Addendum No.: 4 **Date of Addendum: June 17, 2020**

CT DAS | Construction Services | Office of Legal Affairs, Policy, and Procurement

Willard Diloreto Parking Garage
Paul Manafort Sr. Drive
New Britain, CT
CF – RC – 402

Bid Due Date / Time: **June 24, 2020** **1:00 pm**

Previous Addendums: Add. #3 dated 6/2/2020, Add. #2 dated 5/25/2020, Add. #1 dated 4/24/2020

TO: Prospective Bid Proposers:
This Addendum forms part of the "Contract Documents" and modifies or clarifies the original "Contract Documents" for this Project dated February 7, 2020. Prospective Bid Proposers **shall** acknowledge receipt of the total number the Addenda issued for this Project on the space provided on Section 00 41 00 Bid Proposal Form.

Failure to acknowledge receipt of the total number the Addenda issued for this Project on the space provided on Section 00 41 00 Bid Proposal Form shall subject Bid Proposers to disqualification.

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

Item 1:

See attached Attendee List form the Virtual Pre-Bid Meeting held on May 27, 2020. It is also recommended that Trade Contractors review the Plan-holder List to identify General Contractors bidding on the Project.

Item 2:

Question: Specifications - Section 011100: Page 7, Paragraph 1.11 D. – This paragraph refers to Site Logistics Plans for the project as being included in the Contract Documents, however we do not find any Site Logistics Plans in the documents that were issued.

Answer: See revised Specification Section 0 11 00. The requirements for the Site Logistics Plan are found in Specification Section 01 31 00 "Project Management and Coordination", 1.5 Submittals, A, (4).

Item 3:

Question: Drawings A201 & A202: The Elevation drawings and wall sections appears to suggest full height vertical precast wall panels with an integral cornice at the top of the panel. Panels are shown as being 12'-0" wide x 12" thick (plus a thickened pilaster along one edge of each panel) x up to 45'-4" tall. The weight of these panels as drawn and dimensioned are very heavy and will require special provisions for shipping, handling and erecting. Can the cornice at the top of the panel be a separate piece? Can the panel thickness be reduced to 8" thick to reduce weight of the panels? If panel thickness cannot be reduced to 8" …can a stack of horizontal wall panels be provided in lieu of the full height vertical panels?

Answer: Can the cornice at the top of the panel be a separate piece? **Yes.** Can the panel thickness be reduced to 8" thick to reduce weight of the panels? **Yes, if precast design allows.** If panel thickness cannot be reduced to 8" …can a stack of horizontal wall panels be provided in lieu of the full height vertical panels? **Yes.**

Item 4:

Question: Drawing A201 - The typical cornice shown on all of the Building Elevation drawings is

represented with two (2) horizontal bands; except for one location on the North Elevation. Please review the cornice at the North Elevation for the wall panels centered on Grid line 2. The Elevation Drawing shows three (3) horizontal bands for the cornice at this location. Is there a special cornice required at the top of the precast wall panels, centered on grid 2 If yes, please provide section detail for the cornice at this location?

Answer: See revised drawing A201. The cornice in question should be the same as the other top of wall cornices.

Item 5:

Question: Drawing A602 & Addendum #3 RFI item # 20 - The Addendum #3 makes reference to Drawing A602 as being revised/reissued in Addendum #3, however we do not find it in the Addendum. Please advise.

Answer: See attached drawing A602.

Item 6:

Question: Drawing S001 - Design Criteria - Addendum #3 RFI # 23 addressed (Snow Load) as one of the missing loads, but it did not mention the missing Base Shear Loads. Please provide all necessary loading per the Connecticut State Building Code Section 1603.

Answer: See added drawings S005 and S006 for Loading Diagrams for foundations and snow drift.

Item 7:

Question: Drawing S501- Snow Gate shown on this drawing is not called out in Section 055000. lease confirm that the Snow Gate and all of the connection hardware is to be provided by Miscellaneous metal trade under Section 055000.

Answer: See revised Specification Section 05 50 00 Miscellaneous Metals which has the Snow Gate added. The specifications call for all hardware to be embedded into the precast be provided by the Miscellaneous Metals contractor to the precast manufacturer.

Item 8:

Question: Drawing P 901 – Drain Schedule - The drain schedule calls for DD to be a JR Smith 2614. The 2614 is not compatible with the precast pretopped washes detailed for this project. Local industry standard practice is to use Zurn model Z-662 for projects with pretopped washes. Please advise if Zurn model Z-662 can be substituted for the specified drain. Please clarify that the plumbing contractor is to provide the drains and is to furnish the frame portion of the drain assembly to the precaster to be cast into the double tees at the factory.

Answer: Zurn model Z-662 can be substituted with the body cast into the precast double tee flange. The frame portion of the drains are to be provided by the Plumbing Contractor and delivered to the precast manufacturer in a timely manner so as not to delay precast production.

Item 9:

Question: Ref CU 101, ES 101 High Voltage Primary 13.8KV Service: The Scope of work required to estimate / bid this work is indicated conceptually. Is it possible to provide details similar to the other site utilities on L 1.0, CS 101, CG 101? For example, is tree removal and side walk repair off site required, because none is shown outside the project limit lines per the drawings listed above. An allowance for this work would be provided by the OPM if not provided to ensure reasonable bids are received.

Answer: The route of the Service is defined on Drawing ES101, running from the edge of the parking

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lot, in the grass area, under the street and into a new switch located in the grass area adjacent to the proposed garage. All medium voltage equipment and cable work (installation, termination and testing) shall be performed by a contractor who is certified for the work being performed. Cable splicing shall be performed by a contractor certified by the cable manufacturer. These requirements include work required for penetration into the existing medium voltage manhole. Attached are photographs of the manhole, grass area and sidewalks in the area of the new Service route. The Contractor will be responsible to return the areas disturbed by the Service route to the pre-existing conditions.

Item 10:

Question: Ref CU 101, ES 101 High Voltage Primary 13.8KV Service: Existing location information and existing conditions at Hall Parking Lot are required for measuring the distance. Drawing ES101 and Drawing E301 does not indicate what gauge medium voltage cable is required to feed the medium voltage switch and medium voltage transformer.

Answer: All medium voltage cable shall be #2 AWG.

Item 11:

Question: Detail 4/702 notes that the pipe guard for the vehicle charging station is to be painted and references detail 5/A701. Detail 5/A701 is a typical pipe guard detail. Please clarify if you want all galvanized pipe guards in the parking structure to be field painted.

Answer: All pipe protection guards, including the ones at the electric vehicle charging stations are to be galvanized and not painted.

Item 12:

Question: Sheet A-503, Finish Legend - states that the stair guardrails are to be galvanized mesh screen with galvanized frames. The floor plans for each stairwell show them as galvanized also, the cross sections (A402, A405, & A407) have notes to paint the railing system. Is the galvanized guard railing (frame and mesh) painted in the field?

Answer: See revised stair section drawings A402, A405, A406 and A407. All railing systems are to be galvanized and not painted.

Item 13:

Question: Review Structural drawing S-402 Pedestrian Bridge General Notes: The design consultant has noted that the structural design is schematic only, and needs to be finished as Design Build.

Answer: The structural truss for the Pedestrian Bridge is to be Design/Build as per the notes on drawing S402.

Item 14:

Question: Site Plan CD101 calls for roughly 1100 lf of existing ornamental fence to be 'refurbished', while Site Preparation Plan CS101 calls for 550 lf of fence to be 'protected and maintained'. Please confirm the level of refurbishment intended for the existing to remain fence. Removed & refurbished off site or painted in place?

Answer: Of the approximately 1100 linear feet of existing ornamental site fence it is estimated the 85% of the fence panels are to be refurbished and 15% of the fence panels are to be new. For the existing fence posts, 85% are to be refurbished and 15% are to be new. Any bent panels are to be straightened if possible, broken or missing pieces are to be replaced, all panels being saved are to be stripped and coated per the documents. Since the exact number of fence panels required to be replaced as new is to be determined in the field, the Contractor is to provide a Unit Price for each new fence panel and a Unit Price for each new fence post above the 15% requirements.

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Item 15:

Question: Detail 3 / CS501 calls for the newly installed fence to have a galvanized finish and top coat to match CCSU's Pantone Green. Would the engineer accept substituting the galvanized coating with a Zinc Rich Primer (Powder Coated Finish)?

Answer: Newly installed fence to have galvanized coating. Substitute will not be accepted.

Item 16:

Question: Elevation E2 / A201 calls for stainless mesh screen and frames between parapet openings. We assume specification 05 50 00 2.1 K. Stainless Steel Mesh Panels is in reference to these openings. Please confirm.

Answer: See revised drawings A201 and A602 and revised specification section 05 50 00. Mesh panels are to be galvanized and not stainless steel.

Item 17:

Question: Wall Section 5 / A602 calls for the mesh panels in parapet openings to be galvanized steel mesh in lieu of stainless steel mesh. Please confirm material.

Answer: See revised drawings A201 and A602 and revised specification section 05 50 00. Mesh panels are to be galvanized and not stainless steel.

Item 18:

Question: Please provide connection details for the stainless steel mesh screens and frames between parapet openings. See E2 / A201 & 5 / A602

Answer: See added details to revised drawing A602.

Item 19:

Question: Specification 05 50 00 2.1 calls for both the railing mesh panels (J.) and the stainless steel mesh panels (K.) to be 2" x 2" square with 0.25" wire. Would a steel wire diameter of 0.19" be acceptable?

Answer: Yes, if mesh meets the Code required guardrail design requirements and will not warp with the galvanizing process.

Item 20:

Question: Do the architectural mesh screen panels need to be a continuous sheet, or can these openings be panelized, terminating at each level, similar to the stainless mesh panels between parapets?

Answer: Yes, architectural mesh panels between wall panels are to be continuous screen panels.

Item 21:

Question: Although not to scale, the mesh weave graphic provided in detail 3 / A203 appears to show smaller wire diameter than the 0.25" specified elsewhere. Please provide a specification for the architectural mesh screens.

Answer: See specification Section 10 24 00 Metal Architectural Mesh for the façade screens depicted on drawing A203. Note: Several alternate stainless steel screens have been submitted and approved. See attached approved Substitution Forms.
Item 22:

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Question: Detail 5 / A203 does not call for epoxy or expansion connections at the embedded plate / hollow metal steel connections. Please confirm none are required.

Answer: Embedded plates shown on drawing A203 will be cast into the precast and do not require epoxy or expansion anchors.

Item 23:

Question: Should the metal plank ceiling be perforated or unperforated?

Answer: Metal plank ceilings are to be unperforated.

Item 24:

Question: Letter Signage on Bridge- not well defined on plans or in specifications in terms of design and expectation. Please confirm that this scope is part of the GC Bid with applicable specifications, detailing and related design (Architectural, Electrical, etc).

Answer: The letter signage on the Pedestrian Bridge beams is part of the GC Bid. The lettering has been added to the revised specification section 10 40 00 – Signs, Graphis and Supports.

Item 25:

Question: Stainless Steel vs Galvanized Finish (A703) vs Field Painted Finish (2/A405)- are in conflict between building cross sections, enlarged plans and details. Please confirm design intention of Handrails and Guardrails in the stair towers for base bid, as well as (Alternate) Supplemental Bid (A703 & Spec 012313).

Answer: Base bid: All guardrails frames, screens, posts, etc. to be galvanized and not painted for the Base Bid. All handrails are to be stainless steel for the Base Bid. The Alternate (Supplemental Bid) calls for a color galvanizing coating on the guardrails.

Item 26:

Question: Closed Cell Sprayed Insulation- specification is missing. It is noted to be carried for both the Electric and Utility Rooms, per a note on 1/A410. Please provide product, thickness, R-Value and other technical design expectations.

Answer: See added specification section 07 21 19 Foamed-in-Place Insulation. Minimum thickness and R values are indicated in the Pedestrian Bridge details (A900 drawings).

Item 27:

Question: Is it possible to get the following structural loads from the garage engineer? We'd like to get unfactored column base plate loads, wall loads, and pressures distribution under the large strip footings.

Answer: See added drawing S005 Loading Diagram indicating structural loads.

Item 28:

Question: Reference is made to drawing S201, the "ramp up" area indicates a 5" thick slab…the plan reference section 6/S105 this detail show a 6" slab. Please clarify.

Answer: Slab on grade on the first ramp up is to be 5 inches thick, matching the remainder of the slab on grade.

Item 29:

Question: Could not locate any detail or sections for the site concrete pads, please direct us where we can find this info or provide details.

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Answer: Site concrete pads that are not required to meet utility requirements are to be 6" thick concrete with an 18" deep curb around the perimeter. The 6" concrete slab is to be reinforced with #4 @ 12" on center, each way.

Item 30:

Question: There appears to be some relocated site lighting, is the light pole foundation intended to be relocated or is intended to be a new foundation, if new please provide us a detail or direct us as to where it is shown?

Answer: See revised drawing ES101 for added light pole foundation details.

Item 31:

Question: Site electrical feeds on the ES101 drawing call out for concrete encasement, drawing TR02 DOT Trenching, Backfilling Electrical Conduits do not call for encasement. If there are two requirements please clarify what is encased and want in not encased.

Answer: Electrical feed are to be concrete encased per drawing ES101.

Item 32:

Question: Site Civil drawings appear to show a Cast in Place Transformer pad 8x7, the ES101 drawing speaks of a pad in note 7. Should this be a cast in place pad or a precast vault please clarify.

Answer: Precast vault per utility company requirements.

Item 33:

Question: Please provide copy of electronic recording of virtual pre-bid meeting before the time for questions expire.

Answer: Link to virtual Pre-Bid Meeting was provided in Bid Addendum No.3.

Item 34:

Question: Spec 01 11 00 para 1.11.D. Please provide Site Logistics Plan referenced.

Answer: See revised Specification Section 0 11 00. The requirements for the Site Logistics Plan are found in Specification Section 01 31 00 "Project Management and Coordination", 1.5 Submittals, A, (4).

Item 35:

Question: Dwg S402. Please provide a complete design for the pedestrian bridge as shown by S402.

Answer: The structural truss for the Pedestrian Bridge is to be Design/Build as per the notes on drawing S402.

Item 36:

Question: Pedestrian Bridge (Dwg A900-A905 and S401-S402): Please provide Structural Steel specification. Please provide Basis of Design and code information and all structural loads. Please provide schematic/dimension detail at bearing of steel truss on the structural precast. Please specify expansion joints required including sizing and movement permitted/required. Dwg S402 Please confirm that no lateral bracing is required of w27x steel arches between end supports.

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Answer: The structural truss for the Pedestrian Bridge is to be Design/Build as per the notes on drawing S402. The final design required to be submitted by the Contractor will determine the requirements for expansion joints, connections, etc.

Item 37:

Question: Detail 5/A904. Please confirm that no slide bearing is required. Please specify material of bearing pad

Answer: To be determined by the final Design of the Pedestrian Bridge truss to be provided by the Contractor.

Item 38:

Question: Spec section 095470 2.2 C. In regards to the exterior metal plank ceilings please specify a wind load (Class 30, 60, or 90).

Answer: Class 60.

Item 39:

Question: Spec section 095470 2.2. In regards to the interior and exterior metal plank ceiling, please select a color. Will manufacturers standard colors (silver and white) be acceptable or will a RAL color be required?

Answer: Manufacturer' standard silver color will be acceptable.

Item 40:

Question: Charter Oak College (COC): Please confirm contract limit lines adjacent to this building are permitted extent of construction or please provide clarification of extent ADA person and/or ADA vehicle access requirements east of parking garage adjoining COC.

Answer: ADA access for construction from Paul Manafort Senior Drive to COC is shown on the Site Preparation and Demolition Plan-CD101

Item 41:

Question: Dwg S401. Details 1, 2 & 3A. Please provide expected elevation of bottom of footing of existing building in vicinity of footing on grid line BC. Please provide coordinated bottom of footing elevation for new footing as there are conflicting bottom of footing elevations indicated by each of the details.

Answer: See revised drawing S401 with bottom of existing and proposed footing elevations indicated.

Item 42:

Question: Addendum 3 -Item #7. Please specify work required for "refurbishment in place" for existing 1,100 LF of ornamental metal fence.

Answer: Of the approximately 1100 linear feet of existing ornamental site fence it is estimated the 85% of the fence panels are to be refurbished and 15% of the fence panels are to be new. For the existing fence posts, 85% are to be refurbished and 15% are to be new. Any bent panels are to be straightened if possible, broken or missing pieces are to be replaced, all panels being saved are to be stripped and coated per the documents. Since the exact number of fence panels required to be replaced as new is to be determined in the field, the Contractor is to provide a Unit Price for each new fence panel and a Unit Price for each new fence post above the 15% requirements. See attached photos of existing fence conditions.

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Item 43:

Question: Concrete Storefront Curb Dimensions- inconsistently shown as either 8”x8” or 8”x10” CIP Curbs. Please confirm intent.

Answer: Cast in place concrete curbs under storefront are to be 8” high x 10” wide. See revised drawings A400 through A405, and S302.

Item 44:

Question: Misaligned Elevator Details- details noted within section 2/A402 and 2/A405 as 1 and 2 on A301 are incorrect. Please re-reference.

Answer: See revised drawings A402 and A405 for corrected section call outs.

Item 45:

Question: Misaligned Elevator Details- details noted within enlarged plans 1 & 2/A400 are incorrect, as they point toward A301 and A302. Please re-reference details.

Answer: See revised drawings A400 for corrected section call outs.

Item 46:

Question: Deck Drains- in contrast to Addendum 3 RFI Answer to Question 1, holes are suggested to be boxed out by the Precast Concrete Contractor in the factory. Precast Concrete Contractor should factory seal installation of the drain bodies, furnished by the Plumber to the Precast Concrete Contractor. Field installation of the drain fixture would follow with materials and installation, by Plumbing Contractor. Please confirm that this coordination is acceptable in further clarification of referenced RFI from Addendum 3, Q&A #1.

Answer: The frame portion of the drains are to be provided by the Plumbing Contractor and delivered to the precast manufacturer in a timely manner so as not to delay precast production. The precaster will cast the frame portion into the double tee flanges. The remainder of the drain fixture will be installed in the field by the Plumbing Contractor after the precast is erected.

Item 47:

Question: Specification Section 230993 2.1 Manufacturers - The CCSU Campus standard for Automatic Temperature Controls is Schneider Electric I/A Series by SNE Building Systems. Is this system acceptable on this project?

Answer: Substitution of equal ATC products by Schneider Electric I/A Series Is acceptable.

Item 48:

Question: Spec 00 73 44. Prevailing Wage Rates. Please verify that Prevailing Wage Rate determination should be “Building “Construction” and not “Heavy/Highway Construction” as this is an Automobile Parking Garage as cited by example in US Dept of Labor - Agency Memorandum #130 dated 3/17/1978.

Answer: Confirmed. This project is “Building Construction”.

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Item 49:

Question: Spec 50 70 00 - Please provide statement of special inspections.

Answer: See attached Statement of Special Inspections document.

Item 50:

Question: Dwg A205. Please provide corresponding structural drawings and member sizes for canopy structure.

Answer: See revised drawing S202 with Canopy Framing structural details added.

Item 51:

Question: Named Subs. Please confirm only the four trades for boxes checked in 2.7.1 - Table 2.7 of Bid form (Spec 00 41 00) need to have subcontractors named. Spec 00 45 14 Section 9.0 and 10.0. Please confirm that Masonry Work, do not need to named. Spec 00 45 14 Section 9.0 and 10.0. Please confirm that Environmental Remediation, and Hazardous Material Work do not be named as there is no specification and no work for these trades.

Answer: Confirmed. All required named Subs are listed.

Item 52:

Question: Environmental Remediation, and Hazardous Material Work reference in. Please provide specification for this work, if applicable, including quantities.

Answer: Not Applicable for this project.

Item 53:

Question: Please confirm that project is not subject to local Building Permit and no Permit Fees are required as this is a state project.

Answer: Confirmed. OSBI to issue building permit. Any connection permits for utilities, etc. to be coordinated and obtained by the contractor with payment by Owner.

Item 54:

Question: Please confirm that all testing and inspections is paid for by the Owner directly.

Answer: Confirmed. Contractor to coordinate with owner's testing agency

Item 55:

Question: Please confirm that all utility connection fees for permanent work will be paid for by the Owner.

Answer: Confirmed. Contractor is responsible to coordinate and perform connections.

Item 56:

Question: I have reviewed the plans and specs for the Diloreto Parking. I am confirming this project will not have a need for entry or exit access control or barrier gates. Is this correct?

Answer: Confirmed. Conduit and junction boxes are per the Electric Drawings but no access control equipment included in the project.

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Item 57:

Question: Aggregate piers: Please provide the following loading information? At column locations, final column service (unfactored) base plate loads (in kips). A breakdown of the column service base plate loads (dead, live, and transient loads). Along walls, final wall footings service loads (in klf) at the top of the footing. Bearing pressure distributions where loads under footings are not uniform. We anticipate these distributions would occur at large mat footings and/or shear walls.

Answer: See added drawing S005 for foundation service loads.

Item 58:

Question: Please provide a fence specification.

Answer: Existing site ornamental fence is to be maintained and/or refurbished per the details on the Civil drawings.

Item 59:

Question: Spray Foam Insulation - Please provide a spray foam specification.

Answer: See added specification Section 07 21 19 Foamed-in-Place Insulation.

Item 60:

Question: Parking Count & Guidance System – Confirm 1 Dynamic Space Availability Sign per drawing A-805.

Answer: Confirmed. One sign is required.

Item61:

Question: Variable message sign to be 36” high x 48 “wide with message portion of sign to be the bottom 24” high x 48” wide with the top 12” reserved for permanent name and logo. This is in the Parking Count & Guidance System Specification, but there is no integration with the Count System. Can you confirm this is just a VMS Sign and can be controlled by secondary software?

Answer: Variable Message sign is to be tied into the Parking Count and Guidance System to allow available space count to be displayed.

Item 62:

Question: Count System is only designed to count the entry and exit vehicles on North Plaza of Grade Level Floor, how will vehicles entering or exiting out of the South Side Swing Gates going to be accounted for?

Answer: The opening in the southwest corner of the garage is an emergency outlet only and will not be used for the day to day activity of the garage. Therefore, no counting equipment is required at that exit.

Item 63:

Question: Vehicular Swing Gate Operator – Spec calls for RF Remote or Lockable Push Button. Can you confirm if single (1) remote control would suffice and if push button, is requirement for (2 units) one on each side as it may need to be opened and closed from separate sides?

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Answer: A single remote that opens both gates is acceptable. One push button for each side (2 units) should be provided.

Item 64:

Question: Vehicular Swing Gate Operator – Please confirm CCSU requires all UL325 code to be met for safety devices as they are not mentioned in the specifications.

Answer: Confirmed. UL325 Code to be met for the Vehicle Swing Gate Operators.

Item 65:

Question: Pipe Insulation, Plumbing- specifications are missing as related to water and storm, please provide.

Answer: See Bid Addendum #2, Item 2 for requirements and specifications for piping insulation.

Item 66:

Question: Hydrant Flow Test Results (2017) / Hydraulic Calculations (2018) / As-Built Shop Drawings (2018)- noted to be obtainable from the University for the existing Willard DiLoreto Building, within the Fire Protection Specification Section 211313 Page 3, Section 2.1, C.1. Please provide this information for the bidders' use.

Answer: The following information was received from New Britain Water and Sewer:
12" main in Paul Manafort Sr. Drive, ductile iron installed in 1993.
Historical static pressure: about 120 psi.
Most recent flushing operations have generated a 2700 gpm flow rate,
using the 4-1/2" hydrant connection.

Item 67:

Question: Sprinkler Fitters' Prevailing Wage Rates- are not listed in the referenced list of Prevailing Wage Rates, please provide.

Answer: Prevailing Wage for Sprinkler Fitter:
Hartford County
New Britain (updated 4-2-2020)
Sprinkler Fitter: Base = $45.92 + Fringe = $26.08. = $72.00/combined hourly rate.

Item 68:

Question: Seismic Bracing Requirement- is noted to be carried consistent with Plan Note 2.5.G/S001, as this project carries a Seismic Design Category "B". Contrary to that project requirement, the 2016 Connecticut State Building Code (paragraph 1613.1), as well as the 2010 American Society of Civil Engineer's 7 (paragraph 13.1.4- Exceptions), eliminate Seismic Bracing in buildings that fall under Seismic Design Category B, except for Emergency Shelters or similar. Please confirm that Seismic Bracing is still required, despite these references.

Answer: Confirmed. Seismic bracing not required.

Item 69:

Question: Existing Site Fence- noted to be "Salvaged", "Refurbished". Please provided a detailed description of cosmetic / "structural" / "Civil" scope to be performed. Though the fence can be viewed clearly enough, it is difficult to quantify value associated with such a broad term.

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Answer: Of the approximately 1100 linear feet of existing ornamental site fence it is estimated the 85% of the fence panels are to be refurbished and 15% of the fence panels are to be new. For the existing fence posts, 85% are to be refurbished and 15% are to be new. Any bent panels are to be straightened if possible, broken or missing pieces are to be replaced, all panels being saved are to be stripped and coated per the documents. Since the exact number of fence panels required to be replaced as new is to be determined in the field, the Contractor is to provide a Unit Price for each new fence panel and a Unit Price for one each new fence post above the 15% requirement. See attached photos of existing fence conditions.

Item 70:

Question: Drawing A203 is calling for Galvanized continuous bars and attachments at the mesh screens. Due to the tendency to wear and rust over time, would Stainless 316L be recommended in lieu of Galvanized? See attached.

Answer: See revised drawing A203. Details have been revised to include all stainless steel hardware for the mesh screen.

Item 71:

Question: Section 087999-3 D. Schedule; the D80PD Schlage Lockset indicated is for a knob, please confirm the trim is to be a knob not a lever. We are unable to locate the BAL trim indicated for the lockset D80PD indicated, (occurring at hardware sets 1 and 2). Please advise.

Answer: See revised specification Section 08 70 00 Finish Hardware. Locksets have been revised to AL80PD x SAT x US26D Level type handles.

Item 72:

Question: Opening 101 appears to be an exterior opening, hardware set 1 indicated for this opening does not include any weather stripping or a threshold. Please confirm.

Answer: Confirmed. Opening is not exposed to weather.

Item 73:

Question: Hardware sets 1 & 2, we are unable to locate the manufacturers nomenclature for Hardware sets 1 & 2, we are unable to locate the manufacturers nomenclature for.

Answer: See revised specification Section 08 70 00 Finish Hardware. Locksets have been revised to AL80PD x SAT x US26D Level type handles.

Item 74:

Question: Pedestrian Bridge (Dwg A900-A905) and S402. There is a double steel column on pier and expansion shown in S402 at Col line BB. Please confirm that there is an expansion joint intended in structure at Grid Line BB and provide corresponding expansion joint requirements and sizing detailing in architectural and structural elements to permit the movements. Please define which foundations/piers have been designed to support the lateral and longitudinal loads for fixed bearing supports.

Answer: The structural truss for the Pedestrian Bridge is to be Design/Build as per the notes on drawing S402. The final design required to be submitted by the Contractor will determine the requirements for expansion joints, connections, etc. See added drawing S005 for foundation and

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lateral loads for the Pedestrian Bridge support footings.

Item 75:

Question: Dwg A401-A407, A503, A703. Spec 05 50 00 & Supplemental Bid #1.
Guardrails systems at Stair Sections in A4xx series refer to a painted railing system and to galv. in A503 and A703. Please confirm that no painting is required and that finishes are as per A703.

Answer: Confirmed. See revised Stair drawings. Stair rails to be galvanized and not painted.

Item 76:

Question: Dwg A204 - Please provide completed specification for Motorized gates to match existing fencing and the associated operators. Also please provide sizing and finishes.

Answer: The gate fence details are to match the existing site ornamental fence. See 3/CS501 for details of the Ornamental fence.

Item 77:

Question: Details E2/A201 and Section 5/A602 & A503– Stainless steel mesh Screen between Spandrels. Please provide complete specification for mesh wires and details for frame and attachment to opening.

Answer: See revised drawings A201 and A602 for galvanized mesh screen details between spandrels on west façade. Note: mesh screens are to be galvanized, not stainless steel.

Item 78:

Question: Dwg A301. Please provide spec and details for chain link fence infill.

Answer: See revised specification section 05 50 00- Miscellaneous Metals for screen details. See drawing S302 for added detail.

Item 79:

Question: Spec section 095470 2.2. Are the interior planks perforated? If so please specify the perforation pattern.

Answer: Ceiling planks are not perforated.

Item 80:

Question: Spec section 095470 2.2. Is there a closed integral reveal between the panels, or are they butt joints?

Answer: Panels are to have butt joints.

Item 81:

Question: I am looking at the pipe guards which are called out in the 055000 spec and on page A701 which calls out to reference MEP, FP, and electrical drawing sets for locations...I understand this is in our specification but we still want to confirm that the pipe guards are in the metals scope as it is a bit difficult to determine the exact counts and orientations.
Answer: Pipe guards are in the Miscellaneous Metals Scope of Work.

Addendum No.: 4 **Date of Addendum: June 17, 2020**

Item 82:

Question: Please refer to drawings S402. Can the arch beams (W27x102) be split up in pieces to facilitate logistics and remove cost?

Answer: Yes, the arched beams may be split and spliced to facilitate logistics. Splice detail will be subject to review and approval.

Item 83:

Question: Please specify if the snow gate be supplied by the pre-cast contractor given its not in their spec.

Answer: The snow gate is part of the Miscellaneous Metals Work. See revised Specification Section 05 50 00 Miscellaneous Metals which has the Snow Gate added. The specifications call for all hardware to be embedded into the precast be provided by the Miscellaneous Metals contractor to the precast manufacturer.

Item 84:

Question: Please refer to spec section 07 18 00. The drawings do not call for traffic coatings. Please confirm this spec section is not needed.

Answer: Traffic bearing waterproofing membrane is required over the Storage and Utility Rooms (Between B and C/ 2 & 3). See revised drawing S202.

Item 85:

Question: Ref Detail 3/CS501 - Standard Ornamental Fence - Finish Color & Rehabilitation requirements, does it require field coating and if so what is the system? Will the fence require surface prep, and if so has the existing coating been tested for lead?

Answer: Of the approximately 1100 linear feet of existing ornamental site fence it is estimated the 85% of the fence panels are to be refurbished and 15% of the fence panels are to be new. For the existing fence posts, 85% are to be refurbished and 15% are to be new. Any bent panels are to be straightened if possible, broken or missing pieces are to be replaced, all panels being saved are to be stripped and coated per the documents. Since the exact number of fence panels required to be replaced as new is to be determined in the field, the Contractor is to provide a Unit Price for each new fence panel and a Unit Price for each new fence post above the 15% requirements. Per recent campus fence repairs, it can be assumed that there is no lead paint on the existing fence. See attached photos of existing fence conditions.

Item 86:

Question: Ref the alternate to replace the site fence vs rehabilitation. Does the fence require field coating and if so, what system would be required? Ref the alternate to replace the site fence vs rehabilitation. Does the fence require field coating and if so, what system would be required?

Answer: See response to Item #85 above. The finish for the fence is to be galvanized and powder coated.

Item 87:

Question: Please clarify if there are any Allowances that need to be carried in the bid. There are mentions of related specifications in Section 01 20 00 Contract Considerations but nothing specific indicated

Answer: There are no Allowances included in this project.

Addendum No.: 4 **Date of Addendum: June 17, 2020**

ATTACHMENTS:

Specifications:

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Section 00 01 15 List of Drawing Sheets
Section 01 11 00 Summary of Work
Section 03 41 00 Structural Precast Concrete
Section 05 50 00 Miscellaneous Metals
Section 07 21 19 Foamed-in-Place Insulation (New Section)
Section 08 70 00 Finish Hardware
Section 10 40 00 Signs Graphics and Supports
Section 11 12 40 Parking Count & Guidance System (PCGS)

Documents:

Statement of Special Inspections
Attendees List from Virtual Pre Bid Meeting, May 27, 2020

7001 Substitution Product Requests:

1. **7001 Equal or Substitute Product Request Chesapeake**
2. **7001 Equal or Substitute Product Request Helix 18**
3. **7001 Equal or Substitute Product Request Tigris Twist 280x25**
4 **7001 Equal or Substitute Product Request Cubist 1**
5. **7001 Equal or Substitute Product Request Cubist 2**
6. **7001 Equal or Substitute Product Request Cubist 3**
7. **7001 Equal or Substitute Product Request Beacon Light Fixture**

Photos:

Addendum #4 - Existing Fence Photos
Addendum #4 - WDH Parking Lot Electrical Manhole Photos

Drawings:

G000, A201, A203, A205, A400, A401, A402, A403, A404, A405, A406, A407, A602, A702, S005, S006, S101, S102, S105, S106, S107, S108, S202, S302, S401, ES101

All questions must be **written** (not **verbal** or by **phone**) and emailed to the consulting Architect/Engineer (DESMAN -Thomas J. Basile, Email: tbasile@desman.com) with copies sent to the DAS/CS Project Manager (Stephen Burke, Email: Stephen.Burke@ct.gov) and Construction Manager JACOBS -Candy Glass, Email: Candy.Glass@jacobs.com

End of Addendum No. 4

Mellanee Walton

Mellanee Walton, Associate Fiscal Administrative Officer
State of Connecticut
Department of Administrative Services, Construction Services
Office of Legal Affairs, Policy, and Procurement
450 Columbus Boulevard, Suite 1302
Hartford, CT 06103

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DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

* Forms and Documents in separate package

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(continued)

TECHNICAL SPECIFICATIONS

DIVISION 01 GENERAL REQUIREMENTS

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03 20 00	Concrete Reinforcing	5
03 30 00	Cast-in-Place Concrete	17
03 41 00	Structural Precast Concrete	13
03 49 00	Fibrous Reinforcing	2

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DIVISION 05	METALS	Not Used ☐
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05 40 00	Cold Formed Metal Framing	3
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DIVISION 06	WOOD, PLASTICS AND COMPOSITES	Not Used ☐
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06 16 43	Fiberglass-Mat Gypsum Sheathing	2

DIVISION 07	THERMAL AND MOISTURE PROTECTION	Not Used ☐
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07 21 19	Foamed-In-Place Insulation	4
07 26 00	Insulation and Vapor Barriers	4
07 41 21	Uninsulated Metal Panels	3
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07 60 00	Flashing and Sheet Metal	1
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CS101	Site Plan
CS501	Site Details I
CS502	Site Details II
CG101	Grading and Drainage Plan
CG501	Drainage Details I
CG502	Drainage Details II
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End of Section
00 01 15 List of Drawing Sheets

PART 1 – GENERAL

1.1 DEFINITIONS

A. Contractor:
Whenever the term **"Contractor"** is used in these Division 01 General Requirements and the Contract Documents, it may be understood to mean either the **Design-Bid-Build (D-B-B) "General Contractor"** or the **Construction Manager at Risk ("CMR")** as applicable to the specific Project.

B. Subcontractor:
Whenever the term **"Subcontractor"** is used, it may be understood to mean either a **Subcontractor** or a **Supplier**, as applicable to the specific Project.

C. Contract:
Whenever the term **"Contract"** is used in these Division 01 General Requirements and the Contract Documents, it may be understood to mean either the **D-B-B General Contractor's Contract Sum** as stated in their Contract or the **CMR's Contract Sum** as stated in their CMR Agreement, as applicable to the specific Project.

1.2 RELATED DOCUMENTS

A. The Contract Documents are defined in the D-B-B and CMR Division 00 General Conditions, as applicable to the specific Project.

B. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Delivery Method:

1. ☒ Design-Bid-Build (DBB);

2. ☐ Construction Manager at Risk (CMR)

B. Project Number: CF-RC-402

C. Project Title: Willard Diloretto Parking Garage

D. Project Location: Paul Manaford Senior Drive, New Britain, CT.

E. The Project Description:

1. Construction of a Parking Garage of approximately **203,045** gross square feet and a Pedestrian Bridge of approximately **1,793** gross square feet to provide access between the New Parking Garage and the Existing Willard Diloretto Hall Building.

2. Parking Garage and Pedestrian Bridge Construction

a. The Parking Garage is new and shall be constructed of materials that include but are not limited to the following: The structure shall consist of Structural Precast Superstructure. Exterior wall construction shall consist of precast wall panels with thin brick veneer. Stair roof construction shall consist of precast plank with single ply membrane roofing on rigid insulation. Foundations shall consist of cast in place concrete spread footings.

b. The Pedestrian Bridge is new and shall be constructed of materials that include but are not limited to the following: The structure shall consist of a structural steel Truss. Exterior wall construction shall consist of insulated glass in aluminum frames and metal panels. Roof construction shall consist of metal decking with single ply membrane roofing on rigid insulation. Floor construction shall consist of concrete slab on metal decking. Foundations shall consist of cast in place concrete spread footings.

F. Owner:

1. Owner's Name: Connecticut Board of Regents, Connecticut State Colleges and Universities

2. Authorized Representative for the Owner: DAS/CS Project Manager Name: Stephen Burke

a. DAS/CS Project Manager's Location: The DAS/CS Project Manager is located at 450 Columbus Blvd, Suite 1201, Hartford, CT, 06103.

b. **Phone:** (860) 713-5942

c. **Fax:**

d. **Email(s):** Stephen.Burke@ct.gov

3. **Authority:** The DAS/CS Project Manager is the only authorized representative for the Department of Administrative Services Commissioner to act in matters involving revoking, altering, enlarging or relaxing any requirement of the Contract Documents.

a. **Related Section: Article 25, All Work Subject To Control of the Commissioner**, Division 00 General Conditions of the Contract for Construction.

G. **Agency:**

1. **Agency Name:** Central Connecticut State University

2. **Agency Representative Name and Title:** Sal Cintorino, Interim Chief Facilities Officer

a. **Agency Representative Location:** 1615 Stanley St. New Britain, CT East Hall 101

b. **Phone:** (860) 832-1889

c. **Fax:**

d. **Email(s):** Cintorino@ccsu.edu

3. **Authority:** The Agency Representative has the administrative authority for the facility and or site where the work is being performed but does not have the authority to change the Contract Documents or direct the Contractor.

H. **Architect and Engineer (A/E):**

1. **Architect's Name:** The Architect representing the firm for this project is Thomas J. Basile

a. **Architect's Location:** The Architect is located at **175 Ca**pital Blvd, Suite 402, Rocky Hill, CT 06067

b. **Phone:** (860) 563-1117

c. **Fax:** None

d. **Email(s):** tbasile@desman.com, ngoldman@desman.com, fcoletti@desman.com

2. The Architect and Engineer (A/E) or their accredited representative is referred to in the Contract Documents as "Architect" or "Architects" or "Engineer" or "Engineers" or by pronouns which imply them. As information for the Contractor, the Architect's or Engineer's status is defined as follows:

a. The Architect and Engineer will not make interpretations or decisions directly to the Contractor. All interpretations or decisions will be conveyed through the Construction Administrator to the DAS/CS Project Manager.

b. As the authorized representative of the Department of Administrative Services Commissioner, the Architect and Engineer is responsible for review of shop drawings, materials, and equipment intended for the work, in accordance with the Division 00 "General Conditions" and "Supplementary Conditions".

3. Wherever the Architect or Engineer is mentioned in the documents in connection with an administrative function, it shall include the Construction Administrator in that function except for shop drawings.

I. **Construction Administrator (CA):**

1. **Construction Administrator Name:** Jacobs Project Management, Candy Glass

a. **Construction Administrator Location:** 100 Great Meadow Road, Suite 707 Wethersfield, CT 06109

b. **Phone:** (508) 897-9920

c. **Fax:**

d. **Email(s):** Candy.Glass@jacobs.com

2. **Authority:** As information to the Contractor, the Construction Administrator's status is defined as follows:

a. The Construction Administrator (CA) is referred to in the Contract Documents as "Construction Administrator" or by pronouns which imply it. All communications concerning the project will be directed through the Construction Administrator or a designated representative(s).

b. The Construction Administrator is the Owner's Agent who will, among other things, monitor and analyze the Contractor's performance, scheduling and construction, process shop drawings, material, and equipment submittals, review and process periodic billings, review, analyze, and recommend cost changes.

c. **Related Section: Article 26 "Authority of the Construction Administrator"** of Division 00 "General Conditions of the Contract for Construction".

3. The Construction Administrator will process all requests for information, interpretations and decisions regarding the meaning and intent of the Contract Documents, consulting with appropriate parties prior to rendering the interpretations or decisions for the Project Manager to the Contractor. All such requests and replies shall be in writing.

J. **Work:** The Work Includes but is not limited to the following:

1 Site Construction, Landscaping, Site Utilities;

2 Cast-in-Place Concrete, Structural Precast, Architectural Precast Concrete;

3 Masonry;

4 Structural Steel, Miscellaneous Metals;

5 Rough Carpentry

6 Waterproofing, Insulation, Sprayed-on Fireproofing, Firestopping, Roofing, and Joint Sealants;

7 Doors and Frames, Overhead Doors and Grilles, Aluminum Windows, Hardware, and Glazed Aluminum Curtain Wall;

8 Drywall, Acoustical Ceilings, and Painting;

9 Louvers and Vents, Signage, and Fire Extinguishers;

10 Elevators;

11 Plumbing, Fire Protection, HVAC, and Controls;

12 Electrical and Fire Alarm Systems; and

13 Special Equipment.

K. The Contractor will include in their bid, all items required in order to carry out the intent of the Work as described, shown and implied in the Contract Documents.

L. It shall be the Contractor's responsibility upon discovery to immediately notify the Construction Administrator, in writing, of errors, omissions, discrepancies, and instances of noncompliance with applicable codes and regulations within the documents, and of any work which will not fit or properly function if installed as indicated on the Contract Documents. Any additional costs arising from the Contractor's failure to provide such notification shall be borne by the Contractor.

M. The Work will be constructed under the Contractor's Contract as applicable to this Project.

N. The Work will be performed in accordance with the Connecticut Department of Energy and Environmental Protection's (DEEP) **"General Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activities"** (DEEP-WPED-GP-015) and **Stormwater Pollution Control Plan (SPCP)**, including, but not limited to, implementing, maintaining, and updating the SPCP, performing regular inspections, conducting and reporting stormwater monitoring activities, retaining records for the required period of time, and performing all post-construction measures and inspections. See **Section 01 50 00 "Temporary Facilities and Controls" and Section 31 20 05 "Sedimentation and Erosion Control"** for additional information.

1.4 CONTRACTOR'S USE OF PREMISES

A. **General:** During the construction period the Contractor shall have full use of the newly constructed premises for construction operations, including use of the site. The Contractor's use of the premises is limited only by the Owner's right to perform work or to retain other contractors on portions of the Project.

B. **Use of the Site:** Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

1. The Contractor shall confine his operations including storage of materials, supplies, equipment, and apparatus to the areas bounded by the contract limits indicated and as directed in the Contract Documents.
2. Existing roads, drives, walks, and parking areas which are not within the contract limit line are to be kept free and clear at all times. All deliveries for the project are to enter the **site** from Paul Manafort Sr. Drive. The Contractor shall check all roadways for accessibility and clearances for deliveries of all large material and equipment. The Contractor shall inform the Construction Administrator at least **seventy-two (72)** hours in advance of these deliveries so they can be coordinated with the Agency so appropriate traffic control, etc. can be provided. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
3. The Contractor shall be responsible for keeping the premises clean and shall pick up rubbish and debris and promptly remove from site.
4. Parking for the Contractor's employees will be limited to an area designated by the Construction Administrator, and the Contractor may be required to provide identification stickers for all employees' cars.
5. Special precautions shall be taken to protect all wetland areas designated to remain. Prevent any and all sediment, debris, or other materials from getting into these areas. Should any sediment, debris, or other materials get into these areas or if any damage occurs to the vegetation therein, the Contractor shall immediately contact the Construction Administrator for direction.
6. The Contractor shall comply with local working hour restrictions, unless specifically approved otherwise in writing by the Owner.
7. No signs, other than those approved by the Construction Administrator, will be visible on the premises.

C. **Use of the Existing Building:** Maintain the existing building in a weather-tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period. Note: Check with Agency special types of conditions. Contractor personnel are not allowed to use the Cafeteria or vending machines within the existing buildings unless authorized in writing by the agency.

1.5 OCCUPANCY REQUIREMENTS

A. **Full Agency Occupancy During Construction:** The Owner reserves the right to allow the Agency to occupy the site and existing building during the entire construction period. Cooperate with the Agency during construction operations to minimize conflicts and facilitate Agency usage. Perform the Work so as not to interfere with the Agency's operations.

1. Provide adequate building and fire code egress from the buildings during the renovation process and/or as indicated on the Contract Documents. The Contractor will be responsible to maintain and protect egress ways during the construction sequence as required and/or indicated in the Contract documents. The Contractor shall be responsible for preparing egress plans for Owner approval and for DAS/CS Office of State Building Official and Office of State Fire Marshal for approval if required.

B. **Partial Agency Occupancy:** The Owner reserves the right to allow the Agency to occupy and to place and install equipment in completed areas of the building prior to Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.

1. Should it become necessary or advisable, as the work nears final completion, for the Agency to occupy a portion of the building prior to final acceptance, the Contractor shall cooperate in completing such areas and making same accessible.
2. The Construction Administrator will determine whether such occupancy or use is possible and, if so, will make arrangements for holding a job inspection with the DAS/CS Project Manager, Agency Representative, and Contractor.
3. A comprehensive list of items to be completed or corrected as issued by the Contractor, together with the status of completion and terms of occupancy, will be forwarded to the DAS/CS Project Manager by the Construction Administrator. A letter will be issued by the DAS/CS Project Manager and Contractor to Construction Administrator granting such occupancy and will state the terms and conditions of occupancy.
4. Prior to partial Agency occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy, the Agency will operate and maintain mechanical and electrical systems serving occupied portions of the building.

5. The Architect will prepare a "Certificate of Substantial Completion" for each specific portion of the Work to be occupied prior to Agency occupancy. Use the "Certificate of Substantial Completion" form as required by the Owner and forward the Certificate to the DAS/CS Office of State Building Inspector for a Certificate of Occupancy and obtain the same after his review and approval.
6. The DAS/CS Project Manager will request a signed "Certificate of Compliance" from the Architect and Contractor, and forward the Certificate to the Office of State Building Inspector for a Certificate of Occupancy and obtain the same after his review and approval.
7. A letter from the DAS/CS Project Manager to the Agency Representative with copy to the Contractor granting occupancy will state the terms and conditions of occupancy and that fire insurance coverage has been requested, the effective date of which will indicate to the Contractor that they may cancel fire insurance coverage for that portion of the project.
8. Upon occupancy, the Agency will assume responsibility for maintenance and custodial service for occupied portions of the building.
9. **Work after Partial Agency Occupancy:**

9.1 For all work to complete the area occupied, warranty work, the balancing and Commissioning (Cx) of systems, repair of latent defects and adjustments after partial occupancy, the Contractor is responsible for all costs associated with working in occupied buildings.

C. Agency Occupancy:

1. The Construction Administrator will determine whether such occupancy is possible and, if so, will make arrangements for holding a job inspection with the DAS/CS Project Manager, Agency Representative, and Contractor.
2. A comprehensive list of items to be completed or corrected as issued by the Contractor, together with the status of completion and terms of occupancy, will be forwarded to the DAS/CS Project Manager and the Contractor by the Construction Administrator. A letter will be issued by the DAS/CS Project Manager and Contractor to Construction Administrator granting such occupancy and will state the terms and conditions of occupancy.
3. Prior to Agency occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy, the Agency will operate and maintain mechanical and electrical systems serving occupied portions of the building.
4. The Architect will prepare a **"**Certificate of Substantial Completion" for the Work to be occupied prior to Agency occupancy. Use the "Certificate of Substantial Completion" form as required by the Owner.
5. The DAS/CS Project Manager will request a signed "Certificate of Compliance" from the Architect and Contractor, and forward the Certificate to the Office of State Building Inspector for a Certificate of Occupancy and obtain the same after his review and approval.
6. A letter from the DAS/CS Project Manager to the Agency Representative with copy to the Contractor granting occupancy will state the terms and conditions of occupancy and that fire insurance coverage has been requested, the effective date of which will indicate to the Contractor that they may cancel fire insurance coverage for the project.
7. Upon occupancy, the Agency will assume responsibility for maintenance and custodial service for occupied portions of the building.
8. **Work after Agency Occupancy:**

8.1 For all work to complete the occupied building, warranty work, the balancing and commissioning of systems, repair of latent defects and adjustments after occupancy, the Contractor is responsible for all costs associated with working in occupied buildings.

D. No Occupancy: Agency will not occupy the building or any completed portions thereof prior to Substantial Completion of the Work.

1.9 PRODUCTS ORDERED IN ADVANCE

A. General: The Owner has negotiated purchase orders with suppliers of material and equipment to be incorporated into the Work. The Owner has assigned these purchase orders to the Contractor. Costs for receiving handling and storage, and installation are included in the contract sum.

1. The Contractor's responsibilities are the same as if the contractor negotiated the purchase orders. If necessary, the Contractor shall renegotiate purchase and execute final purchase-order agreements.

2. A "Schedule of Products Ordered in Advance" is included at the end if this section.

1.10 OWNER-FURNISHED PRODUCTS

A. The Owner may furnish various products such as indicated in the construction documents. The Work includes providing support systems to receive Owner's equipment, and mechanical and electrical connections.

1. The Owner will arrange for and deliver necessary shop drawings, product data, and samples to the Contractor.

2. The Owner will arrange and pay for delivery of Owner-furnished items according to the Contractor's Construction Schedule.

3. Following delivery, the Owner will inspect items delivered for damage.

4. If Owner-furnished items are damaged, defective, or missing, the Owner will arrange for replacement.

5. The Owner will arrange for manufacturer's field services and for the delivery of manufacturer's warranties to the appropriate Contractor.

6. The Contractor shall designate delivery dates of Owner-furnished items in the Contractor's Construction Schedule.

7. The Contractor shall review shop drawings, product data, and samples and return them to the Architect noting discrepancies or problems anticipated in use of the product.

8. The Contractor is responsible for receiving, unloading, and handling Owner-furnished items at the site.

9. The Contractor is responsible for protecting Owner-furnished items from damage, including damage from exposure to the elements. The Contractor shall repair or replace items damaged as a result of his operations.

1.11 MISCELLANEOUS PROVISIONS

A. Examination of Site:

1. It is not the intent of the Documents to show all existing conditions. All Contractors and Subcontractors are advised to attend the Pre-Bid Meeting prior to submitting their Bid Proposals. This is the only official opportunity to visit and examine the site with the Owner, Agency, Architect, Engineer and Construction Administrator.

2. The Contractor should investigate and satisfy himself as to the conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, uncertainties of weather, roads or similar physical conditions of the ground, the character of equipment, and facilities needed preliminary to and during the prosecution of the Work. The Contractor should further satisfy himself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the Contract Documents. Any failure by the Contractor to acquaint himself with the available information shall not relieve him from the responsibility for estimating properly the difficulty and cost of successfully performing the Work.

3. Subsurface Geotechnical Investigations:

a. If Boring logs have been prepared for the site of this work they are in the Contract Documents.

b. If Geotechnical Reports(s) have been prepared for this project they are referenced in Section 00 30 00 Available Information and provided in Division 50 00 00 Project-Specific Available Information.

1) The Contractor must interpret the Geotechnical Report (s) according to his own judgement and acknowledges that he is not relying upon the data as accurately describing the subsurface conditions which may be found to exist.

2) The Contractor further acknowledges that he assumes all risk contingents upon the nature of the subsurface conditions, which shall be actually encountered by him in performing the Work of this Contract.

3) The Contractor should visit the site and become acquainted with all existing conditions and may make their own subsurface investigations to satisfy themselves as to the subsurface conditions. Such investigations shall be conducted only under time schedules and arrangements approved in advance by the Owner.

7. No attempt has been made to locate hazardous material associated with existing site utilities, though it is presumed that at least some asbestos may be discovered associated with underground piping during the course of site and site utilities work. If and when such materials appear, the Contractor shall notify the Owner, who shall direct additional work outside of this Contract to assist in cutting up and disposing of same. The Contractor shall assist the hazardous materials contractor(s) with excavating, heavy lifting, and the like at no additional cost to the Owner.

B. Pre-Bid Meeting:

1. A Pre-Bid Meeting and tour of the site will be conducted as scheduled in Division 00 Section 00 11 16 "Invitation to Bid". This scheduled meeting is the only official opportunity for the bidders to tour the site with the Owner, Architect, Engineer, Construction Administrator, and Agency.

C. Project Documents:

1. The Specifications and Drawings are intended to describe and illustrate the materials and labor necessary for the work of this Project.
2. Throughout the Technical Specifications, the Connecticut Department of Transportation Standard Specifications for Roads, Bridges, and Incidental Construction Form 816, current edition including any interim and supplemental specifications are referenced. Where so referenced the requirements set forth therein are applicable and made a part hereof. Copies of Form 816 are available from the Connecticut Department of Transportation at a nominal charge.

D. Site Logistics Plan: See Section 01 31 00 "Project Management and Coordination", 1.5 Submittals, A, (4). for Site Logistics Plan Contractor requirements

E. Scope Review:

1. Prior to signing a Contract with the State, DAS/CS will conduct a full scope review with the apparent Low Bidder to ensure that all of the requirements have been included within the bid. This scope review will highlight all of the specific requirements of the project, a review of the DAS/CS procedures and all of the Technical sections of the contract documents.
2. This process will ensure that all of the scope of work included in the contract documents has indeed been included.

F. Specifications, Drawings, and Electronic Data Storage Devices Furnished:

1. The Contractor shall receive **one (1) set** of **Portable Document Format (PDF, latest version) Conformed Bid Documents** (incorporating all Addendum changes made to the Contract Documents during the official Bid Period) on Electronic Data Storage Devices on or about the time of execution of the Contract, free of charge from the Architect. If additional copies are wanted, they will be available at the direct additional cost of their reproduction, to the Contractor.
2. The Contractor shall receive **one (1)** set of **AutoCAD compatible (latest version) Conformed Set of Floor Plans** (incorporating all Addendum changes made to the Contract Documents during the official Bid Period) on Electronic Data Storage Devices at no cost on or about the time of execution of the Contract from the Architect. Additional sets of AutoCAD compatible (latest version) Floor Plans on Electronic Data Storage Devices from the Architect shall be available at the cost of their reproduction, to the Contractor.

G. Construction Responsibility:

1. The Contractor shall be responsible for his construction means, methods, techniques, sequences, and procedures employed in the performance of his work and shall have full responsibility for his failure to carry out any part of his work in accordance with the Contract Documents.

H. Overtime Requests:

1. The Contractor shall request approval from the Owner to work overtime. Said request shall be made **forty eight (48) hours** in advance. All costs for overtime are included in the Contract Sum as stated in Division 00 Section 00 41 00 "Bid Proposal Form."

I. PMWeb Project Management:

1. DAS/CS is using PMWeb as the project management collaborative software tool for this project.

2. The Contractor is required to utilize PMWeb for the duration of this project and shall provide all project information via this program management software. This includes, but is not limited to contracts, applications for payment, change orders, change order proposals, requests for information, etc.

3. The DAS/CS Project Manager shall arrange for training. This training is for the Contractor's Staff, the DAS/CS Project Manager, the Construction Administrator, the A/E, and their representatives.

4. DAS/CS will be establishing a project specific email "file" address for this project. The Contractor shall send an electronic "file" copy of all project documents to this email address, to include but not limited to all project correspondence, project emails, forms, etc.

5. The Contractor is required to scan all documents that contain wet (ink) signatures and send a copy of those documents electronically to the DAS/CS Project Manager and the project specific email "file" address. The hard copy of the wet signature documents shall be transmitted as directed by the DAS/CS Project Manager. This includes, but is not limited to all contracts, change orders, applications for payment, closeout documentation, etc.

J. Subcontractor Performance Evaluations:

1. Pursuant to C.G.S. Sec. 4a-101, the Contractor shall compile evaluation information during the performance of the contract on each of its subcontractors who are performing work with a value in excess of five hundred thousand dollars ($500,000.00). The Contractor shall complete and submit to DAS/CS evaluations of each such subcontractor upon fifty percent (50%) completion of the project and upon Substantial Completion of the project. The Contractor acknowledges that its failure to complete and submit these evaluations in a timely manner may, by statute, result in a delay in project funding and, consequently, payment to the Contractor. The Contractor agrees to indemnify and hold the State harmless from any loss, damage, or expense that results from or is caused by the Contractor's failure to complete and submit the evaluations to DAS/CS in accordance with this provision.

K. Reporting and Contracting Requirements for Contractor and Subcontractor Payments:

1. For compliance with **C.G.S. Sec. 4b-95 and 49-41**, DAS/CS requires every Contractor (and its Subcontractors) who has been awarded a DAS/CS construction contract to log on to the State of Connecticut web-based platform, BizNet, **each month** and **enter payments** they have received from the state, from the Contractor, or from a higher tier Subcontractor (as applicable).

2. The process is described as follows: The state will pay the Contractor on a monthly basis for work performed (and purchases made) by it and its Subcontractors. The Contractor will input the payment date and amount they receive from the state on a monthly basis. The Contractor's first-level Subcontractor (Tier 1 Subcontractor) will input the payment they receive from the Contractor. The second-level Subcontractor (Tier 2 Subcontractor) will input the payment they receive from the Tier 1 Subcontractor. And so on.

3. Contractors awarded a DAS/CS construction contract shall contain **a provision in their subcontract agreements** requiring their Subcontractors to enter payment receipt from the Contractor in the State of Connecticut web-based platform, BizNet, for work performed or purchases made in relation to state projects.

4. Detailed instructions can be found in the DAS/CS publication, "**6002 Instructions to Contractors/Subcontractors for Entering Payments in BizNet**", available for download by going to the DAS Homepage (www.ct.gov/DAS) and selecting Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 6000 Series.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 11 00

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A100	Architectural Site plan
A101	Grade Level Plan
A102	Second Level Plan
A103	Third Level Plan
A104	Fourth Level Plan
A201	Building Elevations
A202	Building Elevations
A203	Mesh Screen Details
A204	Elevation Details
A205	Canopy Plan & Elevation
A301	Building Section
A400	Stair No. 1- Plans
A401	Stair No. 1 - Plans
A402	Stair No. 1 - Sections
A403	Stair No. 2 - Plans
A404	Stair No. 2 - Plans
A405	Stair No. 2 – Sections and Elevations
A406	Stair No. 3 - Plans
A407	Stair No. 3 – Sections and Elevation
A408	Stair No. 1 – Elevations
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A410	Enlarged Plan
A501	Door Schedule and Details
A502	Curtain Wall Details
A503	Storefront Details
A601	Wall Sections
A602	Wall Sections
A701	Typical Details
A702	Typical Details
A703	Railing Details
A801	Grade Level Signage Plan
A802	Second Level Signage Plan
A803	Third Level Signage Plan
A804	Fourth Level Signage Plan
A805	Signage Details
A806	Signage Mounting Details
A900	Pedestrian Bridge Demolition Details
A901	Pedestrian Bridge Plans #1
A902	Pedestrian Bridge Plans #2
A903	Pedestrian Bridge Elevations
A904	Pedestrian Bridge Sections
A905	Pedestrian Bridge Details #1
A906	Pedestrian Bridge Details #2

List of Drawing Sheets	
Sheet No.	**Title**
	STRUCTURAL DRAWINGS:
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S002	General Notes #2
S003	Typical Details #1
S004	Typical Details #2
S005	Loading Diagram
S006	Snow Drift Plan Diagram
S101	Foundation Plan
S102	Pier Details
S103	Foundation Elevations #1
S104	Foundation Elevations #2
S105	Foundation Sections
S106	Stair No.1 Foundation Plan
S107	Stair No. 2 Foundation Plan
S108	Stair No. 3 Foundation Plan
S201	Slab on Grade Plan
S202	Second Level Framing Plan
S203	Third Level Framing Plan
S204	Roof Level Framing Plan
S301	Typical Precast Details #1
S302	Typical Precast Details #2
S303	Typical Precast Details #3
S401	Pedestrian Bridge Foundation Details
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	FIRE PROTECTION DRAWINGS:
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F102	Second Level Floor Plan – Fire Protection
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F801	Details – Fire Protection
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	PLUMBING DRAWINGS:
P001	Cover Sheet - Plumbing
P100	Underslab Drainage Plan - Plumbing
P101	Ground Level Floor Plan - Plumbing
P102	Second Leve Floor Plan - Plumbing
P103	Third Level Floor Plan - Plumbing
P104	Fourth Level Floor Plan - Plumbing
P201	Supply Riser - Plumbing
P202	Sanitary Riser - Plumbing
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	List of Drawing Sheets
Sheet No.	**Title**
P801	Details - Plumbing
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P901	Schedules - Plumbing
	MECHANICAL DRAWINGS:
M001	Mechanical Symbols, Legend and General Notes
M101	Ground Level Floor Plan - Mechanical
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M103	Pedestrian Bridge - Mechanical
M201	Mechanical Schedules
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	ELECTRICAL DRAWINGS:
ES101	Electrical Site Plan
E101	Grade Level Floor Plan - Lighting
E102	Second Level Floor Plan - Lighting
E103	Third Level Floor Plan - Lighting
E104	Fourth Level Floor Plan - Lighting
E201	Grade Level Floor Plan - Power
E202	Stairwell Power Part Plans & Pedestrian Bridge
E300	Electrical Symbols and Legend
E301	One-Line Power Riser Diagram - Electrical
E302	Fire Alarm System Riser Diagram
E401	Electrical Details
E402	Electrical Site Details

End of Section
00 01 15 List of Drawing Sheets

PART 1 - GENERAL

1.1 SUMMARY

A. The extent of work included in this Section is shown on the Drawings and is specified as follows:
   1. Structural framing units including double tees, columns, beams and girders.
   2. Exterior spandrels, wall panels and perimeter columns with Architectural precast finish and thin-brick.
   3. Stairs and solid slab/plank units.
   4. Loadbearing “light-wall” or “stitch-wall” units and solid shear wall units.
   5. Fire walls and stair walls.

B. Provide all labor, materials, equipment, services and accessories necessary to furnish and install the work of this Section, complete and functional.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's specifications and instructions for manufactured materials and products. Include manufacturer's certifications and laboratory test reports as required.

B. Mix Designs: Submit written reports of proposed concrete mix as specified in Part 2 of this section.

C. Shop Drawings: Submit shop drawings showing complete information for framing, connections, fabrication detailing and installation of precast concrete units. Indicate member dimensions and cross section; location, size and type of reinforcement, including special reinforcement and lifting devices necessary for handling and erection. Framing drawings shall be stamped and signed by a Professional Engineer licensed to practice in the State where the project is located and submitted for review; typical member shop drawings only to be submitted with calculations for review. Provide a record copy of all shop drawings and member drawings following completion of erection and any remediation work.

D. Indicate layout, dimensions, and identification of each precast unit corresponding to sequence and procedure of installation. Indicate welded connections by AWS Standard symbols. Provide location and details of inserts, connections, and joints, including accessories and construction at openings in precast units.
   1. Provide location and details of anchorage devices that are to be embedded in other construction. (foundations, structural support members other than precast concrete, etc.) Concrete contractor to furnish templates as required for accurate placement.
   2. Provide erection procedure for precast units and sequence of erection. Include requirement for stability guidelines during the structure’s erection (bracing, guy cables, etc.)

E. Calculations: Provide stamped and signed design calculations prepared by the registered Professional Engineer licensed to practice in the State where the project is located. Precast concrete units and connections shall be designed to withstand all applicable loads required by governing codes and erection conditions. See Paragraph 1.3D for detailed description.

F. Samples:

   1. Submit samples approximately 12 inches by 12 inches by 2 inches to illustrate the quality, color, and texture of the surface finish for the Architectural Finish precast units; exterior spandrels, wall panels and perimeter columns.
      a. Submit sample boards of selected thin-brick materials for approval.
   2. Full Scale Mock-Up Panels: Upon approval of small sample panels, and before fabrication of any other architectural precast concrete work commences, fabricate three (3) full scale panel(s) approximately 8 feet long, for review and approval at the precaster’s facility by the Architect. If the

range of color on the panel(s) is approved by the Architect, they shall be used as a standard of quality for architectural precast concrete work required for this project. Fabrication of the architectural precast work shall not commence until the Mock-Up panels have been approved by the Architect. Mock-up panels to incorporate an area of thin-brick no smaller than the scale of exterior spandrel section in at least one of the 8 foot long panels.

1.3 QUALITY ASSURANCE

A. Codes and Standards: Comply with provisions of following codes, specifications and standards, except as otherwise indicated.

1. ACI 301 "Specifications for Structural Concrete".
2. ACI 318 "Building Code Requirements for Structural Concrete".
3. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".
4. Prestressed Concrete Institute MNL 116, Manual for Quality Control for Plants and Production of Precast Concrete Products".
5. Prestressed Concrete Institute MNL 135, “Tolerance Manual for Precast and Prestressed Concrete Construction”.
6. Prestressed Concrete Institute, MNL 120, “PCI Design Handbook”.
7. American Welding Society, AWS D1.1, “Structural Welding Code-Steel”, D1.4 “Structural Welding Code – Reinforcing Steel”, D1.6 “Structural Welding Code – Stainless Steel”, C5.4, “Recommended Practices for Stud Welding”.

B. Fabricator Qualifications: Firms which have five years successful experience in fabrication of precast concrete units similar to units required for this project will be acceptable. Fabricator must have sufficient production capacity to produce required units without causing delay in work.

1. Fabricator must be producer member of the Prestressed Concrete Institute (PCI) and/or participate in its Plant Certification Program, PCI Certification C3A (Structural w/Architectural Concrete Finish).
2. Each facility utilized must be certified for the type of product produced.

C. Erector Qualifications: The erector must be certified by PCI and shall have five years successful experience in the erection of precast concrete units similar to those required for this project. Submit proof of current erection certification certified for complex structural systems.

1. Welder Qualifications: Field Welder shall be certified on the material and for the type of welding performed. Submit proof of current certification.

D. Analysis and Design by the Professional Engineer retained by the Fabricator: The Professional Engineer shall have a minimum of five years of experience in designing Precast Concrete Parking Structures.

1. All precast concrete units and precast concrete structural frame shall be analyzed and designed by the fabricator to support self-weight, superimposed dead, live and impact loads, volume change and thermal loads, handling loads and lateral (including but not limited to wind and seismic) loads as required for compliance with the governing Building Code. In addition, the following shall be required of the precast concrete fabricator:
2. For precast concrete structures where stability of the structure and the structural resistance to the lateral loads in accordance with the governing Building Code is to be provided by the precast concrete components, walls, frames, braces, etc., either by themselves or in combination with other structural members, the precast concrete fabricator shall analyze the structure in accordance with the structural system identified in the contract documents. The fabricator shall calculate lateral loads as required by the Building Code to be used in such analysis for both the completed structure and relating to the erection sequencing.
3. The precast concrete fabricator shall provide complete analysis and design calculations prepared and stamped by the Registered Engineer, licensed in State where project is located. The information in the calculations shall be paginated, provided with the index page, and shall include the following as a minimum:

a. Sketches of structural system(s) which have been analyzed.
b. Calculation of the required gravity and lateral loads.
c. Sketches of models analyzed (with node and member numbering per computer analysis, if used).
d. Summary of material and member properties and boundary conditions assumed.
e. Summary of individual loadings and load combinations.
f. Reactions at supports and connections due to the loading combinations considered.
g. Forces in most critical individual members due to the loading combinations considered.
h. Design calculations of representative connections and member reinforcement.

(Where word “Fabricator” is used, it means the Engineering Work to be done by the approved Professional Engineer retained by the Fabricator.)

E. Fire-Resistance Rated Precast Units: Where precast concrete units are required to meet a particular fire-resistance classification, provide units that meet the fire resistance as determined by the applicable IBC Code criteria or PCI MNL 124MNL.

1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver precast concrete units to project site in such quantities and at such times to assure continuity of installation. Store off-loaded precast units within the boundaries of the project site to prevent cracking, distortion, staining, or other physical damage, and so that markings are visible. Lift and support units at designated lift points.

B. Deliver anchorage items, which are to be embedded in other construction before start of such work. Provide setting diagrams, design templates, instructions and directions as required for installation.

PART 2 - PRODUCTS

2.1 FORMWORK

A. Provide forms and where required, form facing materials of metal, plastic, wood, or other acceptable material that is non-reactive with concrete and will produce required finish surfaces.

B. Accurately construct forms, mortar-tight, of sufficient strength to withstand pressures due to concrete placing operations, temperature changes, and when prestressed, pretensioning and detensioning operations. Maintain formwork to provide completed precast concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified in PCI MNL 116.

2.2 REINFORCING MATERIALS

A. Reinforcing Bars: ASTM A615, Grade 60, unless otherwise indicated. Reinforcement to be welded shall conform to ASTM A706 Grade 60.

B. Steel Wire: ASTM A82, plain, cold-drawn, steel.

C. Welded Wire Fabric: ASTM A185.

D. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing, complying with CRSI recommendations.

1. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).

E. Coated Reinforcement

1. Epoxy Coated: ASTM A775. Fusion bonded coating apply after fabrication and bending. Film thickness of coating after curing to be 7 to 12 mils when measured in accordance with Method G12. Provide epoxy coated reinforcing as defined below.

   a. All embedded reinforcement extending from precast concrete components into the cast-in-place concrete topping if required by design.
   b. All reinforcement placed into grouted joints between precast concrete units, if those joints are subject to elements or vehicular traffic.
   c. Support steel for all epoxy coated reinforcing steel.

2. Epoxy Patching Compound: ASTM A775.

2.3 PRESTRESSING TENDONS

A. Uncoated, 7-wire stress-relieved strand complying with ASTM A416. Use Grade 250 unless Grade 270 is indicated.

B. Strand similar to above, but having size and ultimate strength of wires increased so that ultimate strength of the strand is increased approximately 15 percent, or strand with increased strength but with fewer number of wires per strand, may be used at manufacturer's option.

2.4 CONCRETE MATERIALS

A. Portland Cement: ASTM C150, Type I or Type III.

1. Use only the same type of cement, fly ash and round granulated blast furnace slag throughout project in any one mix design, unless otherwise acceptable to Architect.
2. Uniformity of cured concrete appearance resulting from the concrete mix and its constituents, manufacturing or handling practices is the manufacturer’s responsibility.

B. Aggregates: ASTM C33, and as herein specified. Provide aggregates from a single source for exposed concrete.

C. Water: Potable.

D. Air-Entraining Admixture: ASTM C260.

E. Water-Reducing Admixture: ASTM C494, Type A, or other Type approved for fabricator's units.

F. Corrosion Inhibiting Admixture: ASTM C494 Type C..

2.5 CONNECTION MATERIALS

A. Carbon Steel Shapes and Plates: ASTM A36: All connection plates, bars and shapes shall be hot dip galvanized in accordance with ASTM A123 or A153 as applicable. Removal of zinc coating for welding and re-installation of the same after welding shall be per paragraph 3.1.C.2 of this specification section.

B. Anchor Bolts: ASTM A307, low-carbon steel bolts, regular hexagon nuts and carbon steel washers.

1. Provide ASTM A307, with ASTM A563 heavy hex nuts and carbon steel washers.

C. Threaded Fasteners: ASTM A307 or A325 heavy hexagon structural bolts, heavy hexagon nuts and washers.

1. Galvanized: ASTM A307 or A325, with ASTM A563 heavy hex nuts and carbon steel washers, hot-dip galvanized ASTM A153.

D. Bolts at column splices: For anchoring columns within a 2'-0" height above a respective floor level, stainless steel anchor bolts conforming to ASTM F593, Group A, Type 304 shall be used together with corresponding stainless steel nuts and washers. For column splices outside of the 2'-0" zone above any floor level, see sub-paragraph C above.

E. Bearing Pads: Provide bearing pads for precast concrete units as indicated on drawings.

1. Elastomeric Pads: Vulcanized, chloroprene elastomeric compound, molded to size or cut from a molded sheet, 50-60 shore A durometer.
2. Frictionless Pads: Tetrafluoroethylene (TFE), with glass fiber reinforcing as required for service load bearing stress.
3. Random Oriented Fiber Reinforced: Shall support compressive stress of 3,000 psi with no cracking, splitting or delaminating in internal portions of the pad. One specimen shall be tested for every 100 pads used.
4. Cotton Duck Layer Reinforced: Elastomeric pads with closely spaced layers of fabric meeting AASHTO specification section 18.10.2.
5. Plastic: Multi-monomer plastic strips shall be non-leaching and support construction loads with no visible overall expansion. Limit to plank bearing only.
6. Tempered or Untempered Hardboard: Limit use to plank bearing only. Do not use in areas where bearing material in service may remain wet for extended periods of time.

F. Tee Flange Connection: Plates and bars; stainless steel per ASTM A666, Type 304, Type 201L or Type 201LN, unless alternate material is acceptable to the Engineer of Record.

G. Welding Electrodes: Comply with AWS standards.

H. Accessories: Provide clips, hangers, and other accessories required for installation of project precast units. Embeds and accessories required for the connection or attaching of subsequent materials are to be provided by the Trade requiring the embeds. Embed materials that are to be cast into precast members are to be provided to the precaster in a timely manner as to not delay fabrication.

2.6 GROUT MATERIALS

A. Cement Grout: Portland cement, ASTM C150, Type I, and clean, natural sand, ASTM C404. Mix at ratio of 1.0 part cement to 3.0 parts sand, by volume, with minimum water required for placement and hydration.

B. Non-metallic, Shrinkage-Resistant Grout: Pre-mixed, non-metallic, non-corrosive, non-staining product containing selected silica sands, Portland cement, shrinkage compensating agents, plasticizing and water reducing agents, complying with ASTM C1107. Alternate grout material for the rebar splice connections to be in accordance with the manufacturer's recommendations.

1. Products: Subject to compliance with requirements, products, which may be incorporated in the work, include, but are not limited to, the following:
   a. Euco N.S.: The Euclid Chemical Co.
   b. Crystex; L & M Construction Chemicals
   c. Masterflow 713 Plus; Master Builders
   d. Five Star Grout; U.S. Grout Corp.

2.7 PROPORTIONING AND DESIGN OF MIXES

A. Prepare design mixes for each type of concrete required in conformance with the requirements of Section 03 30 00 - Cast-in-Place Concrete.

1. Design mixes may be prepared by independent testing facility or by qualified precast manufacturing plant personnel, at precast manufacturer's option.

B. Produce standard weight concrete consisting of specified Portland cement, aggregates, admixtures, and water to produce the following minimum properties.

1. Compressive strength; 5000-psi minimum at 28 days. Release strength for prestressed units: 3500 psi.
2. Cure compression test cylinders using same methods as used for cast-in-place concrete work, and as required by the Section 01 40 00 of these Specifications.

C. Submit written reports to Architect of proposed mix for each type of concrete at least 15 days prior to start of precast unit production. Do not begin concrete production until mixes and evaluations have been reviewed by Architect.

D. Adjustment to Concrete Mixes: Mix design adjustments may be requested when characteristics of materials, job conditions, weather, test results, or other circumstances warrant. Laboratory test data for revised mix designs and strength results must be submitted to and accepted by Architect before using in the work.

E. Admixtures:

1. Use air-entraining admixture in concrete and shall conform to the following air content limits, unless otherwise indicated. Total air content (percent by volume): 6% + 1-1/2% or 6% - 1%.
2. Use water-reducing admixtures in strict compliance with manufacturer's directions. Admixtures to increase cement dispersion, or provide increased workability for low-slump concrete, may be used subject to Architect's acceptance.
3. Use amounts as recommended by admixture manufacturer for climatic conditions prevailing at time of placing. Adjust quantities of admixtures as required to maintain quality control.

F. Chloride Ion Content of Design Mix (ASTM C1218): For the purposes of this sub-section only, compliance to the requirements below shall be provided for elements of the structure exposed to the chloride ions in service. These include among others, precast concrete double-tees, double-ledger beams, single-ledger beams, spandrel beams, hollow-core slabs/planks, walls and columns in parking areas, reinforced concrete walls, columns and piers in parking areas, and cast-in-place concrete topping.

1. For protection against corrosion, maximum water soluble chloride ion concentration in hardened concrete at 28 days shall be limited to quantities indicated in the ACI 318 Table 4.4.1, except that percentages listed shall be taken against the weight of cementitious materials (Portland Cement plus Fly Ash or other pozzolans, plus GGBFS).
2. Mixes with the water soluble chloride ion concentration in excess of the limits per ACI 318 Table 4.4.1 as determined by testing per ASTM C1218, will not be accepted. The contractor shall identify the source of the excess chloride ions (aggregates, water, admixtures, etc.) take measures to remove it from the affected mix(es). Alternatively, the contractor may choose to use the specified corrosion inhibiting admixture at 1 gallon per cubic yard for every 0.01% of excess water soluble chloride ion, to the maximum of 3 gallons per cubic yard.

2.8 ARCHITECTURAL PRECAST CONCRETE

A.

1. Architectural Precast Concrete: All exterior precast units including but not limited to columns, shear walls, wall panels, cornices, stair and elevator towers and spandrels shall be cast and finished to produce an Architectural precast buff finish utilizing 50% white cement, 50% grey cement and color

pigment. All exterior precast units are to receive a light sandblast finish. Precast units shall be uniform in appearance, texture and buff color to match sample panels prepared by the Precaster and approved by the Owner and the Architect. Architectural concrete mix must include a blend of white/grey cement to ensure color consistency in the final product. Thin-brick shall color and size to be chosen by Architect from samples provided by Precaster.

2.9 THIN BRICK VENEER

A. Materials: Scott S System Thin Brick, conforming to ASTM C 1088, fabricated to TBX tolerance, assembled in single-use (Brick Snap) Brick embed system or equal.

B. Grade: Exterior

C. Brick Size: 2-1/4 inches high by 7-5/8 inches wide by 9/16 inch thick.
1. Face Brick Dimensional Tolerances: Maximum variation from indicated nominal dimensions:
   a. Length: Plus 0, minus 1/16 inch
   b. Height: Plus 0, minus1/16 inch
   c. Thickness: Plus or minus 1/16 inch

D. Brick color: Brick is to match the brick on the Willard Diloreto Hall located across Paul Manafort Senior Drive from the Project Site.

Willard Diloreto Hall Brick: Carolina Collection manufactured by Consolidated Brick and Building Supplies, Glastonbury CT, Meridian Brick, #243 Red Semi Smooth, Modular Columbia (no full darks).

E. Single– Use Template System for Brick Embed Application: Scott System Brick Snap modular templates formed of recyclable styrene plastic to surround single brick units, having factory- applied bond breaker or equal.

1 Template Dimensional Tolerances: Maximum variation from indicated nominal dimensions of brick cavities:
   a. Length: Plus or minus 1/64 inch.
   b. Height: Plus or minus 1/64 inch
   c. Depth: Plus or minus 1/64 inch

2. Maximum variation from square, measured diagonally across non-adjacent corners: Plus or minus 1/64 inch

2.10 FABRICATION

B. General: Fabricate precast concrete units complying with manufacturing and testing procedures, quality control recommendations, and dimensional tolerances of PCI MNL-116, and as specified for types of units required.

C. Ready-Mix Concrete: Comply with requirements of ASTM C94, and as herein specified.

1. Delete references for allowing additional water to be added to batch for material with insufficient slump. Addition of water to batch will not be permitted.
2. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 may be required when the air temperature is between 85 deg. F (30 deg C) and 90 deg F (32 deg C), reduce mixing and delivery time from 1-1/2 hour to 75 minutes and when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

D. Built-in Anchorages: Accurately position built-in anchorage devices and secure to formwork. Locate anchorages where they do not affect position of main reinforcement or placing of concrete. Do not relocate bearing plates in units unless acceptable to Architect.

1. Lifting devices shall be placed and cast so as not to weaken the unit during manufacturing, handling and erection. Such devices shall not interfere with the erection or placing of the unit in its final position in the building. These devices shall also be protected from rusting, or other deterioration or damage, and efforts made to minimize visibility the completed work.

E. Cast-in Holes for openings larger than 10" diameter or 10" square in accordance with final shop drawings. Provide sleeves for horizontal electrical conduit runs and plumbing lines as required. Holes in precast flanges (ie., deck drains, etc.) and other small holes that will be field cut by trades requiring them will not be allowed without prior approval by the Architect/Engineer and the Precast Concrete Manufacturer. See Part 3 of this Section for additional information.

F. Coat Surfaces of forms with bond-breaking compound before reinforcement is placed. Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces requiring bond or adhesion. Apply in compliance with manufacturer's instructions.

G. Clean reinforcement of loose rust and mill scale, earth and other materials, which reduce or destroy bond with concrete.

H. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers, as required. Supports shall not be visible or cause any inconsistency to concrete color or finish.

I. Place reinforcement to obtain at least the minimum cover for concrete protection. per ACI 318. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

J. Pretensioning of tendons for prestressed concrete may be accomplished either by single strand tensioning method or multiple-strand tensioning method. Comply with PCI MNL-116 requirements.

K. Place concrete in a continuous operation to prevent formation of seams or planes of weakness in precast units, complying with requirements of ACI 304R. Thoroughly consolidate placed concrete by internal and external vibration without dislocation or damage to reinforcement and built-in items.

L. Identification: Provide permanent markings to identify pick-up points and orientation in structure, complying with markings indicated on final shop drawings. Imprint date of casting on each precast unit on a surface, which will not show on the exposed face of precast component or exterior of the finished structure.

M. Curing by low-pressure steam, by steam vapor, by radiant heat and moisture, or other similar process may be employed to accelerate concrete hardening and to reduce curing time.

N. Delay detensioning of prestressed units until concrete has attained at least 3500 psi or higher as required by design.

1. If concrete has been heat-cured, perform detensioning while concrete is still warm and moist to avoid dimensional changes which may cause cracking or undesirable stresses in concrete.
2. Detensioning of pretensioned tendons may be accomplished either by gradual release of tensioning jacks or by heat cutting tendons, using a sequence and pattern to prevent shock or unbalanced loading.

O. Finish of Formed Surfaces: Provide finishes for formed surfaces of precast concrete as indicated for each type of unit, and as follows:

1. Standard Finish: Tees, Beams, Girders and Interior Columns - Normal plant run finish produced in forms that impart a smooth finish to concrete. Small surface holes caused by air bubbles, normal form joint marks, and minor chips and spalls will be tolerated, but no major or unsightly imperfections, honeycomb, or structural defects will be permitted.
2. Architectural Finish: Perimeter columns, wall panels and exterior spandrels to receive an Architectural precast buff finish utilizing 50% white cement, 50% grey cement and color pigment Finished precast units shall have a light sandblast finish, as indicated on the drawings, and shall have a uniform appearance in color and texture as approved by the Owner and the Architect.

P. Finish of Unformed Surfaces: Apply trowel finish to unformed surfaces unless otherwise indicated. Consolidate concrete, bring to proper level with straightedge, float and trowel to a smooth uniform finish. No surfaces exposed to freeze-thaw cycles in service shall be finished with power equipment, unless evidence acceptable to the Architect/Engineer presented by the manufacturer that such a finishing does not reduce the amount of air entrainment in the top 1/8" of precast concrete.

1. Provide a uniform broom finish on tees parallel with the long direction of the unit or swirl finish (at the manufacturer's option) as approved by the Architect. Example of manufacturers broom finish to be reviewed for approval by architect during the Mock-Up review.
2. Provide an intentionally roughened surface (1/4" amplitude) on tees and beams to receive a concrete topping, where indicated on drawings.

Q. For Structural Precast with architectural finish: Comply with the dimensional tolerances of PCI MNL 116.

2.11 LONG SPAN UNITS

R. Type: Plant fabricated, precast prestressed double tee concrete units, produced under rigid, factory-inspected process.

S. Furnish units, which are free of voids or honeycomb, with straight true edges and surfaces.

T. Provide "Standard Finish" units as specified.

U. Where ends of strands will not be enclosed or covered, cut flush and cover with high strength mortar, bonded to unit with epoxy resin bonding agent.

V. Adequately reinforce units to resist transporting and handling stresses.

W. Include cast-in weld plates where required for anchorage or lateral bracing to framing units and adjacent precast members.

X. Coordinate with other trades for installation of items to be cast in long-span units.

Y. Provide block-outs for openings in accordance with design drawings or precast unit manufacturer's recommendations.

2.12 STRUCTURAL FRAMING UNITS

Z. Type: Plant fabricated precast prestressed column, girder, floor and stair slab panels, wall panels and spandrel units produced under a rigid factory-inspected process.

AA. Furnish units, which are free of voids or honeycomb, with straight true edges and surfaces.

BB. Provide "Standard Finish" or "Architectural Finish" units as specified.

CC. Where ends of strands will not be enclosed or covered, cut flush and cover with a high strength mortar bonded with an epoxy resin-bonding agent.

DD. Adequately reinforce units to resist transporting and handling stresses.

EE. Include cast-in weld plates where required for anchorage or lateral bracing to other supporting members.

FF. Coordinate with other trades for the installation of items to be cast-in precast structural framing units.

2.13 SOURCE QUALITY CONTROL

GG. The Owner may employ a separate testing laboratory to evaluate precast manufacturer's quality control and testing methods.

HH. The precast manufacturer shall allow Owner's testing facility access to materials storage areas, concrete production equipment and concrete placement and curing facilities. Cooperate with Owner's testing laboratory and provide samples of materials and concrete mixes as may be requested for additional testing and evaluation.

II. Dimensional Tolerances: Units having dimensions smaller or greater than required, and outside specified tolerance limits of MNL 116, will be subject to additional testing as herein specified.

JJ. Precast units having dimensions greater than required will be rejected if appearance or function of the structure is adversely affected, or if larger dimensions interfere with other construction. Repair, or remove and replace rejected units as required to meet construction conditions.

1. Precast units having dimensions smaller than required will be rejected unless directed otherwise by the Architect.

KK. Strength of Units: The strength of precast concrete units will be considered potentially deficient if the manufacturing processes fail to comply with any of the requirements which may affect the strength of the precast units, including the following conditions.

1. Failure to meet compressive strength tests requirements.
2. Reinforcement, and pretensioning and detensioning of tendons of prestressed concrete, not conforming to specified fabrication requirements.
3. Concrete curing, and protection of precast units against extremes in temperature, not as specified.
4. Precast units damaged during handling and erection.

LL. Testing Precast Units: When there is evidence that strength of precast concrete units does not meet specification requirements, the concrete testing service shall take cores drilled from hardened concrete for compressive strength determination, complying with ASTM C42 and as follows.

1. Take at least three representative cores from precast units of suspect strength, from locations directed by Architect.
2. Test cores in a saturated surface dry condition per ACI 318 if concrete will be wet during use of completed structure.
3. Test cores in an air-dry condition per ACI 318 if concrete will be dry during use of completed structure.
4. Strength of concrete for each series of cores will be considered satisfactory if their average compressive strength is at least 85 percent of 28-day design compressive strength.
5. Test results will be made in writing on same day that tests are made, with copies to Architect, Contractor, and precast manufacturer. Include in test reports the project identification name and number, date, name of precast concrete manufacturer, name of concrete testing service, identification letter, name, and type of member or members represented by core tests, design compressive strength compression breaking strength and type of break (corrected for

length-diameter ratio), direction of applied load to core with respect to horizontal plan of concrete as placed, and moisture condition of core at time of bearing.

MM. Patching: Where core test results are satisfactory and precast units are acceptable for use in work, fill core holes solid with patching mortar, and finish to match adjacent concrete surfaces.

NN. Defective Work: Precast concrete units which do not conform to specified requirements, including strength, tolerances, and finishes, shall be replaced with precast concrete units that meet requirements of this section. Precaster shall also be responsible for cost of corrections to other work affected by or resulting from corrections to precast concrete work.

OO. Repair Work: If repairs are required for any precast concrete member after casting, the Precaster shall submit a description of the repair (E.G. crack, spall, etc.) and a detailed description of the proposed fix to be used for Architect's review.

1. Mock-up: Upon acceptance by the Architect of the Precaster's repair procedure, a single repair shall be made for Architect review in accordance with the accepted procedure and, upon acceptance, this repair shall be maintained as a standard of acceptance for all future repairs of this type.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads during erection. All columns to be braced in all directions prior to erecting other members, unless stabilized in another acceptable method. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy lines to achieve proper alignment of structures as erection proceeds.

B. Bearing Pads: Install flexible bearing pads where indicated, as precast units are being erected. Set pads on level, uniform bearing surfaces and maintain in correct position until precast units are placed.

C. Welding: Perform welding in compliance with AWS D 1.1, including qualification of welders.

1. Protect units from damage by field welding or cutting operations and provide non-combustible shield as required.
2. Zinc coated (galvanized) surfaces shall be properly prepared for welding by grinding the coating and ascertaining no inclusion of zinc into any weld.

a. Surfaces where zinc coating has been either removed for welding or damaged due to handling shall be repaired. Repair damaged metal surfaces by cleaning in accordance with SSPC-SP6 and applying a coat of approved galvanizing repair compound. Where cleaning per SSPC-SP6 is impractical, use SSPC-SP3 standard. In all instances of coating repair on shop galvanized surfaces, the surface preparation prior to coating application as well the application of the coating shall be witnessed by the Owner's Testing Agency per Section 01 40 00 of these Specifications.

D. Powder-Actuated Fasteners: Do not use powder-actuated fasteners for surface attachment of accessory items in precast, prestressed unit unless otherwise accepted by precast manufacturer.

E. Erection Tolerances: Install precast units without exceeding tolerance limits specified in PCI MNL-127 "Recommended Practice for Erection of Precast Concrete" or PCI MNL-120 Chapter 8.

F. Grouting Connections and Horizontal Joints: After precast concrete units have been placed and secured, grout open spaces at connection and joints as follows:

1. Non-structural horizontal joints: The joints shall be grouted with material per paragraph 2.06A of this Section if required by the precast manufacturer's design.
2. Structural joints: shrinkage-resistant grout consisting of premixed compound and water to provide a flyable mixture without segregation or bleeding.

Provide forms or other acceptable method to retain grout in place until sufficiently hard to support itself. Pack spaces with stiff grout materials, tamping until voids are completely filled. Place grout to finish smooth, plumb, and level with adjacent concrete surfaces. Keep grouted joints damp for not less than 24 hours after initial set. Promptly remove grout material from exposed surfaces before it hardens.

G. Close coordination and cooperation must be maintained between the General Contractor or Construction Manager and the Precast Concrete Fabricator to overcome any physical obstructions in the area of the work which would prevent suitable access for trucks and cranes in the delivery, receipt and placing of the precast material.

H. Any attachments made to the precast units in the field must be accepted by the Precast Concrete Fabricator as well as the Architect/Engineer to avoid cutting or otherwise damaging the prestressing tendons or reinforcing steel.

I. If field cut openings are required by the Contractor, the Contractor shall coordinate with the Precast Concrete Fabricator. Locations and sizes shall be approved by the Architect/Engineer.

3.2 ADJUST AND CLEAN

A. Plank and tees that are broken, cracked or chipped shall be repaired or replaced, as directed by the Architect/Engineer.

B. Surfaces to receive topping shall be clean and thoroughly saturated prior to placing topping slab.

C. Patch lifting pockets, inserts and other openings with patching mortar blended to match the color of the surrounding concrete. See Section 03 30 00 for patching materials.

D. Patch defective areas with cement mortar and bonding agents as specified in Section 03 30 00. Blend patching mortar to match surrounding area.

E. Repair or patch architectural concrete with mortar material identical in color to precast members so that when dry, the repair will match surrounding concrete surface.

F. As directed by the Architect/Engineer, repair cracks in structural members with low viscosity epoxy, pressure injected or route a "V" groove over cracks and caulk with sealant. See Section 03 30 00 and Section 07 92 00 for materials.

G. Precast manufacturer to remove rubbish and debris resulting from precast concrete work from premises upon completion.

3.3 CERTIFICATION

A. After the completion of the project, the Registered Professional Engineer retained by the Precast Fabricator (who certified precast drawings and calculations), shall inspect all the precast framing and connections in the field and submit a letter certifying that all members and connections have been observed and the as-built conditions are in accordance with the approved shop drawings and calculations.

END OF SECTION 03 41 00

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. The extent of Miscellaneous Metal items are shown on the drawings and called for in the specifications and includes but is not limited to the following:

1. Pipe Bollards
2. Pipe Guards
3. Loose Lintels
4. Miscellaneous hangers, trim, corner guards
5. Shelf angle for elevator doorsill, elevator separator beams and hoisting beams.
6. Steel Railings
7. Vertical Ladders
8. Corrosion protection of metals
9. Mesh infill panels
10. Snow Gate

B. Related Work Specified Elsewhere:

1. Carefully read all Sections of this specification and examine all Drawings to determine the extent and nature of Miscellaneous Metal Items that are required. These items are to be supplied whether or not specified in this Section.

1.2 QUALITY ASSURANCE

A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress; allow for trimming and fitting wherever taking field measurements before fabrication might delay work.

B. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations.

1.3 SUBMITTALS

A. Manufacturer's Data: Submit manufacturer's specifications, anchor details and installation instruction for products to be used in the fabrication of miscellaneous metal work, including painting products.

B. Shop Drawings: Submit shop drawings for fabrication and erection of miscellaneous metal fabrications. Include plans, elevations, and details of sections and connections. Show anchorage and accessory items. Provide templates for anchor bolt installation.

PART 2 - PRODUCTS

2. 1 MATERIALS AND COMPONENTS

A. Metal Surfaces, General: For fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled

trade names and roughness.

B. Steel Plates, Shapes and Bars: ASTM A36.

C. Steel Plates to be Bent or Cold Formed: ASTM A283, Grade C.

D. Steel Bars and Bar-Size Shapes: ASTM A663 or A675, Grade 65, or ASTM A36.

E. Steel Tubing: ASTM A500 or 501, hot or cold rolled.

F. Gray Iron Castings: ASTM A48, Class 30.

G. Malleable Iron Castings: ASTM A47, grade as selected.

H. Steel Pipe: ASTM A53, type as selected; Grade A, black finish unless galvanizing is required; standard weight (Schedule 40).

I. Stainless Steel Pipe: ASTM A 312A 312M, Grade TP 316L

J. Railing and precast Lite Wall Opening Mesh Panels: Square, galvanized steel, pre-galvanized woven-lock crimp weave, 2" x 2" opening, 0.25" thick, (2 ¾ ga.) wire diameter in galvanized channel frame.

K. Stainless Steel Mesh Panels: (Not Used.)

L. Concrete Inserts: Threaded type, galvanized ferrous castings, either malleable iron ASTM A47 or cast steel ASTM A27. Provide bolts, washers and shims as required, hot-dip galvanized, ASTM A153.

M. Nonshrink Nonferrous Grout: Por-Rok Anchoring Cement, Lehn & Fink Industrial Products, or equal.

2. 2 FASTENERS

A. General: Provide zinc-coated fasteners unless otherwise noted. Select fasteners for the type, grade and class required.

B. Bolts and Nuts: Regular hexagon head type, ASTM A307, Grade A.

C. Lag Bolts: Square head type, FS FF-B-561.

D. Machine Screws: Cadmium plated steel, FS FF-S-92.

E. Plain Washers: Round, carbon steel, FS FF-W-92.

F. Masonry Anchorage Devices: Expansion shields, FS FF-S-325.

G. Toggle Bolts: Tumble-wing type, FS FF-B-588, type, class and style as required.

H. Lock Washers: Helical spring type carbon steel, FS FF-W-84.

2. 3 PAINT

A. Metal Primer Paint: Tnemec No. 50-330 Poly-Ura-Prime, or approved equal.

1. Primer selected must be compatible with finish coats of paint. Coordinate selection of metal primer with finish paint requirements specified in Division 9.

B. Galvanizing Repair and Primer Paint: Zinc dust, zinc oxide, alkyd paint conforming to FS TT-P-641, Type II.

2. 4 FABRICATION, GENERAL

A. Workmanship:

1. Use materials of size and thickness shown or, if not shown, of required size and thickness to produce strength and durability in finished product. Work to dimensions shown or accepted on shop drawings, using proven details of fabrication and support. Use type of materials shown or specified for various components of work.

2. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32 inch unless otherwise shown. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

3. Weld corners and seams continuously, complying with AWS recommendations. At exposed connections grind exposed welds smooth and flush to match and blend with adjoining surfaces.

4. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type shown or, if not shown, Phillips flat-head (countersunk) screws or bolts.
   a. Provide for anchorage of type shown, coordinated with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.

   b. Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware and similar items.

B. Galvanizing:
1. Provide a zinc coating for those items shown or specified to be galvanized, as follows:
   a. ASTM A153 for galvanizing iron and steel hardware.
   b. ASTM 123 for galvanizing rolled, pressed and forged steel shapes, plates, bars and strip 1/8 thick and heavier.
   c. ASTM A386 for galvanizing assembled steel products.

C. Shop Painting:

1. Shop paint miscellaneous metal work except surfaces and edges to be field welded and members or portions of members to be embedded in concrete or masonry which are galvanized, unless otherwise specified.

2. Remove scale, rust and other deleterious materials before applying shop coat. Clean in accordance with SSPC SP-3-63 "Power Tool Cleaning: to remove all scale, rust, and foreign matter after first solvent cleaning to remove all oil and grease.

3. Remove oil, grease and similar contaminants in accordance with SSPC SP-1 63 "Solvent Cleaning".

4. Immediately after surface preparation, brush or spray on primer in accordance with manufacturer's instructions, and at a rate to provide uniform dry film thickness of 2 to 4 mils for each coat. Use painting methods, which will result in full coverage of joints, corners, edges and exposed surfaces.

5. Apply one shop coat to fabricated metal items, except apply two coats of paint to surfaces inaccessible after assembly or erection. Change color of second coat to distinguish it from the first.

D. Primer-galvanizing for façade railings:

1. A. Basis of design is Primergalv Hot-dip galvanizing and factory-applied high performance polyamide epoxy primer for iron and steel fabrications.

2. Hot-Dip Galvanizing: For steel exposed to the elements, weather or corrosive environments and other steel indicated to be galvanized, provide coating for iron and steel fabrications applied by the hot-dip process. Galvanizing bath shall contain special high grade zinc and other earthly materials.
   - A Basis of design: Duragalv
   - B Comply with ASTM A 123 for fabricated products and ASTM A 153 for hardware.
   - C Provide thickness of galvanizing specified in referenced standards.
   - D Fill vent holes after galvanizing if required, and grind smooth.
   - E All exposed galvanizing shall be blasted per SSPC SP16 to achieve a 1-3 mile profile. Inaccessible areas shall be abraded per SSPC SP2 or SP3 to achieve a 1-3 mil profile.
   - F Galvanizing shall exhibit a rugosity (smoothness) when measured by a profilometer. This pertains to those elements that are less than 24 pounds per running foot. Profilometer shall be capable of operating in 1 micron increments.

3. Factory-Applied Primer over Galvanized Steel: Provide factory-applied polyamide epoxy prime coat over hot-dipped galvanized steel.
   - A Basis-of-Design: PRIMERGALV by Duncan Galvanizing.
   - B Primer shall be certified OTC/VOC compliant at less than 2.8 lbs/gal. and conform to EPA and local requirements.
   - C Apply primer within 12 hours after galvanizing or blasting at the same galvanizer's plant in a controlled environment meeting applicable environmental regulations and as recommended by the primer coating manufacturer. Primer shall have a one year re-coat window for application of finish coat.
   - D Polyamide epoxy primer shall be applied at 4-6 mils DFT and meet or exceed the following performance criteria as stipulated by the coatings manufacturer:
     1. Abrasion Resistance: ASTM D 4060 (CS17 Wheel, 1,000 grams load) 1 kg load, 200 mg loss.
     2. Adhesion: ASTM D 4541, 1050 psi.
     3. Corrosion Weathering: ASTM D 5894, 13 cycles, 4,368 hours, 10 per ASTM D 714 for blistering; 7 per ASTM D 610 for rusting.
     4. Direct Impact Resistance: ASTM D 2794, 160 in. lbs.
     5. Flexibility: ASTM D 522, 180 degrees bend, 1 inch mandrel, Passes.
     6. Pencil Hardness: ASTM D 3363, 3H.
     7. Moisture Condensation Resistance: ASTM D 4585, 100 degrees F, 2000 hours, Passes no cracking or delamination.
     8. Dry Heat Resistance: ASTM D 2485, 250 degrees F.
     9. Accelerated Weathering: QUV- ASTM D 4587 QUV A 5000 Hours Passes.

10 Salt Fog Resistance: ASTM B 117, 5,600 hours No cracking or blisters

4. Warranty: Provide galvanizer's standard warranty that materials will be free from 10 percent or more visible rust for 20 years.

2. 5 MISCELLANEOUS METAL FABRICATIONS

A. Rough Hardware:
1. Furnish bent or otherwise custom fabricated bolts, plates, anchors, hangers, dowels and other miscellaneous steel and iron shapes as required.

2. Manufacture or fabricate items of sizes, shapes and dimensions required.

B. Miscellaneous Steel Trim:

Provide shapes and sizes for profiles shown. Except as otherwise noted, fabricate units from structural steel shapes and plates and steel bars, with continuously welded joints and smooth exposed edges. Use concealed field splices wherever possible. Provide cutouts, fittings and anchorages as required for coordination of assembly and installation with other work.
1. Galvanize miscellaneous steel trim, which is embedded in concrete and cannot be field painted.

2. Shop prime all miscellaneous steel which is not required to be galvanized.

C. Thresholds:

1. Fabricate of material type, sizes and configurations as shown. Furnish in lengths as required to accurately fit each opening or conditions.

a. Fill units with an abrasive grit consisting of aluminum oxide, silicon carbide, or a combination of both.

2. Drill thresholds for mechanical anchors, with countersunk holes located not more than 4 inches from ends and not more than 12 inches on center, evenly spaced between ends, unless otherwise shown. Provide closer spacing if recommended by the manufacturer.

3. Apply black asphaltic coating to concealed bottoms, sides, and edges of units set into concrete.

D. Steel Pipe Railings: Design and fabricate handrails and guardrails to meet all applicable codes and to support 50 lbs. per linear foot uniform load and 200 lbs. concentrated load at location to cause greatest stress. These two loading conditions do not act concurrently.

1. Fabricate pipe railings to dimensions and details shown, with smooth bends and welded joints ground smooth and flush.

2. Adjust railings prior to anchoring to ensure proper alignment.

3. Secure handrails to walls with end fittings. Provide brackets with not less than 1-1/2 inches clearance from inside face of handrail to the finish wall surface. Drill wall plate portion of bracket to receive bolt. Secure wall return fittings to building construction with expansion shields and lag bolts.

4. Provide inserts and other anchorage devices for connecting handrails and railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by handrails and railings. Coordinate anchorage devices with supporting structure.

E. Pipe Bollards:

1. Fabricate steel pipe bollards to dimensions and details shown. Provide Acorn cap nuts for pipe bollards expansion bolted to concrete, where nuts are left exposed.

2. Ensure proper alignment of bollards set in footings while placing concrete.

3. Fill pipe solid with air-entrained Portland cement or grout, having a 28-day minimum compressive strength of 3000 psi.

F. Ladders: Fabricate ladders for the locations shown, with dimensions, spacings, details and anchorages as indicated. Comply with the requirements of ANSI A14.3, except as otherwise indicated. Provide each elevator with a ladder as shown on the drawings or, if not shown, as indicated as follows and meeting with the requirements of the elevator code.

1. Unless otherwise shown, provide 1/2 inch x 2 1/2 inches continuous structural steel flat bar side rails with eased edges, spaced 18 inches apart. Provide 3/4-inch diameter solid structural steel bar rungs, spaced 12 inches on center.

2. Fit rungs in centerline of side rails, plug weld and grind smooth on outer rail faces.

3. Support each ladder at top and bottom. Use welded or bolted steel brackets, designed for adequate support and anchorage, and to hold the ladder clear of the wall surface with a minimum of 7-inch clearance from wall to centerline of rung. Extend rails 42 inches above top rung, and return rails to wall or structure unless other secure handholds are provided.

4. Provide non-slip surface on the top of each rung, either by coating the rung with aluminum oxide granules set in epoxy resin adhesive, or by using a type of manufacturer rung which is filled with aluminum oxide grout.

G. Elevator Beams: Fabricate elevator beams from standard ASTM A36 rolled wide flange shapes to support all loads as directed by elevator manufacturer.

H. Elevator Subsill Fabrication: Provide continuous, concealed support angle for elevator sill. Coordinate requirements for size, load and anchorage with Elevator Supplier. Provide anchors spaced not more than 2' on center.

J. Lintel Fabrication: Fabricate lintels for openings and recesses in walls and partitions where shown and elsewhere as needed. Provide at least 6 inch bearing at each end, unless otherwise detailed. Weld together individual members of composite lintels made up of more than one member.
1. Materials: Structural steel shapes ASTM A-36/A-572.

2. Finish:

a. Interior lintels not subject to high moisture shall be shop painted.
b. Exterior lintels at areas subject to moisture shall be hot dip galvanized.

3. Schedule: Provide loose lintels as scheduled unless otherwise shown on the drawings.

Opening Width (Max)	Wall Thickness 4 Inch (one angle)	6 Inch (one angle)	8 Inch (two angles)
3 feet	3-1/2x3-1/2x-1/4	5x3-1/2x5/16	3-1/2x3-1/2x1/4
4 feet	3-1/2x3-1/2x5/16	5x3-1/2x5/16	3-1/2x3-1/2x5/16
5 feet	4x3-1/2x3/8	5x3-1/2x3/8	4x3-1/2x5/16
6 feet	5x3-1/2x3/8	5x3-1/2x3/8	4x3-1/2x3/8
7 feet	5x3-1/2x3/8	5x5x1/2	4x3-1/2x3/8
8 feet	5x3-1/2x3/8	5x5x5/8	4x3-1/2x3/8

Specifier Please Note: If DESMAN standard drawing S-001 with the Lintel Notes and Schedule is used on the project, Paragraph 2.05.K.3 of this section should be deleted.

4. Set lintel with clearance of ½" above head of window or doorframe.

K. Snow Gate:

1. Fabricate snow gate assembly to dimensions and details shown on Drawings.

2. Fabricate embed plates, angles, etc. required to be cast into the precast for the installation of snow gate assembly and provide embed materials to precast manufacturer in a timely manner so as not to delay precast fabrication.

PART 3 - EXECUTION

3.1 PREPARATION

A. Furnish setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as concrete inserts, anchor bolts and miscellaneous items having integral anchors, which are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.

3.2 INSTALLATION

A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction; including, threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, and other connectors as required.

B. Cutting, Fitting and Placement: Perform cutting, drilling and fitting required for installation of miscellaneous metal fabrications. Set work accurately in location, alignment and elevation, plumb, level, true and free of rack, measured from established lines and levels. Provide temporary bracing or anchors in formwork for items, which are to be built into concrete, masonry or similar construction.

C. Fit exposed connections accurately together to form tight hairline joints. Weld connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind exposed joints smooth and touch-up shop paint coat. Do not weld, cut or abrade the surfaces of exterior units which have been

hot-dip galvanized after fabrications, and are intended for bolted or screwed field connections.

D. Field Welding: Comply with AWS Code for procedures of manual shielded metal arc-welding, appearance and quality of welds made, and methods used in correcting welding work.

E. Touch-up Painting: Cleaning and touch-up painting of field welds, bolted connections and abraded areas of the shop paint on miscellaneous metal is specified in Section 09 91 00 of these specifications.

END OF SECTION 05 50 00

PART 1 - GENERAL

1.1 SUMMARY

A. The extent of work included in this Section is shown on the Drawings and is specified as follows:

1. Closed cell, medium-density, polyurethane spray foam insulation.
2. Spray-applied thermal barrier over spray foam insulation.
3. Locations: Underside of deck areas above tempered spaces.

1.2 REFERENCES

A. American Society for Testing and Materials International (ASTM):

1. ASTM C 518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
2. ASTM E 84: Test Method for Surface Burning Characteristics of Building Materials
3. ASTM E 96: Standard Test Methods for Water Vapor Transmission of Materials
4. ASTM E 283: Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

1.3 SUBMITTALS

A. Product Data for each type of insulation product specified.

B. Product test reports performed by a qualified third-party testing agency evidencing compliance of insulation products with specified requirements including those for thermal resistance, fire-test-response characteristics, water-vapor transmission, and other properties, based on comprehensive testing of current products.

C. Evaluation Report: Evidence of compliance of foam-plastic insulations with International Building Code (IBC) and the International Energy Conservation Code (IECC).

D. Manufacturer's certificate certifying insulation provided meets or exceeds specified requirements.

E. Sample warranty

1.4 QUALITY ASSURANCE

A. Installer: All firms of applicators performing the Work of this Section must be approved by the manufacturers of the sprayed thermal material and shall also have been in business for a minimum period of three (3) years.

B. Source: Provide sprayed thermal insulation materials which are the products of one manufacturer. Provide secondary materials which are acceptable to the sprayed thermal insulation manufacturer.

C. Provide samples of minimum size 12" x 12" of spray applied insulation on a rigid backing appropriate to the installation.

D. Fire-Test-Response Characteristics: Provide materials specified as determined by testing identical products per test method indicated below by a testing and inspecting agency acceptable to authorities

having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

1. Surface-Burning Characteristics: ASTM E 84

E. Toxicity/Hazardous Materials

1. Provide products that contain no urea-formaldehyde
2. Provide products that contain no PBDEs
3. Provide products that are “Low-emitting”

1.5 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturers written instructions for handling and protection prior to and during installation.

B. Store both components in a temperature controlled area between 65 and 85 degrees F. Do not allow product to freeze.

C. Use only those components that are supplied by the Manufacturer.

1.6 PROJECT CONDITIONS

A. Weather: Perform work only when existing and forecasted weather conditions are within the limits established by manufacturers of the materials and products used. Maintain recommended ambient conditions throughout application and curing.

B. Substrates: Proceed with work only when substrate construction and penetrating work is complete.

C. General Contractor shall provide ventilation to allow proper drying of the installed spray applied insulation during and after its application.

D. At all times during installation and drying of spray applied insulation ventilation in enclosed areas shall not be less that 3 complete air changes per hour.

E. Do not expose to sunlight, except to extent necessary for period of installation and concealment.

F. All patching and repairing of installed spray applied insulation required because of damage or cutting by other trades shall be performed under this Section and paid for by the trade(s) responsible.

G. The General Contractor shall allow the Manufacturer's representative full access to the site during normal working hours.

1.7 WARRANTY

A. Manufacturer's Material Warranty

1. Insulation and thermal barrier manufacturers hereby warrant against faulty materials for a period of 10 years from the date of substantial completion.

B. Special Warranty: Manufacturer’s standard form, signed by Contractor and by Installer, in which manufacturer agrees to repair or replace work of this section that fails in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Cracking, flaking, spalling, or eroding in excess of specified requirements; peeling; or delaminating of insulation system or the thermal barrier from substrates.

b. Not covered under the warranty are failures due to damage by occupants and Owner's maintenance personnel and other causes not reasonably foreseeable under conditions of normal use.

2. Warranty Period: Three (3) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide insulating materials that comply with requirements and with referenced standards.

B. Products: Subject to compliance with project requirements, manufacturer's offering Products which may be incorporated in the Work include the following:

1. Icynene, Inc. (www.icynene.com).
2. Johns Manville (www.specJM.com).
3. Lapolla Industries (www.Lapolla.com).

C. Polyurethane Foamed-in-Place (Spray) Foam Insulation:

1. Basis of Design: ICYNENE MD-C-200 as manufactured by Icynene, Inc. or approved equal.
2. Product Characteristics:
   a. Closed cell.
   b. Medium density.
   c. Thermal Resistance (for 1 inch of material) (R-Value/inch @75 deg F): ASTM C 518; 6.5 hr.sq ft.degree F/BTU
   d. Air Permeance (for 1 inch of material): ASTM E 283: <0.02 L/s.m2 @75 Pa
   e. Water Vapor Transmission (for 1.5 inches of material): ASTM E 96; 0.9 perms
   f. Flame Spread and Smoke Developed Rating: ASTM E 84
      1) Flame Spread: Less than 25
      2) Smoke Development: Less than 450

D. Spray-Applied Thermal Barrier:

1. Basis of Design: DC315 spray-on thermal barrier for polyurethane foam as manufactured by International Fireproof Technology, Inc. (www.painttoprotect.com). Equivalent products shall be as referenced by the code evaluation report for the polyurethane foam system.
2. Product Characteristics:
   a. Water based.
   b. Non-toxic.
   c. Certified for both the UL-1715, 15-minute as a thermal barrier and NFPA 286 as an ignition barrier.
   d. Color: Off-white, Gray
3. Thermal barrier shall be sprayed onto all exposed spray-on polyurethane foam to satisfy code requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, under which work is to be performed. Do not proceed until unsatisfactory conditions have been corrected.

1. Review placement area to determine final location will not be within 3 inches of any heat source where the temperature will exceed 180 deg F per ASTM C 411 or in accordance with authorities having jurisdiction.

3.2 PREPARATION

A. Clean substrates and cavities of loose materials capable of interfering with insulation placement.

3.3 APPLICATION

A. Apply insulation to substrates in compliance with manufacturer's written instructions.

B. Apply insulation to produce thickness required for indicated R Value.

C. Extend insulation in thickness indicated to envelop entire area to be insulated.

D. Water-Piping Coordination: If water piping is located within insulated exterior walls, coordinate location of piping to ensure that it is placed on warm side of insulation and insulation encapsulates piping.

3.4 PROTECTION

A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings where insulation is subject to abuse.

END OF SECTION 07 21 19

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. The extent of finish hardware is shown on the drawings and specified herein.

1.2 QUALITY ASSURANCE

A. Coordinate the application of hardware items with door and frame details and with methods of fastening as hereinafter specified.

B. Templates:

1. Furnish templates and schedules to door and frame manufacturers and other trades requiring same, so that doors and frames can be cut, reinforced and prepared in the shop to receive hardware.

1.3 SUBMITTALS

A. Manufacturer's Data:

1. Submit manufacturer's specifications, maintenance and keying manuals, photographs or catalog cuts of each item of finish hardware.

B. Finish Hardware Schedule:

1. Submit finish hardware schedule covering complete identification of all items required for the project. Include manufacturer's names and identification of finishes.

1.4 PRODUCT HANDLING

A. Package and label each item of hardware separately. Tag each item in accordance with the final hardware schedule. Each package shall contain appropriate fastenings, instructions and installation templates. Protect all items from loss or damage in shipment.

PART 2 - PRODUCTS

2.1 HARDWARE FINISHES

A. Reduce variance in hue in the color of each finish as much as possible whether the base metal is cast, forged or stamped, or when plating is applied over steel, brass or bronze.

2.2 FASTENERS

A. Provide concealed fastenings wherever possible. The use of self-tapping or sheet metal screws is prohibited.

1. Concealed Fasteners: Furnish hardware items with appropriate type and length of screws or other fastenings suitable to ensure permanent anchorage.

2. Exposed Fasteners: Furnish hardware with countersunk Phillips oval head type screw where concealed fastening is not possible. The finish or color of these screws is to match that of the hardware item being fastened.

2.3 KEYS AND KEYING

A. Levels of Control in Master keying: Furnish lock sets and cylinders with levels of control as follows:

1. Grand-master key and master key lock sets and cylinders in accordance with Owner's requirements.

B. Keys: Furnish keys and blanks as follows:

1. Material: Nickel silver.

2. Quantities: Furnish 3 keys for each lock, 3 keys for each new grand-master and master key system.

C. Installation of Cylinders: Do not install permanent cylinders and keys in locks until the time of final acceptance by the Owner.

1. Provide temporary cylinders in locks during construction, as may be necessary for security or as may be requested by the Architect. All temporary cylinders shall be individually keyed as required and subject to a single master key.

2.4 SILENCERS

A. Provide three door silencers for each single door equal to Ives No. 20.

2.5 ELECTRIC STRIKES

A. Standard Electric Strikes: Heavy duty, cylindrical and mortice lock electric strikes conforming to ANSI/BHMA A156.31, Grade 1, UL listed for both Burglary Resistance and for use on fire rated door assemblies. Stainless steel construction with dual interlocking plunger design tested to exceed 3000 lbs. of static strength and 350 ft-lbs. of dynamic strength. Strikes tested for a minimum 1 million operating cycles. Provide strikes with 12 or 24 VDC capability and supplied standard as fail-secure unless otherwise specified. Option available for latchbolt and latchbolt strike monitoring indicating both the position of the latchbolt and locked condition of the strike.

1. Acceptable Manufacturers:
   a. Folger Adam EDC (FO)
   b. No Substitution – Facility Standard.

2.6 HARDWARE SET SCHEDULE

A. The following hardware set schedule is to be used with the drawings as a guide for furnishing of "Finish Hardware".

1. The schedules do not reflect hand, backset or method of fastening of hardware items.

2. Hardware supplier to review sets with door types, sizes and details, and to verify the function of each item.

B. Items listed with manufacturer's reference numbers or styles are as follows:

1. Hinges: Stanley Hardware Co.
2. Locksets: Schlage Locks.
3. Door Closers: LCN Closers.
4. Wall Stops: Ives Co.
5. Emergency Alarm Locks: Alarm Lock Corp.

C. Select hardware from the above manufacturers or from the following:

1. Hinges:
   a. Hager Hinge Co.

b. McKinney Manufacturing Co.
c. Stanley Hardware

2. Locks:
   a. Best Lock Corp.
   b. CORBIN RUSSWIN
   c. Russwin.
   d. Sargent and Co.

3. Door Closers:
   a. LCN Closers.
   b. Norton Door Closers.
   c. Rixon-Firemark, Inc.

4. Wall **/Door** Stop**s**:
   a. Rockwood Mfg. Co.
   b. ASSA ABLOY
   c. Burns Manufacturing, Inc.

D. Schedule:

Set No. 1

Door, Main Storage Room

1 1/2 pr. Hinges - 4 1/2 x 4 1/2 x FBB 179 - NRP x US26D
1 Latchset – AL80PD x SAT x US26D
1 Door Closer - 4114 - CUSH x S.A.
1 Door Stop – 441 –B26D
3 Silencer – 608

Set No. 2

Doors, Electric Room and Utility Room

1 1/2 pr. Hinges - 4 1/2 x 4 1/2 x FBB 179 - NRP x US26D
1 Latchset – AL80PD x SAT x US26D
1 Door Closer - 4114 - CUSH x S.A.
1 Door Stop – 441 –B26D
1 Threshold – 2548A 36”
3 Silencer – 608

Set No. 3

Aluminum Entrance Doors

1 Cylinder for each pair or single door - finish to match doors. See Section 08 51 13 Aluminum Assemblies.

Set No. 4

Aluminum Doors to Pedestrian Bridge:

1. Exit Device: Adams Rite, Assa Alboy, 8400 Series Narrow Style Mortise Exit Device
2. Electric Strike: Adams Rite, Assa Alboy, 7100 series Electric Strike

PART 3 - EXECUTION

3.1 INSTALLATION GENERAL

A. Apply to doors as recommended by hardware manufacturer and as required. Fit locks and latch sets in their respective doors and remove before painting. Reinstall after painting of doors is completed. Upon completion, adjust and lubricate hardware for proper operation.

B. Instruct owner's personnel in the proper adjustment and maintenance of hardware.

END OF SECTION 08 70 00

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Furnish and install traffic and graphic signs including all necessary incidental items at the locations shown and in accordance with the details indicated on the drawings and specified herein.

B. The extent of each type of sign is shown on the drawings and includes the following:

1. Reflective traffic and directional signs with silk-screened text.

2. Painted graphic signs with reflective letters and numbers.

3. Clearance bar with painted finish.

4. Vinyl Logo- (Opaque Window Decal) applied to exterior of Pedestrian Bridge glass. Two (2) required.

5. Urethane Lettering on Pedestrian Bridge Beams (Two Locations)

1.2 QUALITY ASSURANCE

A. Manufacturer's Instructions:
The assembly, erection, and installation of each type of sign or graphic shall be accomplished in strict accordance with signage manufacturer's instructions.

B. Electrical service and connections for illuminated signs are specified in Division 26. Provide lighting fixtures and electrical components which are UL-labeled and listed.

1.3 SUBMITTALS

A. Manufacturer's Data:
Submit copies of manufacturer's specifications, anchor details, and installation instruction for products used in signs and graphics.

B. Shop Drawings:
Submit shop drawings indicating dimensions and layout of signs and graphics. Include plans, elevations, and details of sections and connections. Show anchorage and accessory items.

C. Samples:
For each type of finish material specified, submit two samples of color and finish of exposed materials and accessories required. Architects review of samples will be for color and texture only.

1.4 JOB CONDITIONS

A. Examine premises and site to determine conditions affecting this work. No representation is made that all conditions are indicated on the drawings. Take field measurements where necessary to assure proper fit of components.

B. Check locations of signs with actual field conditions to assure that signs are not obstructed from view by

structural or other elements for the purpose they are intended to serve. Advise Architect of any difficulties prior to installation.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Sign Blanks: Alloy and temper recommended by aluminum producer or finisher for type of use and finish indicated, and with not less than the strength and durability properties specified in ASTM B-209 for 5005-H15.

1. Minimum thickness: 0.125 inches thick for traffic signs, 0.080 inches thick for graphic signs.

B. Aluminum Sheet: Alloy and temper recommended by aluminum producer or finisher for type of use and finish indicated, and with not less than the strength and durability properties specified in ASTM B-209 for 5005-H15.

C. Aluminum Extrusions: Alloy and temper recommended by aluminum producer or finisher for type of use and finish indicated, and with not less than the strength and durability properties specified in ASTM B-221 for 6063-T5.

D. Reflective Sheeting and Letters: Equal to 3M Company "Scotchlite" reflective sheeting engineer grade, Series, 3200. Colors as indicated on the drawings.

E. Paint Finish: Acrylic Polyurethane paint system with epoxy primer as manufactured by Mattews Paint Company or approved equal.

F. Typeface Standards: The standard typefaces for use throughout the signage system, unless otherwise specified in the drawings, shall be Helvetica Medium.

G. Anchors and Fasteners:

1. General: aluminum, non-magnetic stainless steel or other non-corrosive metal fasteners which are compatible with the items being fastened. Use concealed fasteners wherever possible, and tamper-proof fasteners on exposed surfaces with finish to match the item fastened.

2. Concrete inserts: threaded or wedge type, galvanized ferrous castings, either malleable iron ASTM A47-77 or cast steel ASTM A27-77. Provide bolts, washers, and shims as required; hot-dip galvanized, ASTM A153-54.

H. Opaque Window Decal: 4’-0” diameter, 3 mil. vinyl, opaque window decal with CCSU Logo.

I. Urethane Lettering for Pedestrian Bridge Beams (two locations)
1. 15” high, raised density, individual urethane letters.
   a. Color: White
   b. Attachment to beam: Silicone adhesive.

2.2 FABRICATION

A. General: The fabrication of aluminum sign blanks including cutting to size and shape and the punching of mounting holes shall be completed prior to metal degreasing and the application of reflective sheeting or

painting. Aluminum sign blanks shall be free of buckles, warps, dents, cockles, burrs and defects resulting from fabrication.

B. Traffic Signs: Non-reflective copy shall be applied by the silkscreen process in a manner specified by the reflective sheeting manufacturer. The silk screening of all copy, on encapsulated lens reflective sheeting shall be accomplished prior to the application of the reflective sheeting to the finished aluminum sign blank. Encapsulated lens reflective sheeting shall be of the pressure sensitive adhesive type and shall be applied in a manner specified by the reflective sheeting manufacturer.

1. Silk screening shall be of the highest quality, with sharp lines; no sawtooths or uneven ink coverage. Screens shall be photographically produced.

C. Graphic Signs (Floor designation): Prepare aluminum surface by removing all grease and dirt and applying a phosphate activated metal pretreatment.

1. Apply one coat of an epoxy primer and two coats of the acrylic polyurethane top coat in accordance with the paint manufacturers instructions.

2. Apply die-cut pressure sensitive letters to well cured paint surface. Properly align letters and furbish to avoid air bubbles and peeling.

D. Headache Bar: Suspended aluminum tube of size shown on drawings, with welded end caps. Clearance copy to be typeface, white reflective pressure-sensitive vinyl, equal to 3M-3290 applied over painted finish. Suspension rods, links and fittings to be No. 4 satin finish stainless steel.

PART 3 – EXECUTION

3.1 GENERAL

A. Signs shall be free from sharp edges, burrs and other defects. Sawed edges shall be smooth and properly finishes.

B. Exposed sign and graphic surfaces shall be free of glue, fingerprints, dirt, grease or any other imperfections upon completion of installation.

3.2 INSTALLATION

A. Provide anchorage devices and fasteners where necessary for securing signs; including threaded fasteners for concrete and masonry inserts, through-bolts, lag bolts, and other connectors as required.

B. Locate sign units and accessories where shown or scheduled, using mounting methods of type described and in compliance with manufacturer's instructions, unless otherwise indicated.

C. Install sign units level, plumb and at height indicated, with sign surfaces free from distortion or other defects of appearance.

D. All signs and supports mounted on concrete shall have faying surfaces coated to prevent corrosion due to cathodic action.

E. Touch up of finish surfaces damaged during installation shall be done with materials furnished by manufacturer

and used according to direction from manufacturer.

3.3 CLEANING AND PROTECTION

A. Remove any excess adhesives or other surface blemishes. Restore or replace signs damaged during installation, as directed by the Architect.

B. Provide all procedures required for protection of installed signs from damage or deterioration until acceptance of the work.

END OF SECTION 10 40 00

PART 1 - **GENERAL**

1.1 DEFINITIONS

A. List of Abbreviations:

1. APGS Automated Parking Guidance System
2. API Application Programming Interface
3. CCSU Central Connecticut State University
4. CCT Corrected Color Temperature
5. CRI Color Rendering Index
6. ID Identification
7. IP Ingress Protection
8. LED Light Emitting Diode
9. UPS Uninterruptible Power Supply

1.2 SUMMARY

A. This section includes provision of all material, labor, equipment, services and training necessary to furnish and install a fully integrated on-line, real-time Automated Parking Guidance System (APGS) functioning in the manner described herein. System to be provided for the CCSU Willard DiLoreto Parking Garage.

B. System Design: APGS shall monitor and communicate total space count and availability in parking facility. The system includes space availability and messaging sign displays at entry.

C. Primary components of integrated Base system shall include:

1. APGS Management System software. Vendor will provide physical servers as needed for APGS software.
2. Provide two (2) remote workstation licenses to enable authorized CCSU personnel and/or their assigned representatives to access the APGS software and manage, view reports, etc.
3. System intelligence and central control to facilitate management of facility capacity, real-time reporting of live occupancy information, and historic reporting of occupancy.
4. Induction apparatus to count vehicles entering and exiting the facility.
5. Dynamic space availability sign displaying real-time parking availability.
6. Mobile application or data framework to broadcast real-time parking availability to customers.

D. System Configuration

<u>Base System</u>

1. Provide and install induction loops in a single entry and single exit lane to conduct occupancy counts and monitor space availability within the facility.
2. Provide and install dynamic space availability signs to display space availability.
3. Provide all necessary equipment for a stable and robust communication path.
4. Supply all computers, data concentrators/controllers and all associated communication and control electronics with power conditioning and UPS devices required for the system. Server/host

computer will be used for APGS administration, programming, monitoring, and consolidation of data.

5. Remote workstation software as specified to be installed on the system server.

E. Work Included:

1. Fabricate, deliver, and install all new APGS equipment as described in this Specification.
2. Comply with all applicable State and Federal codes and standards.
3. Review plans and specifications to be certain that all functional requirements, as described, can be achieved with equipment to be supplied.
4. Provide Shop Drawings and product literature for review and approval prior to installation.
5. Provide and install all necessary device control wiring, communications wiring, conduit and additional power wiring required by system. Include special electrical power and grounding. Main conduit runs, junction boxes and wiring should be “hidden” to the extent possible as to be out of sight from the public view.
6. Provide and install any power conditioning that is required for the operation of the system.
7. Provide and install all electronics and communications equipment for communication network. Terminate and connect all communications cabling.
8. Coordinate and confirm final and precise layout of signs, conduits, mounting rails, stubs, sensors and anchor bolts with those responsible for installation.
9. Install all Contractor supplied equipment and the interconnection with Owner supplied equipment.
10. Test, adjust, and interface circuits prior to installation of equipment. Make all connections of wiring to components. Authorize and accept responsibility for application of power to equipment and initiation of operation, run all initial diagnostics and system testing programs necessary to provide complete working system.
11. Attend construction meetings, provide schedules as requested, and schedule fieldwork to be coordinated with other trades.
12. Test equipment in accordance with these specifications.
13. Provide record drawings, operating manuals, maintenance manuals, and training sessions as specified herein.
14. Participate in system commissioning as required.

F. Work to be Provided by Others:

1. Contractor to provide conduit with power and communication to each lane and dynamic signage per the vendor’s specifications.
2. Contractor to provide conduit with power and communications back to the system server.
3. Owner to provide internet service, if needed, to allow remote access to and data transfer from the system.
4. Contractor to provide infrastructure necessary to support exterior dynamic signage.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Distribute to the appropriate parties:
   a. Specifications for infrastructure necessary for mounting exterior dynamic signage.
   b. Installation diagrams, details, and templates for setting mounted equipment.
   c. Templates and cast-in inserts to anchor freestanding equipment.

d. Electrical wiring diagrams and details.

e. Electrical requirements.

2. Confirm layout of conduits, stubs, equipment, sensors, delineation posts, servers, and any other equipment provided in system.

3. Coordinate interfaces with any other systems by others, including but not limited to Local Area Network, and signage.

4. Coordinate data communication, Internet, server location, and network requirements with Owner or Owner's Representative.

B. Pre-Installation Meeting: Conduct meeting at project site thirty (30) days in advance of time scheduled for work to proceed to review requirements and conditions that could interfere with successful APGS performance. All parties concerned with APGS installation, including electrical, communications, concrete work, or others who are required to coordinate work are required to attend. Include Owner or Owner's Representative. At a minimum, cover:

1. Electrical rough-in, equipment bases, and any other required preparatory work.

2. Review schedule.

3. Review testing and acceptance procedures.

1.4 ACTION SUBMITTALS

A. Product Data:

1. Product description for each component including the following:
   a. Detail of user interface.
   b. Operating temperature.
   c. Housing material.
   d. Mounting requirements.
   e. Electric power requirements
2. Description of the APGS software and hardware including the following:
   a. Configuration diagram.
   b. Software platforms and programming language.
   c. Communication protocols.
   d. Communication failure/error identification and recovery.
   e. Fault tolerance.
   f. Back-up procedures.
   g. Data storage and retrieval procedures.

B. Drawings

   a. Drawings showing APGS and high-level wiring connections
   b. Drawings showing location for dynamic signs.
   c. Wiring diagrams detailing wiring requirements for power, signal and control systems.
   d. Proposed locations of conduits and wiring which provides the greatest aesthetic appeal.

1.5 Acceptance Testing Plan and Documentation: Two weeks prior to start of first test:

1. Provide a test plan for review and approval by Owner or Owner's Representative. Include demonstrations of compliance with specifications, contractual compliance, definitions of all test objectives, participant responsibilities, documentation of tests and procedures for dealing with failures during test.
2. Provide a checklist which details tests for functional requirements of each sensor, counter and dynamic sign.

1.6 INFORMATIONAL SUBMITTALS

A. Origins of each primary component of system.

B. Describe the most recently installed completed project that is similar in magnitude, complexity, and dollar value, including:

1. Name of project.
2. Location.
3. Contact name, telephone number and email.
4. Date of installation.
5. Number of spaces.
6. Description of system (and quantities).

C. List of spare parts specific to this installation. Vendor to have spare parts available at local service center.

D. Warranty: Provide copy of manufacturer's warranty, procedures in the event of failure and instances that may affect validity of warranty.

E. Schedule: Within 30 days of award of contract, provide a schedule of fabrication, delivery, installation, and testing.

1.7 CLOSEOUT SUBMITTALS

A. Record Drawings: Provide Owner or Owner's Representative with a reproducible set of drawings and a CAD file in AutoCAD 2012 or newer format showing any modifications or clarifications not present on original Contract Drawings including actual equipment field wiring diagram and electrical circuitry and service schematics.

B. Operating Documentation: Prior to initiation of commissioning and training, deliver operations and maintenance manuals

1.8 QUALITY ASSURANCE

A. Manufacturer's Qualifications:

1. Manufacturer has at least one site with successful installations in the U.S. List projects where product is installed; provide project details. Include project location, size of project, contact name with phone number, and year installed.
2. Manufacturer has been in continuous operations for previous five years.
3. Existing installations totaling 10,000 parking spaces or greater.
4. Existing installations using this technology at a minimum of ten sites. List projects where product is installed; provide project details. Include project location, size of project, contact name with phone number, and year installed.

5. The APGS shall provide a web services API for connectivity to other devices and systems.

B. Owner or Owner's Representative may observe installation process at any time.

1.9 DELIVERY, STORAGE AND HANDLING REQUIREMENTS

A. Assume care, custody and control of all APGS equipment and components, until held in storage on site.

B. Replace damaged materials at no cost to Owner, unless damaged by Owner on site.

C. Deliver equipment to site in manufacturer's original containers to prevent damage and marked for easy identification.

D. Store equipment in original containers in clean, dry location, on site.

1.10 WARRANTY

A. General: Equipment and installation (100% parts and labor) for one year from date of shipment. System serviced against any and all malfunctions due to manufacturing or installation defects at no cost to Owner during warranty period, Software support provided during warranty period to include all software updates at no additional cost to Owner.

B. If Subcontractor is not available, Owner or Owner's Representative may affect repairs. Pre-qualify appropriate staff to perform repairs and identify types of repair each trained individual is qualified to perform after training of personnel.

C. Include a copy of Warranty.

PART 2 - **PRODUCTS**

2.1 MANUFACTURERS: Acceptable manufacturers include the follow:

a. Amano McGann
b. Skidata
c. Scheidt & Bachman
d. Parking BOXX
e. TIBA Parking Systems

2.2 SYSTEM DESCRIPTION

A. The APGS will be installed in the Willard Diloreto Parking Garage on the CCSU campus, which has approximately 610 parking spaces on four levels. The intent is to inform approaching drivers of availability within the facility and minimize congestion on CCSU campus roads associated with searching for open spaces. The garage will serve students, faculty, and staff as ungated, permit regulated facility.

B. Inbound parkers will view dynamic LED signage mounted outside the facility displaying the number of available spaces within the facility. Inbound parkers will view a dynamic four-character LED sign displaying the number of available spaces or "FULL" in red lettering. The system should be able to use the loop activations at the entry and exit lanes to account for the number of vehicles within the facility at any given time.

2.3 DESIGN CRITERIA AND PERFORMANCE SPECIFCIATIONS

A. APGS Server/Host Computer: A network consisting of server, task or subsystem computers, and workstation that provide on-line and real-time monitoring and control of all APGS devices, capable of:

1. Correlating vehicle entries and exits in order to communicate the total vehicles present and number of spaces available.
2. Controlling the dynamic space availability signs based on the occupancy of the facility as determined by the system.
3. Providing independent and consolidated occupancy counts.
4. Monitoring all APGS equipment.
5. Providing real-time graphical views and descriptions of occupancy and sensor status as well as historical data.
6. Exporting data to other applications.
7. Maintaining a minimum of 99% accuracy rate on detection of vehicles
8. Monitoring and reporting alarm conditions and logs for atypical activity, malfunctions, failures and preset occupancy thresholds.
9. Resetting/recalibrating to actual car counts.
10. Data communication using standard Ethernet protocols.
11. Report generation:
    a. Showing the number of spaces currently occupied and unoccupied.
    b. Daily system monitoring alerts indicating any system alarms and malfunctions.
    c. Minimum, maximum and average facility space availability in real terms and as a percentage.
12. Data Storage:
    a. Archiving parking visit data in a readable format on standard media or on a cloud-based storage platform.
    b. Sufficient to store two years of data.
13. Security Features:
    a. Password protected interface on web-based software.
    b. Assigning, changing, disabling, and deactivating unique passwords for each user.

B. Dynamic Space Availability Signs:

1. Signs automatically display updated space count
    a. Show clear and legible words and numbers, attracting attention and easily read under any lighting conditions.
    b. The LED displays consist of 4 alpha/numeric digits. The digits display the number of spaces available. When a facility is full, the display indicates “FULL”. Full sign to be 7” X 18” with 4.5” high letters.
    c. Sign completely blanks out when not energized. No phantom message under any ambient light condition.
    d. Sign display rules shall be centrally programmable, including the ability to alter sign display rules based on occupancy thresholds and other operational events
2. Sign appearance, location and messages provided and installed in accordance with manufacturer’s recommendations. Location to be approved by Owner.
    a. Variable message sign to be 36” high x 48 “wide with message portion of sign to be the bottom 24” high x 48” wide with the top 12” reserved for permanent name and logo.
3. Capable of continuous operation from -10º C to 50º C.

4. Non-corrosive fasteners and brackets.
5. Conceal all electrical connections, but still accessible and serviceable

C. Vehicle Sensors:

1. May be inductive loops, or comparable technology.
2. Must maintain a 99% read accuracy rate for vehicle detection.
3. Mounted in the center line of driving aisle.
4. Automatically maintain peak sensitivity regardless of temperature, rain, snow or other environmental conditions. Capable of continuous operation from -30º F to 140º F.
5. Modular plug-in construction or built in, and easily serviced.
6. Employ distributed intelligence for fault tolerance.
7. Require no special tools or meters for adjustment following initial installation.
8. Operate independently. If communication to the server is down, the sensors continue to operate. Failure of a sensor has no effect on other sensors.
9. Self-diagnostic function to verify operational status.
10. Removable/replaceable without the need for tools.
11. Requires no additional or supplemental lighting.

D. System provides a web-based interface for reporting.

1. Reporting shall be accessible from any PC with a web browser connected to the internet.
2. Authentication shall be required to access reports.
3. All reports and charts shall be exportable in appropriate formats: PDF, Excel, and/or image format (JPG, PNG).
4. Reports shall include the following:
    a. Real time and historical space occupancy.
    b. Aggregated entries and exits

E. Conceal all electrical connections and conduit, but still accessible and serviceable.

F. Maintenance and Service Agreement: A (1) year maintenance and service. Provide details of routine maintenance provided and parameters of Service Agreement (i.e. Level of coverage provided).

PART 3 - **EXECUTION**

3.1 EXAMINATION:

A. Meet with Owner or its designated representatives within 30 days of notice to proceed to verify all details of APGS to:

1. Discuss equipment bases and other preparatory work specified elsewhere.
2. Verify equipment operation is consistent with system description.
3. Review submitted schedule for installation of APGS equipment.
4. Review required testing and acceptance procedures.

3.2 INSTALLATION

A. Install APGS in accordance with manufacturer's recommendations and approved Drawings.

B. Installation and Start-Up: Subcontractor is responsible for installation of all control and communication wiring, except fiber if needed or otherwise noted in this Section.

3.3 FIELD QUALITY CONTROL

A. Perform aforementioned Acceptance Testing to demonstrate the functionality of the system.

B. Promptly correct APGS-related problems encountered during acceptance testing at no cost to the Owner.

C. Substantial completion includes the following:

1. All APGS equipment included in project has passed acceptance test.
2. All communications from equipment to APGS server/computer and workstations have passed acceptance test.
3. APGS produces all required reports and has passed acceptance test.
4. All UPSs have passed acceptance test.
5. All electronic signage is complete and has passed acceptance test.
6. All manuals are on site or have been electronically delivered to DNC.
7. Owner or its designated representatives have been given all test checklists
8. Owner or its designated representatives have been provided with updates (in AutoCAD) to any drawings required due to deviations in the field 30 days after acceptance testing.

END OF SECTION

Statement of Special Inspections

Project: Willard Diloreto Parking Garage

Location: Paul Manafort Sr. Drive, New Britain, CT

Owner: State of Connecticut Department of Administrative Services

Design Professional in Responsible Charge: Thomas J. Basile R.A.

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection Coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests. This *Statement of Special Inspections* encompass the following disciplines:

☒ Structural ☒ Mechanical/Electrical/Plumbing
☒ Architectural ☐ Other: _____

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Interim Report Frequency: or ☒ per attached schedule.

Prepared by:

Thomas J. Basile R.A.
(type or print name)

Th J. Basile RA
Signature

03/04/20
Date

Design Professional Seal

Owner's Authorization:

Signature Date

Building Official's Acceptance:

Signature Date

Schedule of Inspection and Testing Agencies

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- ☒ Soils and Foundations
- ☒ Cast-in-Place Concrete
- ☒ Precast Concrete
- ☒ Masonry
- ☒ Structural Steel
- ☒ Cold-Formed Steel Framing
- ☐ Spray Fire Resistant Material
- ☐ Wood Construction
- ☐ Exterior Insulation and Finish System
- ☐ Mechanical & Electrical Systems
- ☐ Architectural Systems
- ☐ Special Cases

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. **Special Inspection Coordinator**		
2. Inspector		
3. Inspector		
4. Testing Agency		
5. Testing Agency		
6. Other		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Quality Assurance Plan

Quality Assurance for Seismic Resistance

Seismic Design Category	B
Quality Assurance Plan Required (Y/N)	

Description of seismic force resisting system and designated seismic systems:
Structural Precast Shear Walls

Quality Assurance for Wind Requirements

Basic Wind Speed (3 second gust)	125 mph
Wind Exposure Category	C
Quality Assurance Plan Required (Y/N)	

Description of wind force resisting system and designated wind resisting components:

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III.

International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

Exterior Design Institute (EDI) Certification

EDI-EIFS	EIFS Third Party Inspector

Other

Soils and Foundations

Item	Agency # (Qualif.)	Scope
1. Shallow Foundations	*PE/GE*	*Inspect soils below footings for adequate bearing capacity and consistency with geotechnical report.* *Inspect removal of unsuitable material and preparation of subgrade prior to placement of controlled fill*
2. Controlled Structural Fill	*PE/GE*	*Perform sieve tests (ASTM D422 & D1140) and modified Proctor tests (ASTM D1557) of each source of fill material.* *Inspect placement, lift thickness and compaction of controlled fill.* *Test density of each lift of fill by nuclear methods (ASTM D2922)* *Verify extent and slope of fill placement.*
3. Deep Foundations	*PE/GE*	*Inspect and log pile driving operations. Record pile driving resistance and verify compliance with driving criteria.* *Inspect piles for damage from driving and plumbness.* *Verify pile size, length and accessories.* *Inspect installation of drilled pier foundations. Verify pier diameter, bell diameter, lengths, embedment into bedrock and suitability of end bearing strata.*
4. Load Testing		
4. Other:		

Cast-in-Place Concrete

Item	Agency # (Qualif.)	Scope
1. Mix Design	*ACI-CCI ICC-RCSI*	*Review concrete batch tickets and verify compliance with approved mix design. Verify that water added at the site does not exceed that allowed by the mix design.*
2. Material Certification		
3. Reinforcement Installation	*ACI-CCI ICC-RCSI*	*Inspect size, spacing, cover, positioning and grade of reinforcing steel. Verify that reinforcing bars are free of form oil or other deleterious materials. Inspect bar laps and mechanical splices. Verify that bars are adequately tied and supported on chairs or bolsters*
4. Post-Tensioning Operations	*ICC-PCSI*	*Inspect placement, stressing, grouting and protection of post-tensioning tendons. Verify that tendons are correctly positioned, supported, tied and wrapped. Record tendon elongations.*
5. Welding of Reinforcing	*AWS-CWI*	*Visually inspect all reinforcing steel welds. Verify weldability of reinforcing steel. Inspect preheating of steel when required.*
6. Anchor Rods		*Inspect size, positioning and embedment of anchor rods. Inspect concrete placement and consolidation around anchors.*
7. Concrete Placement	*ACI-CCI ICC-RCSI*	*Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.*
8. Sampling and Testing of Concrete	*ACI-CFTT ACI-STT*	*Test concrete compressive strength (ASTM C31 & C39), slump (ASTM C143), air-content (ASTM C231 or C173) and temperature (ASTM C1064).*
9. Curing and Protection	*ACI-CCI ICC-RCSI*	*Inspect curing, cold weather protection and hot weather protection procedures.*
10. Other:		

Precast Concrete

Item	Agency # (Qualif.)	Scope
1. Plant Certification / Quality Control Procedures ☐ Fabricator Exempt	*ACI-CCI* *ICC-RCSI*	*Review plant operations and quality control procedures.*
2. Mix Design	*ACI-CCI* *ICC-RCSI*	*Inspect concrete batching operations and verify compliance with approved mix design*
3. Material Certification		
4. Reinforcement Installation	*ACI-CCI* *ICC-RCSI*	*Inspect size, spacing, position and grade of reinforcing steel. Verify that reinforcing bars are free of form oil or other deleterious materials.*
5. Prestress Operations	*ICC-PCSI*	*Inspect placement, stressing, grouting and protection of prestressing tendons*
6. Connections / Embedded Items		
7. Formwork Geometry		
8. Concrete Placement	*ACI-CCI* *ICC-RCSI*	*Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated .*
9. Sampling and Testing of Concrete	*ACI-CFTT* *ACI-STT*	*Test concrete compressive strength (ASTM C31 & C39), slump (ASTM C143), air-content (ASTM C231 or C173) and temperature (ASTM C1064).*
10. Curing and Protection	*ACI-CCI* *ICC-RCSI*	*Inspect curing, cold weather protection and hot weather protection procedures.*
11. Erected Precast Elements	*PE/SE*	*Inspect erection of precast concrete including member configuration, connections, welding and grouting.*
12. Other:		

Masonry

Required Inspection Level: ☐ 1 ☐ 2

Item	Agency # (Qualif.)	Scope
1. Material Certification		
2. Mixing of Mortar and Grout	*ICC-SMSI*	*Inspect proportioning, mixing and retempering of mortar and grout.*
3. Installation of Masonry	*ICC-SMSI*	*Inspect size, layout, bonding and placement of masonry units.*
4. Mortar Joints	*ICC-SMSI*	*Inspect construction of mortar joints including tooling and filling of head joints.*
5. Reinforcement Installation	*ICC-SMSI* *AWS-CWI*	*Inspect placement, positioning and lapping of reinforcing steel.* *Inspect welding of reinforcing steel.*
6. Prestressed Masonry	*ICC-SMSI*	*Inspect placement, anchorage and stressing of prestressing bars.*
7. Grouting Operations	*ICC-SMSI*	*Inspect placement and consolidation of grout. Inspect masonry clean-outs for high-lift grouting.*
7. Weather Protection	*ICC-SMSI*	*Inspect cold weather protection and hot weather protection procedures. Verify that wall cavities are protected against precipitation.*
9. Evaluation of Masonry Strength	*ICC-SMSI*	*Test compressive strength of mortar and grout cube samples (ASTM C780).* *Test compressive strength of masonry prisms (ASTM C1314).*
10. Anchors and Ties	*ICC-SMSI*	*Inspect size, location, spacing and embedment of dowels, anchors and ties.*
11. Other:		

Structural Steel

Item	Agency # (Qualif.)	Scope
1. Fabricator Certification/ Quality Control Procedures ☐ Fabricator Exempt	*AWS/AISC-SSI* *ICC-SWSI*	*Review shop fabrication and quality control procedures.*
2. Material Certification	*AWS/AISC-SSI* *ICC-SWSI*	*Review certified mill test reports and identification markings on wide-flange shapes, high-strength bolts, nuts and welding electrodes*
3. Open Web Steel Joists		*Inspect installation, field welding and bridging of joists.*
4. Bolting	*AWS/AISC-SSI* *ICC-SWSI*	*Inspect installation and tightening of high-strength bolts. Verify that splines have separated from tension control bolts. Verify proper tightening sequence. Continuous inspection of bolts in slip-critical connections.*
5. Welding	*AWS-CWI* *ASNT*	*Visually inspect all welds. Inspect pre-heat, post-heat and surface preparation between passes. Verify size and length of fillet welds.* *Ultrasonic testing of all full-penetration welds.*
6. Shear Connectors	*AWS/AISC-SSI* *ICC-SWSI*	*Inspect size, number, positioning and welding of shear connectors. Inspect suds for full 360 degree flash. Ring test all shear connectors with a 3 lb hammer. Bend test all questionable studs to 15 degrees.*
7. Structural Details	*PE/SE*	*Inspect steel frame for compliance with structural drawings, including bracing, member configuration and connection details.*
8. Metal Deck	*AWS-CWI*	*Inspect welding and side-lap fastening of metal roof and floor deck.*
9. Other:		

Cold-Formed Steel Framing

Item	Agency # (Qualif.)	Scope
1. Member Sizes		
2. Material Thickness		
3. Material Properties		
4. Mechanical Connections		
5. Welding		
6. Framing Details		
7. Trusses		
8. Permanent Truss Bracing		
9. Other:		

Spray-Applied Fire Resistant Material

Item	Agency # (Qualif.)	Scope
1. Material Specifications		
2. Laboratory Tested Fire Resistance Design	*ICC-SFSI*	*Review UL fire resistive design for each rated beam, column, or assembly.*
3. Schedule of Thickness	*ICC-SFSI*	*Review approved thickness schedule.*
4. Surface Preparation	*ICC-SFSI*	*Inspect surface preparation of steel prior to application of fireproofing*
5. Application	*ICC-SFSI*	*Inspect application of fireproofing.*
6. Curing and Ambient Condition	*ICC-SFSI*	*Verify ambient air temperature and ventilation is suitable for application and curing of fireproofing.*
7. Thickness	*ICC-SFSI*	*Test thickness of fireproofing (ASTM E605). Perform a set of thickness measurements for every 1,000 SF of floor and roof assemblies and on not less than 25% of rated beams and columns.*
8. Density	*ICC-SFSI*	*Test the density of fireproofing material (ASTM E605).*
9. Bond Strength	*ICC-SFSI*	*Test the cohesive/adhesive bond strength of fireproofing ASTM E736). Perform not less than one test for each 10,000 SF.*
10. Other:		

Wood Construction

Item	Agency # (Qualif.)	Scope
1. Fabricator Certification/ Quality Control Procedures ☐ Fabricator Exempt		*Inspect shop fabrication and quality control procedures for wood truss plant.*
2. Material Grading		
3. Connections		
4. Framing and Details		
5. Diaphragms and Shearwalls		*Inspect size, configuration, blocking and fastening of shearwalls and diaphragms. Verify panel grade and thickness.*
6. Prefabricated Wood Trusses		*Inspect the fabrication of wood trusses.*
7. Permanent Truss Bracing		
8. Other:		

Exterior Insulation & Finish Systems (EIFS)

Item	Agency # (Qualif.)	Scope
1. Material Submittals		
2. Condition of Substrate		
3. Application of Foam Plastic Board		
4. Application of Coatings		
5. Application of Mesh		
6. Ambient Condition and Curing		
7. Flashing and Joint Details		
8. Sealants/Caulks		
9. Other:		

Mechanical & Electrical Systems

Item	Agency # (Qualif.)	Scope
1. Smoke Control		
2. Mechanical, HVAC & Piping		
3. Electrical System		
4. Other:		

Architectural Systems

Item	Agency # (Qualif.)	Scope
1. Wall Panels & Veneers		
2. Suspended Ceilings		
3. Access Floors		
4. Other:		

Special Cases

Item	Agency # (Qualif.)	Scope

Instructions – Preparation of the Statement of Special Inspections

1. Who Prepares the Form:
   The program of inspection and testing for a project should be prepared by the Registered Design Professional (RDP) that is in responsible charge of the building system requiring inspections and testing. The Structural Engineer of Record (SER) should prepare the sections required for the structural elements such as foundations, concrete, structural steel, etc. The Architect and MEP Engineer of Record should prepare the corresponding sections of the SSI for the building systems that they are responsible for. For further explanation, please refer to the "Guide to Special Inspections and Quality Assurance".

2. The Front Page:
   2-1. At the top of the page indicate the project name and location as they appear on the Contract Documents, provide the Owner's name (individual, private company, municipality, government agency, etc.), and indicate the Design Professional In Responsible Charge. This should be the RDP in responsible charge of the building systems for which this Statement of Special Inspections is being prepared. See explanation in item 1 above.
   2-2. Next, read the first paragraph and check the box below indicating the discipline(s) that this SSI will encompass (Structural, Architectural, Mechanical/Electrical/Plumbing, or Other).
   2-3. After reading the remaining paragraphs, the RDP must indicate the frequency of "Interim Reports" required from the Special Inspection Coordinator for the project. This can be indicated directly on the page, i.e. "weekly", or the adjacent box can be checked to attach a more specific schedule.
   2-4. Near the bottom of the page, the RDP must print, sign, and date the form, and stamp the form with their professional seal in the box provided.
   2-5. The Owner or Owner's agent must sign and date the front page after the SSI has been completed by the RDP.
   2-6. The Building Official must sign and date the form upon acceptance.

3. Page 2 – Schedule of Inspection and Testing Agencies:
   3-1. The top of the page lists all of the categories of building systems with a box next to each. The RDP must check the boxes for <u>only</u> the building systems that are going to be covered in this SSI. A completed inspection program page must be attached for each building system that is checked off. (See instruction #5 below.)
   3-2. The chart below is where the members of the Special Inspection Program are listed. Their names, addresses, telephone numbers, and emails should be filled out in the appropriate boxes. If the Inspectors and Testing Agencies have not been determined yet, the RDP can fill in the boxes with "To Be Determined".

4. Page 3 – Quality Assurance Plan:
   4-1. The RDP must review sections 1705 and 1706 in Chapter 17 of the IBC to determine if the project requires a Quality Assurance Plan for the seismic force and wind force resisting systems and components.
   4-2. The RDP must indicate whether or not a Quality Assurance Plan is required by filling in the information requested on the page. It is only necessary to provide descriptions of the seismic and wind force resisting systems if it is determined that a Quality Assurance Plan is required.

5. Inspection Program Pages For Each Building System:

5-1. There is a page attached for each building system where the RDP identifies the inspection requirements of each system. Fill out the pages for only the building systems included in this SSI. Do not include blank pages for building systems not covered under this SSI.

5-2. Indicate the inspection or testing firm (Agency #) that will perform each inspection task. The Agency # is the number listed next to the Inspector or Testing Laboratory on the chart on page 2 of the SSI.

5-3. Indicate the required qualifications of the Inspector for each inspection. A list of qualifications of Inspectors and testing technicians is provided on page 4 of the SSI for reference. The RDP may require additional qualifications beyond the ones listed if they feel it is appropriate. Suggested qualifications have been included for consideration. The RDP must determine what qualifications are appropriate for the particular project and confirm that the selected agency employs individuals with the specified qualifications.

5-4. The scope of each inspection must be filled in by the RDP. The editable text provided in italics reflects the code mandated minimum inspection requirements designated in section 1704 of IBC Chapter 17. The editable text does not include the inspections requirements for seismic and wind resisting systems listed in sections 1705 through 1708. The RDP must determine if the project falls under the requirements of sections 1705 to 1708 and add the required inspections to the building systems. The final scope of the inspections required for the project must be determined by the RDP.

5-5. Descriptions of all inspections must include the required frequency of each inspection or test.

Full Name	Whom	Company	Phone	Trade
dan@ave-con.com	Dan	Avery	860.749.9356	Heavy & Civil Site Construction
Chris Zarba	Chris Zarba	Blakeslee Prestress, Inc	203.481.5306	PreStressed Concrete
altman@ccsu.edu	Henry Altman	Central Connecticut State University		
Terry Ferarotti CCSU Fire Lt	Terry Ferarotti	Central Connecticut State University		
mcnicklesev@ccsu.edu	Sean McNickle	Central Connecticut State University		
mmcdougal@consigli.com	Michael McDougal	Consigli	860.239.0232	GC/CM
mtrzesniowski@consigli.com	Mike Trzesniowski	Consigli	860.239.0232	GC/CM
Burke, Stephen	Steve Burke	DAS		
Walton, Mellanee	Mellanee Walton	DAS		
admin@desman253.onmicrosoft.com		Desman		
Frank Coletti	Frank Coletti	Desman		
+1 516-238-3680	Tom Basile	Desman		
+1 917-797-4221	Frank Coletti	Desman		
Cindy Hersom	Cindy Hersom	DICIN Electric	860.442.0826	Electrical
jmantyla@dimeo.com	Jarmo Mantyla	Dimeo Construction	401.781.9800	GC/CM
fallard@dimeo.com	Frank Allard	Dimeo Construction	401.781.9800	GC/CM
kzavistoski@dimeo.com	Kerri Zavistoski	Dimeo Construction	401.781.9800	GC/CM
jwasserman@dimeo.com	Jarod Wasserman	Dimeo Construction	401.781.9800	GC/CM
crose@dimeo.com	Chris Rose	Dimeo Construction	401.781.9800	GC/CM
+1 203-442-3962	Kerri Zavistoski	Dimeo Construction	203.442.3962	
David Heer - Downes	David Heer	Downes Construction Company	860.229.3755	GC/CM
JEFF ANDERSON/DOWNES	Jeff Anderson	Downes Construction Company	860.229.3755	GC/CM
AJ Collier	Andrew Collier	Downes Construction Company	860.229.3755	GC/CM
Debra Stout	Debra Stout	Eastern Energy Services	860.823.6260	Mechanical
Bedrich Hajek	Bedrich Hajek	Girodano	203.488.7264	GC/CM
c.glass@northeastern.edu	Candy Glass	Jacobs		
Semnoski, David	David Semnoski	Jacobs		
mmaurer@kbebuilding.com	Michael Maurer	KBE Building Corporation	800.798.9909	GC/CM
admin@manafortbrothersinc477.onmicrosoft.com	Peter Arcoma (?)	Manafort Brothers	860.793.6533	GC/CM
snsanchez@wpi.edu	Sarah Sanchez	Manafort Brothers	860.793.6504	GC/CM
Newfield Construction [Himanshu Tailor]	Himanshu Tailor	Newfield Construction	860.953.1477	GC/CM
mrich@northstar.com		NorthStar		
robhall@ogind.com	Rob Hall	O&G Industries	860.626.6480	GC/CM
nichelle.hosey@phalconusa.com	Michelle Hosey	Phalcon	860.507.8822	Electrical
cpaniati@phalconusa.com		phalcon		
jordank@schultzcorp.com		Schultz Corp		
rnastasia@selectdemoservices.com	Ron Nastasia	Select Demo		
tgrady@shawmut.com	Timothy Grady	Shawmut Design and Construction	617.622.7000	GC/CM
hdowning@shawmut.com	Helena Downing	Shawmut Design and Construction	617.622.7000	GC/CM
wsweeney@shawmut.com	William Sweeney	Shawmut Design and Construction	617.622.7000	GC/CM
mclark@shawmut.com	Michael Clark	Shawmut Design and Construction	617.622.7000	GC/CM
mhennessey@shawmut.com	Meghan Hennessey	Shawmut Design and Construction	617.622.7305	GC/CM
arice@shawmut.com	Andrew Rice	Shawmut Design and Construction	617.735.7890	GC/CM
admin@swiglassandmetal.onmicrosoft.com		SWI Glass & Metal	860.232.0034	Glass & Glazing
admin@tbiconstruction.onmicrosoft.com		TBI Construction - Tomasso Group	860.224.9977	CM

Tim (Unistress)	Tim	Unistress Corporation	413.499.1441	PreStressed Concrete
paul.torra@unistresscorp.com	Paul Torra	Unistress Corporation	413.499.1441	PreStressed Concrete
+1 413-629-2066	Tim Andre	Unistress Corporation	413.629.2066	PreStressed Concrete
jesper.glysing@vikingconstruction.net	Jesper Glysing-Jensen	Viking Construction	203.353.0260	GC/CM
mfield@wjgei.com	Mike Field	Wayne J. Griffin Electric	508.429.8830	Electrical
gamacjus@wohlsen.com	Justin Gamache	Wohlsen	203.826.2192	GC/CM
rubbomau@wohlsen.com	Mauro Rubbo	Wohlsen Construction	203.826.2192	GC/CM
Tom				
Archie				
Roger Ward				
Jim				
Bob Goldkopf				
Chris Scanlon				
tom				
Evelyn				

7001
Equal or Substitute Product Request

Request Phase: **Pre-Bid** ☒ **Post Bid** ☐ (*See Article 15 Materials: Standards, General Conditions*)

(If Pre-bid only) Current Bid Due Date: 6/17/2020 **Request No.:** 1 **Dated:** 6/3/2020

To: **State of Connecticut**
Department of Administrative Services,
Construction Services

DAS Project No.:

Project Name / Location: Willard DiLoreto Parking Garage

References: Specification(s): Section(s): 102400 Paragraph(s): 2.1

Drawing(s): Drawing(s) No(s): A201-203, A601 Detail(s) No(s): (A203) 1,2,3,4, E-1

Contractually Specified Product: W.S. Tyler Dogla-Trio 1030 with Tension System

Contractor Proposed Product: Cambridge Architectural Mesh Cubist with Magothy Tension Attachment System

Proposed Product is: Equal: ☐ Substitute: ☒ Model No.:

IMPORTANT:
See Attached Data For Both Specified And Proposed Products
As Required By Article 15 General Conditions.

Data attached: Drawings: ☒ Product Data: ☒ Reports: ☐ Samples: ☐

Tests: ☐ Other: Written Spec

Reason(s) for not providing the Specified Product:

Cambridge is listed as an approved manufacturer, however we do not weave and exact match and also believe a flexible mesh will perform better at the panel sizes requested.

Similar Installation:

Project Name: Merritt Athletic Club Garage **Architect's Name:** Urban Design Group

Project Location: Baltimore, Maryland

https://cambridgearchitectural.com/projects/merritt-clubs-canton

Owner's Name: Merritt Athletic Club

Date Installed: 2018

Will proposed substitution impact other parts of the Work?	**No**	☒	**Yes**	☐	***If Yes Attach An Explanation.***
Will proposed substitution increase Contract Time?	**No**	☒	**Yes**	☐	***By Number Of Calendar Days***

Actual Dollar Savings to the State of Connecticut if substitution is accepted: **$**

The Undersigned Certifies:
That The Proposed Request For An Equal Or Substitute Product Conforms To All Of The Requirements Of Division 01 General Requirements, Section 01 25 00 Substitution Procedures.

Request Submitted By General Contractor / CMR: Dimeo Construction Company
(Firm's Typed Name)

By:	Jarod Wasserman	Sr. Estimator	JDW	06/10/2020
	(Typed Name)	*(Title)*	*(Signature)*	*(Date)*

Contractor / CMR Send copies to : **DAS PM:** ☐ **CA:** ☐

Consultant's Request Received on (Date): 06-12-20

Consultant's Review – This Substitution Request is:

☒	**Approved:**	***(Submittal(s) in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)***
☐	**Approved as Noted:**	***(Submittals in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)***
☐	**Rejected:**	**Use Specified Materials.**
☐	**Rejected:**	**Request Not Received Within Specified Time Period - Use Specified Materials.**

Reviewed Issued By:

Name: Thomas J. Basile R.A.
(Typed Name)

Title: Project Manager - DESMAN

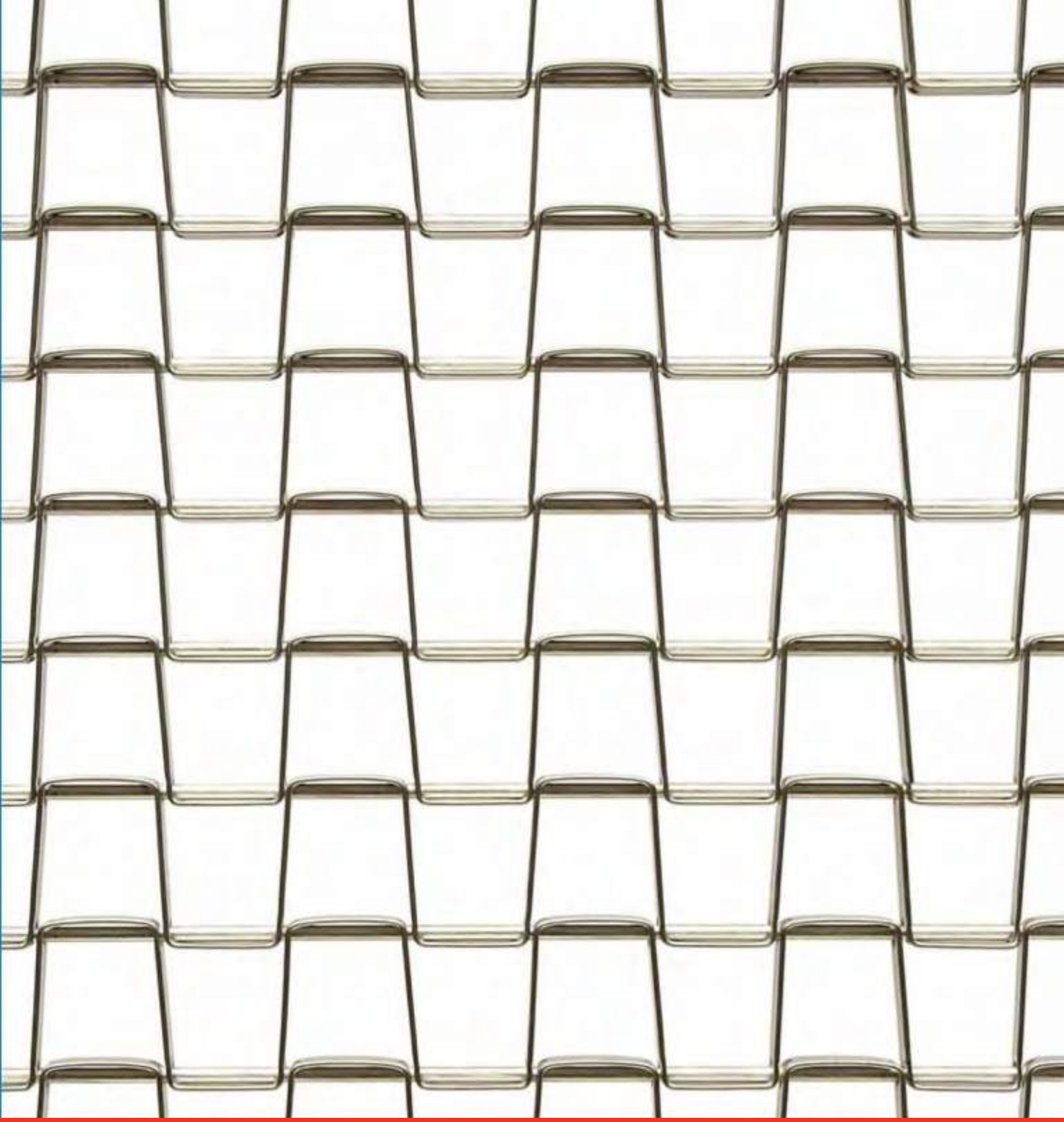
Signature: Thomas J. Basile R.A. *(Signature)* June 12, 2020 *(Date)*

CONSULTANT Send copies to:	DAS PM	☐	CA	☐	Chief Architect	☐	Chief Engineer	☐

If Approved: As noted by Consultant,
DAS Chief Architect: _____ *(Signature)* _____ *(Date)*

Copies: Project File Red R2

END



CUBIST

Flexible	
Material	Stainless Steel
Open Area	80%
Weight	1.81 lb/ft^2 8.84 kg/m^2
Maximum Width	240″ (6.09m)

CAMBRIDGE ARCHITECTURAL

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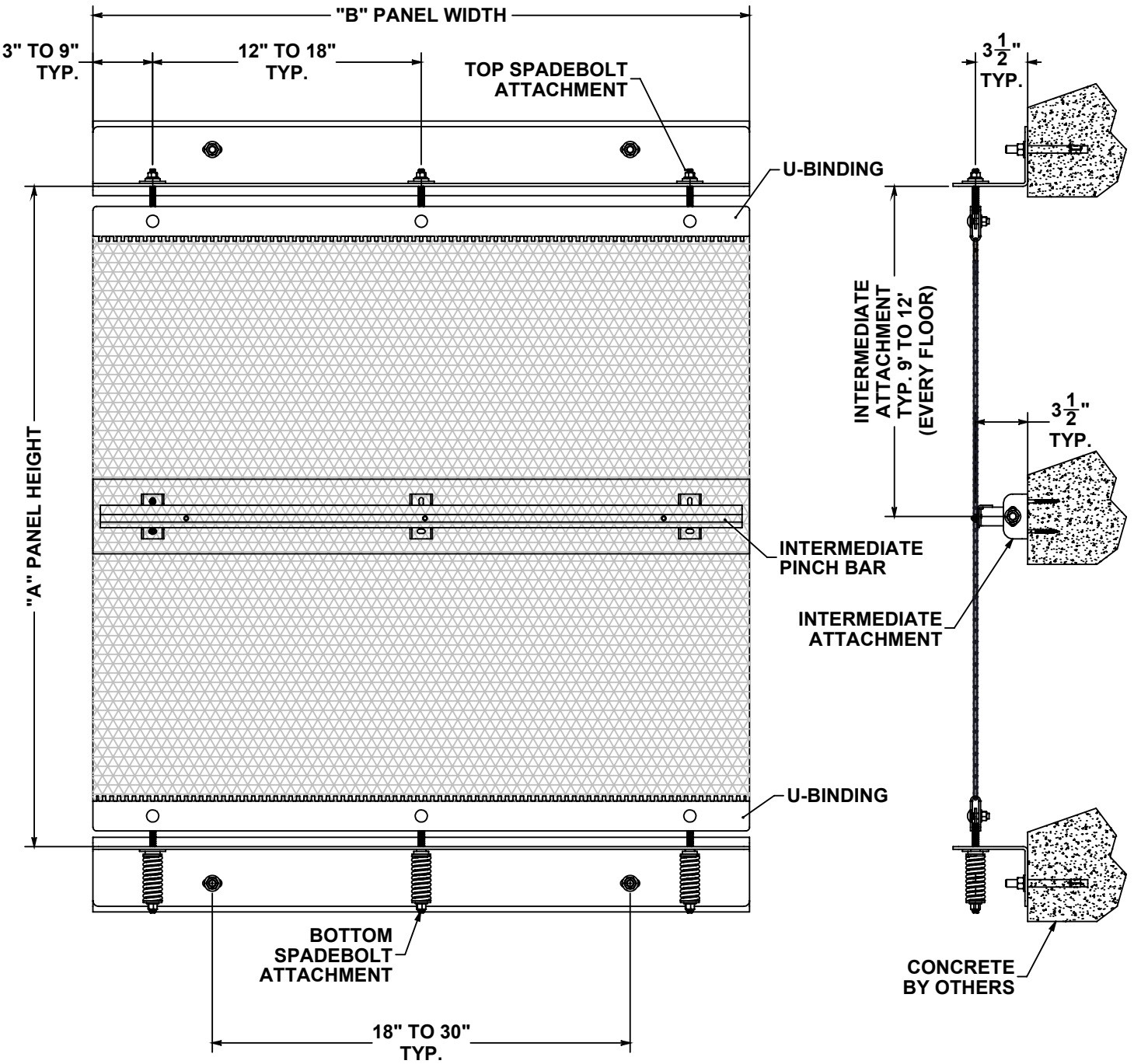
TOLL FREE 866 806 2385

SAMPLE SHOWN AT FULL SCALE
MEASUREMENTS ARE APPROXIAMTE VALUES
SPECIFICATIONS SUBJECT TO CHANGE



STANDARD SIZES			
WIDTH	LENGTH	PANEL TYPE	INTERMEDIATE SPAN
UP TO 10'	UP TO 60'	FULL HEIGHT	NO MORE THAN 12'

SYSTEM DESIGN ATTRIBUTES	
WEAVE TYPE	BALANCE WEAVE
ATTACHMENT TYPE	FULL HEIGHT SPRING TENSIONED
PRIMARY VERTICAL LOAD	TOP & BOTTOM ANGLE ATTACHMENT

SYSTEM COMPONENTS	
MESH PATTERNS:	MID-BALANCE
	MID-SHADE
	SCALE
	HURON
	CUBIST
SPADEBOLT MATERIAL	T316 STAINLESS STEEL
BINDING MATERIAL	T316 STAINLESS STEEL
STRUCTURE MATERIAL	CONCRETE
HARDWARE MATERIAL	18-8 STAINLESS STEEL

"MAGOTHY" PARKING SCREEN

NOT TO SCALE

CAMBRIDGE ARCHITECTURAL MESH

CAMBRIDGE ARCHITECTURAL MESH
105B GOODWILL RD · CAMBRIDGE, MD 21613
TOLL FREE 866 806 2385
WWW.CAMBRIDGEARCHITECTURAL.COM

7001
Equal or Substitute Product Request

Request Phase: **Pre-Bid** ☒ **Post Bid** ☐ (*See Article 15 Materials: Standards, General Conditions*)

(If Pre-bid only) Current Bid Due Date: 6/17/2020 **Request No.:** 1 **Dated:** 6/3/2020

To: **State of Connecticut**
Department of Administrative Services,
Construction Services

DAS Project No.:

Project Name / Location: Willard DiLoreto Parking Garage

References: Specification(s): Section(s): 102400 Paragraph(s): 2.1

Drawing(s): Drawing(s) No(s): A201-203, A601 Detail(s) No(s): (A203) 1,2,3,4, E-1

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Project Location: Baltimore, Maryland

https://cambridgearchitectural.com/projects/merritt-clubs-canton

Owner's Name: Merritt Athletic Club

Date Installed: 2018

Will proposed substitution impact other parts of the Work?	**No**	☒	**Yes**	☐	***If Yes Attach An Explanation.***
Will proposed substitution increase Contract Time?	**No**	☒	**Yes**	☐	***By Number Of Calendar Days***

Actual Dollar Savings to the State of Connecticut if substitution is accepted: **$**

The Undersigned Certifies:
That The Proposed Request For An Equal Or Substitute Product Conforms To All Of The Requirements Of Division 01 General Requirements, Section 01 25 00 Substitution Procedures.

Request Submitted By General Contractor / CMR: Newfield Construction Group LLC
(Firm's Typed Name)

By:	Robert Pepin	Senior Estimator	Robert P.Pepin	06/06/2020
	(Typed Name)	*(Title)*	*(Signature)*	*(Date)*

Contractor / CMR Send copies to : **DAS PM:** X ☐ **CA:** X ☐

Consultant's Request Received on (Date): 06/12/20

Consultant's Review – This Substitution Request is:

☒	**Approved:**	***(Submittal(s) in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)***
☐	**Approved as Noted:**	***(Submittals in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)***
☐	**Rejected:**	**Use Specified Materials.**
☐	**Rejected:**	**Request Not Received Within Specified Time Period - Use Specified Materials.**

Reviewed Issued By:

Name: Thomas J. Basile R.A.
(Typed Name)

Title: Project Manager - DESMAN

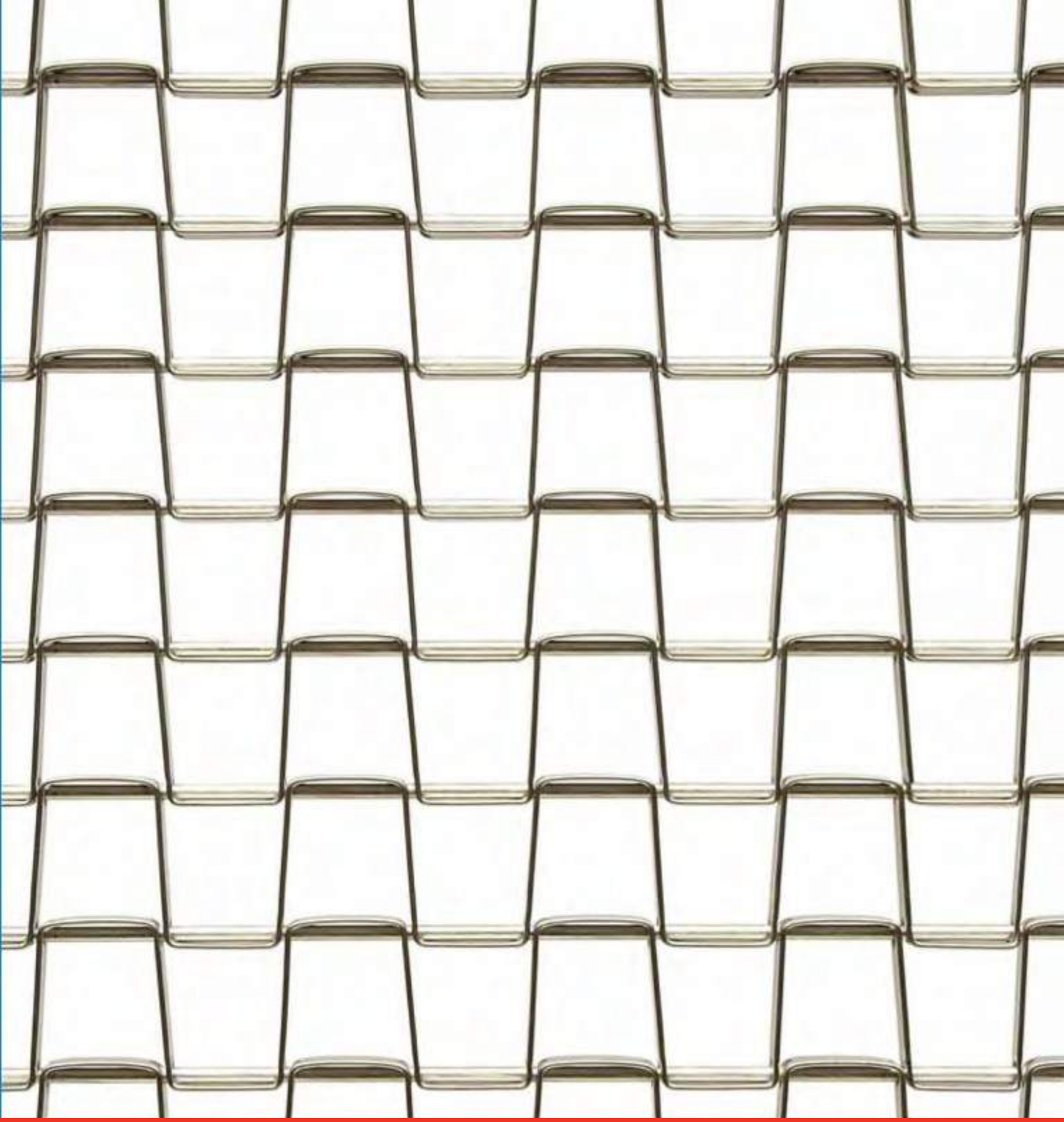
Signature: Thomas J. Basile R.A. June 12, 2020
(Signature) *(Date)*

CONSULTANT Send copies to:	DAS PM	☐	CA	☐	Chief Architect	☐	Chief Engineer	☐

If Approved: As noted by Consultant,
DAS Chief Architect: _____ _____
(Signature) *(Date)*

Copies: Project File Red R2

END



CUBIST

Flexible	
Material	Stainless Steel
Open Area	80%
Weight	1.81 lb/ft^2 8.84 kg/m^2
Maximum Width	240″ (6.09m)

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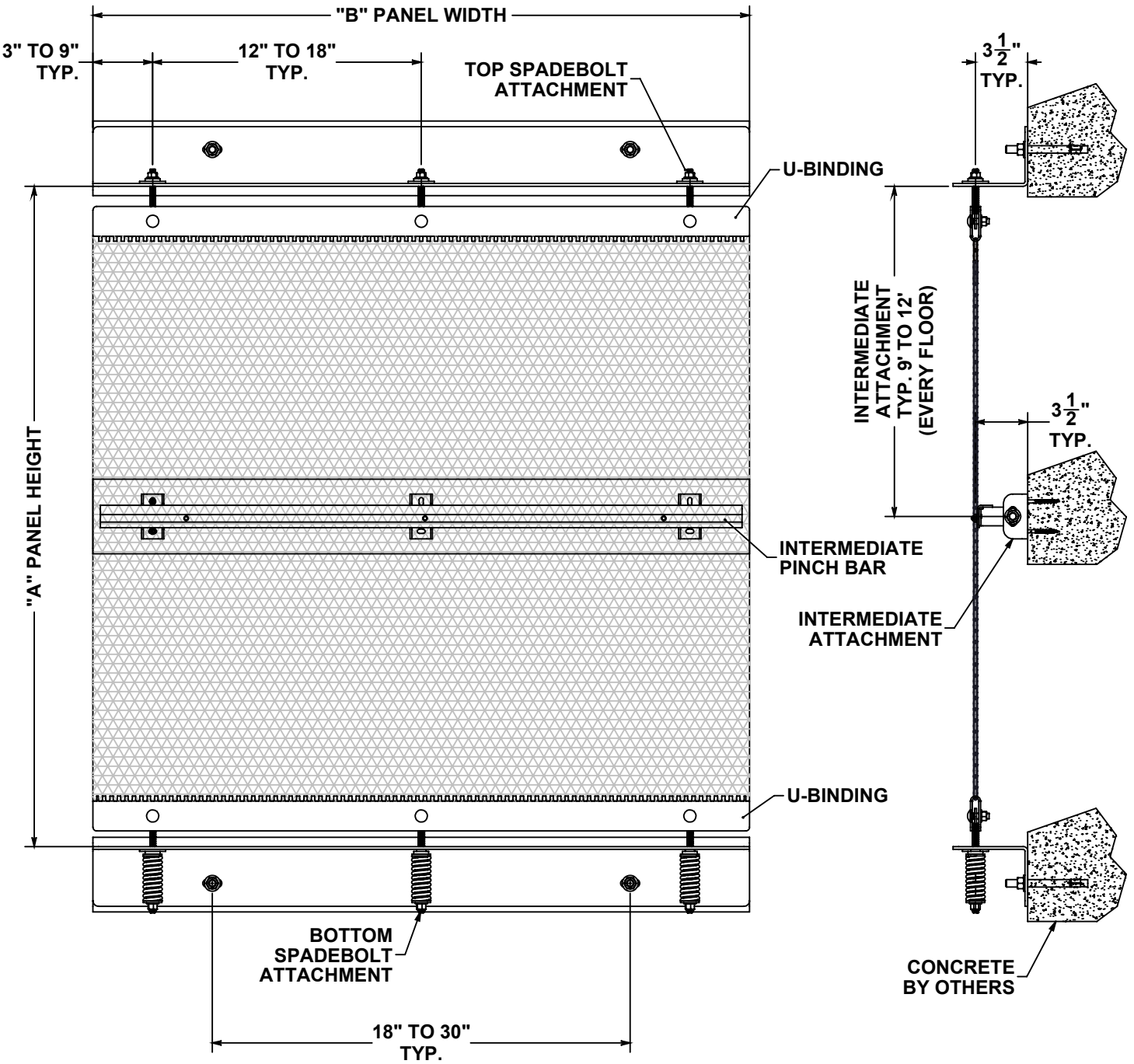
TOLL FREE 866 806 2385

SAMPLE SHOWN AT FULL SCALE
MEASUREMENTS ARE APPROXIAMTE VALUES
SPECIFICATIONS SUBJECT TO CHANGE



STANDARD SIZES			
WIDTH	LENGTH	PANEL TYPE	INTERMEDIATE SPAN
UP TO 10'	UP TO 60'	FULL HEIGHT	NO MORE THAN 12'

SYSTEM DESIGN ATTRIBUTES	
WEAVE TYPE	BALANCE WEAVE
ATTACHMENT TYPE	FULL HEIGHT SPRING TENSIONED
PRIMARY VERTICAL LOAD	TOP & BOTTOM ANGLE ATTACHMENT

SYSTEM COMPONENTS	
MESH PATTERNS:	MID-BALANCE
	MID-SHADE
	SCALE
	HURON
	CUBIST
SPADEBOLT MATERIAL	T316 STAINLESS STEEL
BINDING MATERIAL	T316 STAINLESS STEEL
STRUCTURE MATERIAL	CONCRETE
HARDWARE MATERIAL	18-8 STAINLESS STEEL

"MAGOTHY" PARKING SCREEN

NOT TO SCALE

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TOLL FREE 866 806 2385
WWW.CAMBRIDGEARCHITECTURAL.COM

Request Phase: **Pre-Bid** ☒ **Post Bid** ☐ *(See Article 15 Materials: Standards, General Conditions)*

(If Pre-bid only) Current Bid Due Date: 6/24/2020 **Request No.:** 1 **Dated:** 6/3/2020

To: **State of Connecticut**
Department of Administrative Services,
Construction Services

DAS Project No.:

Project Name / Location: Willard DiLoreto Parking Garage

References: Specification(s): **Section(s):** 102400 **Paragraph(s):** 2.1

Drawing(s): **Drawing(s) No(s):** A201-203, A601 **Detail(s) No(s):** (A203) 1,2,3,4, E-1

Contractually Specified Product: W.S. Tyler Dogla-Trio 1030 with Tension System

Contractor Proposed Product: Cambridge Architectural Mesh Cubist with Magothy Tension Attachment System

Proposed Product is: Equal: ☐ Substitute: ☒ Model No.:

IMPORTANT:
See Attached Data For Both Specified And Proposed Products
As Required By Article 15 General Conditions.

Data attached: Drawings: ☒ Product Data: ☒ Reports: ☐ Samples: ☐

Tests: ☐ Other: Written Spec

Reason(s) for not providing the Specified Product:

Cambridge is listed as an approved manufacturer, however we do not weave an exact match and also believe a flexible mesh will perform better at the panel sizes requested.

Similar Installation:

Project Name: Merritt Athletic Club Garage **Architect's Name:** Urban Design Group

Project Location: Baltimore, Maryland
https://cambridgearchitectural.com/projects/merritt-clubs-canton

Owner's Name: Merritt Athletic Club

Date Installed: 2018

Will proposed substitution impact other parts of the Work?	No ☒	Yes ☐	*If Yes Attach An Explanation.*		
Will proposed substitution increase Contract Time?	No ☒	Yes ☐	*By Number Of Calendar Days*		
Actual Dollar Savings to the State of Connecticut if substitution is accepted:	$				

The Undersigned Certifies:
That The Proposed Request For An Equal Or Substitute Product Conforms To All Of The Requirements Of Division 01 General Requirements, Section 01 25 00 Substitution Procedures.

Request Submitted By General Contractor / CMR: O&G Industries, Inc.
(Firm's Typed Name)

By:	William M. Coyne	Vice-President	William M. Coyne	6/4/2020
	(Typed Name)	*(Title)*	*(Signature)*	*(Date)*

Contractor / CMR Send copies to : DAS PM: ☐ CA: ☐

Consultant's Request Received on (Date):

Consultant's Review – This Substitution Request is:

☒	**Approved:**	***(Submittal(s) in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)***
☐	**Approved as Noted:**	***(Submittals in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)***
☐	**Rejected:**	**Use Specified Materials.**
☐	**Rejected:**	**Request Not Received Within Specified Time Period - Use Specified Materials.**

Reviewed Issued By:

Name: Thomas J. Basile R. A.
(Typed Name)

Title: Project Manager - DESMAN

Signature: Thomas J. Basile R.A. *(Signature)* June 12, 2020 *(Date)*

CONSULTANT Send copies to: DAS PM ☐ CA ☐ Chief Architect ☐ Chief Engineer ☐

If Approved: As noted by Consultant,
DAS Chief Architect: *(Signature)* *(Date)*

Copies: Project File Red R2

END

SUBSTITUTION REQUEST

(During the Bidding/Negotiating Stage)

Project: Willard DiLoreto Parking Garage
55 Paul Manafort Sr Dr New Britain 0605

Substitution Request Number: 2

From: Cambridge Architectural Mesh

To: JCJ Architecture
120 Huyshope Avenue, Suite 400

Date: 05/01/2020

A/E Project Number:

Re: Alternative Approval - Architectural Mesh

Contract For: Architectural Mesh System

Specification Title: "Metal Architectural Mesh"

Description: W.S. Tyler DOGLA-TRIO 1030

Section: 10 24 00 Page: 1 - 3
10 24 00

Article/Paragraph: 2.1 A

Proposed Substitution: Magothy Parking Screen System with Cubist Mesh

Manufacturer: Cambridge Arc Address: 105 Goodwill Rd, Cambri Phone: (866) 806-2385

Trade Name: Cambridge Architectural Mesh Model No: Magothy System

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- x Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- x Same warranty will be furnished for proposed substitution as for specified product.
- x Same maintenance service and source of replacement parts, as applicable, is available.
- x Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- x Proposed substitution does not affect dimensions and functional clearances.
- x Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Ivan Zorn

Signed by: Ivan Zorn

Firm: Cambridge Architectural Mesh

Address: 105 Goodwill Road
Cambridge, MD 21613

Telephone: 410-901-8686

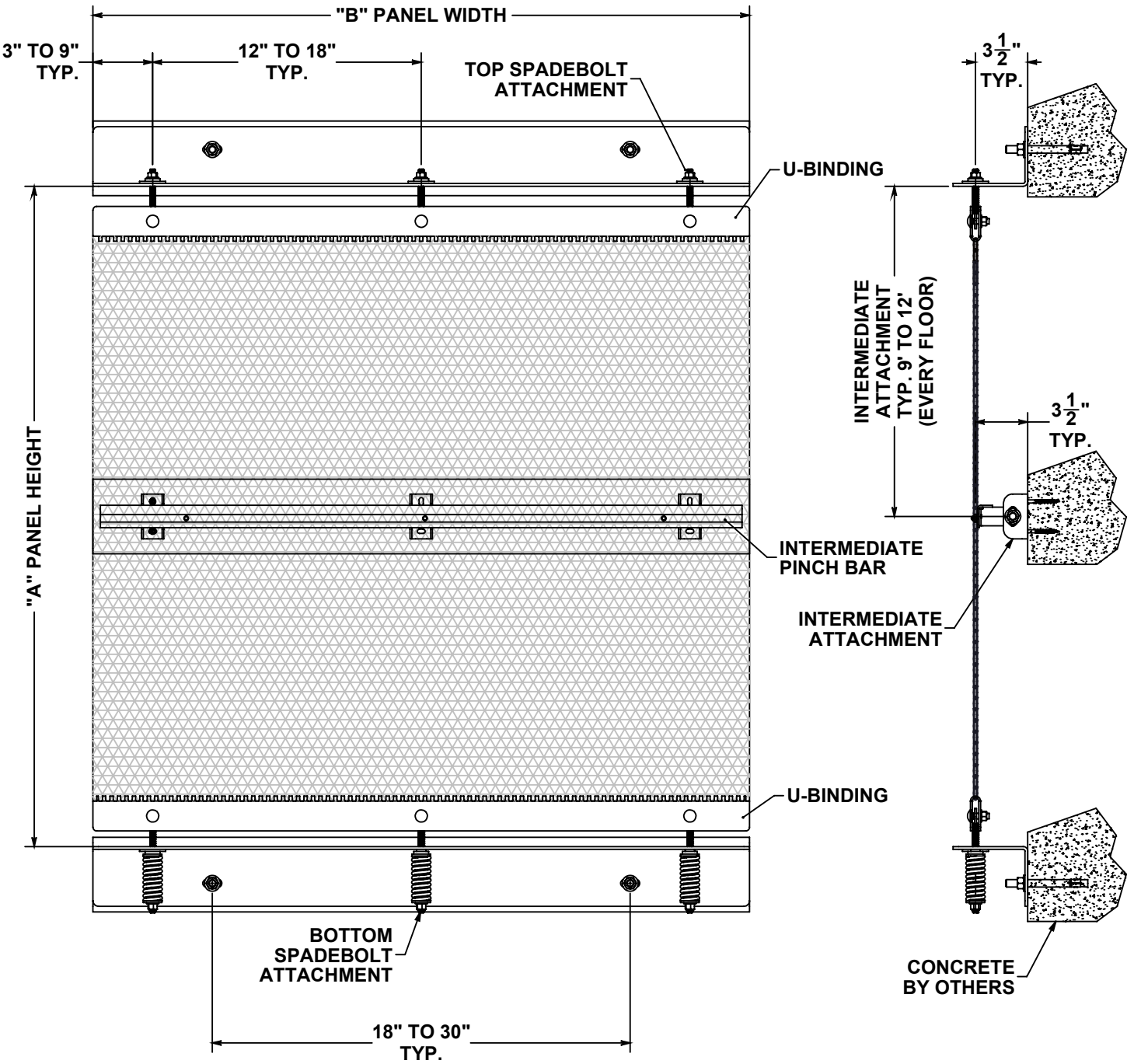
A/E's REVIEW AND ACTION

Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
Substitution rejected - Use specified materials.
Substitution Request received too late - Use specified materials.

Signed by:

Date: 05/01/2020

Supporting Data Attached: ▪ Drawings ▪ Product Data Samples Tests Reports _____



STANDARD SIZES			
WIDTH	LENGTH	PANEL TYPE	INTERMEDIATE SPAN
UP TO 12'	UP TO 60'	FULL HEIGHT	NO MORE THAN 12'

SYSTEM DESIGN ATTRIBUTES	
WEAVE TYPE	BALANCE WEAVE
ATTACHMENT TYPE	FULL HEIGHT SPRING TENSIONED
PRIMARY VERTICAL LOAD	TOP & BOTTOM ANGLE ATTACHMENT

SYSTEM COMPONENTS	
MESH PATTERNS:	MID-BALANCE
	MID-SHADE
	SCALE
	HURON
	CUBIST
SPADEBOLT MATERIAL	T316 STAINLESS STEEL
BINDING MATERIAL	T316 STAINLESS STEEL
STRUCTURE MATERIAL	CONCRETE
HARDWARE MATERIAL	18-8 STAINLESS STEEL

"MAGOTHY" PARKING SCREEN

NOT TO SCALE

CAMBRIDGE ARCHITECTURAL MESH

CAMBRIDGE ARCHITECTURAL MESH
105B GOODWILL RD · CAMBRIDGE, MD 21613
TOLL FREE 866 806 2385
WWW.CAMBRIDGEARCHITECTURAL.COM

CUBIST

Flexible	
Material	Stainless Steel
Open Area	80%
Weight	2.21 lb/ft^2 10.79 kg/m^2
Maximum Width	144" (3.66m)

Attachments
Eclipse™
Railflex™
Scroll™
Velocity™

CAMBRIDGE ARCHITECTURAL

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TOLL FREE 866 806 2385

SAMPLE SHOWN AT FULL SCALE.
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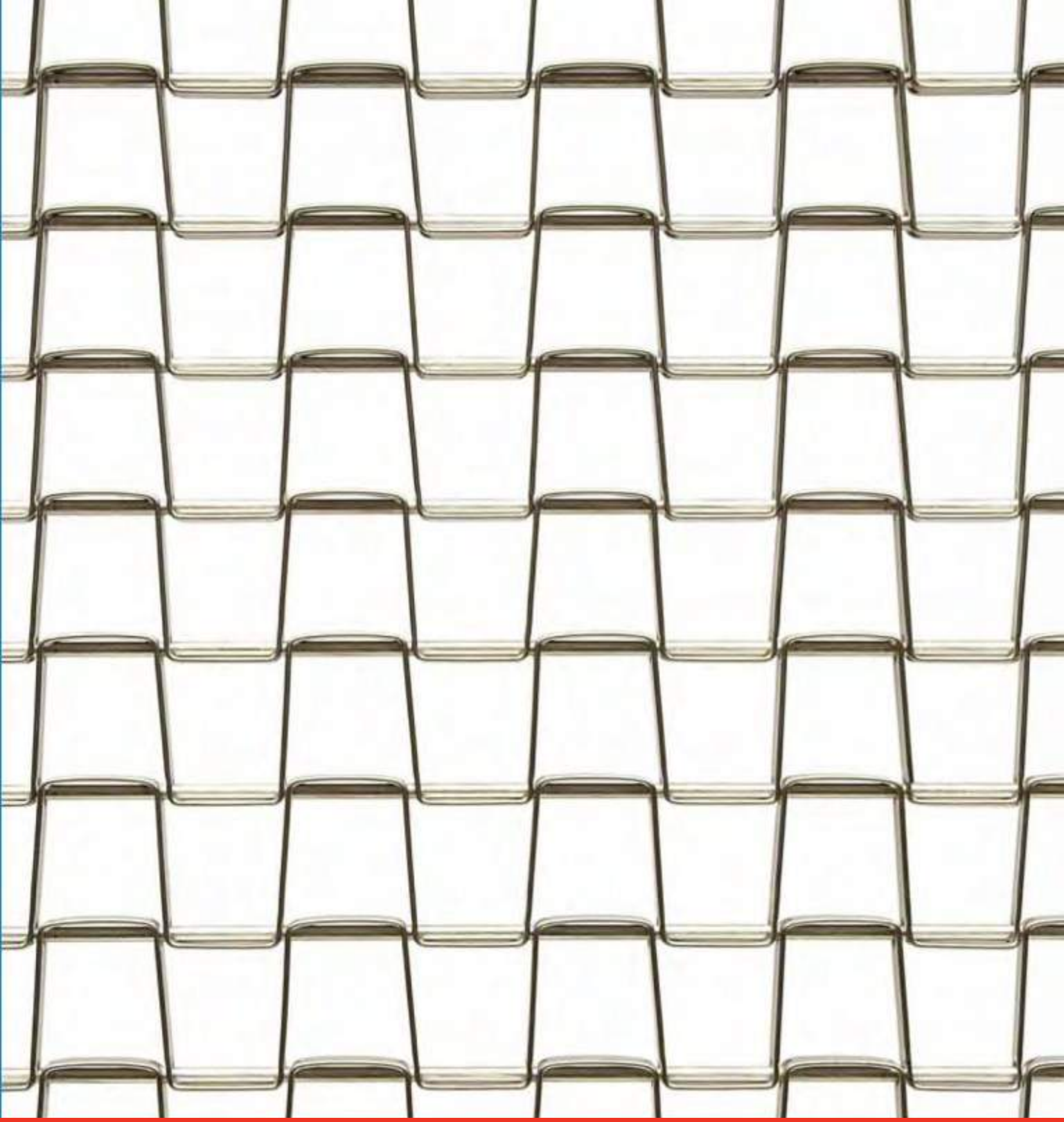
SPECIFICATIONS SUBJECT TO CHANGE.



CUBIST

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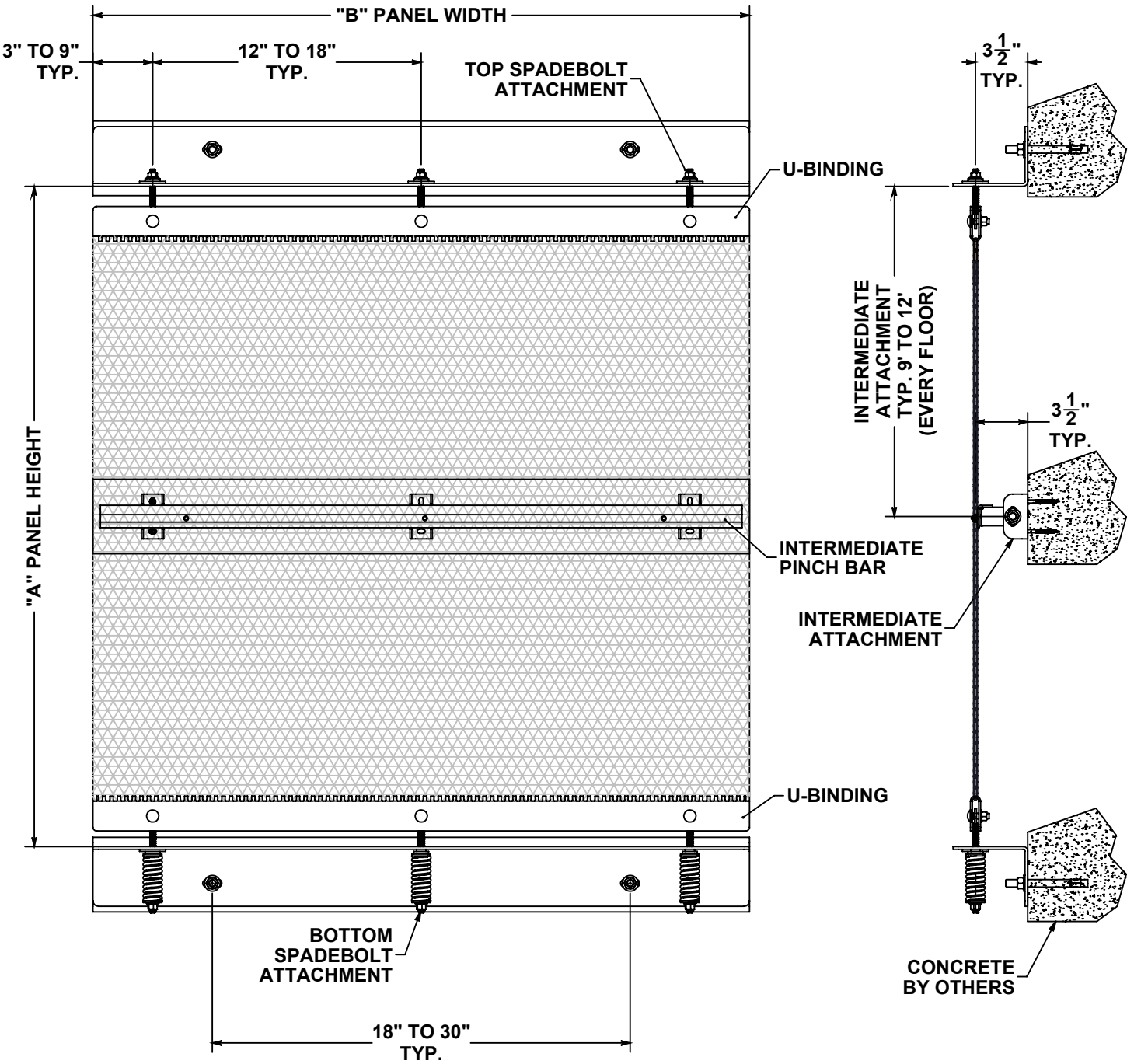

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STRUCTURE MATERIAL	CONCRETE
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"MAGOTHY" PARKING SCREEN

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7001
Equal or Substitute Product Request

Request Phase: **Pre-Bid** ☒ **Post Bid** ☐ (*See Article 15 Materials: Standards, General Conditions*)

(If Pre-bid only) Current Bid Due Date: 6/17/2020 **Request No.:** 1 **Dated:** 6/3/2020

To: **State of Connecticut**
Department of Administrative Services,
Construction Services

DAS Project No.:

Project Name / Location: Willard DiLoreto Parking Garage

References: Specification(s): Section(s): 102400 Paragraph(s): 2.1

Drawing(s): Drawing(s) No(s): A201-203, A601 Detail(s) No(s): (A203) 1,2,3,4, E-1

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Request Submitted By General Contractor / CMR: Dimeo Construction Company
(Firm's Typed Name)

By:	Jarod Wasserman	Sr. Estimator	JDW	06/10/2020
	(Typed Name)	*(Title)*	*(Signature)*	*(Date)*

Contractor / CMR Send copies to : **DAS PM:** ☐ **CA:** ☐

Consultant's Request Received on (Date): 06-12-20

Consultant's Review – This Substitution Request is:

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Reviewed Issued By:

Name: Thomas J. Basile R.A.
(Typed Name)

Title: Project Manager - DESMAN

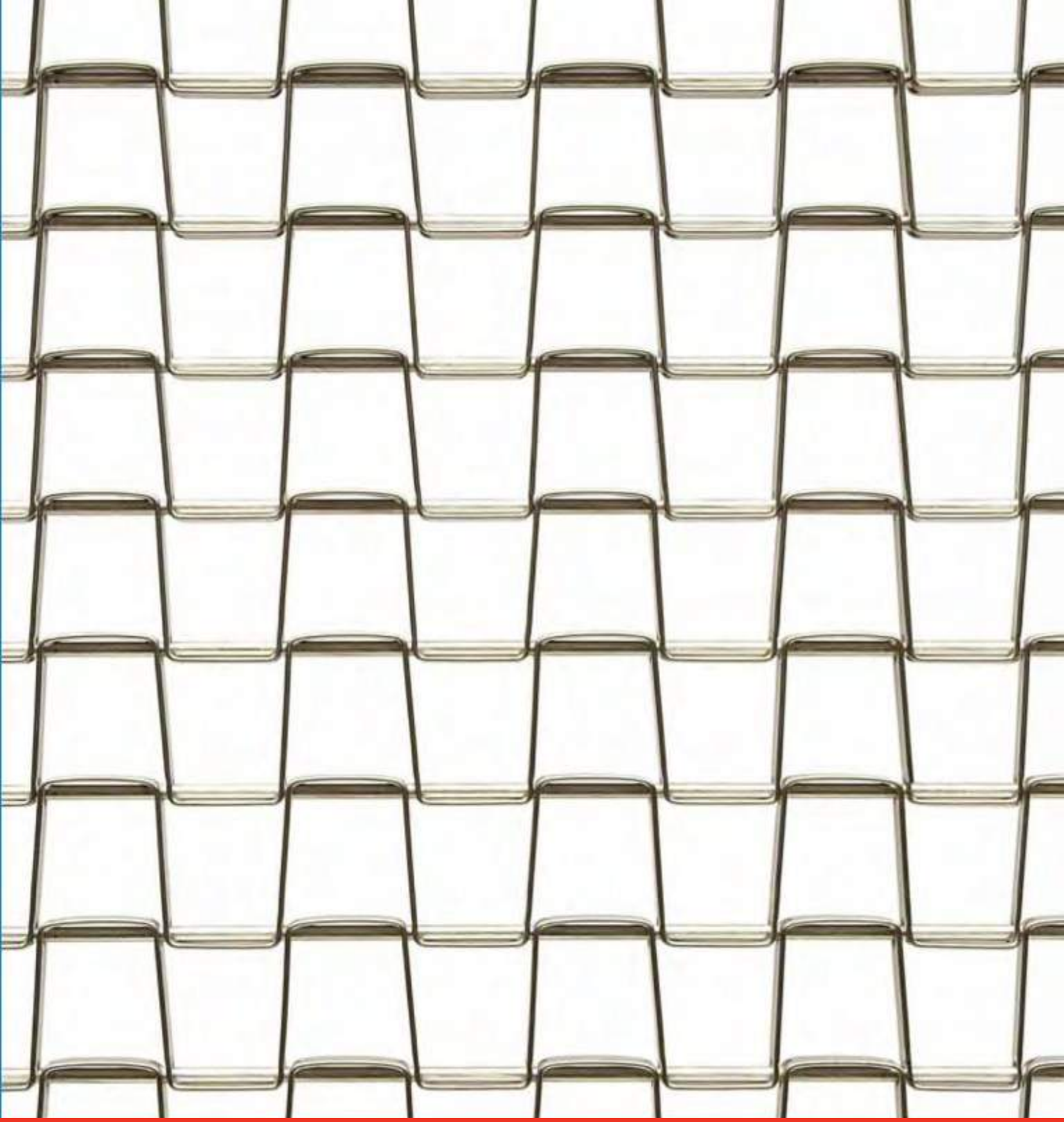
Signature: Thomas J. Basile R.A. *(Signature)* June 12, 2020 *(Date)*

CONSULTANT Send copies to:	DAS PM	☐	CA	☐	Chief Architect	☐	Chief Engineer	☐

If Approved: As noted by Consultant,
DAS Chief Architect: _____ *(Signature)* _____ *(Date)*

Copies: Project File Red R2

END



CUBIST

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SAMPLE SHOWN AT FULL SCALE
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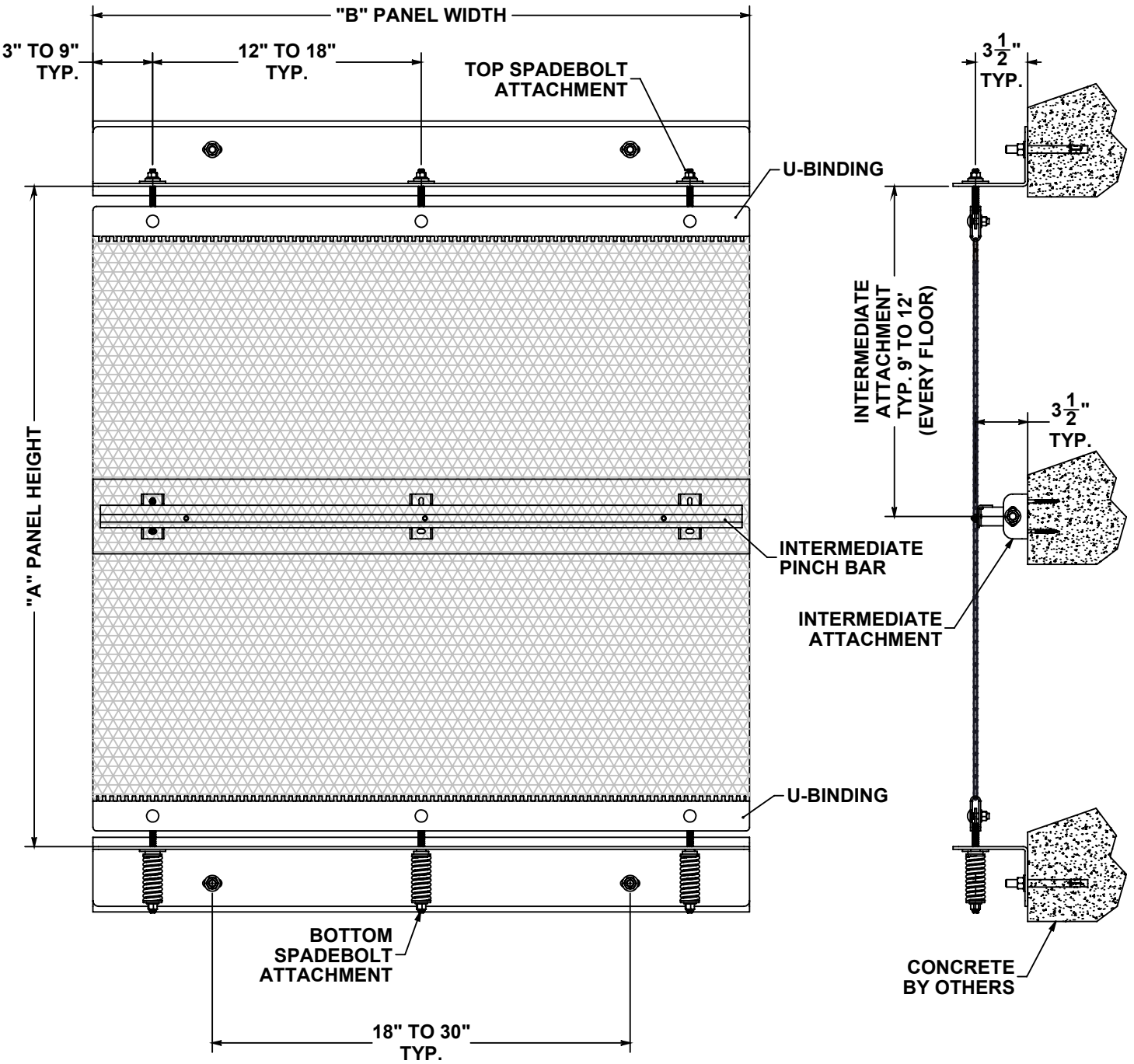

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SPADEBOLT MATERIAL	T316 STAINLESS STEEL
BINDING MATERIAL	T316 STAINLESS STEEL
STRUCTURE MATERIAL	CONCRETE
HARDWARE MATERIAL	18-8 STAINLESS STEEL

"MAGOTHY" PARKING SCREEN

NOT TO SCALE

CAMBRIDGE ARCHITECTURAL MESH

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TOLL FREE 866 806 2385
WWW.CAMBRIDGEARCHITECTURAL.COM

7001
Equal or Substitute Product Request

Request Phase: **Pre-Bid** X **Post Bid** ☐ (*See Article 15 Materials: Standards, General Conditions*)

(If Pre-bid only) Current Bid Due Date: 06/17/2020 **Request No.:** 1 **Dated:** 05/11/20

To: **State of Connecticut**
Department of Administrative Services,
Construction Services

DAS Project No.: CF-RC-402

Project Name / Location: Willard DiLoretto Parking Garage
New Britain, CT

References: Specification(s): Section(s): 10.24.00 Paragraph(s): 2.2 (A)

Drawing(s): Drawing(s) No(s): A-201 & A-202 Detail(s) No(s): A-203

Contractually Specified Product: Dogla-Trio 1030

Contractor Proposed Product: Chesapeake

Proposed Product is: Equal: ☐ Substitute: X Model No.:

IMPORTANT:
See Attached Data For Both Specified And Proposed Products
As Required By Article 15 General Conditions.

Data attached: Drawings: ☐ Product Data: X Reports: ☐ Samples: ☐

Tests: ☐ Other:

Reason(s) for not providing the Specified Product:

This pattern can span each bay full-width whereas the specified product cannot. Because the panels are functioning as pedestrian restraints, full-width panels are a better option due to there being no gaps between them.

Similar Installation:

Project Name: COPTA **Architect's Name:** Tap Architecture

Project Location: Oklahoma City, OK **Owner's Name:** Central Oklahoma Transportation and Parking Authority

Date Installed: 2014

Will proposed substitution impact other parts of the Work?	**No** X	**Yes** ☐	***If Yes Attach An Explanation.***	
Will proposed substitution increase Contract Time?	**No** X	**Yes** ☐	***By Number Of Calendar Days***	
Actual Dollar Savings to the State of Connecticut if substitution is accepted:	**$**			

The Undersigned Certifies:
That The Proposed Request For An Equal Or Substitute Product Conforms To All Of The Requirements Of Division 01 General Requirements, Section 01 25 00 Substitution Procedures.

Request Submitted By General Contractor / CMR: Bartlett Brainard Eacott, Inc.
(Firm's Typed Name)

By:	Gerry Holland	Vice President	Gerry Holland	6/4/2020
	(Typed Name)	*(Title)*	*(Signature)*	*(Date)*

Contractor / CMR Send copies to : **DAS PM:** ☐ **CA:** ☐

Consultant's Request Received on (Date): June 12, 2020

Consultant's Review – This Substitution Request is:

☒	**Approved:**	***(Submittal(s) in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)***
☐	**Approved as Noted:**	***(Submittals in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)***
☐	**Rejected:**	**Use Specified Materials.**
☐	**Rejected:**	**Request Not Received Within Specified Time Period - Use Specified Materials.**

Reviewed Issued By:

Name: Thomas J. Basile R.A.
(Typed Name)

Title: Project Manager - DESMAN

Signature: Thomas J. Basile R.A. *(Signature)* June 12, 2020 *(Date)*

CONSULTANT Send copies to:	DAS PM ☐	CA ☐	Chief Architect ☐	Chief Engineer ☐

If Approved: As noted by Consultant,
DAS Chief Architect: *(Signature)* *(Date)*

Copies: Project File Red R2

END

Chesapeake

Product Specifications

Flexible, one direction

Material	AISI Type 316 SS
Open Area	83%
Weight	1.85 lbs/sqft
Max. width	20'

Supplied with clinched rod edge finish.

System Components

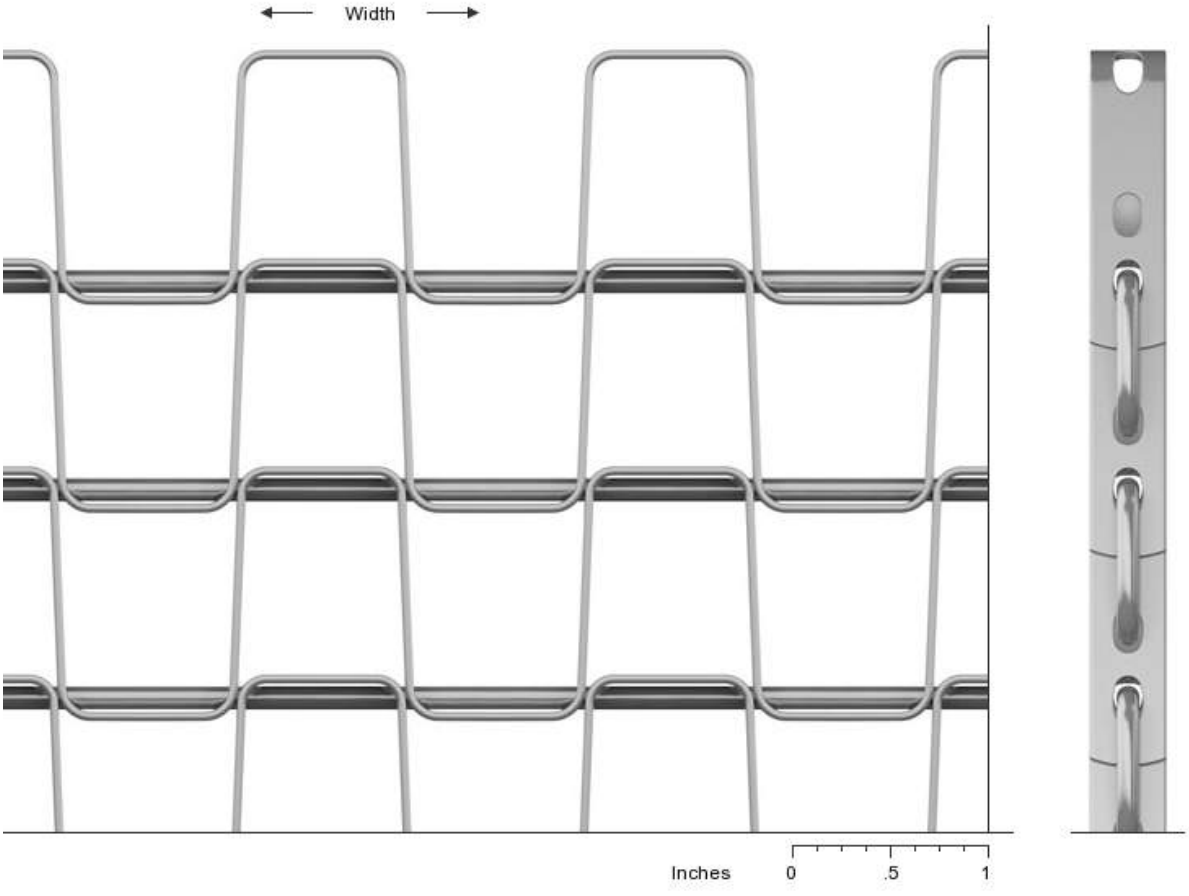
Flat & angle, threaded rod
StealthLok

Applications

Sunshade / Solar Management
Facades
Safety and Security
Partitions

North American Headquarters

GKD-USA Inc
825 Chesapeake Drive
Cambridge MD 21613
T 800-453-8616
T 410-221-0542
F 410-221-0544
sales@gkdusa.com
gkdmetalfabrics.com



7001
Equal or Substitute Product Request

Request Phase: **Pre-Bid** X **Post Bid** ☐ (*See Article 15 Materials: Standards, General Conditions*)

(If Pre-bid only) Current Bid Due Date: 06/17/2020 **Request No.:** 1 **Dated:** 05/11/20

To: **State of Connecticut**
Department of Administrative Services,
Construction Services

DAS Project No.: CF-RC-402

Project Name / Location: Willard DiLoretto Parking Garage
New Britain, CT

References: Specification(s): Section(s): 10.24.00 Paragraph(s): 2.2 (A)

Drawing(s): Drawing(s) No(s): A-201 & A-202 Detail(s) No(s): A-203

Contractually Specified Product: Dogla-Trio 1030

Contractor Proposed Product: Helix 18

Proposed Product is: Equal: ☐ Substitute: X Model No.:

IMPORTANT:
See Attached Data For Both Specified And Proposed Products
As Required By Article 15 General Conditions.

Data attached: Drawings: ☐ Product Data: X Reports: ☐ Samples: ☐

Tests: ☐ Other:

Reason(s) for not providing the Specified Product:

This pattern can span each bay full-width whereas the specified product cannot. Because the panels are functioning as pedestrian restraints, full-width panels are a better option due to there being no gaps between them.

Similar Installation:

Project Name: New World Symphony Parking Garage

Architect's Name: Gehry Partners

Project Location: Miami, FL

Owner's Name: City of Miami Beach

Date Installed: 2010

Will proposed substitution impact other parts of the Work?	**No**	X	**Yes**	☐	***If Yes Attach An Explanation.***
Will proposed substitution increase Contract Time?	**No**	X	**Yes**	☐	***By Number Of Calendar Days***

Actual Dollar Savings to the State of Connecticut if substitution is accepted: **$**

The Undersigned Certifies:
That The Proposed Request For An Equal Or Substitute Product Conforms To All Of The Requirements Of Division 01 General Requirements, Section 01 25 00 Substitution Procedures.

Request Submitted By General Contractor / CMR: Bartlett Brainard Eacott, Inc.
(Firm's Typed Name)

By:	Gerry Holland	Vice President	Gerry Holland	6/4/2020
	(Typed Name)	*(Title)*	*(Signature)*	*(Date)*

Contractor / CMR Send copies to : **DAS PM:** ☐ **CA:** ☐

Consultant's Request Received on (Date): 06/12/20

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☐	**Rejected:**	**Request Not Received Within Specified Time Period - Use Specified Materials.**

Reviewed Issued By:

Name: Thomas J. Basile R.A.
(Typed Name)

Title: Project Manager- DESMAN

Signature: Thomas J. Basile R.A. *(Signature)* June 12, 2020 *(Date)*

CONSULTANT Send copies to:	DAS PM	☐	CA	☐	Chief Architect	☐	Chief Engineer	☐

If Approved: As noted by Consultant,
DAS Chief Architect: _____ *(Signature)* _____ *(Date)*

Copies: Project File Red R2

END

Helix 18

Product Specifications

Flexible, one direction

Material	AISI Type 316 SS
Open Area	74%
Weight	1.1 lbs/sqft
Max. width	20'

System Components

Flats with flat eye
StealthLok
StealthLok Sprung
WIB - hooks and springs
WIB - eyebolts top and bottom
WIB - hooks and eyebolts

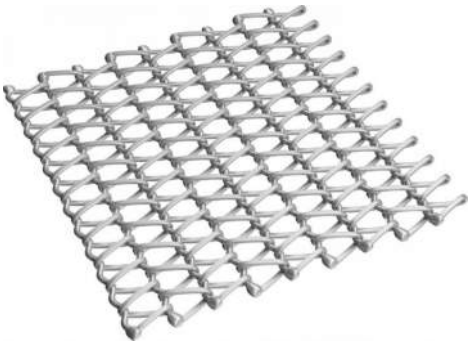
Applications

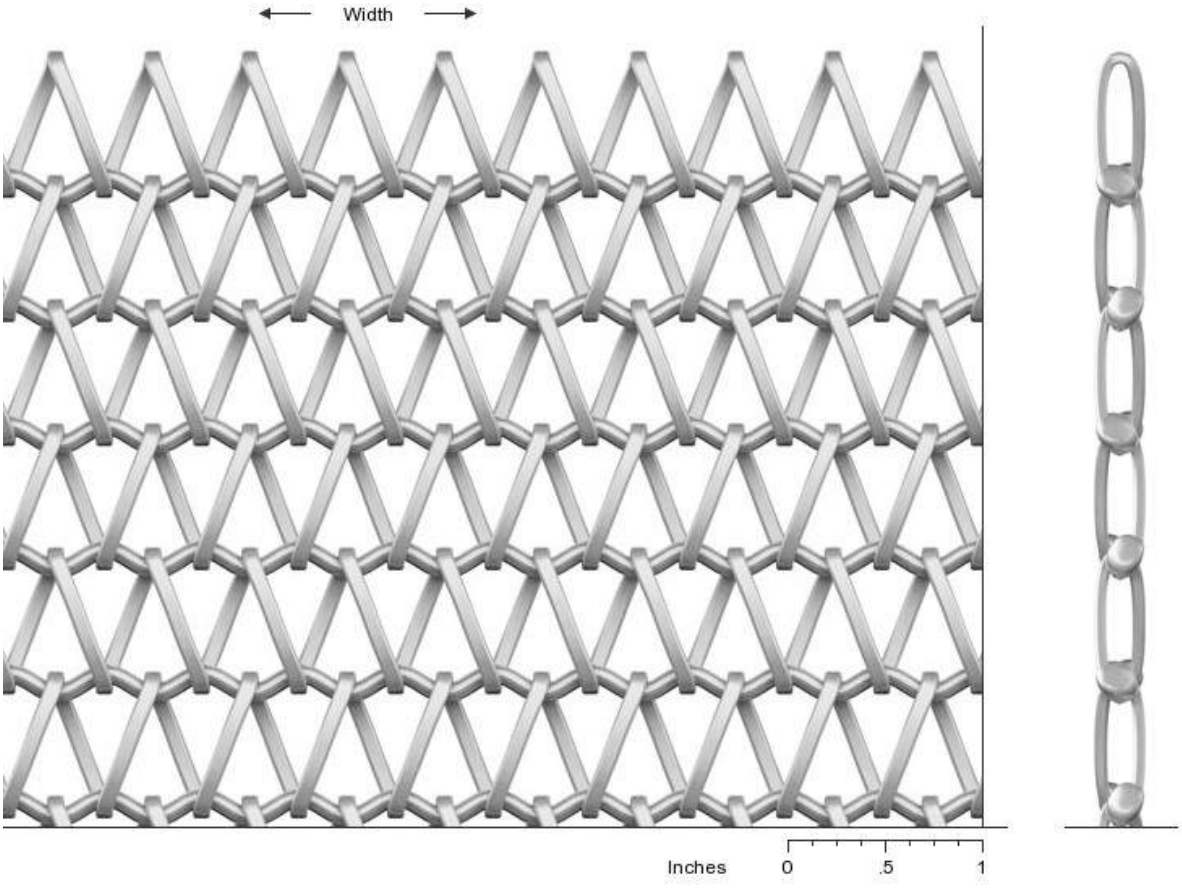
Solar Management
Ceilings
Partitions

North American Headquarters

North America
GKD-USA, Inc.

825 Chesapeake Drive
Cambridge MD 21613
Direct: 410.901.8429 or 410.901.8428
Toll Free: 800-453-8616
Fax: 410-221-0544
metalfabrics@gkdusa.com





7001
Equal or Substitute Product Request

Request Phase: **Pre-Bid** X **Post Bid** ☐ (*See Article 15 Materials: Standards, General Conditions*)

(If Pre-bid only) Current Bid Due Date: 06/17/2020 **Request No.:** 1 **Dated:** 05/11/20

To: **State of Connecticut**
Department of Administrative Services,
Construction Services

DAS Project No.: CF-RC-402

Project Name / Location: Willard DiLoretto Parking Garage
New Britain, CT

References: Specification(s): Section(s): 10.24.00 Paragraph(s): 2.2 (A)

Drawing(s): Drawing(s) No(s): A-201 & A-202 Detail(s) No(s): A-203

Contractually Specified Product: Dogla-Trio 1030

Contractor Proposed Product: Tigris Twist 280x25

Proposed Product is: Equal: ☐ Substitute: X Model No.:

IMPORTANT:
See Attached Data For Both Specified And Proposed Products
As Required By Article 15 General Conditions.

Data attached: Drawings: ☐ Product Data: X Reports: ☐ Samples: ☐

Tests: ☐ Other:

Reason(s) for not providing the Specified Product:

This pattern can span each bay full-width whereas the specified product cannot. Because the panels are functioning as pedestrian restraints, full-width panels are a better option due to there being no gaps between them.

Similar Installation:

Project Name: Oval Cricket Stadium **Architect's Name:** Rolfe Judd

Project Location: London, England **Owner's Name:**

Date Installed: 2016

Will proposed substitution impact other parts of the Work?	**No**	X	**Yes**	☐	***If Yes Attach An Explanation.***
Will proposed substitution increase Contract Time?	**No**	X	**Yes**	☐	***By Number Of Calendar Days***

Actual Dollar Savings to the State of Connecticut if substitution is accepted: **$**

The Undersigned Certifies:
That The Proposed Request For An Equal Or Substitute Product Conforms To All Of The Requirements Of Division 01 General Requirements, Section 01 25 00 Substitution Procedures.

Request Submitted By General Contractor / CMR: Bartlett Brainard Eacott, Inc.
(Firm's Typed Name)

By:	Gerry Holland	Vice President	Gerry Holland	6/4/2020
	(Typed Name)	*(Title)*	*(Signature)*	*(Date)*

Contractor / CMR Send copies to : **DAS PM:** ☐ **CA:** ☐

Consultant's Request Received on (Date): 06/12/20

Consultant's Review – This Substitution Request is:

☒	**Approved:**	***(Submittal(s) in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)***
☐	**Approved as Noted:**	***(Submittals in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)***
☐	**Rejected:**	**Use Specified Materials.**
☐	**Rejected:**	**Request Not Received Within Specified Time Period - Use Specified Materials.**

Reviewed Issued By:

Name: Thomas J. Basile R.A.
(Typed Name)

Title: Project Manager - DESMAN

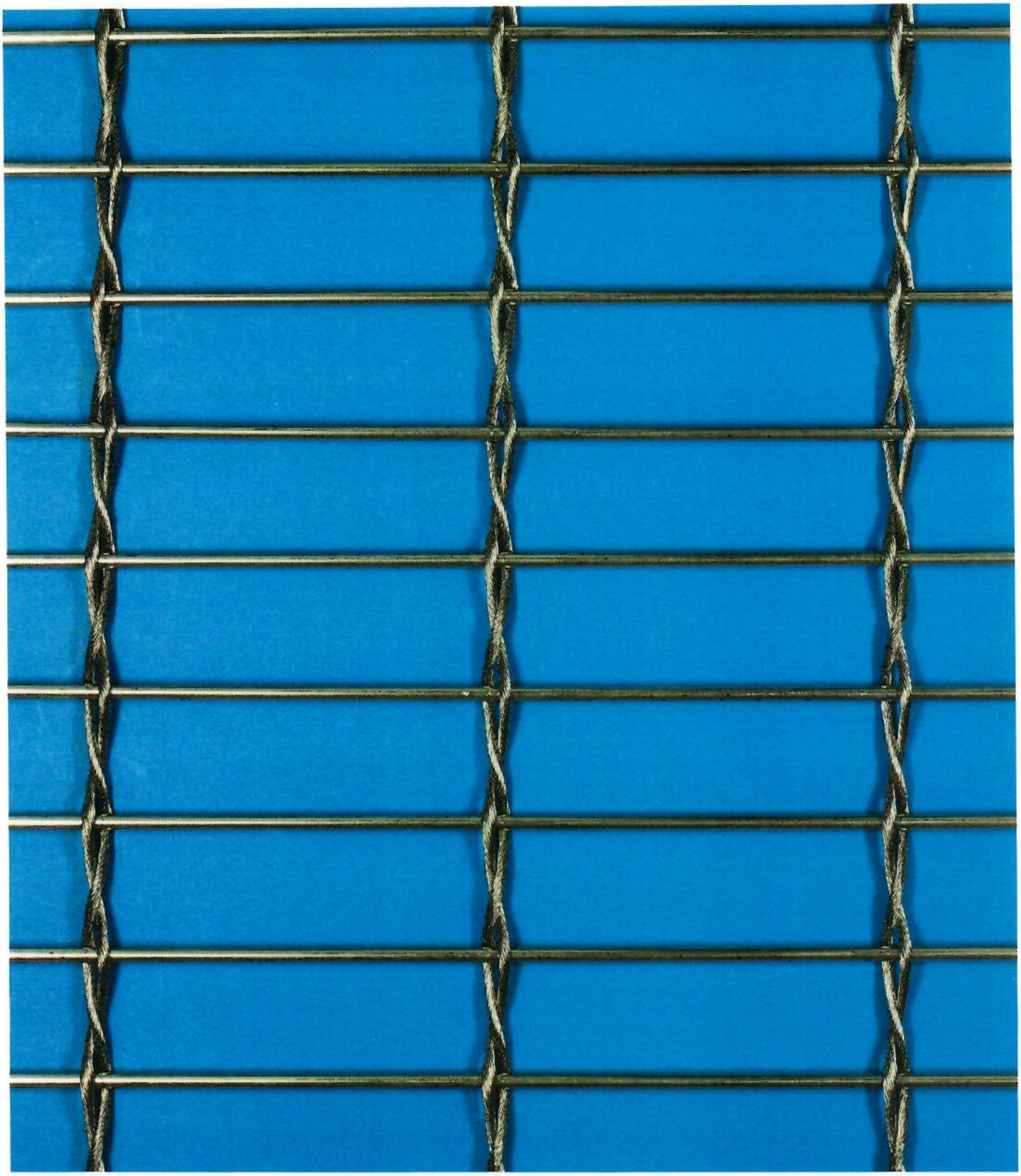
Signature: Thomas J. Basile R.A. *(Signature)* June 12, 2020 *(Date)*

CONSULTANT Send copies to:	DAS PM	☐	CA	☐	Chief Architect	☐	Chief Engineer	☐

If Approved: As noted by Consultant,
DAS Chief Architect: _____ *(Signature)* _____ *(Date)*

Copies: Project File Red R2

END



CreativeWEAVE

form function solution

Tigris 280x25 Twist

GKD

WORLD WIDE WEAVE

CreativeWEAVE
form function solution

Tigris 280x25 Twist

Metallgewebe für Architektur und Design

Technische Daten Technical Data Sheet / Fiche Technique / Información Técnica

Werkstoff Material / Matériau / Material	Edelstahl 1.4404 (AISI 316L) Stainless Steel / Acier inoxydable / Acero inoxidable	
Freie Fläche Open area / Surface ouverte / Superficie abierta	ca. 84 %	
Drahtstärke Wire diameter / Diamètre des fils / Diametro de hilos	Kettseilgruppe: 2 x 2 mm Cable / Cable / Cable	Schussstab: 3 mm Rod / Tringle / Varilla
Teilung Kettseilgruppe Cable pitch / Entraxe cables / Paso cables	80 mm	
Teilung Schuss Weft wire pitch / Entraxe tringles / Pasa trama	25 mm	
Dicke Thickness / Epaisseur / Espesor	ca. 7 mm	
Gewicht Weight / Poids / Peso	ca. 2,9kg/m²	
Maximale Gewebebreite Maximum mesh width / Largeur maximale / Ancho máximo	4 m	
Maximale Gewebelänge Maximum mesh length / Longeur de tissu maximale/ Longitud maxima de la tela	25 m	

GKD – Gebr. Kufferath AG Metallweberstraße 46 52353 Düren Germany
fon: +49 (0) 2421-803-0 fax: +49 (0) 2421-803-227 e-mail: creativeweave@gkd.de www.creativeweave.de

GKD
WORLD WIDE WEAVE

7001
Equal or Substitute Product Request

Page 1 of 2

Request Phase: Pre-Bid ☒ Post Bid ☐ *(See Article 15 Materials: Standards, General Conditions)*

(If Pre-bid only) Current Bid Due Date: 6/23/20 Request No.: Dated: 6/11/20

To: State of Connecticut
Department of Administrative Services,
Construction Services

DAS Project No.: CF-RC-402

Project Name / Location: Willard Dilorето Parking Garage

References: Specification(s): Section(s): Paragraph(s):

Drawing(s): Drawing(s) No(s): E300 Detail(s) No(s):

Contractually Specified Product:
① Beacon-SRT1-55-4K7-5M-277-WH-LMB-BRD (TYPE A+AE)
② Beacon-SRT1-55-4K7-5M-277-WH-NXSP14F-LMB-BRD (TYPE A1+AE1)

Contractor Proposed Product:
① VCPG-LED-V4-P3-40K-70CRI-TSW-MVOLT-PM-DWHXD (TYPE A + AE)
② VCPG-LED-V4-P3-40K-70CRI-TSW-MVOLT-PM-PIRH-DWHXD (TYPE A1+AE1)

Proposed Product is: Equal: ☒ Substitute: ☐ Model No.:

IMPORTANT:
See Attached Data For Both Specified And Proposed Products
As Required By Article 15 General Conditions.

Data attached: Drawings: ☐ Product Data: ☒ Reports: ☐ Samples: ☐

Tests: ☐ Other:

Reason(s) for not providing the Specified Product:
Alternate product has excellent uniformity + efficencies, and cost savings.

Similar Installation:
Project Name: Architect's Name:

Project Location: Owner's Name:

Date Installed:

CT DAS – 7001 (Rev: 12.22.16) 7000 – Construction Phase Forms

7001
Equal or Substitute Product Request

Page 2 of 2

Will proposed substitution impact other parts of the Work?	No ☒	Yes ☐	*If Yes Attach An Explanation.*		
Will proposed substitution increase Contract Time?	No ☒	Yes ☐	*By Number Of Calendar Days*		
Actual Dollar Savings to the State of Connecticut if substitution is accepted:	$ 5,000.00				

The Undersigned Certifies:
That The Proposed Request For An Equal Or Substitute Product Conforms To All Of The Requirements Of Division 01 General Requirements, Section 01 25 00 Substitution Procedures.

Request Submitted By General Contractor / CMR: _____
(Firm's Typed Name)

By: _____ *(Typed Name)* _____ *(Title)* _____ *(Signature)* _____ *(Date)*

Contractor / CMR Send copies to : DAS PM: ☐ CA: ☐

Consultant's Request Received on (Date): 06/12/20

Consultant's Review – This Substitution Request is:

☐	Approved:	*(Submittal(s) in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)*
☐	Approved as Noted:	*(Submittals in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)*
☐	Rejected:	Use Specified Materials.
☐	Rejected:	Request Not Received Within Specified Time Period - Use Specified Materials.

Reviewed Issued By:

Name: Thomas J. Basile R. A. *(Typed Name)*

Title: Project Manager - DESMAN

Signature: Thomas J. Basile R. A. *(Signature)* June 12, 2020 *(Date)*

CONSULTANT Send copies to: DAS PM ☐ CA ☐ Chief Architect ☐ Chief Engineer ☐

If Approved: As noted by Consultant,
DAS Chief Architect: _____ *(Signature)* _____ *(Date)*

Copies: Project File Red R2

END

CT DAS – 7001 (Rev: 12.22.16) 7000 – Construction Phase Forms

BEACON
design . performance . technology

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

DRIVE EDGE-LIT

FEATURES

- For ceiling mount and parking garage applications from an 8–15 foot mounting height
- Edge-lit flat lens for optimal visual comfort and uniformity across the lens
- Two optical distributions specifically design for parking garage and canopy applications are available making the Beacon Edge-Lit luminaire both versatile and functional
- UL/cUL listed for wet locations, IP65 and 3G vibration rated
- Occupancy sensor available for complete on/off and dimming operation

RELATED PRODUCTS

Drive Edge-Lit SRT2 | Orbeon | Viper Small

SRT1 PSG PAGE

SRT2 PSG PAGE

SRT BROCHURE

SPECIFICATIONS

HOUSING

- Die-cast aluminum housing ensures long electrical component life and luminaire performance
- Corrosion resistant powder coat finish both protects and provides architectural appearance
- One piece molded silicone gasket ensures weather proof seal
- Thermally isolated driver mounted to dedicated bracket reduces operating temperatures and increases driver life and reliability

OPTICS

- Edge-lit acrylic light guide provides blended non-pixelated light for unprecedented visual comfort
- Choice of multiple light outputs with lumen range of 2000–6000
- Two distribution types: Type 5 Square Wide, Type 5 Concentrated
- Wide variety of CCT's and CRI's offered: 3000K (70CRI), 3000K (80CRI), 3500K (80CRI), 4000K (70CRI), 4000K (80CRI) or 5000K (70 CRI) CCT

ELECTRICAL

- 120V–277V 50/60Hz available
- 0–10V dimming drivers are RoHS compliant

INSTALLATION

- Standard quick mount plate over standard 4" junction box or octagonal junction box and allows for simplified fixture installation
- Standard luminaire accepts a rigid or 3/4" NPT stem for pendant mounting via wet location j-box (by others)
- Optional bird deterrent shroud available for field installation

OPTIONS/CONTROLS

- Standalone occupancy sensor available for on/off or dimming operation
- Uplight option provides approximately 800 lumens and consumes only 8 additional watts
- Vandal resistant wire guard available as an option for factory installation or as an accessory for field installation.

CERTIFICATIONS

- Listed to UL1598 for use in wet location, listed for -40ºC to 40ºC applications
- IDA approved with zero uplight for 3000K and warmer CCTs
- DLC® (DesignLights Consortium) Qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org
- IP65

WARRANTY

- 5 year warranty
- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	2000–6800
Wattage Range	15–55W
Efficacy Range (LPW)	99–118
Reported Life (Hours)	50K
Weight lbs. (kg)	8 (3.6)

HUBBELL Lighting

BEACON
design . performance . technology

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

ORDERING GUIDE

Example: SRT1-35-3K7-5QW-UNV-BLT-WG

CATALOG # _____

Series	Engine	CCT	Distribution	Voltage	Color/Finish	Options
SRT1 Edge-Lit Parking Garage Size 1	**15** 15W Nominal 2000 lm	**3K7** 3000K, 70 CRI	**5QW** Type 5 Square Wide	**UNV** 120V-277V	**BLT** Black Matte Textured	**CD** Continuous Dimming[4]
	20 20W Nominal 2500 lm	**3K8** 3000K, 80 CRI	**5C** Type 5 Concentrated	**120** 120V	**BLS** Black Gloss Smooth	**WG** Wire Guard
	35 35W Nominal 4000 lm	**35K8** 3500K, 80 CRI		**208** 208V	**DBT** Dark Bronze Matte	**UD** Uplight Module[3]
	55 55W Nominal 6000 lm	**4K7** 4000K, 70 CRI		**240** 240V	**DBS** Dark Bronze Gloss Smooth	**F** Single Fuse (120, 277)[1]
		4K8 4000K, 80 CRI		**277** 277V	**GTT** Graphite Matte Textured	**LD3** 36" Lead Length[2]
		5K7 5000K, 70 CRI			**LGS** Light Grey Gloss Smooth	**LD6** 72" Lead Length[2]
					PSS Platinum Silver Smooth	**LD9** 108" Lead Length[2]
					WHT White Matte Textured	**SP10K** 10kA Surge Protection[3]
					WHS White Gloss Smooth	**LMB** Less Mounting Bracket
					VGT Verde Green Textured	
					Color Option	
					CC Custom Colors	

Control Options

NX Standalone	
NXOS12F	NX Distributed Intelligence™, PIR Occ. Sensor, Dimming Daylight Harvesting, up to 12' MH
Sensor Controls	
SCP-8F	Remote control programmable line voltage sensor (8-12' recommended mounting height)[5]
SCP-20F	Remote control programmable line voltage sensor (12-20' recommended mounting height) [5]

Accessories (Order Separately)

☐	**SRT1-WG**	Wire Guard
☐	**SRT-MB**	Mounting bracket for pre-installation
☐	**SRT1-BS-XXX**	Bird deterrent shroud for SRT1 version, not available with uplight
☐	**SCP-REMOTE**	Remote control for SCP option; order at least on per project to program and control

Notes:

1 Must specify voltage
2 Standard wire lead length 24"
3 SP10K LED indicator not available with uplight
4 Specify when using external 0-10V dimming system
5 120V or 277V only

PERFORMANCE DATA

Nominal Watts	Nominal Lumens	Distribution	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
15	2000	5C	2470	146.61	1	0	1	2459	145.91	1	0	1	2364	140.30	1	0	1
		5QW	2378	141.15	1	0	1	2367	140.48	1	0	1	2276	135.07	1	0	1
20	3000	5C	3093	136.86	1	0	1	3078	136.21	1	0	1	2960	130.97	1	0	1
		5QW	2974	131.60	1	0	1	2960	130.97	1	0	1	2846	125.93	1	0	1
35	4500	5C	4757	131.05	2	0	1	4734	130.42	2	0	1	4552	125.41	2	0	1
		5QW	4574	126.01	2	0	1	4552	125.41	2	0	1	4377	120.58	2	0	1
55	6500	5C	6814	127.13	2	0	1	6782	126.52	2	0	1	6521	121.66	2	0	1
		5QW	6552	122.24	3	0	1	6521	121.66	3	0	1	6270	116.98	3	0	1

ELECTRICAL DATA

Nominal Watts	System Watts	Line Voltage		AMPS AC				Dimming Range	Absolute Voltage Range on 0-10V (+)	
		VAC	HZ	120	208	240	277		VAC	HZ
15	16.9	120-277	50/60	0.14	0.08	0.07	0.06	10% to 100%	0V	10V
20	21.6	120-277	50/60	0.18	0.10	0.09	0.08	10% to 100%	0V	10V
35	34.6	120-277	50/61	0.29	0.17	0.14	0.12	10% to 100%	0V	10V
55	54.9	120-277	50/62	0.46	0.26	0.23	0.20	10% to 100%	0V	10V

HUBBELL Lighting

BEACON
design . performance . technology

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

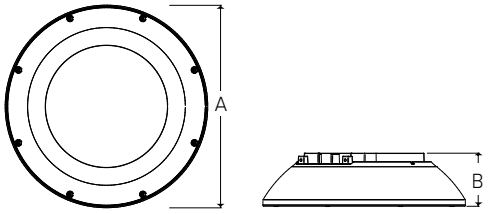
PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.98	0.96	0.95	0.89	278,000
40°C / 104°F	0.99	0.98	0.96	0.94	0.88	264,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

DIMENSIONS



A	B	Weight
12" (304mm)	3.1" (78mm)	8lbs (3.6kg)

ADDITIONAL INFORMATION

FINISH OPTIONS

DB Dark Bronze Textured

BL Black Textured

PS Platinum Silver Smooth

GYS Gray Smooth

WH White Textured

GT Graphite Textured

Wire Guard

An optional wire guard can be specified at the factory or as an accessory for field installation.

Bird Deterrent

An optional bird shroud deterrent can be specified at the factory or as an accessory for field installation.

HUBBELL Lighting

DATE: LOCATION:

TYPE: PROJECT:

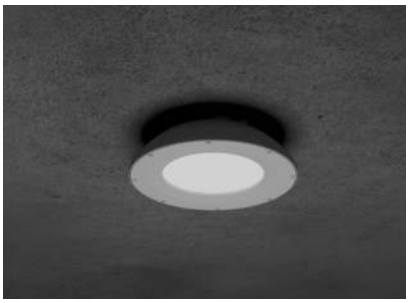
CATALOG #:

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

ADDITIONAL INFORMATION (CONT'D)

MOUNTING



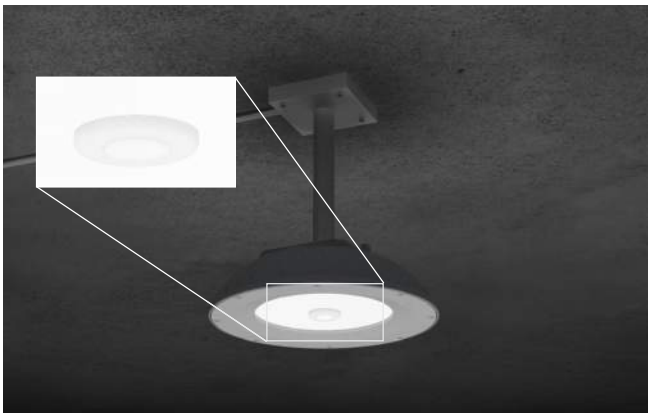
Surface Mount

Mounting plate with “quick mount” hanger for one person simple installation.

Pendant Mount

Standard 3/4" threaded entry for pendant applications.

CONTROLS



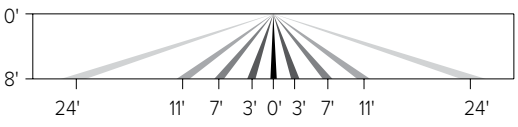
Standalone Controls

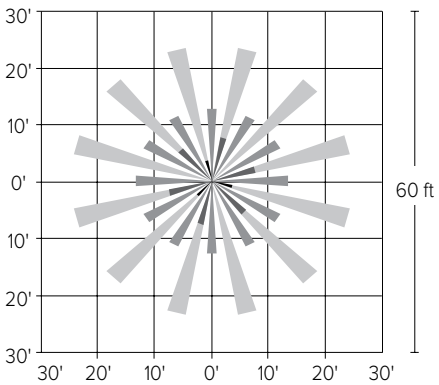
Optional passive infrared sensors are available for basic occupancy and daylight sensing. Programmable via remote or Bluetooth® phone app.

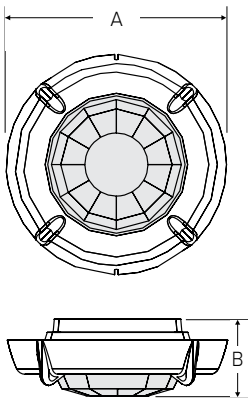
Uplight

Optional uplight module provides 800 lumens of indirect illumination for improved visual quality while eliminating cave effect.

SCP-8F







A	B
2.3" (59mm)	.8" (20mm)

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

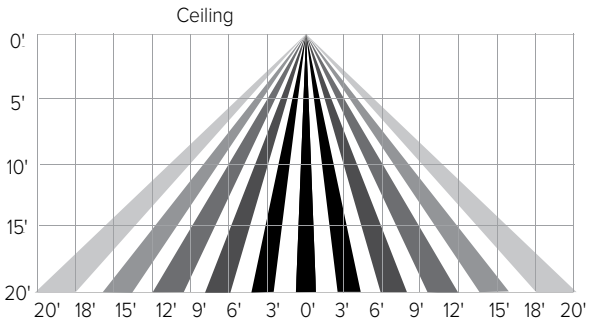
SRT1 EDGE-LIT

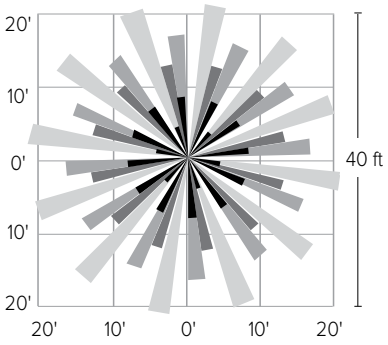
CEILING/SURFACE/GARAGE

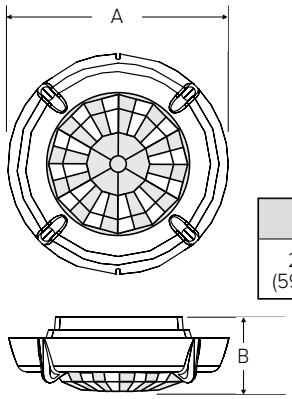
ADDITIONAL INFORMATION (CONT'D)

CONTROLS (CONT'D)

SCP-20F

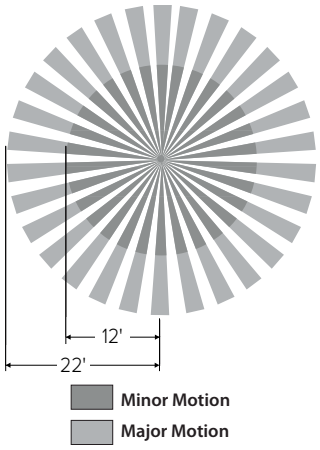


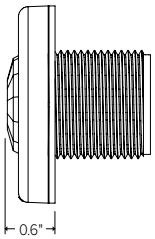


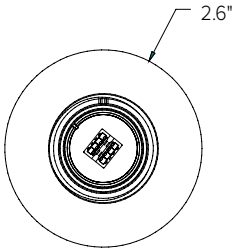


A	B
2.3" (59mm)	.8" (20mm)

NXOS12F







NXSMP-OMNI Range

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

DRIVE EDGE-LIT

FEATURES

- For ceiling mount and parking garage applications from an 8–15 foot mounting height
- Edge-lit flat lens for optimal visual comfort and uniformity across the lens
- Two optical distributions specifically design for parking garage and canopy applications are available making the Beacon Edge-Lit luminaire both versatile and functional
- UL/cUL listed for wet locations, IP65 and 3G vibration rated
- Occupancy sensor available for complete on/off and dimming operation

RELATED PRODUCTS

Drive Edge-Lit SRT2 | Orbeon | Viper Small

SRT1 PSG PAGE

SRT2 PSG PAGE

SRT BROCHURE

SPECIFICATIONS

HOUSING

- Die-cast aluminum housing ensures long electrical component life and luminaire performance
- Corrosion resistant powder coat finish both protects and provides architectural appearance
- One piece molded silicone gasket ensures weather proof seal
- Thermally isolated driver mounted to dedicated bracket reduces operating temperatures and increases driver life and reliability

OPTICS

- Edge-lit acrylic light guide provides blended non-pixelated light for unprecedented visual comfort
- Choice of multiple light outputs with lumen range of 2000–6000
- Two distribution types: Type 5 Square Wide, Type 5 Concentrated
- Wide variety of CCT's and CRI's offered: 3000K (70CRI), 3000K (80CRI), 3500K (80CRI), 4000K (70CRI), 4000K (80CRI) or 5000K (70 CRI) CCT

ELECTRICAL

- 120V–277V 50/60Hz available
- 0–10V dimming drivers are RoHS compliant

INSTALLATION

- Standard quick mount plate over standard 4" junction box or octagonal junction box and allows for simplified fixture installation
- Standard luminaire accepts a rigid or 3/4" NPT stem for pendant mounting via wet location j-box (by others)
- Optional bird deterrent shroud available for field installation

OPTIONS/CONTROLS

- Standalone occupancy sensor available for on/off or dimming operation
- Uplight option provides approximately 800 lumens and consumes only 8 additional watts
- Vandal resistant wire guard available as an option for factory installation or as an accessory for field installation.

CERTIFICATIONS

- Listed to UL1598 for use in wet location, listed for -40ºC to 40ºC applications
- IDA approved with zero uplight for 3000K and warmer CCTs
- DLC® (DesignLights Consortium) Qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org
- IP65

WARRANTY

- 5 year warranty
- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	2000–6800
Wattage Range	15–55W
Efficacy Range (LPW)	99–118
Reported Life (Hours)	50K
Weight lbs. (kg)	8 (3.6)

HUBBELL Lighting

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

ORDERING GUIDE

Example: SRT1-35-3K7-5QW-UNV-BLT-WG

CATALOG # _____

Series	Engine	CCT	Distribution	Voltage	Color/Finish	Options
SRT1 Edge-Lit Parking Garage Size 1	**15** 15W Nominal 2000 lm	**3K7** 3000K, 70 CRI	**5QW** Type 5 Square Wide	**UNV** 120V-277V	**BLT** Black Matte Textured	**CD** Continuous Dimming[4]
	20 20W Nominal 2500 lm	**3K8** 3000K, 80 CRI	**5C** Type 5 Concentrated	**120** 120V	**BLS** Black Gloss Smooth	**WG** Wire Guard
	35 35W Nominal 4000 lm	**35K8** 3500K, 80 CRI		**208** 208V	**DBT** Dark Bronze Matte	**UD** Uplight Module[3]
	55 55W Nominal 6000 lm	**4K7** 4000K, 70 CRI		**240** 240V	**DBS** Dark Bronze Gloss Smooth	**F** Single Fuse (120, 277)[1]
		4K8 4000K, 80 CRI		**277** 277V	**GTT** Graphite Matte Textured	**LD3** 36" Lead Length[2]
		5K7 5000K, 70 CRI			**LGS** Light Grey Gloss Smooth	**LD6** 72" Lead Length[2]
					PSS Platinum Silver Smooth	**LD9** 108" Lead Length[2]
					WHT White Matte Textured	**SP10K** 10kA Surge Protection[3]
					WHS White Gloss Smooth	**LMB** Less Mounting Bracket
					VGT Verde Green Textured	
					Color Option	
					CC Custom Colors	

Control Options

NX Standalone

NXOS12F	NX Distributed Intelligence™, PIR Occ. Sensor, Dimming Daylight Harvesting, up to 12' MH

Sensor Controls

SCP-8F	Remote control programmable line voltage sensor (8-12' recommended mounting height)[5]
SCP-20F	Remote control programmable line voltage sensor (12-20' recommended mounting height) [5]

Accessories (Order Separately)

☐ **SRT1-WG**	Wire Guard
☐ **SRT-MB**	Mounting bracket for pre-installation
☐ **SRT1-BS-XXX**	Bird deterrent shroud for SRT1 version, not available with uplight
☐ **SCP-REMOTE**	Remote control for SCP option; order at least on per project to program and control

Notes:

1 Must specify voltage
2 Standard wire lead length 24"
3 SP10K LED indicator not available with uplight
4 Specify when using external 0-10V dimming system
5 120V or 277V only

PERFORMANCE DATA

Nominal Watts	Nominal Lumens	Distribution	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
15	2000	5C	2470	146.61	1	0	1	2459	145.91	1	0	1	2364	140.30	1	0	1
		5QW	2378	141.15	1	0	1	2367	140.48	1	0	1	2276	135.07	1	0	1
20	3000	5C	3093	136.86	1	0	1	3078	136.21	1	0	1	2960	130.97	1	0	1
		5QW	2974	131.60	1	0	1	2960	130.97	1	0	1	2846	125.93	1	0	1
35	4500	5C	4757	131.05	2	0	1	4734	130.42	2	0	1	4552	125.41	2	0	1
		5QW	4574	126.01	2	0	1	4552	125.41	2	0	1	4377	120.58	2	0	1
55	6500	5C	6814	127.13	2	0	1	6782	126.52	2	0	1	6521	121.66	2	0	1
		5QW	6552	122.24	3	0	1	6521	121.66	3	0	1	6270	116.98	3	0	1

ELECTRICAL DATA

Nominal Watts	System Watts	Line Voltage		AMPS AC				Dimming Range	Absolute Voltage Range on 0-10V (+)	
		VAC	HZ	120	208	240	277		VAC	HZ
15	16.9	120-277	50/60	0.14	0.08	0.07	0.06	10% to 100%	0V	10V
20	21.6	120-277	50/60	0.18	0.10	0.09	0.08	10% to 100%	0V	10V
35	34.6	120-277	50/61	0.29	0.17	0.14	0.12	10% to 100%	0V	10V
55	54.9	120-277	50/62	0.46	0.26	0.23	0.20	10% to 100%	0V	10V

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

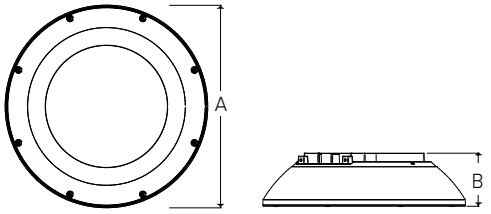
PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.98	0.96	0.95	0.89	278,000
40°C / 104°F	0.99	0.98	0.96	0.94	0.88	264,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

DIMENSIONS



A	B	Weight
12" (304mm)	3.1" (78mm)	8lbs (3.6kg)

ADDITIONAL INFORMATION

FINISH OPTIONS

DB Dark Bronze Textured

BL Black Textured

PS Platinum Silver Smooth

GYS Gray Smooth

WH White Textured

GT Graphite Textured

Wire Guard

An optional wire guard can be specified at the factory or as an accessory for field installation.

Bird Deterrent

An optional bird shroud deterrent can be specified at the factory or as an accessory for field installation.

HUBBELL Lighting

DATE: LOCATION:

TYPE: PROJECT:

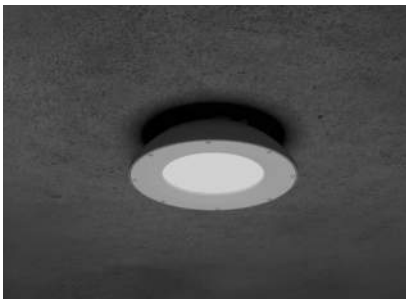
CATALOG #:

SRT1 EDGE-LIT

CEILING/SURFACE/GARAGE

ADDITIONAL INFORMATION (CONT'D)

MOUNTING



Surface Mount

Mounting plate with “quick mount” hanger for one person simple installation.

Pendant Mount

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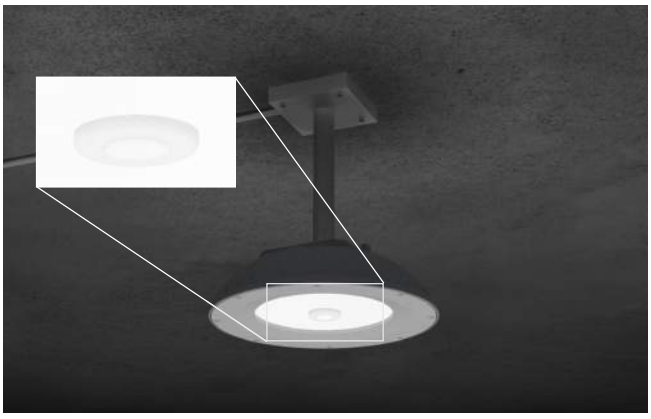
CONTROLS



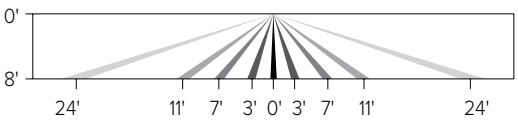
Standalone Controls

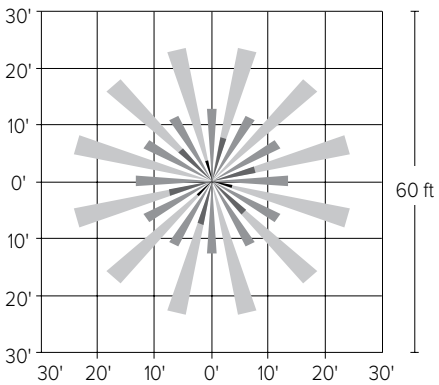
Optional passive infrared sensors are available for basic occupancy and daylight sensing. Programmable via remote or Bluetooth® phone app.

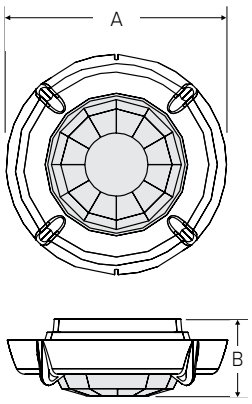
Uplight

Optional uplight module provides 800 lumens of indirect illumination for improved visual quality while eliminating cave effect.

SCP-8F







A	B
2.3" (59mm)	.8" (20mm)

DATE: LOCATION:

TYPE: PROJECT:

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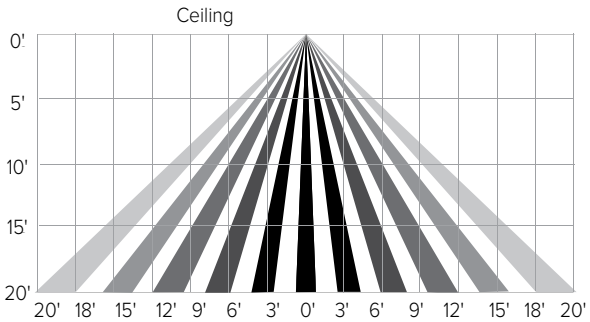
SRT1 EDGE-LIT

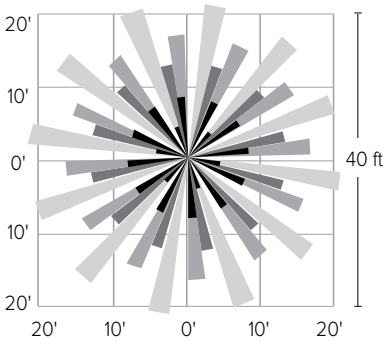
CEILING/SURFACE/GARAGE

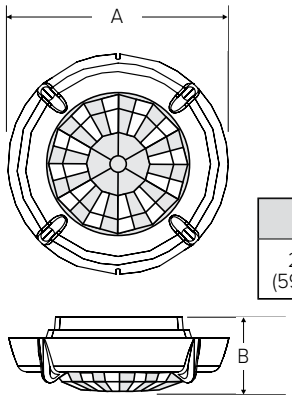
ADDITIONAL INFORMATION (CONT'D)

CONTROLS (CONT'D)

SCP-20F

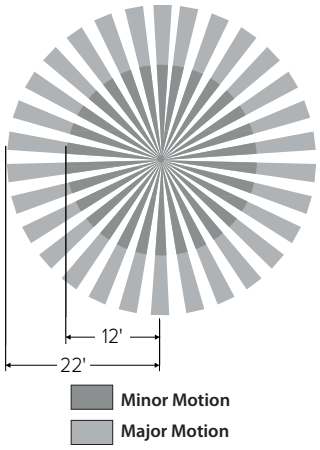


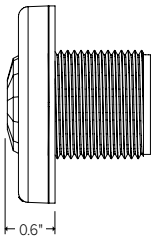


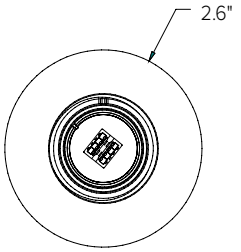


A	B
2.3" (59mm)	.8" (20mm)

NXOS12F







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VCPG LED
Parking Garage

Catalog Number	VCPG LED V4 P3 40K 70CRI T5W MVOLT PM
Notes	ALTERNATE
Type	Type A and AE

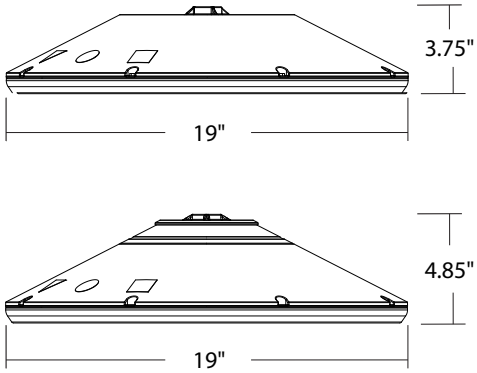
Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Diameter: 19"

Height: 3.75" (4.85" with Up-Light)

Weight (max, with no options)**:** 18 lbs



A+ Capable options indicated by this color background.

Introduction

The all new VCPG LED (Visually Comfortable Parking Garage) luminaire is designed to bring glare control, optical performance and energy savings into one package. The recessed lens design of VCPG LED minimizes high angle glare, while its precision molded acrylic lens eliminates LED pixilation and delivers the required minimums, verticals and uniformity. The dedicated up-light module option reduces the contrast between the luminaire and the ceiling creating a more visually comfortable environment.

The VCPG LED delivers up to 87% in energy savings when replacing 175W metal halide luminaires. With over 100,000 hour life expectancy (12+ years of 24/7 continuous operation), the VCPG LED luminaire provides significant maintenance savings over traditional luminaires.

Ordering Information

EXAMPLE: VCPG LED V4 P4 40K 70CRI T5M MVOLT SRM DNAXD

VCPG LED

Series	LED Light Engines	Package	Color temperature	Color Rendering Index	Distribution	Voltage		Mounting
VCPG LED	V4[1] 4 Light Engines	P1[1]	30K 3000 K	70CRI	T5M Type V, medium	MVOLT	For ordering with fuse	**Shipped included**
	V8[1] 8 Light Engines	P2[1]	35K 3500 K	80CRI	T5R[2] Type V, rectangular	347	120	PM Pendant mount standard (24-inch length supply leads)
		P3[1]	40K 4000 K		T5W Type V, wide	480	208	SRM Surface mount (24-inch length supply leads)
		P4[1]	50K 5000 K		T5E Type V entry		240	ARM Arm mount (use RSXWBA accessory to mount to a wall)
		P5[1]			LANE[2] Drive lane		277	**Shipped separately**
		P6[1]					347	YK Yoke/trunnion mount[3]
		P7[1]					480	

Options

Shipped installed

UPL1	Up-Light: 500 lumens
UPL2	Up-Light: 700 lumens
E8WC	Emergency battery backup, Certified in CA Title 20 MAEDBS (8W, -20°C min)[4,5,6]
E10WH	Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min)[4,5,6]
HA	High ambient (50°C, only P1-P4)
SF	Single fuse (120V, 277V, 347V)
DF	Double fuse (208V, 240V, 480V)
SPD10KV	10KV Surge Pack
LDS36	36in (3ft) lead length
LDS72	72in (6ft) lead length
LDS108	108in (9ft) lead length
DMG	External 0-10V leads (no controls)[7]

Shipped Separately

WG	Wire Guard
BDS	Bird Shroud
HS	House Side Shield

Standalone Sensors/Controls[2]

PIR	Motion/ambient sensor for 8-15' mounting heights
PIRH	Motion/ambient sensor for 15-30' mounting heights
PIR3FC3V	Motion/ambient sensor for 8-15' mounting heights, pre programmed to 3fc and 35% light output
PIRH3FC3V	Motion/ambient sensor for 15-30' mounting heights, pre programmed to 3fc and 35% light output
PIR3FC3V924	UL924 Listed motion/ambient sensor for emergency circuit for 8-15' mounting heights, pre programmed to 3fc and 35% light output[8]
PIRH3FC3V924	UL924 Listed motion/ambient sensor for emergency circuit for 15-30' mounting heights, pre programmed to 3fc and 35% light output[8]

Networked Sensors/Controls[2]

NLTAIR2 PIR	nLIGHT AIR Wireless enabled motion/ambient sensor for 8-15' mounting heights
NLTAIR2 PIRH	nLIGHT AIR Wireless enabled motion/ambient sensor for 15'-30' mounting heights
NLTAIR2 PIR924	nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 8-15' mounting heights[9]
NLTAIR2 PIRH924	nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 15-30' mounting heights[9]
XAD	XPoint™ Wireless enabled[10]
XAD924	XPoint™ Wireless enabled, UL 924 Listed for emergency circuit[8,10]
XAD PIR	XPoint™ Wireless enabled motion/ambient sensor for 8-15' mounting heights
XAD PIRH	XPoint™ Wireless enabled motion/ambient sensor for 15-30' mounting heights
XAD924 PIR	XPoint™ Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 8-15' mounting heights[8]
XAD924 PIRH	XPoint™ Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 15-30' mounting heights[8]

Finish *(required)*

DWHXD	White
DNAXD	Natural aluminum
DDBXD	Dark bronze
DBLXD	Black

Ordering Information Cont.

Accessories

Ordered and shipped separately.

VCPGBDS DWHXD U	Bird shroud for PM (specify finish)
VCPGBDS YK DWHXD U	Bird shroud for YK (specify finish)
VCPGUBDS DWHXD U	Bird shroud for PM with Up-Light (specify finish)
VCPGUBDS YK DWHXD U	Bird shroud for YK with Up-Light (specify finish)
VCPGSRM U	Surface mount kit, with no Up-Light
VCPGUSRM U	Surface mount kit, with Up-Light
VCPGWG U	Wire guard
SLVSQ	Quick mount pendant swivel kit, square
SLVRD	Quick mount pendant swivel kit, round
VCPG YK DWHXD U	Yoke mount kit (specify finish)
RSXWBA DWHXD U	RSX WBA wall bracket (specify finish)

NOTES

1 P1-P6 not available with V8. P7 not available with V4.
2 Not available with P7.
3 Only vertical height adjustment. No angle adjustment. Use PM and SLVSQ or SLVRD for mounting to angled ceiling or canopies.
4 Not available with 347V or 480V.
5 E8WC and E10WH only rated up to 35°C ambient.
6 E8WC & E10WH only available with P1-P4 packages.
7 DMG option not available with standalone or networked sensors/controls.
8 Power interruption delay >30 milliseconds required for operation. Refer sequence of operations on page 4 for more details. BDS not available with UPL1 or UPL2.
9 Not available with P6 & P7. Power interruption delay >200 milliseconds required for operation. Refer sequence of operations on page 4 for more details.
10 XAD & XAD924 not available with PIR3FC3V924 and PIRH3FC3V924.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	Watts	Distribution Type	30K (3000K, 70 CRI)		35K (3500K, 70 CRI)		40K (4000K, 70 CRI)		50K (5000K, 70 CRI)	
			Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
P1	27W	T5E	3,581	135	3,670	138	3,815	144	3,876	146
		T5M	3,620	136	3,710	140	3,856	145	3,917	147
		T5W	3,592	135	3,681	139	3,827	144	3,888	146
		T5R	3,464	130	3,550	134	3,690	139	3,749	141
		LANE	3,507	132	3,594	135	3,736	141	3,796	143
P2	34W	T5E	4,577	135	4,691	138	4,876	144	4,954	146
		T5M	4,626	136	4,741	140	4,928	145	5,007	147
		T5W	4,591	135	4,705	139	4,891	144	4,968	146
		T5R	4,427	130	4,537	134	4,716	139	4,791	141
		LANE	4,482	132	4,594	135	4,775	141	4,851	143
P3	43W	T5E	5,808	134	5,952	137	6,187	143	6,286	145
		T5M	5,870	135	6,015	139	6,253	144	6,353	146
		T5W	5,825	134	5,970	138	6,205	143	6,304	145
		T5R	5,617	130	5,757	133	5,984	138	6,079	140
		LANE	5,688	131	5,829	134	6,059	140	6,155	142
P4	56W	T5E	7,391	131	7,575	135	7,874	140	7,999	142
		T5M	7,470	133	7,656	136	7,958	141	8,085	144
		T5W	7,414	132	7,597	135	7,898	140	8,023	143
		T5R	7,149	127	7,326	130	7,615	135	7,737	137
		LANE	7,238	129	7,418	132	7,711	137	7,834	139
P5	82W	T5E	10,189	124	10,442	127	10,854	132	11,027	134
		T5M	10,298	125	10,553	128	10,970	134	11,145	136
		T5W	10,220	124	10,473	128	10,887	133	11,060	135
		T5R	9,855	120	10,099	123	10,498	128	10,665	130
		LANE	9,978	121	10,226	124	10,629	129	10,799	131
P6	108W	T5E	12,878	120	13,197	123	13,719	127	13,937	129
		T5M	13,015	121	13,338	124	13,865	129	14,086	131
		T5W	12,917	120	13,237	123	13,760	128	13,979	130
		T5R	12,455	116	12,764	119	13,268	123	13,480	125
		LANE	12,611	117	12,924	120	13,435	125	13,649	127
P7	122W	T5E	15,503	125	15,887	128	16,515	133	16,778	135
		T5M	15,668	126	16,057	129	16,691	135	16,957	137
		T5W	15,549	125	15,935	129	16,564	134	16,828	136

Up-light Lumen Output

Up-light Option	Watts	Lumens
UPL1	6.5W	519
UPL2	8.5W	715

Lumen Multiplier for 80CRI

CCT	Multiplier
30K	0.926
35K	0.945
40K	0.967
50K	0.965

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.97	0.94	0.89

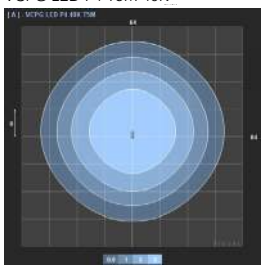
Electrical Load

Power Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1	27W	0.22	0.13	0.12	0.10	0.08	0.06
P2	34W	0.28	0.16	0.14	0.13	0.10	0.08
P3	43W	0.37	0.21	0.18	0.16	0.13	0.09
P4	56W	0.48	0.28	0.24	0.21	0.16	0.12
P5	82W	0.68	0.40	0.35	0.30	0.24	0.18
P6	108W	0.91	0.52	0.45	0.39	0.32	0.23
P7	124W	1.03	0.59	0.51	0.44	0.37	0.27

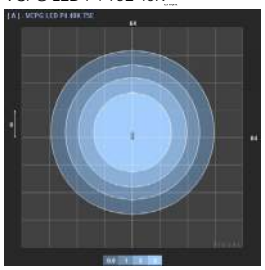
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting VCPG LED homepage.
Tested in accordance with IESNA LM-79 and LM-80 standards

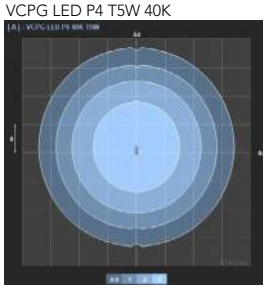
VCPG LED P4 T5M 40K



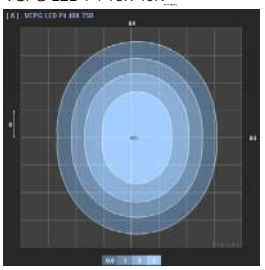
VCPG LED P4 T5E 40K



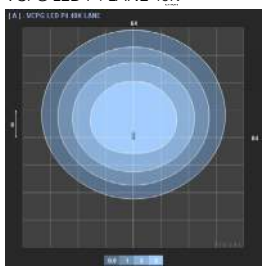
VCPG LED P4 T5W 40K



VCPG LED P4 T5R 40K



VCPG LED P4 LANE 40K



Control/Sensor Options

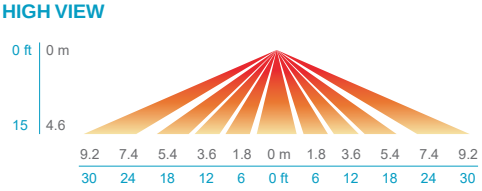
Motion/Ambient Sensor (PIR_, PIRH)

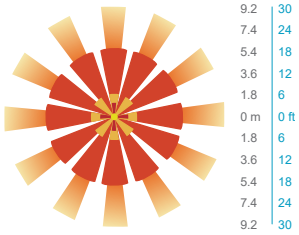
Motion/Ambeint sensor (Sensor Switch MSOD, Xpoint MSOD) is integrated into the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The integrated photocell enables additional energy savings during daytime periods when there is sufficient daylight. Optimize sensor coverage by either selecting PIR or PIRH option. PIR option comes with a sensor lens that is optimized to provide maximum coverage for mounting heights between 8-15ft, while PIRH is optimized for 15-40ft mounting height.

Networked Control (NLTAIR2)

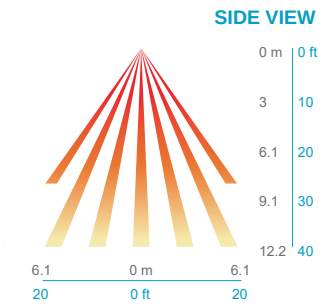
nLight® AIR is a wireless lighting controls platform that allows for seamless integration of both indoor and outdoor luminaires. Five-tier security architecture, 900 MHz wireless communication and app (CLAIRITY™ Pro) based configurability combined together make nLight® AIR a secure, reliable and easy to use platform.

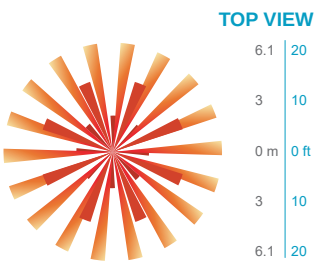
PIR





PIRH





Motion/Ambient Sensor Default Settings

Option	Dim Level	High Level (when triggered)	Photocell Operation	Motion Time Delay	Ramp-down Time	Ramp-up Time
PIR or PIRH	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
PIR3FC3V or PIRH3FC3V	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 3fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec

Sequence of Operations for UL924 Listed Controls/Sensors (PIR3FC3V924, PIRH3FC3V924, XAD924, NLTAIR2 PIR924, NLTAIR2 PIRH924)

The UL924 listed control/sensor ("device") is designed to provide full light output for 90 minutes following power loss ("Egress Mode"), ignoring both manual and automatic dimming/occupancy/daylight control signals during this time. The sequence of operations is as follows:

- Normal condition: device can dim and turn off the luminaire as normal, in response to automatic and manual control.
- Utility power fails, and luminaire loses power.
- Backup power source activates, transfer switch moves the emergency circuit powering the luminaire onto the backup source, and luminaire regains power.
- The device detects this power interruption, if it is >30ms (for PIR3FC3V924, PIRH3FC3V924, XAD924) or >200ms (for NLTAIR2 PIR924, NLTAIR2 PIRH924).
- The device ignores all dimming commands and controls the driver to full light output for 90 minutes.
- The device resumes normal dimming controls after 90 minutes.

These UL924 listed controls/sensors are not intended for use with Non-interruptible central emergency power systems. The power interruption, when transferring from normal utility power to emergency backup power, is required for the controller to activate its Egress Mode and provide full light output.

Mounting, Options & Accessories

PM – Pendant Mount
(compatible with ¾ NPT, pendant stem provided by others)

D = 19"
H = 4.1"

SRM – Surface Mount

D = 19"
H = 4.1"

SRM – Surface Mount with Up-Light

D = 19"
H = 5.3"

YK – Yoke/Trunnion Mount

D = 19"
H (Yoke) = 10"-18"

ARM – Arm Mount

L = 28"
W = 19"
H = 8"

PIR & PIRH – Motion/ Ambient sensor

D = 19"
H = 4.6" (no up-light)
or 5.6" (with up-light)

BDS – Bird shroud for pendant mount

D = 19"
H = 8"

BDS – Bird shroud for yoke mount

D = 19"
H (Yoke) = 10"-18"

WG – Wire guard

D = 19"
H = 4.9" (no uplight)
or 5.9" (with up-light)

HS – House side shield

D = 19"
H = 7.1" (no up-light) or
8.1" (with up-light)

FEATURES & SPECIFICATIONS

INTENDED USE
The visually comfortable optics, energy savings, and long life of the VCPG LED Parking Garage luminaire make it an ideal choice for new commercial installations and retrofit parking garage opportunities. It is designed to meet or exceed recommended illuminance criteria when installed as a direct replacement of most HID parking garage luminaires. Its modern dayform and aesthetics also make it appealing for indoor low-bay applications.

CONSTRUCTION
Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. The LED driver is separated from the heat generating light engines and mounted in direct contact with the casting to promote low operating temperatures, higher lumen maintenance and long life. The housing is completely sealed against moisture and environmental contaminants (IP66) and is suitable for hose-down application.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

OPTICS
Light guide technology provides a diffused light source, reducing glare from direct view of the LEDs. The light source is recessed into the luminaire, further reducing the high angle glare from the luminaire. A combination of precision molded micro prismatic acrylic lenses and back reflectors provide five different photometric distributions tailored specifically to parking garage applications. Up-light option comes with a dedicated light engine and custom optic designed to efficiently spread light on to the ceiling, thus reducing the cave effect.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L89/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%, and a minimum 6.0 KV surge rating. When ordering the SPD10KV option, a separate 10kV (5kA) surge protection device is installed within the luminaire which meets a minimum Category C low operation (per ANSI/IEEE C62.41.2).

INSTALLATION
Standard configuration accepts a rigid or free-swinging 3/4" NPT stem for pendant mounting. The surface mount option attaches to a 4x4" recessed or surface mount outlet box using a quick-mount kit (included); kit contains galvanized steel luminaire and outlet box plates and a full pad gasket. Kit has an integral mounting support that allows the luminaire to hinge down for easy electrical connections. Luminaire and plates are secured with set screws. Also, available with a yoke/trunnion mount option with 3/4" NPT provision for flexible conduit entry (conduit by others); height can be adjusted from 10-18". Supply leads are 24" in length as standard. Longer supply leads are available as additional options. Design can withstand up to a 3.0 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. IP66 rated for outdoor applications. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

VCPG LED
Parking Garage

Catalog Number	VCPG LED V4 P3 40K 70CRI T5W MVOLT PM
Notes	ALTERNATE
Type	Type A and AE

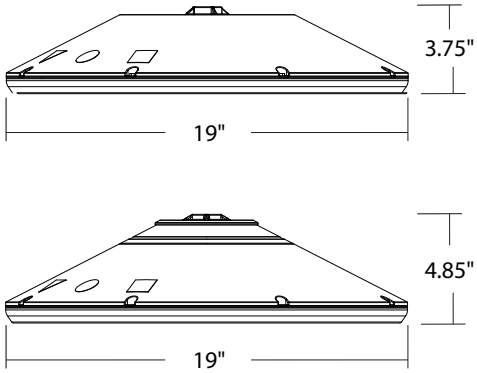
Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Diameter: 19"

Height: 3.75" (4.85" with Up-Light)

Weight (max, with no options)**:** 18 lbs



A+ Capable options indicated by this color background.

Introduction

The all new VCPG LED (Visually Comfortable Parking Garage) luminaire is designed to bring glare control, optical performance and energy savings into one package. The recessed lens design of VCPG LED minimizes high angle glare, while its precision molded acrylic lens eliminates LED pixilation and delivers the required minimums, verticals and uniformity. The dedicated up-light module option reduces the contrast between the luminaire and the ceiling creating a more visually comfortable environment.

The VCPG LED delivers up to 87% in energy savings when replacing 175W metal halide luminaires. With over 100,000 hour life expectancy (12+ years of 24/7 continuous operation), the VCPG LED luminaire provides significant maintenance savings over traditional luminaires.

Ordering Information

EXAMPLE: VCPG LED V4 P4 40K 70CRI T5M MVOLT SRM DNAXD

VCPG LED

Series	LED Light Engines	Package	Color temperature	Color Rendering Index	Distribution	Voltage		Mounting
VCPG LED	V4[1] 4 Light Engines	P1[1]	30K 3000 K	70CRI	T5M Type V, medium	MVOLT	For ordering with fuse	**Shipped included**
	V8[1] 8 Light Engines	P2[1]	35K 3500 K	80CRI	T5R[2] Type V, rectangular	347	120	PM Pendant mount standard (24-inch length supply leads)
		P3[1]	40K 4000 K		T5W Type V, wide	480	208	SRM Surface mount (24-inch length supply leads)
		P4[1]	50K 5000 K		T5E Type V entry		240	ARM Arm mount (use RSXWBA accessory to mount to a wall)
		P5[1]			LANE[2] Drive lane		277	**Shipped separately**
		P6[1]					347	YK Yoke/trunnion mount[3]
		P7[1]					480	

Options

Shipped installed

UPL1	Up-Light: 500 lumens
UPL2	Up-Light: 700 lumens
E8WC	Emergency battery backup, Certified in CA Title 20 MAEDBS (8W, -20°C min)[4,5,6]
E10WH	Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min)[4,5,6]
HA	High ambient (50°C, only P1-P4)
SF	Single fuse (120V, 277V, 347V)
DF	Double fuse (208V, 240V, 480V)
SPD10KV	10KV Surge Pack
LDS36	36in (3ft) lead length
LDS72	72in (6ft) lead length
LDS108	108in (9ft) lead length
DMG	External 0-10V leads (no controls)[7]

Shipped Separately

WG	Wire Guard
BDS	Bird Shroud
HS	House Side Shield

Standalone Sensors/Controls[2]

PIR	Motion/ambient sensor for 8-15' mounting heights
PIRH	Motion/ambient sensor for 15-30' mounting heights
PIR3FC3V	Motion/ambient sensor for 8-15' mounting heights, pre programmed to 3fc and 35% light output
PIRH3FC3V	Motion/ambient sensor for 15-30' mounting heights, pre programmed to 3fc and 35% light output
PIR3FC3V924	UL924 Listed motion/ambient sensor for emergency circuit for 8-15' mounting heights, pre programmed to 3fc and 35% light output[8]
PIRH3FC3V924	UL924 Listed motion/ambient sensor for emergency circuit for 15-30' mounting heights, pre programmed to 3fc and 35% light output[8]

Networked Sensors/Controls[2]

NLTAIR2 PIR	nLIGHT AIR Wireless enabled motion/ambient sensor for 8-15' mounting heights
NLTAIR2 PIRH	nLIGHT AIR Wireless enabled motion/ambient sensor for 15'-30' mounting heights
NLTAIR2 PIR924	nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 8-15' mounting heights[9]
NLTAIR2 PIRH924	nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 15-30' mounting heights[9]
XAD	XPoint™ Wireless enabled[10]
XAD924	XPoint™ Wireless enabled, UL 924 Listed for emergency circuit[8,10]
XAD PIR	XPoint™ Wireless enabled motion/ambient sensor for 8-15' mounting heights
XAD PIRH	XPoint™ Wireless enabled motion/ambient sensor for 15-30' mounting heights
XAD924 PIR	XPoint™ Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 8-15' mounting heights[8]
XAD924 PIRH	XPoint™ Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 15-30' mounting heights[8]

Finish *(required)*

DWHXD	White
DNAXD	Natural aluminum
DDBXD	Dark bronze
DBLXD	Black

Ordering Information Cont.

Accessories

Ordered and shipped separately.

VCPGBDS DWHXD U	Bird shroud for PM (specify finish)
VCPGBDS YK DWHXD U	Bird shroud for YK (specify finish)
VCPGUBDS DWHXD U	Bird shroud for PM with Up-Light (specify finish)
VCPGUBDS YK DWHXD U	Bird shroud for YK with Up-Light (specify finish)
VCPGSRM U	Surface mount kit, with no Up-Light
VCPGUSRM U	Surface mount kit, with Up-Light
VCPGWG U	Wire guard
SLVSQ	Quick mount pendant swivel kit, square
SLVRD	Quick mount pendant swivel kit, round
VCPG YK DWHXD U	Yoke mount kit (specify finish)
RSXWBA DWHXD U	RSX WBA wall bracket (specify finish)

NOTES

1 P1-P6 not available with V8. P7 not available with V4.
2 Not available with P7.
3 Only vertical height adjustment. No angle adjustment. Use PM and SLVSQ or SLVRD for mounting to angled ceiling or canopies.
4 Not available with 347V or 480V.
5 E8WC and E10WH only rated up to 35°C ambient.
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9 Not available with P6 & P7. Power interruption delay >200 milliseconds required for operation. Refer sequence of operations on page 4 for more details.
10 XAD & XAD924 not available with PIR3FC3V924 and PIRH3FC3V924.

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		LANE	7,238	129	7,418	132	7,711	137	7,834	139
P5	82W	T5E	10,189	124	10,442	127	10,854	132	11,027	134
		T5M	10,298	125	10,553	128	10,970	134	11,145	136
		T5W	10,220	124	10,473	128	10,887	133	11,060	135
		T5R	9,855	120	10,099	123	10,498	128	10,665	130
		LANE	9,978	121	10,226	124	10,629	129	10,799	131
P6	108W	T5E	12,878	120	13,197	123	13,719	127	13,937	129
		T5M	13,015	121	13,338	124	13,865	129	14,086	131
		T5W	12,917	120	13,237	123	13,760	128	13,979	130
		T5R	12,455	116	12,764	119	13,268	123	13,480	125
		LANE	12,611	117	12,924	120	13,435	125	13,649	127
P7	122W	T5E	15,503	125	15,887	128	16,515	133	16,778	135
		T5M	15,668	126	16,057	129	16,691	135	16,957	137
		T5W	15,549	125	15,935	129	16,564	134	16,828	136

Up-light Lumen Output

Up-light Option	Watts	Lumens
UPL1	6.5W	519
UPL2	8.5W	715

Lumen Multiplier for 80CRI

CCT	Multiplier
30K	0.926
35K	0.945
40K	0.967
50K	0.965

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.97	0.94	0.89

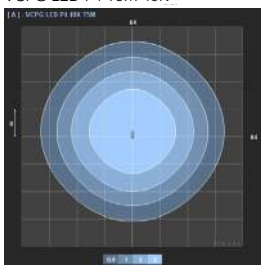
Electrical Load

Power Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1	27W	0.22	0.13	0.12	0.10	0.08	0.06
P2	34W	0.28	0.16	0.14	0.13	0.10	0.08
P3	43W	0.37	0.21	0.18	0.16	0.13	0.09
P4	56W	0.48	0.28	0.24	0.21	0.16	0.12
P5	82W	0.68	0.40	0.35	0.30	0.24	0.18
P6	108W	0.91	0.52	0.45	0.39	0.32	0.23
P7	124W	1.03	0.59	0.51	0.44	0.37	0.27

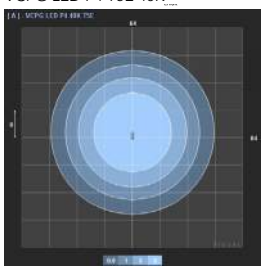
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting VCPG LED homepage.
Tested in accordance with IESNA LM-79 and LM-80 standards

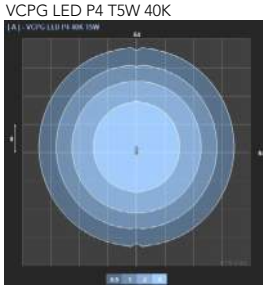
VCPG LED P4 T5M 40K



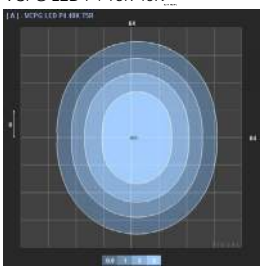
VCPG LED P4 T5E 40K



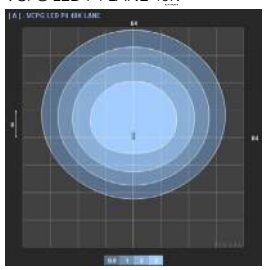
VCPG LED P4 T5W 40K



VCPG LED P4 T5R 40K



VCPG LED P4 LANE 40K



Control/Sensor Options

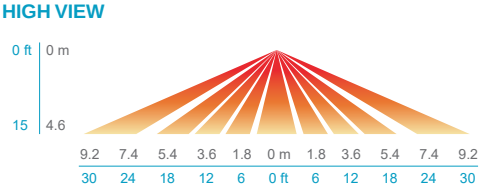
Motion/Ambient Sensor (PIR_, PIRH)

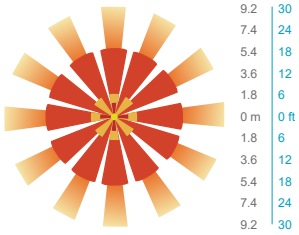
Motion/Ambeint sensor (Sensor Switch MSOD, Xpoint MSOD) is integrated into the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The integrated photocell enables additional energy savings during daytime periods when there is sufficient daylight. Optimize sensor coverage by either selecting PIR or PIRH option. PIR option comes with a sensor lens that is optimized to provide maximum coverage for mounting heights between 8-15ft, while PIRH is optimized for 15-40ft mounting height.

Networked Control (NLTAIR2)

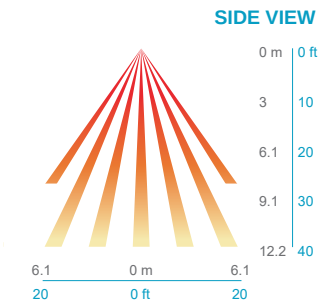
nLight® AIR is a wireless lighting controls platform that allows for seamless integration of both indoor and outdoor luminaires. Five-tier security architecture, 900 MHz wireless communication and app (CLAIRITY™ Pro) based configurability combined together make nLight® AIR a secure, reliable and easy to use platform.

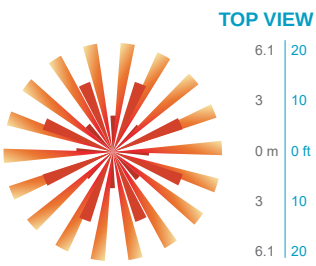
PIR





PIRH





Motion/Ambient Sensor Default Settings

Option	Dim Level	High Level (when triggered)	Photocell Operation	Motion Time Delay	Ramp-down Time	Ramp-up Time
PIR or PIRH	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
PIR3FC3V or PIRH3FC3V	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 3fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec

Sequence of Operations for UL924 Listed Controls/Sensors (PIR3FC3V924, PIRH3FC3V924, XAD924, NLTAIR2 PIR924, NLTAIR2 PIRH924)

The UL924 listed control/sensor ("device") is designed to provide full light output for 90 minutes following power loss ("Egress Mode"), ignoring both manual and automatic dimming/occupancy/daylight control signals during this time. The sequence of operations is as follows:

- Normal condition: device can dim and turn off the luminaire as normal, in response to automatic and manual control.
- Utility power fails, and luminaire loses power.
- Backup power source activates, transfer switch moves the emergency circuit powering the luminaire onto the backup source, and luminaire regains power.
- The device detects this power interruption, if it is >30ms (for PIR3FC3V924, PIRH3FC3V924, XAD924) or >200ms (for NLTAIR2 PIR924, NLTAIR2 PIRH924).
- The device ignores all dimming commands and controls the driver to full light output for 90 minutes.
- The device resumes normal dimming controls after 90 minutes.

These UL924 listed controls/sensors are not intended for use with Non-interruptible central emergency power systems. The power interruption, when transferring from normal utility power to emergency backup power, is required for the controller to activate its Egress Mode and provide full light output.

Mounting, Options & Accessories

PM – Pendant Mount
(compatible with ¾ NPT, pendant stem provided by others)

D = 19"
H = 4.1"

SRM – Surface Mount

D = 19"
H = 4.1"

SRM – Surface Mount with Up-Light

D = 19"
H = 5.3"

YK – Yoke/Trunnion Mount

D = 19"
H (Yoke) = 10"-18"

ARM – Arm Mount

L = 28"
W = 19"
H = 8"

PIR & PIRH – Motion/ Ambient sensor

D = 19"
H = 4.6" (no up-light)
or 5.6" (with up-light)

BDS – Bird shroud for pendant mount

D = 19"
H = 8"

BDS – Bird shroud for yoke mount

D = 19"
H (Yoke) = 10"-18"

WG – Wire guard

D = 19"
H = 4.9" (no uplight)
or 5.9" (with up-light)

HS – House side shield

D = 19"
H = 7.1" (no up-light) or
8.1" (with up-light)

FEATURES & SPECIFICATIONS

INTENDED USE
The visually comfortable optics, energy savings, and long life of the VCPG LED Parking Garage luminaire make it an ideal choice for new commercial installations and retrofit parking garage opportunities. It is designed to meet or exceed recommended illuminance criteria when installed as a direct replacement of most HID parking garage luminaires. Its modern dayform and aesthetics also make it appealing for indoor low-bay applications.

CONSTRUCTION
Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. The LED driver is separated from the heat generating light engines and mounted in direct contact with the casting to promote low operating temperatures, higher lumen maintenance and long life. The housing is completely sealed against moisture and environmental contaminants (IP66) and is suitable for hose-down application.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

OPTICS
Light guide technology provides a diffused light source, reducing glare from direct view of the LEDs. The light source is recessed into the luminaire, further reducing the high angle glare from the luminaire. A combination of precision molded micro prismatic acrylic lenses and back reflectors provide five different photometric distributions tailored specifically to parking garage applications. Up-light option comes with a dedicated light engine and custom optic designed to efficiently spread light on to the ceiling, thus reducing the cave effect.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L89/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%, and a minimum 6.0 KV surge rating. When ordering the SPD10KV option, a separate 10kV (5kA) surge protection device is installed within the luminaire which meets a minimum Category C low operation (per ANSI/IEEE C62.41.2).

INSTALLATION
Standard configuration accepts a rigid or free-swinging 3/4" NPT stem for pendant mounting. The surface mount option attaches to a 4x4" recessed or surface mount outlet box using a quick-mount kit (included); kit contains galvanized steel luminaire and outlet box plates and a full pad gasket. Kit has an integral mounting support that allows the luminaire to hinge down for easy electrical connections. Luminaire and plates are secured with set screws. Also, available with a yoke/trunnion mount option with 3/4" NPT provision for flexible conduit entry (conduit by others); height can be adjusted from 10-18". Supply leads are 24" in length as standard. Longer supply leads are available as additional options. Design can withstand up to a 3.0 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. IP66 rated for outdoor applications. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.


CCSU
RESERVED
PARKING
POINT
REQUIRED

STATE OF CONNECTICUT

GOVERNOR NED LAMONT

DEPARTMENT OF ADMINISTRATIVE SERVICES
JOSH GEBALLE
COMMISSIONER

CENTRAL CONNECTICUT STATE UNIVERSITY
ZULMA R. TORO
PRESIDENT

WILLARD DILORETO PARKING GARAGE
PAUL MANAFORT SENIOR DRIVE
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PROJECT NO. CF-RC-402

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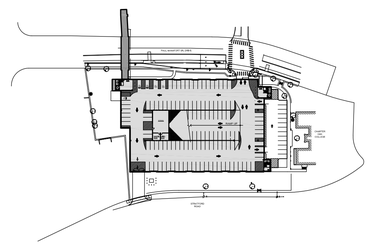
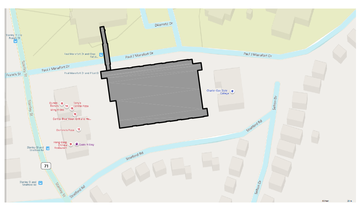
BID DOCUMENTS: February 7, 2020
ADDENDUM NO. 4: June 17, 2020

D.C.S BUILDING NUMBER 39930



SITE PLAN

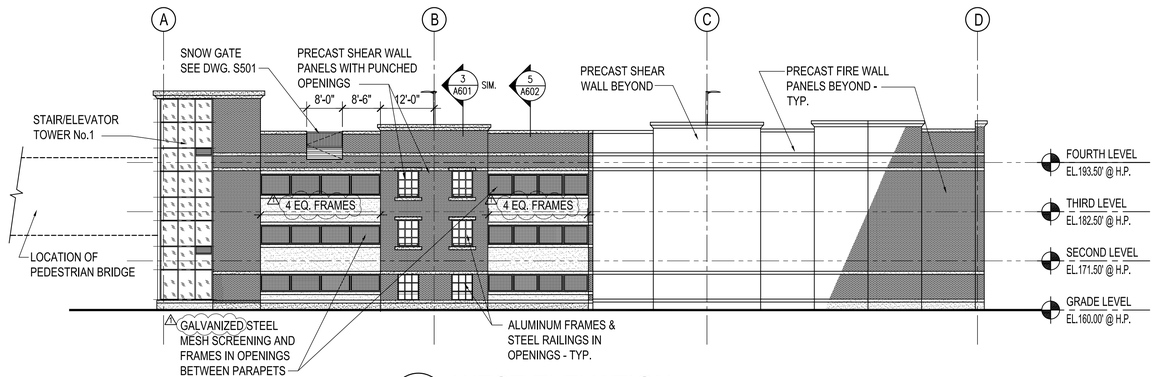


LOCATION PLAN

APPROVALS

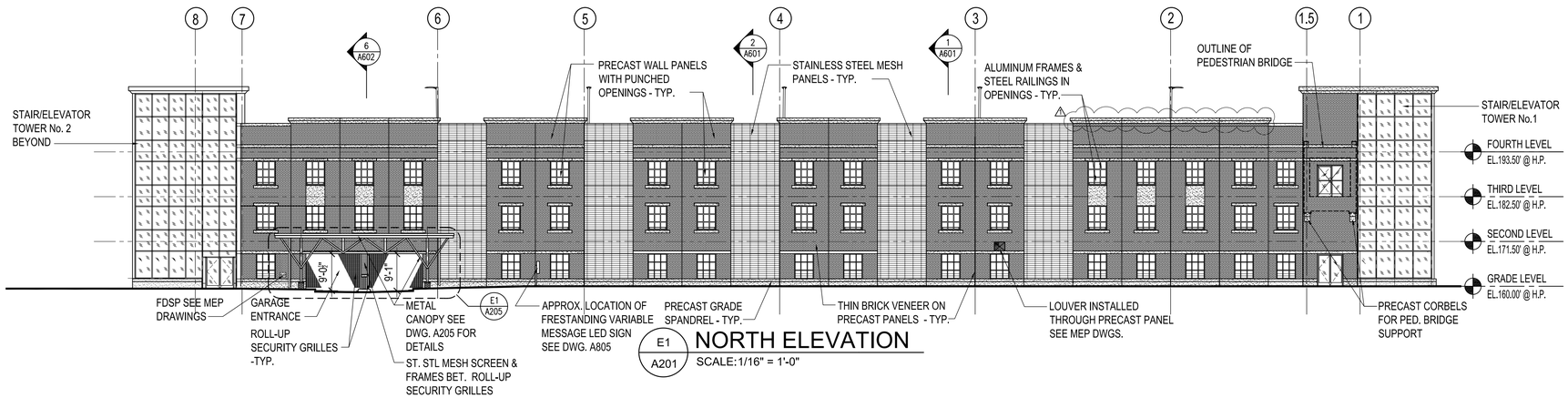
DEPT. OF ADMINISTRATIVE SERVICES DATE

AGENCY DATE



E2 / A201 **WEST ELEVATION**

SCALE: 1/16" = 1'-0"



E1 / A201 **NORTH ELEVATION**

SCALE: 1/16" = 1'-0"

drawing title
BUILDING ELEVATIONS #1

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

drawing prepared by
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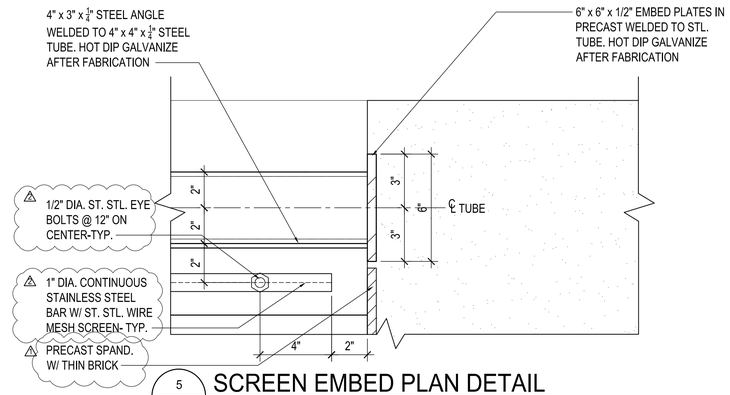
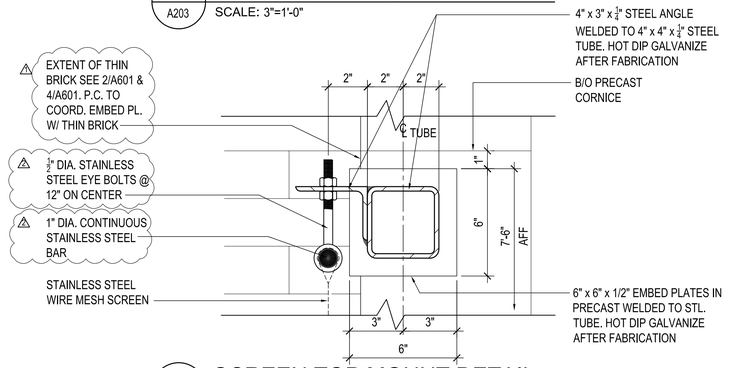
project
WILLARD DILORETO
PARKING GARAGE
NEW BRITAIN, CONNECTICUT

CAD no. xxxxxxxxxx.dwg
project no. CF-RC-402

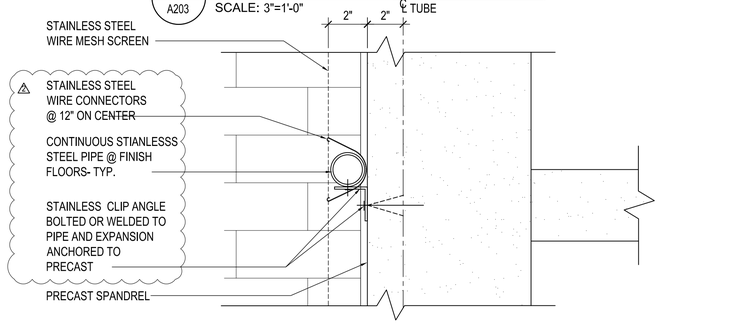
date 06/27/2019
scale AS NOTED
drawn by AAA
approved by NLG
drawing no. **A201**



5 A203 SCREEN EMBED PLAN DETAIL
SCALE: 3"=1'-0"



4 A203 SCREEN TOP MOUNT DETAIL
SCALE: 3"=1'-0"



3 A203 SCREEN INTERMEDIATE MOUNT DETAIL
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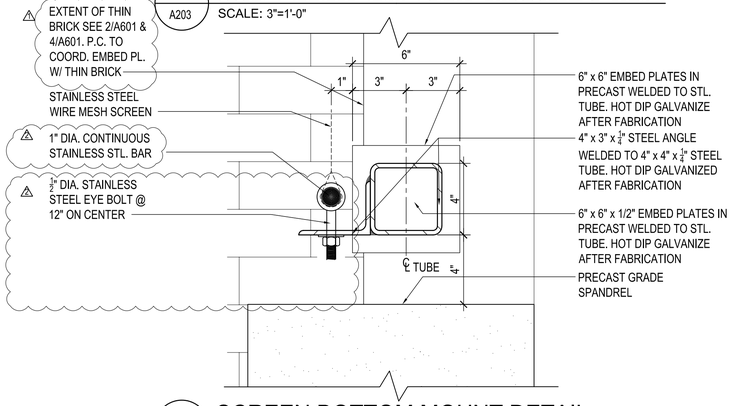
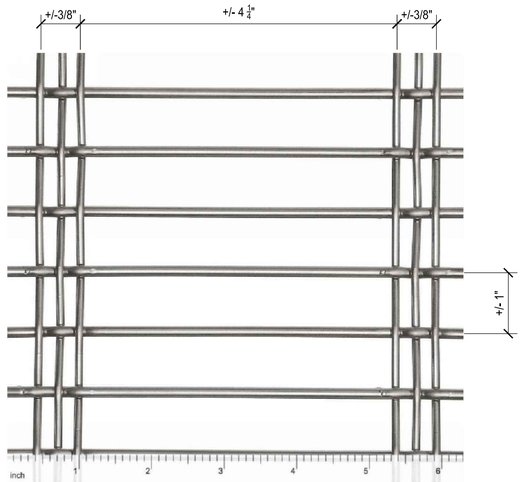
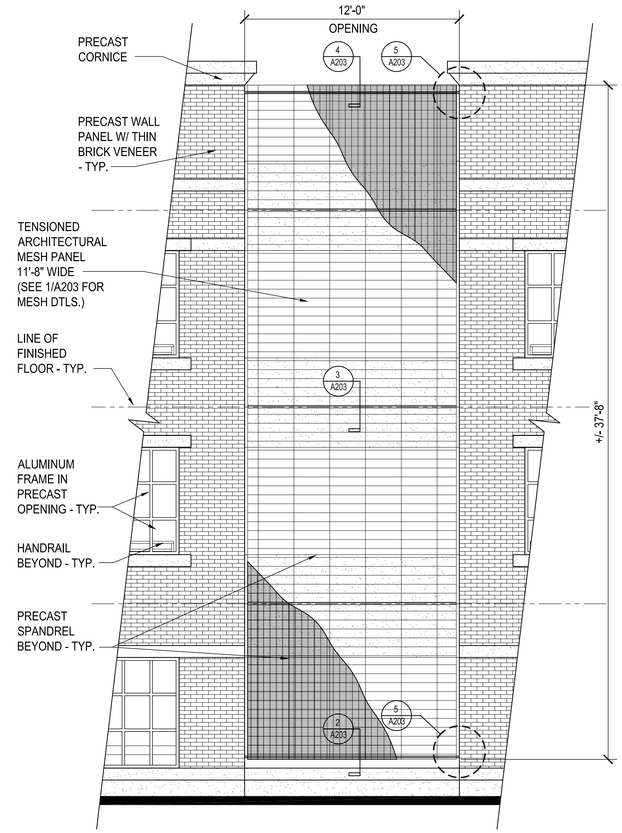


2 A203 SCREEN BOTTOM MOUNT DETAIL
SCALE: 3"=1'-0"



1 A203 MESH DETAIL
SCALE: NOT TO SCALE

ARCHITECTURAL STAINLESS STEEL MESH PANEL
OPEN AREA: 75%, WEIGHT: 1,27 LBS./ SQ. FT.



E-1 A203 ARCHITECTURAL MESH SCREEN PANEL
SCALE: 1/4"=1'-0"

drawing title
MESH SCREEN DETAILS

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/01/20	ADDENDUM NO. 3
2	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

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CAD no. xxxxxxxxxx.dwg
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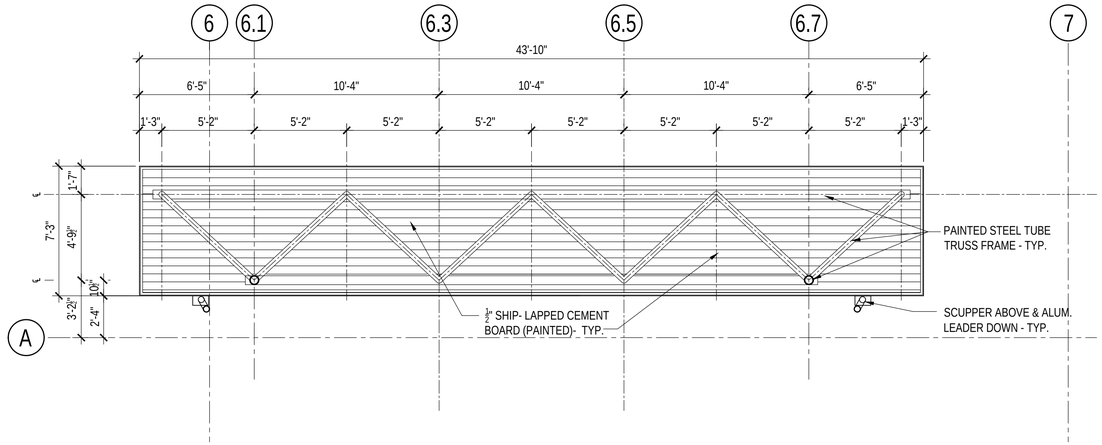
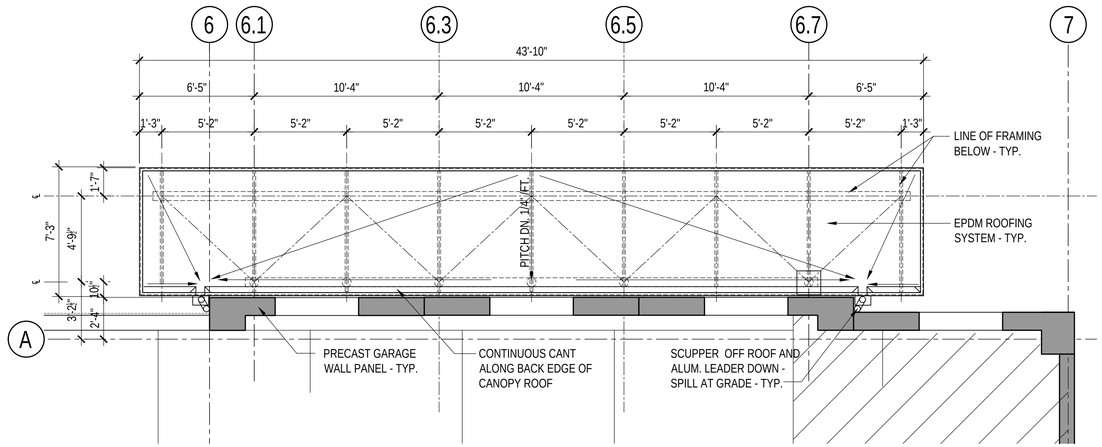


3 A205 **CANOPY REFLECTED CEILING PLAN**

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



2 A205 **CANOPY ROOF PLAN**

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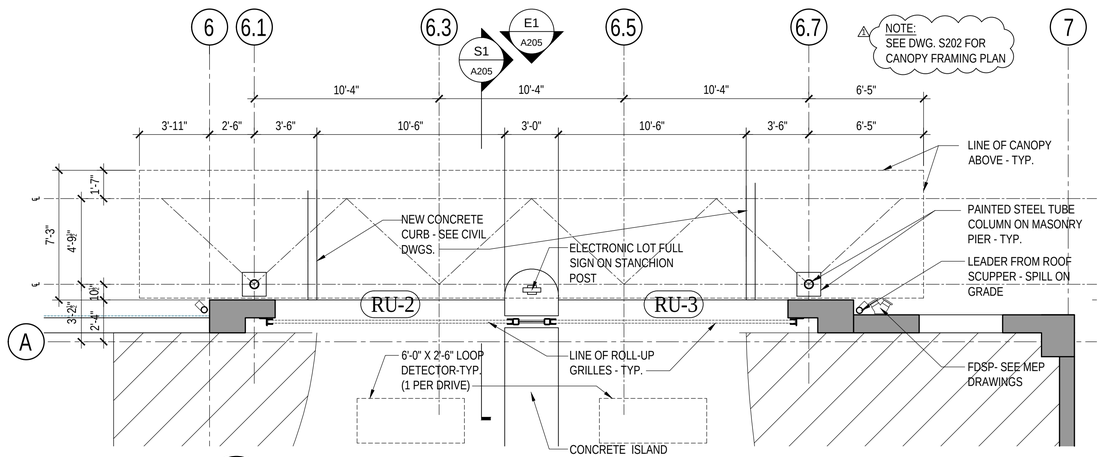
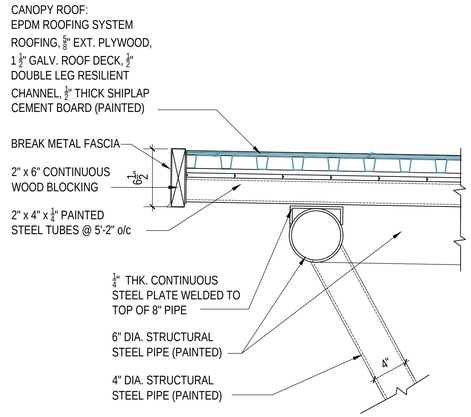
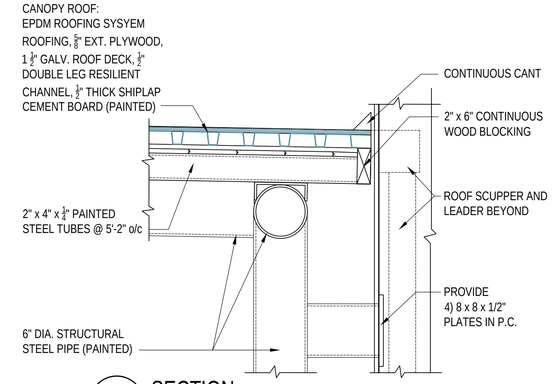


1 A205 **CANOPY PLAN**

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



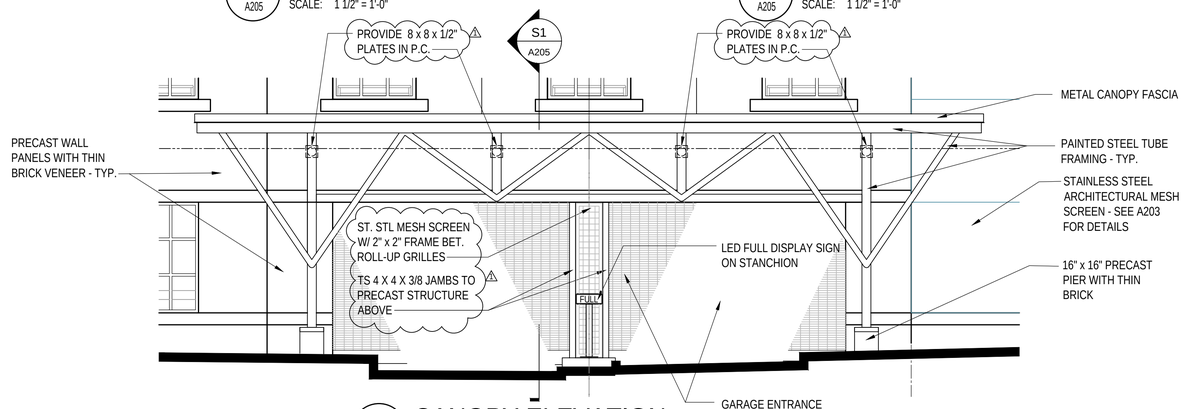


4 A205 **SECTION**

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

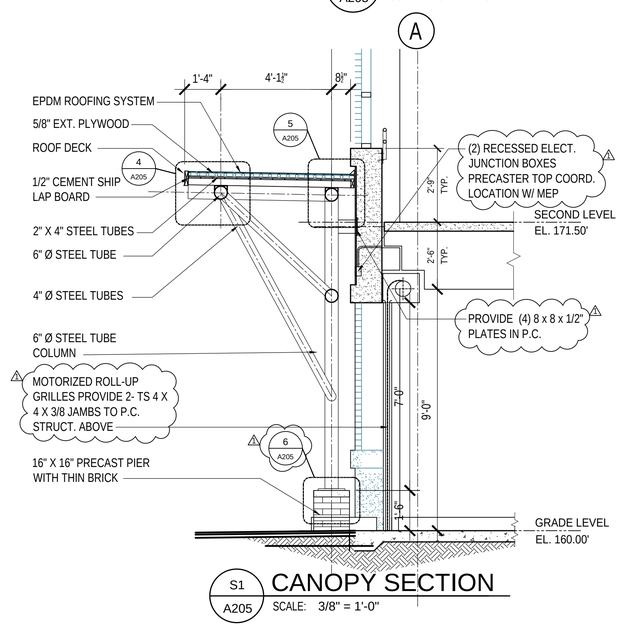
5 A205 **SECTION**

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



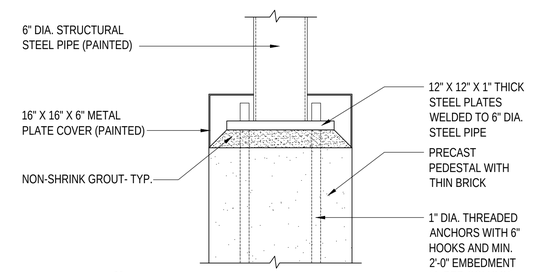
E1 A205 **CANOPY ELEVATION**

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



S1 A205 **CANOPY SECTION**

SCALE: 3/8" = 1'-0"



6 A205 **SECTION**

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

drawing title
CANOPY PLANS, ELVATION & DETAILS

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/01/20	ADDENDUM NO. 3

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

drawing prepared by
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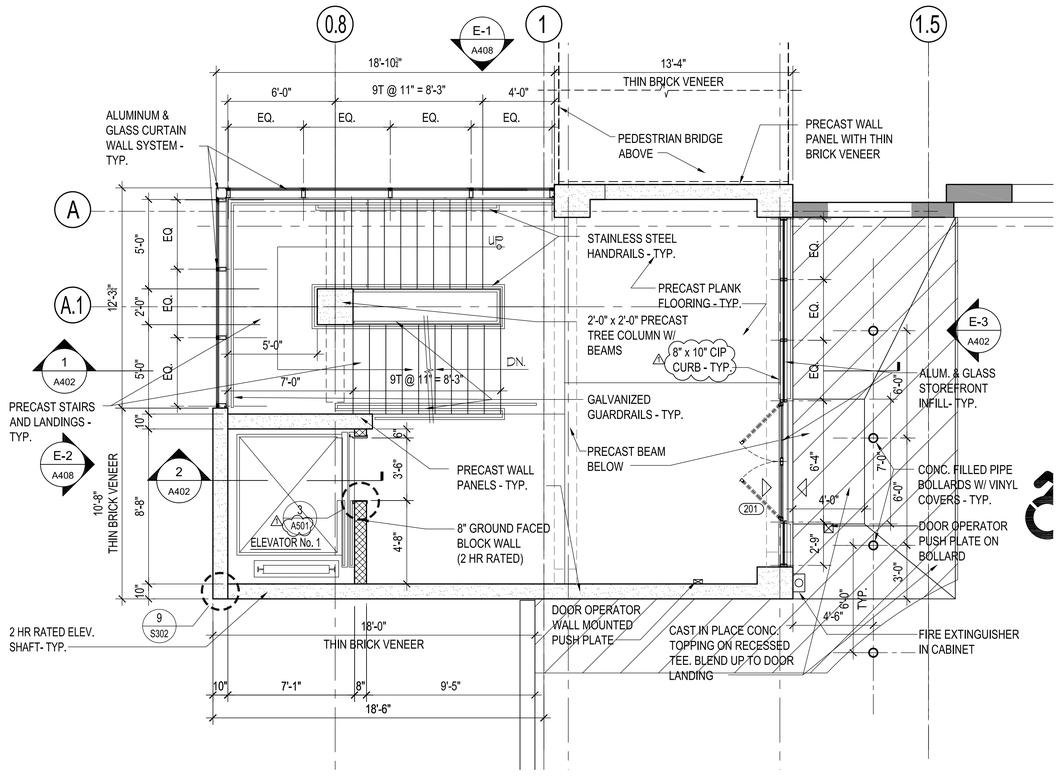
date: 06/27/2019
scale: AS NOTED
drawn by: AAA
approved by: NLG
drawing no.: A205

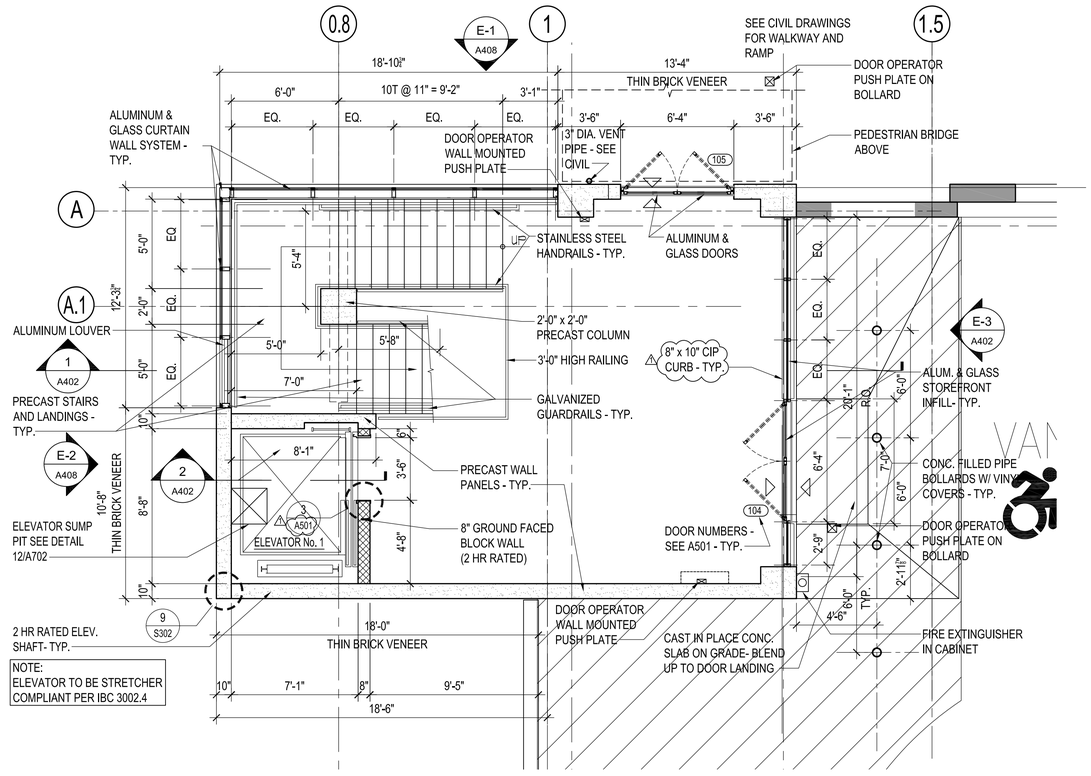
project
WILLARD DILORETO PARKING GARAGE
NEW BRITAIN, CONNECTICUT

CAD no.: xxxxxxxxxx.dwg
project no.: CF-RC-402



2 / A400 STAIR No. 1: SECOND LEVEL PLAN

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



NOTE:
ELEVATOR TO BE STRETCHER COMPLIANT PER IBC 3002.4

1 / A400 STAIR No. 1: GRADE LEVEL PLAN

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

drawing title
STAIR No. 1 - PLANS

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

drawing prepared by
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175 CAPITAL BOULEVARD, SUITE 402
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project
WILLARD DILORETO PARKING GARAGE
NEW BRITAIN, CONNECTICUT

CAD no. xxxxxxxxxx.dwg
project no. CF-RC-402

date 06/27/2019
scale AS NOTED
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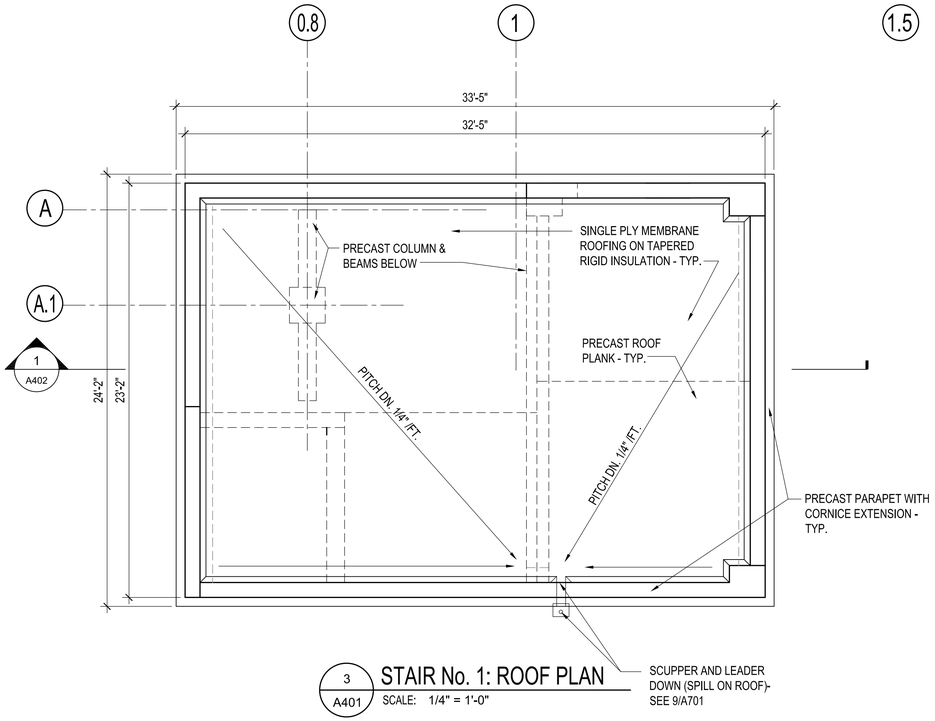
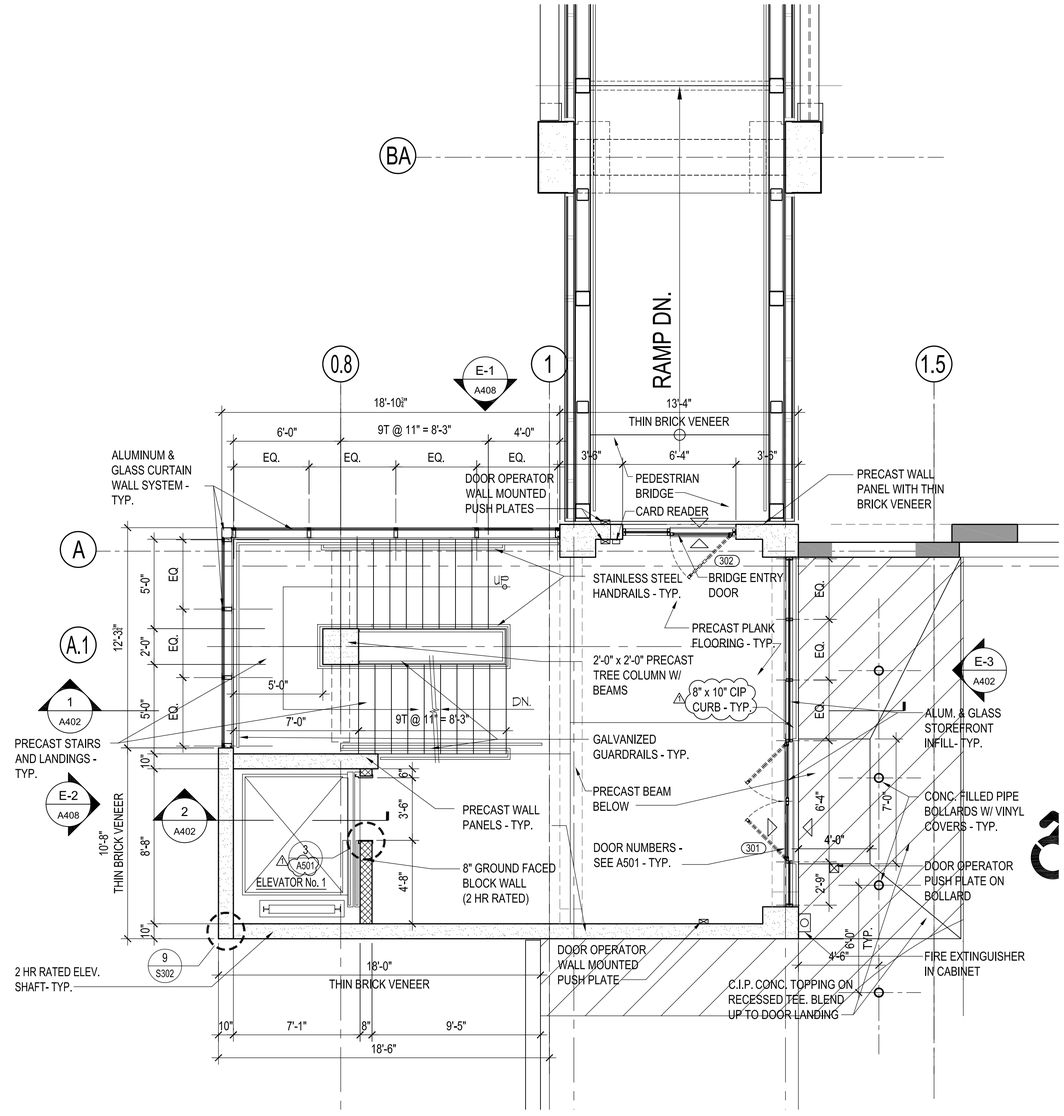
drawing no. **A400**



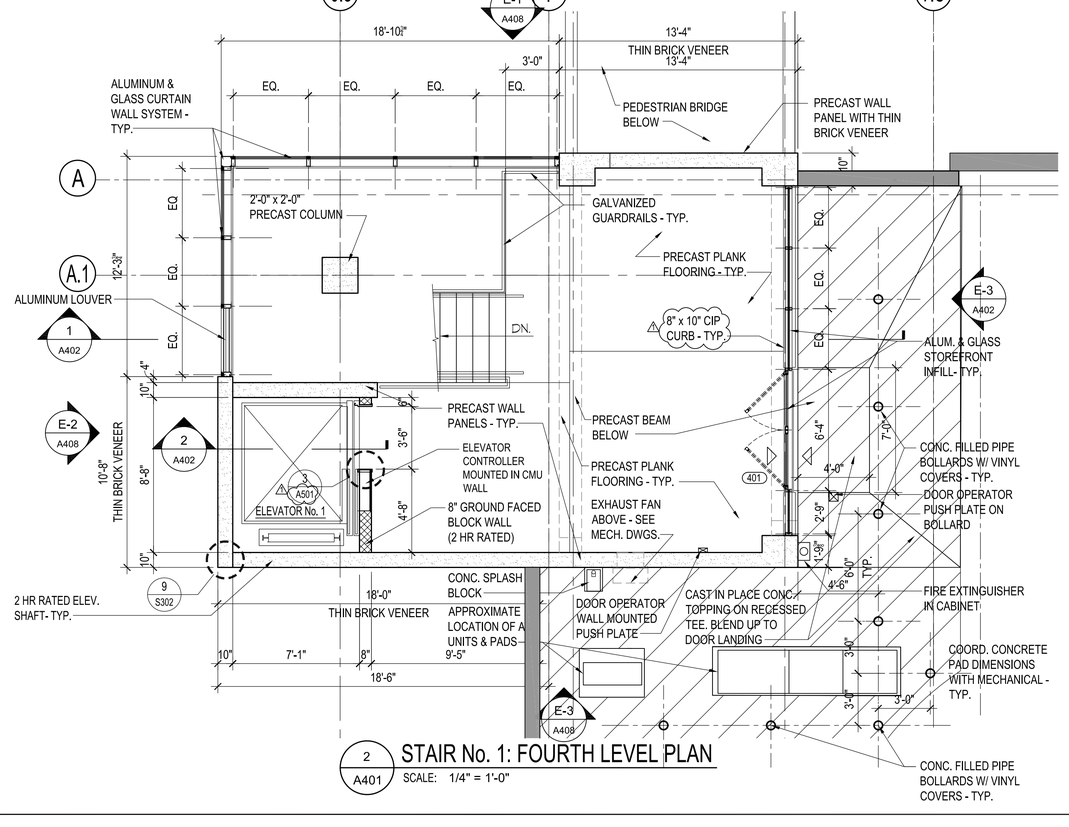
3 / A401 STAIR No. 1: ROOF PLAN

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



1 / A401 STAIR No. 1: THIRD LEVEL PLAN

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



2 / A401 STAIR No. 1: FOURTH LEVEL PLAN

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

drawing title
STAIR No. 1 - PLANS

REVISIONS

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1	05/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

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scale: AS NOTED
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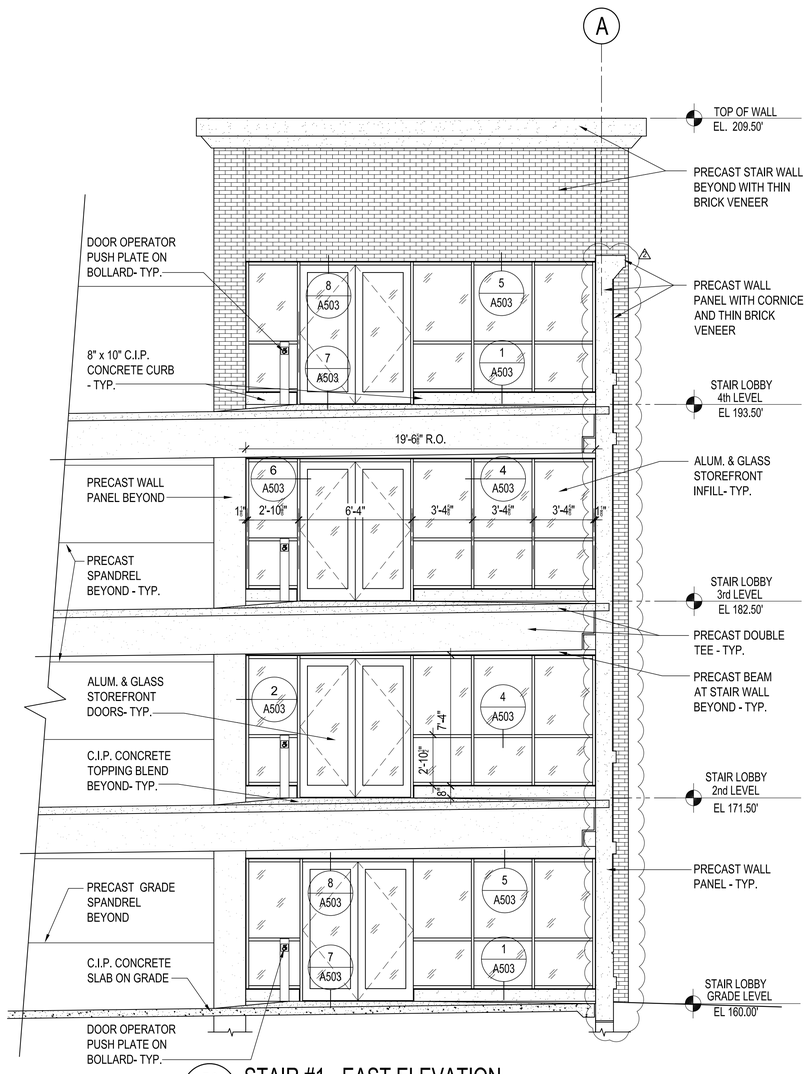
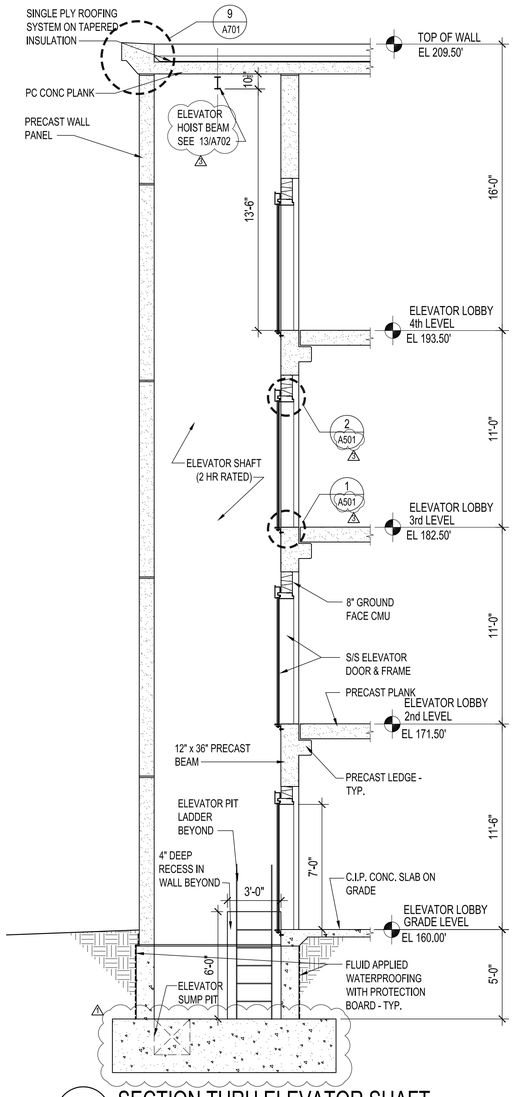
project
WILLARD DILORETO
PARKING GARAGE
NEW BRITAIN, CONNECTICUT

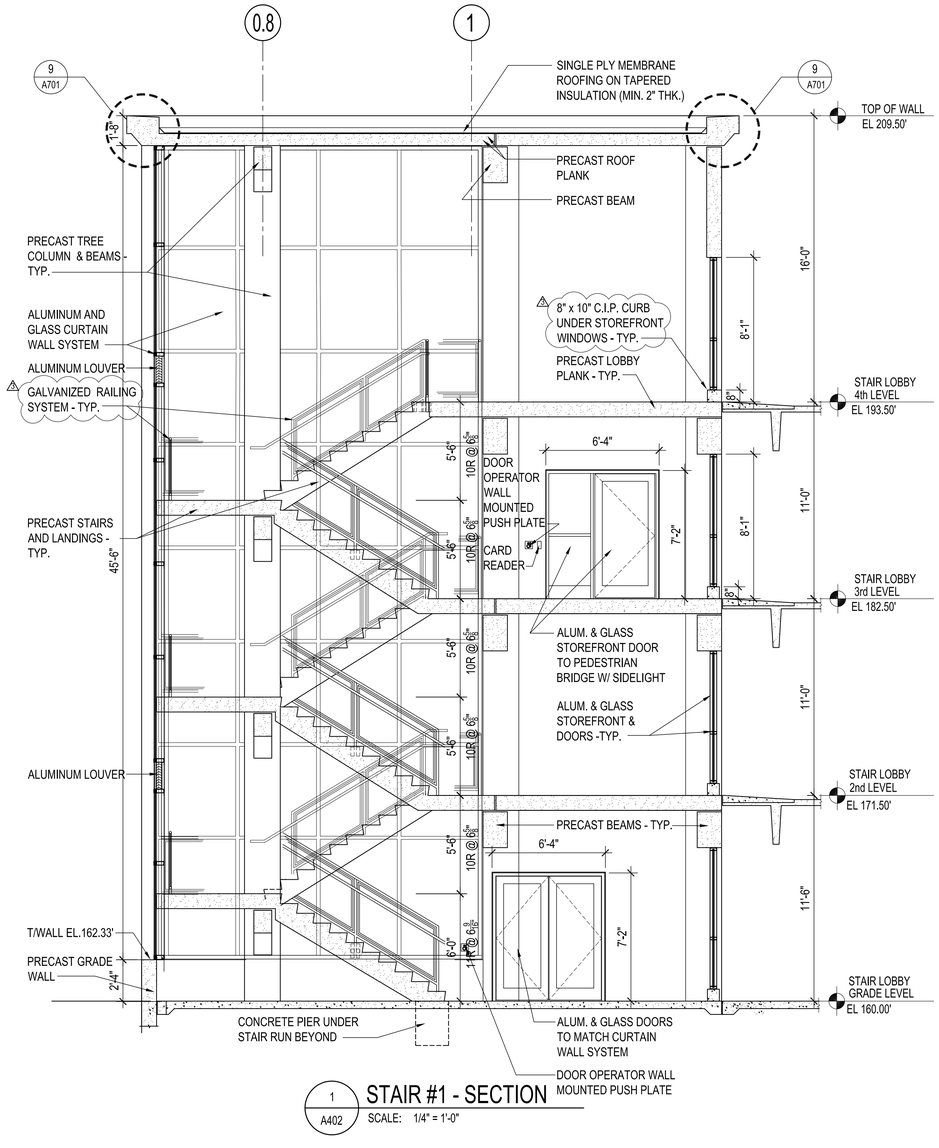
CAD no.: xxxxxxxxxx.dwg
project no.: CF-RC-402



E-3 / A402 **STAIR #1 - EAST ELEVATION**
SCALE: 1/4" = 1'-0"



2 / A402 **SECTION THRU ELEVATOR SHAFT**
SCALE: 1/4" = 1'-0"



1 / A402 **STAIR #1 - SECTION**
SCALE: 1/4" = 1'-0"

drawing title
STAIR No. 1 - SECTIONS

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	05/15/20	ADDENDUM NO. 2
2	06/01/20	ADDENDUM NO. 3
3	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

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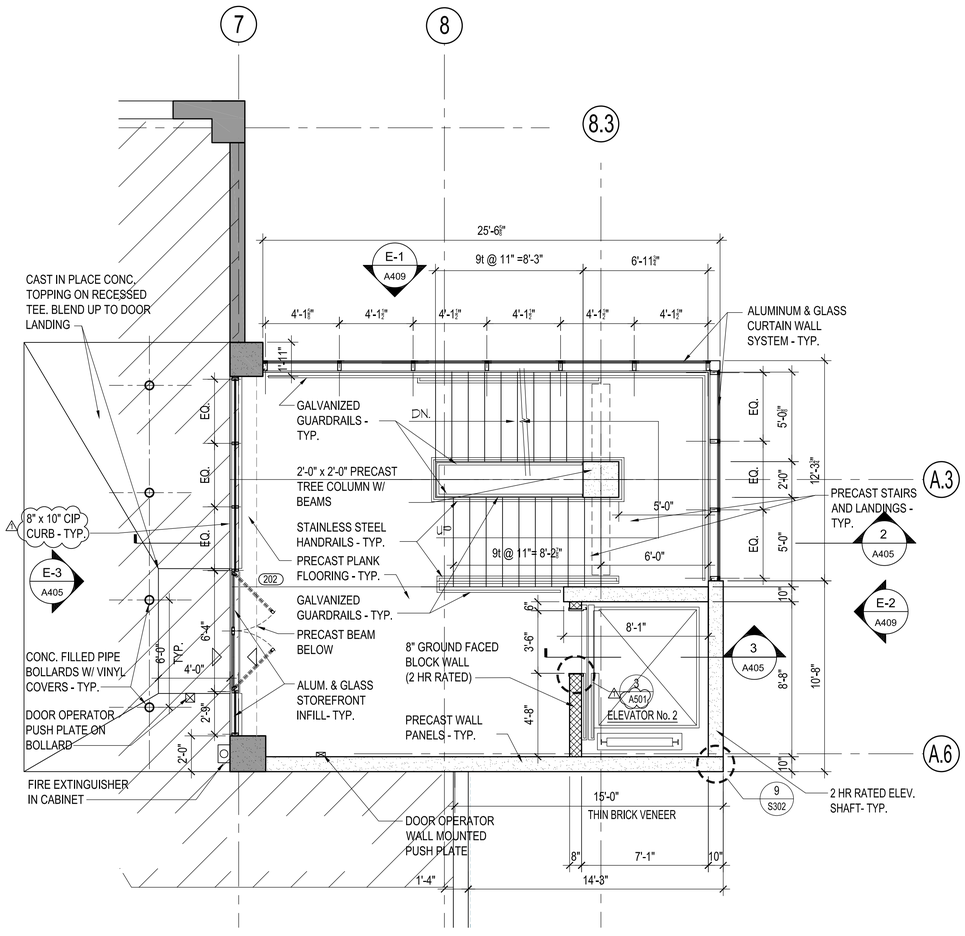
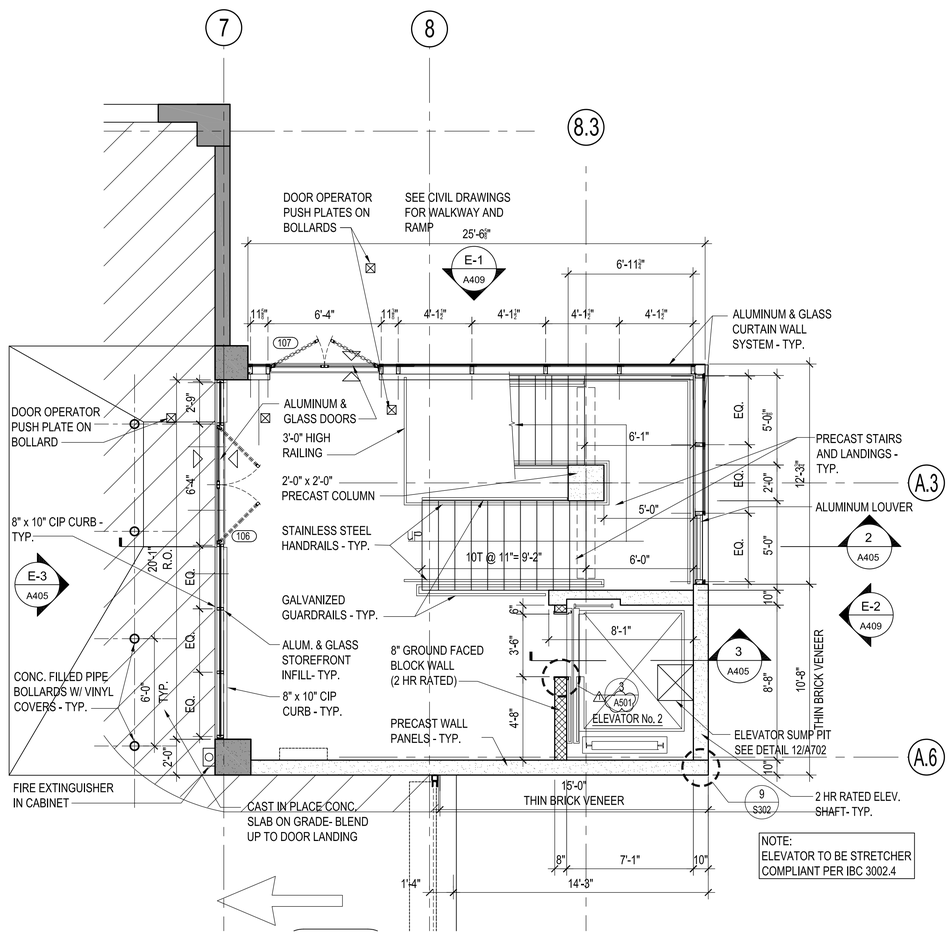


2 A403 STAIR No. 2: SECOND LEVEL PLAN

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



NOTE:
ELEVATOR TO BE STRETCHER COMPLIANT PER IBC 3002.4

1 A403 STAIR No. 2: GRADE LEVEL PLAN

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

drawing title
STAIR No. 2 - PLANS

REVISIONS

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1	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

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date: 06/27/2019
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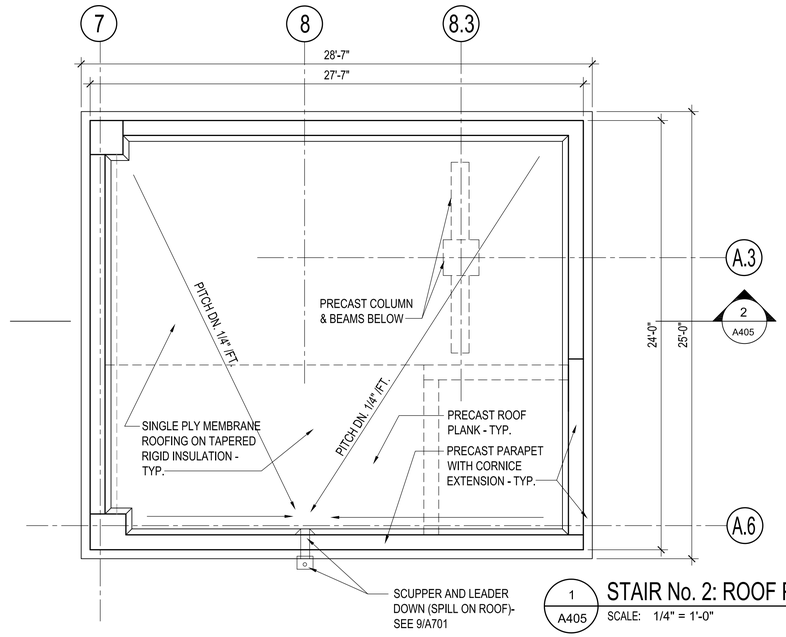
drawing no.: **A403**

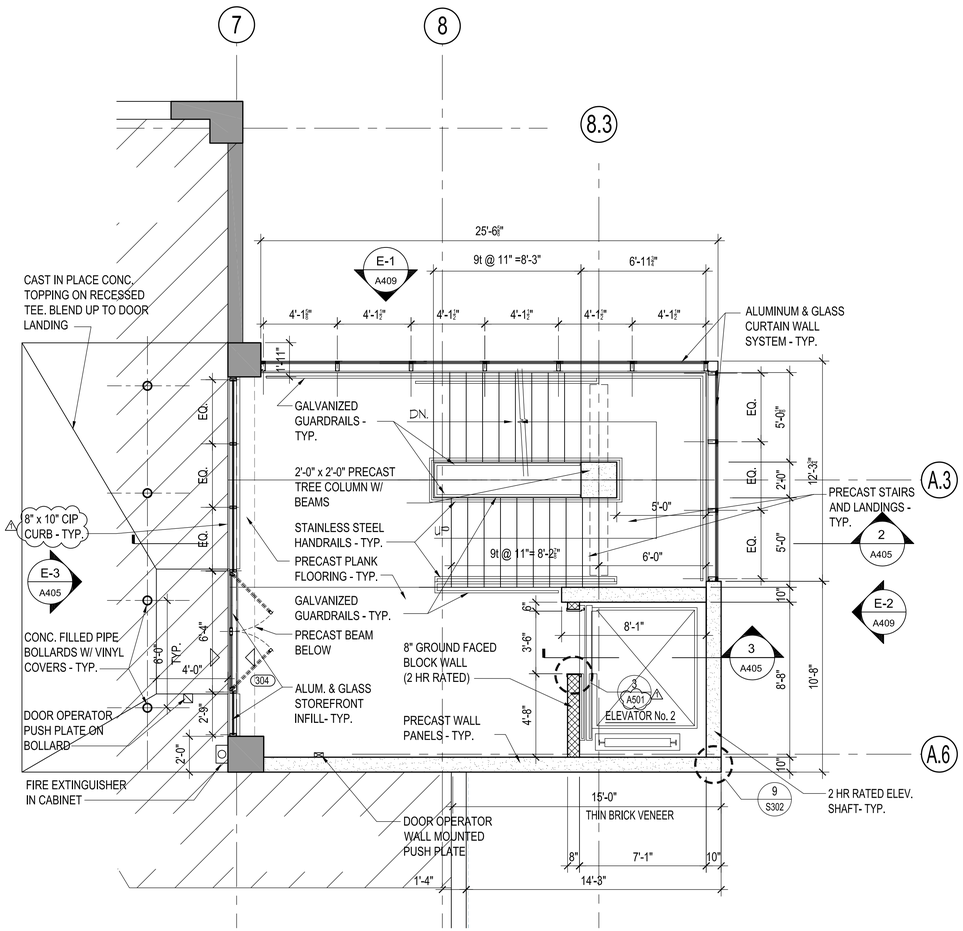
project
WILLARD DILORETO
PARKING GARAGE
NEW BRITAIN, CONNECTICUT

CAD no.: xxxxxxxxxx.dwg
project no.: CF-RC-402



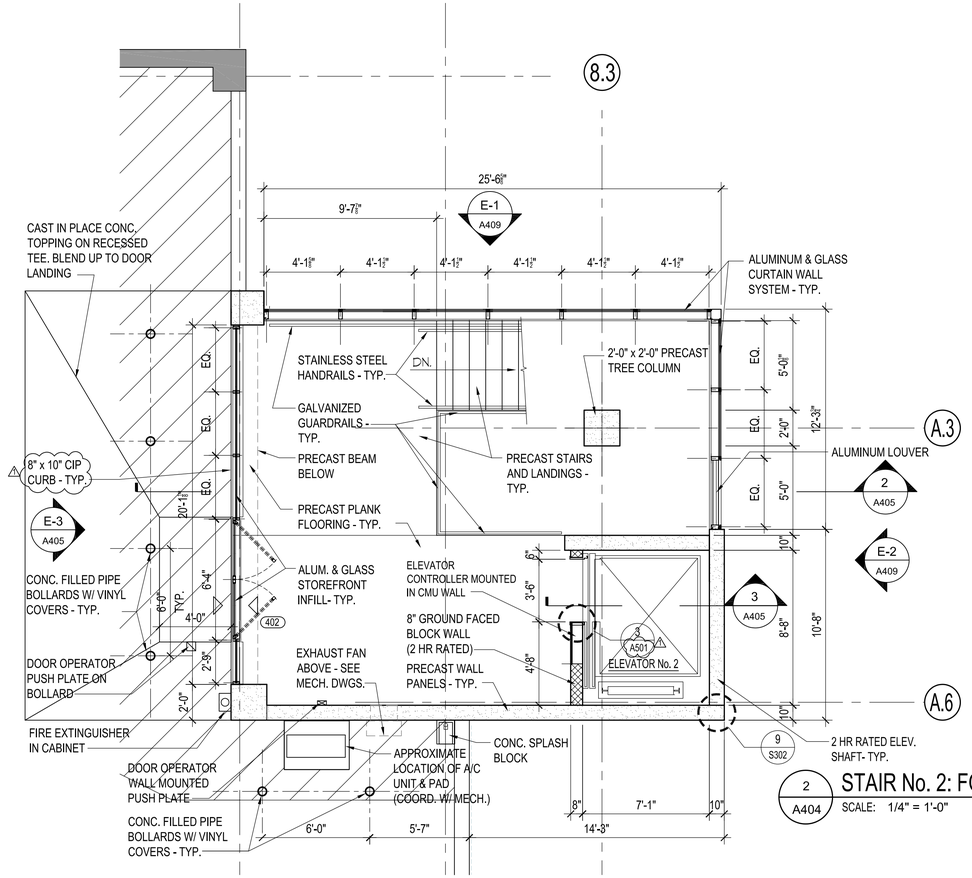
1 A405 **STAIR No. 2: ROOF PLAN**

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



1 A404 **STAIR No. 2: THIRD LEVEL PLAN**

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



2 A404 **STAIR No. 2: FOURTH LEVEL PLAN**

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

drawing title
STAIR No. 2 - PLANS

REVISIONS

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STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

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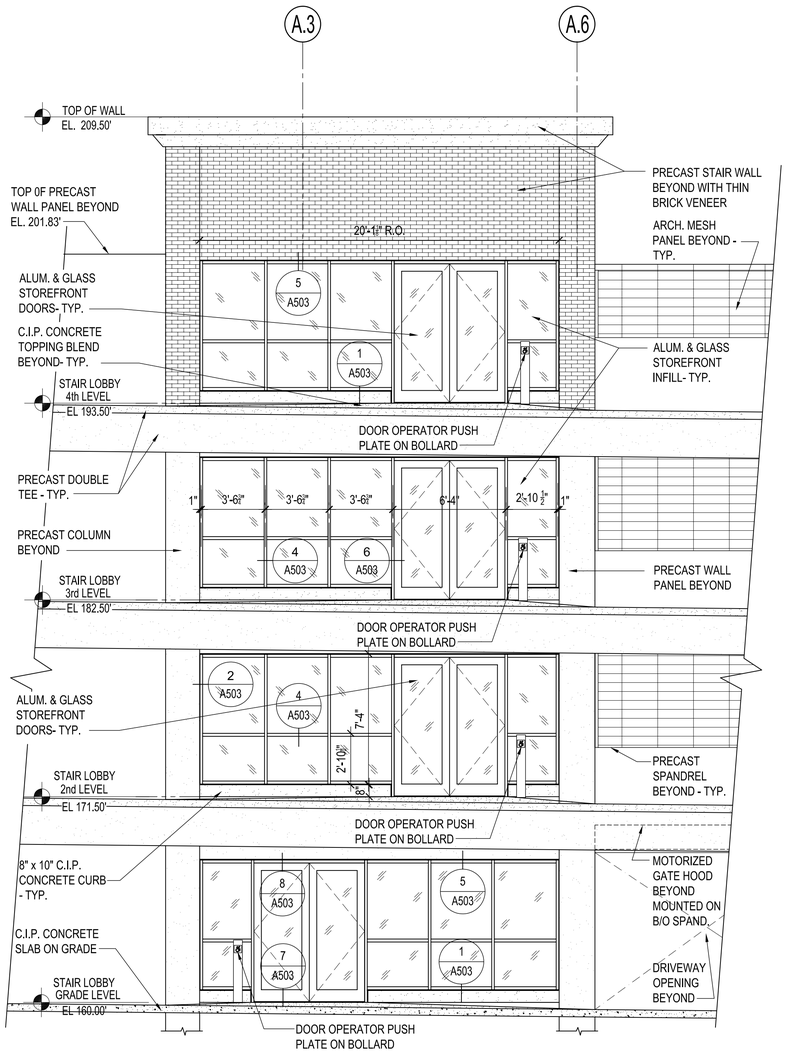
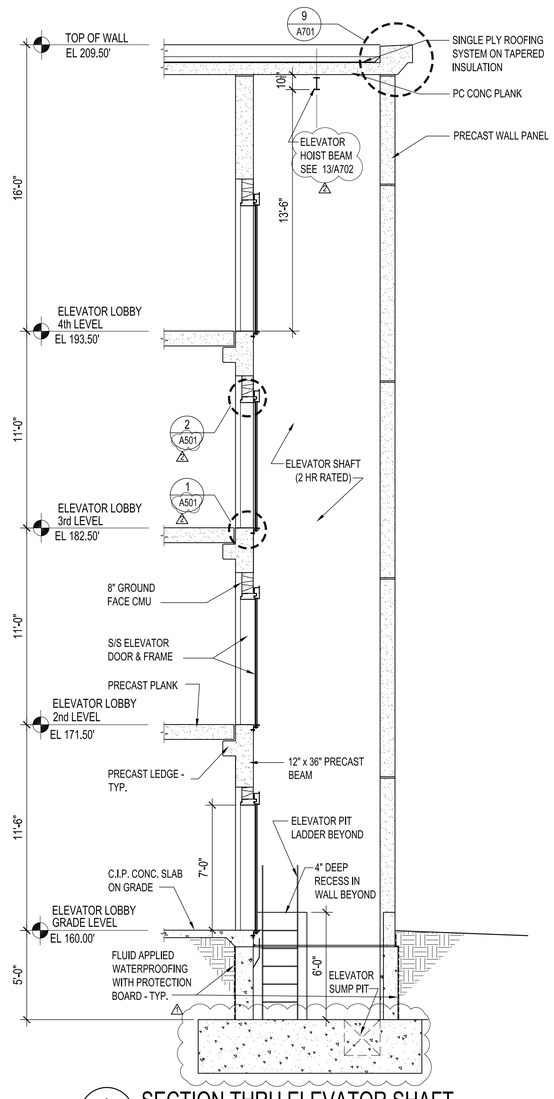


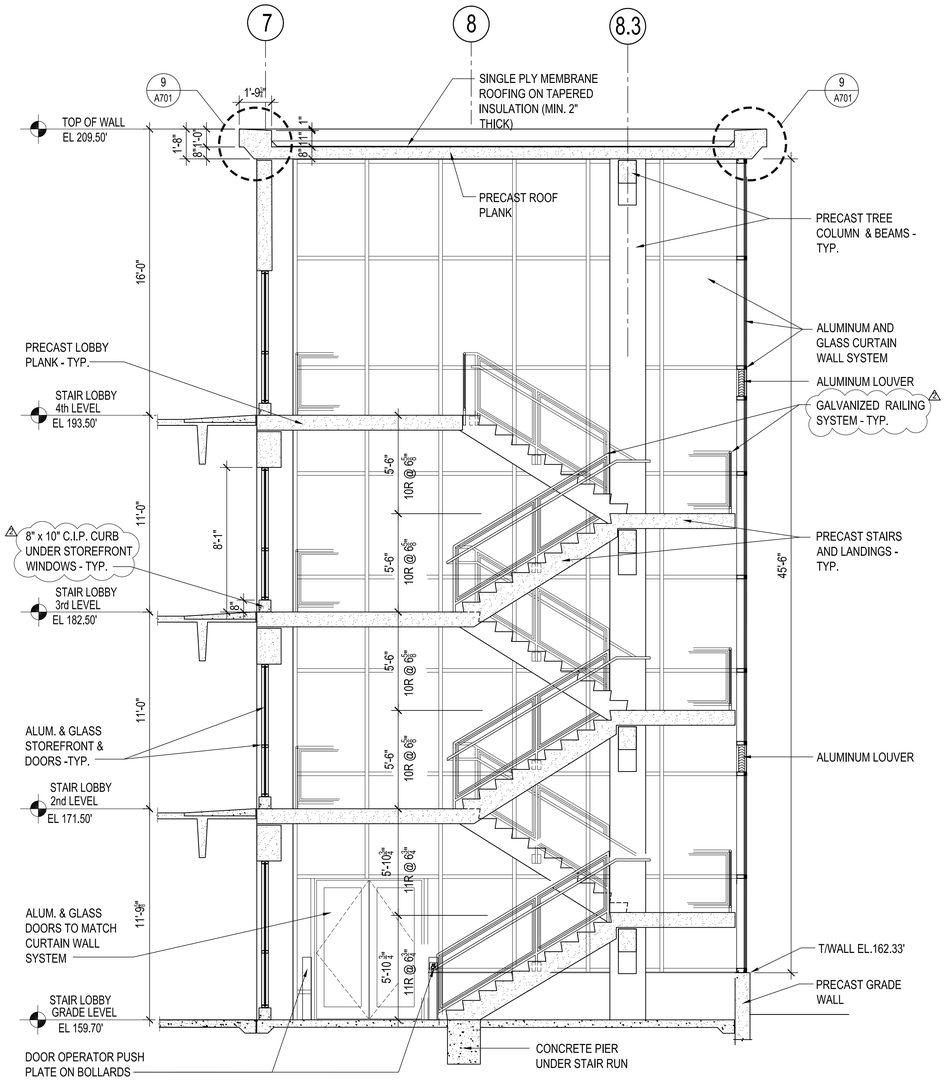
E-3 / A405 STAIR #2 - WEST ELEVATION

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



3 / A405 SECTION THRU ELEVATOR SHAFT

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



2 / A405 STAIR #2 - SECTION

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

drawing title
STAIR No. 2 - SECTIONS & ELEVATION

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	05/15/20	ADDENDUM NO. 2
2	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

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project
WILLARD DILORETO
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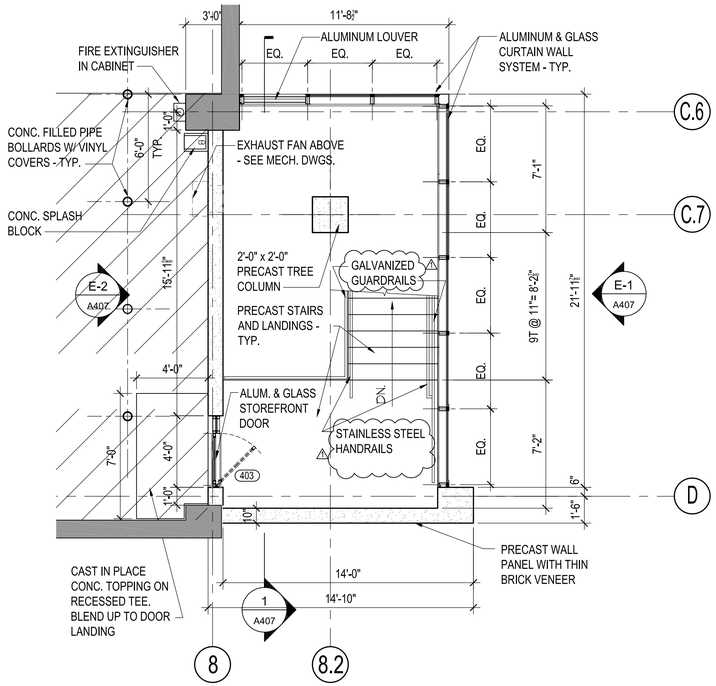
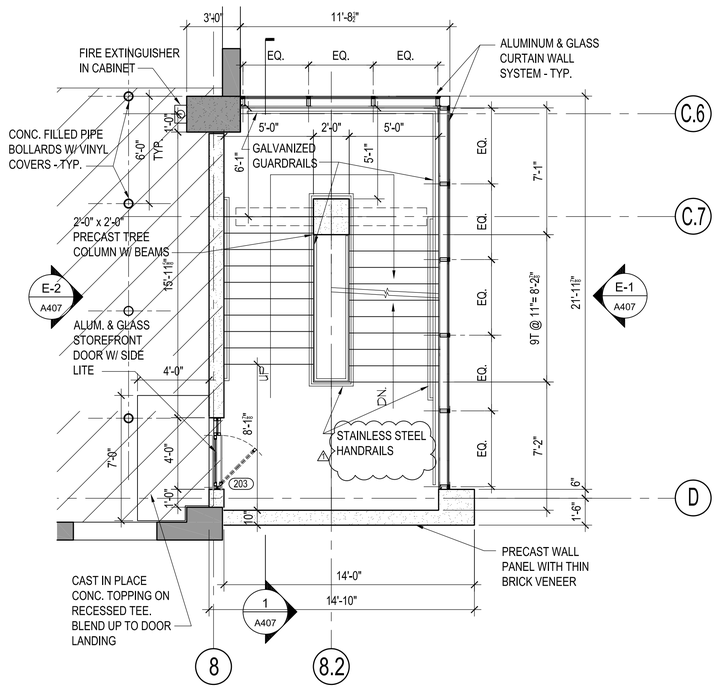


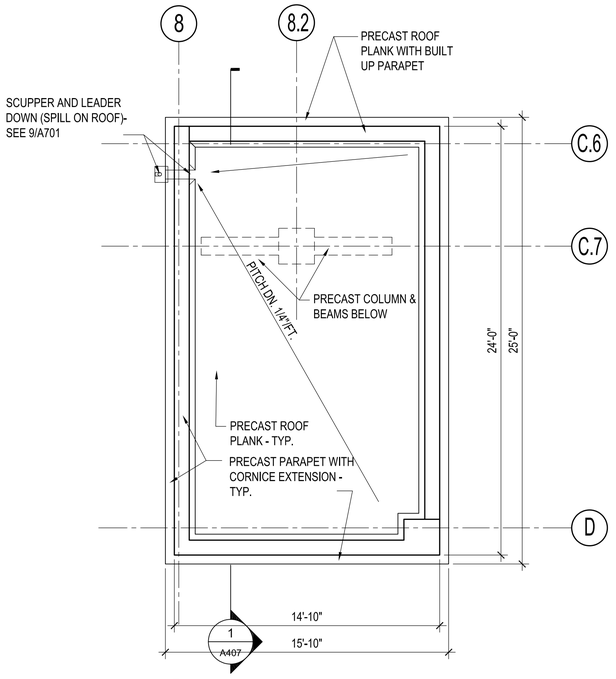
4 A406 **STAIR No. 3: FOURTH LEVEL PLAN**

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



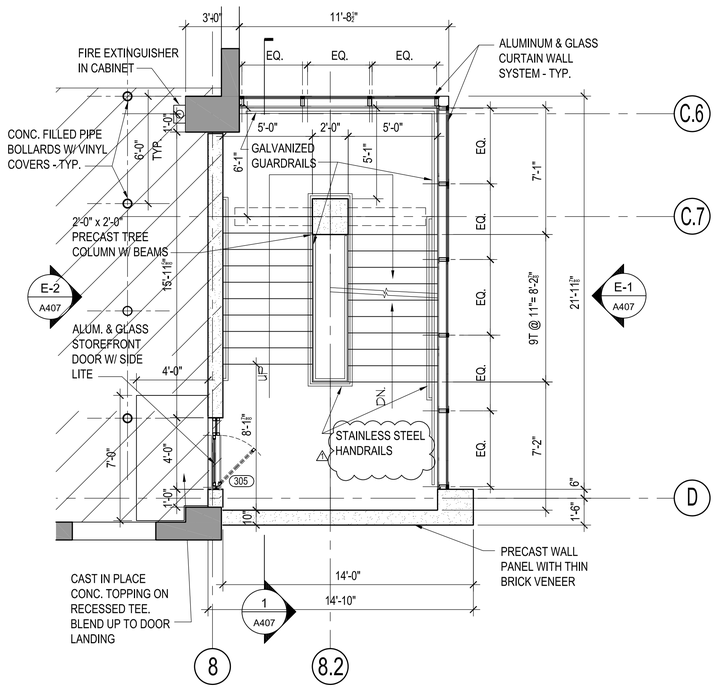
2 A406 **STAIR No. 3: SECOND LEVEL PLAN**

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



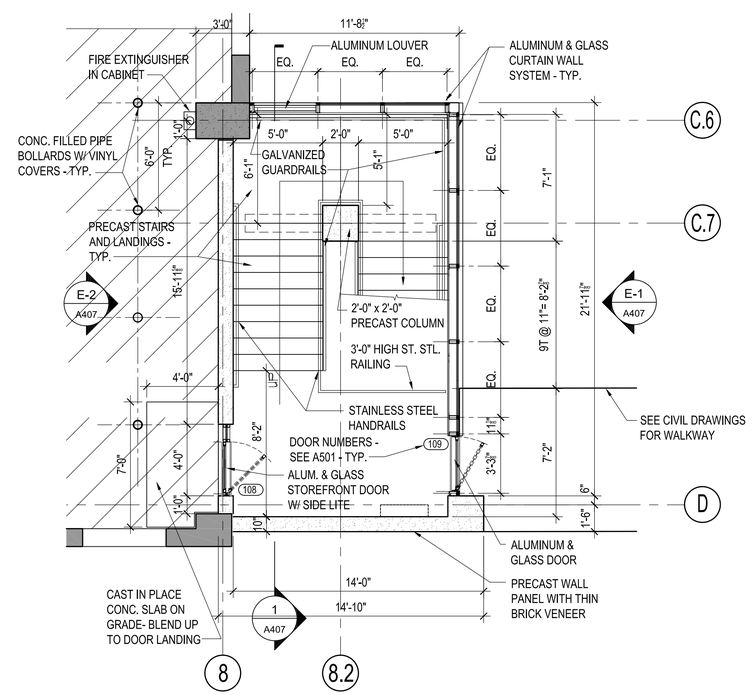
5 A406 **STAIR No. 3: ROOF PLAN**

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



3 A406 **STAIR No. 3: THIRD LEVEL PLAN**

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



1 A406 **STAIR No. 3: GRADE LEVEL PLAN**

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

drawing title
STAIR No. 3 - PLANS

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

drawing prepared by
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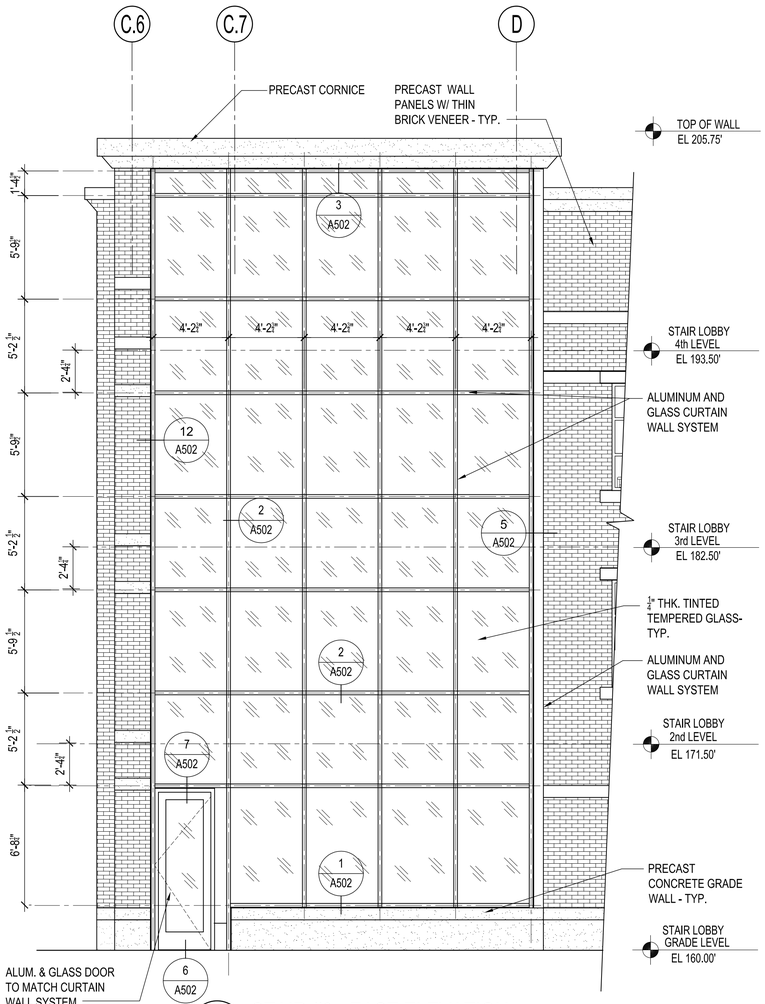
175 CAPITAL BOULEVARD, SUITE 402
ROCKY HILL, CONNECTICUT 06067

date: 06/27/2019
scale: AS NOTED
drawn by: AAA
approved by: NLG
drawing no.: **A406**

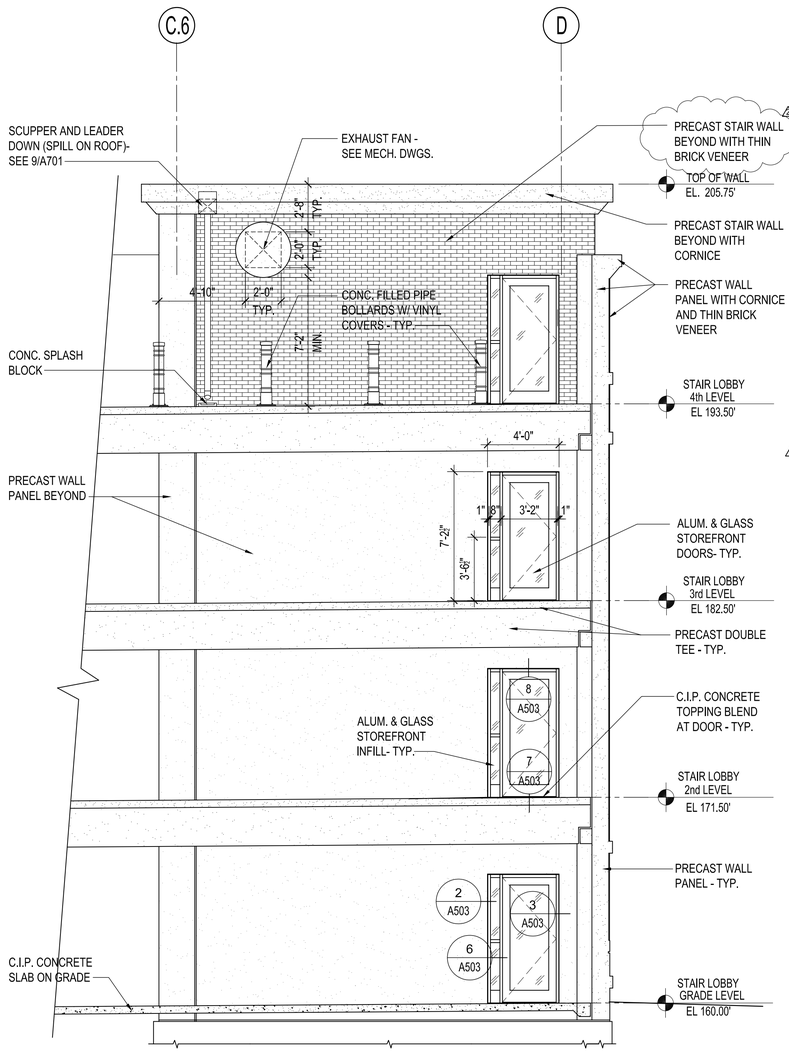
project
WILLARD DILORETO PARKING GARAGE
NEW BRITAIN, CONNECTICUT

CAD no.: xxxxxxxxxx.dwg
project no.: CF-RC-402



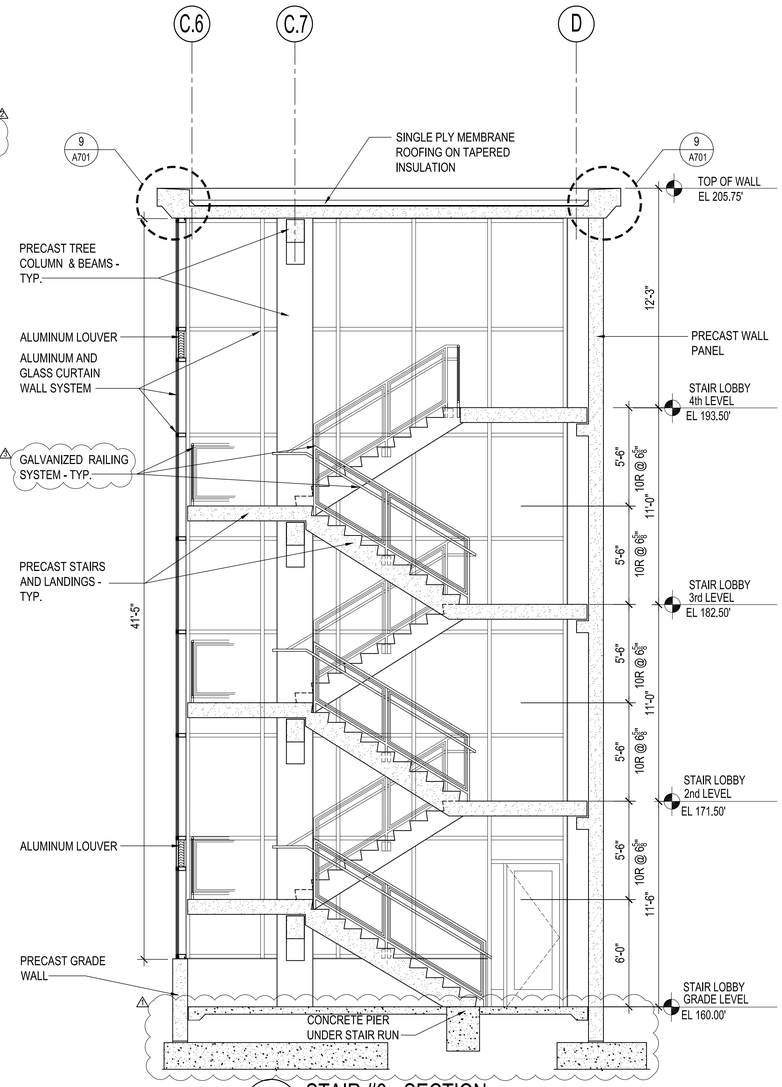
E-1 / A407 STAIR #3 - EAST ELEVATION

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



E-2 / A407 STAIR #3 - WEST ELEVATION

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



1 / A407 STAIR #3 - SECTION

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

drawing title
STAIR No. 3 - SECTIONS & ELEVATION

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	05/15/20	ADDENDUM NO. 2
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STATE OF CONNECTICUT
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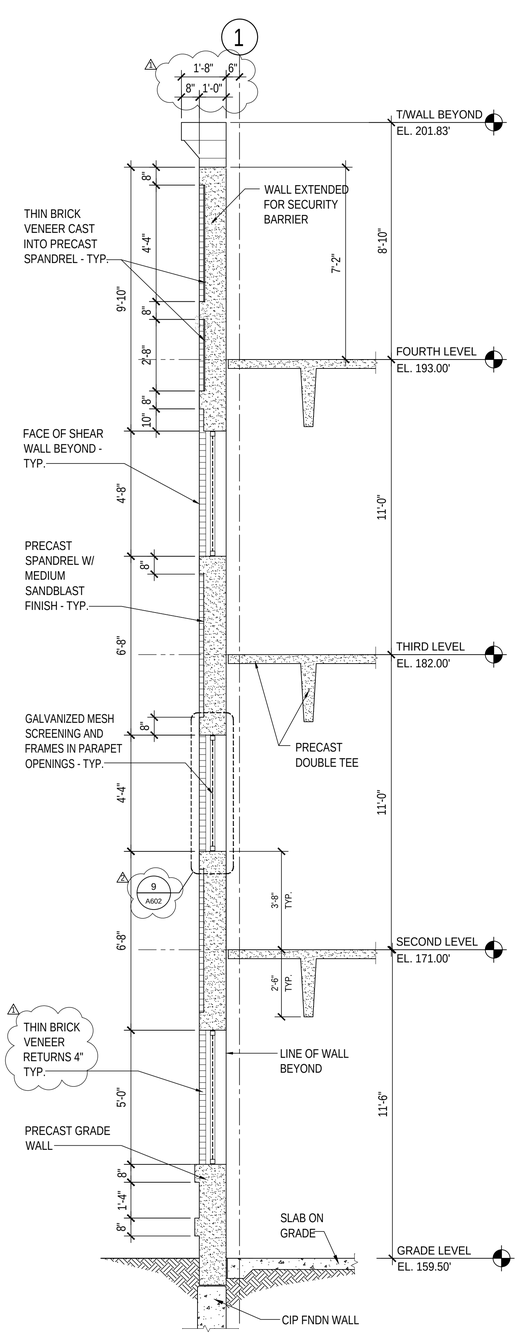
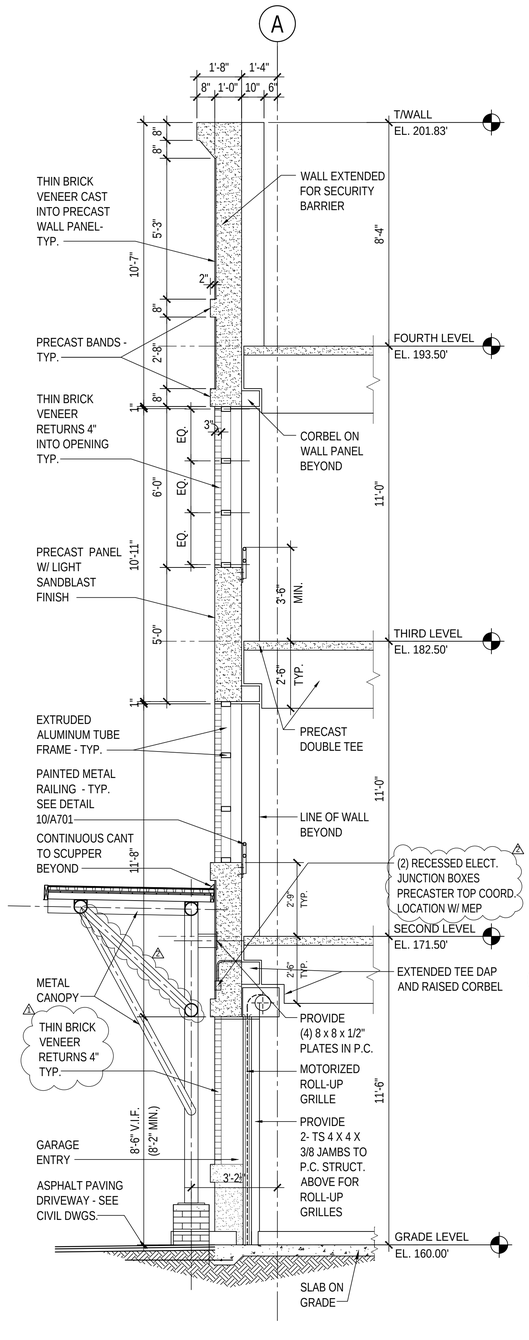


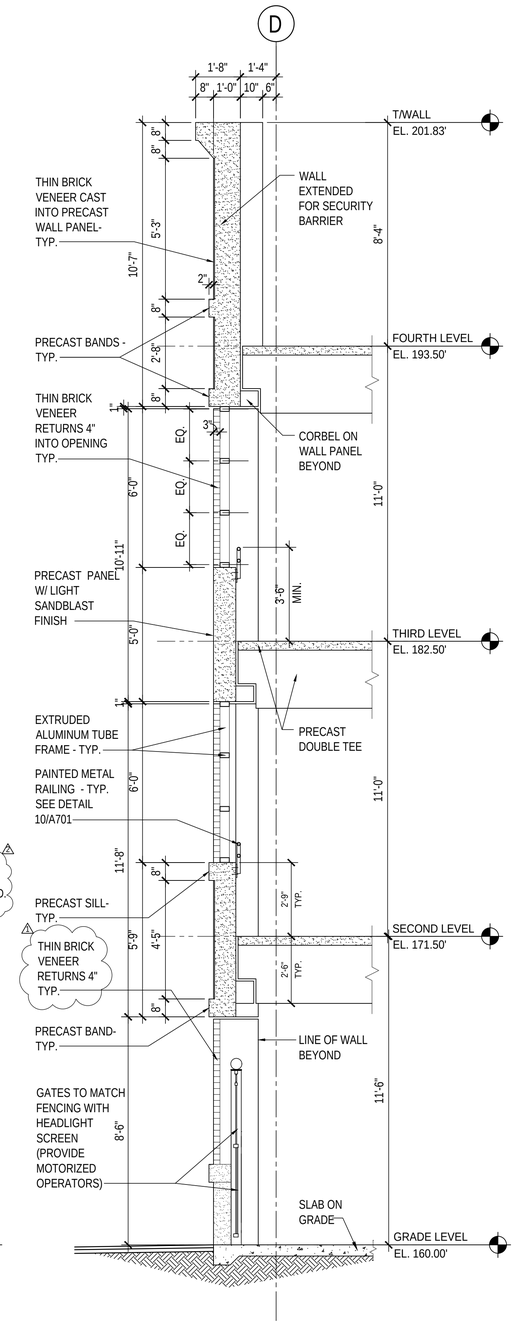
5 A602 WALL SECTION

SCALE: 3/8"=1'-0"



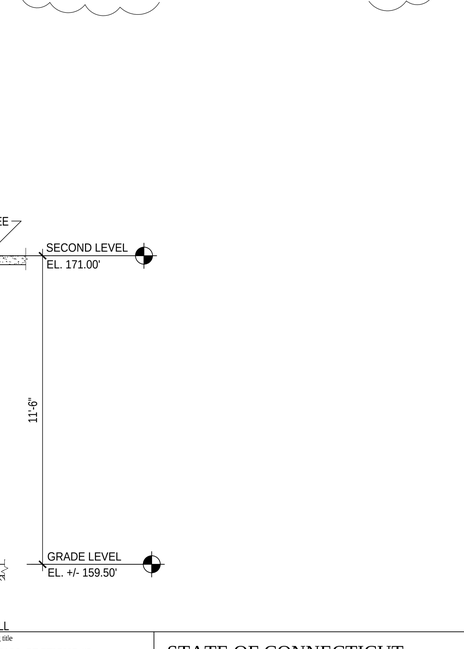
6 A602 WALL SECTION

SCALE: 3/8"=1'-0"



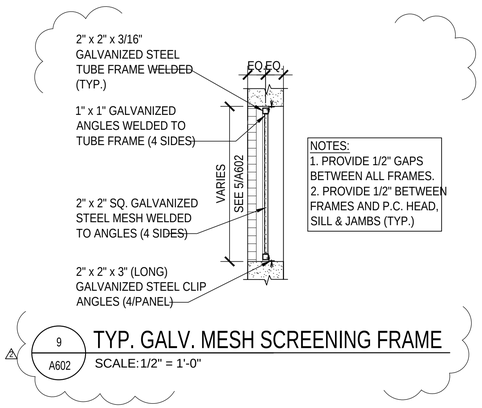
7 A602 WALL SECTION

SCALE: 3/8"=1'-0"



8 A602 WALL SECTION

SCALE: 3/8"=1'-0"



9 A602 TYP. GALV. MESH SCREENING FRAME

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

drawing title: WALL SECTIONS #2

REVISIONS

mark	date	description
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1	06/01/20	ADDENDUM NO. 3
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STATE OF CONNECTICUT
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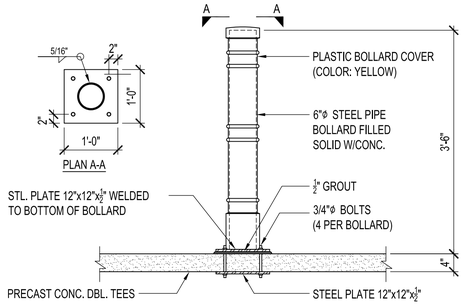
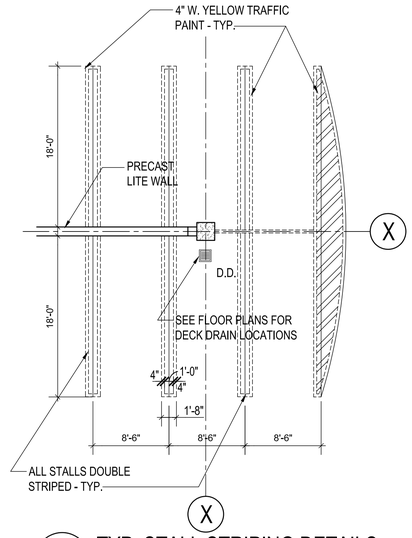
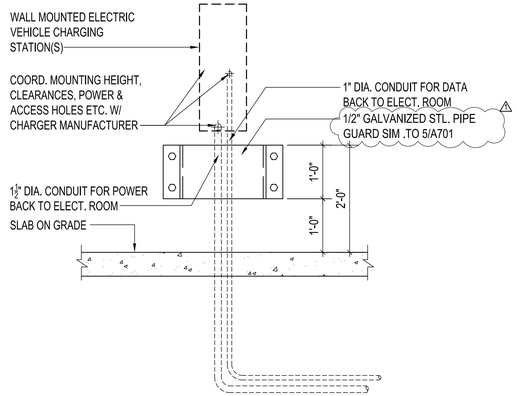


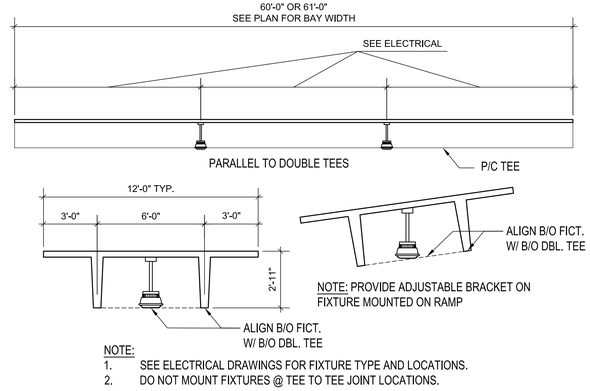
1 A702 **BOLLARD @ SUPPORTED SLAB**
SCALE: 3/4" = 1'-0"



3 A702 **TYP. STALL STRIPING DETAILS**
SCALE: 1/8" = 1'-0"

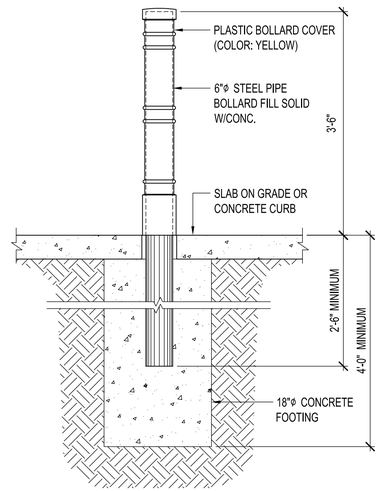


4 A702 **WALL MOUNTED VEHICLE CHARGING STATION DETAIL**
SCALE: 3/4"=1'-0"

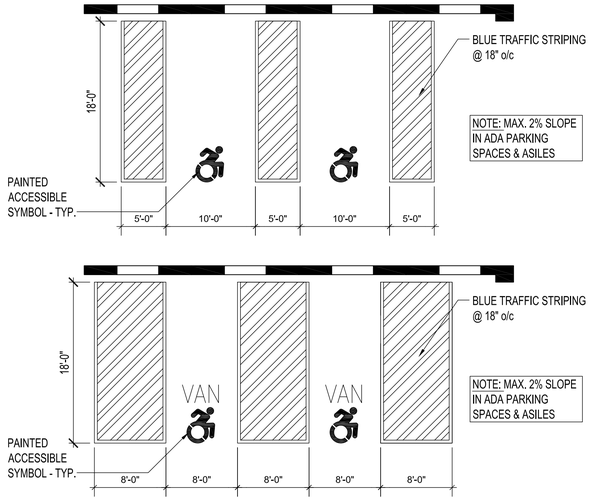


NOTE:
1. SEE ELECTRICAL DRAWINGS FOR FIXTURE TYPE AND LOCATIONS.
2. DO NOT MOUNT FIXTURES @ TEE TO TEE JOINT LOCATIONS.

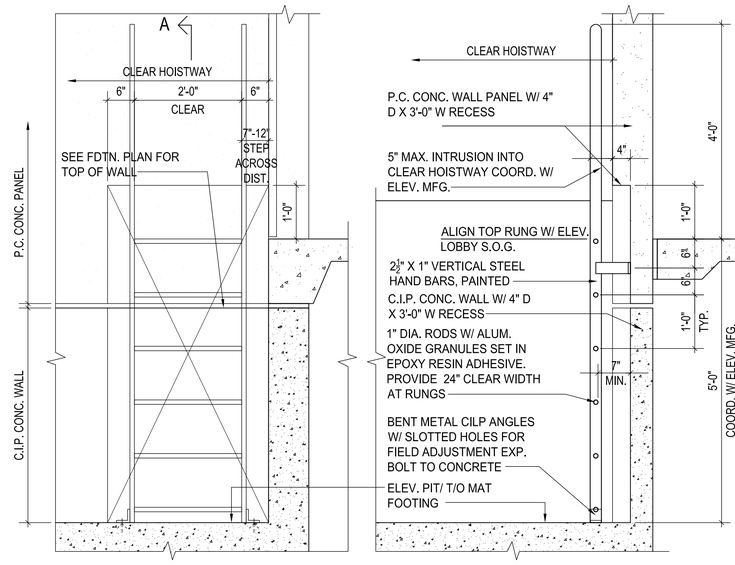
5 A702 **LIGHT FIXTURE MOUNTING DETAIL**
SCALE: N.T.S.



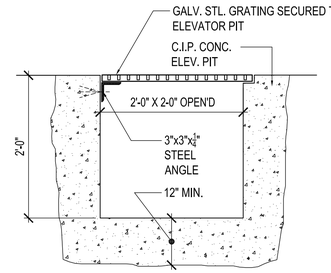
2 A702 **BOLLARD DETAIL @ GRADE**
SCALE: 3/4"=1'-0"



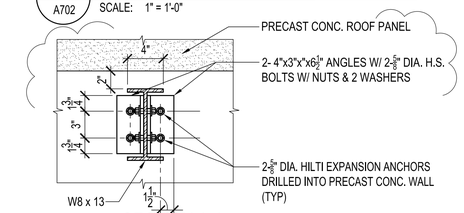
3A A702 **H.C. STRIPING DETAILS**
SCALE: 1/8" = 1'-0"



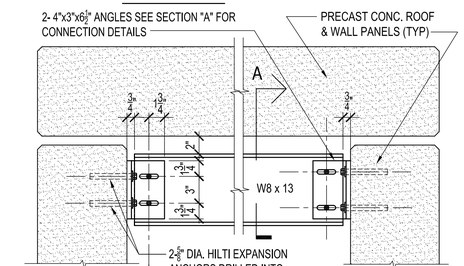
6 A702 **ELEV PIT LADDER DETAIL**
SCALE: 3/4" =1'-0"



12 A702 **SUMP PIT W/GRATING DETAIL**
SCALE: 1" = 1'-0"

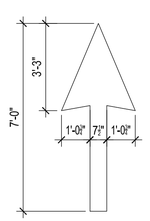


SECTION A-A

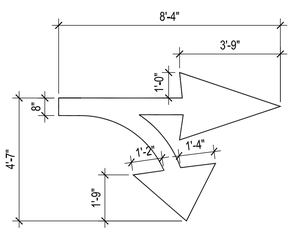


ELEVATION

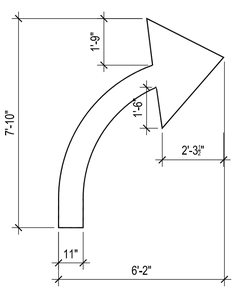
13 A702 **ELEVATOR HOIST BEAM DTL.**
SCALE: 1 1/2" = 1'-0"



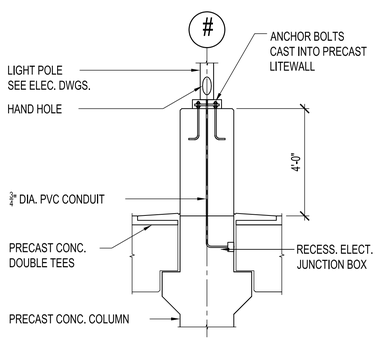
7 A702 **THRU ARROW**
SCALE: 3/8"=1'-0"



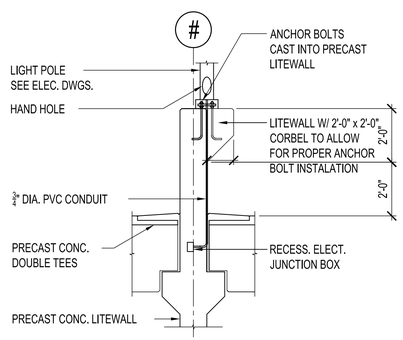
8 A702 **COMBINATION ARROW**
SCALE: 3/8"=1'-0"



9 A702 **TURN ARROW**
SCALE: 3/8"=1'-0"



10 A702 **LIGHT POLE DTL @ COL.**
SCALE: 3/8" = 1'-0"



11 A702 **LIGHT POLE DTL @ LITE WALL**
SCALE: 3/8" = 1'-0"

drawing title
TYPICAL DETAILS #2

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

drawing prepared by
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175 CAPITAL BOULEVARD, SUITE 402
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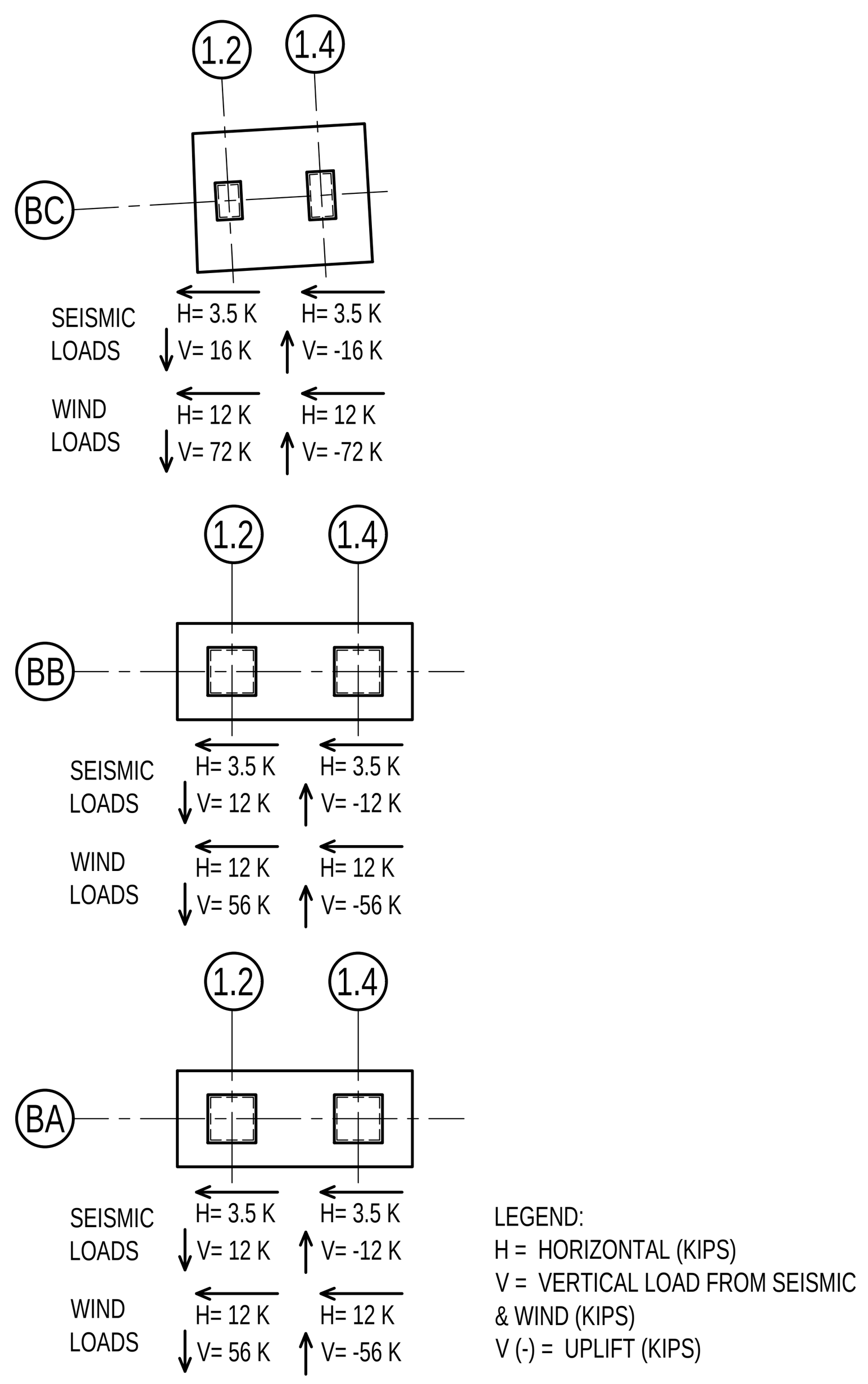
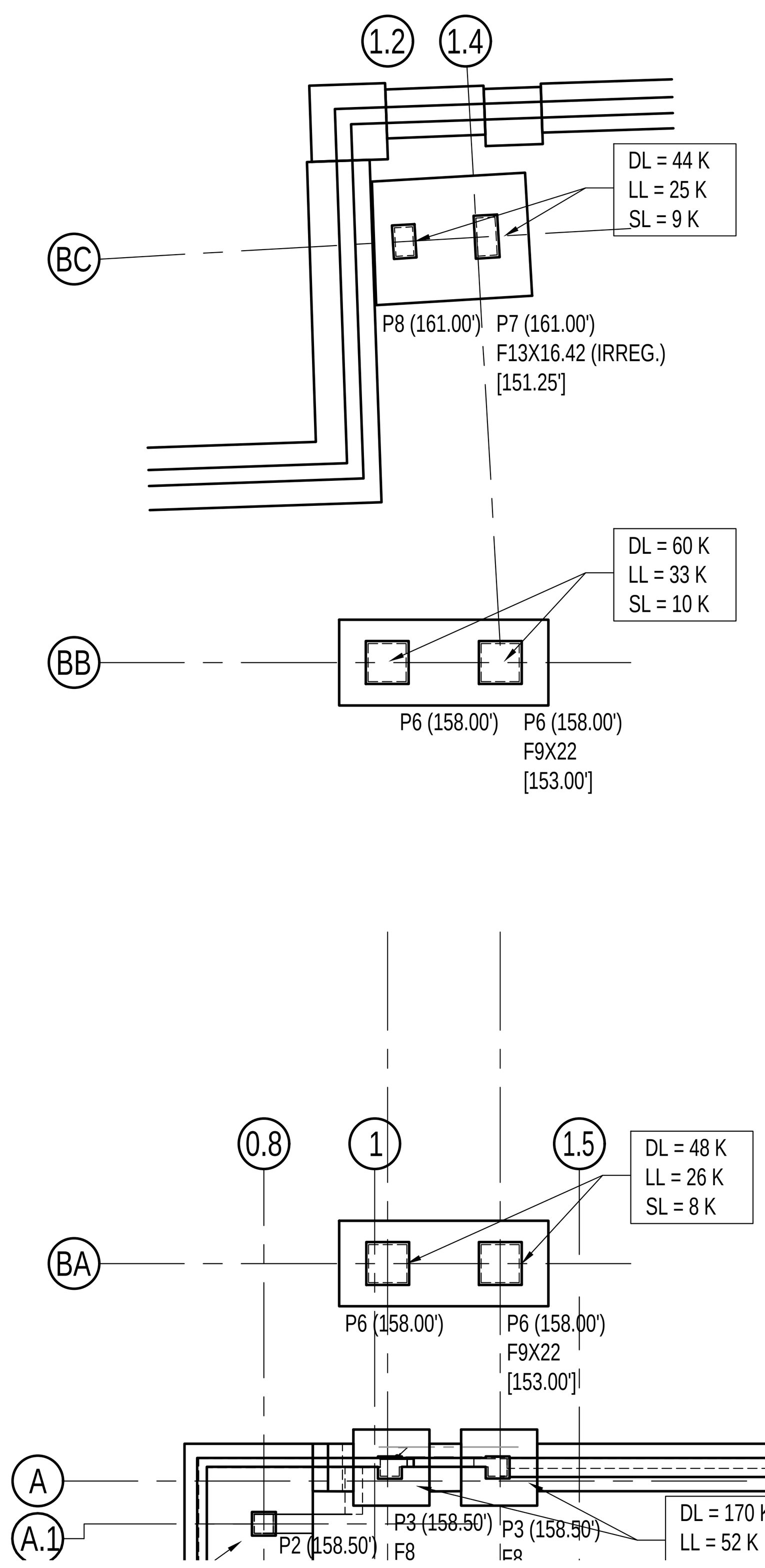
date 06/27/2019
scale AS NOTED
drawn by AAA
approved by NLG
drawing no. **A702**

project
WILLARD DILORETO
PARKING GARAGE
NEW BRITAIN, CONNECTICUT

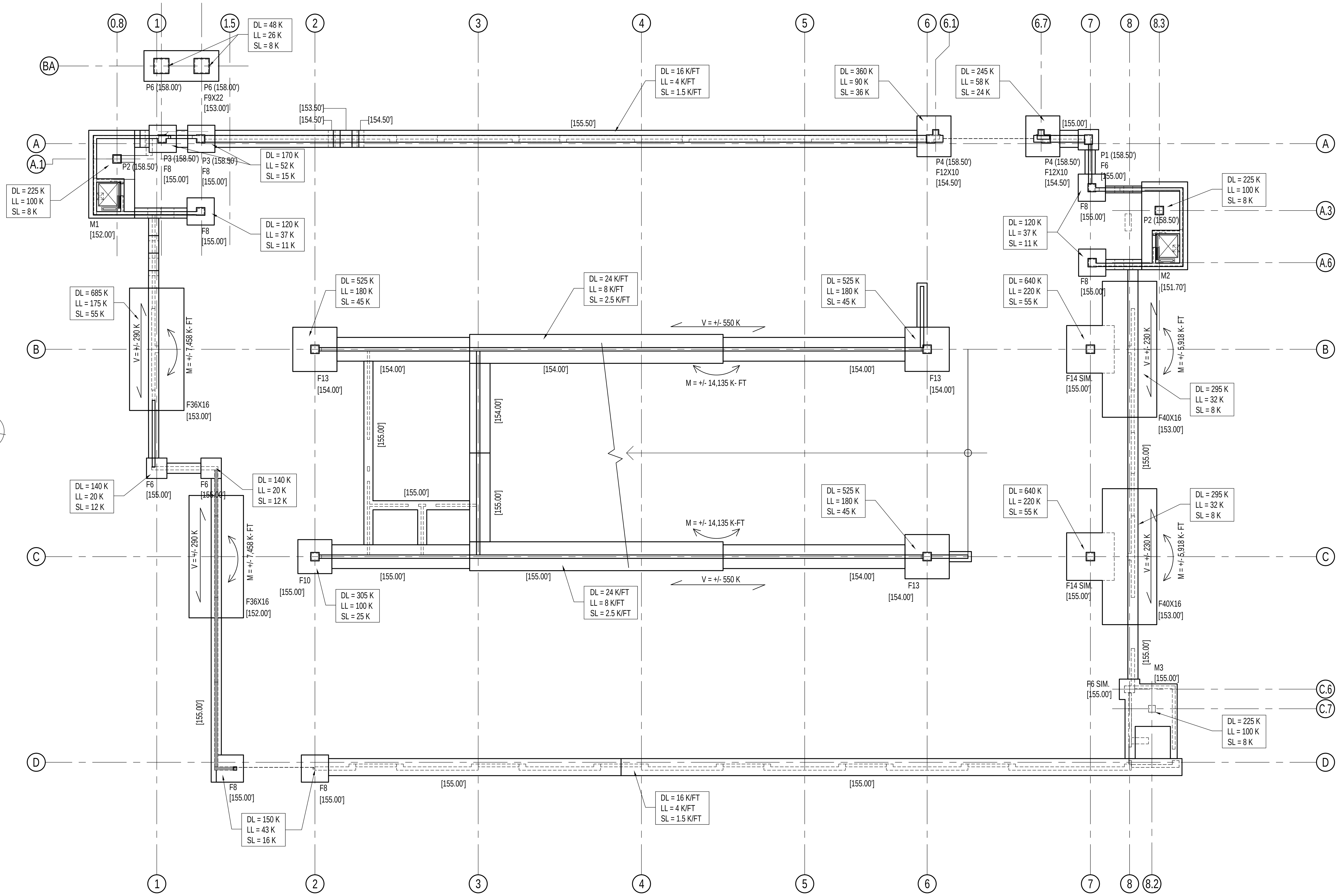
CAD no. xxxxxxxxxx.dwg
project no. CF-RC-402



3
S005
SEISMIC/WIND
LOADING DIAGRAM - PED. BRIDGE
SCALE: 1/16" = 1'-0"



2
S005
LOADING DIAGRAM- PED. BRIDGE
SCALE: 1/16" = 1'-0"



1
S005
LOADING DIAGRAM
SCALE: 1/16" = 1'-0"

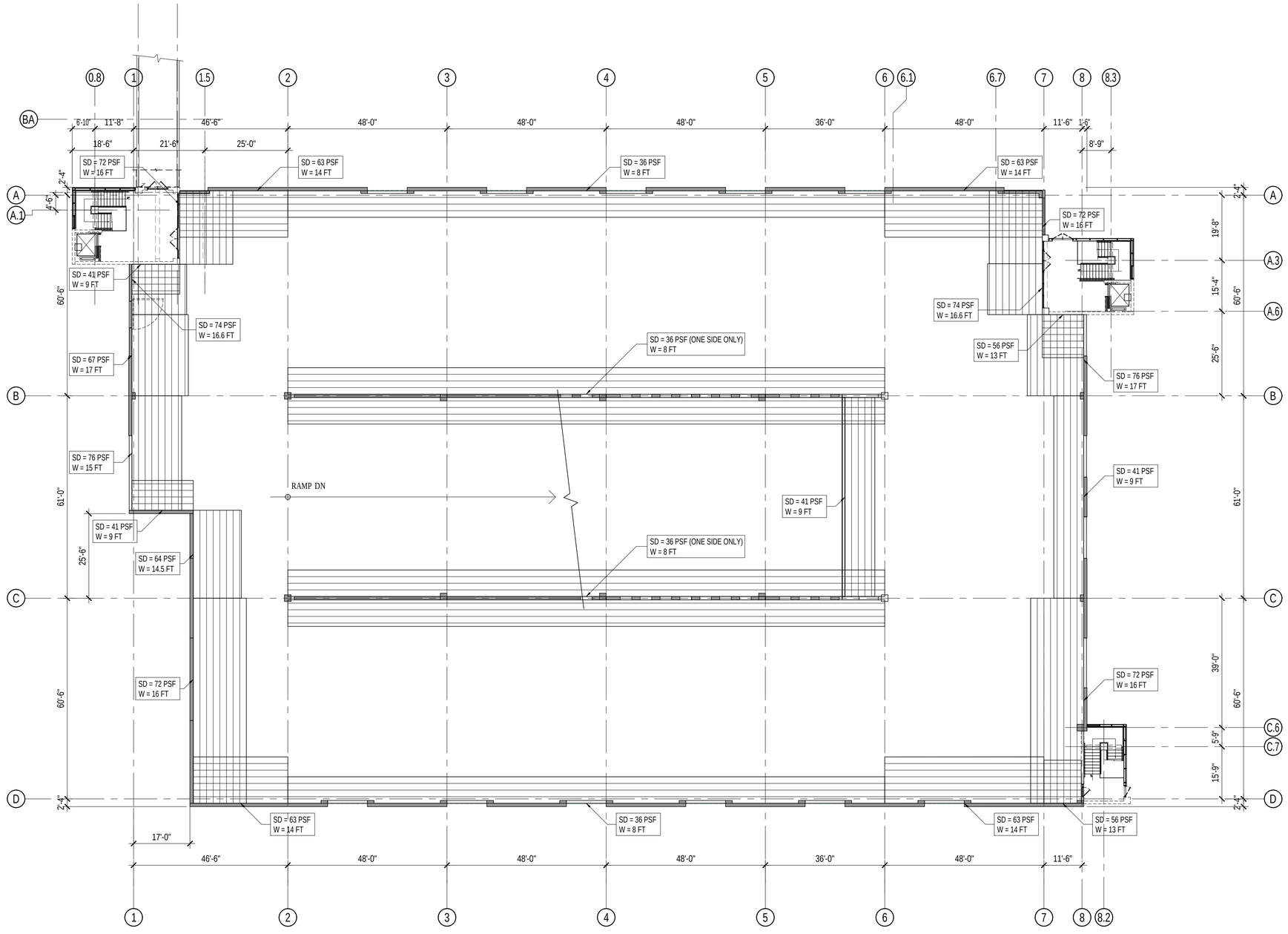
LEGEND:
DL = DEAD LOAD (KIPS)
LL = LIVE LOAD (KIPS)
SL = SNOW LOAD (KIPS)
ALL GRAVITY LOADS ARE SERVICE LOADS

LEGEND:
V = SEISMIC SHEAR LOAD (KIPS)
M = MOMENT FROM SHEAR LOAD (KIP-FT)
SEISMIC LOADS ARE FACTORED LOADS

LEGEND:

F# DENOTES FOOTING TYPE
P# DENOTES PIER TYPE
(XXX.XX') DENOTES TOP OF WALL, GRADE BEAM OR PIER ELEVATION
[XXX.XX'] DENOTES BOTTOM OF FOOTING OR MAT ELEVATION
SW-X DENOTES PRECAST SHEARWALL ABOVE
S.F. DENOTES STEPPED FOOTING (SEE TYPICAL DETAIL ON S003)

drawing title: LOADING PLAN DIAGRAM	STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES	
REVISIONS	drawing prepared by: DESMAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	date: 06/27/2019 scale: AS NOTED
mark: 1 / date: 06/17/20 / description: ADDENDUM NO. 4	project: WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT	drawn by: AAA approved by: NLG
	CAD no.: xxxxxxxxxx.dwg / project no.: CF-RC-402	drawing no.: S005 1



NOTE: ALL WIND LOADS ARE FACTORED LOADS

ROOF	SURFACE PRESSURE (PSI)		
AREA	10 SF	50 SF	100 SF
POSITIVE ZONE 1, 2 & 3	18	16	16
NEGATIVE ZONE 1	-44	-41.4	-40.3
NEGATIVE ZONE 2	-73.8	-55.6	-47.8
NEGATIVE ZONE 3	-111	-66.3	-47.8
ROOF OVERHANG 2	-68.4	-65.6	-64.3
ROOF OVERHANG 3	-112.5	-47	-32.2

WALL	SURFACE PRESSURE (PSI)		
AREA	10 SF	50 SF	100 SF
POSITIVE ZONE 4 & 5	45	37.5	32.8
NEGATIVE ZONE 4	-47.8	-41.1	-36.6
NEGATIVE ZONE 5	-58.5	-45.8	-36.6

PARAPET	SOLID PARAPET PRESSURE (PSI)		
AREA	10 SF	50 SF	100 SF
CASE A: INTERIOR ZONE	122.4	99.8	85.3
CORNER ZONE	122.4	99.8	85.3
CASE B: INTERIOR ZONE	-77.9	-65	-55.7
CORNER ZONE	-88.96	-70.5	-55.7

2 / S006 COMPONENT & CLADDING WIND PRESSURES

SCALE: N.T.S

LEGEND:
SD = SNOW DRIFT LOAD (PSF)
W = LOAD WIDTH (FT)
NORTH-SOUTH SNOW DIRECTION
EAST-WEST SNOW DIRECTION

1 / S006 SNOW DRIFT PLAN DIAGRAM

SCALE: 1/16" = 1'-0"

N

drawing title
SNOW DRIFT PLAN DIAGRAM

REVISIONS

mark	date	description
1	08/07/20	BIDDING DOCUMENTS

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

drawing prepared by
DESMAN
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WILLARD DILORETO
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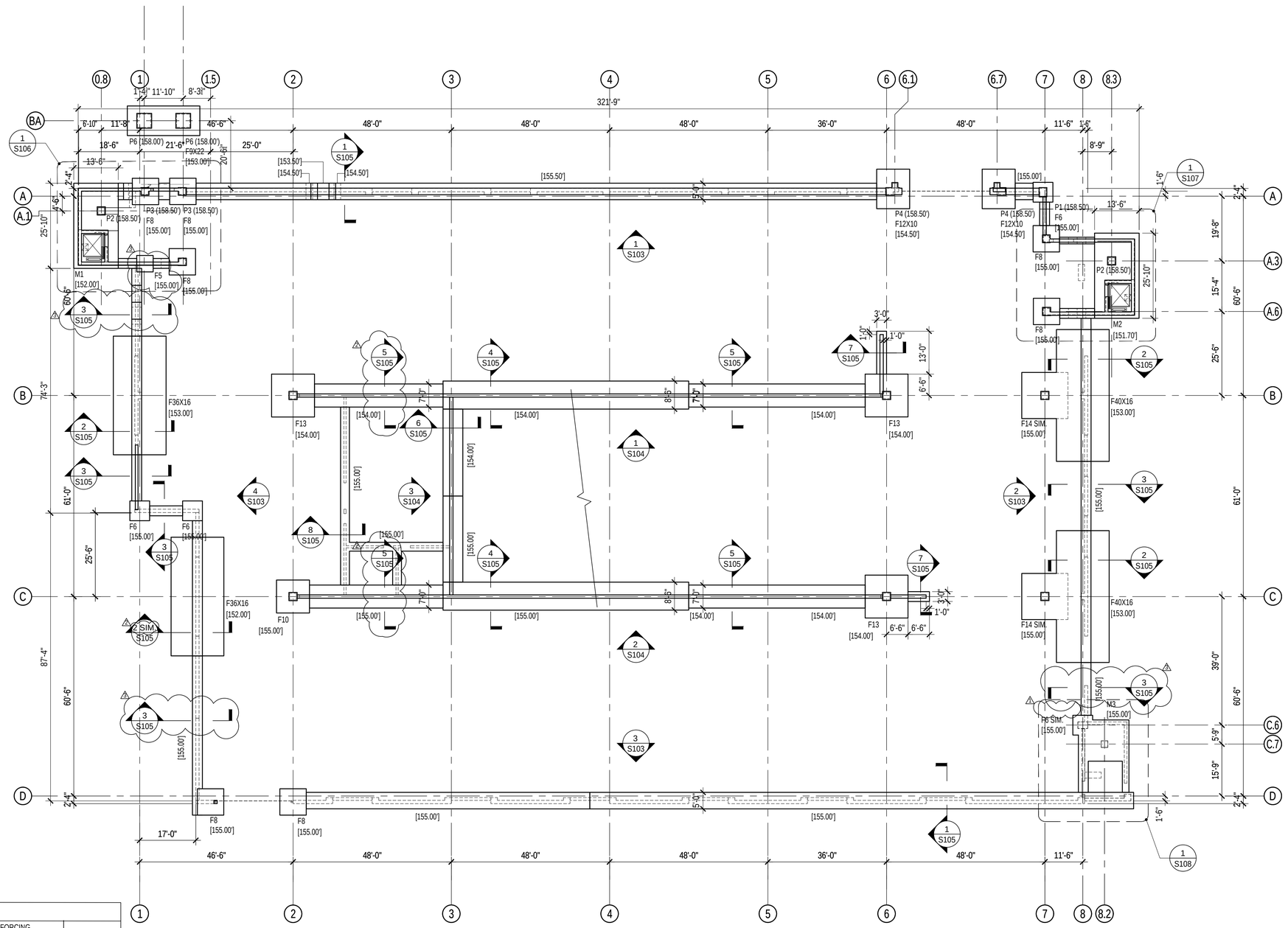
drawing no. S006 1



1 S101 — FOUNDATION PLAN

SCALE: 1/16" = 1'-0"

N

F O O T I N G S C H E D U L E

MARK	SIZE			BOTTOM REINFORCING		TOP REINFORCING		REMARKS
	A-LONG FT-IN	B-SHORT FT-IN	D IN	'A' BARS	'B' BARS	'A' BARS	'B' BARS	
F6	6'-0"	6'-0"	18"	7-#6	7-#6			
F8	8'-0"	8'-0"	18"	10-#7	10-#7			
F10	10'-0"	10'-0"	24"	13-#7	13-#7			
F13	13'-0"	13'-0"	36"	14-#9	14-#9			
F14	14'-0"	14'-0"	36"	15-#9	15-#9			
M1			36"	#8@12"	#8@12"	#8@12"	#8@12"	
M2			36"	#8@12"	#8@12"	#8@12"	#8@12"	
M3			36"	#8@12"	#8@12"	#8@12"	#8@12"	
F36X16	36'-0"	16'-0"	36"	17-#9	37-#9	17-#7	37-#7	
F40X16	40'-0"	16'-0"	36"	17-#10	41-#9	17-#9	41-#8	
F12X10	12'-0"	10'-0"	24"	16-#7	12-#7			
F5	5'-0"	5'-0"	18"	#4@12"	#6@9"			

LEGEND:

F# DENOTES FOOTING TYPE
P# DENOTES PIER TYPE
(XXX.XX') DENOTES TOP OF WALL, GRADE BEAM OR PIER ELEVATION
[XXX.XX'] DENOTES BOTTOM OF FOOTING OR MAT ELEVATION
SW-X DENOTES PRECAST SHEARWALL ABOVE
S.F. DENOTES STEPPED FOOTING (SEE TYPICAL DETAIL ON S003)

NOTES:

1. GARAGE FOOTINGS ARE TO BE 4,000 PSI CONCRETE U.N.O. AND ARE TO BEAR ON GROUND IMPROVEMENT BY USE OF AGGREGATE PIERS, AS DIRECTED BY THE GEOTECHNICAL ENGINEER..
2. SEE CONCRETE NOTES ON S001.
3. REFER TO ENLARGED PLANS FOR SIZE AND LOCATION OF STAIR FOOTINGS AND PIERS.
4. MINIMUM DEPTH OF FOOTINGS SHALL BE 3'-6" BELOW FINAL GRADE FOR FROST.
5. CANOPY AND MASONRY WALL FOOTINGS SHALL BEAR ON 4 KSF STRUCTURAL FILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
6. REFER TO DRAWING S102 FOR VARIOUS PIER PLAN DETAILS.
7. REFER TO DRAWING S102 FOR VARIOUS COLUMN TYPE DETAILS.
8. PROVIDE SLAB-ON-GRADE (S.O.G.). SEE TYPICAL DETAILS ALL AREAS (U.O.N.).
9. SEE S201 FOR SLAB-ON-GRADE PLAN WITH ELEVATIONS.
10. FOR ALL PARTITION WALL LOCATIONS, SEE ARCHITECTURAL PLANS.

drawing title: FOUNDATION PLAN

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	05/15/20	ADDENDUM NO. 2
2	06/01/20	ADDENDUM NO. 3
3	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

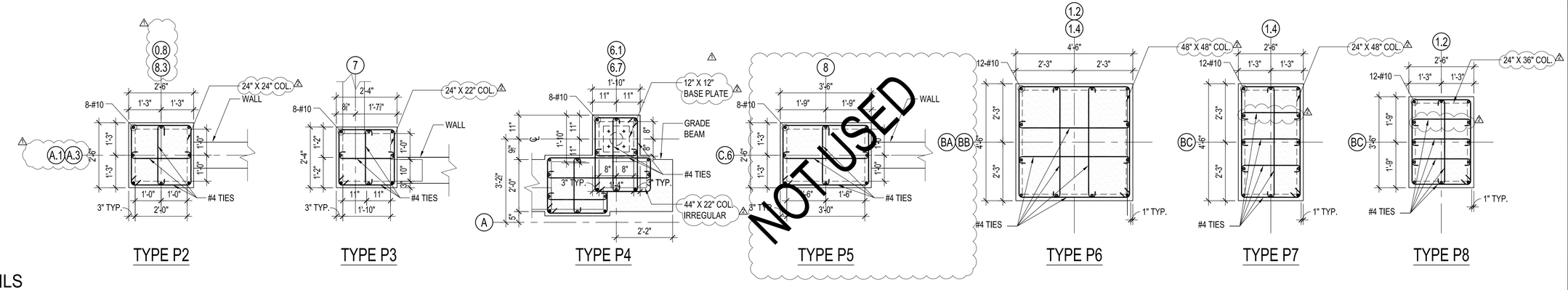
drawing prepared by
DESMAN
175 CAPITAL BOULEVARD, SUITE 402
ROCKY HILL, CONNECTICUT 06067

date: 06/27/2019
scale: AS NOTED

project
WILLARD DILORETO
PARKING GARAGE
NEW BRITAIN, CONNECTICUT

drawn by: AAA
approved by: NLG
drawing no.: S101

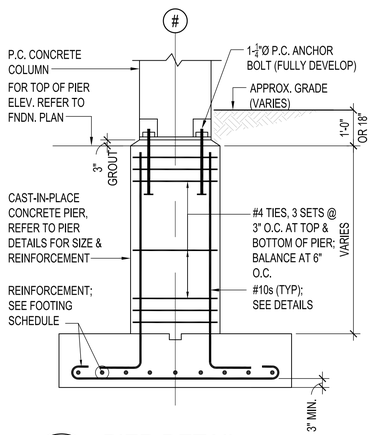
CAD no.: xxxxxxxxxx.dwg
project no.: CF-RC-402



TYPE P1 TYPE P2 TYPE P3 TYPE P4 TYPE P5 TYPE P6 TYPE P7 TYPE P8

1 S102 PIERS DETAILS

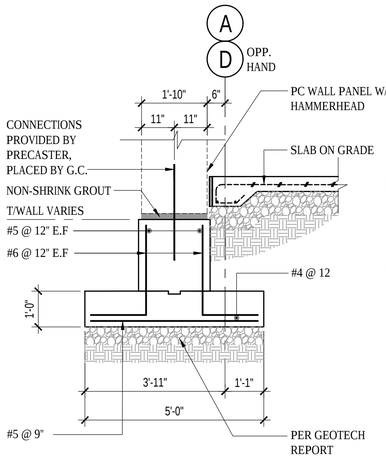
SCALE: 1/2" = 1'-0"



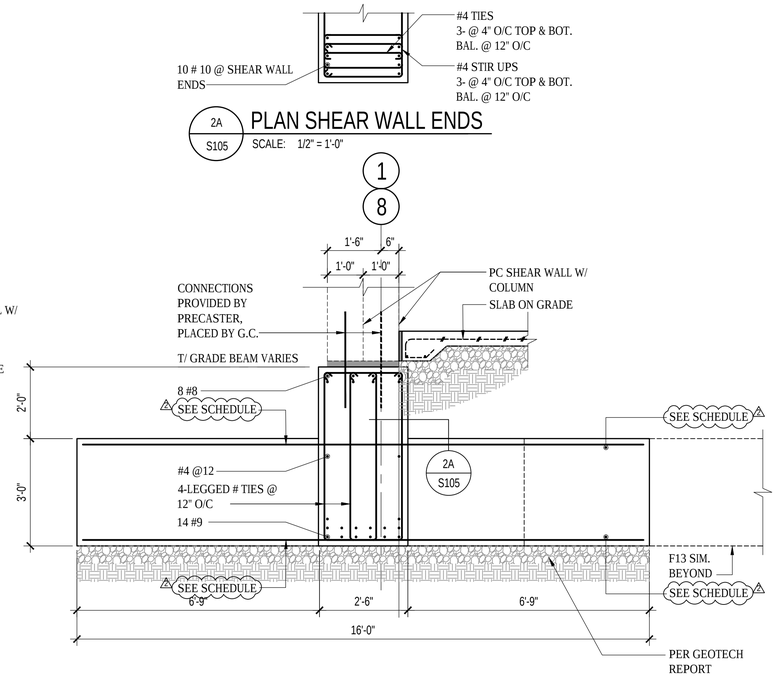
2 S102 PIER DETAIL

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

drawing title			STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES	
PIER DETAILS				
REVISIONS				
mark	date	description	drawing prepared by DESMAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	date 06/27/2019
	02/07/20	BID DOCUMENTS		scale AS NOTED
1	05/15/20	ADDENDUM NO. 2		
2	06/01/20	ADDENDUM NO. 3	project WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT	drawn by AAA
				approved by NLG
			CAD no. xxxxxxxxxx.dwg	project no. CF-RC-402
				drawing no. **S102**

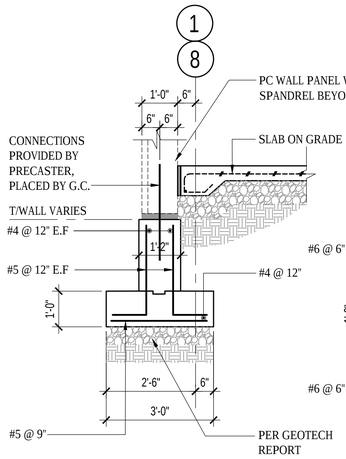


1 S105 SECTION THRU WALL
SCALE: 1/2" = 1'-0"

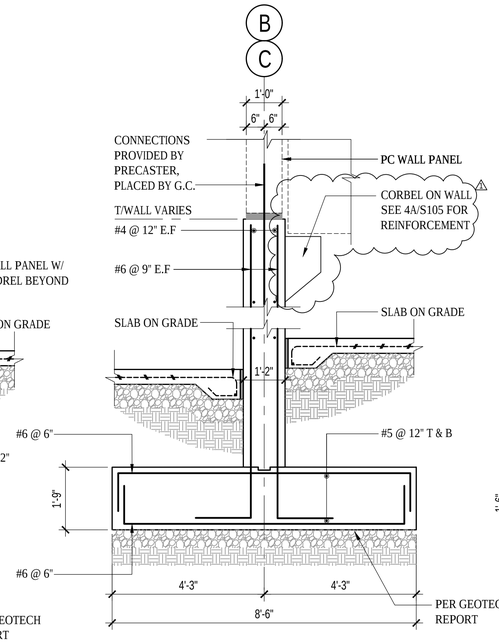


2A S105 PLAN SHEAR WALL ENDS
SCALE: 1/2" = 1'-0"

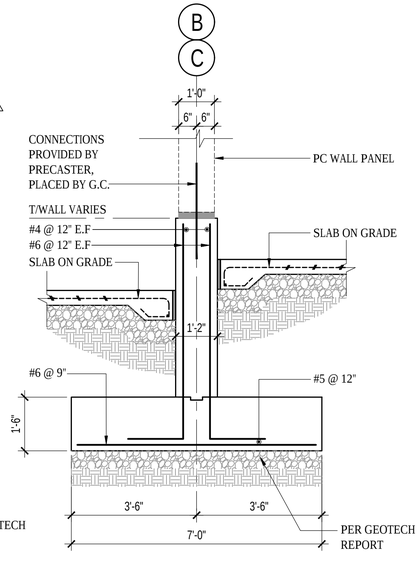
2 S105 SECTION THRU SHEAR WALL/ GRADE BEAM
SCALE: 1/2" = 1'-0"



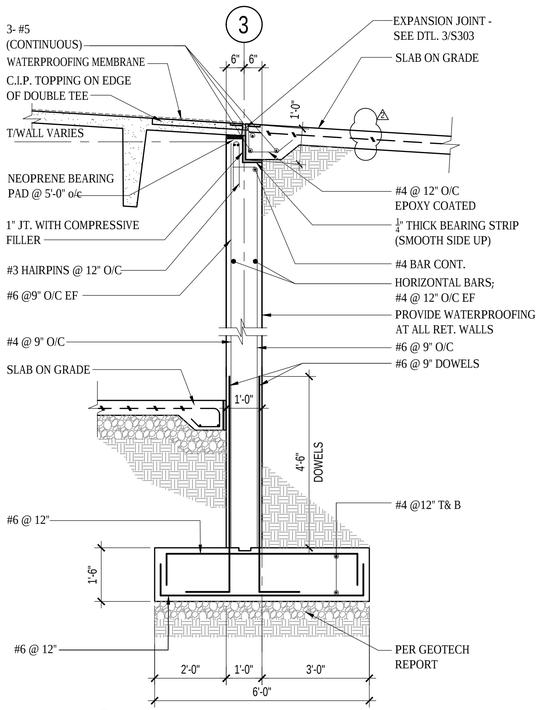
3 S105 SECTION THRU WALL
SCALE: 1/2" = 1'-0"



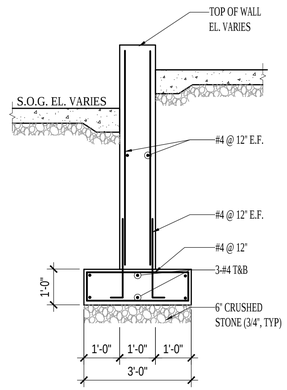
4 S105 SECTION THRU LITE WALL
SCALE: 1/2" = 1'-0"



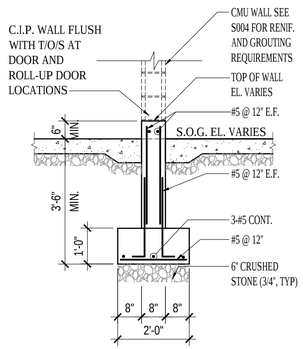
5 S105 SECTION THRU LITE WALL
SCALE: 1/2" = 1'-0"



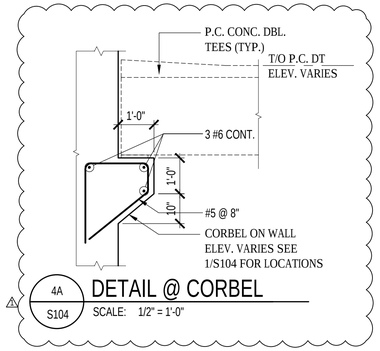
6 S105 SECTION THRU RETAINING WALL
SCALE: 1/2" = 1'-0"



7 S105 SECTION GRADE WALL
SCALE: 1/2" = 1'-0"



8 S105 SECTION CMU WALL
SCALE: 1/2" = 1'-0"



4A S104 DETAIL @ CORBEL
SCALE: 1/2" = 1'-0"

drawing title
FOUNDATION WALL SECTIONS

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/01/20	ADDENDUM NO. 3
2	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

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175 CAPITAL BOULEVARD, SUITE 402
ROCKY HILL, CONNECTICUT 06067

project
WILLARD DILORETO PARKING GARAGE
NEW BRITAIN, CONNECTICUT

CAD no. xxxxxxxxx.dwg
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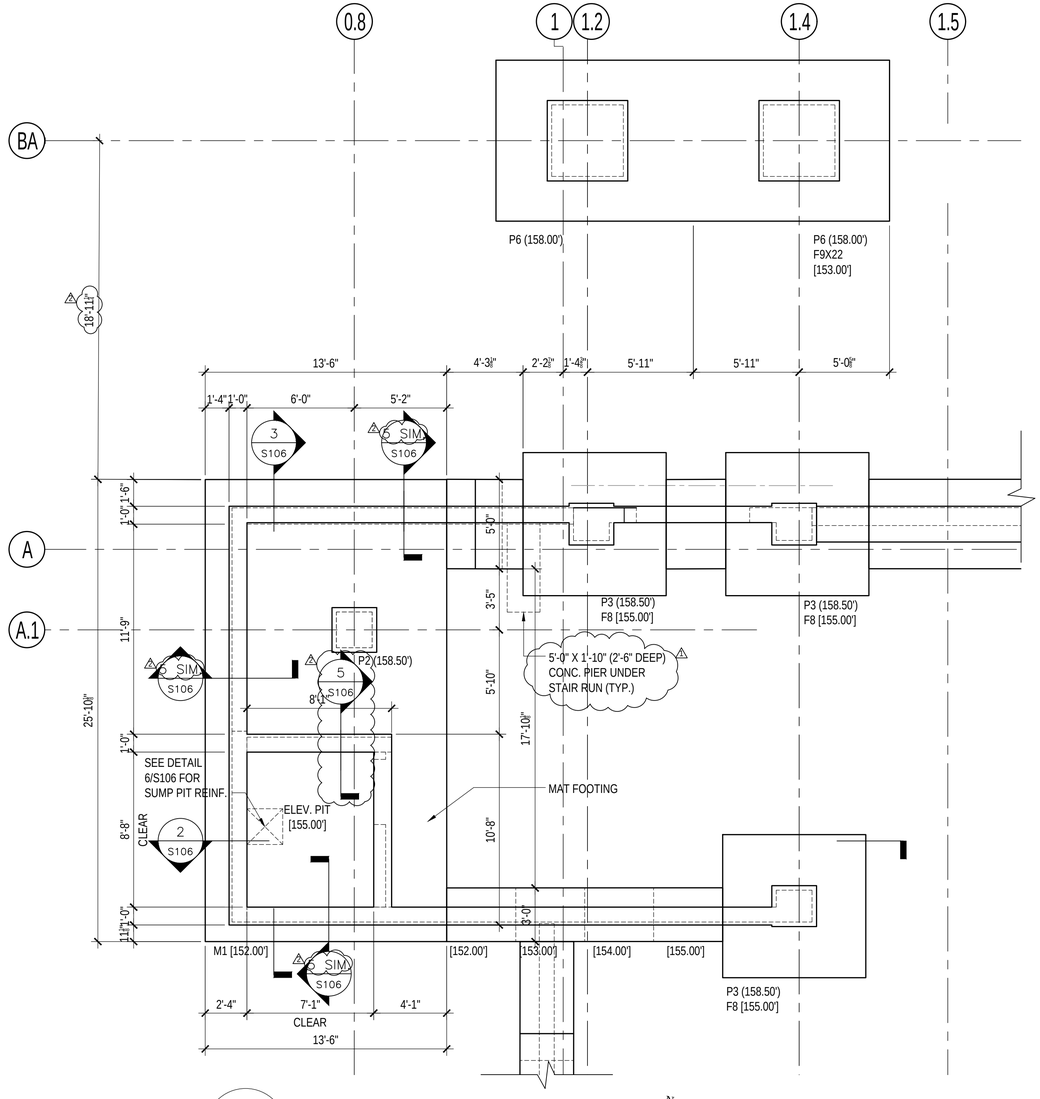
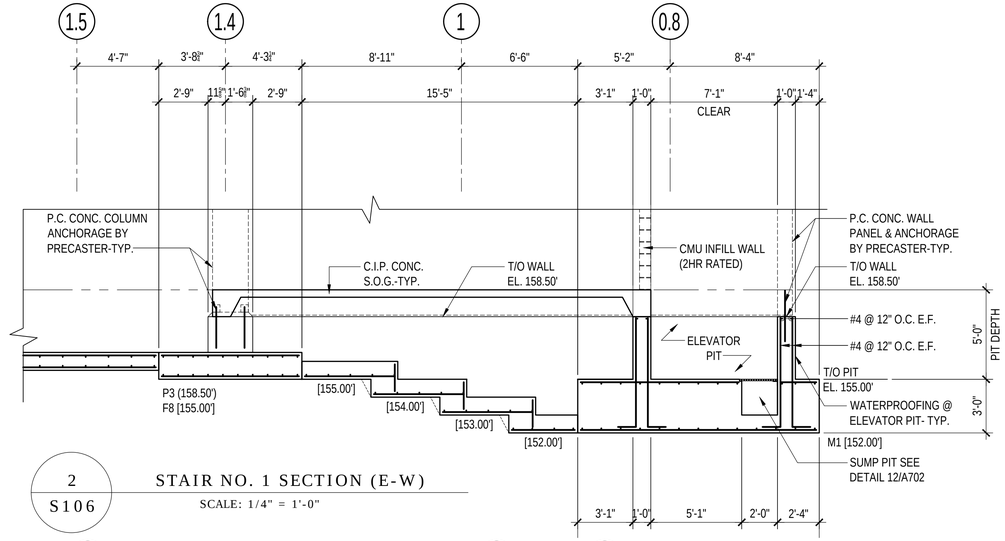


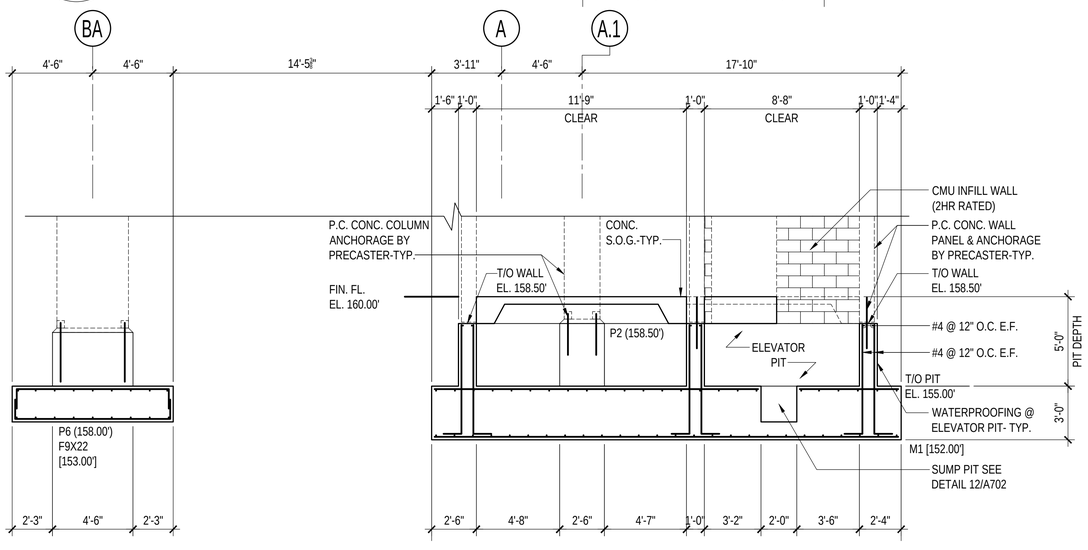
1 S106 STAIR NO. 1 FOUNDATION PLAN

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



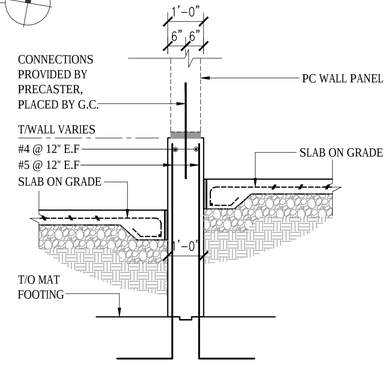
2 S106 STAIR NO. 1 SECTION (E-W)

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



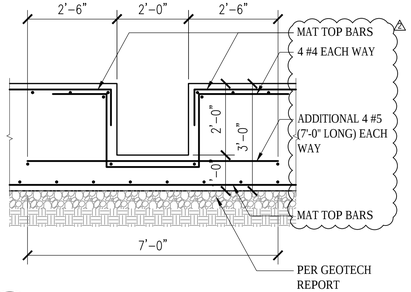
3 S106 STAIR NO. 1 SECTION (N-S)

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



5 S106 SECTION THRU WALL

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



6 S106 SECTION THRU ELEV. SUMP PIT

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

drawing title
STAIR NO. 1 FOUNDATION PLAN

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/01/20	ADDENDUM NO. 3
2	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

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WILLARD DILORETO
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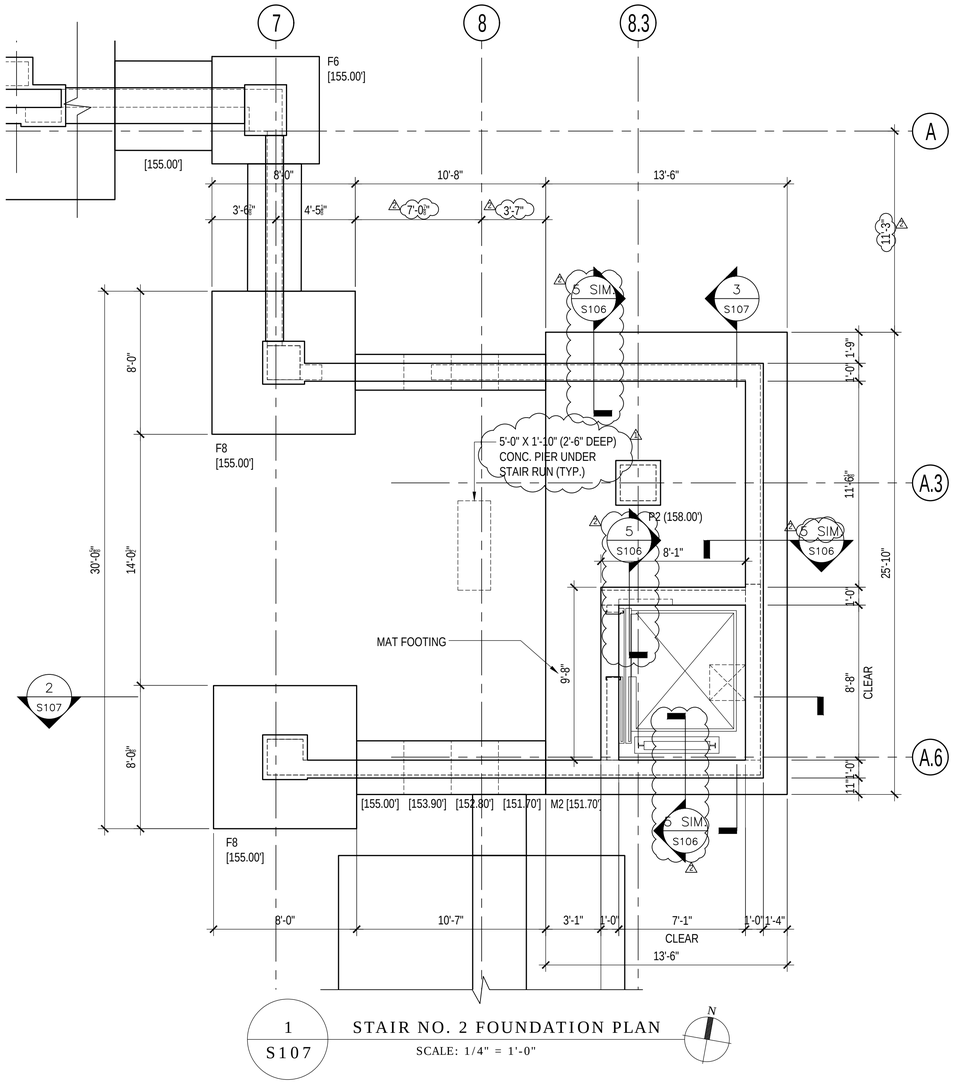
NEW BRITAIN, CONNECTICUT

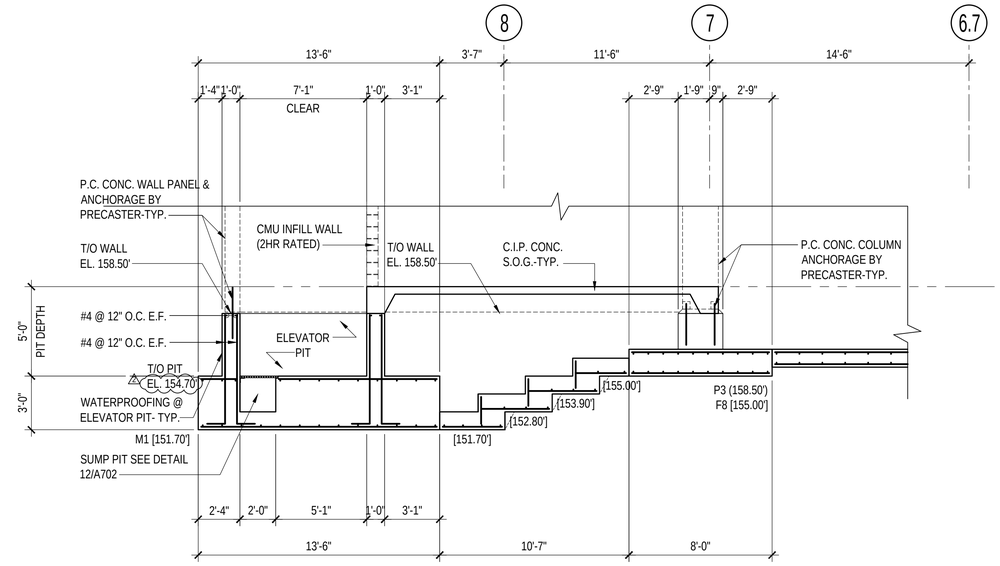
CAD no. xxxxxxxxxx.dwg
project no. CF-RC-402

drawing no. S106



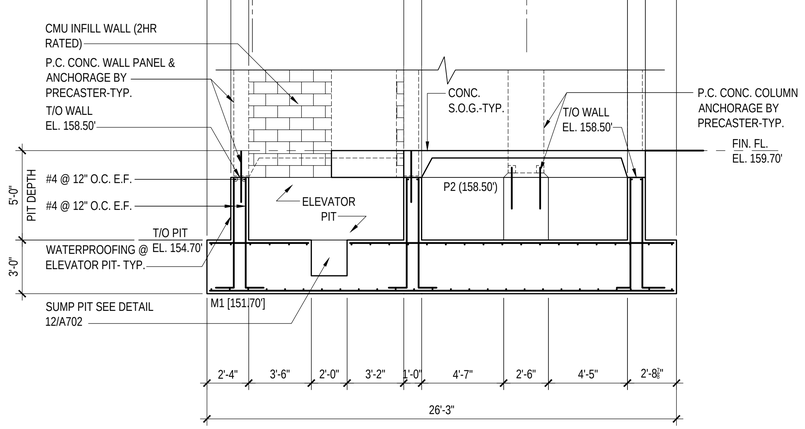
1 S107 STAIR NO. 2 FOUNDATION PLAN

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



2 S107 STAIR NO. 2 SECTION (E-W)

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



3 S107 STAIR NO. 2 SECTION (N-S)

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

drawing title
STAIR NO. 2 FOUNDATION PLAN

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
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4	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
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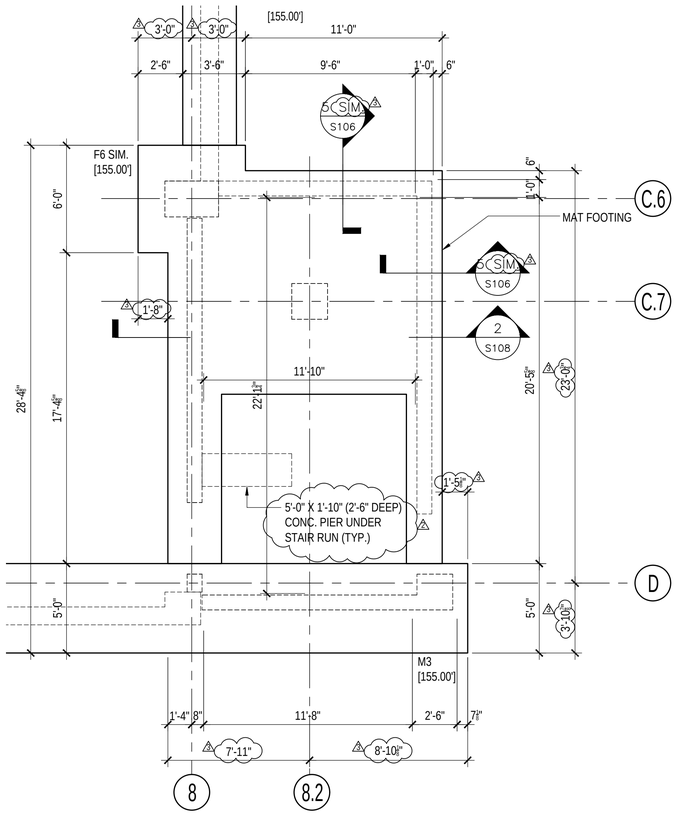
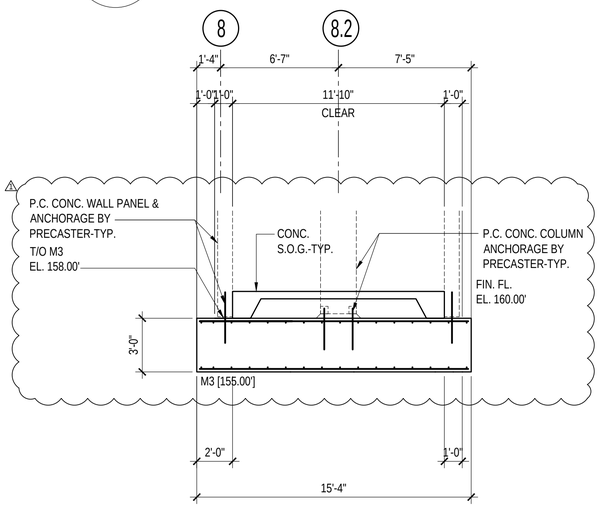
approved by NLG
drawing no. S107



1 S108 STAIR NO.3 FOUNDATION PLAN

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



2 S108 STAIR NO.3 SECTION (E-W)

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

drawing title
STAIR NO.3 FOUNDATION PLAN

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	05/15/20	ADDENDUM NO. 2
2	06/01/20	ADDENDUM NO. 3
3	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

drawing prepared by
DESMAN
175 CAPITAL BOULEVARD, SUITE 402
ROCKY HILL, CONNECTICUT 06067

project
WILLARD DILORETO
PARKING GARAGE
NEW BRITAIN, CONNECTICUT

CAD no. xxxxxxxxxx.dwg
project no. CF-RC-402

date 06/27/2019
scale AS NOTED
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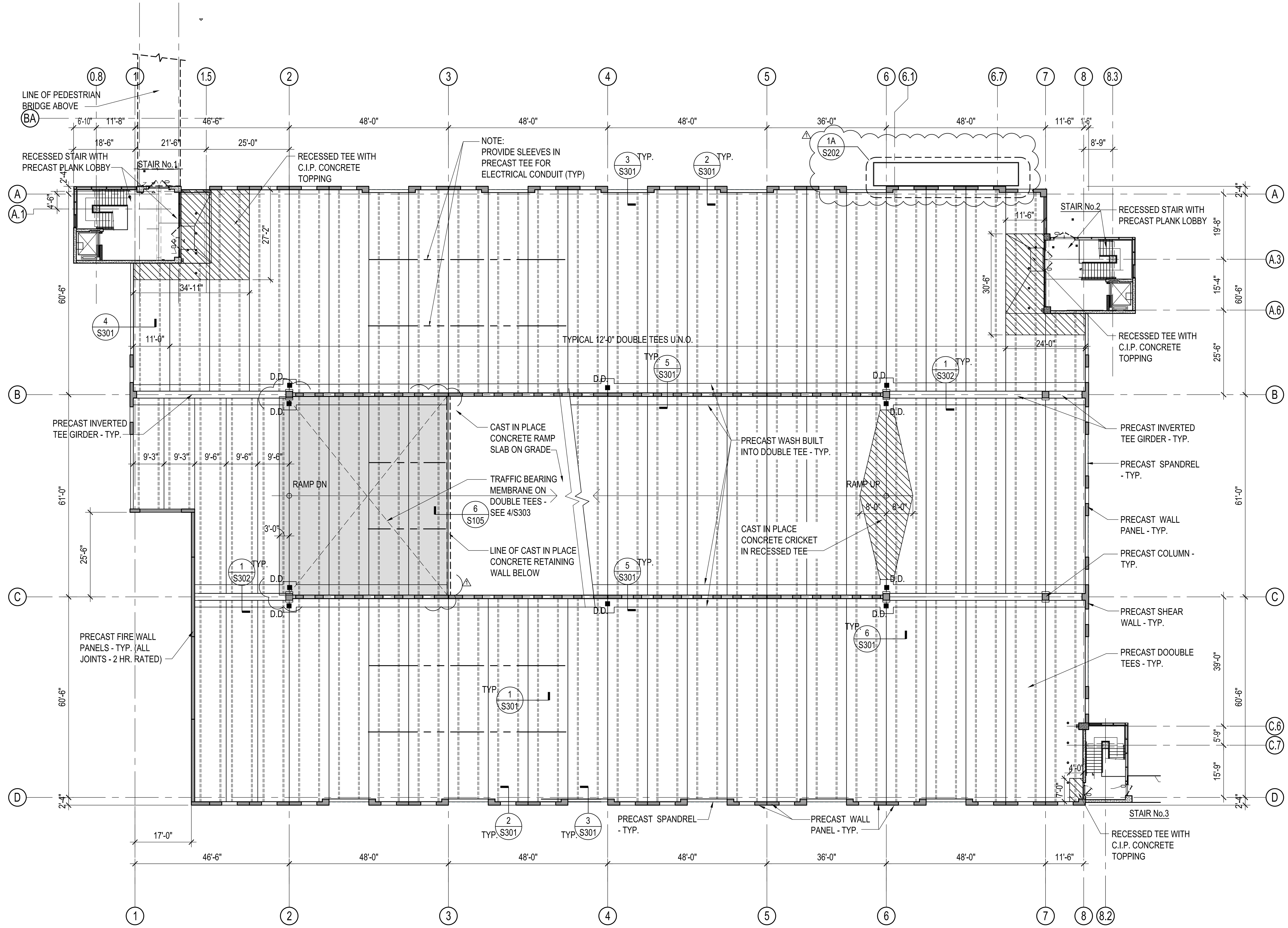
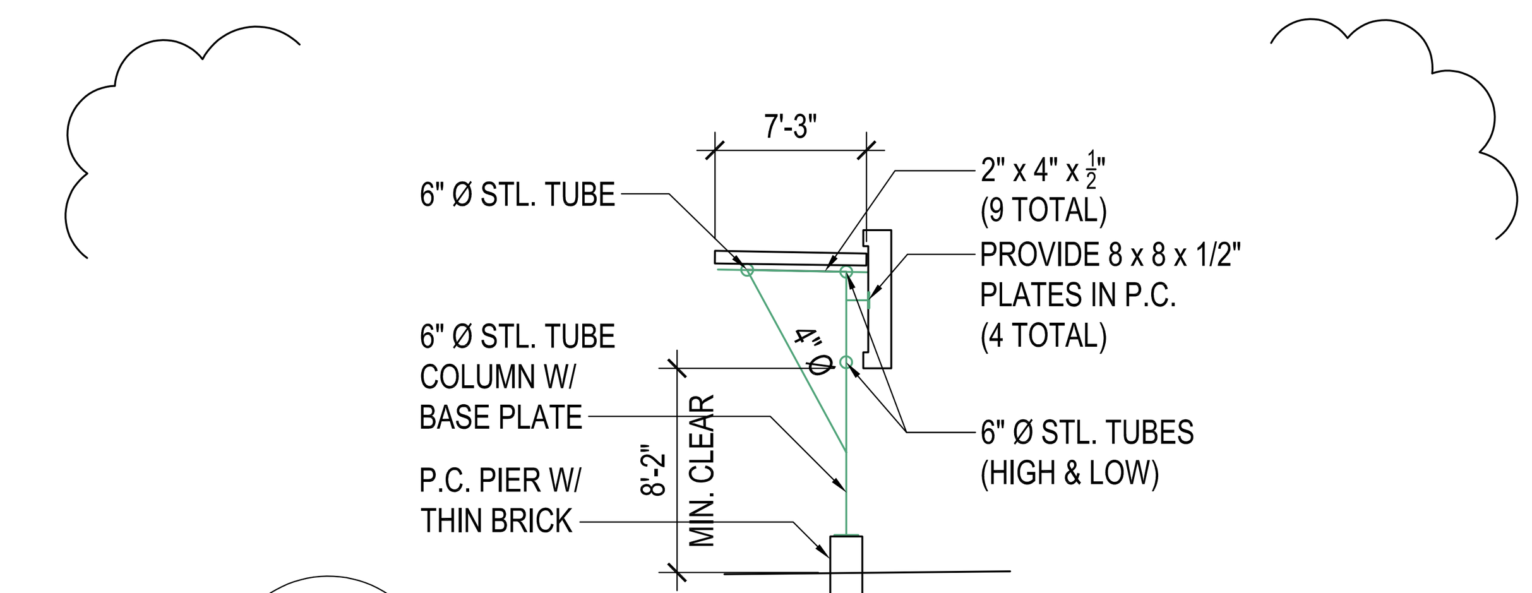
approved by NLG
drawing no. S108



1 S202 SECOND LEVEL FRAMING PLAN

SCALE: 1/16" = 1'-0"



4 S202 CANOPY FRAMING SECTION

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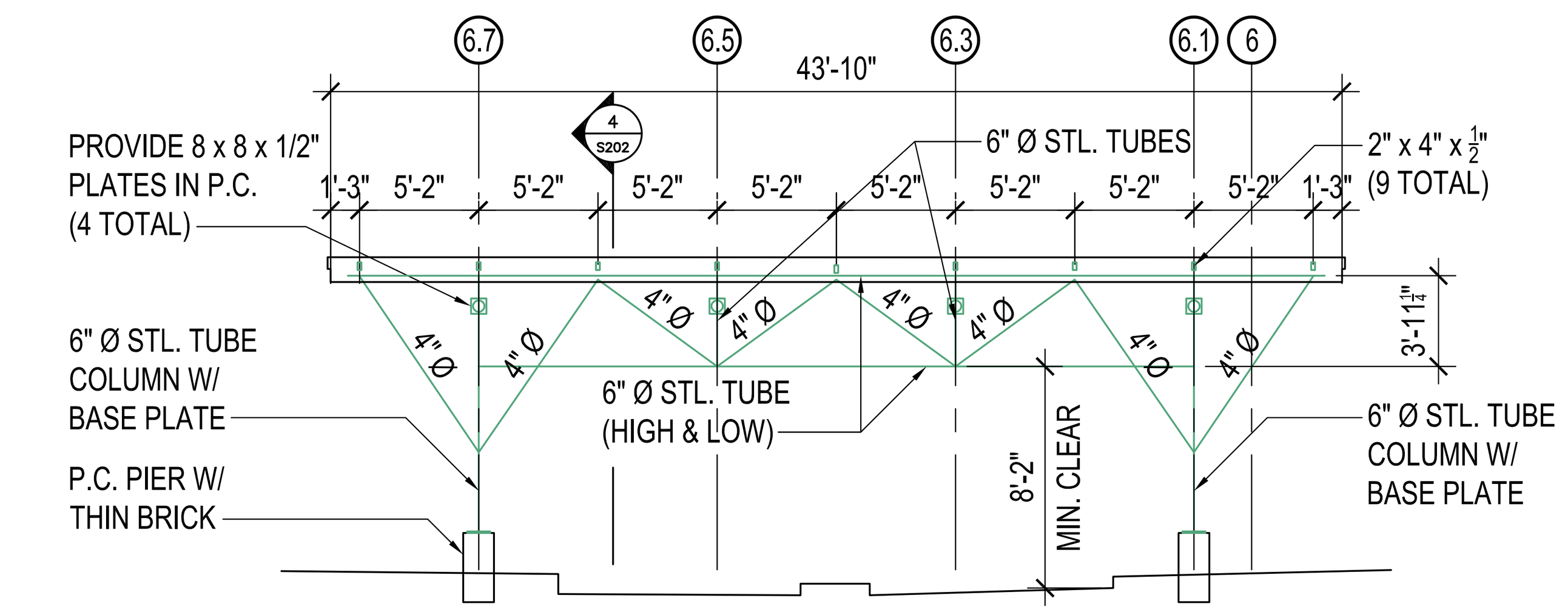
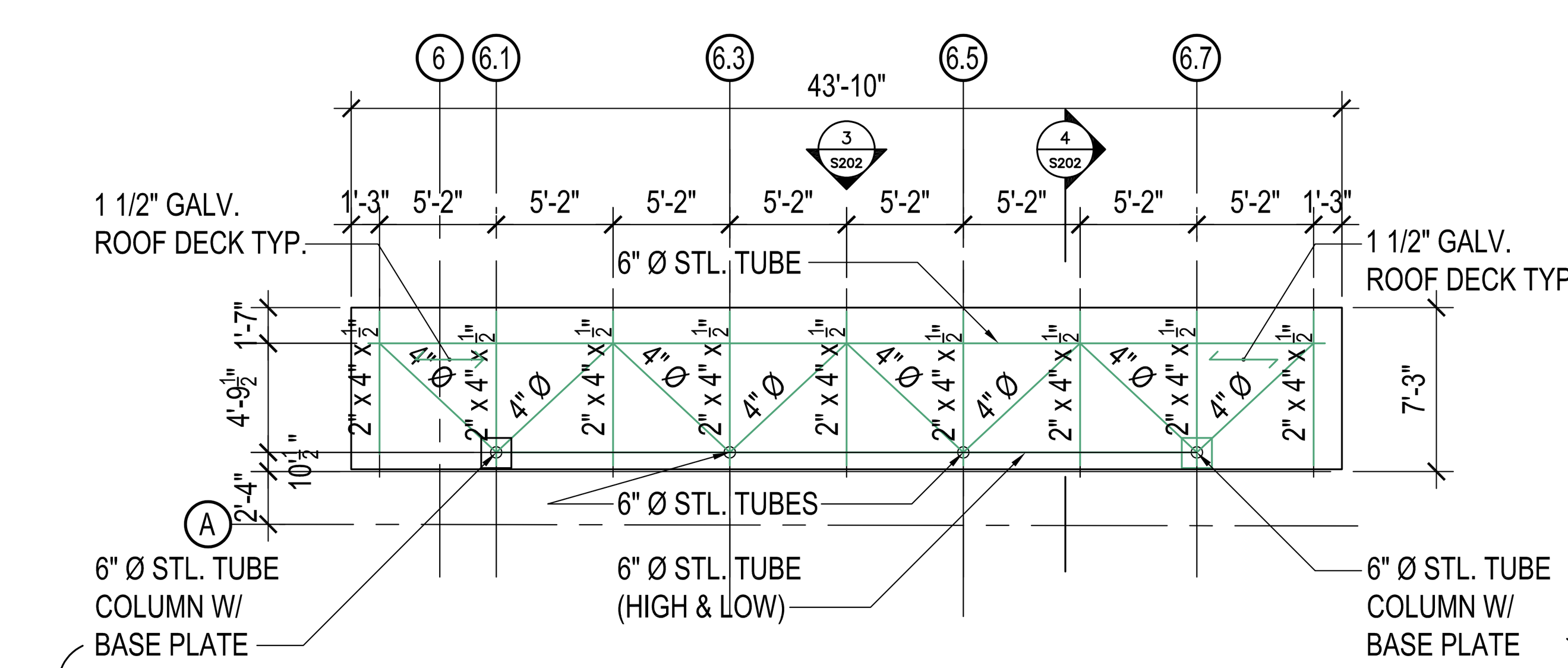


3 S202 CANOPY FRAMING ELEVATION

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



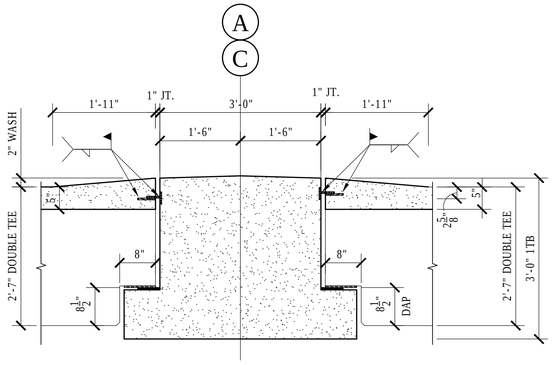
2 S202 CANOPY FRAMING PLAN

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

drawing title	SECOND LEVEL FRAMING PLAN
	STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES
drawing prepared by	DESMAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067
project	WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT
CAD no.	xxxxxxxxxx.dwg
project no.	CF-RC-402
date	06/27/2019
scale	AS NOTED
drawn by	AAA
approved by	NLG
drawing no.	S202

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/17/20	ADDENDUM NO. 4



1 S302 SECTION
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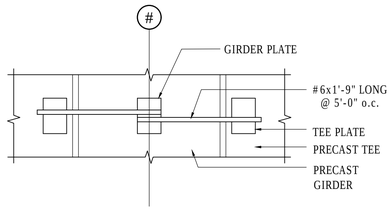
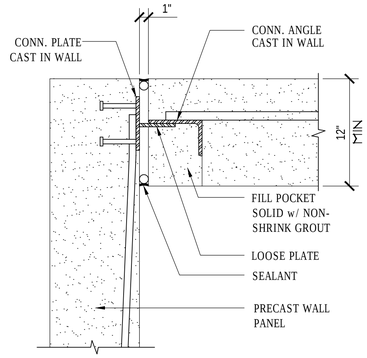
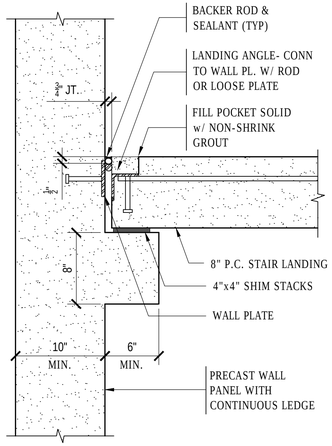


2 S302 CONNECTION DETAIL
SCALE: ½" = 1'-0"

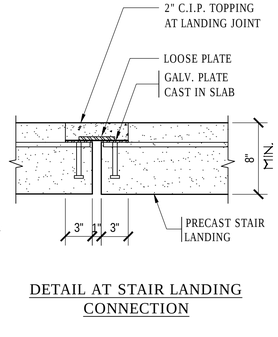


3 S302 CORNER DETAIL @ WALL PANELS
SCALE: 1½" = 1'-0"



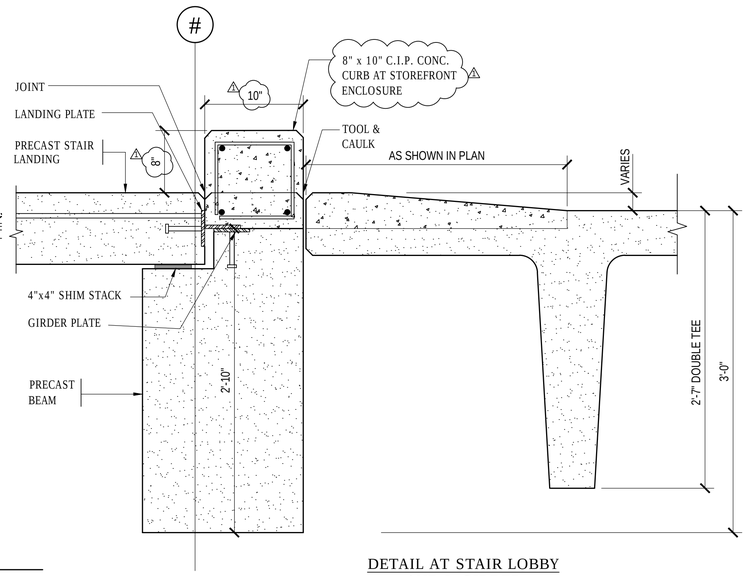
DETAIL AT STAIR LANDING AND SUPPORT

4 S302 SECTION
SCALE: 1½" = 1'-0"



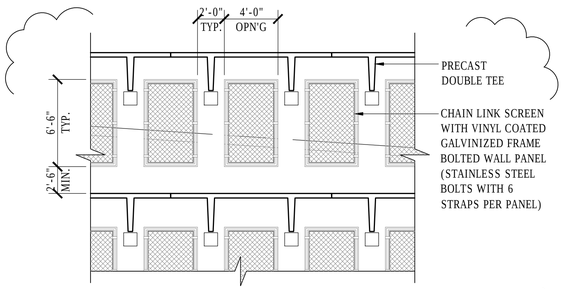
DETAIL AT STAIR LANDING CONNECTION

5 S302 SECTION
SCALE: 1½" = 1'-0"

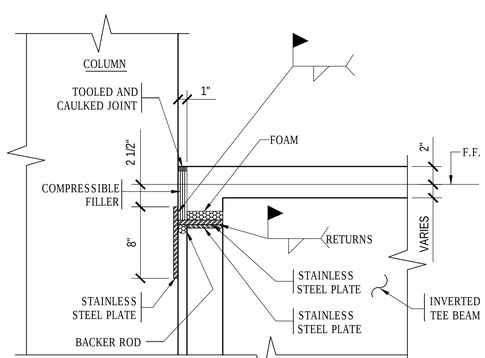


DETAIL AT STAIR LOBBY AND L-GIRDER

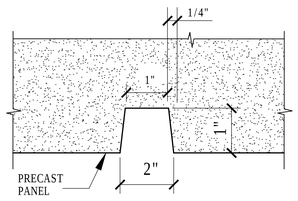
6 S302 SECTION
SCALE: 1½" = 1'-0"



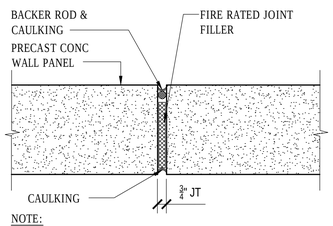
13 S302 DETAIL CHAIN LINK MESH @ LITEWALL
SCALE: 3/16" = 1'-0"



7 S302 DETAIL
SCALE: 1½" = 1'-0"

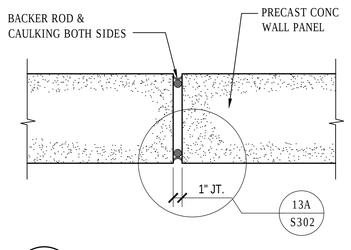


8 S302 FALSE JOINT DETAIL
SCALE: 1½" = 1'-0"

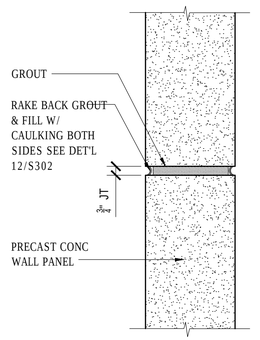


NOTE:
FIRE RATED JOINT OCCURS @ FIRE RATED WALLS, ELEVATOR WALLS, STAIR WALLS & SHAFTS

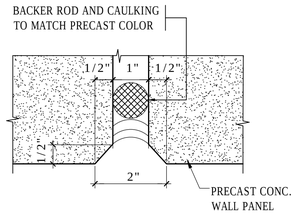
9 S302 FIRE RATED PRECAST JOINT
SCALE: 1½" = 1'-0"



10 S302 VERTICAL PRECAST JOINT
SCALE: 1½" = 1'-0"



11 S302 HORIZONTAL PRECAST JOINT
SCALE: 1½" = 1'-0"



12 S302 JOINT DETAIL
SCALE: 6" = 1'-0"

drawing title
TYPICAL PRECAST DETAILS #2

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

drawing prepared by
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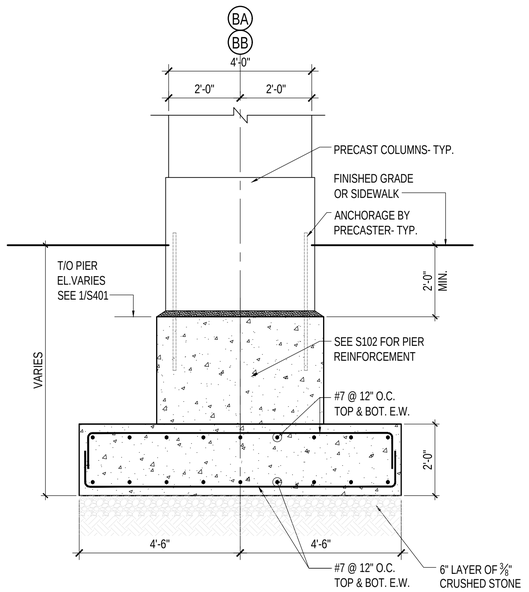
date 06/27/2019
scale AS NOTED
drawn by AAA
approved by NLG
drawing no. S302

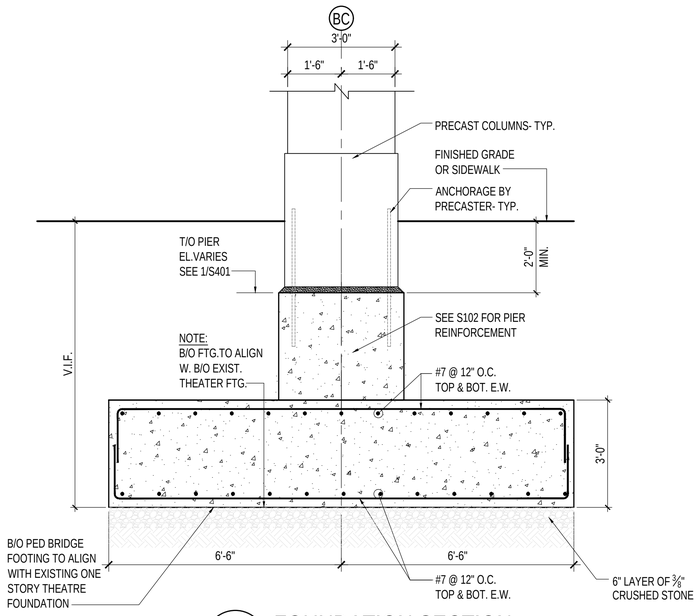
project
WILLARD DILORETO PARKING GARAGE
NEW BRITAIN, CONNECTICUT

CAD no. xxxxxxxxxx.dwg
project no. CF-RC-402



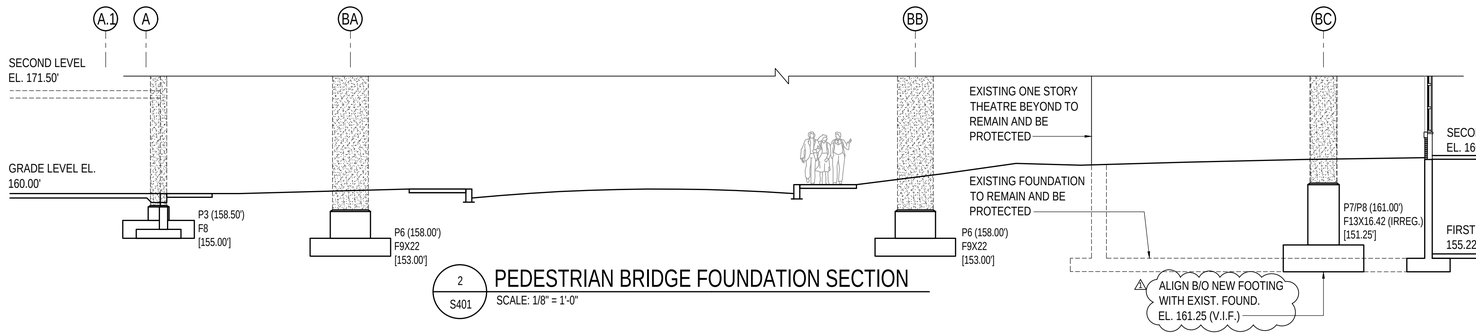
4 S401 **FOUNDATION SECTION**

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



5 S401 **FOUNDATION SECTION**

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

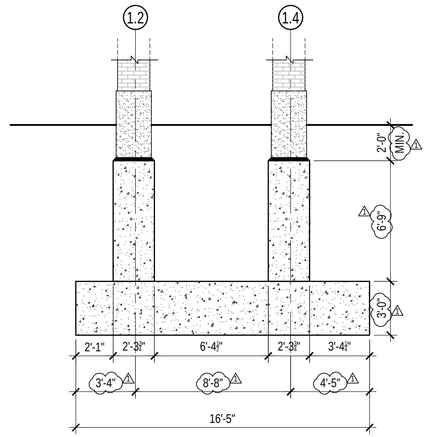


2 S401 **PEDESTRIAN BRIDGE FOUNDATION SECTION**

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

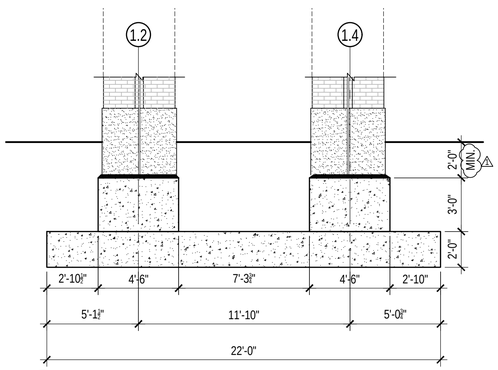
1 S401 **PEDESTRIAN BRIDGE FOUNDATION PLAN**

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



3A S401 **PEDESTRIAN BRIDGE FOUNDATION SECTION (BC)**

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



3 S401 **PEDESTRIAN BRIDGE FOUNDATION SECTION (BA & BB)**

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

drawing title
PEDESTRIAN BRIDGE
FOUNDATION DETAILS

REVISIONS

mark	date	description
	02/07/20	BID DOCUMENTS
1	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

drawing prepared by
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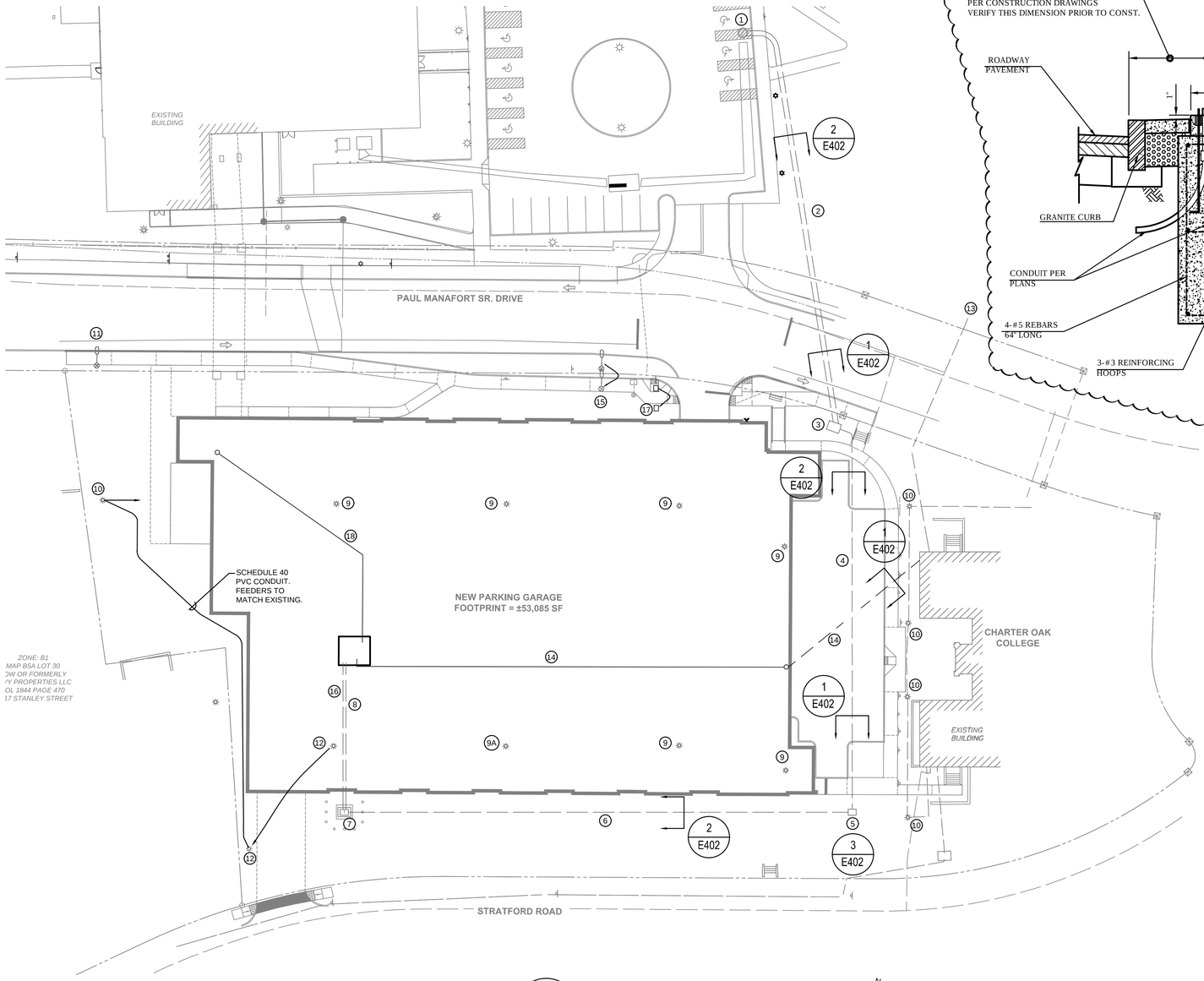
date: 06/27/2019
scale: AS NOTED
drawn by: AAA
approved by: NLG
drawing no.: S401

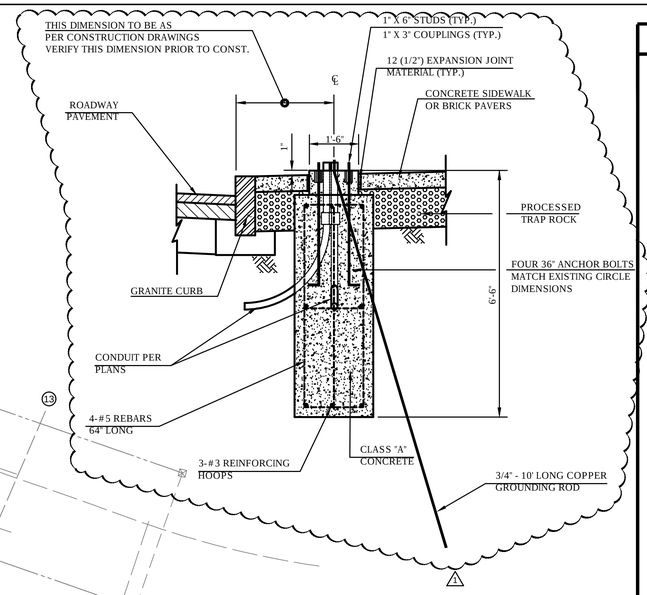
project
WILLARD DILORETO
PARKING GARAGE
NEW BRITAIN, CONNECTICUT

CAD no.: xxxxxxxxxx.dwg
project no.: CF-RC-402



1 ES101 ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0"



ELECTRICAL DRAWING KEYNOTES

1. EXISTING ELECTRIC MANHOLE ON CAMPUS LOOP LOCATED IN PARKING AREA OF THE DILORETO BUILDING ON THE OPPOSITE SIDE OF PAUL J. MANAFORT DRIVE. CONDUITS TO BE ROUTED UNDERGROUND FROM MANHOLE TO GRASS AREA EAST OF THE PARKING AND THEN UNDERGROUND TO PAUL MANAFORT DRIVE. CONDUITS TO PASS BELOW ROADWAY TO NEW SWITCH LOCATION IN GRASS NEAR SIDEWALK.
2. FOUR (4) NEW 4" SCHEDULE 80 PVC CONDUIT FROM EXISTING MANHOLE IN DILORETO BUILDING PARKING AREA TO NEW SWITCH LOCATED IN GRASS AREA ALONG MANAFORT DRIVE. PRIMARY SERVICE TO ENTER NEW SWITCH IN ONE CONDUIT AND RETURN TO THE EXISTING DILORETO MANHOLE IN THE OTHER CONDUIT. TWO REMAINING CONDUITS ARE TO BE SPARE WITH PULL STRINGS. CONDUITS TO BE ENCASED IN CONCRETE.
3. NEW S&C 13.8KV, 100A SWITCH LOCATED IN GRASS AREA TO FEED THE NEW PARKING GARAGE. SWITCH TO BE FED FROM EXISTING CAMPUS LOOP ELECTRIC MANHOLE IN DILORETO PARKING AREA.
4. FOUR (4) 4" SCHEDULE 80 PVC CONDUITS FOR 13.8KV PRIMARY SERVICE BURIED IN DUCTBANK (UNDER PAVED AREAS) FROM NEW SWITCH TO NEW MANHOLE LOCATED IN GRASS AREA.
5. NEW ELECTRIC MANHOLE PER CCSU STANDARDS. PRIMARY FEEDER FROM NEW 13.8KV SWITCH TO PASS THROUGH MANHOLE. MANHOLE SHALL BE 14' x 8' x 7' HIGH AND COMPLIANT WITH NU SPC M-039.
6. TWO (2) 4" SCHEDULE 40 PVC CONDUITS (ONE EMPTY WITH PULL STRING) FOR 13.8KV PRIMARY FEEDER FROM NEW MANHOLE TO GARAGE TRANSFORMER.
7. NEW S&C 225KVA, 13.8KV PRIMARY/480V SECONDARY PAD MOUNT TRANSFORMER WITH NEW TRANSFORMER PAD. ELECTRICAL CONTRACTOR TO SUPPLY TRANSFORMER, PAD AND GROUNDING.
8. NEW GARAGE 480V SECONDARY ELECTRIC SERVICE FROM PAD MOUNT TRANSFORMER TO MAIN SWITCH IN GARAGE ELECTRICAL ROOM 001. PROVIDE 4#600MCM IN 4" SCHEDULE 80 PVC CONDUIT. REFER TO RISER DIAGRAM ON DRAWING E301 FOR ADDITIONAL INFORMATION.
9. EXISTING SITE LIGHT POLE AND FIXTURE IN PARKING LOT TO BE REMOVED. ALL ASSOCIATED CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE IN CHARTER OAK BUILDING OR CLOSEST LIGHT POLE REMAINING. FIXTURES ARE TO BE DISPOSED OF AND THE POLES ARE TO BE STOCKPILED FOR CCSU REVIEW. ANY CAMERAS MOUNTED ON LIGHT POLES WILL BE REMOVED BY CCSU WHEN THE SITE HAS BEEN TURNED OVER TO THE CONTRACTOR. LOCATION MARKED WITH 9A IS A BASE AND WIRING ONLY, THERE IS NO LIGHT POLE OR LIGHTS AT THIS LOCATION.
10. EXISTING SITE LIGHT POLE TO REMAIN.
11. MAINTAIN EXISTING COBRAHEAD LIGHT FIXTURE AND MAINTAIN CIRCUIT.
12. EXISTING SITE POLE AND BASE TO BE RELOCATED TO NEW ACCESS DRIVE. FIXTURE TO BE CIRCUITED ALONG WITH EXISTING TWIN HEAD LED FIXTURE LOCATED TO THE WEST OF THE NEW STAIR TOWER #1. PROVIDE NEW CONDUIT AND WIRING AS INDICATED ON THE PLAN.
13. EXISTING BURIED CONDUIT FROM SETH NORTH TO THE CHARTER OAK COLLEGE BUILDING WITH EXISTING 96 STRAND FIBER. SHOWN FOR REFERENCE PURPOSES ONLY.
14. PROVIDE 4" CONCRETE ENCASED SCHEDULE 40 PVC CONDUIT FROM CHARTER OAK BUILDING TO NEW PARKING GARAGE FOR TELE/DATA WIRING (48 STRANDS SINGLE MODE FIBER) AND 4" CONCRETE ENCASED SCHEDULE 40 PVC CONDUIT FROM CHARTER OAK BUILDING TO NEW PARKING GARAGE FOR BLUEPHONE WIRING (100 PAIR COPPER). CONDUITS TO RISE ON THE INSIDE OF THE GARAGE AND RISE TO BELOW THE SECOND LEVEL DECK AND BE ROUTED UNDER DECK TO ELECTRIC ROOM #001. COORDINATE ROUTE WITH DECK STRUCTURE. REFER TO DRAWING E201 FOR ADDITIONAL INFORMATION. NO CABLE SPLICES ARE ALLOWED IN ANY HANDHOLES. ALL CABLE SPLICES ARE TO BE MADE WITHIN THE BUILDING. PROVIDE TWO 4" SPARE CONDUITS FOR THE UNDERGROUND RUN.
15. EXISTING COBRAHEAD LIGHT FIXTURE ALONG PAUL J. MANAFORT DRIVE TO BE RELOCATED. EXTEND/MODIFY CONDUITS AND WIRING TO NEW LIGHT LOCATION. MAINTAIN CIRCUIT CONTINUITY. REFER TO CIVIL SITE PLAN FOR EXACT LOCATION. SEE FOUNDATION DETAIL, THIS SHEET.
16. EMPTY 4" SCHDULE 80 PVC CONDUIT W/PULL STRING FROM TRANSFORMER TO ELEC ROOM 001 FOR FUTURE CAR CHARGING SERVICE. CONDUIT TO TERMINATE 6" ABOVE FLOOR AND BE CAPPED.
17. EXISTING BLUE PHONE ALONG SIDEWALK/CROSSWALK TO BE RELOCATED. EXTEND/MODIFY CONDUITS AND WIRING TO NEW BLUE PHONE LOCATION. MAINTAIN CONTINUITY.
18. EMPTY 4" CONDUIT W/PULL STRING FROM ELEC ROOM 001 TO STAIR #1 ROOF FOR FUTURE USE. RUN UNDERSLAB TO STAIR AND UP WITHIN STAIR TO ROOF.

GENERAL ELECTRICAL NOTES

1. SPECIFICATION SECTIONS, GENERAL CONDITIONS, SUPPLEMENTAL GENERAL CONDITIONS AND DRAWINGS ARE INTEGRAL PARTS OF CONTRACT DOCUMENTS.
2. SYSTEM COMPONENTS ARE LOCATED APPROXIMATELY ON SITE. BASE ACTUAL LOCATIONS ON FIELD VERIFICATION OF EXISTING CHARACTERISTICS.
3. ALL WORK AND ACTION DEPICTED AND DESCRIBED IN CONTRACT DOCUMENTS SHALL BE PERFORMED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.
4. REFERENCE TO SPECIFIC SUB-CONTRACTORS SUCH AS "ELECTRICAL", ETC. ARE INTENDED TO SUGGEST POSSIBLE DIVISION OF RESPONSIBILITY. PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND EXECUTION OF ALL WORK.
5. OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS.
6. ALL EQUIPMENT, MATERIALS AND RELATED SYSTEM COMPONENTS SHALL BE NEW UNLESS NOTED OTHERWISE.
7. REPAIR AND REPLACE AT NO COST TO OWNER ALL EQUIPMENT AND MATERIALS DAMAGED DURING CONSTRUCTION.
8. STUDY THE PROJECT MANUAL & DRAWINGS OF OTHER DISCIPLINES INCLUDING CIVIL.
9. CONDUIT ROUTES SHOWN ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO INDICATE THE EXACT ROUTE OF THE CONDUIT. COORDINATE ROUTING WITH EXISTING CONDITIONS AND UTILITY SERVICES. PVC CONDUITS SHALL BE SCHEDULE 80 UNDER PAVED SURFACES AND SCHEDULE 40 UNDER UNPAVED SURFACES.

GENERAL DEMOLITION NOTES

1. EXISTING POLES WITH STREET LIGHTS AND ALL ASSOCIATED WIRING LOCATED ALONG PAUL J. MANAFORT DRIVE ARE TO REMAIN UNLESS NOTED OTHERWISE. ALL LIGHT POLES, FIXTURES, CONDUIT AND WIRING FOR THE PARKING LOT ARE TO BE REMOVED UNLESS OTHERWISE NOTED.
2. ALL MATERIALS BEING REMOVED SHALL BE HANDLED IN A MANNER COMPLYING WITH ALL PERTINENT LAWS, CODES AND ENVIRONMENTAL REGULATIONS.

drawing title: ELECTRICAL SITE PLAN

REVISIONS

mark	date	description
1	02/07/20	BID DOCUMENTS
	06/17/20	ADDENDUM NO. 4

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

drawing prepared by: DESMAN, 175 CAPITAL BOULEVARD, SUITE 402, ROCKY HILL, CONNECTICUT 06067

project: WILLARD DILORETO PARKING GARAGE, NEW BRITAIN, CONNECTICUT

CAD no. xxxxxxxxxx.dwg | project no. CF-RC-402

date: 06/27/2019
scale: 1" = 30'-0"
drawn by: GK
approved by: RRB
drawing no. ES101