

ADDENDUM NO.: 2.0

DATE OF ADDENDUM: May 13, 2015

**Campus Site Improvements  
Naugatuck Valley Community College, Waterbury, Connecticut  
BI – CTC – 436**

**Original Bid Due Date / Time**                      **Date: May 14, 2015**                      **Time: 2:00 PM**

**Revised Bid Due Date / Time**                      **Date: May 21, 2015**                      **Time: 2:00 PM**

**Previous Addenda: Addendum 1.0**

**TO: Prospective Bid Proposers:**

This Addendum forms part of the "Contract Documents" and modifies or clarifies the original "Contract Documents" for this Project dated January 15, 2015. Prospective Bid Proposers shall acknowledge receipt of the total number of the Addenda issued for this Project on the space provided on Section 00 41 00 Bid Proposal Form. Failure to do so may subject Bid Proposers to disqualification.

The following clarifications are applicable to drawings and specifications for the project referenced above.

**GENERAL**

**Item 1.**

**The bid opening remains (May 21, 2015) by 2:00pm.**

**Please deliver bids on May 21, 2015 prior to 2:00pm to:**

**By Hand:**

The Morganti Group, Inc. Field Office located adjacent to: The Founders Hall Project, 750 Chase Parkway, Waterbury, CT  
C/O The Morganti Group, Inc.

**By Mail:**

Bids delivered by mail or prior to May 21, 2015 to: Attention Bob Divjak (203) 575-8235, Naugatuck Valley Community College, 750 Chase Parkway, Waterbury, CT  
Clearly mark on the outside of your sealed envelope: BID ENCLOSED CAMPUS SITE IMPROVEMENTS BI-CTC-436.

**Item 2**

See the following items attached to this addendum:

Bus Shelter Design-Mark-up  
AD1-SK-C5 3-1  
AD2-SK-C6 2-1  
AD2-SK-E1 5-1

**Item 3**

All bidders should be aware that scope reviews will be performed with the apparent low bidders. In the Notice to Bidders change the date for scope reviews from Monday May 18, 2015 to Tuesday May 26, 2015. Apparent low bidders will be contacted on May 22, 2015 to confirm date and time for the review of their bids. Scope reviews will be done in the Morganti Group field office at 750 Chase Parkway, Waterbury, CT.

**RFI-027:**

33 41 00 Storm Drainage, Detail 7/C6.4 Standard Wing Type Endwall

We propose furnishing precast concrete endwalls in lieu of the cast-in-place shown in detail 7/C6.4. Precast endwalls are accepted by CDOT for use on their projects. If acceptable the endwalls would not have to be included in

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the scope of work for BP#2—Site Concrete, thus saving the owner money and considerable time to form, pour, strip the cast in place units.

**Answer:** Provide as designated.

**RFI-028:**

Drawing L1.2, Specification Section 32 91 15, Structural Soil

Drawing L1.2 does not identify the landscaping at the proposed Lot G as Supplement No 1.  
Are we to include the structural soil in the base bid or in supplement no 1 ?

**Answer:** Landscaping and structural soil shown on sheet L1.2 related to Lot G should be included in the Supplement No. 1. For Lot G. Structural soil is also included in the base bid in the pedestrian connector between Technology Hall and Founders Hall through the parking area.

**RFI-029:**

Attached is the CTDOT spec for calculating asphalt adjustment.

I am not sure what you are trying to accomplish by asking for various asphalt paving quantities on the bid form.

The area in square yards is not used in the formula. The variables required are the HMA used in tons, the percentage of performance graded binder (liquid asphalt) used in the job mix, and the **LIQUID** asphalt price difference (priced per ton) at the time of bid versus the price at the time of installation. The liquid asphalt price is what is volatile as this is the petroleum based component.

**Answer:** The intent is to use the DOT method for price adjustment for asphalt paving. We have specified a base dollar figure for the liquid asphalt component to be used at time of bid which will be adjusted by the price at the time of installation.

**RFI-030:**

Your web site has changed and I do not understand where to go for plans/addn

**Answer:** Go to: [www.morganti.com](http://www.morganti.com)  
At top of page click on "For Subcontractors"  
Next page click on "NERO Bid Documents"  
Username is: [morgantiNERO@gmail.com](mailto:morgantiNERO@gmail.com)  
Password is: nero0001  
Addendum is in NVCC folder.

**RFI-031:**

RFI 12

Specification Section 32 17 13, Bollards, Detail 1/C6.4

I cannot find the proposed bollards on the plans. Help!

**Answer:** See sheet C3.2 there are bollards at the relocated hydrant near lot G, include (4) four new at this location. Also include (6) six additional bollards to be located at the direction of the Morganti Group.

c. Who is responsible to take down and discard of the old light poles and fixtures ?

**Answer:** BP#7 is responsible.

d. Is the removal of the old light pole concrete bases to be included in the electrical bid package?

**Answer:** Yes

e. Will the poles and concrete based be allowed to be put in the provided dumpsters?

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**Answers:** No, poles and bases are not to be put into dumpsters. BP#7 to dispose of legally off site.

7. The fixture schedule description also has in parentheses a quantity of fixtures by project BI-CTC-442 Please clarify, as that really skews the counts from drawing to schedule. Fixture schedule on E1.1 indicates some fixtures by BI-CTC-442. Are there fixtures being supplied by 442 or are all fixtures shown by BI-CTC-436?

**Answer:** Include only fixtures for BI-CTC-436

**RFI-033:**

**1. GRADING AND UTILITY PLANS**

a. Drawing No. C4.2.

In LOT G, some of the call out boxes indicate that the item is part of Supplemental Bid #1. For instance, Prop. CB-G1. However, some other items such as the Underground Storm water Detention System or the Proposed Tree Box do not specify if they correspond to Supplemental Bid #1. It is not clear if all the items inside the box "Supplemental Bid #1" are part of the supplemental bid.

**Answer:** The Underground Storm water Detention System, and Proposed Tree Boxes are all part of the Supplemental Bid Item #1, and all of the items within the box "Supplemental Bid #1" are part of that Supplemental Bid.

b. Drawing No. C4.3.

Regarding the call out "Core bore through existing foundation wall in boiler room...(by others)". Are all the activities mentioned here for others, or just the additional 20 LF of Pex Tubing?

**Answer:** Only the Coring is by others. All of the tubing, trenching, backfilling, compacting, surface restorations, etc. is part of this Contract. Just to reiterate coordination will be required between the two projects to complete this work.

**2. MATERIAL AND LAYOUT PLAN**

c. Drawing No. C3.3.

Regarding "Reconstruct Lot E and Lot F". The extent of this area should be clearly defined. Does this mean that even areas in which there was no pavement removal (but are part of Lot E and F) should be reconstructed?

**Answer:** Yes, all areas delineated within the Contact Limit Line shall be constructed. See drawing C2.3 as well.

**3. STORMWATER POLLUTION CONTROL PLAN**

I see two different set of plans for SWPCP items. One corresponds to existing conditions and the other one to proposed conditions. Does this mean that these strategies should be implemented for both cases and therefore both conditions will be taken into account during the take off (even if some items are in both scenarios).

Are all the activities and materials within LOT E – PHASE A part of Supplemental Bid #0? Looking at the phasing plan it seems that the answer is yes, but in the rest of the plans there is no reference to these items being part of the supplemental Bid.

**Answer:** Depending on their location some areas of the existing SWPCP items will remain in place during the proposed conditions. In other instances there are new catch basins being installed in the proposed conditions that are not in the existing conditions that will require SWPCP items once they are installed.

**4. SCOPE OF WORK – Bid Package #1**

- Section No. 00 41 02.01 – Page 8 – Note 8.

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It is not clear. Is the BP #1 Site Work contractor responsible of the providing the storage trailers just for this Bid Package or for all bid package subcontractors.

**Answer:** Each bid package is responsible for their own storage trailers if required. BP#1 only provides for their needs.

- Section No. 00 41 02.01 – Page 10 – Note 22.

It says in this note that the BP#1 Site Work contractor shall furnish and install sanitary piping. However, sanitary piping was not found in the grading and utility plans. Are we missing this?

**Answer:** There is not any sanitary piping work involved in the Campus Site Improvement project.

**RFI-034:**

To confirm our phone conversation earlier today - we have been contacted by a contractor seeking prices for (2) of our model #6x20ddsp Shelters - but they did not have much in the way of specifications, and we want to make sure we are quoting correct prices.

Although we had designed, manufactured and furnished these shelters for NVCC in the past, there were variations in the design that were discussed and specification changes made in the past - so we wanted to know if the current project is to match the last shelters furnished to NVCC. These incorporated special graphic logos, a change from tempered glass to plexiglass (acrylic) windows, a full length bench with backrest with bronze finish to match the shelter (dark bronze anodized), and a hinged map/schedule display panel. By the way, shelters with the same model number are available with choice of window materials, aluminum finish, roof design and a choice of various accessories - so the model number alone does not fully describe the shelter specifications.

Before we work up prices to quote to contractors who may contact us for prices, I want to be sure I have the most complete up to date spec. Can we get a copy of the desired specification? Thank you for your help.

**Answer:** See the marked up Bus Shelter design guide attached to this addendum for details.

**RFI-035:**

PLEASE CLARIFY/CONFIRM:

BP #7 scope reads "pavement demo by Site Electrical"

Is this correct?

**Answer:** Yes BP#7 is responsible for pavement demolition of their work on the West Side of the Campus. On the East side Lots E and F BP#1 will be performing all pavement demolition.

3. The site bid package #1 contractor shall provide all work associated with all site demolition as shown on all of the contract documents and shall cut cap and make safe all utilities for site demolition **(with the exception of electrical utilities, BP#7 to make safe, cut/cap. and pavement demolition which will be by BP#7 Site Electrical)**

**Answer:**

BP#7 to cut/cap make safe all electrical utilities

BP#7 to demo pavement, excavate, bed, backfill all site lighting west side of campus.

BP#1 to demo pavement, excavate, bed, backfill all site lighting east side of campus (Lots E & F).

BP#7 to furnish/install conduit, wire, bases, poles, lights east and west side for site lighting.

**RFI-036:**

Scope of work item no 31, A-2 Survey

Specification Section 01 71 23, Field Engineering, Article 3.2-Performance

Paragraph G: Final Property Survey

Is the Final Property Survey included in our scope of work, it is not listed in

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Item 31?

**Answer:**

BP#1 to final survey their work.  
BP#7 to final survey their work.

**RFI-037:**

Specification Section 01 23 13, Supplemental Bids

Paragraph 3.1—Schedule of Supplemental Bids

A. Supplemental Bid No 0 Reconstruction of E Lot, East Entrance.  
Period of work—August 3, 2015 to August 23, 2015.

1. This supplement bid is for the premium to complete the work in August 2015. However, Scope of work item #6 states...."Work hours are from 7:00AM to 4:00PM, Monday through Friday and Saturdays from 7:00AM to 12:00PM." There is no way an additional 10 hours per week x 3 weeks will provide adequate additional time to complete the required work. What is the maximum window we would have to perform this work?

2. What are the ramifications if this Supplemental Bid is accepted and the contractor does not complete the work within the allotted time?

**Answer:** For Supplemental bid #0 Work hours will need to be from 7 am to 7 pm m-f and 7 am to 330pm sat. The college needs this area completed prior to the start of the Fall 2015 semester. Figure 4 weeks from August 3, 2015 for duration. Bidders shall include in their supplemental bid #0 sufficient labor, equipment, materials to complete this work if the supplemental bid is accepted. Schedule impacts due to unforeseen conditions or adverse weather will be reviewed with the Morganti Group and a recovery schedule developed.

**RFI-038:**

Drawing C5.3, Drainage structure on the right side of station 23+50 is designated as A Type A Catch basin with Sediment Chamber.

There is no detail included in the bid documents for that type of structure, please Provide a detail for this type of drainage structure.

**Answer:** We will eliminate this structure. It will obviously extend the length of the 15" pipe by 4'-0" +/- . We have checked the incoming inverts and they are higher, so no adjustment necessary at the CB itself.  
DRAWING C5.3 – REPLACE the storm drainage work associated with the Type A Catch Basin located at Station 23+45.26 RT as shown in AD1-SK-C5.3-1.

DRAWING C6.1 – ADD the following note to detail 5/C6.1 "Granite Curb Details":

**Answer:** The Contractor shall modify the granite curb ends as necessary when abutting any drainage structure to provide a flush and even transition. Additionally, chamfer the top corners of the curbing as necessary to eliminate protrusions. This shall be completed to the satisfaction of the Engineer.

**RFI-039:**

Sheet E1.3 shows a Telecommunications conduit and vaults located in the North Access Road and Lot E-North. Is this item included in the Founder's Hall project or is the work included in the Site Improvements Project??

**Answer:** *Work under the Founders Hall project includes the conduit within and from Founders Hall to the vault provided and installed by this contract (BI-CTC-436) located to the north of the building. Work to provide and install the telecom vaults/manholes, and bedding, conduits, concrete encasement, etc. between the vaults/manholes are within the scope of this project.*

**RFI-040:**

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It is my understanding that the signs and pavement marking section includes furnishing and installing a manual barrier gate on crushed stone and also installing reflective signs throughout the site.

Our company does not provide these services. Is it allowable to bid only on the pavement markings exclusively?

**Answer:** Yes;

The pavement marking package is for line striping and precast curb stops only (the ones in parking stalls only). BP# 3 Fencing and Guide Rails will provide and install the barrier gate.

**RFI-042:**

We would like to request the following information for the project:

NVCC Site Improvements

Waterbury

Which bid package does the traffic control signal work fall under?

**Request for Information for NVCC Site Improvements RFI-0002**

**Affects Costs: Please Respond By: 05/12/2015**

**Answer:** It falls under BP#7

**RFI-043:**

On E1.1, top of page, along circular portion of drive there are two poles marked SA3D which is a double fixture set up on one pole. It is shown as a singular fixture. Should these be type SA3D or SA3?

**Answer:** Those two lights should be SA3 single pole lights.

On Drawing E1.3 in the walkway between Lot E North and South – There are three SA3D fixtures shown as singles. Are these to be SA3D doubles or SA3 single?

**Answer:** Those three lights should be SA3 single pole lights.

**RFI-044:**

a. Fixture Type SB5 is shown as a decorative pole on E1.5 but Cat. Number is for a bollard type fixture. Which is required and who supplies?

**Answer:** Provide Decorative Pole.

b. On E1.1, top of page, along circular portion of drive there are two poles marked SA3D which is a double fixture set up on one pole. It is shown as a singular fixture. Should these be type SA3D or SA3?

1. **Answer:** Those two lights should be SA3 single pole lights.

c. On Drawing E1.3 in the walkway between Lot E North and South –Are the six SB5 fixtures Bollards or Poles? (Relates to question 2).

**Answer:** Those are the Decorative Lighting Fixtures detailed on E1.5

d. There are three SA3D fixtures shown as singles. Are these to be SA3D doubles or SA3 single?

1. **Answer:** Those three lights should be SA3 single pole lights.

e. On E1.3 there is a future Blue Phone station marked as Supplemental bid and lies within Founders Hall project contract limit line. Is this part of 436 or 442 project?

**Answer:** Part of Project - 436 Supplemental Bid Item.

f. Regarding Blue Phone stations: A) Does "Typical Electrical Conduit Trench Detail" on bottom of E1.5 pertain to the Blue Phone System?

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**Answer:** Yes

g. Blue Phone stations are marked as " future". Are we to supply only bases with conduit or the entire system as shown on E1.5?

**Answer:** Base bid is base and conduit, the supplemental bids finishes the system.

h. Blue Phone stations do not show path for conduit, or points of origin. Is this information available?

**Answer:** Refer to drawings E-1, E-2, and E-3. Bring conduit to electrical room as indicated. Coordinate with The Morganti Group for locations.

i. Blue Phone wiring requirements are not shown. Is this information available?

**Answer:** Provide conduit/base only in base bid and complete system for the supplemental bid.

k. There are two future Security Camera locations shown. Are these to be part of and included in the Blue Phone conduit system or separate? If separate – from where and requirements.

**Answer:** Only the conduit(s) is to be provided to the Security Camera locations. Future Camera on East side run back to Founders Hall, future camera on West Side entrance drive back to AS&L building coordinate with Morganti for final location.

l. Are there any Concrete Encasement requirements related to the site lighting?

**Answer:** Concrete encased when run below paved roads/parking areas pavement as indicated on E1.5

**RFI-045:**

I have a question regarding the tree boxes shown in Lot C – Phase A 2015 and Lot G. It is not clear from the plans if this tree boxes are existing or they should be built. If they are new, then I the detail (Drawing No. 5C6.3) is not providing enough information. I need to know the dimensions of the tree box and the grate, as well as the grate model and suggested manufacturers.

**Answer:** The Tree Boxes are not existing they are proposed. Refer to Drawing C6.3 Detail 5/C6.3. The accompanying table titled "Tree Box Sizes" is to the right of the detail. This is a sole source provider and is manufactured is "Filtera". The accompanying sizes for each are provided in the table.

**RFI-046:**

We found a small error on the Communications Duct Bank Sketch that issued with Addendum No. 1, and are changing the quantity of Multiguard inner ducts for Addendum No. 2. We think it best to just re-issue the attached sketch for Addendum No. 2 instead of providing instructions.

**Answer:** REPLACE Sketch AD1-SK-E1.5-1 with sketch AD2-SK-E1.5-1. REVISE Sketch AD1-SK-E1.5-1 (issued in Addendum No. 1): Change the quantity of Carlon "Multiguard" 4 Cell Inner Ducts from (2) to (4).

**RFI-047:**

Lot E motorcycle storage: do we need any work for this storage trailer in the Campus Site Improvement Project.

**Answer:** Yes, BP#1 Site Work please include an allowance of \$7,500.00 for a 10' x 50' x 5" thick concrete pad reinforced with 6" x 6" WWM, subbase and associated earthwork as part of your base bid cost.

**RFI-048:**

I have a question regarding the "PHASING PLAN" shown on Addendum 1. Right next to East Entrance Drive there is a text box that says that the red polygon corresponds to Phase A-2016 Base Bid LOT E Summer 2016. However, there is call out for the same region that says that this polygon corresponds to Phase A – Summer work August 2015 based on Supplemental Bid #0.

It seems to me that these two are contradicting. Therefore I would like to know:

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- If this red polygon corresponds to a) Phase A 2015 – Supplemental Bid #0, or b) Phase A 2016 – Base bid.
- In regards to the area located to the East of this red polygon and south of the founders hall project; what is that. A) Phase A 2015 Supp Bid #0, or b) Phase A 2016 – Base Bid.
- 
- **Answer:** The base bid work for all of Lot E is to be done during the scheduled period in 2016.
- 
- The supplemental Bid #0, if accepted is for a portion of Lot E and the East Entrance Drive is to be done in August 2015. If this supplemental bid is accepted the contractors will have to provide sufficient labor, equipment and materials to accomplish this work in the specified time frame.

**RFI-049:**

I just started reading the scope and there is snow removal. May I suggest that be an allowance so all bidders are equal

**Answer:** BP#1 Site Work bidders shall carry in their base bid an allowance of \$10,000.00 for snow and ice removal.

**RFI-050:**

FYI - BP 1 Scope item 24 is not recommended, if could even be done. If you pressure up the line it will bow up and explode. You need the line at least partially backfill to hold it down. You can leave the joints open but not the whole line.

**Answer:** Backfill and test using best practices to prevent any damage to the line.

**RFI-051:**

Who has granite curbs?

**Answer:** BP#1 owns the granite curbs.

Who has concrete tree box?

**Answer:** BP#1 owns the tree box, see additional detail herein.

Who has parking wheel stops?

**Answer:** The Pavement Marking BP#5 Contractor owns furnishing and installing.

Who has the concrete slab for the bus shelter?

**Answer:** BP#2 Site concrete owns furnishing and installing the bus shelter concrete pad.

Who has new and relocated bollards.

**Answer:** BP#1 owns the bollard work, also see additional information noted herein.

The request for information period ended on May 8, 2015 and no other questions will be answered.

**End of Addendum Two**

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## Design Guide

The following is a description of the many choices in shelter specifications:

**ALUMINUM FRAMING:** The most popular size is our 2 1/2" x 2 1/2" framing system. We also offer a 3" x 3" system, a 3" x 7" system and a 4" x 4" system. In addition, we can furnish a 3" curved corner framing system.

**ALUMINUM FINISH:** The most popular aluminum finish is - #313 Dark Bronze Duranodic. Also available are Light and Medium Bronze Duranodic, Black Duranodic or #215R-1 Silver Clear Anodized.

In addition to the anodized type finishes, we can furnish our products in many paint colors. The most popular paint finishes today are electrostatically applied powder coats. We use Tiger Drylac Premium Polyester Powder Coat finishes for most of our painted jobs

**ROOF DESIGNS:** The most popular roof design is the molded acrylic skylight dome, usually translucent white. Bronze tinted domed roofs are also available.

In addition, we can furnish molded acrylic pyramid skylight roofs in white or bronze.

We also have flat roofs of FRP fiberglass laminated marine plywood sandwich panel with a white gel coat finish or V-Beam corrugated aluminum roofs with white baked kynarfinish.

We can furnish barrel vault type roofs with a variety of glazing material possibilities, including acrylic and polycarbonate, in various colors.

We can furnish hipped roofs, either skylight type with a variety of glazing possibilities or metal hipped roofs with standing seam aluminum skins in a variety of painted finishes. We have also made standing seam metal of real copper roofs.

**BASE DETAILS:** The most popular detail is our 4" external adjustable base flange. Similar flanges are available in other heights and sizes for special designs.

Two types of internal base details are also available. The Internal "U" Base Connector for non-cantilevered type shelters (without large roof overhangs) and Internal Pipe Anchor Tubes for cantilevered style shelters or shelters installed on a foundation other than concrete, but where footings can be poured at the post locations

**WINDOW FRAME DETAILS:** Most shelters incorporate our "independent" extruded aluminum window frame which has an alignment lip - no exposed hardware on the outside and inconspicuous pop rivets finished to match the shelter on the inside. These window frames are used on all four sides of the window with a continuous vinyl gasket and four mitered corners with hidden fasteners.

Other window frame details are available including the "Chicago" type window frame with the alignment lip and rivets on the same side for use where shelters are installed against building walls or other situations where windows must be removed from the inside for future maintenance.

Also available are "Semi-frameless Glass" details with frames on top and bottom only. This can only be used with glass not plastic glazing and the glass must have polished edges.

**GLAZING MATERIALS:** All Columbia Shelters are available with a choice of glazing materials. The most basic of these is 1/4" Acrylic (Plexiglass). Acrylic is fairly unbreakable, is considered safety glazing, is relatively inexpensive, and replacement panels are easy to obtain. The next possibility would be 1/4" Clear Tempered Glass. Tempered Glass has the hardest surface to scratch, but is more easily broken than plastic glazing materials, such as acrylic or polycarbonate. Tempered Glass is relatively inexpensive, but cannot be cut to size once it is tempered, and, therefore, must be made to order. It will be more expensive and more difficult to obtain replacement panels.

Next step up from Tempered Glass would 1/4" Clear "Lexan" or polycarbonate plastic. "Lexan" is almost unbreakable, but has the softest surface and is the most easily scratched. It is about double the price of Acrylic or Tempered Glass, and it is fairly easy to obtain a replacement panel.

Next step up from "Lexan" is a type of mar-resistant polycarbonate commonly referred to as - "Margard." This material is similar to "Lexan," but has a clear coating on both sides, which makes it more resistant to minor scratching, and more easily cleaned if marked up graffiti. It is the best of the vandal-resistant glazing possibilities, but is the most expensive. Pricewise, it is slightly more than double the cost of "Lexan". It is fairly easy to obtain replacement "Margard" panels.

All of the above glazing materials can also be furnished with a bronze tint as well as clear. All Columbia Shelters are designed with unique window frames and gaskets which can accept any of the above four glazing possibilities. Therefore, it is a simple operation to upgrade windows from one material to another at a future date.

[Full Design Guide PDF](#)

## Accessories

**BENCHES:** Independent (freestanding); Integrated (wall mounted); Seat and Backrest Seat Only. Seat and Backrest of aluminum in matching or contrasting finish to shelter. Aluminum is the most environmentally friendly" bench material as it is recyclable. Also, it is the most readily available, maintenance free, and economical. Seat and Backrest of wood - laminated oak, laminated maple, dear heart redwood or other types of wood on special order. Recycled Plastic benches can sometimes be used, however they can only span a short distance and have other limitations. On special order, armrests can be furnished as well. Benches can be full length or part length. Part-length benches are usually specified where wheelchair space is desired along the rear wall next to a bench.

**DISPLAY PANEL:** Usually used for bus route maps or schedules but can also be used for posters and other information material. The most popular type of Display Panel is mounted inside of the shelter, is full width of a standard shelter window and 30" high. Other heights are also available. Special widths are also available, such as double window width. One vertical side or panel frame is hinged; opposite side is locked with stainless steel tamper proof screws. A special tamperproof tool will be provided for opening and closing the Display Panel. Display Panels are usually mounted on the left sidewall towards the front of the shelter, which is the most easily viewable location without interfering with a bench, if specified.

**INTERNALLY ILLUMINATED ADVERTISING PANEL:** This panel is sometimes called a "Lightbox." It is usually located on an "Advertising" type shelter. The panel is usually 4' wide by 6' high and contains all the electrical components to illuminate two backlit type posters - one facing out and one facing in. Wiring is within shelter members with access holes and cover plates for appearance and ease of installation and future maintenance.

**LEANING RAILS:** Leaning Rails are similar to bench backrests with no seats and can be of aluminum or wood. See Bench Specifications.

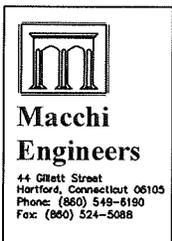
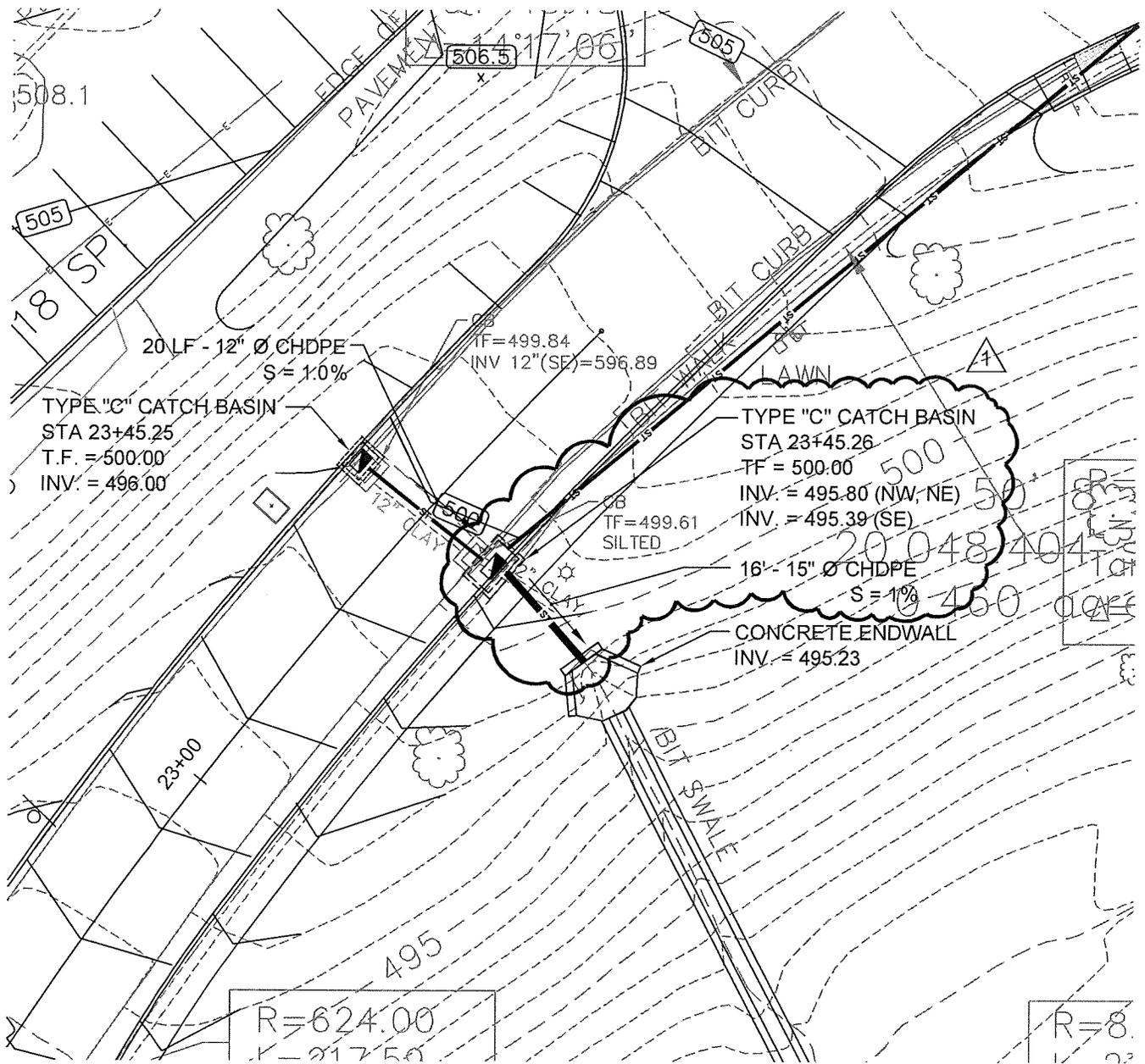
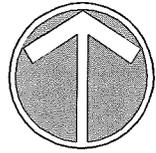
**GRAPHICS:** A variety of lettering such "BUS STOP," "SMOKING SHELTER," etc. are available in a choice of typeface sizes and colors. We usually use 4" high white Helvetica lettering on dark color shelters and black lettering on light color shelters. Lettering is usually placed on roof fascia members, but can also be located on windows. Also available logos, color stripes and other special designs in a variety of sizes and colors including reflectorized Scotchlite. Graphics are outdoor premium diecut vinyl.

**LIGHT FIXTURES:** Incandescent RAB VX-100 watt vandal-resistant, outdoor fixture with Lexan Lens, power-reducing diodes and tamperproof screws. (With a Lexan lens maximum wattage recommended is 75 watts). Florescent Kenall #7140 outdoor, vandal-resistant 40-watt fixture with cold weather ballast. Optional photocell for either type light fixture is also available. This would be incorporated in the light for hidden installation.

**RADIANT HEATERS:** We offer a radiant heater specifically created for our shelters. The heater can be specified with one or two metal Calmd vandal-resistant heating elements - 2500 watts vs. 5000 watts. The heating elements are mounted in a vandal-resistant, slimline metal enclosure with expanded metal mesh over elements and adjustable brackets for mounting on top beam of front or rear wall. Most heaters are specified with our optional control system with an adjustable timer and a vandal-resistant push button switch with engraved plate reading "PUSH FOR HEAT." Wiring is hidden within shelter members with access holes and cover plates. Timer goes off automatically after approximately twenty minutes so that no electricity is used if no one is in the shelter. Controls are mounted in a metal box inside of the shelter with a hasp for customers' padlock. Also furnished is a separate circuit breaker box with a hasp for customers' padlock. Circuit breakers can be turned on and off by authorized personnel only to activate or deactivate the unit.

**BASE SKIRTS:** Columbia Shelters feature a bottom air space to facilitate ventilation and "self-cleaning." However, in some climates it is felt that this will result in drafts during cold weather. Base Skirts are aluminum panels finished to match a shelter and attached to the bottom beams of all walls to close off bottom air space. Several types of Base Skirts are available. The "two-piece" type is comprised of an aluminum plate and an aluminum angle. The plate is attached to the bottom beam of a wall section while the angle is bolted to your concrete slab. The vertical leg of the angle overlaps the downward extending base plate and is pop riveted to it. On sloping sites angle and plate can overlap each other and still close off bottom air space if the slope is not too great. Also available are "one-piece" type Base Skirts. These are comprised of the plate portion only and usually do not extend all the way to the concrete slab.

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**PROJECT TITLE**  
 Naugatuck Valley Community College  
 Campus Site Improvements  
 Waterbury, CT

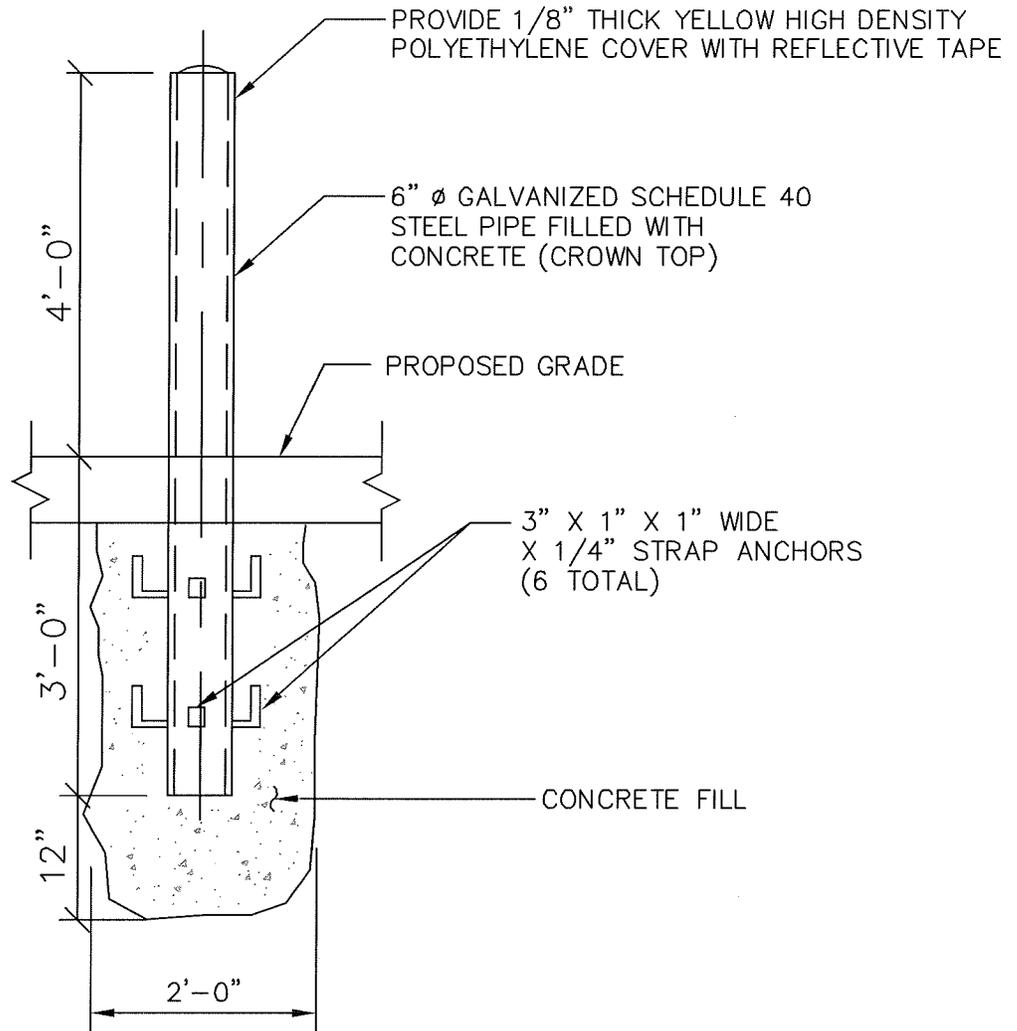
**PROJECT NO** BI-CTC-436

**SKETCH TITLE**  
 DRAINAGE MODIFICATION STA 23+45.26 RT

**DATE** 5/1/2015

**SCALE:** 1" = 20'-0"

**SKETCH NO.**  
**AD1-SK-C5.3-1**



PIPE BOLLARD DETAIL

N.T.S.



PROJECT TITLE  
Naugatuck Valley Community College  
Campus Site Improvements  
Waterbury, CT

PROJECT NO BI-CTC-436

SKETCH TITLE BOLLARD DETAIL

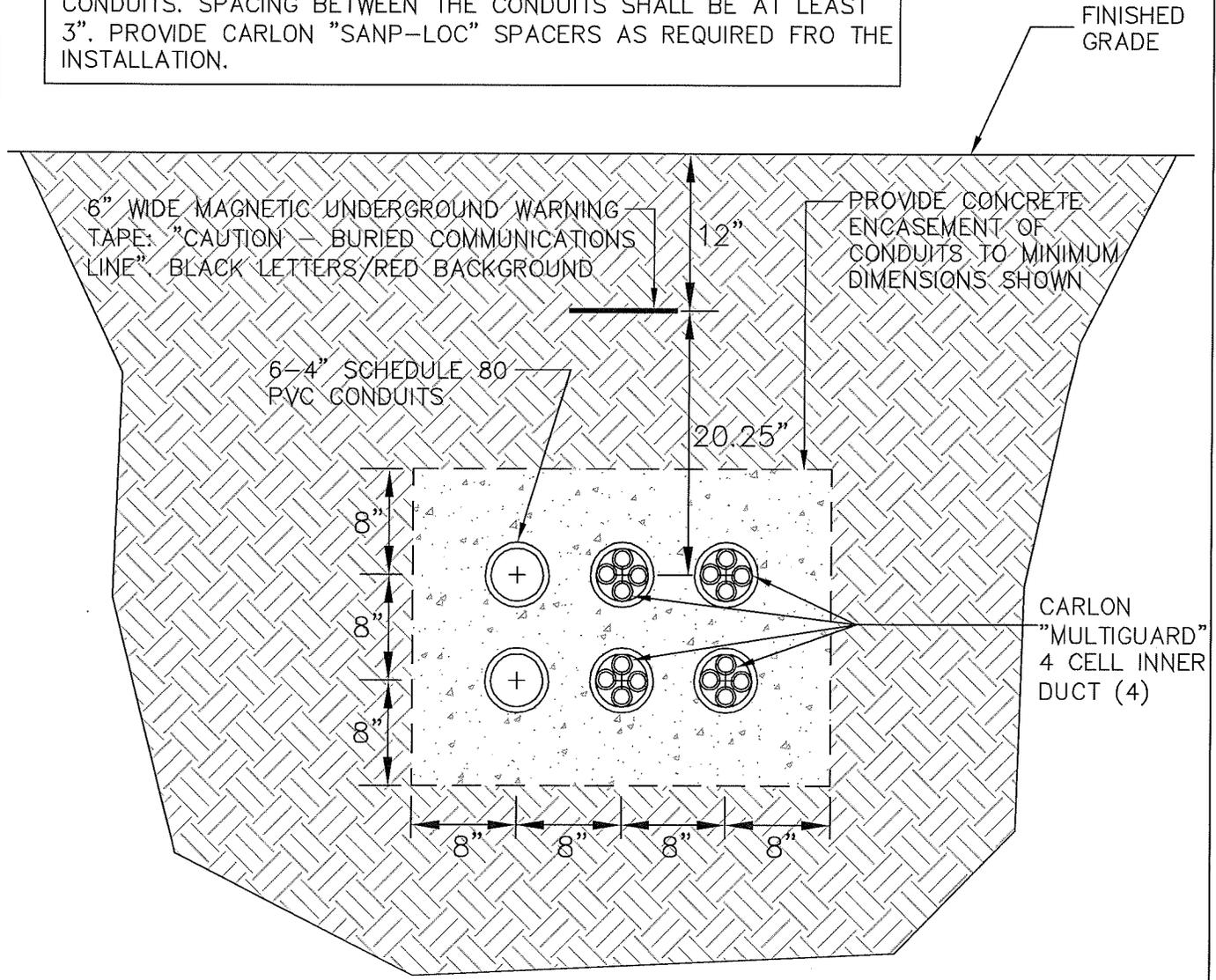
DATE 5/12/2015

SCALE: N.T.S.

SKETCH NO.  
**AD2-SK-C6.2-1**

NOTE: REFER TO TYPICAL UTILITY TRENCH DETAIL #9  
ON DRAWING C6.1 FOR ADDITIONAL INFORMATION.

NOTE - CONCRETE ENCASEMENT SHALL BE 3,000 PSI, 28 DAY STRENGTH, WITH 1/2" MAXIMUM AGGREGATE. ENCASEMENT SURROUNDING THE CONDUITS SHALL BE RECTANGULAR IN CROSS SECTION AND SHALL PROVIDE AT LEAST 4" OF COVER FOR THE CONDUITS. SPACING BETWEEN THE CONDUITS SHALL BE AT LEAST 3". PROVIDE CARLON "SANP-LOC" SPACERS AS REQUIRED FRO THE INSTALLATION.



6" WIDE MAGNETIC UNDERGROUND WARNING TAPE: "CAUTION - BURIED COMMUNICATIONS LINE", BLACK LETTERS/RED BACKGROUND

PROVIDE CONCRETE ENCASEMENT OF CONDUITS TO MINIMUM DIMENSIONS SHOWN

6-4" SCHEDULE 80 PVC CONDUITS

CARLON "MULTIGUARD" 4 CELL INNER DUCT (4)



PROJECT TITLE Naugatuck Valley Community College Campus Site Improvements Waterbury, CT

PROJECT NO BI-CTC-436

SKETCH TITLE COMMUNICATIONS DUCT BANK

DATE 5/12/2015

SCALE: N.T.S.

SKETCH NO. AD2-SK-E1.5-1