTRACTOR SHALL REMOVE EXISTING UNDERGROUND ELECTRICAL SERVICE TO THE BUILDING BACK TO UTILITY CO POLE. PROVIDE 2 NEW UNDERGROUND CONDUITS PER DETAILS 'H' AND 'J' ON DRAWING E0.2. FIELD COORDINATE ROUTE WITH PECO AND OTHER SITE UTILITIES..
3. CONTRACTOR SHALL WIRE THIS LIGHT FIXTURE AHEAD OF ALL LOCAL SWITCHING AND TIME CLOCKS. SWITCHING FOR THIS FIXTURE SHALL BE AS DIRECTED ON THE LIGHTING DESIGNER'S DRAWINGS.
4. REFER TO STRUCTURAL DRAWINGS FOR BASIC POLE DETAIL.
5. CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND CONDITION OF THE EXISTING POOL EQUIPMENT. IF NEW POOL EQUIPMENT IS REQUIRED, CONTRACTOR SHALL ADVISE OWNER AS THIS WILL BE PROVIDED UNDER SEPARATE AGREEMENT.
6. CONTRACTOR SHALL REFER TO DRAWING E-3.1 FOR ADDITIONAL INFORMATION ON NEW FEEDER TO POOL PUMPS. CONTRACTOR SHALL REUSE THE EXISTING CONDUIT IF THEY DEEM IT TO BE SAFE AND INTACT.

1

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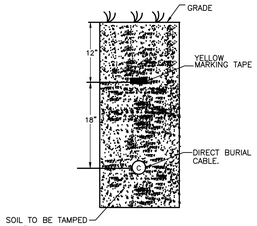
SHEET TITLE:
SITE PLAN-ELECTRICAL

REV	DATE	DESCRIPTION
1	1/13/2023	ADDENDUM 1

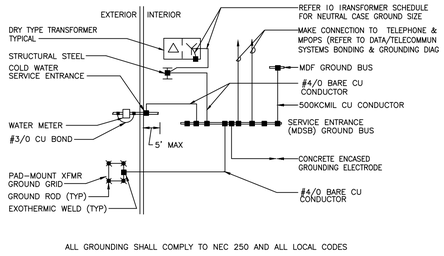
SCALE: AS NOTED
DATE: 06/24/2022
DRAWN BY: WOJ
CHECKED BY: MBW

SHEET NUMBER:
E-0.1

SALT DESIGN STUDIO FILE NO.:
2003

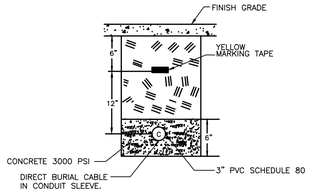


A E0.2 TYPICAL DIRECT BURIAL CABLE DETAIL
NOT TO SCALE

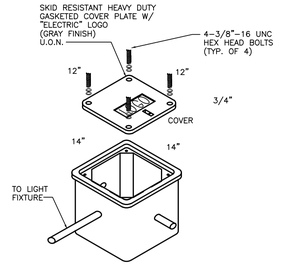


ALL GROUNDING SHALL COMPLY TO NEC 250 AND ALL LOCAL CODES

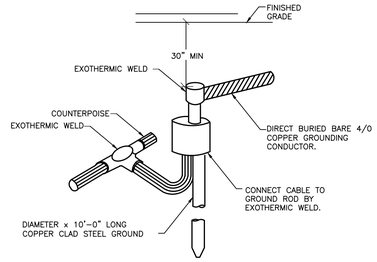
B E0.2 PARTIAL SCHEMATIC GROUNDING DIAGRAM
SCALE: NONE



C E0.2 TYPICAL DIRECT BURIAL CABLE DETAIL
NOT TO SCALE



D E0.2 DETAIL 12"x12" HANDBOX
NO SCALE



E E0.2 GROUND ROD DETAIL
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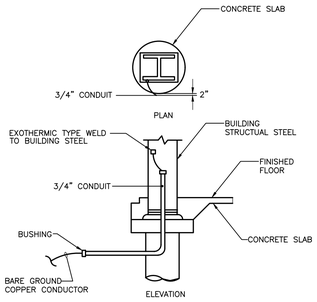
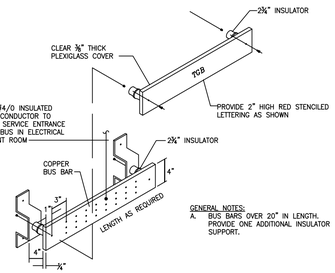
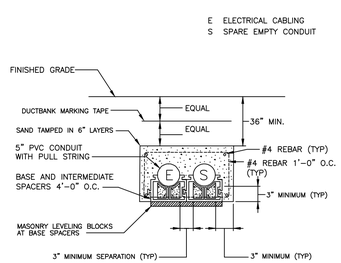


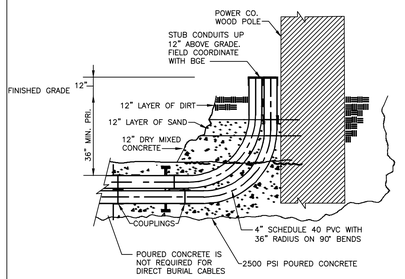
F E0.2 BONDING TO BUILDING STEEL DETIAL
NOT TO SCALE



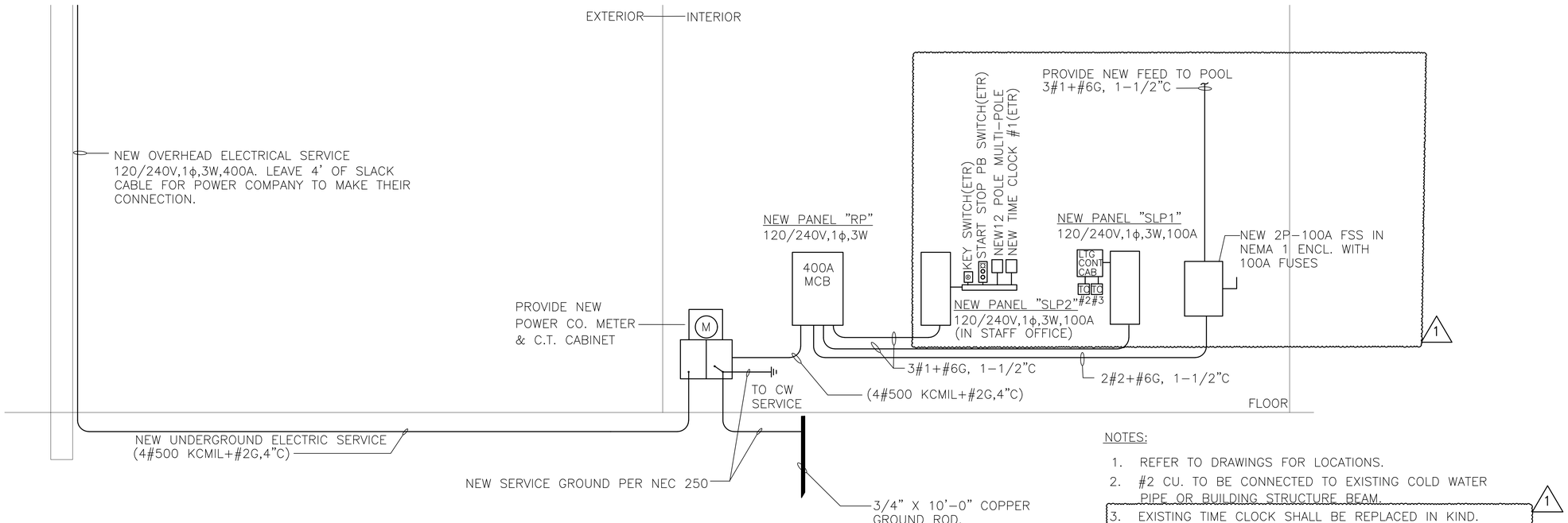
G E0.2 GROUNDING BUS BAR
NOT TO SCALE



H E003 2 - WAY UTILITY CO PRIMARY DUCTBANK
NOT TO SCALE



J E003 CONDUIT TRANSITION UP AT POWER POLE
NOT TO SCALE:



TYPICAL ELECTRICAL POWER RISER
NO SCALE

NOTES:

1. REFER TO DRAWINGS FOR LOCATIONS.
2. #2 CU. TO BE CONNECTED TO EXISTING COLD WATER PIPE OR BUILDING STRUCTURE BEAM.
3. EXISTING TIME CLOCK SHALL BE REPLACED IN KIND. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING EQUIPMENT PRIOR TO PURCHASE.
4. NEW OVERHEAD ELECTRICAL SERVICE 120/240V,1ϕ,3W,400A. LEAVE 4' OF SLACK CABLE FOR POWER COMPANY TO MAKE THEIR CONNECTION.

1

CLIENT:
PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
200-64 E. OLNEY AVENUE
PHILADELPHIA, PA 19120

PROJECT NUMBER:
16640E-01-02

PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:
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BETHLEHEM, PA 18018
www.dhuy.com

DRAWING PHASE:
100% CONSTRUCTION DOCUMENTATION

SEAL:
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER MARK BRIAN WASHINGTON 34860-E

SHEET TITLE:
SITE PLAN-DETAILS AND POWER RISER DIAGRAM

REV	DATE	DESCRIPTION
1	1/13/2023	ADDENDUM 1

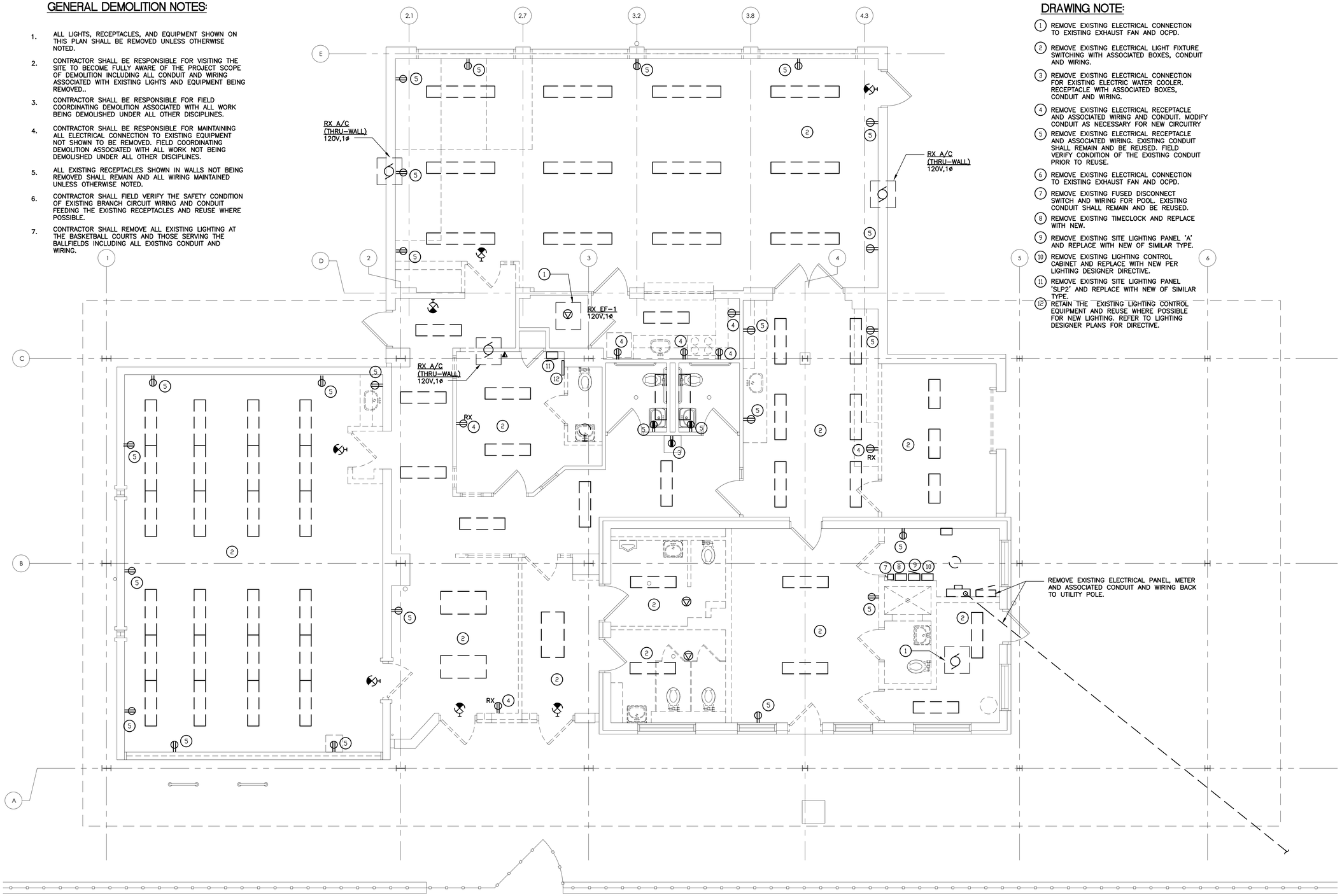
SCALE: AS NOTED
DATE: 06/24/2022
DRAWN BY: WOJ
CHECKED BY: MBW

SHEET NUMBER:
E-0.2

SALT DESIGN STUDIO FILE NO.:
2003

GENERAL DEMOLITION NOTES:

1. ALL LIGHTS, RECEPTACLES, AND EQUIPMENT SHOWN ON THIS PLAN SHALL BE REMOVED UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE TO BECOME FULLY AWARE OF THE PROJECT SCOPE OF DEMOLITION INCLUDING ALL CONDUIT AND WIRING ASSOCIATED WITH EXISTING LIGHTS AND EQUIPMENT BEING REMOVED..
3. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD COORDINATING DEMOLITION ASSOCIATED WITH ALL WORK BEING DEMOLISHED UNDER ALL OTHER DISCIPLINES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ELECTRICAL CONNECTION TO EXISTING EQUIPMENT NOT SHOWN TO BE REMOVED. FIELD COORDINATING DEMOLITION ASSOCIATED WITH ALL WORK NOT BEING DEMOLISHED UNDER ALL OTHER DISCIPLINES.
5. ALL EXISTING RECEPTACLES SHOWN IN WALLS NOT BEING REMOVED SHALL REMAIN AND ALL WIRING MAINTAINED UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL FIELD VERIFY THE SAFETY CONDITION OF EXISTING BRANCH CIRCUIT WIRING AND CONDUIT FEEDING THE EXISTING RECEPTACLES AND REUSE WHERE POSSIBLE.
7. CONTRACTOR SHALL REMOVE ALL EXISTING LIGHTING AT THE BASKETBALL COURTS AND THOSE SERVING THE BALLFIELDS INCLUDING ALL EXISTING CONDUIT AND WIRING.



DRAWING NOTE:

1. REMOVE EXISTING ELECTRICAL CONNECTION TO EXISTING EXHAUST FAN AND OCPD.
2. REMOVE EXISTING ELECTRICAL LIGHT FIXTURE SWITCHING WITH ASSOCIATED BOXES, CONDUIT AND WIRING.
3. REMOVE EXISTING ELECTRICAL CONNECTION FOR EXISTING ELECTRIC WATER COOLER. RECEPTACLE WITH ASSOCIATED BOXES, CONDUIT AND WIRING.
4. REMOVE EXISTING ELECTRICAL RECEPTACLE AND ASSOCIATED WIRING AND CONDUIT. MODIFY CONDUIT AS NECESSARY FOR NEW CIRCUITRY
5. REMOVE EXISTING ELECTRICAL RECEPTACLE AND ASSOCIATED WIRING. EXISTING CONDUIT SHALL REMAIN AND BE REUSED. FIELD VERIFY CONDITION OF THE EXISTING CONDUIT PRIOR TO REUSE.
6. REMOVE EXISTING ELECTRICAL CONNECTION TO EXISTING EXHAUST FAN AND OCPD.
7. REMOVE EXISTING FUSED DISCONNECT SWITCH AND WIRING FOR POOL. EXISTING CONDUIT SHALL REMAIN AND BE REUSED.
8. REMOVE EXISTING TIMECLOCK AND REPLACE WITH NEW.
9. REMOVE EXISTING SITE LIGHTING PANEL 'A' AND REPLACE WITH NEW OF SIMILAR TYPE.
10. REMOVE EXISTING LIGHTING CONTROL CABINET AND REPLACE WITH NEW PER LIGHTING DESIGNER DIRECTIVE.
11. REMOVE EXISTING SITE LIGHTING PANEL 'SLP2' AND REPLACE WITH NEW OF SIMILAR TYPE.
12. RETAIN THE EXISTING LIGHTING CONTROL EQUIPMENT AND REUSE WHERE POSSIBLE FOR NEW LIGHTING. REFER TO LIGHTING DESIGNER PLANS FOR DIRECTIVE.

EXISTING FIRST FLOOR PLAN - ELECTRICAL DEMOLITION

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

CLIENT:
PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
200-64 E. OLNEY AVENUE
PHILADELPHIA, PA 19120

PROJECT NUMBER:
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PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:
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BETHLEHEM, PA 18018
www.dhuy.com

DRAWING PHASE:
100% CONSTRUCTION DOCUMENTATION

SEAL:
COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — MARK BRIAN WASHINGTON — ENGINEER NO. 34881-E

SHEET TITLE:
EXISTING FLOOR PLAN - ELECTRICAL DEMOLITION

REV	DATE	DESCRIPTION
1	1/13/2023	ADDENDUM 1

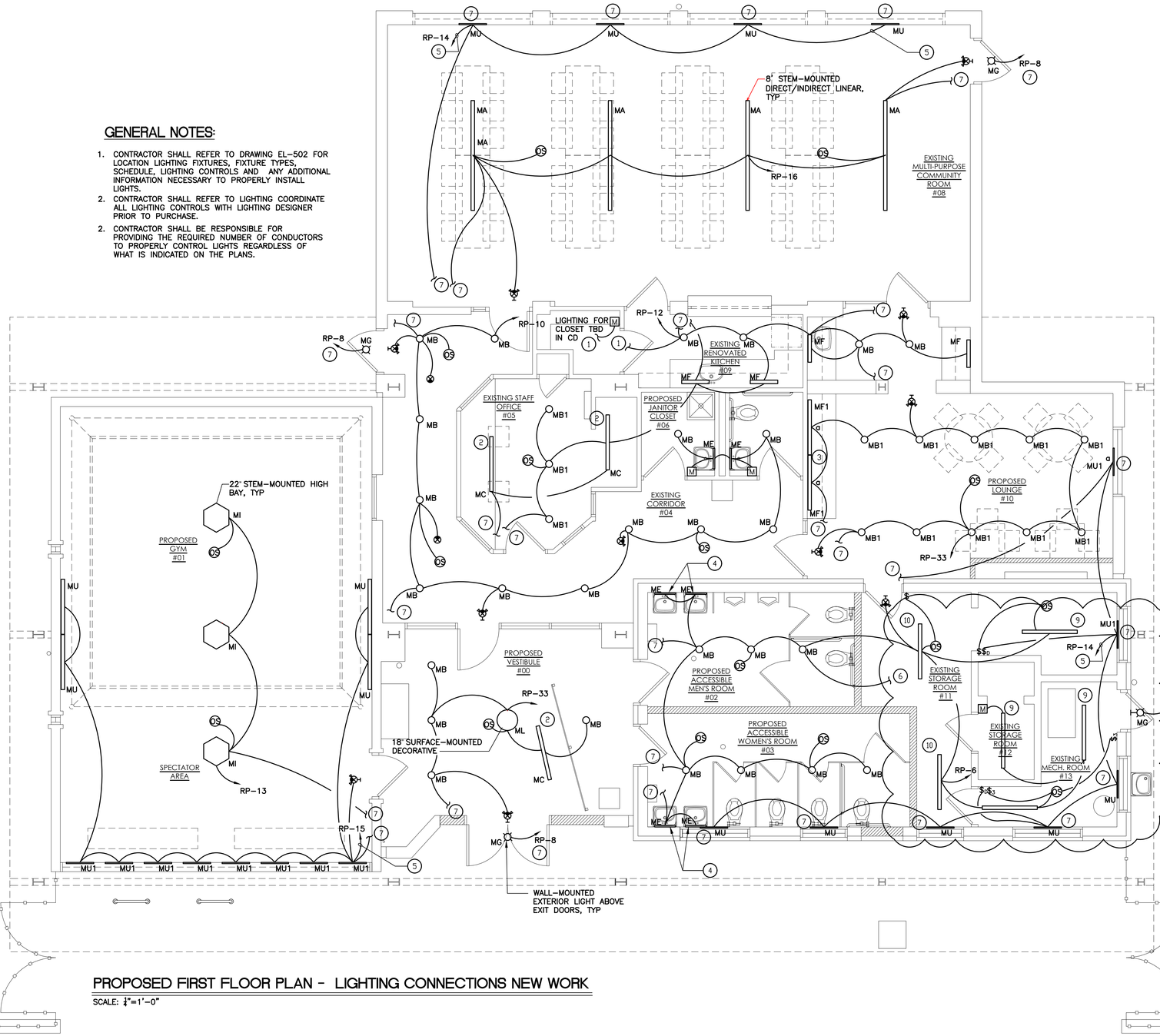
SCALE: AS NOTED
DATE: 06/24/2022
DRAWN BY: WOJ
CHECKED BY: MBW

SHEET NUMBER:
E-1.0

SALT DESIGN STUDIO FILE NO.:
2003

GENERAL NOTES:

1. CONTRACTOR SHALL REFER TO DRAWING EL-502 FOR LOCATION LIGHTING FIXTURES, FIXTURE TYPES, SCHEDULE, LIGHTING CONTROLS AND ANY ADDITIONAL INFORMATION NECESSARY TO PROPERLY INSTALL LIGHTS.
2. CONTRACTOR SHALL REFER TO LIGHTING COORDINATE ALL LIGHTING CONTROLS WITH LIGHTING DESIGNER PRIOR TO PURCHASE.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE REQUIRED NUMBER OF CONDUCTORS TO PROPERLY CONTROL LIGHTS REGARDLESS OF WHAT IS INDICATED ON THE PLANS.



DRAWING NOTE:

1. CONNECT TO LIGHT IN CLOSET PROVIDED BY OWNER.
2. PROVIDE 4' SURFACE-MOUNTED TRACK LIGHT FIXTURE (PROVIDE 5 HEADS), TYP
3. INSTALL LIGHT FIXTURE UNDER THE CABINET WITH ASSOCIATED BOXES, CONDUIT AND WIRING CONCEALED IN WALL.
4. CONTRACTOR SHALL CONNECT TO ILLUMINATED MIRROR WITH ASSOCIATED BOXES, CONDUIT AND WIRING CONCEALED IN WALL.
5. CONTRACTOR SHALL CONNECT TO PANEL VIA MULTI-POLE TIME CLOCK WITH ASSOCIATED BOXES, CONDUIT AND WIRING CONCEALED IN WALL.
6. CONTRACTOR SHALL CONNECT TO EXISTING LIGHTING IN THIS AREA. FIELD COORDINATE.
7. CONNECT TO LIGHTING CONTROLS AS IDENTIFIED ON THE LIGHTING DESIGNER DRAWING 'EL-502'.
8. CONNECT TO LIGHTING CONTROLS AS IDENTIFIED ON THE LIGHTING DESIGNER DRAWING 'EL-502'.
9. PROVIDE A NEW CEILING HUNG LED FIXTURE. LITHONIA MODEL CSS L48 4000LM MVOLT 40K 80CR OR EQUAL.
10. PROVIDE A NEW CEILING MOUNTED LED FIXTURE. LITHONIA MODEL FML4W 48 AL06 SEF 840 MVOLT OR EQUAL.

1

PROPOSED FIRST FLOOR PLAN - LIGHTING CONNECTIONS NEW WORK

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

CLIENT:
PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
200-64 E. OLNEY AVENUE
PHILADELPHIA, PA 19120

PROJECT NUMBER:
16640E-01-02

PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:
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ARCHITECTURE:
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www.is-dg.com

LIGHTING DESIGN:
MILLER DESIGN GROUP
www.millerdesigngroup lighting.com

MEP DESIGN:
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www.markulrick.com

STRUCTURAL ENGINEERING:
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1 EAST BROAD STREET, SUITE 310
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www.dhuy.com

DRAWING PHASE:
100% CONSTRUCTION DOCUMENTATION

SEAL:
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL
MARK BRIAN WASHINGTON
ENGINEER
NO. 34881-E

SHEET TITLE:
PROPOSED FLOOR PLAN - LIGHTING CONNECTIONS NEW WORK

REV	DATE	DESCRIPTION
1	1/13/2023	ADDENDUM 1

SCALE: AS NOTED
DATE: 06/24/2022
DRAWN BY: WOJ
CHECKED BY: MBW

SHEET NUMBER:
E-1.1

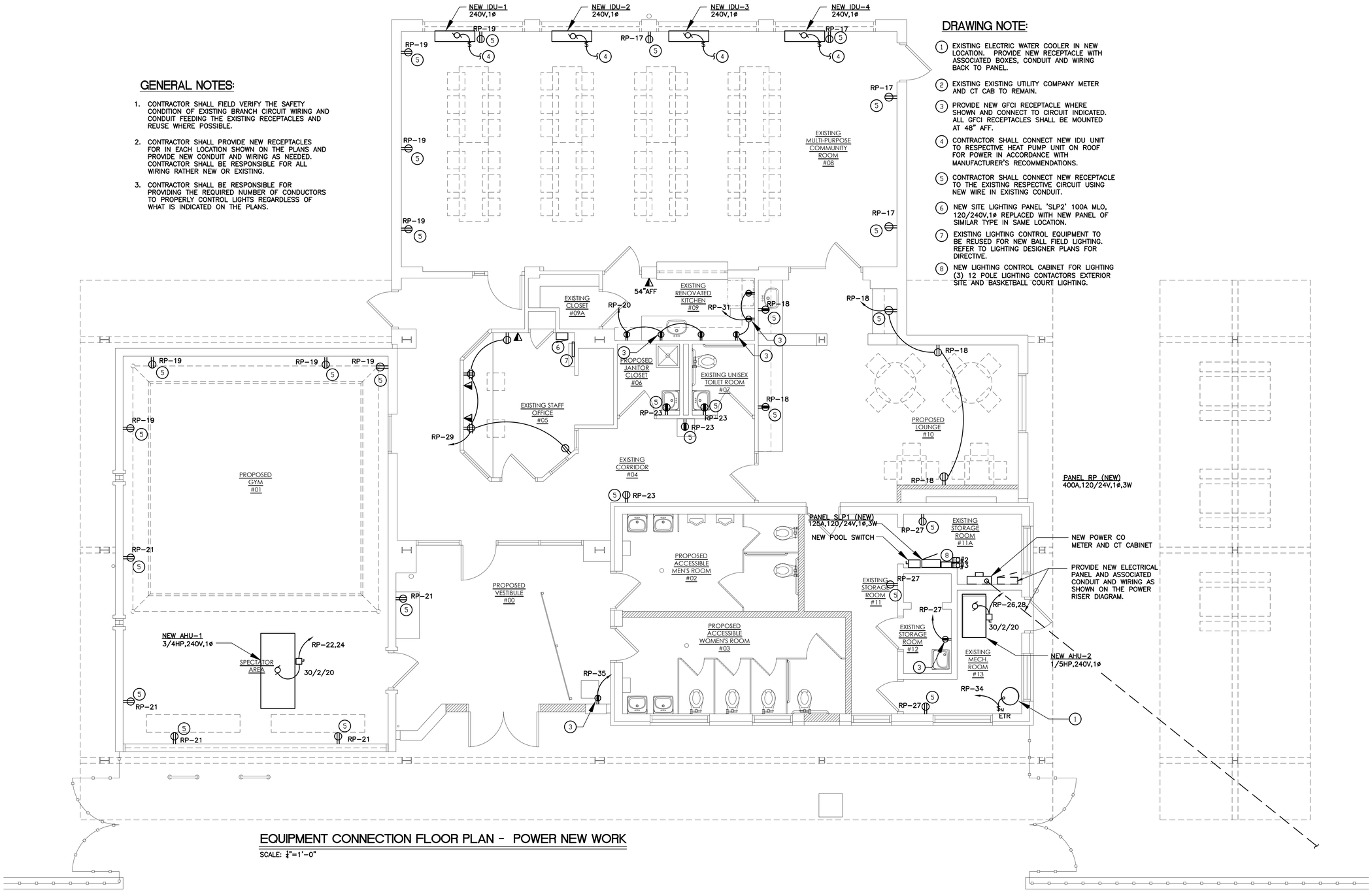
SALT DESIGN STUDIO FILE NO.:
2003

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY THE SAFETY CONDITION OF EXISTING BRANCH CIRCUIT WIRING AND CONDUIT FEEDING THE EXISTING RECEPTACLES AND REUSE WHERE POSSIBLE.
2. CONTRACTOR SHALL PROVIDE NEW RECEPTACLES FOR IN EACH LOCATION SHOWN ON THE PLANS AND PROVIDE NEW CONDUIT AND WIRING AS NEEDED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WIRING RATHER NEW OR EXISTING.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE REQUIRED NUMBER OF CONDUCTORS TO PROPERLY CONTROL LIGHTS REGARDLESS OF WHAT IS INDICATED ON THE PLANS.

DRAWING NOTE:

1. EXISTING ELECTRIC WATER COOLER IN NEW LOCATION. PROVIDE NEW RECEPTACLE WITH ASSOCIATED BOXES, CONDUIT AND WIRING BACK TO PANEL.
2. EXISTING EXISTING UTILITY COMPANY METER AND CT CAB TO REMAIN.
3. PROVIDE NEW GFCI RECEPTACLE WHERE SHOWN AND CONNECT TO CIRCUIT INDICATED. ALL GFCI RECEPTACLES SHALL BE MOUNTED AT 48" AFF.
4. CONTRACTOR SHALL CONNECT NEW IDU UNIT TO RESPECTIVE HEAT PUMP UNIT ON ROOF FOR POWER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. CONTRACTOR SHALL CONNECT NEW RECEPTACLE TO THE EXISTING RESPECTIVE CIRCUIT USING NEW WIRE IN EXISTING CONDUIT.
6. NEW SITE LIGHTING PANEL 'SLP2' 100A MLO, 120/240V,1ø REPLACED WITH NEW PANEL OF SIMILAR TYPE IN SAME LOCATION.
7. EXISTING LIGHTING CONTROL EQUIPMENT TO BE REUSED FOR NEW BALL FIELD LIGHTING. REFER TO LIGHTING DESIGNER PLANS FOR DIRECTIVE.
8. NEW LIGHTING CONTROL CABINET FOR LIGHTING (3) 12 POLE LIGHTING CONTACTORS EXTERIOR SITE AND BASKETBALL COURT LIGHTING.



EQUIPMENT CONNECTION FLOOR PLAN - POWER NEW WORK

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

CLIENT:
PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
200-64 E. OLNEY AVENUE
PHILADELPHIA, PA 19120

PROJECT NUMBER:
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PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:
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DRAWING PHASE:
100% CONSTRUCTION DOCUMENTATION

SEAL:
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER MARK BRIAN WASHINGTON NO. 34881-E

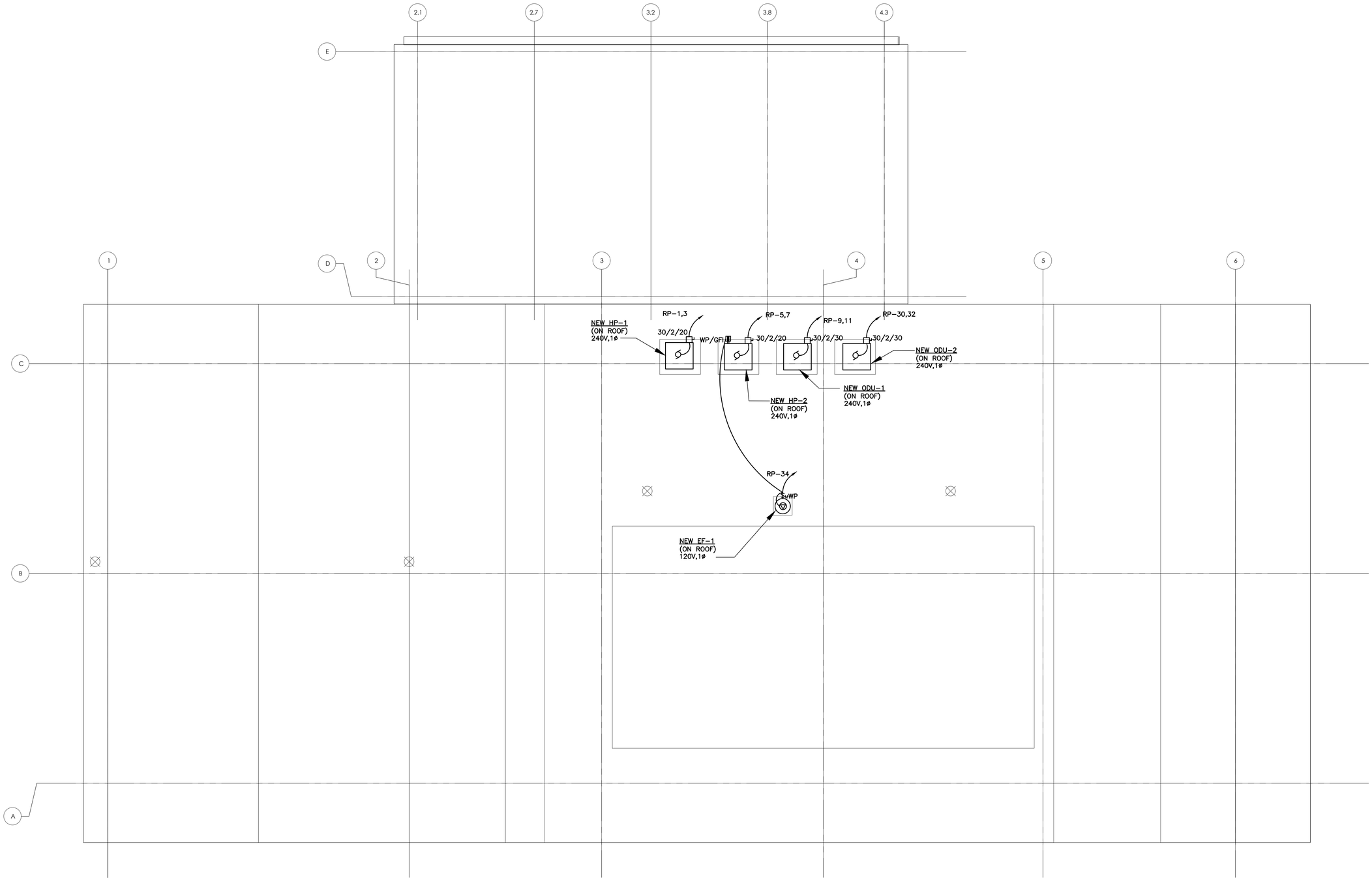
SHEET TITLE:
PROPOSED FLOOR PLAN EQUIPMENT CONNECTIONS - POWER NEW WORK

REV	DATE	DESCRIPTION
1	1/13/2023	ADDENDUM 1

SCALE: AS NOTED
DATE: 06/24/2022
DRAWN BY: WOJ
CHECKED BY: MBW

SHEET NUMBER:
E-1.2

SALT DESIGN STUDIO FILE NO.:
2003



PROPOSED ROOF PLAN - ELECTRICAL NEW WORK

SCALE: $\frac{1}{4}$"=1'-0"

CLIENT:

PHILADELPHIA PARKS & RECREATION

Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:

ZIEHLER PLAYGROUND & RECREATION CENTER

200-64 E. OLNEY AVENUE
PHILADELPHIA, PA 19120

PROJECT NUMBER:

16640E-01-02

PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:

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DRAWING PHASE:

100% CONSTRUCTION DOCUMENTATION

SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
MARK BRIAN WASHINGTON
ENGINEER NO. 34681-E

SHEET TITLE:

PROPOSED ROOF PLAN- ELECTRICAL NEW WORK

REV	DATE	DESCRIPTION
1	1/13/2023	ADDENDUM 1

SCALE: AS NOTED

DATE: 06/24/2022

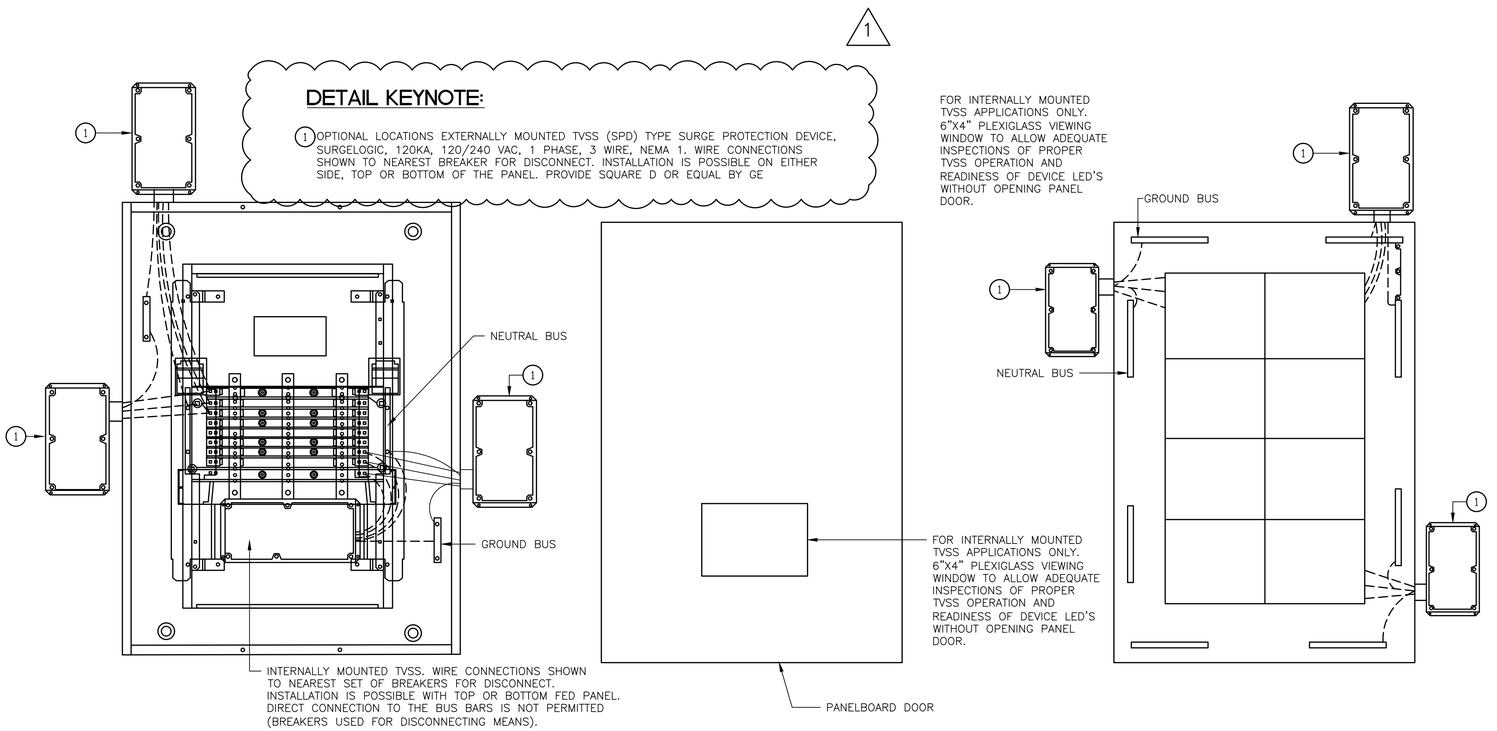
DRAWN BY: WOJ

CHECKED BY: MBW

SHEET NUMBER:

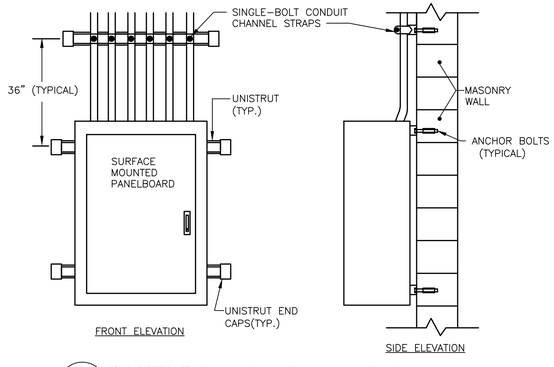
E-1.3

SALT DESIGN STUDIO FILE NO.:
2003



A E-3.1 **TVSS-PANELBOARD INSTALLATION DETAIL**

NOT TO SCALE



B E-3.1 **PANELBOARD MOUNTING DETAIL**

SCALE: NONE

GENERAL NOTES:

1. PROVIDE A MULTIPOLE, 30 AMP CIRCUIT BREAKER AS A DEDICATED DISCONNECT FOR SUPPRESSOR, IN PROPER COORDINATION WITH VOLTAGE CONFIGURATION OF PROTECTED EQUIPMENT.

2. INSTALL DEVICES FOR DISTRIBUTION PANELBOARDS, BRANCH PANELBOARDS AND ENCLOSED CIRCUIT BREAKERS WITH CONDUCTORS BETWEEN SUPPRESSOR AND POINTS OF ATTACHMENT AS SHORT AND STRAIGHT AS POSSIBLE. DO NOT EXCEED MANUFACTURER'S RECOMMENDED LEAD LENGTH. DO NOT BOND NEUTRAL AND GROUND.

3. THE LOCATION OF THE TVSS SHALL BE CHOSEN TO MINIMIZE THE LEAD LENGTHS BETWEEN THE TVSS AND THE CIRCUIT BREAKER TO WHICH IT IS CONNECTED. TVSS DEVICE LEADS WHICH ARE MOUNTED EXTERNAL TO THE PANEL (ENCLOSED CIRCUIT BREAKERS), MUST BE ROUTED WITHIN A METAL CONDUIT WHEN NECESSARY (RIGID NIPPLE IF POSSIBLE), AND KEPT AS SHORT AND STRAIGHT AS POSSIBLE. WIRE SIZE FOR LEAD SHALL BE AS SPECIFIED BY MANUFACTURER, MINIMUM SIZE #10 AWG, MAXIMUM SIZE #4 AWG.

4. SPRUCE PROTECTIVE DEVICES SHALL BE INSTALLED NEATLY. BIND THE PHASE, NEUTRAL, AND GROUND CONDUCTORS TIGHTLY, OVER THE ENTIRE RUN, FROM THE SUPPRESSOR TO THE PANEL (ENCLOSED CIRCUIT BREAKER). AND ALWAYS USE THE SHORTEST LENGTH OF CONNECTING CABLE POSSIBLE.

5. CONNECT SURGE PROTECTOR TO THE GROUNDING SYSTEM.

6. NEMA 4 RATED ENCLOSURE FOR INDOOR APPLICATIONS (WHERE FIRE SUPPRESSION SYSTEM MAY BE UTILIZED) AND NEMA 4X RATED ENCLOSURE FOR OUTDOOR APPLICATIONS.

1

NEW PANEL RP

VOLTAGE: 120 / 240 — A.I.C.: 10k
PHASE, WIRE: 1 , 3 — 400 AMP MAIN MCB — MOUNTED: FLUSH

KVA CODE	CKT	SERVING	C/B P	C/B TRIP	WIRE QTY	WIRE AWG	KVA	PH	KVA	WIRE QTY	WIRE AWG	C/B P	C/B TRIP	SERVING	CKT	KVA CODE
AC	1	HP-1	2	20	2	12	1.1	A	9.0	2	2	2	100	EX POOL	2	P
AC	3						1.1	B	9.0						4	P
AC	5	HP-2	2	20	2	12	1.1	A	0.3	2	12	1	20	LIGHTING STORAGE	6	L
AC	7						1.1	B	0.3	2	12	1	20	LIGHTING BLDG	8	L
AC	9	ODU-1	2	30	2	10	2.4	A	0.5	2	12	1	20	LIGHTING CORRIDOR	10	L
AC	11						2.4	B	0.7	2	12	1	20	LIGHTING KITCHEN	12	L
L	13	LIGHTING GYM	1	20	2	12	0.3	A	0.6	2	12	1	20	LIGHTING "MU" FIX	14	L
L	15	LIGHTING GYM	1	20	2	12	0.6	B	0.4	2	12	1	20	LIGHTING MULTI PUR	16	L
R	17	EXIST. RECEPTACLES	1	20	2	12	0.8	A	0.6	2	12	1	20	RECEPTACLES LOUNGE	18	R
R	19	EXIST. RECEPTACLES	1	20	2	12	0.8	B						RECEPTACLES KITCHEN	20	R
R	21	EXIST. RECEPTACLES	1	20	2	12	0.9	A	0.3	2	12	2	20	AHU-1	22	F
R	23	EXIST. RECEPTACLES	1	20	2	12	1.1	B	0.3						24	F
R	25	EXIST. RECEPTACLES	1	20	2	12	0.4	A	0.3	2	12	2	20	AHU-2	26	F
EQ	27	EXIST. RECEPTACLES	1	20	2	12	0.8	B	0.3						28	F
R	29	RECEPTACLES OFFICE	1	20	2	12	1.1	A	2.4	2	10	2	30	ODU-2	30	AC
R	31	RECEPT KITCHEN	1	20	2	12	0.6	B	2.4						32	AC
L	33	LIGHTING VESTIBULE	1	20	2	12	0.3	A	0.4	2	12	1	20	ROOF REC. & EF-1	34	EQ
EQ	35	WATER COOLER	1	20	2	12	1.0	B	9.5	2	2	2	100	PANEL SLP-1	36	PA
EQ	37	TVSS UNIT	2	30	2	10	0.5	A	5.5						38	PA
EQ	39						0.5	B	7.5	2	2	2	100	PANEL SLP-2	40	PA
	41	BUSSED SPACE						A	7.5						42	PA

* PROVIDE HANDLE LOCK-ON C/B COVER.

NOTES:
1. PROVIDE ARC-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKERS FOR ALL BRANCH CIRCUITS FEEDING RECEPTACLES IN BEDROOMS, IN ACCORDANCE WITH NEC 210.12.

CD	DESCRIPTION	CON KVA A	CON KVA B	DEMAND FACTOR	DEMAND KVA A	DEMAND KVA B
AC	AIR CONDITIONING	7.0	7.0	100%	7.0	7.0
L	LIGHTING	2.0	2.0	125%	2.5	2.5
R	RECEPTACLES	3.8	2.5	50%	1.9	1.3
EQ	EQUIPMENT	0.9	2.3	65%	0.6	1.5
P	PUMPS	9.0	9.0	65%	5.9	5.9
F	FANS	0.6	0.6	70%	0.4	0.4
PA	PANEL	17.0	17.0	100%	17.0	17.0
	TOTAL				35.3	35.5

DESIGN KVA = 71.0 KVA
SPARE = 10%
DESIGN AMPS= 326 AMP
MOCP = 350 AMP

1

NEW PANEL SLP1

VOLTAGE: 120 / 240 — A.I.C.: 10k
PHASE, WIRE: 1 , 3 — 100 AMP MAIN LUGS — MOUNTED: FLUSH

KVA CODE	CKT	SERVING	C/B P	C/B TRIP	WIRE QTY	WIRE AWG	KVA	PH	KVA	WIRE QTY	WIRE AWG	C/B P	C/B TRIP	SERVING	CKT	KVA CODE
L	1	LIGHTING SIDEWALK	2	20	2	10	0.2	A	0.2	2	10	2	20	LIGHTING SIDEWALK	2	L
L	3						0.2	B	0.2						4	L
L	5	LIGHTING COURT	2	20	2	10	0.6	A	0.6	2	10	2	20	LIGHTING COURT	6	L
L	7						0.6	B	0.6						8	L
L	9	LIGHTING COURT	2	20	2	12	0.6	A	0.6	2	10	2	20	LIGHTING COURT	10	L
L	11						0.6	B	0.6						12	L
L	13	NITE LITE	2	20	2	10	0.3	A	0.0	0	0	1	20	SPARE	14	0.0
L	15						0.3	B	0.0	0	0	1	20	SPARE	16	0.0
0.0	17	BUSSED SPACE			0	0	0.0	A	0.0	0	0			BUSSED SPACE	18	0.0
R	19	BUSSED SPACE			0	0	0.5	B	0.0	0	0			BUSSED SPACE	20	0.0
R	21	BUSSED SPACE			0	0	0.5	A	0.0	0	0			BUSSED SPACE	22	0.0
R	23	BUSSED SPACE			0	0	0.4	B	0.0	0	0			BUSSED SPACE	24	0.0

* PROVIDE HANDLE LOCK-ON C/B COVER.

NOTES:
1. PROVIDE ARC-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKERS FOR ALL BRANCH CIRCUITS FEEDING RECEPTACLES IN BEDROOMS, IN ACCORDANCE WITH NEC 210.12.

CD	DESCRIPTION	CON KVA A	CON KVA B	DEMAND FACTOR	DEMAND KVA A	DEMAND KVA B
L	LIGHTING	3.1	3.1	125%	3.9	3.9
R	RECEPTACLES	1.5	1.4	50%	0.8	0.7
EQ	EQUIPMENT	0.0	3.0	65%	0.0	2.0
0	0	0.0	0.0	0%	0.0	0.0
0	0	0.0	0.0	0%	0.0	0.0
0	0	0.0	0.0	0%	0.0	0.0
0	0	0.0	0.0	0%	0.0	0.0
	TOTAL				4.6	6.5

DESIGN KVA = 13.1 KVA
SPARE = 10%
DESIGN AMPS= 60 AMP
MOCP = 60 AMP

1

NEW PANEL SLP2

VOLTAGE: 120 / 240 — A.I.C.: 10k
PHASE, WIRE: 1 , 3 — 100 AMP MAIN LUGS — MOUNTED: FLUSH

KVA CODE	CKT	SERVING	C/B P	C/B TRIP	WIRE QTY	WIRE AWG	KVA	PH	KVA	WIRE QTY	WIRE AWG	C/B P	C/B TRIP	SERVING	CKT	KVA CODE
L	1	LIGHTING - FIELD	2	20	2	10	1.1	A	1.1	2	10	2	20	LIGHTING - FIELD	2	L
L	3						1.1	B	1.0						4	L
L	5	LIGHTING - FIELD	2	20	2	10	0.8	A	0.8	2	10	2	20	LIGHTING - FIELD	6	L
L	7						0.8	B	0.8						8	L
L	9	LIGHTING - FIELD	2	20	2	10	1.1	A	1.1	2	12	2	20	LIGHTING - FIELD	10	L
L	11						1.1	B	1.1						12	L
L	13	LIGHTING - FIELD	2	20	2	10	1.1	A	1.1	2	10	2	20	LIGHTING - FIELD	14	L
L	15						1.1	B	1.1						16	L
0.0	17	SPARE			0	0	0.0	A	0.0	0	0			SPARE	18	0.0
0.0	19	SPARE		0	0	0	0.5	B	0.0	0	0			SPARE	20	0.0
0.0	21	BUSSED SPACE		0	0	0	0.5	A	0.0	0	0			BUSSED SPACE	22	0.0
0.0	23	BUSSED SPACE		0	0	0	0.4	B	0.0	0	0			BUSSED SPACE	24	0.0

* PROVIDE HANDLE LOCK-ON C/B COVER.

NOTES:
1. PROVIDE ARC-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKERS FOR ALL BRANCH CIRCUITS FEEDING RECEPTACLES IN BEDROOMS, IN ACCORDANCE WITH NEC 210.12.

CD	DESCRIPTION	CON KVA A	CON KVA B	DEMAND FACTOR	DEMAND KVA A	DEMAND KVA B
L	LIGHTING	8.2	8.1	125%	10.3	10.1
0	0	1.5	4.4	0%	0.0	0.0
0	0	1.5	4.4	0%	0.0	0.0
0	0	1.5	4.4	0%	0.0	0.0
0	0	1.5	1.5	0%	0.0	0.0
0	0	1.5	4.4	0%	0.0	0.0
0	0	1.5	4.4	0%	0.0	0.0
	TOTAL				10.3	10.1

DESIGN KVA = 20.5 KVA
SPARE = 10%
DESIGN AMPS= 94 AMP
MOCP = 100 AMP

CLIENT:
PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
200-64 E. OLNEY AVENUE
PHILADELPHIA, PA 19120

PROJECT NUMBER:
16640E-01-02

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MEP DESIGN:
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DRAWING PHASE:
100% CONSTRUCTION DOCUMENTATION

SEAL:
COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — MARK BRIAN WASHINGTON — ENGINEER NO. 34881-E

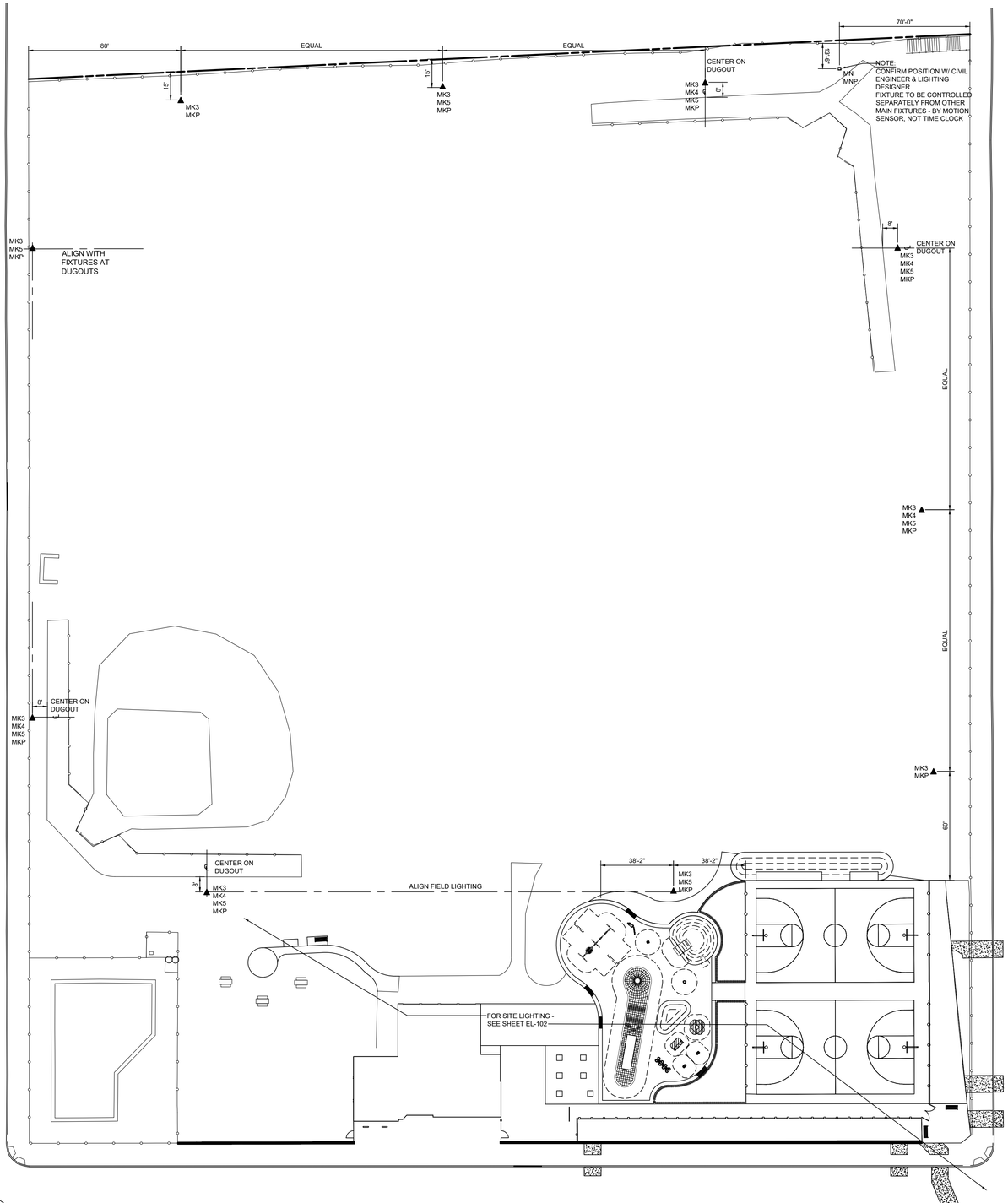
SHEET TITLE:
SCHEDULES AND DETAILS

REV	DATE	DESCRIPTION
1	1/13/2023	ADDENDUM 1

SCALE: AS NOTED
DATE: 06/24/2022
DRAWN BY: WOJ
CHECKED BY: MBW

SHEET NUMBER:
E-3.1

SALT DESIGN STUDIO FILE NO.:
2003



1 FIELD LIGHTING PLAN

SCALE: 1" = 30'-0"

SITE AND FIELD FIXTURE SCHEDULE

Type	Description	Manufacturer	Model	Code	Wattage	Voltage	Lamp	CCT	Control	Finish	Location	Notes
MK3	Field Light	Cooper Lighting	Ephesus	AF-750-3-40	750	Check w/MEP	LED	4000K	On/Off; Time Clock	Black Matte	Field	See Cooper Lighting Photometry report for location and quantity on each pole.
MK4	Field Light	Cooper Lighting	Ephesus	AF-750-4-40	750	Check w/MEP	LED	4000K	On/Off; Time Clock	Black Matte	Field	See Cooper Lighting Photometry report for location and quantity on each pole.
MK5	Field Light	Cooper Lighting	Ephesus	AF-750-5-40	750	Check w/MEP	LED	4000K	On/Off; Time Clock	Black Matte	Field	See Cooper Lighting Photometry report for location and quantity on each pole.
MKP	Field Light Pole 55'	TBD	TBD	TBD	n/a	n/a	n/a	4000K	n/a	Black Matte	Field	Engineer to determine specifications in coodination with Lighting Designer.
MN	Pedestrian Scale Walkway—Single Head	Selux	Discera	DSC4L-R3-MP5 30-40-TBD-BL-TBD-HS-MS	48	Check w/MEP	LED	4000K	Dimming; Photosensor	Black	Exterior Walkways	Engineer to coordinate specifications with Lighting Designer.
MNP	Pedestrian Scale Walkway Pole 14'	Selux	Discera	TBD-14-BL-TBD	n/a	Check w/MEP	LE0	4000K	Dimming; Photosensor	Black	Exterior Walkways	Engineer to determine specifications in coodination with Lighting Designer.
MO1	Basketball Court Light	Cooper Lighting	Ephesus	AF-550-4-40	550	Check w/MEP	LED	4000K	On/Off; Time Clock	Black Matte	Basketball Court	See Cooper Lighting Photometry report for location and quantity on each pole.
MO2	Basketball Court Light	Cooper Lighting	Ephesus	AF-550-5-40	550	Check w/MEP	LED	4000K	On/Off; Time Clock	Black Matte	Basketball Court	See Cooper Lighting Photometry report for location and quantity on each pole.
MOP	Basketball Court Light Pole 30'	TBD	TBD	TBD	n/a	n/a	n/a		n/a	Black Matte	Basketball Court	Engineer to determine specifications in coodination with Lighting Designer.

NOTES:
- CONTRACTOR TO PROVIDE THE MANUFACTURER ANY REQUIREMENTS FOR FACTORY INSTALLED WHIPS.
- FIXTURE TO BE PROVIDED WITH ALL NECESSARY POWER SUPPLIES, FEEDS, CABLE, DRIVERS, ACCESSORIES AND MOUNTING EQUIPMENT AS RECOMMENDED BY MANUFACTURER.
- CONTRACTOR TO CONFIRM ALL LIGHTING FIXTURE CATALOG NUMBERS WITH LIGHTING DESIGNER BEFORE ORDERING.

SITE AND FIELD LIGHTING LEGEND

MK ▲ POLE-MOUNTED 8 HEAD FIELD LIGHTS

MN □ PEDESTRIAN SCALE WALKWAY-SINGLE HEAD ON 14' POLES

MO ⊠ POLE-MOUNTED 'COURT LIGHT'

NOTES:
- MN FIXTURES ARE TO BE INSTALLED IN RELATION TO BENCH SEATING.
- MK POLE SPECIFICATION TO BE DETERMINED.

SITE AND FIELD LIGHTING NOTES

1. THERE WILL BE NO LIGHTING FIXTURE SUBSTITUTIONS, DELETIONS, OR ADDITIONS WITHOUT APPROVAL OF LIGHTING DESIGNER.
2. ALL LIGHTING FIXTURES BROUGHT TO THE SITE MUST BE LABELED AND ACCOMPANIED BY A BILL OF SALE FROM THE ELECTRICAL DISTRIBUTOR OR MANUFACTURER.
3. CONTRACTOR TO NOTIFY LIGHTING DESIGNER OF ANY DISCREPANCIES OF EXISTING CONDITIONS PRIOR TO BEGINNING, OR CONTINUING CONDITIONS, THAT MAY CONFLICT WITH LIGHTING INSTALLATION AND CONSTRUCTION ACTIVITIES.
4. CONTRACTOR TO CONFIRM ALL LIGHTING FIXTURE CATALOG NUMBERS WITH LIGHTING DESIGNER BEFORE ORDERING.
5. CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL ENGINEER (MEP) BEFORE REMOVING OR REPLACING ANY ELECTRICAL WIRING OR CONDUITS.
6. CONTRACTOR TO REFER TO CIVIL AND ELECTRICAL ENGINEERING DRAWINGS FOR BOLLARD, FIELD, AND SITE LIGHTING POLE FOUNDATION CONSTRUCTION.
7. LIGHTING DESIGNER TO REVIEW AND APPROVE ALL LIGHTING FIXTURES ON-SITE. LIGHTING DESIGNER RESERVES THE RIGHT TO REJECT ANY LIGHTING FIXTURE IF DEEMED DAMAGED OR STRUCTURALLY AND FUNCTIONALLY COMPROMISED.
8. CONTRACTOR TO PROVIDE ALL NECESSARY POWER SUPPLIES, FEEDS, CABLE, DRIVERS, ACCESSORIES AND MOUNTING EQUIPMENT AS RECOMMENDED BY MANUFACTURER.
9. CONTRACTOR TO PROVIDE THE MANUFACTURER WITH ANY REQUIREMENTS FOR FACTORY INSTALLED WHIPS, POWER SUPPLIES, ACCESSORIES, AND ANY CONFIGURATIONS NECESSARY FOR PROPER INSTALLATION.
10. CONTRACTOR WILL ENSURE INSTALLED LIGHTING FIXTURE ORIENTATION IS CORRECTLY AIMED FOR THE TARGET AREA.
11. ELECTRICAL CONTRACTOR SHALL USE THE FIELD AND BASKETBALL COURT LIGHTING FIXTURES (EPHESUS) BEING HELD BY COLONIAL ELECTRIC ON BEHALF OF CITY OF PHILADELPHIA PARKS AND RECREATION
12. MEP TO COORDINATE WITH LIGHTING DESIGNER ON WHICH SPECIFIED LIGHTING FIXTURES ARE TO BE USED FOR EMERGENCY LIGHTING.
13. MEP TO COORDINATE WITH LIGHTING DESIGNER ON THE CONTROL SYSTEM FOR ALL LIGHTING FIXTURES.
14. CONTRACTOR SHALL REMOVE AND STORE, IN A PRE-APPROVED LOCATION, EXISTING LIGHTING FIXTURES AND LAMPS (BULBS).
15. CONTRACTOR IS RESPONSIBLE FOR REMOVING EXISTING LIGHTING FIXTURES IN A MANNER THAT ENSURES THE FIXTURES REMAIN IN WORKING CONDITION, AND WILL COORDINATE THE OFF-SITE DISPOSAL AND/OR STORAGE WITH THE LIGHTING DESIGNER IN ACCORDANCE WITH THE OWNER'S INTENTIONS AND LOCAL CODES AND LAWS.
16. THE FIELD LIGHTING FIXTURE LAYOUT WAS CONSTRUCTED BY MANUFACTURER (COOPER LIGHTING)--COOPER LIGHTING PHOTOMETRY REPORT--IN COOPERATION WITH THE LIGHTING DESIGNER AND BASED ON LIGHTING FIXTURES THAT ARE IN PHILADELPHIA PARKS AND RECREATION'S CACHE OF EPHESUS BRAND FIXTURES WHICH ARE NOT THE LIGHTING DESIGNER'S RECOMMENDED FIXTURE FOR THIS APPLICATION.
17. CONTRACTOR SHALL REFER TO COOPER LIGHTING PHOTOMETRY REPORT, AND COORDINATE WITH LIGHTING DESIGNER, FOR LOCATION OF EPHESUS LIGHTING FIXTURES AT THE FIELD AND BASKETBALL COURT POLE LOCATIONS.
18. CONTRACTOR SHALL FOLLOW FIELD AND BASKETBALL COURT LIGHTING FIXTURE AIMING ANGLES SPECIFIED IN COOPER LIGHTING PHOTOMETRY REPORT AND COORDINATE WITH LIGHTING DESIGNER ON ANY DEVIATION FROM ANGLES SPECIFIED.
19. ELECTRICAL CONTRACTOR MUST COORDINATE WITH CITY OF PHILADELPHIA PARKS AND RECREATION ELECTRICAL DEPARTMENT REGARDING THE PREPARATION AND INSTALLATION OF FIELD AND BASKETBALL COURT LIGHTING FIXTURES (EPHESUS). FIXTURES MUST BE INSTALLED AS PER CITY OF PHILADELPHIA PARKS AND RECREATION ELECTRICAL DEPARTMENT SPECIFICATIONS.

CLIENT:
PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

PROJECT NAME & ADDRESS:
ZIEHLER PLAYGROUND & RECREATION CENTER
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PHILADELPHIA, PA 19120

PROJECT NUMBER:
16640E-01-02

PRIME CONSULTANT / LANDSCAPE ARCHITECTURE:
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www.dhuy.com

DRAWING PHASE:
ISSUE FOR BIDDING

SEAL:

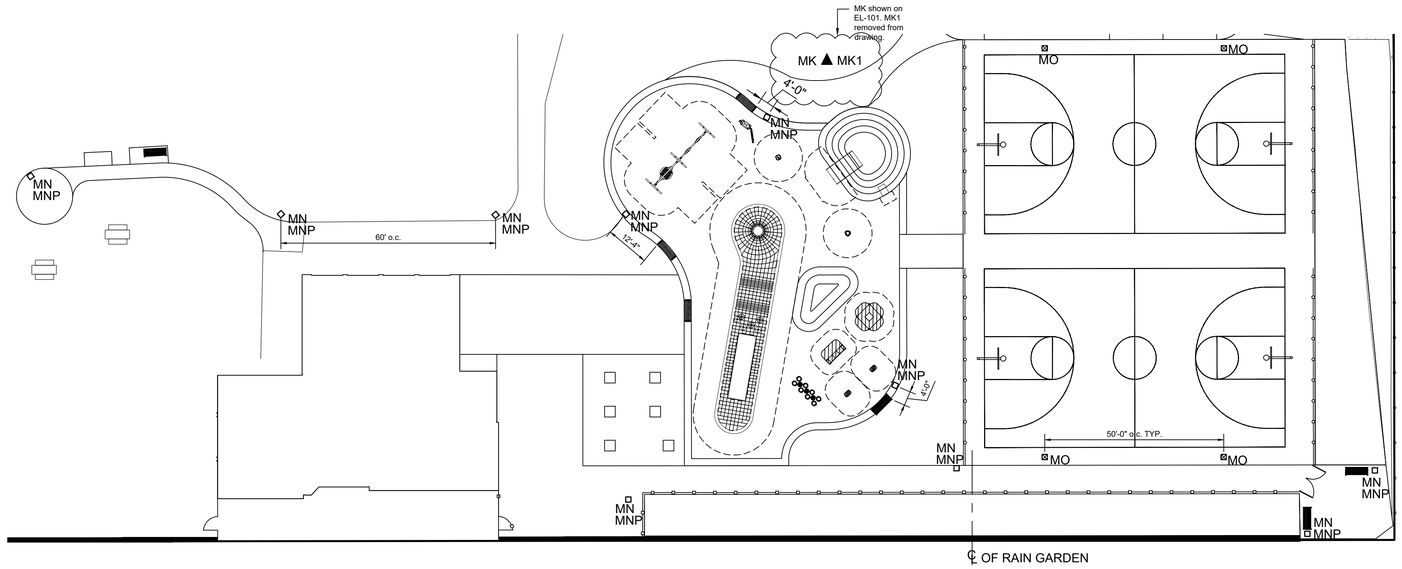
SHEET TITLE:
FIELD LIGHTING PLAN

REV	DATE	DESCRIPTION
1	1/13/2023	ADDENDUM 1

SCALE: AS NOTED
DATE: 08/15/2022
DRAWN BY: RW
CHECKED BY: RM

SHEET NUMBER:
EL-101

SALT DESIGN STUDIO FILE NO.:
2003



1 SITE LIGHTING PLAN

SCALE: 1" = 20'-0"

0' 30' 60'

N

SITE AND FIELD FIXTURE SCHEDULE

Type	Description	Manufacturer	Model	Code	Wattage	Voltage	Lamp	CCT	Control	Finish	Location	Notes
MK3	Field Light	Cooper Lighting	Ephesus	AF-750-3-40	750	Check w/MEP	LED	4000K	On/Off; Time Clock	Black Matte	Field	See Cooper Lighting Photometry report for location and quantity on each pole.
MK4	Field Light	Cooper Lighting	Ephesus	AF-750-4-40	750	Check w/MEP	LED	4000K	On/Off; Time Clock	Black Matte	Field	See Cooper Lighting Photometry report for location and quantity on each pole.
MK5	Field Light	Cooper Lighting	Ephesus	AF-750-5-40	750	Check w/MEP	LED	4000K	On/Off; Time Clock	Black Matte	Field	See Cooper Lighting Photometry report for location and quantity on each pole.
MKP	Field Light Pole 55'	TBD	TBD	TBD	n/a	n/a	n/a	4000K	n/a	Black Matte	Field	Engineer to determine specifications in coodination with Lighting Designer.
MN	Pedestrian Scale Walkway—Single Head	Selux	Discera	DSC4L-R3-MP5 30-40-TBD-BL-TBD-HS-MS	48	Check w/MEP	LED	4000K	Dimming; Photosensor	Black	Exterior Walkways	Engineer to coordinate specifications with Lighting Designer.
MNP	Pedestrian Scale Walkway Pole 14'	Selux	Discera	TBD-14-BL-TBD	n/a	Check w/MEP	LE0	4000K	Dimming; Photosensor	Black	Exterior Walkways	Engineer to determine specifications in coodination with Lighting Designer.
MO1	Basketball Court Light	Cooper Lighting	Ephesus	AF-550-4-40	550	Check w/MEP	LED	4000K	On/Off; Time Clock	Black Matte	Basketball Court	See Cooper Lighting Photometry report for location and quantity on each pole.
MO2	Basketball Court Light	Cooper Lighting	Ephesus	AF-550-5-40	550	Check w/MEP	LED	4000K	On/Off; Time Clock	Black Matte	Basketball Court	See Cooper Lighting Photometry report for location and quantity on each pole.
MOP	Basketball Court Light Pole 30'	TBD	TBD	TBD	n/a	n/a	n/a		n/a	Black Matte	Basketball Court	Engineer to determine specifications in coodination with Lighting Designer.

NOTES:
- CONTRACTOR TO PROVIDE THE MANUFACTURER ANY REQUIREMENTS FOR FACTORY INSTALLED WHIPS.
- FIXTURE TO BE PROVIDED WITH ALL NECESSARY POWER SUPPLIES, FEEDS, CABLE, DRIVERS, ACCESSORIES AND MOUNTING EQUIPMENT AS RECOMMENDED BY MANUFACTURER.
- CONTRACTOR TO CONFIRM ALL LIGHTING FIXTURE CATALOG NUMBERS WITH LIGHTING DESIGNER BEFORE ORDERING.

SITE AND FIELD LIGHTING LEGEND

MK	▲	POLE-MOUNTED 8 HEAD 'LIGHTS-ON-POLES'
MN	▫	PEDESTRIAN SCALE WALKWAY-SINGLE HEAD ON 12' POLES
MNP	▫	WALKWAY LIGHT POLE 12'
MO	⊠	POLE-MOUNTED 'COURT LIGHT'

NOTES:
- MN FIXTURES ARE TO BE INSTALLED IN RELATION TO BENCH SEATING.
- MK FIXTURE AND POLE SPECIFICATION TO BE DETERMINED.

SITE AND FIELD LIGHTING NOTES

1. There will be no lighting fixture substitutions, deletions, or additions without approval of Lighting Designer.
2. All lighting fixtures brought to the site must be labeled and accompanied by a bill of sale from the electrical distributor or manufacturer.
3. Contractor to notify Lighting Designer of any discrepancies of existing conditions prior to beginning, or continuing conditions, that may conflict with lighting installation and construction activities.
4. Contractor to confirm all lighting fixture catalog numbers with Lighting Designer before ordering.
5. Contractor shall coordinate with the Electrical Engineer (MEP) before removing or replacing any electrical wiring or conduits.
6. Contractor to refer to Civil and Electrical Engineering drawings for bollard, field, and site lighting pole foundation construction.
7. Lighting Designer to review and approve all lighting fixtures on-site. Lighting Designer reserves the right to reject any lighting fixture if deemed damaged or structurally and functionally compromised.
8. Contractor to provide all necessary power supplies, feeds, cable, drivers, accessories and mounting equipment as recommended by manufacturer.
9. Contractor to provide the manufacturer with any requirements for factory installed whips, power supplies, accessories, and any configurations necessary for proper installation.
10. Contractor will ensure installed lighting fixture orientation is correctly aimed for the target area.
11. Electrical Contractor shall use the field and basketball court lighting fixtures (Ephesus) being held by Colonial Electric on behalf of City of Philadelphia Parks and Recreation
12. MEP to coordinate with Lighting Designer on which specified lighting fixtures are to be used for emergency lighting.
13. MEP to coordinate with Lighting Designer on the control system for all lighting fixtures.
14. Contractor shall remove and store, in a pre-approved location, existing lighting fixtures and lamps (bulbs).
15. Contractor is responsible for removing existing lighting fixtures in a manner that ensures the fixtures remain in working condition, and will coordinate the off-site disposal and/or storage with the Lighting Designer in accordance with the owner's intentions and local codes and laws.
16. The Field Lighting fixture layout was constructed by manufacturer (Cooper Lighting)--Cooper Lighting Photometry report--in cooperation with the Lighting Designer and based on lighting fixtures that are in Philadelphia Parks and Recreation's cache of Ephesus brand fixtures which are not the Lighting Designer's recommended fixture for this application.
17. Contractor shall refer to Cooper Lighting Photometry report, and coordinate with Lighting Designer, for location of Ephesus lighting fixtures at the Field and Basketball Court pole locations.
18. Contractor shall follow Field and Basketball Court lighting fixture aiming angles specified in Cooper Lighting Photometry report and coordinate with Lighting Designer on any deviation from angles specified.
19. Electrical Contractor must coordinate with City of Philadelphia Parks and Recreation electrical department regarding the preparation and installation of field and basketball court lighting fixtures (Ephesus). Fixtures must be installed as per City of Philadelphia Parks and Recreation electrical department specifications.

CLIENT:
PHILADELPHIA PARKS & RECREATION
Rebuild PHILADELPHIA

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DRAWING PHASE:
ISSUE FOR BIDDING

SEAL:

SHEET TITLE:
SITE LIGHTING PLAN

REV	DATE	DESCRIPTION
1	1/13/2023	ADDENDUM 1

SCALE: AS NOTED
DATE: 08/15/2022
DRAWN BY: RW
CHECKED BY: RM

SHEET NUMBER:
EL-102

SALT DESIGN STUDIO FILE NO.:
2003

SECTION 312000
EARTH MOVING

PART 1 – GENERAL

1.1 SUMMARY

A. The work of this section includes all earthwork and related and incidental operations, including:

1. Site protection, erosion and sediment control, site clearing, and sitework clearing.
2. Preparing of subgrade for walkways and pavements, and sitework clearing.
3. Dewatering as required to keep excavations free of water and soil erosion during construction period.
4. Preparing subgrades for slabs on grade.

B. Excavating and backfilling for underground mechanical and electrical utilities and buried mechanical and electrical appurtenances shall be by the mechanical or electrical contractor.

C. Related Sections
1. Section 015713, "Temporary Erosion and Sediment Sedimentation Controls".

1.2 General earthwork requirements shall conform to the following minimum standards:

A. Provide positive drainage away from all structures.

B. Unless otherwise noted, minimum slope shall be ¼ inch per foot or 2% and a maximum slope shall not exceed 3:1 (h:v) or 33% for non-paved surfaces. Paved surfaces shall have a minimum grade or 1% and have positive drainage off of the pavement.

C. Grades on designated handicapped accessible areas/routes shall comply with the provisions of the Americans with Disabilities Act.

D. Notify the PPR immediately if slope requirements cannot be met. At no time will slopes in excess of those above the maximum allowed, be accepted, unless prior approval is received in writing by PPR.

E. Grade earthen, non-paved, surfaces to a smooth finish. Slope lawn areas in swales to a gentle crown along the centerline.

F. Grade all seeded fine lawn areas flush with finish grade. Adjust finished grade to the proper depth where sod abuts paved areas.

G. Grade all tree/shrub/groundcover planting beds to 3 inches below top of abutting curbs, paving, or lawn areas to allow for mulching.

H. Adjust existing and new catch basins, and drains rim/grate elevations to new grade elevations (pavement or soil).

I. Finished surfaces shall be graded smooth and even with no abrupt or awkward changes in grade.

J. Provide properly compacted subgrades of native soil or approved fill. Native soils, fill, or subgrades deemed insufficient shall be removed and replaced with appropriate material. Subgrades shall be inspected by a qualified inspector to ensure compaction requirements are met. Submit test reports and field logs to PPR for review and for record.

K. Existing on-site soils should be evaluated for both suitability for use in construction as well as environmentally for contaminants by licensed and qualified professionals such geotechnical engineers and environmental scientists. Many sites throughout the City include various types of urban fill. In some cases there may be abandoned structures below grade. These soils and features should be evaluated before design and engineering newly planned features. Also, environmental due diligence and/or testing should be completed near the beginning of design and engineering to ascertain if on-site materials are clean or regulated. Testing of existing on-site soils and materials shall comply with the requirements of Pennsylvania Department of Environmental Protection requirements for fill management whether it is determined to be clean or regulated. Submit geotechnical testing and environmental due diligence reports to PPR for review and for record.

L. Any soil materials leaving the site or being brought to the site shall comply with the Pennsylvania Department of Environmental Protection requirements for fill management.

M. Environmental due diligence: 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 screen, analytical testing, environmental assessments or audits. Submit all environmental due diligence reports to PPR for review and for record.

~~N. Exported fill materials will be tested as per the Management of Fill Policy (2020) to determine whether the materials meet the analytical criteria for Clean Fill.~~

O. 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 a 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 PADEP's policy "management of fill".

P. Fill material that does not qualify as clean fill is regulated fill. Regulated fill is waste and must be managed in accordance with the municipal or residual waste regulations in 25 pa code chapters 287 residual waste management or 271 municipal waste management, whichever is applicable.

~~Q. Exported fill materials will be tested as per the Management of Fill Policy (2020) to determine whether the materials meet the analytical criteria for Clean Fill.~~

~~R. The materials that meet the criteria for clean fill do not require special handling. However, a Clean Fill Certification Form FP-1001 must be submitted to PADEP and retained by the owner~~

~~of the property receiving the fill. PPR and Rebuild will not prepare Clean Fill Certifications.~~

S. Fill material that does not qualify as clean fill is regulated fill. Regulated fill is waste and must be managed in accordance with the municipal or residual waste regulations in 25 pa code chapters 287 residual waste management or 271 municipal waste management, whichever is applicable.

T. Designers and contractors shall comply with the Pennsylvania Underground Utility Line Protection Law, Act 287 of 1974, as amended by Act 50 of 2017. This includes contacting the Pennsylvania One Call System or 811 as required by law.

U. Designers and contractors, in additional to complying with the Pennsylvania Underground Utility Line Protection Law requirements shall research available utility records from the project owner for the site or facility. Upon evaluation of these records the designer or contractor can evaluate the need for extensive underground utility locating depending the project. The designer or contractor shall determine the need and level of underground utility located needed for the project in conformance with the American Society of Civil Engineers (ASCE) National Consensus Standard – ASCE C-I 38-02, Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data. The designer or contractor shall determine the Quality Level of utility located required by the project, Levels D, C, B, or A. The costs associated with underground utility locating services shall be evaluated and balanced with the available utility information, conditions in the field, the type of project being proposed, the risks associated with utility conflict and/or damage, and the ability of a utility locator to obtain information. These evaluations shall be done in consultation with Philadelphia Parks and Recreation.

1.3 ACTION SUBMITTALS

A. Test Reports: Submit the following reports in addition to other test reports described in subsequent sections directly to the Engineer from the testing services, with a copy to the Contractor and the Owner:

1. Test reports on borrow material, including USCS classification (grain size, liquid limit, plastic limit, and natural water content), Clean Fill certification, and optimum moisture-maximum density curve for standard Proctor.
2. Verification of suitability of each footing subgrade material, in accordance with specified requirements.
3. Field reports; in-place soil density tests.
4. One optimum moisture-maximum density curve for each type of soil encountered. One USCS classification (grain size, liquid limit, plastic limit, and natural water content), Clean Fill certification and optimum moisture-maximum density curve for standard Proctor for each fill and backfill material.
5. Report of actual unconfined compressive strength and/or results of bearing tests of each strata tested.

1.4 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

B. Codes and Standards: Perform work in compliance with applicable requirements of governing authorities having jurisdiction and follow Geotechnical recommendations. Construction operations shall be carried out in a manner such that soil erosion, air pollution, and water pollution is minimized. State, County, and Municipal laws concerning pollution abatement shall be followed.

1. The Standards for Soil Erosion and Sediment Control in Pennsylvania, as published by the Pa. Department of Environmental Protection, shall be applicable where the work is not specifically detailed on the accompanying drawings or by local requirements.
2. Earthwork recommendations outlined in the Project's current Geotechnical Engineering Report shall be followed unless otherwise noted.

C. The Contractor shall take action to remedy unforeseen erosion conditions and to prevent damage to adjacent properties as a result of increased runoff and/or sediment displacement. Stockpiles of wood chips, hay bales, crushed stone, and other mulches shall be held in readiness to deal immediately with emergency problems of erosion. All erosion control checks and structures shall be inspected weekly and after heavy rainfalls, and if damaged, repaired or replaced.

D. A Geotechnical Testing Agency shall be retained by the Contractor to perform soil testing and inspection services for quality control during earthwork and site grading operations.

1. The Contractor shall submit data demonstrating the qualifications of the Geotechnical Testing Agency for approval by the Engineer.
2. The Geotechnical Testing Agency shall be qualified according to ASTM E 329 to conduct soil materials and rock definition testing as documented according to ASTM D 3740 and ASTM E 548.
3. The Geotechnical testing agency shall have on staff a professional engineer who is legally authorized to practice in the jurisdiction where the Project is located and who is experienced in providing geotechnical engineering.
4. The Geotechnical Testing Agency shall perform the tests and provide the services specified below and submit test reports to the Owner and Engineer. All test reports must be signed and sealed by the qualified professional engineer responsible for their preparation.
5. Testing shall be performed in the presence of a county/city representative.

E. Field Engineering: A Surveyor shall be retained by the Contractor to provide field engineering services required for proper completion of the work including but not necessarily limited to layout work and setting of grades, slopes and levels:

1. The Contractor shall submit data demonstrating qualifications of persons proposed to be engaged for field engineering services for approval by the Engineer.
2. The surveyor shall submit documentation verifying that layout, grades, slopes and levels are in conformance with the drawings and specifications.
3. The Contractor shall locate and protect control points and reference points throughout the progress of work.

1.5 REFERENCES

A. Annual Book of ASTM Standards, 2005; American Society for Testing and Materials, Philadelphia, PA.

B. Standard Specifications of the Pennsylvania Department of Transportation, Pub. 408, latest edition.

C. Management of Fill Policy, Pennsylvania Department of Environmental Protection, January 1, 2020 (Document No. 258-2182-773).

1.6 PROJECT CONDITIONS

A. Site Information

1. Existing data was used for the basis of the design and are available to the contractor for information only. Existing conditions are not intended as representations or warranties of accuracy or continuity. The Owner will not be responsible for interpretations or conclusions drawn from this data by Contractor.
2. Test borings and other exploratory operations may be performed by contractor, at the Contractor's option; however, no change in the Contract Sum will be authorized for such additional exploration.

B. Site Protection: Comply with requirements specified in Temporary Erosion and Sediment Controls, Section 015713, prior to the start of, and throughout, earthwork operations.

1. Before beginning site and sitework clearing or any other construction activity, Contractor shall set up and maintain temporary fencing along the limits of construction indicated on the drawing, staked out by the Contractor, and shall notify Engineer.
2. This temporary fencing shall describe the area of protection of existing soils/vegetation to remain. Under no conditions shall this line be penetrated by any construction vehicle or construction process, including storage of materials, waste, or fill, or for any purpose without the written consent of the Engineer or Owner.
3. Temporary fencing shall be maintained in good condition throughout the work and shall be removed when work is completed.
4. Vegetation in protected areas which is damaged due to construction activities shall be replaced or otherwise restored to the satisfaction of the Engineer and at no cost to the Owner.
5. Barricade open excavations occurring as part of this work and post with warning lights. Operate warning lights as recommended by authorities having jurisdiction.
6. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
7. Perform excavation by hand within dripline of large trees to remain. Protect root systems from damage or dry out dryout to the greatest extent possible. Maintain moist condition for root system and cover exposed roots with moistened burlap.
8. No vehicles shall be driven or parked under the canopy of trees nor shall material be stored or any construction activity take place under canopies except that directly related to work there.

C. Protection of Existing Utilities

1. Locate existing underground utilities in the area of the work prior to the beginning of the work. Where utilities are to remain in place, provide suitable protection where required before starting work and maintain protection throughout the course of the work. Do not interrupt existing utilities without written approval from the utility owner.

    a. Provide minimum of 48-hour notice to the Engineer and receive written notice to proceed before interrupting any utility.

2. Should uncharted or incorrectly charted utilities be encountered during excavation, consult the utility owner immediately for directions. Cooperate with the Owner and public and private utility companies in keeping their respective services and facilities in operation.
3. Restore damaged utilities to their original condition to the satisfaction of and at no cost to the Owner. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shutoff of services if lines are active.

D. Use of Explosives: Use of explosives is not permitted without the prior approval of the Engineer.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Class 4, Type A Geotextile: Per PENNDOT Publication 408, Section 735 with AOS 70-100 U.S. Sieve.

2.2 SOIL MATERIALS

A. Satisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GW, GP, GM, SM, SW, and SP.

B. Unsatisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GC, SC, ML, MH, CL, CH, 0L, OH, and PT.

C. Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100 percent passing a 1-1/2 inch sieve and not more than 10 percent passing a No. 4 sieve and 0% passing No. 200 sieve.

D. Topsoil: Topsoil stripped and stockpiled on the site should be used for fine grading. Topsoil is defined as soil existing as top layer of earth on the site, which produces heavy growths of crops, grass or other vegetation. If there is not sufficient stripped and stockpiled topsoil, furnish additional topsoil as needed conforming to the requirements specified in Section 32 93 00, Plants.

E. Fill and Backfill Materials:

1. Fill must have a bearing capacity of at least 3,000 pounds per square foot (PSF) when compacted to 95% of the maximum dry density (ASTMD-1557 or ASTM D-698 for trenches or other small spaces where large compaction equipment is not used).
2. Ordinary fill material shall be clean and free of high organic top soil, peat or muck, masonry materials, broken concrete or asphalt, stones larger than six inches, frozen lumps, trash, and other debris that would interfere with compaction or cause settlement.
3. Fill material shall be of a moisture content suitable for compaction, specifically within +/- 2% of the optimum moisture content per the standard Proctor test (ASTM D698) and shall be obtained from a location that is normally dry and well-drained.
4. Select fill material shall be PENNDOT No. 2A per PENNDOT Section 703.2.
5. Should it be necessary to import fill material from off-site, the Contractor shall furnish certified report(s) of the testing laboratory showing the analysis of a representative sample of the material he proposes to use. A separate report shall be furnished for each source of material, including USCS classification (grain size, liquid limit, plastic limit, and natural water content), Clean Fill certification, and optimum moisture-maximum density curve for standard Proctor. The Contractor shall furnish the reports to the Engineer for approval. Imported fill shall be well-graded granular material similar to PADOT 2A or crushed, recycled concrete with a gradation similar to PADOT 2A.
6. Structural Fill: Clean bank run sand and gravel containing non-plastic fines for that portion passing a No. 40 U.S. Standard sieve. Conform to the following gradation.

U.S. STANDARD SIEVE SIZE	PERCENT PASSING
4 inch	100
No. 4	30 to 100
No. 200	0 to 1235

   a. Material Availability: Borrow areas for structural fill material are not available on the site. Provide off-site materials of the quality specified and quantities required. Obtain material from a single source if possible.

7. Crushed Stone: Angular, washed natural stone; free of shale, clay, friable materials and debris; graded in accordance with ANSI/ASTM C136 within the following limits:

U.S. STANDARD SIEVE	PERCENT
3/4 inch	95 to 100
5/8 inch	75 to 100
3/8 inch	55 to 85
No. 4	35 to 60
No. 16	15 to 35
No. 40	10 to 25
No. 200	5 to 10

8. Sand: Natural river or bank sand; dry, washed, free of silt, clay, loan, friable or soluble materials and organic matter; graded in accordance with ANSI/ASTM C136 within the following limits:

U.S. STANDARD SIEVE	PERCENT

No. 4	100
No. 14	10 to 100
No. 50	5 to 90
No. 100	4 to 30
No. 200	0

9. Dense Graded Aggregate: Broken stone, crushed gravel or blast furnace slag conforming to the following gradation:

U.S. STANDARD SIEVE	PERCENT FINER BY
1 inch	100
3/4 inch	55 to 90
No. 4	25 to 60
No. 50	5 to 25
No. 200	3 to 12

10. Pea Gravel: Natural stone; washed, well rounded, clean, free flowing, free of clay, shale, organic matter; 1/4 inch minimum to 5/8 inch maximum size.
11. Porous Fill: Crushed stone aggregate conforming to the following gradation:

U.S. STANDARD SIEVE	PERCENT FINER BY
1 inch	100
3/4 inch	90
3/8 inch	30
No. 4	5
No. 8	0

12. Ballast: Coarse, crushed stone aggregate conforming to the gradation of Table C. and properties specified in PADOT 703.2

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which earthwork and site grading is to be performed and notify the Engineer in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

3.2 SITE PROTECTION MEASURES

A. All temporary erosion and sediment control measures indicated on the drawings and as specified in Section 015713 and all temporary fencing shall be in place before beginning any earthwork or sitework.

B. Construction operations shall be carried out in a manner such that soil erosion and air and water pollution are minimized. State and local laws concerning pollution abatement shall be followed.

C. The General Contractor shall be responsible for all soil erosion and sediment control and site protection during the construction period and shall provide barriers and other measures and devices to ensure that these specifications are complied with.

D. Preventative measures against sinkhole formation:

1. Provide positive drainage away from building areas and exposed rock at all times during construction.
2. Avoid ponding water or concentrations of surface flows except where designated on the drawings.
3. Prevent runoff water from flowing onto exposed subgrades. Close excavations as soon as possible after exposure. Foundation concrete should be placed the same day that excavation is completed.
4. Backfill shall be compacted and be no more permeable than adjacent subgrade.

E. Contractor shall notify the Engineer before any work is begun on the site to review temporary erosion control measures, site protection, permanent stormwater management features, and the sequence of construction.

F. Permanent stormwater management features and additional temporary erosion control measures as indicated on drawings shall be constructed after clearing and stripping of topsoil and are to be in place before the beginning of other construction activities.

G. No water which transports sediment resulting from earth moving, demolition, or other construction activities shall be permitted to discharge beyond the limits of disturbance or grading indicated on the drawings.

3.3 SITE PREPARATION

A. Following the setting up of temporary fencing, tree protection and temporary erosion control measures as specified, remove trees, shrubs, grass and other vegetation or obstructions which interfere with new construction. Completely remove stumps of trees and shrubs which are located within ten feet of proposed new construction, including buildings, roads, etc. to at least one foot below finish grade.

B. Strip all topsoil to the full depth of the topsoil horizon, minimum 6 inches, from the area to be disturbed by new earthwork or construction.

1. Keep topsoil reasonably free from subsoil, debris, and stones larger than two inches.
2. Stockpile topsoil for future use in location to be approved by the Engineer. If so directed by the Engineer, create separate stockpiles for different stripped areas.
3. Prevent erosion of stockpiles, as specified in Section 015713.

3.4 EXCAVATION

A. Excavation is unclassified and includes excavation to subgrade elevations indicated, regardless of character of materials and obstructions encountered.

B. The Contractor shall perform excavation to the dimensions and elevations indicated on the drawings for all structures and work incidental thereto.

C. Excavated materials to be reused for topsoil, backfill, or other purposes shall be piled away from the edge of the excavated area a sufficient distance to prevent overloading the bank, and graded in such a way as to prevent surface water from entering the excavated area. Excess material from excavation not suitable or required for backfill or other purposes shall be hauled from the site as excavated and disposed of legally.

Exposed subgrades outside of ultimate stormwater infiltration or bioretention areas shall be proof rolled with heavy pneumatic-tired equipment in the presence of the Geotechnical Testing Agency to identify soft pockets and areas of excess yielding. Do not proof roll wet or saturated subgrades. At minimum, a triaxle dump truck (loaded) with minimum tire pressure of 100 psi (Gross Vehicle Weight of 75,000 lb) should be used.

Excavate and replace soft or unstable areas of subgrade and replace with approved compacted fill as directed by the Geotechnical Testing Agency. The Contractor should refer to the pavement subgrade over excavation detail should soft or unstable areas be encountered. Over excavation should consist of 1' min to 3' max depth in areas identified as unsuitable by proof rolling, the placement of Class 4, type A geotextile, and backfilled with compacted dense graded aggregate. Use select fill material specified in 2.2.E. as PADOT 2A per 703.2 or approved crushed, recycled concrete of similar gradation.

D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Geotechnical Testing Agency.

E. Rock Excavation: The following classifications of excavation will be made when rock is encountered:

1. Earth Excavation includes excavation of pavements and other obstructions visible on surface; underground structures, utilities, and other items indicated to be demolished and removed; together with earth and other materials encountered that are not classified as rock or unauthorized excavation.
2. Rock excavation for trenches and pits includes removal and disposal of materials and obstructions encountered that cannot be excavated with a track-mounted power excavator, equivalent to Caterpillar Model No. 2l5C LC, and rated at not less than 115 HP flywheel power and 32,000-pound drawbar pull and equipped with a short stick and a 42-inch wide, short tip radius rock bucket rated at 0.81 cubic yard (heaped) capacity. Trenches in excess of l0 feet in width and pits in excess of 30 feet in either length or width are classified as open excavation.
3. Rock excavation in open excavations includes removal and disposal of materials and obstructions encountered that cannot be dislodged and excavated with modern, track-mounted, heavy-duty excavating equipment without drilling, blasting, or ripping. Rock excavation equipment is defined as caterpillar Model No. 973 or equivalent track- mounted loader, rated at not less than 210 HP flywheel power and developing minimum of 45,000-pound breakout force (measured in accordance with SAE J732).

    a. Typical of materials classified as rock are boulders 1/2 cu. yd. or more in volume, solid rock, rock in ledges, and rock-hard cementitious aggregate deposits.

b. Intermittent drilling, blasting, or ripping performed to increase production and not necessary to permit excavation of material encountered will be classified as earth excavation.

4. Do not perform rock excavation work until material to be excavated has been cross-sectioned and classified by Geotechnical Testing Agency. Such excavation will be paid on basis of contract conditions relative to changes in work.
5. Rock payment lines are limited to the following:

a. Two feet outside of concrete work for which forms are required, except footings.

b. One foot outside perimeter of footings.

c. In pipe trenches, 6 inches below invert elevation of pipe and 2 feet wider than inside diameter of pipe, but not less than 3 feet minimum trench width.

d. Outside dimensions of concrete work where no forms are required.

e. Under slabs on grade, 6 inches below bottom of concrete slab.

F. Excavation for Structures

1. Excavation shall extend two (2) feet from the neat lines of structures to the face of bank or shoring to allow working space and inspection, except where concrete is to be deposited directly against excavated surfaces.
2. Conform to elevations and dimensions shown within a tolerance of 0.10 feet.
3. All loose material shall be removed from excavations, and bottoms shall be carefully leveled to grade.
4. Do not excavate to full depth when rain or freezing conditions are imminent. Protect completed foundation soil surface from frost.
5. The Contractor shall furnish 48 hours advance notification to the Geotechnical Testing Agency of times when footing excavations are to be completed so that the bearing quality of bottoms may be inspected and/or tested. Place no forms or concrete before approval of the excavation by the Geotechnical Testing Agency.
6. The Geotechnical Testing Agency shall inspect the open excavation to verify the bearing capacity of supporting undisturbed soil. Natural and fill soils are to have a minimum bearing capacity of 3,000 psf (pounds per square foot).
7. If the Geotechnical Testing Agency determines that unsatisfactory soil is present, or that bearing capacity at the indicated elevation is inadequate, continue excavation and replace with approved compacted load-bearing structural fill material as directed by the Geotechnical Testing Agency. Such excavation shall be classified as additional work and payment shall be made in accordance with the General Conditions.
8. If foundation subgrade is found to be unstable or directly on rock, the existing soils/rock shall be removed to a minimum depth of two feet below the proposed bottom elevation, or to a depth where firm to stiff natural soils or rock is encountered. Replace undercut areas with approved compacted load-bearing structural fill material in accordance with these specifications and as directed by the Geotechnical Engineer.

G. Excavation for Trenches

1. Trenches shall be of minimum width necessary to lay pipes and shall be excavated to exact

depth and grade. Trench bottoms shall have proper and uniform grade between inverts.

2. Bottoms of all trenches shall be trimmed by hand, so that the lower one-third of pipe is continuously supported on undisturbed or compacted soil with the slope of the pipe uniform between established elevations. Bottoms of all trenches shall be hand recesses at bells, pipe couplings, valves and other protuberances.
3. Where rock or shale is encountered, the trench shall be excavated deeper as indicated below, and a layer of rock-free gravel (1/4-inch maximum size) shall be hand tamped over the trench bottom. This bed shall be a minimum of 4 inches thick for pipes 8 inches and smaller, 6 inches for pipes 10 to 20 inches, and 9 inches for pipes 24 inches and larger. Additional similar material shall be packed around the pipe to a depth of approximately 1/2 of the diameter of the pipe.
4. Whenever wet or otherwise unstable soil that is incapable of properly supporting the pipe is encountered in the bottom of the trench, such soil shall be removed to the depth required and the trench backfilled to the proper grade with a coarse sand, fine gravel, or other approved material.

H. Excavation for Pavements

1. Cut surface under pavements to comply with cross-sections, elevations and grades as indicated.

I. Stability of Excavations

1. General: Comply with local codes, ordinances, and requirements of agencies having jurisdiction.

2. Slope sides of excavations to comply with local codes, ordinances, and requirements of agencies having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling.
3. Shoring and Bracing: Silty on-site soils are considered Type B per OSHA excavation regulations. The sidewalls of excavations deeper than 4 feet must be sloped, benched, or adequately shored per OSHA regulations. Provide materials for shoring and bracing, such as sheet piling, uprights, stringers, and cross braces, in good serviceable condition. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Extend shoring and bracing as excavation progresses.

    a. Provide permanent steel sheet piling or pressure-creosoted timber sheet piling wherever subsequent removal of sheet piling might permit lateral movement of soil under adjacent structures. Cut off tops a minimum of 2'-6" below final grade and leave permanently in place.

J. Dewatering

1. The contractor shall pump out or otherwise remove any water which may be found in the excavation, and he shall provide drainage ditches, under-drains, flumes, well points, and pumping equipment, as necessary, to keep the excavation entirely clear of water while the foundations are being built or other operations are being performed requiring a dry condition. Do not use trench excavations as temporary drainage ditches.
2. All discharge resulting from de-watering of excavations shall be collected and diverted to

facilities for removal of sediment or into a sediment filter bag and discharged over a level vegetated area. Such facilities shall be reviewed and approved by the Engineer before their construction. Water shall be conveyed to areas specified by the Engineer on-site. No water shall be run directly to streams or drains.

K. Cold Weather Protection

1. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.

3.5 FILLING AND BACKFILLING

A. General: Place soil material in layers to required subgrade elevations, for each area classification listed below, using materials specified in Part 2 of this Section.

1. Under grassed areas, use satisfactory excavated or borrow material.
2. Under walks and pavements, use subbase material, satisfactory excavated or borrow material or a combination.
3. Under steps, use subbase material.
4. Under footings and foundations use select fill material or approved imported load-bearing structural fill material.
5. Under building slabs, use drainage fill material.
6. Under piping and conduit and equipment, use subbase materials where required over rock bearing surface and for correction of unauthorized excavation. Shape excavation bottom to fit bottom 90 degrees of cylinder.
7. Backfill trenches with concrete where trench excavations pass within 18 inches of column or wall footings and that are carried below bottom of such footings or that pass under wall footings. Place concrete to level of bottom of adjacent footing.

    a. Concrete is specified in Division 3.
    b. Do not backfill trenches until tests and inspections have been made and backfilling is authorized by Geotechnical Testing Agency. Use care in backfilling to avoid damage or displacement of pipe systems.

8. Provide 4-inch-thick concrete base slab support for piping or conduit less than 2'-6" below surface of roadways. After installation and testing of piping or conduit, provide minimum 4- inch-thick encasement (sides and top) of concrete prior to backfilling or placement of roadway subbase.

B. Backfill excavations as promptly as progress of the Work permits, but not until completion of the following:

1. Acceptance of construction below finish grade including, where applicable, damp proofing, waterproofing, and perimeter insulation.
2. Inspection, testing, approval, and recording locations of underground utilities have been performed and recorded.
3. Removal of concrete formwork.
4. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Cut off temporary sheet piling driven below bottom of structures and remove in manner to prevent settlement of the structure or utilities, or leave in place if required.

5. Removal of trash and debris from excavation.
6. Permanent or temporary horizontal bracing is in place on horizontally supported walls.

C. Placing and compacting

1. Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow strip, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.
2. When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.
3. Place backfill and fill materials in layers not more than 8 10 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 6 inches in loose depth for material compacted by hand-operated tampers.
4. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
5. Place backfill and fill materials evenly adjacent to structures, piping, or conduit to required elevations. Prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping, or conduit to approximately same elevation in each lift.
6. Control soil and fill compaction, providing minimum percentage of density specified for each area classification indicated below. Correct improperly compacted areas or lifts as directed by Geotechnical Testing Agency if soil density tests indicate inadequate compaction.

a. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density, in accordance with ASTM D698:

Under structures, building slabs and steps, pavements, and utilities compact top 12 inches of subgrade and each layer of backfill or fill material at 98 percent maximum density.

Under walkways, pavements, and utilities compact top 6 inches of subgrade and each layer of backfill or fill material at 95 percent maximum density.

Under vegetated or unpaved areas, compact top 6 inches of subgrade and each layer of backfill or fill material at 85 percent maximum density.

Under walkways, pavements, and utilities compact top 6 inches of subgrade and each layer of backfill or fill material at 95 percent maximum density.

Under bioretention areas, no compaction shall be permitted. Areas of the bioretention area compacted during the course of construction shall be harrowed or disced to restore permeability in accordance with Bioretention area specifications. If permeability cannot be restored, over-excavation and backfill with clean, open-

graded stone may be required.

b. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade or layer of soil material. Apply water in minimum quantity as necessary to prevent free water from appearing on surface during or subsequent to compaction operations.

1) Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
2) Stockpile or spread soil material that has been removed because it is too wet to permit compaction. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory value.
3) If aeration does not reduce the moisture content to an acceptable level, admixtures (lime, fly-ash, cement, or dry granular soil) will be required to modify moisture and aid in compaction. If admixtures are used, laboratory testing must be performed to determine the appropriate admixture(s) amounts, maximum dry density, and optimum moisture content.

3.6 FIELD QUALITY CONTROL

A. Notify Geotechnical Testing Agency for inspection and approval of subgrades and fill layers before subsequent construction is permitted thereon. Allow testing service to inspect and approve each subgrade and fill layer before further backfill or construction work is performed.

A. Perform field density tests in accordance with ASTM D1556 (sand cone method) or ASTM D 2167 (rubber balloon method), as applicable.

1. Field density tests may also be performed by the nuclear method in accordance with ASTM D2922 ASTM D6938, providing that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D1556. In conjunction with each density calibration check, check the calibration curves furnished with the moisture gages in accordance with ASTM D3017.
2. If field tests are performed using nuclear methods, make calibration checks of both density and moisture gages at beginning of work, on each different type of material encountered, and at intervals as directed by the Geotechnical Testing Agency.

C. Footing Subgrade: For each strata of soil on which footings will be placed, perform at least one test to verify required design bearing capacities. Subsequent verification and approval of each footing subgrade may be based on a visual comparison of each subgrade with related tested strata when acceptable to Engineer.

D. Paved Areas: Perform at least one field density test of subgrade for every 2,000 sq. ft. of paved area or building slab, but in no case fewer than three tests. In each compacted fill layer, perform one field density test for every 2,000 sq. ft. of overlaying building slab or paved area, but in no case fewer than three tests.

E. Trench Backfill: Perform at least one test for each 50 feet or less of trench length, but not fewer than two three tests.

F. If in opinion of Geotechnical Testing Agency, based on testing service reports and inspection, subgrade or fills that have been placed are below specified density, perform additional
compaction, or remove and replace compacted fill material until specified compaction is achieved.

3.7 GRADING

A. General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated or between such points and existing grades.

B. Grading Outside Building Lines: Grade areas adjacent to building lines to drain away from structures and to prevent ponding. Finish surfaces free from irregular surface changes and as follows:

1. Lawn or Unpaved Areas: Finish areas to receive topsoil to within not more than 0.10 foot above or below required subgrade elevations.
2. Walks: Shape surface of areas under walks to line, grade, and cross-section, with finish surface not more than 0.10 foot above or below required subgrade elevation.
3. Pavements: Shape surface of areas under pavement to line, grade, and cross-section, with finish surface not more than 1/2 inch above or below required subgrade elevation.

C. Grading Surface of Fill under Building Slabs: Grade smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within a tolerance of 1/2 inch when tested with a 10-foot straightedge. The Surveyor shall verify that grades, slopes, and levels are in conformance with the drawings and specifications.

D. Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.

3.8 PAVEMENT SUBBASE COURSE

A. General: Subbase course consists of placing subbase material, in layers of specified thickness, over subgrade surface to support a pavement base course.

1. Refer to other Division 32 sections for paving specifications.

B. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.

C. Shoulders: Place shoulders along edges of subbase course to prevent lateral movement.

D. Construct shoulders of acceptable soil materials, placed in such quantity to compact to thickness of each subbase course layer. Compact and roll at least a 12-inch width of shoulder simultaneous with the compaction and rolling of each layer of subbase course.

E. Placing: Place subbase course material on prepared subgrade in layers of uniform thickness,

conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting subbase material during placement operations.

1. When a compacted subbase course is indicated to be 6 inches thick or less, place material in a single layer. When indicated to be more than 6 inches thick, place material in equal layers, except no single layer more than 6 inches or less than 3 inches in thickness when compacted.

3.9 TEMPORARY SEEDING

A. Temporary seeding and mulching shall be required on all freshly graded areas immediately following earthmoving procedures. Seed-free straw or salt hay mulch shall be applied at a rate of 1 ton per acre (40 lbs. per 1000 square feet) over temporary seeded areas. Straw bale barriers shall be placed in swale areas until vegetation is established.
B. Temporary seeding shall consist of sod, a blend of turf-type tall fescue and Kentucky Blue Grass (100 percent by weight) or equivalent and shall be placed at 30 lbs per acre or 10 lbs per 1,000 square feet.
C. Should temporary seeding not be possible or not establish itself properly, mulch as described above, pending fine grading or permanent seeding.

3.10 FINISH GRADING

A. Spreading of planting soil and finish grading shall be coordinated with the work of the Landscape Contractor and the seeding dates described in Section 32 93 00, Plants. No work shall be performed until after verification of slopes and grades as described in this Section and until after approval by the Engineer.

B. Verify that the rough grades meet requirements for tolerances, materials, and compaction.

C. Correct washouts, swales, berms, and other irregularities to provide a smooth, uniform surface without low places where water will stand.

D. Surface of subgrades shall be loosened and made friable by cross-discing or harrowing to a depth of 2" (inches). Stones and debris more than 1-1.5" (inches) in any dimension shall be raked up and grade stakes and rubbish removed.

E. Planting Soil shall be per Section 32 91 15, Soil Preparation.

F. Permanent seeding work shall be begun within one week of the completion of fine grading. If grading is completed at a time of the year when seeding work is not to be done or if this is otherwise not possible, mulch entire area with seed-free salt straw or salt hay at a rate of one ton per acre. Anchor mulch with a mulch binder approved by Engineer.

G. Any discrepancies which occur due to misgrading or to disturbance or erosion shall be regraded and re-rolled to the satisfaction of the Engineer.

3.11 DISPOSAL OF EXCESS AND WASTE MATERIALS

A. Removal to Designated Areas on Owner's Property: Transport acceptable excess excavated

material to designated soil storage areas on Owner's property. Stockpile soil or spread as directed by Engineer.

B. Removal from Owner's Property: Remove waste materials, including unacceptable excavated material, trash, and debris, and legally dispose of it off Owner's property. The Contractor is responsible for obtaining a legal disposal site and necessary permits (as required) for disposal of excess earthwork materials and debris. The Contractor also agrees to hold the Owner harmless from all damages, fines, etc. arising out of improper disposal, if not otherwise provided by law.

3.12 CERTIFICATION

A. Upon completion of this portion of the work, and as a condition of its acceptance, deliver to the Engineer written reports from the soils engineer and the surveyor.

1. The Geotechnical Testing Agency shall certify that the compaction requirements have been obtained. State in the report the area of fill or embankment, the compaction density obtained, and the type or classification of fill material placed.
2. The Surveyor shall certify that the layout, grades, slopes, and levels are in conformance with the drawings and specifications as outlined in this Section.

END OF SECTION