ADDENDUM NO. 3 – April 10, 2014

RE: Bid No. TFR-295-041614
Torrington High School
Track & Field Renovation Project
Torrington, CT 06790
GALE JN 716300

FROM: Gale Associates, Inc.
703 Hebron Avenue
Glastonbury, CT 06033

TO: ALL GENERAL CONTRACTORS AND PROSPECTIVE BIDDERS OF RECORD

This Addendum forms a part of the Contract Documents and modifies the bidding documents as noted below. All bidders must acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

The following represents additional information related to the Torrington High School Track and Field Renovation Project Specifications:

REVISIONS TO THE BID DOCUMENTS

SPECIFICATIONS:

Bid Due Date (Instructions to Bidders Section 00 2113)

1. The date and time that bids are due has been postponed from Wednesday, April 16, 2014, to Tuesday, April 22, 2014, at 3:00 P.M. This date modifies all advertisements for bid and Section 00 2113 – Instructions to Bidders. All other bid submission requirements remain as listed in the instructions to bidders unless noted otherwise in this addendum.

Prevailing Wage Rates (Prevailing Wage and Prevailing Wage Reporting Requirements - Section 00 6217)

1. Attached are current prevailing wage rates applicable to the project, which were not available at the time the bid specification was published. These wage rates are to supplement Specification Section 00 6217 – Prevailing Wage and Prevailing Wage Reporting Requirements (35 pages) of the bid specifications.

Site Electrical Specifications (Division 26 Electrical Specification Sections)

1. Bidders shall omit the following sections from the bid specifications:

Grounding and Bonding	Section 26 0526
Conduit	Section 26 0533
Underground Ducts and Raceways for Electrical System	Section 26 0543
Exterior Athletic Field Lighting	Section 26 5668

2. Bidders shall substitute the following seven (7) specification sections, which have been provided within this addendum, in lieu of the omitted sections listed above.

Basic Electrical Requirements	Section 26 0000	1 page
Building Wire and Cable	Section 26 0519	3 pages
Grounding and Bonding	Section 26 0526	3 pages
Underground Ducts and Raceways for Electrical System	Section 26 0543	4 pages
Electrical Identification	Section 26 0553	2 pages
Wiring Devices	Section 26 2726	3 pages
Exterior Athletic Field Lighting	Section 26 5668	8 pages

Synthetic Field Surfacing Specification

1. Bidders shall revise Specification Section 32 1823 - Synthetic Field Surfacing as follows:

   Omit Paragraph 1.10 B. – No follow-up painting of the field is required.

   Revise Section 3.04 J. - Synthetic Field lines shall be Inlaid or Tufted as follows.

   1. Tufted/inlaid and painted lining for all sports shall be four (4") inches in width, unless noted otherwise, and colored as follows:

      a. Football – tufted/inlaid – white – all inlaid (coaches' boxes – outline only)

      b. Soccer – tufted/inlaid – yellow

      c. Men's Lacrosse – inlaid tick marks only (blue) (no painting)

      d. Women's Lacrosse – inlaid tick marks only – (red) (no painting)

      e. Field Hockey – inlaid tick marks only – (black) (no painting)

REVISIONS TO THE DRAWINGS

Segmental Retaining Wall and Concrete Stair Details

1. Attached are two 24" x 26" drawing sheets, which are titled "S001 - Segmental Retaining Wall and Technical Notes" and "Sheet S002 - Concrete Stair and Related Details". These sheets shall be added to the drawing set via this addendum.

2. Bidders are to disregard the "Wall Detail" (south of track) shown on "Sheet C502 - Site Details" of the bid drawings and the "Typical Concrete Stair Detail" shown on "Sheet C511 - Site Details" of the bid drawings. The "Stair Handrail Detail" shown on "Sheet C511 – Site Details" remains valid.

Site Electrical Drawings and Details

1. Bidders shall disregard electrical conduit, electrical box and routing information shown on "Sheet C105 - Utility Plan" of the original bid documents, in lieu of the three (3) new 24" x 26" drawings included within this addendum.

Electrical Site Plan – Demolition	SE-1
Electrical Site Plan	SE-2
Electrical Details	SE-3

2. "Sheet C105 - Utility Plan" shall be used for water and irrigation distribution purposes only.

Bidders Questions:

1. Is there an irrigation layout of the existing irrigation and what is the size of the existing pipe?

   Answer: Exact location and layout is unknown. Assume 3" irrigation lines.

2. Could you please provide the diameter of the sewer pipe that we are asked to reline?

   Answer: The sewer pipe crossing under the south end of the existing track is a 15" clay tile pipe. Its depth is unknown.

3. Drawing C505 shows a synthetic track straight-away section (w/fence) detail with two thicknesses of dense graded crushed stone. It states 10" of material, but also gives an 8" measurement from the bottom of the pavement of the same material. Please clarify.

   Answer: Revise the Bituminous Concrete D-Area Detail to read as a 10" depth of dense graded aggregate to match the other two running track section details shown on C505.

4. Drawing C502 shows a bituminous concrete sidewalk section, but there aren't any limits of the bituminous sidewalks versus bituminous paved areas on Sheet C101. Please clarify.

   Answer: The bituminous concrete sidewalk section shown on Sheet C502 shall be used for all areas of bituminous concrete pavement (sidewalks and parking areas) shown on Sheets C101, C101A and C103.

5. Since the site walk was pushed a week, is the bid date still April 16th?

   Answer: No. The bid due date has been postponed. See above.

6. There are no dimensions on any of the plan drawings for the bleacher.

   Answer: Sheets BL101 through BL104 are to be reissued in a subsequent addendum. Overall dimensions are shown on Sheet C101 and Sheet C101a and Sheet BL101.

7. Enhanced slip resistance of bleacher decking is not defined. Can we get specifics on what you are looking for?

   Answer: Please refer to Specification Section 13 1250 – Grandstand Seating, Item 2.4.B.1.c: "Surface finish [of aluminum decking extrusions] shall exhibit enhanced slip resistance beyond the mill extrusion process, resulting in an improved coefficient of friction under wet conditions in all directions of travel".

8. Enhanced stain resistance of the bleacher decking is not defined. Can we get specifics on what you are looking for?

   Answer: Please refer to Specification Section 13 1250 – Grandstand Seating, Item 2.4.B.1.b: "Surface finish shall prevent oxidation staining. Oxidation staining [of aluminum extrusions] prior to substantial completion shall be grounds for product replacement at the manufacturer's expense."

Attachments:

Documents:

Prevailing Wage and Prevailing Wage Reporting Requirements		35 pages
Basic Electrical Requirements	Section 26 0000	1 page
Building Wire and Cable	Section 26 0519	3 pages
Grounding and Bonding	Section 26 0526	3 pages
Underground Ducts and Raceways for Electrical System	Section 26 0543	4 pages
Electrical Identification	Section 26 0553	2 pages
Wiring Devices	Section 26 2726	3 pages
Exterior Athletic Field Lighting	Section 26 5668	8 pages

Drawings:

S001 - Segmental Retaining Wall and Technical Notes
S002 - Concrete Stair and Related Details
SE-1 - Electrical Site Plan – Demolition
SE-2 - Electrical Site Plan
SE-3 - Electrical Details

END OF ADDENDUM 3

G:\716300\Specs\ADDENDA #3\Addendum #3 2014-00410.doc

Opportunity * Guidance * Support

CONNECTICUT DEPARTMENT OF LABOR

THIS IS A PUBLIC WORKS PROJECT

Covered by the

PREVAILING WAGE LAW

CT General Statutes Section 31-53

If you have QUESTIONS regarding your wages
CALL (860) 263-6790

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions. (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2009, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1.)

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine
Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

(applicable to public building contracts entered into *on or after July 1, 2007*, where the total cost of all work to be performed is at least $100,000)

(1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);

(2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;

(3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least $100,000;

(4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;

(5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;

(6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;

(7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;

(8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;

(9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

(10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;

(11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;

(12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;

(13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;

(14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and

(15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.

(16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTMATELY ARISE CONCERNIG THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice

To All Mason Contractors and Interested Parties Regarding Construction Pursuant to Section 31-53 of the Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.

- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

STATUTE 31-55a

- SPECIAL NOTICE -

To: All State and Political Subdivisions,Their Agents, and Contractors

Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.

Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.
- Each contractor affected by the above requirement shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the ***contractor's*** responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's Web Site. The annual adjustments will be posted on the Department of Labor Web page: www.ctdol.state.ct.us. For those without internet access, please contact the division listed below.

- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project. All subsequent annual adjustments will be posted on our Web Site for contractor access.

Any questions should be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at (860)263-6790.

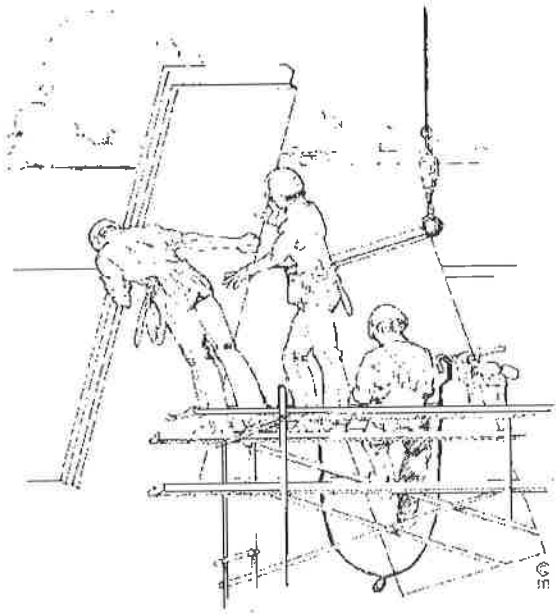
~NOTICE~

TO ALL CONTRACTING AGENCIES

Please be advised that Connecticut General Statutes Section 31-53, requires the contracting agency to certify to the Department of Labor, the total dollar amount of work to be done in connection with such public works project, regardless of whether such project consists of one or more contracts.

Please find the attached "Contracting Agency Certification Form" to be completed and returned to the Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit.

✎ Inquiries can be directed to (860)263-6543.



CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION
CONTRACT COMPLIANCE UNIT

CONTRACTING AGENCY CERTIFICATION FORM

I, _____, acting in my official capacity as _____,
authorized representative — title

for _____, located at _____,
contracting agency — address

do hereby certify that the total dollar amount of work to be done in connection with

_____, located at _____,
project name and number — address

shall be $_____, which includes all work, regardless of whether such project

consists of one or more contracts.

CONTRACTOR INFORMATION

Name:_____

Address:_____
Authorized Representative:_____
Approximate Starting Date: _____

Approximate Completion Date:_____

_____ _____
Signature — Date

Return To: Connecticut Department of Labor
Wage & Workplace Standards Division
Contract Compliance Unit
200 Folly Brook Blvd.
Wethersfield, CT 06109

Date Issued: _____

CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

CONTRACTORS WAGE CERTIFICATION FORM

Construction Manager at Risk/General Contractor/Prime Contractor

I,_____ of _____
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the _____
Company Name

_____
Street

_____
City

and all of its subcontractors will pay all workers on the

_____
Project Name and Number

_____
Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

_____
Signed

Subscribed and sworn to before me this _____ day of _____, _____.

_____
Notary Public

Return to:

Connecticut Department of Labor
Wage & Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

Rate Schedule Issued (Date): _____

[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

WEEKLY PAYROLL

Connecticut Department of Labor
Wage and Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

CONTRACTOR NAME AND ADDRESS:

SUBCONTRACTOR NAME & ADDRESS

WORKER'S COMPENSATION INSURANCE CARRIER

POLICY #

EFFECTIVE DATE:
EXPIRATION DATE:

PAYROLL NUMBER | Week-Ending Date | PROJECT NAME & ADDRESS

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION / Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE: S	M	T	W	TH	F	S	HOURS WORKED EACH DAY	Total ST Hours / Total O/T Hours	BASE HOURLY RATE / TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS: FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER	GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
													$ Base Rate / $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
													$ Base Rate / $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
													$ Base Rate / $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
													$ Base Rate / $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							

12/9/2013
WWS-CP1

*IF REQUIRED

*SEE REVERSE SIDE

PAGE NUMBER _____OF

OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

***FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker's compensation, income taxes, etc.).

Please specify the type of benefits provided:

1) Medical or hospital care _____ 4) Disability_____

2) Pension or retirement _____ 5) Vacation, holiday_____

3) Life Insurance _____ 6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

For the week ending date of _____,

I, _____of_____, (hereafter known as

Employer) in my capacity as _____ (title) do hereby certify and state:

Section A:

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

a) The records submitted are true and accurate;

b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such person to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;

c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);

d) Each such person is covered by a worker's compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;

e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and

f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such persons name first appears.

_____ _____ _____

(Signature) (Title) Submitted on (Date)

*****THIS IS A PUBLIC DOCUMENT*****
*****DO NOT INCLUDE SOCIAL SECURITY NUMBERS*****

Weekly Payroll Certification For Public Works Projects (Continued)

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

WEEKLY PAYROLL

Week-Ending Date:
Contractor or Subcontractor Business Name:

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE S	M	T	W	TH	F	S	Total ST Hours Total O/T Hours	BASE HOURLY RATE TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER	GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							
												$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							

HOURS WORKED EACH DAY

*IF REQUIRED

NOTICE: THIS PAGE MUST BE ACCOMPANIED BY A COVER PAGE (FORM # WWS-CP1)

[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

WEEKLY PAYROLL

Connecticut Department of Labor
Wage and Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

CONTRACTOR NAME AND ADDRESS:
Landon Corporation, 15 Connecticut Avenue, Northford, CT 06472

SUBCONTRACTOR NAME & ADDRESS
XYZ Corporation
2 Main Street
Yantic, CT 06389

WORKER'S COMPENSATION INSURANCE CARRIER
Travelers Insurance Company
POLICY # #BAC8888928
EFFECTIVE DATE 1/1/09
EXPIRATION DATE 12/31/09

PAYROLL NUMBER: 1
Week-Ending Date: 9/26/09
PROJECT NAME & ADDRESS: DOT 105-295, Route 82

PERSON/WORKER, ADDRESS and SECTION	APPR. RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION / Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE: S 20	M 21	T 22	W 23	TH 24	F 25	S 26	Total ST Hours / Total O/T Hours	BASE HOURLY RATE / TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS: FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER	GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
Robert Craft 81 Maple Street Willimantic, CT 06226		M/C	Electrical Lineman E-1 1234567 Owner OSHA 123456		8	8	8	6	8		S-TIME 40 O-TIME	$ 30.75 Base Rate $ 8.82 Cash Fringe	1. $ 5.80 2. $ 3. $ 2.01 4. $ 5. $ 6. $	$1,582.80				P-xxxx	$1,582.80	#123 $ xxx.xx
Ronald Jones 212 Elm Street Norwich, CT 06360	65%	M/B	Electrical Apprentice OSHA 234567		8	8	8	8	8		S-TIME 40 O-TIME	$ 19.99 Base Rate $ 16.63 Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $	$1,464.80	xx.xx	xxx.xx	xx.xx	G-xxx	$1,464.80	#124 $xxx.xx
Franklin T. Smith 234 Washington Rd. New London, CT 06320 SECTION B		M/H	Project Manager			8					S-TIME 8 O-TIME	$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $	$1,500.00	xx.xx	xx.xx	xx.xx	M-xx.x		#125 xxx.xx
											S-TIME O-TIME	$ Base Rate $ Cash Fringe	1. $ 2. $ 3. $ 4. $ 5. $ 6. $							

7/13/2009
WWS-CP1

*IF REQUIRED

*SEE REVERSE SIDE

PAGE NUMBER 1 OF 2

OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

***FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker's compensation, income taxes, etc.).

Please specify the type of benefits provided:

1) Medical or hospital care Blue Cross 4) Disability _____

2) Pension or retirement _____ 5) Vacation, holiday _____

3) Life Insurance Utopia 6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

For the week ending date of 9/26/09.

I, Robert Craft of XYZ Corporation, (hereafter known as Employer) in my capacity as Owner (title) do hereby certify and state:

Section A:

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

a) The records submitted are true and accurate;

b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;

c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);

d) Each such employee of the Employer is covered by a worker's compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;

e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and

f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such employee's name first appears.

Robert Craft (Signature) owner (Title) 10/2/09 Submitted on (Date)

Section B: Applies to CONNDOT Projects ONLY

That pursuant to CONNDOT contract requirements for reporting purposes only, all employees listed under Section B who performed work on this project are not covered under the prevailing wage requirements defined in Connecticut General Statutes Section 31-53.

Robert Craft (Signature) owner (Title) 10/2/09 Submitted on (Date)

Note: CTDOL will assume all hours worked were performed under Section A unless clearly delineated as Section B WWS-CP1 as such. Should an employee perform work under both Section A and Section B, the hours worked and wages paid must be segregated for reporting purposes.

THIS IS A PUBLIC DOCUMENT

DO NOT INCLUDE SOCIAL SECURITY NUMBERS

Employee Complaint Forms
Employer Forms
Laws/Legislation
Manuals and Publications
Compliance Assistance
Prevailing Wages
Standard Wage Rates
Workplace Standards
Employment of Minors
FMLA
Joint Enforcement Commission For Worker Misclassification (JEC)
Stop Work Orders
Reports of Activities
FAQs
Contact Us

OCCUPATIONAL CLASSIFICATION BULLETIN

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53.

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification.

Below are additional clarifications of specific job duties performed for certain classifications:

- **ASBESTOS WORKERS**
  - Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.
- **ASBESTOS INSULATOR**
  - Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.
- **BOILERMAKERS**
  - Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.
- **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**
  - Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.
- **CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**
  - Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.
- **CLEANING LABORER**
  - The clean up of any construction debris and the general cleaning, including sweeping, wash down, mopping, wiping of the construction facility, washing, polishing, dusting, etc., prior to the issuance of a certificate of occupancy falls under the *Labor classification.*
- **DELIVERY PERSONNEL**
  - If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.
  - An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer/tradesman and not a delivery personnel.

- **ELECTRICIANS**
  - Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. ***License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.**
- **ELEVATOR CONSTRUCTORS**
  - Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. ***License required by Connecticut General Statutes: R-1,2,5,6.**
- **FORK LIFT OPERATOR**
  - Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.
  - Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.
- **GLAZIERS**
  - Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce.
- **IRONWORKERS**
  - Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce. Insulated metal and insulated composite panels are still installed by the Ironworker.
- **INSULATOR**
  - Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings. Past practice using the applicable licensed trades, Plumber, Sheet Metal, Sprinkler Fitter, and Electrician, is not inconsistent with the Insulator classification and would be permitted.
- **LABORERS**
  - Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.
- **PAINTERS**
  - Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hanging+ for any and all types of building and residential work.
- **LEAD PAINT REMOVAL**
  - Painter's Rate
    1. Removal of lead paint from bridges.
    2. Removal of lead paint as preparation of any surface to be repainted.
    3. Where removal is on a Demolition project prior to reconstruction.
  - Laborer's Rate
    1. Removal of lead paint from any surface NOT to be repainted.
    2. Where removal is on a *TOTAL* Demolition project only.
- **PLUMBERS AND PIPEFITTERS**
  - Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. ****License required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.***
- **POWER EQUIPMENT OPERATORS**
  - ates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. ***License required, crane operators only, per Connecticut General Statutes.**
- **ROOFERS**

- Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (tear-off and/or removal of any type of roofing and/or clean-up of any and all areas where a roof is to be relaid)

- **SHEETMETAL WORKERS**
  - Fabricate, assembles, installs and repairs sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, facia, louvers, partitions, wall panel siding, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Insulated metal and insulated composite panels are still installed by the Iron Worker. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers.

- **SPRINKLER FITTERS**
  - Installation, alteration, maintenance and repair of fire protection sprinkler systems. ***License required per Connecticut General Statutes: F-1,2,3,4.**

- **TILE MARBLE AND TERRAZZO FINISHERS**
  - Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**
  - **Definitions:**
    - 1) "Site of the work" (29 Code of Federal Regulations (CFR) 5.2(l)(b) is the physical place or places where the building or work called for in the contract will remain and any other site where a significant portion of the building or work is constructed, provided that such site is established specifically for the performance of the contact or project;
      - (a) Except as provided in paragraph (l) (3) of this section, job headquarters, tool yards, batch plants, borrow pits, etc. are part of the "site of the work"; provided they are dedicated exclusively, or nearly so, to the performance of the contract or project, and provided they are adjacent to "the site of work" as defined in paragraph (e)(1) of this section;
      - (b) Not included in the "site of the work" are permanent home offices, branch plant establishments, fabrication plants, tool yards etc, of a contractor or subcontractor whose location and continuance in operation are determined wholly without regard to a particular State or political subdivision contract or uncertain and indefinite periods of time involved of a few seconds or minutes duration and where the failure to count such time is due to consideration justified by industrial realities (29 CFR 785.47)
    - 2) "Engaged to wait" is waiting time that belongs to and is controlled by the employer which is an integral part of the job and is therefore compensable as hours worked. (29 CFR 785.15)
    - 3) "Waiting to be engaged" is waiting time that an employee can use effectively for their own purpose and is not compensable as hours worked. (29 CFR 785.16)
    - 4) "De Minimus" is a rule that recognizes that unsubstantial or insignificant periods of time which cannot as a practical administrative matter be precisely recorded for payroll purposes, may be disregarded. This rule applies only where there are uncertain and indefinite periods of time involved of a short duration and where the failure to count such time is due to consideration justified by worksite realities. For example, with respect to truck drivers on prevailing wage sites, this is typically less than 15 minutes at a time.
  - **Coverage of Truck Drivers on State or Political subdivision Prevailing Wage Projects**
    - Truck drivers **are covered** for payroll purposes under the following conditions:
      - Truck Drivers for time spent working on the site of the work.
      - Truck Drivers for time spent loading and/or unloading materials and supplies on the site of the work, if such time is not de minimus
      - Truck drivers transporting materials or supplies between a facility that is deemed part of the site of the work and the actual construction site.
      - Truck drivers transporting portions of the building or work between a site established specifically for the performance of the contract or project where a significant portion of such building or work is constructed and the physical places where the building or work outlined in the contract will remain.

      For example: Truck drivers delivering asphalt are covered under prevailing wage while" engaged to wait" on the site and when directly involved in the paving operation, provided the total time is not "de minimus"
    - Truck Drivers **are not** covered in the following instances:
      - Material delivery truck drivers while off "the site of the work"

- Truck Drivers traveling between a prevailing wage job and a commercial supply facility while they are off the "site of the work"
- Truck drivers whose time spent on the "site of the work" is de minimus, such as under 15 minutes at a time, merely to drop off materials or supplies, including asphalt.

These guidelines are similar to U.S. Labor Department policies. The application of these guidelines may be subject to review based on factual considerations on a case by case basis.

For example:

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

Any questions regarding the proper classification should be directed to:

Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6543

Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES

Please Note: If the "Benefits" listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the "Benefits" section for the occupation lists only a dollar amount, disregard the information below.

Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)

a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.

b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

a. Paid Holidays: Labor Day and Christmas Day.

Power Equipment Operators
(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Ironworkers

a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers

(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

Project: Torrington High School Track And Field Renovations

Minimum Rates and Classifications for Heavy/Highway Construction

ID#: **H** 18979

Connecticut Department of Labor
Wage and Workplace Standards Division

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number:

Project Town: Torrington

FAP Number:

State Number:

Project: Torrington High School Track And Field Renovations

CLASSIFICATION	Hourly Rate	Benefits
01) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. **See Laborers Group 5 and 7**		
1) Boilermaker	33.79	34% + 8.96
1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	32.50	27.06
2) Carpenters, Piledrivermen	30.45	21.65

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2a) Diver Tenders	30.45	21.65
3) Divers	38.91	21.65
4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	44.25	17.75
4a) Painters: Brush and Roller	30.62	17.75
4d) Painters: Blast and Spray	33.62	17.75
4e) Painters: Tanks, Tower and Swing	32.62	17.75
5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	36.52	23.00+3% of gross wage

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6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection	33.50	28.98
7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9)	39.31	26.27
----LABORERS---- -		
8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist	26.40	17.15
9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen, air tool operator	26.65	17.15
10) Group 3: Pipelayers	26.90	17.15
11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block pavers and curb setters	26.90	17.15

Project: Torrington High School Track And Field Renovations

12) Group 5: Toxic waste removal (non-mechanical systems)	28.40	17.15
13) Group 6: Blasters	28.15	17.15
Group 7: Asbestos Removal, non-mechanical systems (does not include leaded joint pipe)	27.40	17.15
Group 8: Traffic control signalmen	16.00	17.15
----LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.----		
13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	31.28	17.15 + a
13b) Brakemen, Trackmen	30.37	17.15 + a

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----CLEANING, CONCRETE AND CAULKING TUNNEL----

14) Concrete Workers, Form Movers, and Strippers	30.37	17.15 + a
15) Form Erectors	30.68	17.15 + a

----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:----

16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	30.37	17.15 + a
17) Laborers Topside, Cage Tenders, Bellman	30.26	17.15 + a
18) Miners	31.28	17.15 + a

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----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ----

18a) Blaster	37.41	17.15 + a
19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	37.22	17.15 + a
20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	35.35	17.15 + a
21) Mucking Machine Operator	37.97	17.15 + a

----TRUCK DRIVERS----(*see note below)

Two axle trucks	27.88	18.27 + a

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Three axle trucks; two axle ready mix	27.98	18.27 + a
Three axle ready mix	28.03	18.27 + a
Four axle trucks, heavy duty trailer (up to 40 tons)	28.08	18.27 + a
Four axle ready-mix	28.13	18.27 + a
Heavy duty trailer (40 tons and over)	28.33	18.27 + a
Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids)	28.13	18.27 + a

----POWER EQUIPMENT OPERATORS----

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Group 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), Work Boat 26 ft. & Over. (Trade License Required)	36.05	21.55 + a
Group 2: Cranes (100 ton rate capacity and over); Backhoe/Excavator over 2 cubic yards; Piledriver ($3.00 premium when operator controls hammer). (Trade License Required)	35.73	21.55 + a
Group 3: Excavator/Backhoe under 2 cubic yards; Cranes (under 100 ton rated capacity), Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar);Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)	34.99	21.55 + a
Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper)	34.60	21.55 + a
Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell)	34.01	21.55 + a
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	34.01	21.55 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	33.70	21.55 + a

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Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and Under Mandrel).	33.36	21.55 + a
Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.	32.96	21.55 + a
Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder).	32.53	21.55 + a
Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.	30.49	21.55 + a
Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.	30.49	21.55 + a
Group 12: Wellpoint Operator.	30.43	21.55 + a
Group 13: Compressor Battery Operator.	29.85	21.55 + a

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Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	28.71	21.55 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	28.30	21.55 + a
Group 16: Maintenance Engineer/Oiler	27.65	21.55 + a
Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	31.96	21.55 + a
Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	29.54	21.55 + a

**NOTE: SEE BELOW

----LINE CONSTRUCTION----(Railroad Construction and Maintenance)----

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20) Lineman, Cable Splicer, Dynamite Man	44.36	3% + 13.70
21) Heavy Equipment Operator	39.92	3% + 13.70
22) Equipment Operator, Tractor Trailer Driver, Material Men	37.71	3% + 13.70
23) Driver Groundmen	33.27	3% + 13.70
----LINE CONSTRUCTION----		
24) Driver Groundmen	30.92	6.5% + 9.70
25) Groundmen	22.67	6.5% + 6.20

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26) Heavy Equipment Operators	37.10	6.5% + 10.70
27) Linemen, Cable Splicers, Dynamite Men	41.22	6.5% + 12.20
28) Material Men, Tractor Trailer Drivers, Equipment Operators	35.04	6.5% + 10.45

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Welders: Rate for craft to which welding is incidental.

**Note: Hazardous waste removal work receives additional $1.25 per hour for truck drivers.*

***Note: Hazardous waste premium $3.00 per hour over classified rate*

Crane with 150 ft. boom (including jib) - $1.50 extra
Crane with 200 ft. boom (including jib) - $2.50 extra
Crane with 250 ft. boom (including jib) - $5.00 extra
Crane with 300 ft. boom (including jib) - $7.00 extra
Crane with 400 ft. boom (including jib) - $10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyperson instructing and supervising the work of each apprentice in a specific trade.

~~Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work ~~

- *The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.*
- *Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.*
- *It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.*
- *The annual adjustments will be posted on the Department of Labor's Web page: www.ct.gov/dol.*
- *The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.*
- *All subsequent annual adjustments will be posted on our Web Site for contractor access.*
- *Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.*

As of: Wednesday, April 02, 2014

Project: Torrington High School Track And Field Renovations

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: Wednesday, April 02, 2014

BASIC ELECTRICAL REQUIREMENTS

SECTION 26 0000

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections DIVISION 00 – PROCUREMENT AND CONTRACT REQUIREMENTS (PCR) which are hereby made a part of this Section of the Specifications.

1.02 SECTION INCLUDES

A. Basic Electrical Requirements specifically applicable to Division 26 - Electrical Sections, in addition to Division 01 - General Requirements.

1.03 REFERENCES

A. ANSI/NFPA 70 - National Electrical Code.

1.04 SUBMITTALS

A. Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal.

B. Mark dimensions and values in units to match those specified.

1.05 REGULATORY REQUIREMENTS

A. Conform to applicable State Building Code.

B. Electrical: Conform to National Electrical Code with State amendments.

C. Obtain permits, and request inspections from authority having jurisdiction.

1.06 PROJECT/SITE CONDITIONS

A. Install Work in locations shown on Drawings, unless prevented by Project conditions.

B. Prepare drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission of Architect/Engineer before proceeding.

1.07 SEQUENCING AND SCHEDULING

A. Construct Work in sequence under provisions of Section 01 10 00.

END OF SECTION

BUILDING WIRE AND CABLE

SECTION 26 0519

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 00 – PROCUREMENT AND CONTRACT REQUIREMENTS (PCR), which are hereby made a part of this Section of the Specifications.

1.02 SECTION INCLUDES

A. Building wire and cable.

B. Metal clad cable.

C. Wiring connectors and connections.

1.03 RELATED SECTIONS

A. Section 26 0000 – Basic Electrical Requirements.

B. Section 26 0553 – Electrical Identification.

1.04 REFERENCES

A. ANSI/NFPA 70 - National Electrical Code.

1.05 SUBMITTALS

A. Product Data: Provide for each cable type.

B. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements.

1.06 REGULATORY REQUIREMENTS

A. Conform to requirements of ANSI/NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. testing firm acceptable to authority having jurisdiction as suitable for purpose specified and shown.

1.07 PROJECT CONDITIONS

A. Verify that field measurements are as shown on Drawings.

B. Conductor sizes are based on copper.

C. Wire and cable routing shown on Drawings is approximate unless dimensioned. Route wire and cable as required to meet the Project Conditions.

D. Where wire and cable routing is not shown, and destination only is indicated, determine exact routing and lengths required.

1.08 COORDINATION

A. Determine required separation between cable and other work.

B. Determine cable routing to avoid interference with other work.

PART 2 - PRODUCTS

2.01 BUILDING WIRE AND CABLE

A. Description: Single conductor insulated wire.

B. Conductor: Copper.

C. Insulation Voltage Rating: 600 volts.

D. Insulation: ANSI/NFPA 70, Type THHN/THWN-2, XHHW-2

2.02 METAL CLAD CABLE

A. Description: ANSI/NFPA 70, Type MC.

B. Conductor: Copper.

C. Insulation Voltage Rating: 600 volts.

D. Insulation Temperature Rating: 90 degrees C.

E. Insulation Material: Thermoplastic.

F. Armor Material: Steel.

G. Armor Design: Interlocked metal tape, Corrugated tube, Smooth tube.

H. Jacket: None.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that mechanical work likely to damage wire and cable has been completed.

3.02 PREPARATION

A. Completely and thoroughly swab raceway before installing wire.

3.03 WIRING METHODS

A. Concealed Dry Interior Locations: Use only building wire, Type THHN/THWN-2 insulation, in raceway.

B. Exposed Dry Interior Locations: Use only building wire, Type THHN/THWN-2 insulation, in raceway.

C. Wet or Damp Interior Locations: Use only building wire, Type THHN/THWN-2 insulation, in raceway.

D. Exterior Locations: Use only building wire, Type THHN/THWN-2 or XHHW-2 insulation, in raceway.

E. Underground Installations: Use only building wire, Type THHN/THWN-2 or XHHW-2 insulation, in raceway.

H. Use wiring methods indicated on Drawings.

3.04 INSTALLATION

A. Install products in accordance with the manufacturers instructions.

B. Use solid or stranded conductor for feeders and branch circuits 10 AWG and smaller.

C. Use stranded conductors for control circuits.

D. Use conductor not smaller than 12 AWG for power and lighting circuits.

E. Use conductor not smaller than 16 AWG for control circuits.

F. Pull all conductors into raceway at same time.

G. Use suitable wire pulling lubricant for building wire 4 AWG and larger.

H. Protect exposed cable from damage.

I. Use suitable cable fittings and connectors.

J. Neatly train and lace wiring inside boxes, equipment, and panelboards.

K. Clean conductor surfaces before installing lugs and connectors.

L. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.

M. Use split bolt connectors for copper conductor splices and taps, 6 AWG and larger. Tape uninsulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor.

N. Use solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.

O. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.

3.05 INTERFACE WITH OTHER PRODUCTS

A. Identify wire and cable under provisions of Section 26 0553.

B. Identify each conductor with its circuit number or other designation indicated on Drawings.

3.06 FIELD QUALITY CONTROL

A. Inspect wire and cable for physical damage and proper connection.

B. Measure tightness of bolted connections and compare torque measurements with manufacturer's recommended values.

C. Verify continuity of each branch circuit conductor.

END OF SECTION

GROUNDING AND BONDING

SECTION 26 05 26

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 00 – PROCUREMENT AND CONTRACT REQUIREMENTS (PCR), which are hereby made a part of this Section of the Specifications.

1.02 SECTION INCLUDES

A. Grounding electrodes and conductors.

B. Equipment grounding conductors.

C. Bonding.

1.03 REFERENCES

A. ANSI/NFPA 70 - National Electrical Code.

1.04 GROUNDING ELECTRODE SYSTEM

A. Rod electrode.

B. Plate electrode.

1.05 PERFORMANCE REQUIREMENTS

A. Grounding System Resistance: Five (5) ohms.

1.06 SUBMITTALS

A. Submit under provisions of Section 01 33 02.

B. Product Data: Provide data for grounding electrodes and connections.

C. Manufacturer's Instructions: Include instructions for storage, handling, protection, examination, preparation and installation of exothermic connectors.

1.07 PROJECT RECORD DOCUMENTS

A. Accurately record actual locations of grounding electrodes.

1.08 REGULATORY REQUIREMENTS

A. Conform to requirements of ANSI/NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.01 ROD ELECTRODE

A. Material: Copper-clad steel.

B. Diameter: Three quarters inch (3/4”).

C. Length: Ten feet (10’).

2.02 MECHANICAL CONNECTORS

A. Material: Bronze.

2.03 EXOTHERMIC CONNECTIONS

A. Manufacturers:

1. CAD-WELD.

2.04 WIRE

A. Material: Stranded copper.

B. Grounding Electrode Conductor: Size to meet NFPA 70 requirements.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that final backfill and compaction has been completed before driving rod electrodes.

3.02 INSTALLATION

A. Install Products in accordance with manufacturer's instructions.

B. Install rod electrodes at locations indicated. Install additional rod electrodes as required to achieve specified resistance to ground.

C. Provide grounding electrode conductor and connect to reinforcing steel in foundation footing where indicated.

D. Provide bonding to meet Regulatory Requirements.

E. Bond together metal siding not attached to grounded structure; bond to ground.

F. Bond together each metallic raceway, pipe, duct and other metal object.

3.03 FIELD QUALITY CONTROL

A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.

B. Use suitable test instrument to measure resistance to ground of system. Perform testing in accordance with test instrument manufacturer's recommendations using the fall-of-potential method.

END OF SECTION

UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

SECTION 26 0543

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 00 – PROCUREMENT AND CONTRACT REQUIREMENTS (PCR) which are hereby made a part of this Section of the Specifications.

1.02 SECTION INCLUDES

A. Metal conduit.

B. Duct.

1.03 RELATED SECTIONS

A. Sections within DIVISION 31 - Earthwork.

1.04 REFERENCES

A. ANSI C80.1 - Rigid Steel Conduit, Zinc-Coated.

B. ANSI/IEEE C2 - National Electrical Safety Code.

C. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.

D. ANSI/NFPA 70 - National Electrical Code.

E. ASTM A48 - Gray Iron Castings.

F. NEMA TC 2 - Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).

G. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.

H. NEMA TC 6 - PVC and ABS Plastic Utilities Duct for Underground Installation.

I. NEMA TC 8 - Extra-Strength PVC Plastic Utilities Duct for Underground Installation.

J. NEMA TC 9 - Fittings for ABS and PVC Plastic Utilities Duct for Underground Installation.

K. NEMA TC 10 - PVC and ABS Plastic Communications Duct and Fittings for Underground Installation.

1.05 SUBMITTALS

A. Product Data: Provide for metallic conduit, nonmetallic conduit, manhole accessories.

B. Manufacturer's Instructions: Include instructions for storage, handling, protection, examination, preparation, and installation.

1.06 PROJECT RECORD DOCUMENTS

A. Accurately record actual locations of exact routing of ductbank.

1.07 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this Section with minimum three years documented experience.

1.08 REGULATORY REQUIREMENTS

A. Conform to requirements of ANSI/NFPA 70. ANSI/IEEE C2.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect, and handle Products.

B. Accept conduit on site. Inspect for damage.

C. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

1.10 PROJECT CONDITIONS

A. Verify that field measurements are as shown on Drawings.

B. Verify routing and termination locations of duct bank prior to excavation for rough-in.

C. Duct bank routing is shown on Drawings in approximate locations unless dimensions are indicated. Route as required to complete duct system.

PART 2 - PRODUCTS

2.01 RIGID METAL CONDUIT

A. Rigid Steel Conduit: ANSI C80.1.

B. Fittings: ANSI/NEMA FB 1; steel.

2.02 PLASTIC CONDUIT

A. Manufacturers:

1. Carlon

B. Description: NEMA TC 2; Schedule 40 PVC.

C. Fittings and Conduit Bodies: NEMA TC 3.

2.03 ACCESSORIES

A. Underground Warning Tape: 6 inch wide plastic tape, magnetic detectable type, color red with suitable warning legend describing buried electrical lines and color orange with suitable warning legend describing buried fiber optic/telephone lines.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that excavation, base material installation, and compaction is completed.

3.02 PREPARATION

A. Prepare excavation in accordance with manhole manufacturer's instructions.

3.03 DUCT BANK INSTALLATION

A. Install duct in accordance with manufacturer's instructions.

B. Install power and communications duct to locate top of ductbank minimum 36 inches below grade.

C. Install duct with minimum slope of 4 inches per 100 feet. Slope duct away from building entrances.

D. Cut duct square using saw or pipe cutter; de-burr cut ends.

E. Insert duct to shoulder of fittings; fasten securely.

F. Join nonmetallic duct using adhesive as recommended by manufacturer.

G. Wipe nonmetallic duct dry and clean before joining. Apply full even coat of adhesive to entire area inserted in fitting. Allow joint to cure for 20 minutes, minimum.

H. Install no more than equivalent of three 90-degree bends between pull points.

I. Provide suitable fittings to accommodate expansion and deflection where required.

J. Terminate duct at handhole entries using end bell.

K. Use suitable separators and chairs installed not greater than 4 feet on centers.

L. Band ducts together before placing concrete.

M. Securely anchor duct to prevent movement during concrete placement.

N. Provide minimum 3 inch concrete cover at bottom, top, and sides of ductbank.

O. Provide suitable pull string in each empty duct except sleeves and nipples.

P. Swab duct. Use suitable caps to protect installed duct against entrance of dirt and moisture.

Q. Interface installation of underground warning tape with backfilling specified in Section 312000. Install tape 12 inches below finished surface.

END OF SECTION

ELECTRICAL IDENTIFICATION

SECTION 26 0553

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 00 – PROCUREMENT AND CONTRACT REQUIREMENTS (PCR) which are hereby made a part of this Section of the Specifications.

1.02 SECTION INCLUDES

A. Nameplates and labels.

B. Wire and cable markers.

C. Conduit markers.

1.03 REFERENCES

A. ANSI/NFPA 70 - National Electrical Code.

1.04 SUBMITTALS

A. Product Data: Provide catalog data for nameplates, labels, and markers.

B. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency specified under regulatory requirements. Include instructions for storage, handling, protection, examination, preparation and installation of Product.

1.05 REGULATORY REQUIREMENTS

A. Conform to requirements of ANSI/NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.01 WIRE MARKERS

A. Description: Cloth, tape, split sleeve, or tubing type wire markers.

B. Locations: Each conductor at each load connection.

C. Legend:

1. Power and Lighting Circuits: Branch circuit or feeder number indicated on drawings.

2.02 UNDERGROUND WARNING TAPE

A. Underground Warning Tape: Description 6 inch wide plastic tape, magnetic detectable type, color red with suitable warning legend describing buried electrical lines and color orange with suitable warning legend describing buried fiber optic/telephone.

PART 3 - EXECUTION

3.01 PREPARATION

A. Identify underground conduits using underground warning tape. Install one tape per trench at 12 inches below finished grade.

END OF SECTION

WIRING DEVICES

SECTION 26 2726

PART 1 - GENERAL

1.01 GENRAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 00 – PROCUREMENT AND CONTRACT REQUIREMENTS (PCR) which are hereby made a part of this Section of the Specifications.

1.02 WORK INCLUDED

A. Receptacles, receptacles with integral GFCI, and associated device plates.

1.03 DEFINITIONS

A. EMI: Electromagnetic interference.

B. GFCI: Ground-fault circuit interrupter.

C. Pigtail: Short lead used to connect a device to a branch-circuit conductor.

D. RFI: Radio-frequency interference.

E. TVSS: Transient voltage surge suppressor.

F. UTP: Unshielded twisted pair.

1.04 SUBMITTALS

A. Submit product data under provisions of Section 01 33 02.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:

1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
3. Leviton Mfg. Company Inc. (Leviton).
4. Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).

2.02 GFCI RECEPTACLES

A. General Description: Straight blade, non-feed-through type. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.

B. Duplex GFCI Weather Resistant Convenience Receptacles, 125 V, 20 A:
   1. Products: Subject to compliance with requirements, provide the following:
      a. Pass & Seymour; 2095.

2.03 WALL PLATES

A. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant , die-cast aluminum with lockable cover.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.

B. Conductors:

   1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
   2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
   3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
   4. Existing Conductors:

      a. Cut back and pigtail, or replace all damaged conductors.
      b. Straighten conductors that remain and remove corrosion and foreign matter.
      c. Pigtailing existing conductors is permitted provided the outlet box is large enough.

C. Device Installation:
   1. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
   2. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
   3. Connect devices to branch circuits using pigtails that are not less than 6 inches in length.
   4. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.
   5. Use a torque screwdriver when a torque is recommended or required by the manufacturer.
   6. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
   7. Tighten unused terminal screws on the device.
   8. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.

D. Receptacle Orientation:

   1. Install ground pin of vertically mounted receptacles down, and on horizontally mounted receptacles to the right.

E. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

F. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

3.02 IDENTIFICATION

A. Comply with Division 26 Section "Electrical Identification"

   1. Receptacles: Identify panelboard and circuit number from which served. Use hot, stamped or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

END OF SECTION

EXTERIOR ATHLETIC LIGHTING

SECTION 26 5668

PART 1 – GENERAL

1.01 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 00 – PROCUREMENT AND CONTRACT REQUIREMENTS (PCR), which are made a part of this Section of the Specifications.

1.02 SUMMARY

A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.

B. The purpose of these specifications is to define the performance and design standards for Torrington High School. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.

C. The sports lighting retrofit will be for the following venues:
   1. Football/Soccer Field
   2. Track

D. The primary goals of this sports lighting project are:
   1. Guaranteed Light Levels: Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore light levels are guaranteed to not drop below specified target values for a period of 25 years. Life-cycle Cost: In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated.
   2. Control and Monitoring: To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system including all costs to monitor for 25 years. Fields should be proactively monitored to detect fixture outages over a 25-year life cycle. All communication costs shall be included in the bid.
   3. Environmental Light Control: It is a primary goal of this project to minimize spill light and glare to the players, spectators and adjoining properties.

1.03 LIGHTING PERFORMANCE

A. **Performance Requirements:** Playing surfaces shall be lit to an average target light level and uniformity as specified in the chart below. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Average illumination level shall be measured in accordance with the IESNA LM-5-04. Light levels shall be guaranteed not to drop below desired target values from the first 100 hours of operation for the maximum warranty period of 25 years or 10,000 hours.

B. **Mounting Heights**: This is a retro-fit of existing Musco poles.

C. **Lighting Methodology:** There are two methods that will be considered for calculation of the lighting designs for this project. The approved Lighting Method #1, automated timed power adjustments, as described in C.1 utilizes methodology that adjusts light levels through a series of programmed adjustments. The alternate Lighting Method #2, straight depreciation, as described in C.2 uses continuous lamp lumen depreciation which is recovered by re-lamping and cleaning lenses of the luminaires. Both methods must be at or above target light values throughout the 25 years of the contract/warranty provided by the manufacturer. Scans shall reflect initial design lumens, end of life design lumens, recoverable light loss factor (RLLF), and the Coefficient Utilization (CU) for the design. A +/- 10% design/testing allowance is not acceptable.

1. **Lighting Method #1: Automated Timed Power Adjustments:**

   a. The lighting system shall use automated timed power adjustments to achieve a lumen maintenance control strategy as described in the IESNA Lighting Handbook 10th Edition, Lighting Controls Section page 16-8: "Lumen maintenance involves adjusting lamp output over time to maintain constant light output as lamps age and dirt accumulation reduces luminaire output. With lumen maintenance control, either lamps are dimmed when new, or the lamp's current is increased as the system ages."

   b. Independent Test Report: If lamp replacement interval is greater than 3,000 hours, manufacturer shall supply an independent test report with applicable recoverable light loss factors. Manufacturers bidding an automated timed power adjustment system must provide an independent test report certifying the system meets the lumen maintenance control strategy above and verifying the field performance of the system for the duration of the useful life of the lamp based on lamp replacement hours. Report shall be signed by a licensed professional engineer with outdoor lighting experience. If report is not provided at least 10 days prior to bid opening, the manufacturer shall provide the initial and maintained designs called for in this specification under Lighting Method #2: Alternate Manufacturers, section 1.2.C.2.

   c. Project References: Manufacturers bidding any form of Automated Timed Power Adjustment light system must provide a minimum of 10 project references within the state of Connecticut that have been completed within the last 12 months utilizing this exact technology. Manufacturer will include project name, project city, and if requested, contact name and contact phone number for each reference.

Area of Lighting	Average Target Light Levels	Maximum to Minimum Uniformity Ratio	Grid Points	Grid Spacing
Football/Soccer	58 footcandles	2.0:1.0	FB- 72 Soccer- 84	30’ x 30’
Track	30 footcandles	8.0:1	46	30’ x 30’

2. **Lighting Method #2 – Straight Depreciation**

a. Light Level Requirements: Manufacturer shall provide computer models and guarantee target light levels on the field over 25 years. The specified maximum Recoverable Light Loss Factor of 0.65 and maintenance/group relamping schedule shall be provided in accordance with recommendations in the Leukos Abstract Volume 6, Number 3, January 2010, page 183-201: "Light Loss Factors for Sports Lighting", and presented at the 2009 IESNA Annual Conference.

For Lighting Method #2, scans for both initial and target light levels are required.

1500w Fixture RLLF Requirements

Lamp Replacement Interval (hours)	Recoverable Light Loss Factor (RLLF)
3,000	.65

Based on anticipated hours of usage (300 hours per year), Option #2 systems would require a minimum of 2 group lamp replacements over the 25 years.

Area of Lighting	**Average Initial Light Levels**	**Average Target Light Levels**	**Maximum to Minimum Uniformity Ratio**	**Grid Points**	**Grid Spacing**
Football/Soccer	89 footcandles	50 footcandles	2.0:1.0	FB- 72 Soccer-84	30' x 30'
Track	46 footcandles	30 footcandles	NA	46	30' x 30'

b. Revised Electrical Distribution: Manufacturer shall provide revised electrical distribution plans to include changes to service entrance, panel, and wire sizing if exceed specified design loads.

PART 2 – PRODUCT

2.01 SPORTS LIGHTING SYSTEM CONSTRUCTION

A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, ballast and other enclosures shall be factory assembled, aimed, wired and tested.

B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel of 18-8 grade or better, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped

galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the crossarms, pole, or electrical components enclosure.

C. System Description: Lighting system shall consist of the following:
   1. Re-use existing Musco galvanized steel poles and provide new crossarm assembly
   2. All luminaires shall be constructed with a die-cast aluminum housing or external hail shroud to protect the luminaire reflector system.
   3. Manufacturer will remote all ballasts and supporting electrical equipment in aluminum enclosures mounted approximately 10' above grade. The enclosures shall be touch-safe and include ballast, capacitor and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Safety disconnect per circuit for each pole structure will be located in the enclosure. Integral ballast fixtures will not be accepted.
   4. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
   5. Controls and Monitoring Cabinet to provide on-off control and monitoring of the lighting system constructed of NEMA Type 4 aluminum. Communication method shall be provided by manufacturer. Cabinet shall contain custom configured contactor modules for 30, 60, and 100 amps, labeled to match field diagrams and electrical design. Manual Off-On-Auto selector switches shall be provided.

D. Safety: All system components shall be UL listed for the appropriate application.

2.02 ELECTRICAL

A. Electric Power Requirements for the Sports Lighting Equipment:
   1. Electric power: 480 Volt, 3 Phase
   2. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.

B. Energy Consumption: Cannot exceed current system requirements.

C. Revised Electrical Distribution: Manufacturer shall provide, at their cost, revised electrical distribution plans to include changes to service entrance, panel, and wire sizing if using Lighting Method 2.

2.03 CONTROLS AND MONITORING

A. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The manufacturer shall notify the owner of outages within 24 hours, or the next business day. The controller shall determine switch position (Manual or Auto) and contactor status (open or closed)

B. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

   The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling

capabilities for all fields, to only having permission to execute “early off” commands by phone.

Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

C. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of lamp outages, control operation and service scheduling including relamping operations completed and scheduled.

Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.

1. Cumulative hours: shall be tracked to show the total hours used by the facility
2. Current lamp hours: shall be tracked separately to reflect the amount of hours on the current set of lamps being used, so relamping can be scheduled accurately.

D. Communication Costs: Manufacturer shall include communication costs for operating the controls and monitoring system for a period of 25 years.

PART 3 – EXECUTION

3.01 FIELD QUALITY CONTROL

A. Delivery Timing Equipment On-Site: The equipment must be on-site 4-6 weeks from receipt of approved submittals and receipt of complete order information.

B. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA LM-5-04. For Lighting Method 1, Timed Power Adjustment systems, light levels must be measured and exceed the specified target levels. For Lighting Method 2, light levels must be measured and meet the specified initial light levels.

C. Field Light Level Accountability
1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warrantee period of 25 Years.
2. The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Contractor/Manufacturer will be held responsible for any damage to the fields during these repairs.

D. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including foot-candles, uniformity ratios, and maximum kilowatt consumptions are not in conformance with the requirements of the performance specifications and submitted information, the manufacturer shall be liable to any or all of the following:
1. Manufacturer shall at his expense provide and install any necessary additional fixtures to meet the minimum lighting standards. The Manufacturer shall also either replace the existing poles to meet the new wind load (EPA) requirements or verify by certification by

a licensed structural engineer that the existing poles will withstand the additional wind load.

2. Manufacturer shall minimize the Owner's additional long term fixture maintenance and energy consumption costs created by the additional fixtures by reimbursing the Owner the amount of $1,000.00 (one thousand dollars) for each additional fixture required.
3. Manufacturer shall remove the entire unacceptable lighting system and install a new lighting system to meet the specifications

3.02 25 YEAR WARRANTY

A. Each manufacturer shall supply a signed warranty covering the entire system for 25 years or for the maximum hours of coverage based on the estimated annual usage, whichever occurs first. Warranty shall guarantee that the average light levels will not fall below target levels; lamp replacements; system energy consumption; monitoring, maintenance and control services, spill light control, and structural integrity. Manufacturer shall maintain specifically funded financial reserves to assure fulfillment of the warranty for the full term. Warranty may exclude fuses, storm damage, vandalism, abuse and unauthorized repairs or alterations.

B. Preventative and Spot Maintenance: Manufacturer shall provide all preventative and spot maintenance, including parts and labor for 25 years from the date of equipment shipment. Individual lamp outages shall be repaired when the usage of any field is materially impacted. Owner agrees to check fuses in the event of a luminaire outage.

3.03 PRE-BID SUBMITTAL REQUIREMENTS

A. Approved Product: Musco’s Green Generation Lighting® sports lighting system is the approved “Lighting Method 1” product. All submittal information at the end of this section must be submitted at least 10 days prior to bid. An addendum will be issued prior to bid, listing any approved lighting manufacturers and the design method to be used.

B. Design Approval: The owner / engineer will review pre-bid submittals per section 3.3.A from all the manufacturers to ensure compliance to the specification. If the design meets the design requirements of the specifications, a letter and/or addendum will be issued to the manufacturer indicating approval for the specific design submitted.

C. Bidders are required to bid only products that have been approved by this specification or addendum by the owner or owner’s representative. Bids received that do not utilize an approved system/design, will be rejected.

REQUIRED SUBMITTAL INFORMATION FOR ALL MANUFACTURERS 10 DAYS PRIOR TO BID

All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements

Tab	Item	Description
A	Letter/ Checklist	Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included.
B	Equipment Layout	Drawing(s) showing field layouts with pole locations
C	On Field Lighting Design	Lighting design drawing(s) showing: a. Field Name, date, file number, prepared by b. Outline of field(s) being lighted, as well as pole locations referenced to the center of the field (x & y), Illuminance levels at grid spacing specified c. Pole height, number of fixtures per pole, as well as luminaire information including wattage, lumens and optics d. Height of light test meter above field surface. e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance (CV), coefficient of utilization (CU) uniformity gradient; number of luminaries, total kilowatts, average tilt factor; light loss factor. f. Manufacturer's using Lighting Method 2 shall provide both initial and maintained light scans using a maximum Recoverable Light Loss Factor (RLLF) as specified in section 1.2.C.2
D	Structural Calculations	Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state of Connecticut, if required by owner. (May be supplied upon award).
E	Control & Monitoring System	Manufacturer of the control and monitoring system shall provide written definition and schematics for automated control system to include monitoring. They will also provide ten (10) references currently using proposed system in the state of Connecticut.
F	Electrical Distribution Plans	Manufacturer using Lighting Method 2 must include a revised electrical distribution plan including changes to service entrance, panels and wire sizing, signed by a licensed Electrical Engineer in the state of Connecticut.
G	Warranty	Provide written warranty information including all terms and conditions. Provide ten (10) references of customers currently under specified warranty in the state of Connecticut.
H	Independent Testing Report	a. Lighting Method 1 is to provide an independent test report certifying the system meets the lumen maintenance control strategy defined in Section 1.2.C.1.a, verifying the field performance of the system for the duration of the useful life of the lamp based on lamp replacement hours. Report shall be signed by a licensed professional engineer with outdoor lighting experience. b. If Manufacturer using Lighting Method 2 desires to provide a recoverable light loss factor other than specified in section 1.2.C.2, Independent field test report

		from licensed professional engineer will be required to substantiate the ability to maintain light levels in accordance with section 1.7-A of the specification. Both initial and maintained light scans must still be provided. Independent Engineer conducting the report must have no affiliation with the manufacturer and report must be based on actual testing data. Testing must be done on the system as a whole, not on individual components.
I	Project References	Manufacturer to provide a list of 10 projects where the technology and specific fixture proposed for this project has been installed in the state of Connecticut. Reference list will include project name, project city, installation date, and if requested, contact name and contact phone number. Manufacturer bidding Lighting Method 2 must supply independent test report if lamp life relamping projection is greater than 3000 hours.
J	Product Information	Complete bill of material for all product being provided.
K	Non-Compliance	Manufacturer shall list all items that do not comply with the specifications. If in full compliance, tab may be omitted.
L	Life-cycle Cost Calculation	Document life-cycle cost calculations as defined in the specification. Identify energy costs for operating the luminaires, maintenance cost for the system including spot lamp replacement, and group relamping costs. All costs should be based on 25 Years.

The information supplied herein shall be used for the purpose of complying with the specifications for Torrington High School. By signing below I agree that all requirements of the specifications have been met and that the manufacturer will be responsible for any future costs incurred to bring their equipment into compliance for all items not meeting specifications and not listed in the Non-Compliance section.

Manufacturer: _____ **Signature:** _____

Contact Name: _____ **Date:** _____/_____/_____

GENERAL NOTES:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH LANDSCAPE ARCHITECTURAL AND CIVIL DRAWINGS AND PROJECT SPECIFICATIONS. REFER TO CIVIL DRAWINGS FOR CUT SECTIONS, DIMENSIONS AND/OR ELEVATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
2. ALL DIMENSIONS AND CONDITIONS MUST BE FIELD VERIFIED AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
3. SHOP DRAWINGS FOR REINFORCING STEEL (INCLUDING ALL ACCESSORIES), GEOTECHNICAL LETTER OF ACCEPTANCE, POUR SCHEDULES, CONCRETE MIX DESIGN, GEOTEXTILES AND SEGMENTAL RETAINING WALL SHALL BE SUBMITTED TO THE ENGINEER AND STAMPED ACCEPTANCE RECEIVED PRIOR TO FABRICATION. ERECTION SHALL PROCEED BASED ON ACCEPTED SHOP DRAWINGS AND THESE STRUCTURAL DESIGN DRAWINGS ONLY.
4. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY SHORING AND BRACING FOR THE STRUCTURES DURING THE ENTIRE CONSTRUCTION PROCESS.
5. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITIONS OF THE FOLLOWING BUILDING CODES AND STANDARDS:
   - THE CONNECTICUT STATE BUILDING CODE
   - ACI 318 – BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
6. THE FOLLOWING SOIL PROPERTIES HAVE BEEN USED FOR THE DESIGN AND ARE BASED ON THE GEOTECHNICAL REPORT DATED MARCH 26, 2014 BY DR. CLARENCE WELTI, P.E., P.C. GEOTECHNICAL ENGINEERING AND SUPPLEMENTAL EMAIL DATED MARCH 31, 2013:
   UNIT WEIGHT OF SOIL (IN–SITU)......................130 LBS./CF
   SOIL BEARING CAPACITY.................................2.0 TON/SF
   ANGLE OF INTERNAL FRICTION........................34°
   APPROX. GROUNDWATER ELEVATION BELOW GRADE...NOT OBSERVED IN BORINGS
   ACTIVE PRESSURE COEFFICIENT.......................0.28
   PASSIVE PRESSURE COEFFICIENT.....................4.0
   COEFFICIENT OF FRICTION AGAINST SLIDING....0.5

GEOTECHNICAL NOTES:

1. **THE OWNER IS REQUIRED TO HIRE THE SERVICES OF A CONNECTICUT LICENSED GEOTECHNICAL ENGINEER TO PERFORM SOIL AND SUB–BASE EVALUATION, REVIEW AND APPROVAL ASSOCIATED WITH THE SEGMENTAL RETAINING WALL AND CONCRETE STAIR PLACEMENT. THE CONTRACTOR IS REQUIRED TO CONTACT, COORDINATE, PROVIDE ACCESS, AND SCHEDULE THE SERVICES OF THE GEOTECHNICAL ENGINEER TO AVOID DELAYS IN THE CONSTRUCTION.**
2. THE ENTIRE CONSTRUCTION PHASE OF THIS PROJECT MUST INCLUDE THE FREQUENT AND AMPLE FIELD REVIEW SERVICES OF A CONNECTICUT LICENSED GEOTECHNICAL ENGINEER, OR THEIR REPRESENTATIVE, TO OBSERVE, RECOMMEND CORRECTIVE ACTIONS, REPORT, AND ASSESS THAT ALL EARTH–WORK CONFORMS WITH THE PROJECT SPECIFIC REQUIREMENTS. THE LICENSED GEOTECHNICAL ENGINEERS FIELD SERVICES MUST INCLUDE THE FOLLOWING AS A MINIMUM:
   - OBSERVE REPRESENTATIVE SOIL OVER–EXCAVATION PROCEDURES, TO ASSESS THAT ALL UNSUITABLE MATERIALS HAVE BEEN SUFFICIENTLY REMOVED.
   - ASSESS THAT THE UNDERLYING SOILS (AFTER REMOVAL OF UNSUITABLE MATERIALS) ARE ACCEPTABLE FOR USE AS THE SUB–BASE.
   - OBSERVE PROOF–ROLLING OPERATIONS AND PROCEDURES OF UNDISTURBED OR VIRGIN, ON SITE SOIL MATERIALS, TO ASSESS IF THESE MATERIALS ARE ACCEPTABLE TO REMAIN.
   - OBSERVE LOOSE LIFT PLACEMENT AND CONTROLLED COMPACTION OF STRUCTURAL FILL, GEOTEXTILE AND CRUSHED STONE SUB–BASE AND BACKFILL MATERIALS.
   - PROVIDE RECOMMENDATIONS REGARDING THE ADEQUACY OF THE CONTRACTOR'S DEWATERING OPERATION.
   - A FIELD REPORT FOR EACH SITE VISIT PERFORMED BY THE LICENSED GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE SHALL BE WRITTEN AND SUBMITTED TO THE OWNER AND ENGINEER. THE REPORT SHALL INCLUDE THE DATE, PERSONNEL PRESENT AT THE SITE, WEATHER, TIME, PURPOSE OF SITE VISIT, AREAS INCLUDED IN THE SITE OBSERVATIONS WITH PLAN SKETCH, CORRECTIVE RECOMMENDATIONS MADE, AND RESULTS OF TEST PERFORMED.
   - UPON COMPLETION OF THE GEOTECHNICAL ENGINEERS FIELD OBSERVATION WORK, AND SUBMISSION OF ALL FIELD REPORTS AND SITE TEST RESULTS (IF REQUIRED), THE GEOTECHNICAL ENGINEER SHALL SUBMIT AN ENGINEERS SEALED LETTER OF PROFESSIONAL OPINION STATING THAT THE EARTHWORK OPERATIONS OBSERVED BY THE GEOTECHNICAL ENGINEER WERE PERFORMED IN ACCORDANCE WITH THE PROJECT REQUIREMENTS.
   - THE GEOTECHNICAL ENGINEER SHALL INCLUDE FIELD DENSITY TESTING TO ACCESS COMPACTION AND LABORATORY GRADATION TESTS TO INDICATE CONFORMANCE OF THE FILL MATERIALS UTILIZED AT THE SITE WITH THE PROJECT REQUIREMENTS. THE GEOTECHNICAL ENGINEER SHALL SUBMIT THEIR INTENDED TESTING FREQUENCY AND PROTOCOL TO THE OWNER AND ENGINEER FOR ACCEPTANCE PRIOR TO INITIATING THE WORK.
3. ALL FOUNDATIONS SHALL BEAR UPON THE SPECIFIED, COMPACTED, CRUSHED STONE LAYER OVER COMPACTED STRUCTURAL FILL AFTER REMOVAL OF ALL UNSUITABLE MATERIALS. IF ON–SITE MATERIALS ARE FOUND TO BE ACCEPTABLE BY THE GEOTECHNICAL ENGINEER FOR USE AS THE STRUCTURAL FILL MATERIALS, THIS ACCEPTANCE MUST BE SUBMITTED TO THE OWNER AND STRUCTURAL ENGINEER IN WRITING BEFORE PLACING ANY FOUNDATIONS OR SLAB. ALL BACKFILLED GRANULAR AND STRUCTURAL FILL MATERIALS SHALL BE COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D1557, (MODIFIED PROCTOR).
4. THE OWNER IS REQUIRED TO HIRE AND PAY FOR ALL GEOTECHNICAL ENGINEERING SERVICES THROUGH THE DURATION OF THAT PORTION OF THE PROJECT.
5. THE CONTRACTOR IS REQUIRED TO CONTACT, COORDINATE, AND ASSIST THE GEOTECHNICAL ENGINEER FOR ALL FIELD REVIEW WORK.
6. CRUSHED STONE FOR USE UNDER CONCRETE SLABS AND FOUNDATIONS SHALL BE 3/4" CRUSHED, ANGULAR, WASHED STONE OF GRANITE (OR OTHER APPROVED) QUARRY CONFORMING TO THE FOLLOWING GRADATION. ALL CRUSHED STONE SHALL BE PLACED IN A MAXIMUM 4" THICK LOOSE LIFT, AND THEN COMPACTED WITH APPROVED VIBRATORY COMPACTION EQUIPMENT TO AN UNYIELDING STATE AS DETERMINED BY THE GEOTECHNICAL ENGINEER.

SIEVE (ASTM D422)	PERCENT PASSING BY WEIGHT
3–INCH	100
3/4–INCH	50 – 100
NO. 4	25 – 75
THE FRACTION PASSING THE NO. 4 SIEVE SHALL HAVE LESS THAN 15% PASSING THE NO. 200 SIEVE.	

7. IMPORTED STRUCTURAL FILL SHALL BE FREE FROM ICE, SNOW, ROOTS, SOD, RUBBISH, DEBRIS AND OTHER DELETERIOUS OR ORGANIC MATTER AND CONFORM TO THE FOLLOWING GRADATION:

SIEVE (ASTM D422)	PERCENT PASSING BY WEIGHT
8 INCH	100*
3–INCH	70 – 100**
3/4–INCH	45 – 95
NO. 4	30 – 90
NO. 10	25 – 80
NO. 40	10 – 50
NO. 200	0 – 10

*MAXIMUM PARTICLE SIZE LIMITED TO 2/3 THE LOOSE LIFT THICKNESS.
**MAXIMUM 3–INCH PARTICLE SIZE WITHIN 12 INCHES OF THE UNDERSIDE OF FOOTINGS.

CONCRETE AND FOUNDATION NOTES:

1. CONCRETE FOOTINGS SHALL BEAR LEVEL ON SPECIFIED CRUSHED STONE ATOP SPECIFIED SAND/GRAVEL STRUCTURAL FILL OVER UNDISTURBED, PROOF–ROLLED ACCEPTABLE SOIL OR STRUCTURAL COMPACTED FILL HAVING AN ALLOWABLE BEARING CAPACITY OF 2.0 TONS PER SQUARE FOOT (MINIMUM).
2. IF BEARING MATERIALS WITH A LOWER BEARING CAPACITY THAN 2.0 TONS PER SQUARE FOOT ARE ENCOUNTERED (AS DETERMINED BY THE GEOTECHNICAL ENGINEER), AT THE SPECIFIED ELEVATIONS, THE UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL TO BE APPROVED BY THE STRUCTURAL AND GEOTECHNICAL ENGINEER.
3. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE VALIDITY OF THE SUBSURFACE CONDITIONS.
4. NO CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN GROUND.
5. ALL CONCRETE SHALL BE PROTECTED AGAINST FROST UNTIL PROJECT IS COMPLETED.
6. BACKFILL SHALL BE COMPACTED IN 4" THICK MAXIMUM LOOSE LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR (CLASS 1), ASTM D1557.
7. BACKFILL SIMULTANEOUSLY ALONG EACH SIDE WITH SPECIFIED COMPACTED FILL.
8. CONCRETE WORK SHALL CONFORM TO THE LATEST AMERICAN CONCRETE INSTITUTE CODE FOR "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
9. FOUNDATION AND STAIR SLAB CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS WITH A SLUMP OF NO MORE THAN 4" AND AIR ENTRAINMENT OF 4½–7½%. THE USE OF CALCIUM CHLORIDE IS NOT PERMITTED. PROVIDE PROPER CONCRETE PROTECTION OR HEAT IN COLD WEATHER AND MAINTAIN PROPER CURING PROCEDURES IN ACCORDANCE WITH ALL CURRENT A.C.I. STANDARDS. SLUMP MEASUREMENT CHANGES MAY BE ALLOWED IF MIX INCLUDES MID–RANGE, HIGH–RANGE OR SUPERPLASTICIZER ADMIX.
10. STEEL REINFORCEMENT SHALL CONFORM TO ASTM 615, GRADE 60, DEFORMED BARS.
11. WHERE CONTINUOUS BARS ARE CALLED FOR THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS. LAPS SHALL BE 40 BAR DIAMETERS (MINIMUM), UNLESS OTHERWISE SHOWN.
12. NOTIFY ENGINEER FOR INSPECTION OF COMPLETED INSTALLATION OF REINFORCEMENT AT LEAST 2 WORK DAYS PRIOR TO SCHEDULED PLACEMENT OF CONCRETE.
13. ALL REINFORCING BARS SHALL BE COLD BENT IN ACCORDANCE TO THE PROPER RADII ESTABLISHED BY THE AMERICAN CONCRETE INSTITUTE. UNDER NO CONDITIONS SHALL HEAT BE APPLIED TO THE BARS TO OBTAIN BENDS.
14. FORMS SHALL BE OILED PRIOR TO THEIR ERECTION. REINFORCING BARS WHICH ARE COATED WITH FORM OIL OR ANY OTHER BOND BREAKING MATERIAL WILL BE REJECTED AND WILL REQUIRE REPLACEMENT AT NO ADDITIONAL COST TO THE OWNER.
15. CONCRETE SHALL NOT CONTAIN SLAG OR SILICA FUME. IF USING FLY–ASH, THE MAXIMUM QUANTITY PER WEIGHT OF CEMENT SHALL BE 20%. SUBMIT FLY–ASH CERTIFICATION FOR APPROVAL WITH MIX DESIGNS.
16. SUBMIT COMPLETE REINFORCING STEEL SHOP DRAWINGS ALONG WITH COMPLETE CONCRETE MIX DESIGN (INCLUDING ALL ADDITIVES AND THEIR CONTENT) TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATING STEEL.
17. ADDITION OF WATER TO CONCRETE MIXES AT THE SITE IS NOT ALLOWED. SUCH CONCRETE SHALL BE IMMEDIATELY REJECTED. MID–RANGE, OR HIGH RANGE, OR SUPERPLASTICIZERS ARE ALLOWED IN THE MIX TO ASSIST IN WORKABILITY AND PUMPING OPERATIONS, AND MIX–DESIGN MAKE–UP WATER MAY BE POST SUPPLEMENTED AT THE SITE. TESTING FIRM MUST MEASURE AND REPORT.
18. CONCRETE CEMENT SHALL BE TYPE I OR II PORTLAND CEMENT. MAXIMUM AGGREGATE SIZE IN FOUNDATION CONCRETE SHALL BE 1½". MAXIMUM AGGREGATE SIZE IN SLAB CONCRETE SHALL BE ¾".
19. ALL CONCRETE SHALL BE READI–MIXED AT PLANT COMPLYING WITH ASTM C94 AND ASTM C1116. SITE MIXING IS NOT ALLOWED.
20. CONCRETE SHALL BE PLACED UPON A 12" THICK BED OF 3/4" CRUSHED, WASHED STONE COMPACTED TO A STABLE AND UNYIELDING STATE, IN 4" (MAX.) LIFTS. ALL STONE BED SUB–BASE COMPACTED MATERIALS SHALL BE PLACED ATOP SPECIFIED COMPACTED STRUCTURAL FILL AND PROOF–ROLLED, ACCEPTABLE (AS DETERMINED BY GEOTECHNICAL ENGINEER) MATERIALS.
21. ALL CONCRETE SHALL BE REINFORCED AS SHOWN ON THE DRAWINGS. PROVIDE SUFFICIENT CHAIR OR SUPPORT BARS AS NECESSARY TO PROPERLY POSITION REINFORCING STEEL. PULL UP OF BARS OR MESH, OR UNSUPPORTED BARS OR MESH WILL NOT BE ALLOWED. "WET STICKING" OF BARS WILL NOT BE ALLOWED.
22. SUBMIT ALL GEOTECHNICAL ENGINEER REPORTS TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WITH PLACEMENT OF SUB–BASE MATERIALS, FILTER FABRIC, REINFORCING STEEL, ETC. SUBMIT CONCRETE TEST RESULTS FROM TESTING AGENCY TO THE ENGINEER. OBTAIN ENGINEER'S APPROVAL OF ALL SUBMITTALS PRIOR TO COMMENCING WITH WORK.
23. ALL CONCRETE SHALL BE POURED TO THE SPECIFIED THICKNESS AND REINFORCED AS SHOWN ON THE DRAWINGS.
24. **CONCRETE USED FOR ALL FOUNDATIONS (SLABS, WALLS, FOOTINGS, ETC.) SHALL BE TESTED BY AN INDEPENDENT ACI CERTIFIED TESTING LAB, HIRED, AND PAID FOR BY THE OWNER. THE CONTRACTOR IS REQUIRED TO CONTACT AND COORDINATE THE TESTING LAB SERVICES.** THE FOLLOWING MINIMUM TESTING SHALL BE PERFORMED, AND FIELD/ LAB–RESULT REPORTS SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL:
    - AIR ENTRAINMENT AT PLACEMENT – ASTM C–231–97
    - SLUMP – ASTM C–143
    - COMPRESSIVE STRENGTH – ASTM C–39

    CONCRETE CYLINDER SAMPLES SHALL BE OBTAINED FROM EACH CONCRETE DELIVERY TRUCK FOR COMPRESSIVE STRENGTH TESTING. FIVE (5) CYLINDERS SHALL BE MADE FROM EACH SAMPLE. EACH CYLINDER SHALL BE STANDARD 6" DIAMETER BY 12" TALL. ONE (1) CYLINDER WILL BE TESTED AT 7–DAY CURE, AND THREE (3) CYLINDERS WILL BE TESTED AT 28–DAY CURE TO DETERMINE COMPRESSIVE STRENGTH OF THE CONCRETE IN ACCORDANCE WITH ASTM C–39. AIR ENTRAINMENT AND SLUMP WILL BE TESTED AT EACH SAMPLE AS WELL. **RETAIN THE FIFTH CYLINDER SAMPLE FOR POTENTIAL 56 DAY COMPRESSIVE TESTING AND/OR PETROGRAPHIC EXAMINATION.** TEST RESULTS WHICH ARE DETERMINED BY GALE TO BE DEFICIENT OR QUESTIONABLE WILL REQUIRE THAT THE CONTRACTOR PAY FOR ADDITIONAL TESTING AND CORING OF THE IN–PLACE CONCRETE, INCLUDING PETROGRAPHIC EXAMINATION WITH REPORT AS DIRECTED BY GALE. CONCRETE DETERMINED BY GALE TO REMAIN DEFICIENT AFTER FINAL TESTING SHALL BE ENTIRELY REMOVED AND REPLACED AT NO ADDITIONAL COST.
25. CHAIR BARS FOR SECURE PLACEMENT AND POSITIONING OF REINFORCING STEEL IS TO BE PROVIDED. CHAIR BAR OR SIMILAR APPROVED MANUFACTURED DEVICES INTENDED FOR USE MUST BE SUBMITTED TO GALE AND APPROVED IN WRITING PRIOR TO ORDERING MATERIALS. REINFORCING SUPPORTS SHALL BE OF PROPER HEIGHT, LENGTH, SPACING, SIZE AND MATERIAL TYPE; AND SUBMITTAL SHALL INCLUDE THIS DATA WITH CURRENT MANUFACTURER DATA SHEETS. IN NO CASE SHALL BRICK, WOOD OR OTHER NON–CONFORMING REINFORCING STEEL SUPPORTS BE USED.

CONCRETE AND FOUNDATION NOTES CONT.:

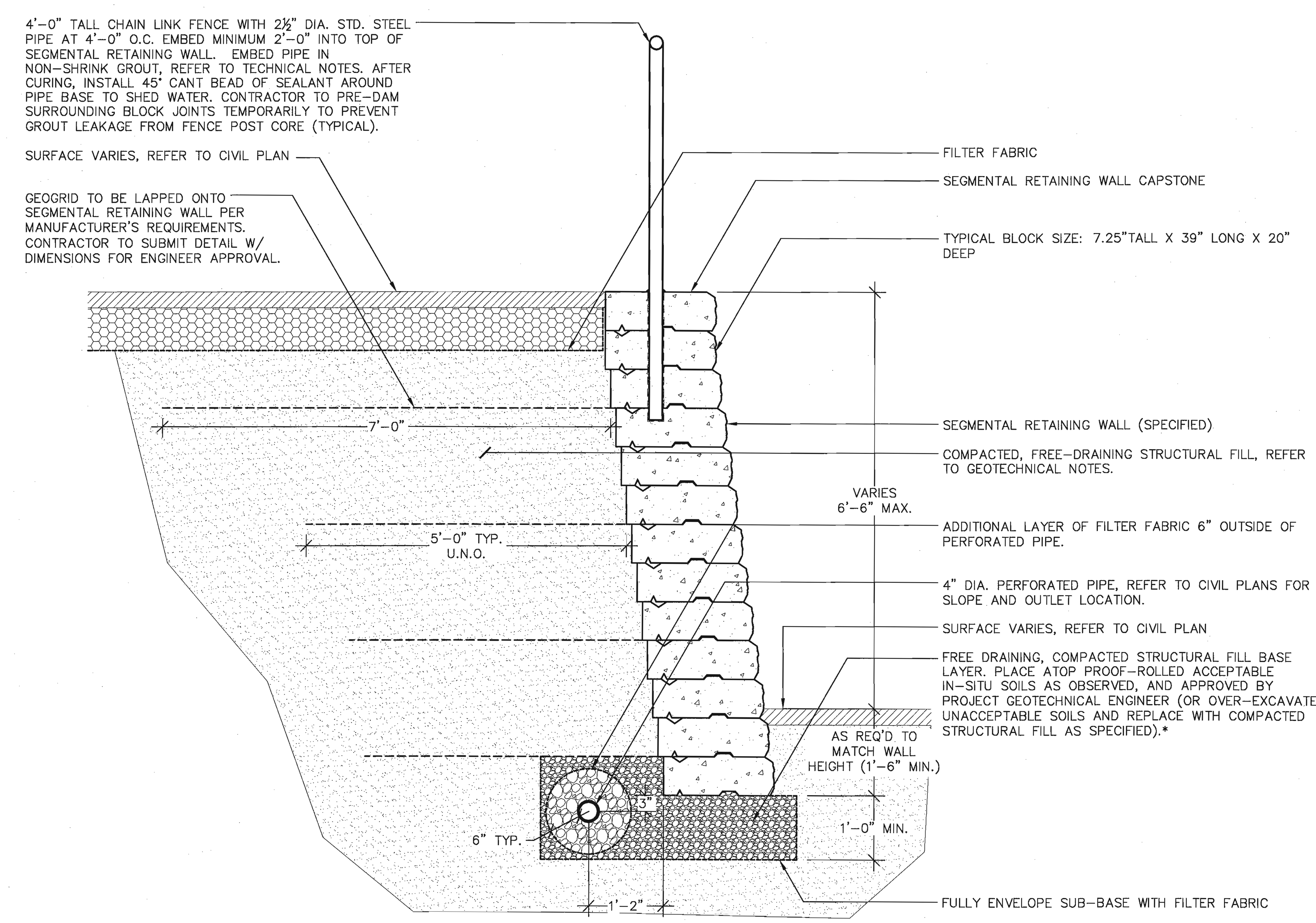
26. CONCRETE STAIR SLAB TREADS SHALL BE FINISHED TO COMPLY WITH AN ACI "MILD–BROOM" FINISH.
27. CEMENTITIOUS FLOWABLE FILL OR SLURRY CONCRETE FOR USE BETWEEN STAIR FOUNDATION WALL AND SEGMENTAL RETAINING WALL SHALL BE RECESSED FROM THE TOP OF THE STAIR FOUNDATION WALL STEM 2" ALONG ITS FULL LENGTH, AND TROWELED SMOOTH AND LEVEL. CEMENTITIOUS FLOWABLE FILL SHALL CONFORM TO ACI 229R–99 WITH AN ALLOWABLE COMPRESSIVE STRENGTH NOT LESS THAN 800 PSI (28–DAY COMPRESSIVE STRENGTH) WHEN TESTED IN ACCORDANCE WITH ASTM D4832.
28. COATING OVER THE SLURRY FILL (ONCE FULLY CURED) SHALL BE A MINIMUM OF TWO (COATS) OF WATER DISPERSED COLORED, ACRYLIC, PROTECTIVE COATING SUCH AS SIKAGARD 670W (BLACK) AS MANUFACTURED BY SIKA CORPORATION OR ENGINEER APPROVED EQUAL. TOTAL DRY FILM THICKNESS SHALL BE 5 MIL. CONTRACTOR MUST TEST ADHESION USING SIKAGARD 552W PRIMER (OR APPROVED EQUAL) AND PRIMER LESS VIA MOCK–UPS. PROVIDE PRIMER IF REQUIRED BASED UPON ADHESION TESTS.
29. GROUT FOR EMBEDDING HANDRAILS AND FENCE POSTS SHALL BE A NON–CATALYZED, MULTI–PURPOSE, GENERAL CONSTRUCTION, MINERAL–AGGREGATE NON–SHRINK, INTERIOR/EXTERIOR USE CAPABLE GROUT SUCH AS MASTERFLOW 100 AS MANUFACTURED BY BASF THE CHEMICAL COMPANY.

SEGMENTAL RETAINING WALL NOTES:

1. GEOGRID FOR USE AT THE SEGMENTAL RETAINING WALL SHALL BE A HIGH MOLECULAR WEIGHT AND HIGH TENACITY KNITTED POLYESTER YARN WITH A POLYMERIC COATING WITH A MINIMUM ULTIMATE STRENGTH OF 3,600 LB/FT SUCH AS STRATAGRID SG200 AS MANUFACTURED BY STRATA SYSTEMS, INC. OR ENGINEER APPROVED EQUAL.
2. BACKFILL BEHIND THE SEGMENTAL WALL SHALL BE A FREE–DRAINING, CONTROL COMPACTIBLE FILL AS SPECIFIED IN THE GEOTECHNICAL NOTES. PLACE AND COMPACT BACKFILL IN MAXIMUM 6" LIFTS.
3. THE HEIGHT OF THE SEGMENTAL WALL SHALL NOT EXCEED THREE (3) UNITS PRIOR TO PLACING AND COMPACTING BACKFILL AND SETTING SPECIFIED GEO–GRIDS BEHIND THE WALL. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PLACEMENT.

SEGMENTAL RETAINING WALL NOTES CONT.:

4. THE CONCRETE WALL UNITS SHALL BE 7.25" X 39" X 20" WITH A MAXIMUM TOLERANCE OF ⅛"±. THE SOLID UNITS SHALL HAVE A MINIMUM WEIGHT OF 463 LBS PER UNIT AND HAVE AN INTEGRAL SHEAR KEY CONNECTION, OFFSET TO ALLOW WALL BATTER.
5. THE CONCRETE WALL UNITS SHALL HAVE A MINIMUM 28–DAY COMPRESSIVE STRENGTH OF 5000 PSI AS TESTED IN ACCORDANCE WITH ASTM C–140. MAXIMUM MOISTURE ABSORPTION RATE SHALL BE 5% TO ENSURE ADEQUATE FREEZE–THAW PROTECTION.
6. THE CONTRACTOR SHALL COORDINATE A MINIMUM OF TWO (2) SITE VISITS BY THE SEGMENTAL RETAINING WALL MANUFACTURER'S TECHNICAL REPRESENTATIVE DURING CONSTRUCTION OF THE WALL. THE FIRST SITE VISIT SHALL OCCUR DURING THE FIRST WEEK OF SEGMENTAL WALL INSTALLATION. FOR EACH SITE VISIT, THE MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE A WRITTEN FIELD REPORT TO BE SUBMITTED TO THE OWNER AND ENGINEER. THE REPORT SHALL INCLUDE THE DATE, PERSONNEL PRESENT AT THE SITE, WEATHER, TIME, PURPOSE OF SITE VISIT, AREAS INCLUDED IN THE SITE OBSERVATIONS WITH PLAN SKETCH, CORRECTIVE RECOMMENDATIONS MADE, AND RESULTS OF TEST PERFORMED.
7. GROUT FOR EMBEDDING HANDRAILS AND FENCE POSTS SHALL BE A NON–CATALYZED, MULTI–PURPOSE, GENERAL CONSTRUCTION, MINERAL–AGGREGATE NON–SHRINK, INTERIOR/EXTERIOR USE CAPABLE GROUT SUCH AS MASTERFLOW 100 AS MANUFACTURED BY BASF THE CHEMICAL COMPANY.



*CONTRACTOR NOTE:
CONTRACTOR TO COORDINATE REVIEW OF IN–SITU SOILS BY THE PROJECT GEOTECHNICAL ENGINEER. RETAINING WALL DESIGN BASED ON DR. CLARENCE WELTI GEOTECHNICAL ENGINEERING REPORT DATED MARCH 26, 2014. CONTRACTOR TO CARRY REMOVAL OF 3'–0" OF EXISTING FILL SOILS BELOW LOW GRADE, AND REPLACEMENT WITH SPECIFIED, COMPACTED STRUCTURAL FILL OR CRUSHED STONE BELOW RETAINING WALL. REFER TO GEOTECHNICAL NOTES FOR ADDITIONAL REQUIREMENTS.

1 SEGMENTAL RETAINING WALL SECTION
SCALE: 3/4" = 1'–0"

BID SET

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REVISIONS

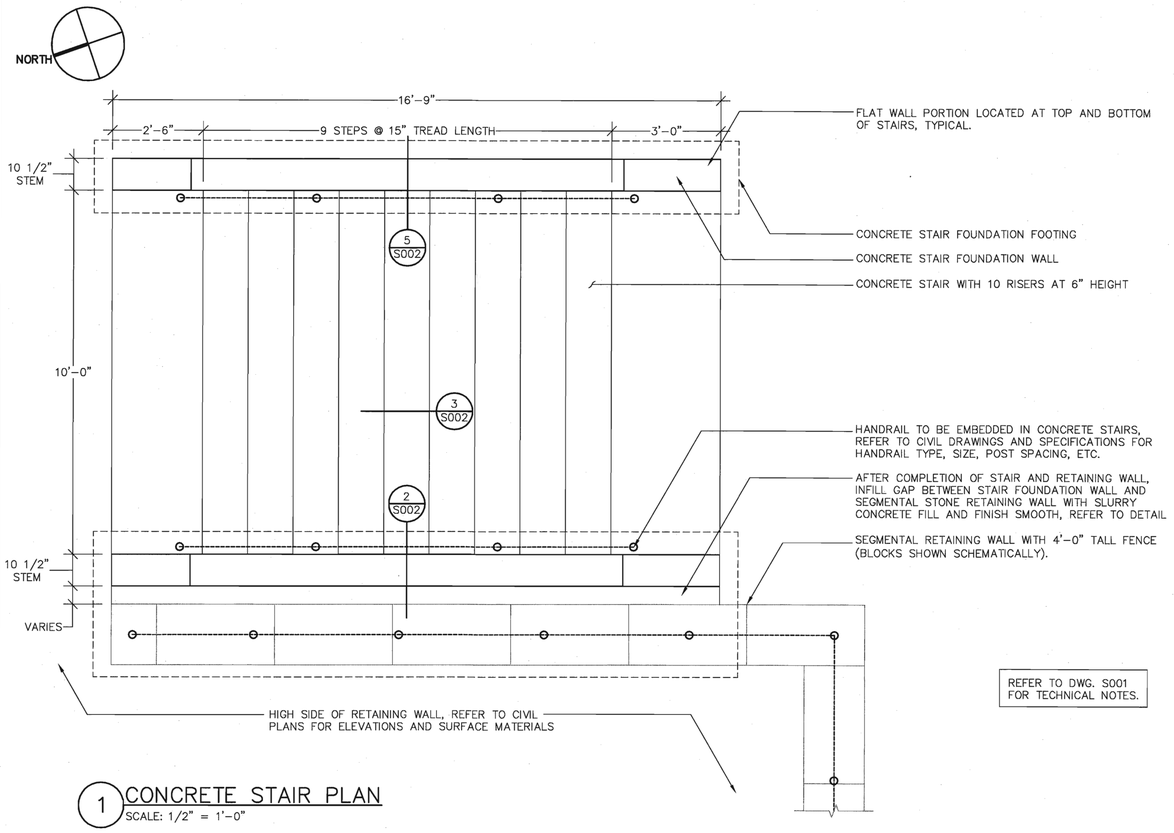
NO.	DATE	DESCRIPTION

CADD FILE	716300 S000s
DESIGNED BY	MPQ/ DAM
DRAWN BY	
CHECKED BY	DAM
DATE	3–28–14
DRAWING SCALE	3"=1'–0"

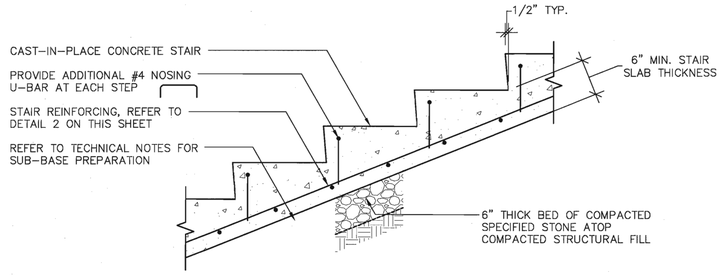
GRAPHIC SCALE
0 1" 6" 9"

SHEET TITLE
SEGMENTAL RETAINING WALL AND TECHNICAL NOTES

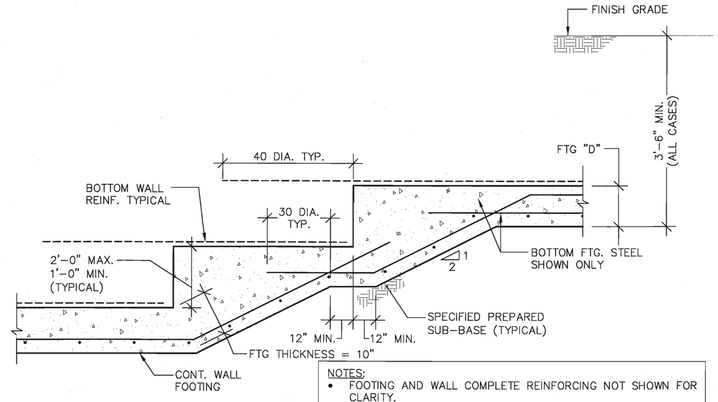
DRAWING NO.
S001
SHT. NO. 1 OF 2
PROJECT NO. 716300



1 CONCRETE STAIR PLAN
SCALE: 1/2" = 1'-0"

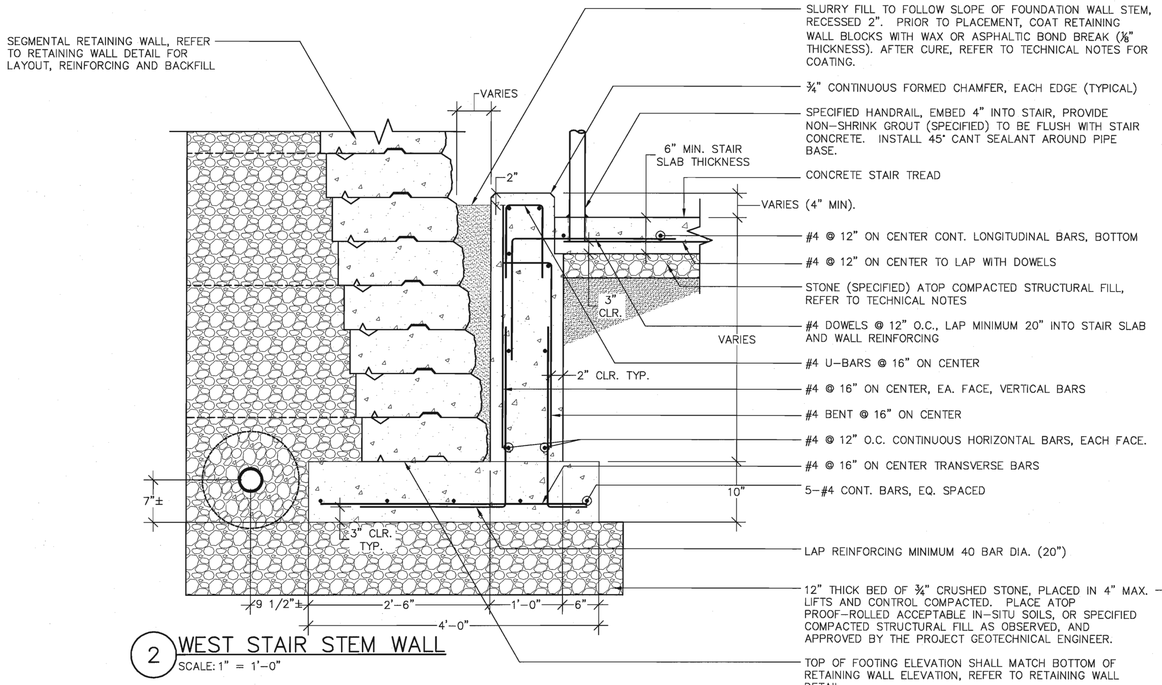


3 STAIR CROSS SECTION
SCALE: 1" = 1'-0"

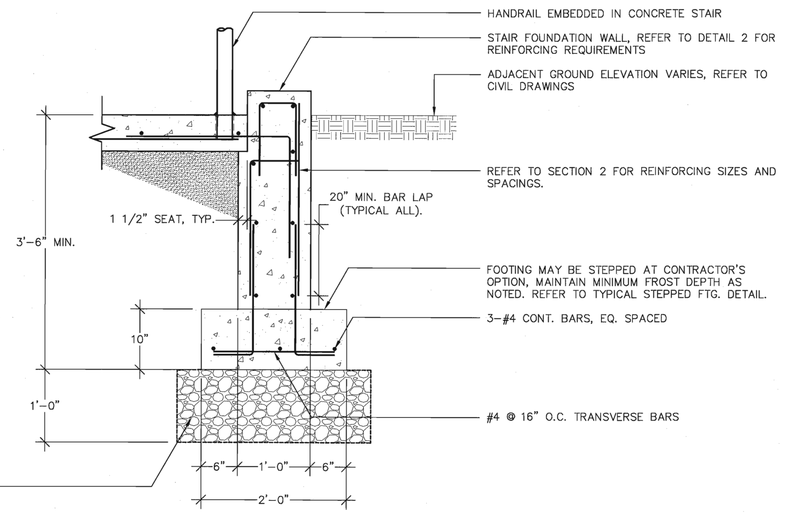


NOTES:
- FOOTING AND WALL COMPLETE REINFORCING NOT SHOWN FOR CLARITY.
- CONTRACTOR TO DETERMINE PLAN LOCATION OF STEPPED FOOTINGS BASED UPON ACTUAL SITE TOPOGRAPHY AND ELEVATIONS.

4 TYPICAL STEPPED FOOTING DETAIL
SCALE: NOT TO SCALE



2 WEST STAIR STEM WALL
SCALE: 1" = 1'-0"



5 EAST STAIR STEM WALL
SCALE: 1" = 1'-0"

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REVISIONS

NO.	DATE	DESCRIPTION

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DESIGNED BY	MPQ/ DAM
DRAWN BY	
CHECKED BY	DAM
DATE	3-28-14
DRAWING SCALE	3"=1'-0"

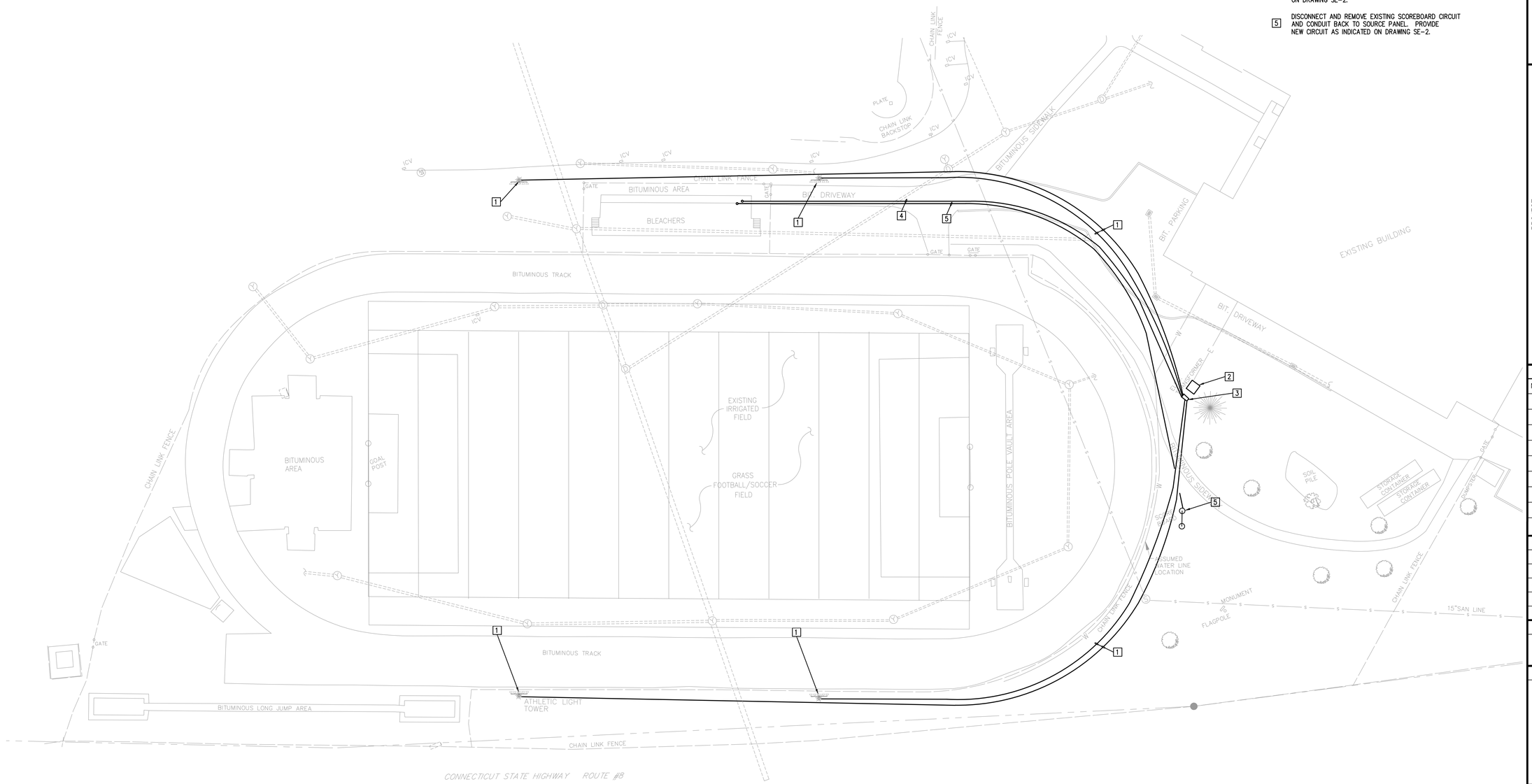
GRAPHIC SCALE
0 1" 6" 9"

SHEET TITLE
CONCRETE STAIR AND RELATED DETAILS

DRAWING NO.
S002
SHT. NO. 2 OF 2
PROJECT NO. 716300

ELECTRICAL DEMOLITION NOTES:

1. DISCONNECT AND REMOVE EXISTING SPORTS LIGHTING FIXTURES AND CONTROLS. DISCONNECT AND REMOVE EXISTING CIRCUIT AND CONDUIT BACK TO PANEL. EXISTING LIGHT TOWER TO REMAIN FOR REUSE. PROVIDE NEW CIRCUIT AS INDICATED ON DRAWING SE-2.
2. EXISTING UTILITY PADMOUNT TRANSFORMER TO REMAIN.
3. EXISTING 200A MCB, 480/277V SPLIT BUS PANEL AND 200A CONTACTOR IN NEMA 3R ENCLOSURE. REMOVE CONTACTOR AND CONTROL SWITCH, AND RECONNECT SPLIT BUS (SEE DETAIL ON DRAWING SE-3.)
4. DISCONNECT AND REMOVE EXISTING PRESSBOX CIRCUIT AND CONDUIT BACK TO SOURCE. PROVIDE NEW CIRCUIT AS INDICATED ON DRAWING SE-2.
5. DISCONNECT AND REMOVE EXISTING SCOREBOARD CIRCUIT AND CONDUIT BACK TO SOURCE PANEL. PROVIDE NEW CIRCUIT AS INDICATED ON DRAWING SE-2.



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REVISIONS

NO.	DATE	DESCRIPTION

CADD FILE	
DESIGNED BY	DSL
DRAWN BY	
CHECKED BY	BZ
DATE	4-8-14
DRAWING SCALE	1"=30'-0"

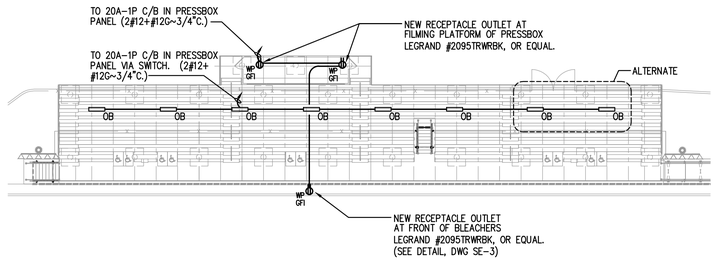
GRAPHIC SCALE
0 4' 8' 12'

SHEET TITLE

ELECTRICAL SITE PLAN - DEMOLITION

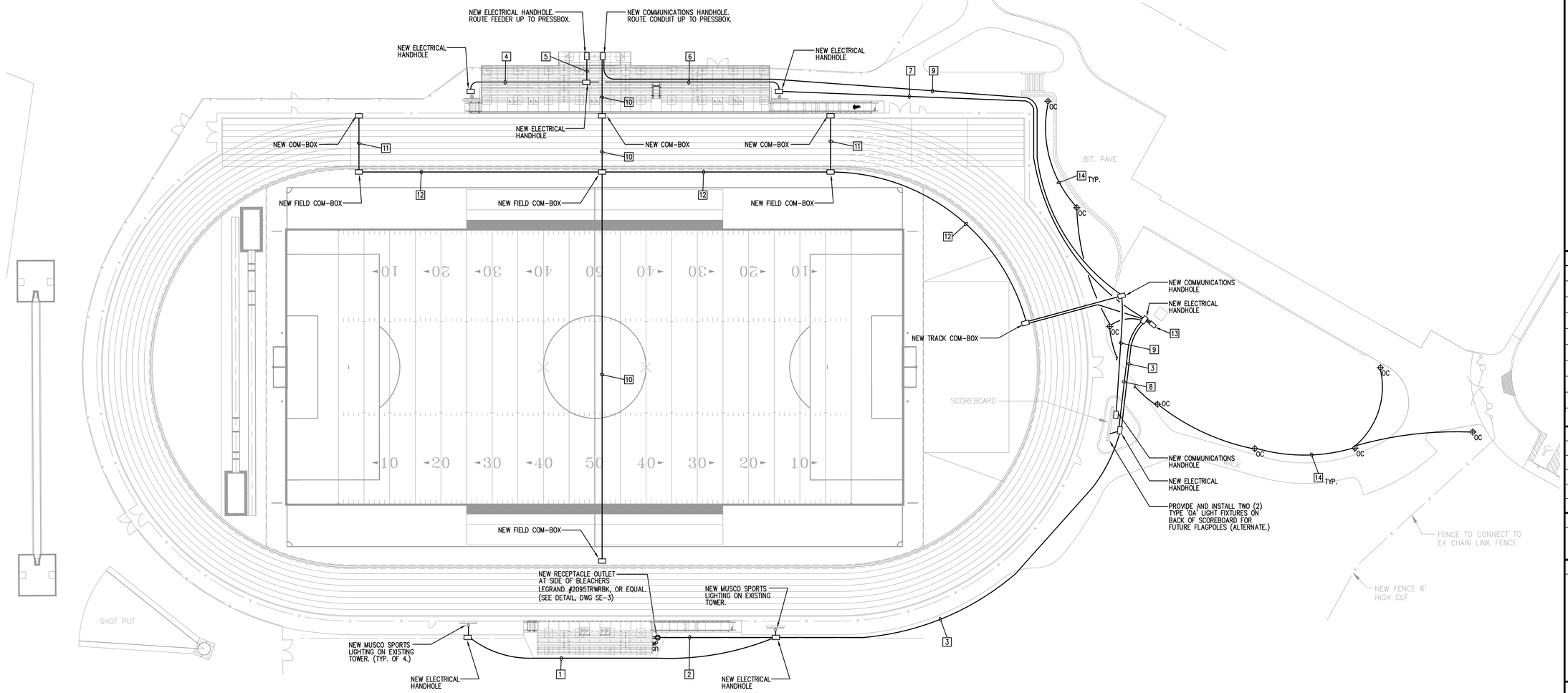
DRAWING NO.
SE-1

PROJECT NO. 716300



PART PLAN – PRESSBOX AREA

SCALE: 1"=20'



ELECTRICAL NOTES:

1. 3#6 + #10G THWN-2 IN 2"C. FOR LIGHT TOWER 'F4' FEEDER.
2. 2#10 + #10G THWN-2 IN 1"C. FOR BLEACHER RECEPTACLE. (ALTERNATE)
3. 6#6 + 2#10 + #10G THWN-2 IN 2"C. FOR LIGHT TOWER 'F3' FEEDER, LIGHT TOWER 'F4' FEEDER, AND BLEACHER RECEPTACLE.
4. 3#6 + #10G THWN-2 IN 2"C. FOR LIGHT TOWER 'F1' FEEDER.
5. 4#8 + #10G THWN-2 IN 1"C. FOR PRESSBOX FEEDER.
6. 3#6 + 4#8 + #10G THWN-2 IN 2"C. FOR LIGHT TOWER 'F1' FEEDER, AND PRESSBOX FEEDER.
7. 6#6 + 4#8 + #10G THWN-2 IN 2"C. FOR LIGHT TOWER 'F1' FEEDER, TOWER 'F2' FEEDER, AND PRESSBOX FEEDER.
8. 4#10 + #10G THWN-2 IN 1"C. FOR SCOREBOARD CIRCUIT, AND FLAGPOLE LIGHT CIRCUIT (FLAGPOLE CIRCUIT VIA TIMECLOCK.)
9. 2" EMPTY CONDUIT FOR COMMUNICATIONS.
10. (2) 3" EMPTY CONDUIT FOR COMMUNICATIONS.
11. (2) 2" EMPTY CONDUIT FOR COMMUNICATIONS.
12. (2) 2" EMPTY CONDUIT FOR COMMUNICATIONS, AND (1) 1" EMPTY CONDUIT FOR POWER.
13. EXISTING PANEL TO REMAIN. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED. PROVIDE NEW TIMECLOCK AND PHOTOCELL IN ENCLOSURE FOR SITE LIGHTING. (SEE DETAIL.)
14. 2#10 + #10G THWN-2 IN 1"C. FOR WALWAY LIGHTING (VIA TIMECLOCK.)

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REVISIONS

NO.	DATE	DESCRIPTION

CADD FILE	
DESIGNED BY	DSL
DRAWN BY	
CHECKED BY	BZ
DATE	4-8-14
DRAWING SCALE	1"=30'-0"

GRAPHIC SCALE

0 4' 8' 12'

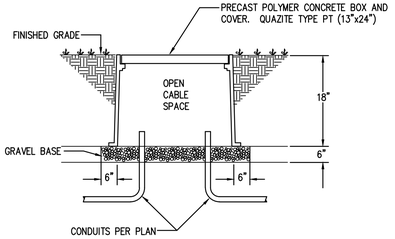
SHEET TITLE

ELECTRICAL SITE PLAN

DRAWING NO.

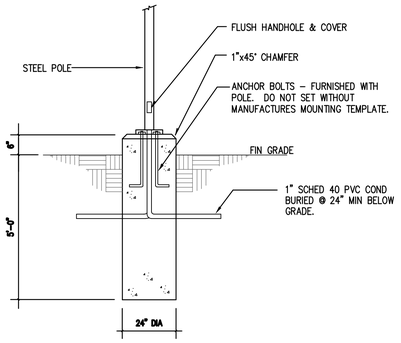
SE-2

PROJECT NO. 716300



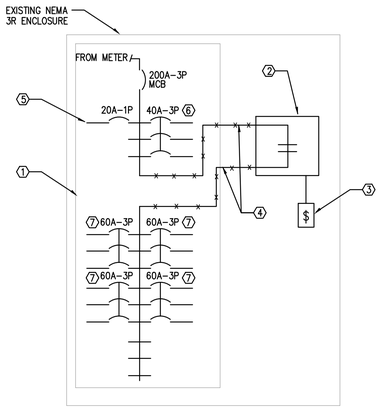
HANDHOLE INSTALLATION DETAIL

N.T.S.



LIGHT POLE BASE DETAIL

N.T.S.



EXISTING PANEL - DEMOLITION PLAN

N.T.S.

DEMOLTION NOTES:

① EXISTING 200A, 480/277V, SPLIT BUS PANEL TO REMAIN.

② EXISTING 200A, 3 POLE ASCO CONTACTOR TO BE REMOVED.

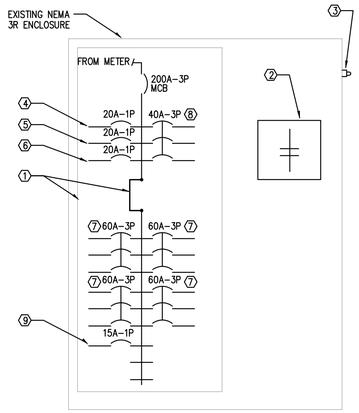
③ REMOVE EXISTING CONTACTOR CONTROL SWITCH AND ASSOCIATED CIRCUITING.

④ REMOVE CONDUCTORS BETWEEN PANEL AND CONTACTOR.

⑤ REMOVE CONDUCTORS TO CONTACTOR CONTROL POWER.

⑥ EXISTING 40A–3P C/B TO REMAIN (REMOVE FEEDER CONDUCTORS.)

⑦ EXISTING 60A–3P C/B TO REMAIN (REMOVE FEEDER CONDUCTORS.)



EXISTING PANEL - NEW WORK

N.T.S.

NEW WORK NOTES:

① EXISTING 200A, 480/277V, SPLIT BUS PANEL TO REMAIN. PROVIDE NEW INTERCONNECT CONDUCTORS BETWEEN BUSES (#3/0 AWG.)

② NEW 24 HOUR TIMECLOCK. TORK #7202L, OR EQUAL. SEE DETAIL, THIS SHEET.

③ NEW PHOTOCELL MOUNTED ON EXTERIOR OF ENCLOSURE. TORK #2116, OR EQUAL. SEE DETAIL, THIS SHEET.

④ REUSE EXISTING 20A–1P CIRCUIT BREAKER FOR WALKWAY, SCOREBOARD LIGHTING CIRCUIT (VIA TIMECLOCK.)

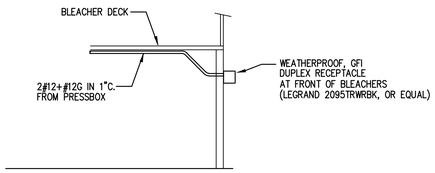
⑤ PROVIDE NEW 20A–1P CIRCUIT BREAKER FOR SCOREBOARD CIRCUIT.

⑥ PROVIDE NEW 20A–1P CIRCUIT BREAKER (SPARE.)

⑦ REUSE EXISTING 60A–3P CIRCUIT BREAKER FOR SPORTS LIGHTING FEEDER.

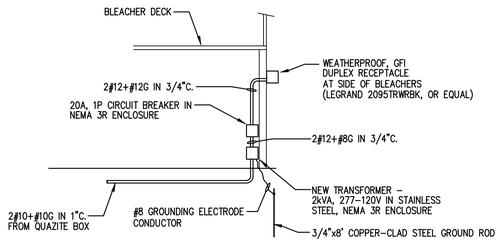
⑧ REUSE EXISTING 40A–3P CIRCUIT BREAKER FOR PRESS BOX FEEDER.

⑨ PROVIDE NEW 15A–1P CIRCUIT BREAKER FOR BLEACHER RECEPTACLE CIRCUIT.



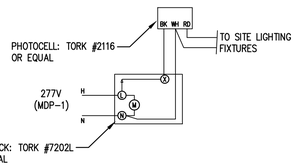
HOME BLEACHER RECEPTACLE DETAIL

N.T.S.



VISITOR'S BLEACHER RECEPTACLE DETAIL

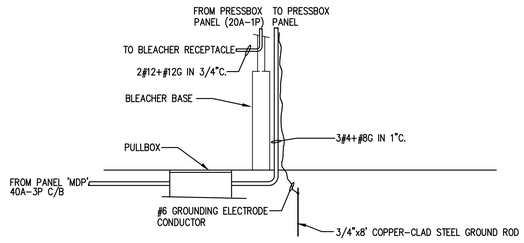
N.T.S.



TIMECLOCK/PHOTOCELL DETAIL

N.T.S.

NOTE: TIMECLOCK SHALL BE PROGRAMMED 'ON' PRIOR TO DUSK, ALLOWING PHOTOCELL TO TURN LIGHTS AT AT LOW LIGHT. TIMECLOCK SHALL TURN LIGHTS OFF AT PRESET TIME (COORDINATE W/ OWNER.)



PRESSBOX POWER DETAIL

N.T.S.

LIGHTING FIXTURE SCHEDULE

POLE	DESCRIPTION	FIXTURES	VOLTS	REMARKS
F1	MUSCO 80' SPORTS LIGHTING TOWER (EXISTING)	17 – 1500W METAL HALIDE – FIELD LIGHTING	480	
F2	MUSCO 80' SPORTS LIGHTING TOWER (EXISTING)	17 – 1500W METAL HALIDE – FIELD LIGHTING	480	
F3	MUSCO 70' SPORTS LIGHTING TOWER (EXISTING)	17 – 1500W METAL HALIDE – FIELD LIGHTING	480	
F4	MUSCO 70' SPORTS LIGHTING TOWER (EXISTING)	17 – 1500W METAL HALIDE – FIELD LIGHTING	480	
OA	LED FLOOD LIGHT	HOLOPHANE PMLED25K10AAS441KBP	277	MOUNT ON BACK OF SCOREBOARD.
OB	LED STRIP LIGHT	HOLOPHANE EVT479LED35SYM120ELFEND2STSL	120	MOUNT ABOVE WALKWAY BELOW HOME BLEACHERS.
OC	LED WALKWAY LIGHT	ARCHITECTURAL AREA LIGHTING SLVT–T5–56LED–4K–700–BLK–CLR WITH PR4–4R12–125–12 POLE	277	SEE LIGHT POLE BASE DETAIL, THIS SHEET.

PANEL SCHEDULE

Designation : MDP
Location : EXTERIOR ENCLOSURE
Mounting : SURFACE
Manufacture : EXISTING
Panel Type :

480/277 : Voltage
3 : Phase
4 : Wire
200A : Amp Rating
: Special

FEEDER FROM : TRANSFORMER
FEEDER CONDUCTOR [QUANTITY AND SIZE] : EXISTING

MAINS: ☐ LUGS ONLY . FEEDER SOURCE FUSED SWITCH DATA : AMP FUSE / AMP TRIP – POLE /
☒ MAIN CIRCUIT BREAKER . DATA : 250 AMP FRAME / 200 AMP TRIP – 3 POLE /

CKT NO.	CIRCUIT DESCRIPTION	VOLTS (60HZ)	Ph	CIRCUIT BREAKER amp	trip–pole	minAIC	SCCRES–SCCRES	LOAD (VA)	BRANCH CKT	CON–DUIT	PH	PH	CKT NO.	CIRCUIT DESCRIPTION	VOLTS (60HZ)	Ph	CIRCUIT BREAKER amp	trip–pole	minAIC	SCCRES–SCCRES	LOAD (VA)	BRANCH CKT	CON–DUIT
1	WALKWAY/FLAG LTG	277	1	20	1				2#10+#10G	>1"	A	A	2										
3	SCOREBOARD	277	1	20 *	1				2#10		B	B	4	PRESSBOX	480	3	40	3				4#8	
5	SPARE	277	1	20 *	1						C	C	6										
1											A	A	2										
3	LIGHTING TOWER F3	480	3	60	3				3#6+#10G		B	B	4	LIGHTING TOWER F1	480	3	60	3				3#6+#10G	>2"
5											C	C	6										
7											A	A	8										
9	LIGHTING TOWER F4	480	3	60	3				3#6	>2"	B	B	10	LIGHTING TOWER F2	480	3	60	3				3#6	
11											C	C	12										
13	BLEACHER RECEPTACLE	277	1	15 *	1				2#10		A	A	14										
15											B	B	16										
17											C	C	18										

STANDARD ACCESSORIES
– COPPER BUSSING ONLY
– COPPER EQUIPMENT GROUND KIT
– INSULATED COPPER SOLID NEUTRAL BAR
– BOLT–ON BRANCH CIRCUIT BREAKERS
– DIRECTORY FRAME WITH GLASS/PLASTIC
– LAMINATED ENGRAVED BAKELITE NAMEPLATE
– MAIN LUG ONLY PANELBOARD TO HAVE COPPER LUGS
– FRONT DOOR

ABBREVIATIONS USED

T.F.M.	Thermal and Fixed Magnetic Trip	U.T	Undervoltage Trip
T.A.M	Thermal and Adjustable Magnetic Trip	S.T	Shunt Trip
S.S	Solid State Trip	AUX.S	Auxilliary Switch
A.M	Adjustable Magnetic Trip Only	ALM.S	Alarm Switch
F.C.L	Fuseless Current Limiting	MECH.INT.	Mechanical Interlock
I.G.	Isolated Ground Bus	GFI	Ground Fault Interrupter
HACR	Heating/AC/Ref. rated	HT	Handle Tie
SWD	Switching duty rated	LT	Lock Tab

NOTES
1. Interrupting Ratings shall be UL Symmetrical RMS Amperes
2. Circuit Breakers are at 40 deg. C ambient U.N.O.
3. Circuit breaker amperage to be clearly visible on it's handle
4. All unexplained abbreviations to be clarified with the Engineer prior to bid opening.
5. Door directory to be completed with respect to the ACTUAL circuit description.
6. Branch CB and conductor size and quantity based on specified equipment. Confirm electrical requirements prior to installation .
7. Branch conductor specified shall be Type "THHN/THWN" 600V 90°C rated copper U.N.O

* – PROVIDE NEW CIRCUIT BREAKERS TO MATCH EXISTING PANEL, TO ACHIEVE THE CIRCUITING AS INDICATED IN SCHEDULE.

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REVISIONS

NO.	DATE	DESCRIPTION

CADD FILE	
DESIGNED BY	DSL
DRAWN BY	
CHECKED BY	BZ
DATE	4–8–14
DRAWING SCALE	NONE

GRAPHIC SCALE
0 4' 8' 12'

SHEET TITLE
ELECTRICAL DETAILS

DRAWING NO.
SE–3

PROJECT NO. 716300