

P063-10605

ADDENDUM NUMBER 2

ESTABROOK DAM
REHABILITATION
Site #687
4400 North Estabrook Park Drive
Milwaukee, WI

Project Number: P063-10605

Notice Number: 7106

Date of Addendum: June 15, 2016

This Addendum to the Contract Documents is issued to modify, explain or correct the original documents, dated May 25, 2016, and is hereby made part of the Contract Documents. Acknowledge receipt of this Addendum in the space provided on the Bid Form, or bid may be rejected.

PROJECT BIDDING, CONTRACT DOCUMENTS, AND DRAWINGS

Table of Contents, Document 00010:

Add language after Division 9 – FINISHES as follows:

<u>“Division 16 – ELECTRICAL</u>	
16050 – Electrical Work – General	16050-8”

Bid Form, Document 00410:

Change language for Bid Item 5.1 to the following:

“Fixed Crest Spillway Stop Logs - This work shall consist of re-installation of stop log components including repair and/or replacement of damaged or missing components of the stop logs as follows: replacement and/or re-installation of the damaged or missing steel angles and Zees of the existing end brackets at both ends of the stop log section; Replacement of 11 damaged or severely corroded stanchions of the fixed crest spillway; and re-installation of stop logs after the repair work to the stop log components and fixed crest spillway is completed. The Owner will provide the existing steel channel and timber stop logs to be installed.” Refer to Sheet S304 and Reference Drawing for additional information.

Replace page 00410-3Bid Form – 6 with Addendum No. 2 “page 00410-3Bid Form – 6”. Changes on revised bid sheet include deleting Bid Item 10.11 – Grouted Riprap and adding Bid Item 11.1 – Gate Heating System.

Project Drawings

Replace Drawing CVR – Cover-Site Sheet with Addendum No. 2 Sheet G1.1 (CVR) – Cover-Site Sheet.

Delete the following on Drawing C103:

Middle of Sheet, delete hatching for grouted riprap on the upper right side of gated structure.

Delete the following on Drawing C105:

P063-10605

Delete the hatching and text call-out "PROPOSED GROUTED RIPRAP (TYP.)"

Delete the following on Sheet C106:

Delete hatching and call-out "FILL WITH GROUTED RIPRAP, WDOT HEAVY. MATCH DAM
..... TO MATCH EXISTING GRADES."

Delete the following on Drawing C108:

Remove Hatching at the lower right corner of Detail 1 for grouted riprap.

Delete the following from Drawing S301 as follows:

Detail 1 – Remove hatching at the lower left hand corner of detail and the call-out that states
"PLACE GROUTED RIPRAP. SEE SHEET C106 DOWN STREAM SIDE OF PIERS 1 TO 5."

ADD Addendum No. 2 Drawing S308 after Drawing S307

Addendum No. 2 Attachments:

- Section 16050, Electrical Work – General (8 sheets)
- Revised Bid Form sheet 6 (1 sheet)
- Revised plans sheet CVR and new sheet S308 (2 sheets, pdf of plans sheet on County website)

End of Addendum No. 2

SECTION 16050

ELECTRICAL WORK – GENERAL

PART 1 - GENERAL

1.01 DESCRIPTION:

- A. Provide complete and operational systems for both normal and standby electric power systems, grounding systems and other specified systems, including the installation and wiring of miscellaneous equipment and devices. Perform all work and testing as indicated and specified.
 - 1. Provide conduit, wiring and connections for power, control, lighting, instrumentation and alarms for equipment furnished by others unless otherwise specified and indicated.
 - 2. Provide temporary circuits, overcurrent devices, conduit and wiring, and other equipment required during construction and change-over from existing to proposed electric system. Perform work at the convenience of the Owner.
 - 3. Provide electrical system studies including a short circuit and protective device coordination study and an arc-flash study for the electrical distribution system constructed under this contract.
 - 4. Disconnecting, removing, and relocating existing electrical equipment is a part of this Contract and this Section. Make equipment scheduled for removal free of shock hazard.
 - 5. Provide electrical relocation work associated with the relocation of equipment for the existing and new facilities, including disconnecting all existing wiring and conduits and providing new wiring and conduit to the relocated equipment. Make equipment scheduled for relocation free of electrical shock hazard.
 - 6. Review the electrical underground system and the civil yard piping. Install the electrical underground system in a manner that avoids conflicts with manholes, catch basins, etc. provided under other Divisions of the specifications

1.02 REFERENCES:

- A. National Fire Protection Association (NFPA):
 - 1. 70: National Electrical Code (NEC).

1.03 SEQUENCING AND SCHEDULING:

- A. Coordinate electrical equipment installation with other dam components.
- B. Arrange for chases, slots and openings in the structures during the progress of construction to allow for the electrical installation.
- C. Coordinate installing required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.
- D. Sequence, coordinate and integrate the installation of electrical materials and equipment for efficient flow of the work.
- E. Coordinate the installation of large equipment prior to closing in the building.
- F. Sequencing and scheduling work at existing facilities:

1. Remove and demolish/repair equipment and materials in such a sequence that the existing and proposed dam will function properly with no disruption of power. Continuous service is required on all circuits and outlets affected by the work detailed in the contract, except where the Owner will permit an outage for a specific time. Obtain Owner's consent before removing any circuit from continuous service.
2. Coordinate electrical power outages to the electrical systems and equipment with the Owner. Where duration of proposed outage cannot be allowed by the Owner, phase the work to allow the system or equipment to be re-connected to the electrical power system within the time frame allowed by the Owner or provide temporary power connections as required to maintain service to the systems or equipment. The temporary power can be from a generator or another part of the facility not affected by the outage provided there is sufficient spare capacity.

1.04 QUALITY ASSURANCE:

- A. Provide in accordance with Contract Documents and as specified.
- B. Install electrical work in conformance with latest rules and requirements of National Fire Protection Association Standard No. 70 (National Electrical Code) and in accordance with requirements of State and Local Codes.

1.05 QUALIFICATIONS OF ELECTRICAL SUBCONTRACTOR

- A. The Electrical Subcontractor shall have been engaged in work of a similar nature to this contract for the past 5 years.
- B. The Electrical Subcontractor shall have a minimum of five projects of equal or greater size with the type of equipment specified under this project.

1.06 SUBMITTALS:

- A. Submit the following in accordance with Section 01330:
 1. The following defines a minimum for all shop drawing and data submittals:
 - a. Submit shop drawings delineated by specification number with all information for one piece of equipment provided as one package.
 - b. Partial submittals will be returned without action.
 - c. Submit bills of material: Include a numbered list of all components, with manufacturer's name, catalog number, rating, and other identification. Place item number or similar identification on all other drawings where item appears.
 - d. Submittal shall include:
 - (1) Manufacturer's drawings
 - (2) Panel layout
 - (3) Equipment layout
 - (4) Schematic diagram
 - (5) One line diagram
 - (6) Control sequence diagrams
 - (7) Interconnection diagrams
 - (8) Wiring diagrams

- (9) Catalog data
 - e. Submit only completed drawings showing all local and remote devices associated with each item.
 - f. Mark shop drawings and data submitted showing only items applicable to specific contract.
 - g. Where additions and modifications are made to existing equipment, provide drawings which include both retained existing equipment and new work.
 - h. Submit time-current characteristic curves for all submitted protection devices such as circuit breakers and fuses.
 - i. Submit other documentary or descriptive information as required for each assembly to demonstrate compliance with the applicable contract documents.
- 2. Shop drawings and data are required for the following list:
 - a. Starting Equipment Data List -Submit blank list initially to verify acceptable format. Submit final list at completion of the project.
 - b. Short Circuit and Coordination Studies Arc-Flash Studies
 - c. Conduit and Fittings
 - d. Wire and Cable
 - e. Wiring Devices
 - f. Low Voltage Switchboards
 - g. Low Voltage Switchgear
 - h. Medium Voltage Switchgear and Load Switches
 - i. Manholes, Handholes, and Associated Equipment and Devices
 - j. Grounding Equipment and Devices
 - k. Panelboards
 - l. Electric Heat Tracing
 - m. Control Panels
 - n. Safety Switches
 - o. Electric Heating Units and Accessories
 - p. Field Acceptance Test Reports
 - q. Record Drawings
- 3. Submit instruction manuals for installation, operation, and maintenance of equipment, and parts list for equipment listed below. Specifically mark standard publications forming a part of this contract. Cross out, blank out, or otherwise delete non-applicable items. Submittals which do not clearly indicate items and features provided shall be rejected.
 - a. Low Voltage Switchgear
 - b. Medium Voltage Switchgear and Load Switches
 - c. Unit Substation
 - d. Lightning Protection System

- e. Security System
- f. Fire Alarm System
- g. Motor Control Centers
- h. Medium Voltage Motor Controllers
- i. Switchboards

1.07 NAMEPLATES AND LABELING:

- A. Provide nameplates and labels on equipment its components

1.08 INTERFERENCE AND ERRONEOUS LOCATIONS:

- A. Locations of electrical equipment, devices, outlets, and similar items, as indicated, are approximate only. Exact locations shall be determined during construction.
- B. Verify in field, all data and final locations of work installed under other sections of specifications, required for placing of electrical work.
- C. In case of interference with other work or erroneous locations with respect to equipment or structures, furnish all labor and materials to complete the work.

1.09 APPROVAL AND MARKING EQUIPMENT:

- A. Insure that devices and materials are listed and/or labeled by UL, wherever standards have been established by that organization. Where a UL listing is not available for equipment, submit certified test reports of a Nationally Recognized Testing Laboratory (NRTL), approved by the local inspecting authority, indicating that equipment is in conformance with local code requirements or any other applicable requirements. Tests and inspections for approval of equipment shall be performed at no additional cost to Owner.
- B. Clearly mark equipment, devices and material with name or trademark of manufacturer and rating in volts and amperes and other pertinent information on a nameplate.

1.10 ELECTRIC SERVICE:

- A. Contractor shall field verify Electrical power system for the dam.
- B. Earth and rock excavation, backfill, concrete masonry, concrete reinforcement, and construction joints required for electrical work is included under this section and shall conform to requirements specified under applicable sections of Contract for General Construction.

1.11 EQUIPMENT SPECIFIED ELSEWHERE:

- A. Certain items of control equipment and other equipment are indicated on electrical drawings for connection, but are specified in other sections pertaining to plumbing, heating, ventilating and air conditioning, mechanical process, instrumentation, etc. Such items are not furnished as part of electrical work.

PART 2 - PRODUCTS

- A. Not Applicable

PART 3 - EXECUTION

3.01 REMOVAL AND RELOCATION OF MATERIAL AND EQUIPMENT:

- A. Carefully dismantle and salvage electrical equipment, switches, fixtures, conduits, cables, wiring, and boxes, as necessary to carry out proposed changes. Rehabilitate and relocate items of equipment as required and as indicated or specified.
 - 1. Deliver material and equipment not indicated for reuse to Owner for his disposal.
- B. Remove from site and dispose of material and equipment not indicated for reuse.

3.02 WORK IN EXISTING STRUCTURES:

- A. In general, any or all existing electrical equipment and services are to remain in operation and shall not be disturbed unless otherwise noted in these Specifications and/or on the drawings or as required for the proper execution of the work.
- B. In each area of the work, disconnect and carefully remove the existing electrical equipment and devices so noted. With the exception of items indicated as having to be re-used, all such existing equipment and devices shall be disposed of as specified herein. If not required by the Owner, remove them from the premises and site. All existing electrical equipment and devices indicated as not removed or abandoned are to be maintained in operation and any circuits disturbed by the construction shall be restored.
- C. Maintain existing electrical services and systems to and in the buildings throughout the project and all "down-time" shall be scheduled at least two weeks in advance with the permission of the Engineer and Owner's Representative and such scheduling shall be rigidly adhered to.

3.03 DEMOLITION/REPAIR AREAS:

- A. Survey the existing electrical systems and equipment identified for removal with representatives from the other trades prior to performing any demolition work. Identify all conduit and equipment to be removed with tags or paint.
- B. Where a piece of equipment is to be removed all associated ancillary components (e.g. solenoid valves, pressure switches, etc) and associated wiring and conduit shall also be removed.
- C. Equipment, building or structures scheduled for complete demolition shall be made safe from electrical shock hazard prior to demolition. Disconnect all electrical power, communications, alarm and signal system.
- D. Equipment scheduled to be turned over to the Owner shall be carefully disconnected, removed and delivered to the Owner where indicated. Provide labor, hoisting and transportation of the equipment. All other miscellaneous electrical materials, devices, etc., associated with the equipment being turned over shall be demolished and removed from the site.
- E. Remove electrical work associated with equipment scheduled for demolition except those portions to remain or be reused.

- F. Unless otherwise specifically noted, remove unused exposed conduit and support systems back to point of concealment including abandoned circuit above accessible ceiling finishes. Removed unused wiring back to source (or nearest point of usage).
- G. Disconnect abandoned outlets and removed devices. Removed abandoned outlets if conduit services them is abandoned or being removed. Provide blank covers for abandoned outlets which are not removed.
- H. Disconnect and remove abandoned electrical equipment unless otherwise indicated or specified.
- I. Repair adjacent construction and finishes damaged during demolition and extension work.
- J. Where electrical systems pass through the demolition/repair areas to serve other portions of the premises, they shall remain or be suitably relocated and the system restored to normal operation.
- K. Trace out existing wiring that is to be relocated, or removed and perform the relocation or removed work as required for a complete operating and safe system.
- L. Remove exposed conduits, wireways, outlet boxes, pull boxes and hangers made obsolete by the alterations, unless specifically designated to remain. Patch surfaces and provide blank covers for abandoned outlets which are removed.
- M. All equipment, materials, controls, motor starters, branch and feeder breakers, panelboards, transformers, wiring, raceways, etc. furnished and installed to the temporarily keep circuits energized shall be removed when the permanent installation is fully operational.

3.04 PROTECTION OF ELECTRICAL EQUIPMENT:

- A. Store equipment in compliance with manufacturer's recommendations and as specified herein.
- B. Protect electrical equipment from the weather, especially from water dripping or splashing upon it, at all times during shipment, storage, and construction.
- C. Do not store equipment outdoors.
- D. Where equipment is installed or stored in moist areas, or unheated buildings, provide acceptable means to prevent moisture damage. Provide uniformly distributed source of heat in electrical equipment to prevent condensation and damage to electrical insulation systems.

3.05 DEFECTIVE OR DAMAGED EQUIPMENT:

- A. Damaged equipment shall not be used. Equipment damaged in shipment, storage, installation or through other means shall be replaced without additional cost to the Owner.
- B. All equipment showing signs of water damage shall be rejected regardless of dielectric test results.
- C. All electrical equipment is considered "in storage" regardless of location until first energized. Manufacturer's recommendations for storage precautions, conditions and care shall be followed.

3.06 STARTING EQUIPMENT DATA LIST:

- A. Obtain data from the equipment supplier shop drawing submittals or equipment nameplates, and prepare a complete tabulation of all motors over 1/3 hp, electric heaters over 3 kW, and starting equipment for both, to be furnished on the project.
 - 1. Include in tabulation firm the following information:
 - a. Name and identification of equipment.
 - b. Manufacturer.
 - c. Horsepower or kilowatt rating.
 - d. Voltage.
 - e. Phase.
 - f. Speed.
 - g. Full load current.
 - h. Locked rotor current or code letter.
 - i. Type of enclosure (open drip-proof, totally enclosed, fan cooled, etc.).
 - j. NEMA size of starter or contactor.
 - k. Overload heater size.
 - l. Type of starter (full-voltage, reduced-voltage, autotransformer, etc.).
 - m. Breaker trip setting or fuse size.
 - n. Voltage of starter operating coil.
 - o. If starter is at a motor control center, list motor control center number.
 - 2. Final acceptance of the electrical system is contingent upon submittal of the complete motor and electric heater tabulation.
 - 3. Arrange tabulation in groups by MCC or building location.
 - 4. Furnish six copies of the tabulation to the Engineer or Owner's Representative when a submission is made.

3.07 DRAWINGS AND SPECIFICATIONS:

- A. Drawings and specifications are typical of work to be done and of the arrangement desired. Provide accessories and appurtenances which the Engineer or Owner's Representative deems functionally necessary for a complete installation, whether or not explicitly indicated or described.

3.08 AS-BUILT DRAWINGS:

- A. The Contractor shall maintain a master set of as-built drawings showing the changes and deviations from the contract drawings.
- B. A minimum of 30 days prior to application for Final Payment, submit two sets of drawings for approval that are marked to show the as-installed equipment, devices, raceway locations and wiring. The markings on the drawings are to be neat, clean and legible.

Project Number P063-10605

3.09 CONTRACT CLOSEOUT:

- A. Provide in accordance with Section 01770.

END OF SECTION

BASE BID ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL
10.7 Crushed gravel – furnish and install crushed gravel as shown on the Drawings and as specified in the contract documents.	100	CY		
10.8 Salvaged On-site Material Crushed gravel – use on-site material and install crushed gravel as shown on the Drawings and as specified in the contract documents.	10	CY		
10.9 Gravel fill – furnish and install gravel fill as shown on the Drawings and as specified in the contract documents.	240	CY		
10.10 Salvaged On-site Material Gravel fill – use on-site material and install gravel fill as shown on the Drawings and as specified in the contract documents.	60	CY		
10.12 Placement of geotextile filter fabric underlain crushed gravel, as specified per project specifications and civil drawings.	650	SY		
10.13 Fishway Sidewall - furnish and install concrete sidewall for fishway as shown on the Drawings and as specified in the contract documents.	1	LS		
10.14 Fishway Stepped Weir - furnish and install concrete stepped weir for fishway as shown on the Drawings and as specified in the contract documents.	1	LS		
11.0 Gate Heating System				
11.1 Design and installation of a gate heating system for Gates 5 through 10. This shall include the design, fabrication and installation of the electrical, piping and mechanical components of the heating system.				
Total:				

*Description of abbreviations:

SF = Square Feet LF = Lineal Feet CF = Cubic Feet SY = Square Yard
 EA = Each LS = Lump Sum HR = Hour

Revised – Addendum 2

Bid Form-6

MILWAUKEE COUNTY DEPT. OF PARKS, RECREATION & CULTURE

ESTABROOK DAM REHABILITATION

4400 N. ESTABROOK DRIVE, MILWAUKEE, WISCONSIN

DRAWINGS

GROUP 1 (SITE)

- COVER - SITE G1.1 (CVR)
- GENERAL NOTES G1.2 (G100)
- SOIL BORING LOGS G1.3 (G101)
- SOIL BORING LOGS G1.4 (G102)
- SITE LOCATION MAP G1.5 (C100)
- SITE MAP - WETLAND DELINEATION G1.6 (C101)
- EXISTING SITE CONDITIONS G1.7 (C102)
- PROPOSED SITE IMPROVEMENT PLAN G1.8 (C103)
- SOIL EROSION AND SEDIMENT CONTROL PLAN G1.9 (C104)
- SHORELINE PROTECTION OVERVIEW G1.10 (C105)
- SHORELINE PROTECTION PARTIAL PLANS G1.11 (C106)
- FISH PASSAGE GRADING PLAN G1.12 (C107)
- FISH PASSAGE GRADING PLAN G1.13 (C108)
- SHORELINE PROTECTION SECTIONS G1.14 (C201)
- FISH PASSAGE DETAILS G1.15 (C202)
- SOIL EROSION AND SEDIMENT CONTROL DETAILS G1.16 (C301)

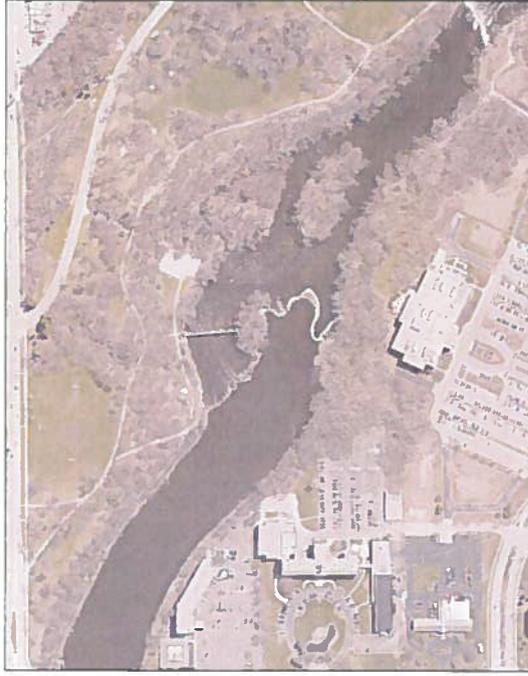
GROUP 2 (STRUCTURAL)

- PROPOSED PHASING PLAN G2.1 (S100)
- GATED STRUCTURE OPERATING DECK PLAN G2.2 (S101)
- PROPOSED FISH PASSAGE STRUCTURE G2.3 (S102)
- UPSTREAM ELEVATIONS G2.4 (S201)
- DOWNSTREAM ELEVATIONS G2.5 (S202)
- PIER ELEVATIONS G2.6 (S301)
- GATED STRUCTURE DETAILS G2.7 (S302)
- REPAIR DETAILS, SIGN G2.8 (S303)
- FIXED SPILLWAY SECTIONS AND DETAILS G2.9 (S304)
- ICE BREAKER DETAILS G2.10 (S305)
- FISH PASSAGE STRUCTURE DETAILS G2.11 (S306)
- KNEE WALL SECTION AND DETAILS G2.12 (S307)
- GATE HEATING SYSTEM G2.13 (S308)

GROUP 3 (HISTORIC REFERENCE)

- HISTORIC REFERENCE G3.1 (R100)
- HISTORIC REFERENCE G3.2 (R101)
- HISTORIC REFERENCE G3.3 (R102)
- HISTORIC REFERENCE G3.4 (R103)
- HISTORIC REFERENCE G3.5 (R104)
- HISTORIC REFERENCE G3.6 (R105)
- HISTORIC REFERENCE G3.7 (R106)
- HISTORIC REFERENCE G3.8 (R107)
- HISTORIC REFERENCE G3.9 (R108)
- HISTORIC REFERENCE G3.10 (R109)
- HISTORIC REFERENCE G3.11 (R110)
- HISTORIC REFERENCE G3.12 (R111)
- HISTORIC REFERENCE G3.13 (R112)
- HISTORIC REFERENCE G3.14 (R113)
- HISTORIC REFERENCE G3.15 (R114)
- HISTORIC REFERENCE G3.16 (R115)
- HISTORIC REFERENCE G3.17 (R116)
- HISTORIC REFERENCE G3.18 (R117)
- HISTORIC REFERENCE G3.19 (R118)
- HISTORIC REFERENCE G3.20 (R119)

Project : P063-10605
 Site : 687
 Building: N/A
 Date: 05/25/2016



CLIENT

MILWAUKEE CO. DEPT OF ADMIN SERVICES - AE & ES SECTION
 CONTACT: Karl Staus
 PHONE: 414-278-4863
 633 W. Wisconsin Ave.
 Suite 1000
 Milwaukee, Wisconsin 53202

CIVIL / STRUCTURAL

AECOM TECHNICAL SERVICES Inc.
 PHONE: 414-944-8080, FAX: 414-944-8081
 1556 North Rivercenter Drive
 Suite 214
 Milwaukee, Wisconsin 53212

OWNER

MILWAUKEE COUNTY DEPT. OF PARKS, RECREATION & CULTURE
 CONTACT: Kevin Haley
 PHONE: 414-257-8242
 9480 Watertown Plank Road
 Wauwatosa, Wisconsin 53226



MILWAUKEE COUNTY
PARKS
 N.A.T.I.O.N.A.L.
 GOLD MEDAL WINNER

5/25/16 ISSUE FOR BID
 6/15/16 ADDENDUM NO. 2

DIRECTOR OF PARKS _____

DAS AE & ES DIRECTOR _____

PROJECT MANAGER _____

CVR



ESTABROOK DAM REHABILITATION

4400 N. ESTABROOK DRIVE
MILWAUKEE, WI



MILWAUKEE COUNTY DEPT. OF ADMIN
SERVICES - AE & ES SECTION
633 W WISCONSIN AVE., SUITE 1000, MILWAUKEE, WI 53228

REVISIONS
ADD NO 2 09/10/2018

DATE: 05/25/2018
PROJECT: P185-10805
SITE ID: 887
BUILDING NO: N/A

AECOM	
PROJECT NO.	185-10805
DATE	05/25/2018
BY	...
CHECKED	...
APPROVED	...

S308

GATE HEATING SYSTEM

- NOTES:**
- CONTRACTOR SHALL PERFORM ALL NECESSARY INSPECTIONS PRIOR TO COMMENCEMENT OF THE DESIGN AND INSTALLATION OF A CLOSED LOOP GATE HEATING SYSTEM FOR GATES B THROUGH H.
 - DESIGN OF THE GATE HEATING SYSTEM SHALL BE PER THE FOLLOWING CURRENT STANDARDS AND FOLLOWING REFERENCES, BUT NOT LIMITED TO:
A. NATIONAL ELECTRICAL CODE
B. NATIONAL FIRE PROTECTION ASSOCIATION ENGINEERS
C. NATIONAL HYDRAULIC ASSOCIATION
D. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
E. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION CHAPTER 25 OF ENGINEERING MANUAL (EN 1102-1112-1113-1114-1115-1116-1117-1118-1119-1120-1121-1122-1123-1124-1125-1126-1127-1128-1129-1130-1131-1132-1133-1134-1135-1136-1137-1138-1139-1140-1141-1142-1143-1144-1145-1146-1147-1148-1149-1150-1151-1152-1153-1154-1155-1156-1157-1158-1159-1160-1161-1162-1163-1164-1165-1166-1167-1168-1169-1170-1171-1172-1173-1174-1175-1176-1177-1178-1179-1180-1181-1182-1183-1184-1185-1186-1187-1188-1189-1190-1191-1192-1193-1194-1195-1196-1197-1198-1199-1200-1201-1202-1203-1204-1205-1206-1207-1208-1209-1210-1211-1212-1213-1214-1215-1216-1217-1218-1219-1220-1221-1222-1223-1224-1225-1226-1227-1228-1229-1230-1231-1232-1233-1234-1235-1236-1237-1238-1239-1240-1241-1242-1243-1244-1245-1246-1247-1248-1249-1250-1251-1252-1253-1254-1255-1256-1257-1258-1259-1260-1261-1262-1263-1264-1265-1266-1267-1268-1269-1270-1271-1272-1273-1274-1275-1276-1277-1278-1279-1280-1281-1282-1283-1284-1285-1286-1287-1288-1289-1290-1291-1292-1293-1294-1295-1296-1297-1298-1299-1300-1301-1302-1303-1304-1305-1306-1307-1308-1309-1310-1311-1312-1313-1314-1315-1316-1317-1318-1319-1320-1321-1322-1323-1324-1325-1326-1327-1328-1329-1330-1331-1332-1333-1334-1335-1336-1337-1338-1339-1340-1341-1342-1343-1344-1345-1346-1347-1348-1349-1350-1351-1352-1353-1354-1355-1356-1357-1358-1359-1360-1361-1362-1363-1364-1365-1366-1367-1368-1369-1370-1371-1372-1373-1374-1375-1376-1377-1378-1379-1380-1381-1382-1383-1384-1385-1386-1387-1388-1389-1390-1391-1392-1393-1394-1395-1396-1397-1398-1399-1400-1401-1402-1403-1404-1405-1406-1407-1408-1409-1410-1411-1412-1413-1414-1415-1416-1417-1418-1419-1420-1421-1422-1423-1424-1425-1426-1427-1428-1429-1430-1431-1432-1433-1434-1435-1436-1437-1438-1439-1440-1441-1442-1443-1444-1445-1446-1447-1448-1449-1450-1451-1452-1453-1454-1455-1456-1457-1458-1459-1460-1461-1462-1463-1464-1465-1466-1467-1468-1469-1470-1471-1472-1473-1474-1475-1476-1477-1478-1479-1480-1481-1482-1483-1484-1485-1486-1487-1488-1489-1490-1491-1492-1493-1494-1495-1496-1497-1498-1499-1500-1501-1502-1503-1504-1505-1506-1507-1508-1509-1510-1511-1512-1513-1514-1515-1516-1517-1518-1519-1520-1521-1522-1523-1524-1525-1526-1527-1528-1529-1530-1531-1532-1533-1534-1535-1536-1537-1538-1539-1540-1541-1542-1543-1544-1545-1546-1547-1548-1549-1550-1551-1552-1553-1554-1555-1556-1557-1558-1559-1560-1561-1562-1563-1564-1565-1566-1567-1568-1569-1570-1571-1572-1573-1574-1575-1576-1577-1578-1579-1580-1581-1582-1583-1584-1585-1586-1587-1588-1589-1590-1591-1592-1593-1594-1595-1596-1597-1598-1599-1600-1601-1602-1603-1604-1605-1606-1607-1608-1609-1610-1611-1612-1613-1614-1615-1616-1617-1618-1619-1620-1621-1622-1623-1624-1625-1626-1627-1628-1629-1630-1631-1632-1633-1634-1635-1636-1637-1638-1639-1640-1641-1642-1643-1644-1645-1646-1647-1648-1649-1650-1651-1652-1653-1654-1655-1656-1657-1658-1659-1660-1661-1662-1663-1664-1665-1666-1667-1668-1669-1670-1671-1672-1673-1674-1675-1676-1677-1678-1679-1680-1681-1682-1683-1684-1685-1686-1687-1688-1689-1690-1691-1692-1693-1694-1695-1696-1697-1698-1699-1700-1701-1702-1703-1704-1705-1706-1707-1708-1709-1710-1711-1712-1713-1714-1715-1716-1717-1718-1719-1720-1721-1722-1723-1724-1725-1726-1727-1728-1729-1730-1731-1732-1733-1734-1735-1736-1737-1738-1739-1740-1741-1742-1743-1744-1745-1746-1747-1748-1749-1750-1751-1752-1753-1754-1755-1756-1757-1758-1759-1760-1761-1762-1763-1764-1765-1766-1767-1768-1769-1770-1771-1772-1773-1774-1775-1776-1777-1778-1779-1780-1781-1782-1783-1784-1785-1786-1787-1788-1789-1790-1791-1792-1793-1794-1795-1796-1797-1798-1799-1800-1801-1802-1803-1804-1805-1806-1807-1808-1809-1810-1811-1812-1813-1814-1815-1816-1817-1818-1819-1820-1821-1822-1823-1824-1825-1826-1827-1828-1829-1830-1831-1832-1833-1834-1835-1836-1837-1838-1839-1840-1841-1842-1843-1844-1845-1846-1847-1848-1849-1850-1851-1852-1853-1854-1855-1856-1857-1858-1859-1860-1861-1862-1863-1864-1865-1866-1867-1868-1869-1870-1871-1872-1873-1874-1875-1876-1877-1878-1879-1880-1881-1882-1883-1884-1885-1886-1887-1888-1889-1890-1891-1892-1893-1894-1895-1896-1897-1898-1899-1900-1901-1902-1903-1904-1905-1906-1907-1908-1909-1910-1911-1912-1913-1914-1915-1916-1917-1918-1919-1920-1921-1922-1923-1924-1925-1926-1927-1928-1929-1930-1931-1932-1933-1934-1935-1936-1937-1938-1939-1940-1941-1942-1943-1944-1945-1946-1947-1948-1949-1950-1951-1952-1953-1954-1955-1956-1957-1958-1959-1960-1961-1962-1963-1964-1965-1966-1967-1968-1969-1970-1971-1972-1973-1974-1975-1976-1977-1978-1979-1980-1981-1982-1983-1984-1985-1986-1987-1988-1989-1990-1991-1992-1993-1994-1995-1996-1997-1998-1999-2000-2001-2002-2003-2004-2005-2006-2007-2008-2009-2010-2011-2012-2013-2014-2015-2016-2017-2018-2019-2020-2021-2022-2023-2024-2025-2026-2027-2028-2029-2030-2031-2032-2033-2034-2035-2036-2037-2038-2039-2040-2041-2042-2043-2044-2045-2046-2047-2048-2049-2050-2051-2052-2053-2054-2055-2056-2057-2058-2059-2060-2061-2062-2063-2064-2065-2066-2067-2068-2069-2070-2071-2072-2073-2074-2075-2076-2077-2078-2079-2080-2081-2082-2083-2084-2085-2086-2087-2088-2089-2090-2091-2092-2093-2094-2095-2096-2097-2098-2099-2100-2101-2102-2103-2104-2105-2106-2107-2108-2109-2110-2111-2112-2113-2114-2115-2116-2117-2118-2119-2120-2121-2122-2123-2124-2125-2126-2127-2128-2129-2130-2131-2132-2133-2134-2135-2136-2137-2138-2139-2140-2141-2142-2143-2144-2145-2146-2147-2148-2149-2150-2151-2152-2153-2154-2155-2156-2157-2158-2159-2160-2161-2162-2163-2164-2165-2166-2167-2168-2169-2170-2171-2172-2173-2174-2175-2176-2177-2178-2179-2180-2181-2182-2183-2184-2185-2186-2187-2188-2189-2190-2191-2192-2193-2194-2195-2196-2197-2198-2199-2200-2201-2202-2203-2204-2205-2206-2207-2208-2209-2210-2211-2212-2213-2214-2215-2216-2217-2218-2219-2220-2221-2222-2223-2224-2225-2226-2227-2228-2229-2230-2231-2232-2233-2234-2235-2236-2237-2238-2239-2240-2241-2242-2243-2244-2245-2246-2247-2248-2249-2250-2251-2252-2253-2254-2255-2256-2257-2258-2259-2260-2261-2262-2263-2264-2265-2266-2267-2268-2269-2270-2271-2272-2273-2274-2275-2276-2277-2278-2279-2280-2281-2282-2283-2284-2285-2286-2287-2288-2289-2290-2291-2292-2293-2294-2295-2296-2297-2298-2299-2300-2301-2302-2303-2304-2305-2306-2307-2308-2309-2310-2311-2312-2313-2314-2315-2316-2317-2318-2319-2320-2321-2322-2323-2324-2325-2326-2327-2328-2329-2330-2331-2332-2333-2334-2335-2336-2337-2338-2339-2340-2341-2342-2343-2344-2345-2346-2347-2348-2349-2350-2351-2352-2353-2354-2355-2356-2357-2358-2359-2360-2361-2362-2363-2364-2365-2366-2367-2368-2369-2370-2371-2372-2373-2374-2375-2376-2377-2378-2379-2380-2381-2382-2383-2384-2385-2386-2387-2388-2389-2390-2391-2392-2393-2394-2395-2396-2397-2398-2399-2400-2401-2402-2403-2404-2405-2406-2407-2408-2409-2410-2411-2412-2413-2414-2415-2416-2417-2418-2419-2420-2421-2422-2423-2424-2425-2426-2427-2428-2429-2430-2431-2432-2433-2434-2435-2436-2437-2438-2439-2440-2441-2442-2443-2444-2445-2446-2447-2448-2449-2450-2451-2452-2453-2454-2455-2456-2457-2458-2459-2460-2461-2462-2463-2464-2465-2466-2467-2468-2469-2470-2471-2472-2473-2474-2475-2476-2477-2478-2479-2480-2481-2482-2483-2484-2485-2486-2487-2488-2489-2490-2491-2492-2493-2494-2495-2496-2497-2498-2499-2500-2501-2502-2503-2504-2505-2506-2507-2508-2509-2510-2511-2512-2513-2514-2515-2516-2517-2518-2519-2520-2521-2522-2523-2524-2525-2526-2527-2528-2529-2530-2531-2532-2533-2534-2535-2536-2537-2538-2539-2540-2541-2542-2543-2544-2545-2546-2547-2548-2549-2550-2551-2552-2553-2554-2555-2556-2557-2558-2559-2560-2561-2562-2563-2564-2565-2566-2567-2568-2569-2570-2571-2572-2573-2574-2575-2576-2577-2578-2579-2580-2581-2582-2583-2584-2585-2586-2587-2588-2589-2590-2591-2592-2593-2594-2595-2596-2597-2598-2599-2600-2601-2602-2603-2604-2605-2606-2607-2608-2609-2610-2611-2612-2613-2614-2615-2616-2617-2618-2619-2620-2621-2622-2623-2624-2625-2626-2627-2628-2629-2630-2631-2632-2633-2634-2635-2636-2637-2638-2639-2640-2641-2642-2643-2644-2645-2646-2647-2648-2649-2650-2651-2652-2653-2654-2655-2656-2657-2658-2659-2660-2661-2662-2663-2664-2665-2666-2667-2668-2669-2670-2671-2672-2673-2674-2675-2676-2677-2678-2679-2680-2681-2682-2683-2684-2685-2686-2687-2688-2689-2690-2691-2692-2693-2694-2695-2696-2697-2698-2699-2700-2701-2702-2703-2704-2705-2706-2707-2708-2709-2710-2711-2712-2713-2714-2715-2716-2717-2718-2719-2720-2721-2722-2723-2724-2725-2726-2727-2728-2729-2730-2731-2732-2733-2734-2735-2736-2737-2738-2739-2740-2741-2742-2743-2744-2745-2746-2747-2748-2749-2750-2751-2752-2753-2754-2755-2756-2757-2758-2759-2760-2761-2762-2763-2764-2765-2766-2767-2768-2769-2770-2771-2772-2773-2774-2775-2776-2777-2778-2779-2780-2781-2782-2783-2784-2785-2786-2787-2788-2789-2790-2791-2792-2793-2794-2795-2796-2797-2798-2799-2800-2801-2802-2803-2804-2805-2806-2807-2808-2809-2810-2811-2812-2813-2814-2815-2816-2817-2818-2819-2820-2821-2822-2823-2824-2825-2826-2827-2828-2829-2830-2831-2832-2833-2834-2835-2836-2837-2838-2839-2840-2841-2842-2843-2844-2845-2846-2847-2848-2849-2850-2851-2852-2853-2854-2855-2856-2857-2858-2859-2860-2861-2862-2863-2864-2865-2866-2867-2868-2869-2870-2871-2872-2873-2874-2875-2876-2877-2878-2879-2880-2881-2882-2883-2884-2885-2886-2887-2888-2889-2890-2891-2892-2893-2894-2895-2896-2897-2898-2899-2900-2901-2902-2903-2904-2905-2906-2907-2908-2909-2910-2911-2912-2913-2914-2915-2916-2917-2918-2919-2920-2921-2922-2923-2924-2925-2926-2927-2928-2929-2930-2931-2932-2933-2934-2935-2936-2937-2938-2939-2940-2941-2942-2943-2944-2945-2946-2947-2948-2949-2950-2951-2952-2953-2954-2955-2956-2957-2958-2959-2960-2961-2962-2963-2964-2965-2966-2967-2968-2969-2970-2971-2972-2973-2974-2975-2976-2977-2978-2979-2980-2981-2982-2983-2984-2985-2986-2987-2988-2989-2990-2991-2992-2993-2994-2995-2996-2997-2998-2999-3000-3001-3002-3003-3004-3005-3006-3007-3008-3009-3010-3011-3012-3013-3014-3015-3016-3017-3018-3019-3020-3021-3022-3023-3024-3025-3026-3027-3028-3029-3030-3031-3032-3033-3034-3035-3036-3037-3038-3039-3040-3041-3042-3043-3044-3045-3046-3047-3048-3049-3050-3051-3052-3053-3054-3055-3056-3057-3058-3059-3060-3061-3062-3063-3064-3065-3066-3067-3068-3069-3070-3071-3072-3073-3074-3075-3076-3077-3078-3079-3080-3081-3082-3083-3084-3085-3086-3087-3088-3089-3090-3091-3092-3093-3094-3095-3096-3097-3098-3099-3100-3101-3102-3103-3104-3105-3106-3107-3108-3109-3110-3111-3112-3113-3114-3115-3116-3117-3118-3119-3120-3121-3122-3123-3124-3125-3126-3127-3128-3129-3130-3131-3132-3133-3134-3135-3136-3137-3138-3139-3140-3141-3142-3143-3144-3145-3146-3147-3148-3149-3150-3151-3152-3153-3154-3155-3156-3157-3158-3159-3160-3161-3162-3163-3164-3165-3166-3167-3168-3169-3170-3171-3172-3173-3174-3175-3176-3177-3178-3179-3180-3181-3182-3183-3184-3185-3186-3187-3188-3189-3190-3191-3192-3193-3194-3195-3196-3197-3198-3199-3200-3201-3202-3203-3204-3205-3206-3207-3208-3209-3210-3211-3212-3213-3214-3215-3216-3217-3218-3219-3220-3221-3222-3223-3224-3225-3226-3227-3228-3229-3230-3231-3232-3233-3234-3235-3236-3237-3238-3239-3240-3241-3242-3243-3244-3245-3246-3247-3248-3249-3250-3251-3252-3253-3254-3255-3256-3257-3258-3259-3260-3261-3262-3263-3264-3265-3266-3267-3268-3269-3270-3271-3272-3273-3274-3275-3276-3277-3278-3279-3280-3281-3282-3283-3284-3285-3286-3287-3288-3289-3290-3291-3292-3293-3294-3295-3296-3297-3298-3299-3300-3301-3302-3303-3304-3305-3306-3307-3308-3309-3310-3311-3312-3313-3314-3315-3316-3317-3318-3319-3320-3321-3322-3323-3324-3325-3326-3327-3328-3329-3330-3331-3332-3333-3334-3335-3336-3337-3338-3339-3340-3341-3342-3343-3344-3345-3346-3347-3348-3349-3350-3351-3352-3353-3354-3355-3356-3357-3358-3359-3360-3361-3362-3363-3364-3365-3366-3367-3368-3369-3370-3371-3372-3373-3374-3375-3376-3377-3378-3379-3380-3381-3382-3383-3384-3385-3386-3387-3388-3389-3390-3391-3392-3393-3394-3395-3396-3397-3398-3399-3400-3401-3402-3403-3404-3405-3406-3407-3408-3409-3410-3411-3412-3413-3414-3415-3416-3417-3418-3419-3420-3421-3422-3423-3424-